



CSM mApp Solutions

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The Cherwell Software product suite includes:

- Cherwell Service Management
- Cherwell Asset Management

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Cherwell-provided mApp Solutions

A mApp® Solution is a bundle of CSM system definitions (Business Objects, fields, forms, grids, Relationships, Actions/One-Step™ Actions, Saved Searches) that allows definitions to be transferred between databases.

mApp Solutions can come from a number of sources: Cherwell partners, community members, and from Cherwell itself. This section includes information for both Cherwell Labs and fully supported mApp Solutions.

CSMe mApp Solutions

A CSMe mApp® Solution is part of the enterprise service management strategy, which drives the ability to manage processes across numerous lines of business from a single application. This can include IT, Human Resources, Facilities, Information Security, Case Management, and Project Management.

Apply the CSMe mApp Solutions

When you apply the CSMe mApp® Solutions, use these considerations for the order of application and best practices.

Good to Know

- We recommend that you do not apply all four CSMe mApp Solutions immediately unless there is an urgent need for them. Apply each mApp Solution as needed because there may be a newer version released with additional functionality that you can take advantage of during implementation. You should never apply a mApp Solution to a database that already has an installation of the same mApp Solution, including previous versions. See [Considerations for Applying mApp Solutions](#).
- When you apply the CSMe mApp Solutions, choose the **Open a Blueprint so I can preview the changes** option and publish the Blueprint prior to publishing the mApp Solution changes.
- The HR Service Management and Project and Portfolio Management (PPM) mApp Solutions share the same Role Business Object.
- The PPM mApp Solution publishes with no warnings or errors.
- We recommend applying the CSMe mApp Solutions in the following order:
 1. HR Service Management
 2. Project and Portfolio Management
 3. Information Security Management System
 4. Facilities Management

HR Service Management, Information Security Management System, and Facilities Management mApp Solutions

Before the publish process begins, you will see the **Blueprint Security Changes** window with a warning message that shows security changes.

1. Select **OK** to close the window.
During the publish process you will see a pop-up window with a warning message about errors. This cancels the publish.
2. Select **Close** to see the scan results.
The scan results are warnings regarding changes to roles and security settings contained within the mApp Solution. This is an expected result.
3. Select **Ignore warnings and continue** and then select **OK** to close the window.
You will see a pop-up window with information that the scan was successful and no errors were found.
4. Select **OK**.
The changes from the mApp Solution will finish publishing to your system.

Related concepts

[Apply a mApp Solution](#)

[Publish a Blueprint](#)

Facilities Service Management mApp Solution 1.5

Use the Facilities Service Management mApp® Solution to incorporate facilities functionality into their existing CSM systems.

Platform version requirements: Tested on CSM 10.0.0—10.2.0.

Content version requirements: Tested on CSM 10.0.0—10.2.0. This mApp Solution may also be compatible on content versions older than CSM 10.0.0, but as with all mApp Solutions, be sure to test them on your customized system.

This mApp Solution is designed to work with the ITSMStarter.czar and ITSMDemo.czar.

Prerequisites: None.

Available languages: English.

The Facilities Service Management mApp Solution includes the following items for downloading:

- Facilities and Property Management.mApp

Overview

The Facilities Service Management mApp Solution enables an organization to manage and automate the requests for services, project planning, work assignment, and execution. The mApp Solution allows end users, department members, and project teams to initiate work items, including those items that have recurring schedules.

Key Features

Key features include:

- Facility-specific reports for buildings, technician workload, and most common issues.
- Ability to track time and materials and roll up costs to projects and work orders.
- A clean and uncluttered theme throughout the user interface.
- Custom dashboards for facilities managers and their teams.
- Ability to track equipment and building-specific information in facilities-based categories.
- Automated work orders for recurring scheduled maintenance, such as replacing air filters, wear components, and annual checks.
- Integrated CSM Portal design that allows customers to see the status of their requests across all departments.
- Ability to create multiple work orders assigned to different teams from a single request or project.
- Ability to receive and update work orders via mobile devices.
- Mobile device users can access and take action on work orders and queries through One-Step™ Actions.

- A new Work Order Business Object.
- Dashboards by role.
- A CSM Portal page.
- New hardware items in the Configuration Management Database.
- One-Step Actions/Automation (example: Scheduled recurring maintenance).

Apply the mApp Solution

Follow these steps to download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM. Do not select **Finish** yet.
4. Still in the Apply mApp Wizard, when you reach the **Final Options** window, select **Open a Blueprint so that I can preview the changes**, and then select **Finish**.
5. When the Blueprint opens, select **File > Blueprint changes**.
6. In the list of Business Objects, expand **Work Order** so you can see the associated forms.
7. Select the following forms, and then select **Remove**.



Note: To avoid breaking functionality, do not delete the forms through the **Forms** menu.

- **WorkOrder Edit-existing New – added**
- **WorkOrder View-only New – added**

8. Save the Blueprint.

Important: If you're running CSM 10.2.0 for both platform and content, you must reset the Category limit value in both the default and Portal default views.

To reset the Category limit value:



1. In CSM Administrator, create a new Blueprint.
2. Select the **Work Order** from the Business Object list.
3. Select **Edit Business Object**.
4. Edit the **Category** field.
5. Select the **Validation/Auto-populate** page.
6. Expand the **Validate from Table** field.
7. Delete the **Limit Values** entry, and then select **OK**.
8. Select **Add** to create a new limit value.

9. Edit the constraint:
 - a. For **Field**, enter `Incident Category.Service`.
 - b. For **Operator**, choose **Equals**.
 - c. For **Value**, enter `Facilities Management`.
10. Select **OK**.
11. Publish the Blueprint.

Revision History

Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	8.2.1	8.2.0_08.11.16_016-en	None
1.5	10.0.0—10.2.0	10.0.0—10.2.0	None

Related information

[Apply a mApp Solution](#)

Facilities CSM Portal Self-Service Pages

A facilities-specific CSM Browser Client allows users to quickly request services or report problems in the physical environment. The CSM Portal delivers easy-to-find facilities management requests and information for faster resolutions.

The CSM Portal displays facilities-specific discussions to alert employees of maintenance and building-related issues. The solution also provides access to frequently used selections, and a formatted, dynamic facilities catalog with work order forms with auto-assignment to the facilities fulfillment teams.

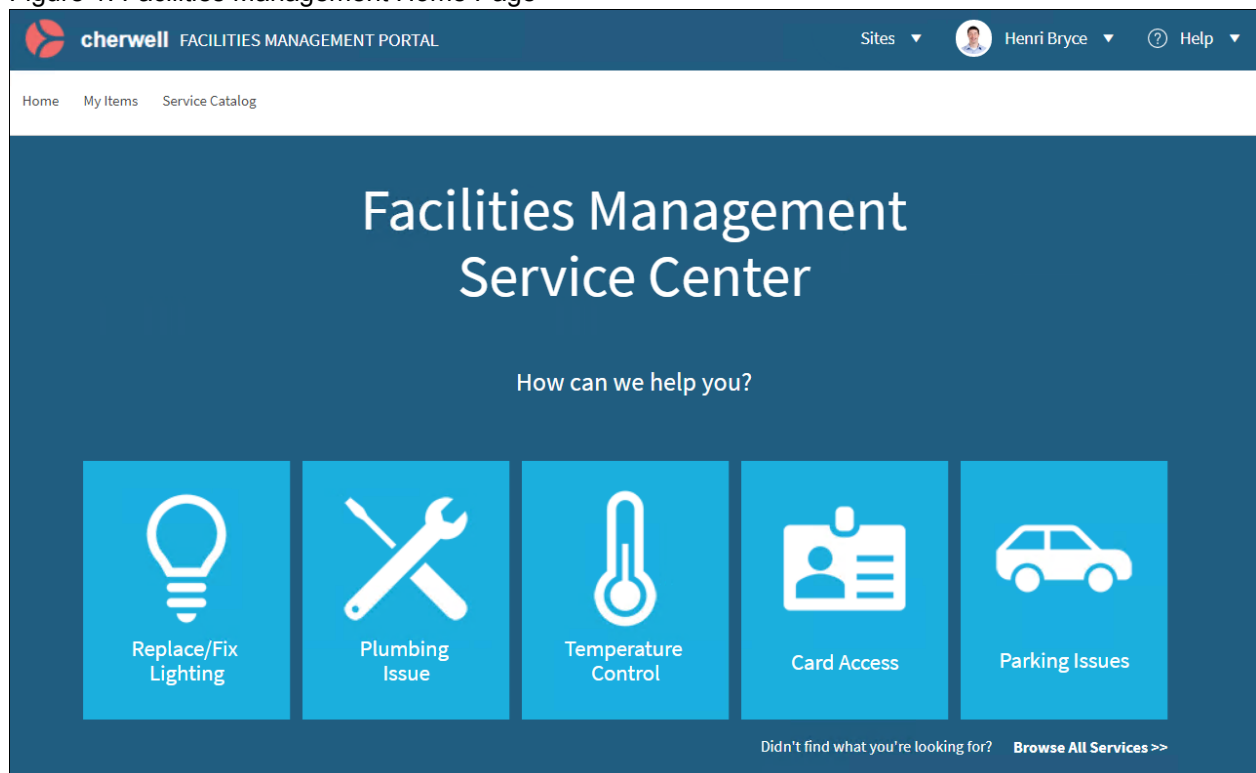


Note: Work orders can also be opened in more traditional ways, including inbound email and phone or manual entry.

Organizations can also incorporate facilities and other services into an enterprise CSM Portal, making it convenient for users to request services from a single corporate site to any line of business. Such lines of business can include IT, Human Resources, Business Operations, Printing and Imaging, Marketing, and Accounting.

The home page of the CSM Portal provides access to frequently requested items, open work orders, and a view of the service catalog.

Figure 1. Facilities Management Home Page



Work Orders

Teams and individuals can receive work orders assigned to them through a browser, personal computer, tablet, or smart phone. They can update work orders and indicate when activities are completed from any of these devices.

The work order is its own Business Object, allowing facilities-based processes to follow their own workflow and not impact or limit the ability of IT to configure Incident Management to their requirements.

In addition:

- Work orders capture critical information, including building, facilities specific categorization, etc.
- Assignment to facilities and property management teams automatically track time, labor, and material costs that are associated with the work effort.
- You can attach invoices or other documentation directly to work orders.
- Links to the project, building, and equipment provide a complete view of the costs and impact of the work performed.
- Includes the ability to include proposal information from the supplier for work and materials that are contracted out.
- Recurring work orders can be automated for pre-scheduled work based on selected frequency and start date.
- Specifics Forms include:
 - Facilities - Contract - Lease
 - Facilities - Contract - Standard
 - Facilities - Copy Service
 - Facilities - ID Badge
 - Facilities - Mail Room Service
 - Facilities - Research
 - Facilities - Scanning Service
 - Facilities - Storage

Recurring Work Orders

Recurring work orders are scheduled during the work order process. When the **Recurring Maintenance** subcategory is selected on the master work order, users can automatically schedule future work orders. After selecting a schedule (frequency, start date, and number of recurring work orders), related work orders that will be processed in the future are automatically generated, with the **Owned by Team** and other key fields brought over from the master work order. Future work orders are presented in a Dashboard Grid based on their proposed start dates.

Figure 1. Recurring Work Orders

WORK ORDER 1007

Grounds Maintenance > Recurring Maintenance >

STATUS	PROPOSED START DATE	TARGET COMPLETION
<div><</div>		

Overview

Journals

Work Orders (0)

Proposals (0)

Change Orders (0)

Building

Configuration Items (0)

Supplier

Tasks (0)

Service Classification

Recurring Maintenance

Grounds Maintenance > Recurring Maintenance >

Work Order Type

Priority

Assigned Team

Assigned To

Facilities Grounds

Scheduling

☒ Schedule Recurring Future Work Orders

Schedule Frequency *

Start Date for Schedule

Monthly

3/13/2020 12:00 AM

Number of Recurring WOs

7

Building Business Object

The Facilities Management mApp® Solution integrates with the default CSM Building Business Object, providing the ability for key relationships and powerful workflow.

Key fields include facilities management elements (example: owned/leased, construction date, etc.) and provide multiple statuses to represent the condition of the building.

Relationships with other supporting objects provide a full view of areas such as work orders, suppliers, equipment, and projects that are associated with the building.

Add Work Orders to Building

When you add work order information to the Building form as a supporting object, you can see information about work orders, suppliers, equipment, and projects that are associated with the building.

To add work orders to the Building Business Object:

1. In CSM Administrator, select **Blueprints > Create a new Blueprint**.
2. In the list of major Business Objects, select **Building**, and then select **Edit form arrangement** in the main pane.
3. Drag **Facilities Building Links Work Orders** from the left pane to the main tab area of the **New Building** form.
4. Save and publish your blueprint.

The **Work Orders** tab is now available in the Form Arrangement for the Building Business Object.

Figure 1. Building Form Arrangement

NEW BUILDING

Value

STATUS

Value

Next:

Overview Site **Work Orders**

Site *

Building Name *

Address

Actions

[Assign to Me](#)

[Value](#)

[Value](#)

ITPT Project for Facilities Management

Project functionality is delivered as an optional mApp® Solution called IT Project Tracking (ITPT) Project for Facilities Management. This optional mApp Solution does not interfere with or overlay the default ITPT forms or associated functionality.



Note: The ITPT Project for Facilities Management mApp Solution is optional and installed separately.

The ITPT Project for Facilities Management mApp Solution modifies ITPT projects to facilitate facility management areas. Project types include Capital Improvement Project, Renew/Refresh and Ongoing Maintenance. You can also link projects directly to work orders.

Service Catalog for Facilities

The Facilities Services Management mApp® Solution includes a full set of catalog items. An additional level of categorization through a supporting table called **Work Order Type** is available to capture the details of the work order.

Figure 1. Table Management View

Type:

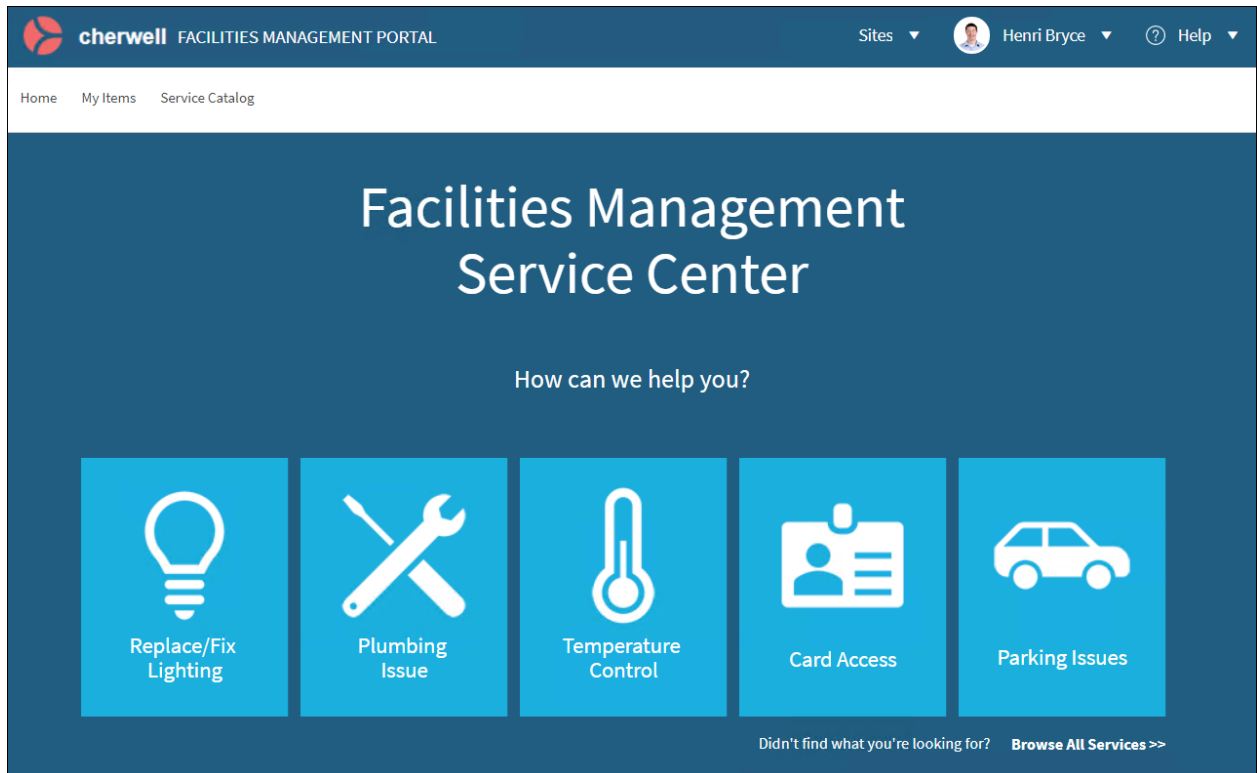
Work Order Type

Show Search

Drag a column header here to group by that column

Created Culture	Service	Category	Subcategory	Work Order Type
en-US	Facilities Management	Grounds Maintenance	Maintenance	Access Request
en-US	Facilities Management	Facilities Management	Other General Services	ADA
en-US	Facilities Management	Grounds Maintenance	Maintenance	Athletic Fields
en-US	Facilities Management	Construction Services	Construction Services	Boarding up Structure
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Boiler Inspections
en-US	Facilities Management	Construction Services	Construction Services	Build Furniture
en-US	Facilities Management	Construction Services	Renovation	Build Offices
en-US	Facilities Management	Records Management	Mail Services	Bulk Permit
en-US	Facilities Management	Grounds Maintenance	Landscape and Irrigation	Change
en-US	Facilities Management	Facilities Management	Plumbing	Change
en-US	Facilities Management	Facilities Management	Alarm - Fire	Change
en-US	Facilities Management	Facilities Management	Alarm - Security	Change
en-US	Facilities Management	Facilities Management	HVAC	Change
en-US	Facilities Management	Facilities Management	Electrical	Change
en-US	Facilities Management	Facilities Management	Cameras/Videos	Change
en-US	Facilities Management	Facilities Management	Card Access	Change
en-US	Facilities Management	Construction Services	Renovation	Change Existing Space - Setup
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Chiller Inspections
en-US	Facilities Management	Grounds Maintenance	Maintenance	Concessions / Restrooms
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Cooling Towers Inspections
en-US	Facilities Management	Facilities Management	Card Access	Deactivate
en-US	Facilities Management	Construction Services	Construction Services	Demolition
en-US	Facilities Management	Facilities Management	Other General Services	Door Locks and Keys
en-US	Facilities Management	Grounds Maintenance	Maintenance	Dugouts/Press Box
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Elevators Inspections
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Escalators Inspections
en-US	Facilities Management	Construction Services	Renovation	Existing Structure Repair / Replacement
en-US	Facilities Management	Grounds Maintenance	Maintenance	Fencing/Gates
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Filters
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Fire Alarms
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Fire Inspections Sprinklers / Extinguishers
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Fire Suppression Inspections
en-US	Facilities Management	Facilities Management	Other General Services	Furniture move
en-US	Facilities Management	Grounds Maintenance	Maintenance	General Maintenance
en-US	Facilities Management	Facilities Management	Recurring Maintenance	Generator Inspections
en-US	Facilities Management	Facilities Management	Recurring Maintenance	HVAC
en-US	Facilities Management	Facilities Management	Other General Services	Ice Machines
en-US	Facilities Management	Grounds Maintenance	Maintenance	Lighting
en-US	Facilities Management	Grounds Maintenance	Recurring Maintenance	Mowing
en-US	Facilities Management	Facilities Management	Plumbing	New

Figure 2. Service Catalog in Customer Portal



Proposals, Reports, Notifications, and Hardware Types

The Facilities Service Management mApp® Solution supports proposals, reports and saved searches, automation processes for email notifications, and configuration items for hardware storage.

Proposals

Many facilities management organizations require multiple bids for materials prior to purchasing materials. The new Proposal supporting object allows you to track multiple proposals for each work order and identify which bid is approved.

Reports

The Facilities Service Management mApp Solution includes the following reports and saved searches:

- Work Orders by Building
- Work Orders Total Cost
- Work Orders Total Time

Notifications

The Facilities Service Management mApp Solution includes the following automation processes for email notifications:

- Notify Owned By Team Changed - Work Order
- Notify Owner Changed - Work Order
- WorkOrder - Confirmation Email on Close
- WorkOrder - Confirmation Email on Create

Hardware Types

The Facilities Service Management mApp Solution includes the following new Configuration Item (CI) types that support facilities management hardware data storage for work orders.

- HVAC
- Electrical

Security Groups, Roles, and Teams

The Facilities Service Management mApp® Solution provides default security groups and teams to help you get started. Sample roles are also available.

Security Groups

The Facilities Service Management mApp Solution uses security groups to provide access and workflow rights (example: Only users with the Facilities - Dispatch role can close a ticket). Security groups are configured after applying the mApp Solution.

Security groups include:

- Facilities: Used by managers or other team members who are not dispatch or technician users.
- Facilities – Dispatch: Receives inbound calls and requests and dispatches work orders to technicians.
- Facilities – Tech: Fulfills work orders.

Roles

Roles determine which default Dashboards appear when users log in to the Facilities Service Management mApp Solution. Specific roles are not included in the mApp Solution, but sample roles are provided in the installation package.

Sample roles include:

- Dispatch: Receives and sorts work orders
- Facilities Management: Oversees work orders and projects from a manager perspective
- Facilities Supervisor: Supervises team and technicians
- Facilities Tech: Fulfills work orders

Teams

The Facilities Service Management mApp Solution provides the following teams, which are available during the team selection process:

- Facilities Building
- Facilities Construction
- Facilities Dispatch
- Facilities Grounds
- Facilities Records Management

Related tasks

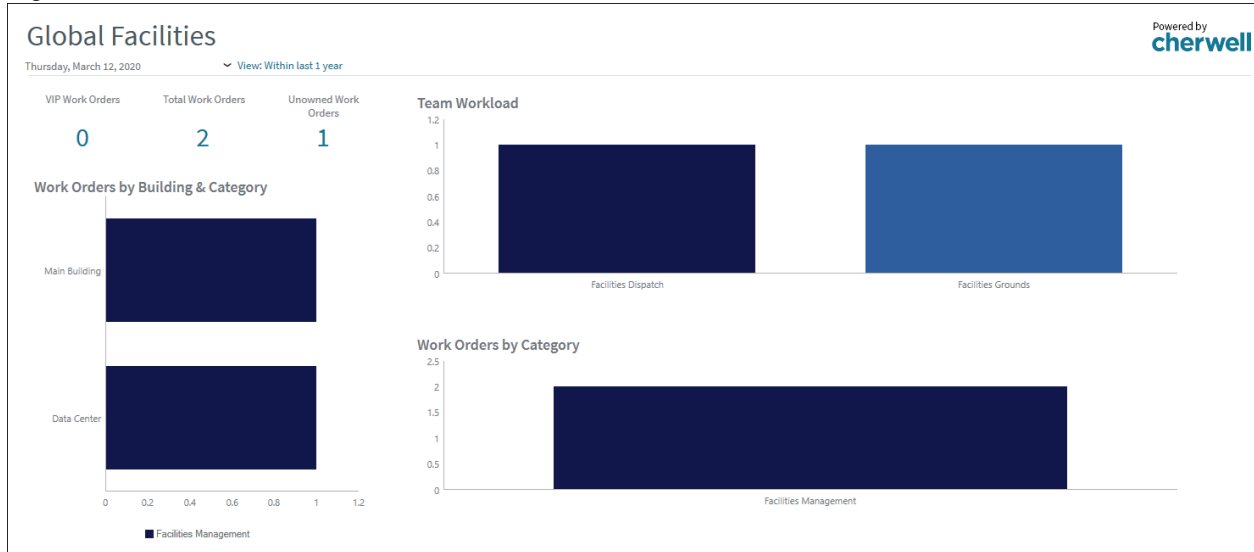
[Update Security Rights for CSM Portal Users](#)

Dashboards and Reports

Managers, supervisors, and field services teams can see the status of work that is assigned to them or members of their team without the clutter of other lines of business. Dashboards provide real-time information on work orders, property status, scheduled maintenance, and more.

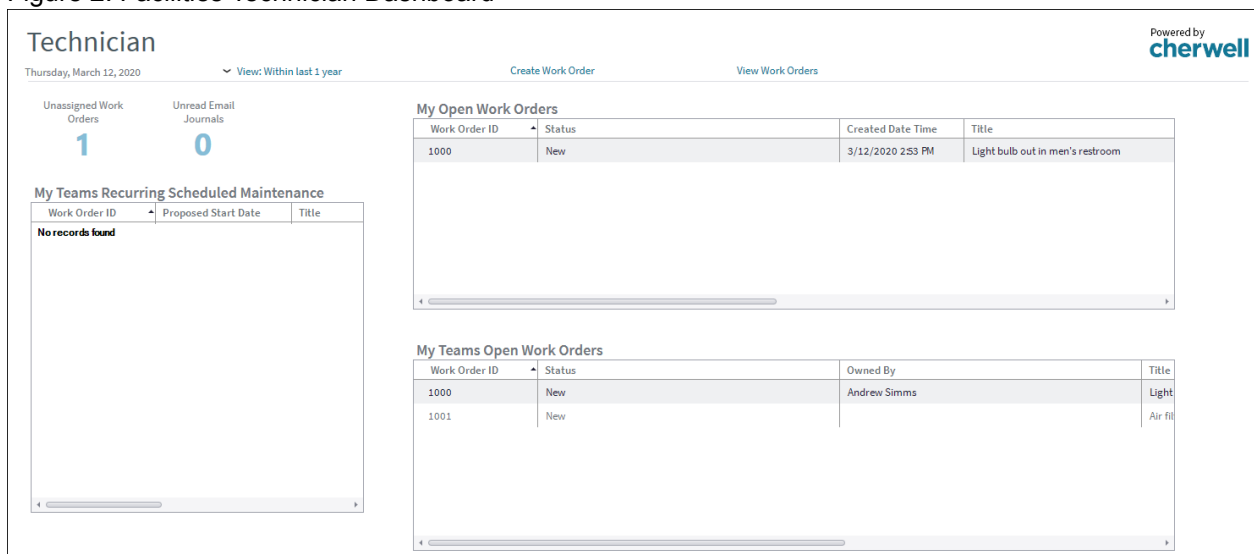
Global Facilities Dashboard

Figure 1. Global Facilities Dashboard



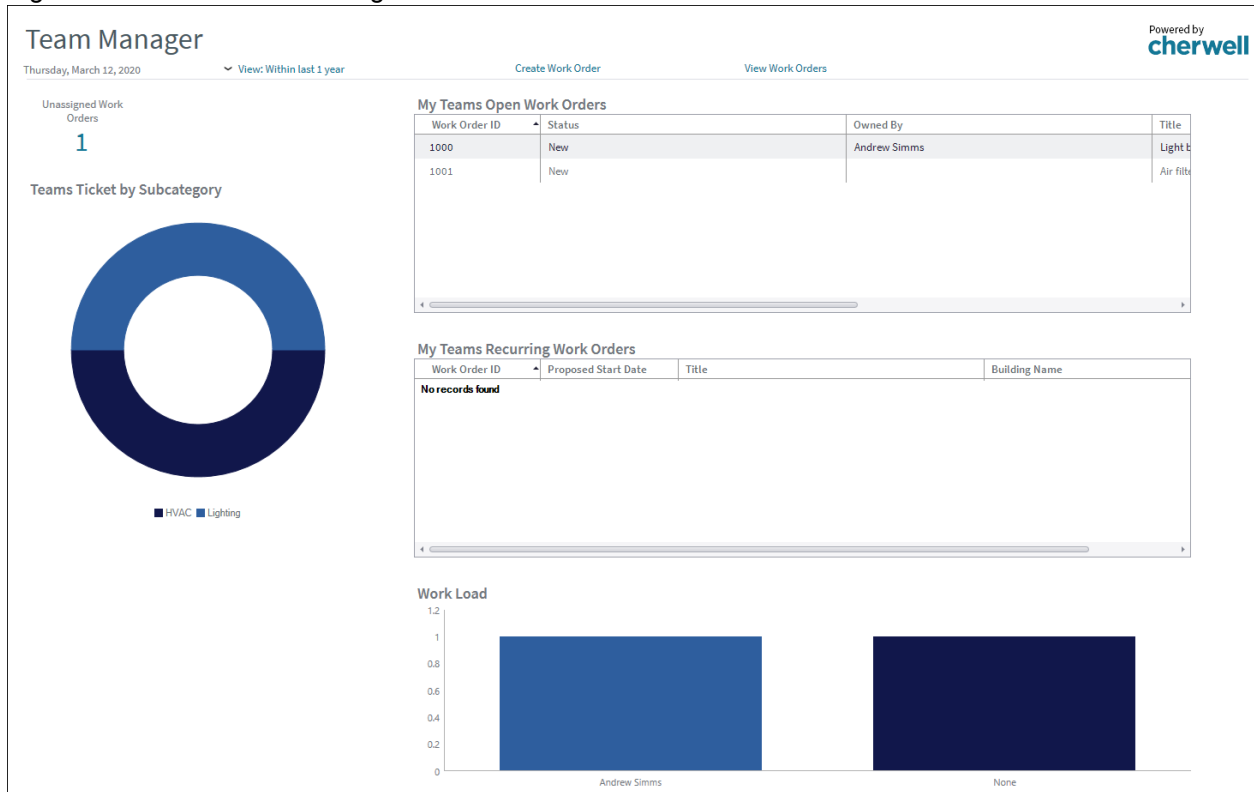
Facilities Technician Dashboard

Figure 2. Facilities Technician Dashboard



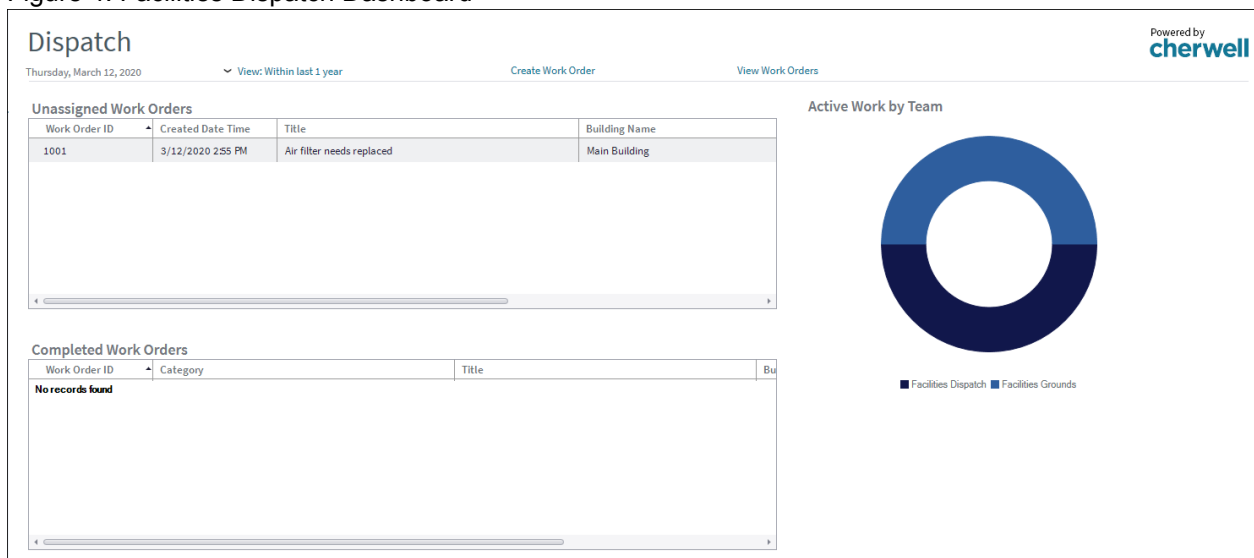
Facilities Team Manager Dashboard

Figure 3. Facilities Team Manager Dashboard



Facilities Dispatch Dashboard

Figure 4. Facilities Dispatch Dashboard



Configure the Facilities Service Management mApp Solution

Configure the Facilities Service Management mApp Solution by updating Security Rights for Portal Customers, assigning users to Teams and Security Groups, and updating email notifications.

Update Security Rights for CSM Portal Users

Use the Security Group Manager in CSM Administrator to update Security Groups.

This functionality is only available after you apply the mApp Solution.

To define security rights for CSM Portal users:

1. In CSM Administrator, select **Security > Edit security groups**.
2. In the **Security Groups** window, select **Portal Customer** in the **Group** drop-down list.
3. Select the **Business Objects** tab.
4. In the **Business Object** drop-down list, select **Work Order**.
 - a. In the **General** section, select **View**, **Add**, and **Edit**.
 - b. In the **File Attachments** section, select **View**, **Add**, **Edit**, and **Delete**.
 - c. Select **New Field**, and then select **View** and **Edit** in the **General** section.
5. Repeat the previous step and substeps with the following Business Objects:
 - Facilities - Contract - Lease
 - Facilities - Contract - Standard
 - Facilities - Copy Service
 - Facilities - ID Badge
 - Facilities - Mail Room Service
 - Facilities - Research
 - Facilities - Scanning Service
 - Facilities - Storage
6. In the **Business Object** drop-down list, select **Work Order Type**.
 - a. In the **General** and **File Attachments** sections, select **View**.
 - b. Select **New Field**, and then select **View** in the **General** section.
7. In the **Business Object** drop-down list, select **Facilities Building**.
 - a. In the **General** and **File Attachments** sections, select **View**.
 - b. Select **New Field**, and then select **View** in the **General** section.
8. Select **Save**.
9. In the **Security Group** window, select **Facilities** in the **Group** drop-down list.
10. Select the **Business Object** tab.
11. In the **Business Object** drop-down list, select **Work Order**.
12. In the **General** and **File Attachments** sections, select **Delete**.
13. Select **Save**, and then close the application.

Assign Users to Teams and Security Groups

Use the User Manager in the **Security** section of CSM Administrator to assign users to teams and security groups.

This functionality is only available after you apply the mApp Solution.

To add users to Facilities Teams:

1. To open the Users Manager in CSM Administrator, select **Security > Edit Users**.
2. Select a user.
3. Select the **User** tab, and then select the appropriate security group for this user in the **Security group** drop-down list.
4. Select the **Team** tab, and follow these steps:
 - a. Select **Add**.
 - b. Select one or more teams in the **Add User to Team** window.
 - c. Select **OK**.
 - d. To set a default team, select the team and then select **Default Team**.
5. Save the user profile.

Related tasks

[Create a User Profile](#)

Update Email Notifications

Use the One-Step Action Manager in the CSM Desktop Client to update email notifications.

To update email actions:

1. In the Desktop Client, select **One-Step** in the menu bar and then select **One-Step Manager**.
2. Change the association to **Work Order**.
3. Right-click **Email Customer on Create**, and select **Edit**. In the editor:
 - a. Select **Create E-mail Action**, and add your organization's email account to the **Send via** field.
 - b. Select **OK**.
4. Repeat the previous step and substeps for the **Email Customer on Close** and **Email Work Order Assignee** actions.
5. Select **Close**.

Create Work Orders

You can create work orders manually on a CSM Dashboard, through the CSM Portal, or by creating an email.

Good to Know

- In Dashboards (except Management), you can select a button to create a new work order or select **New > New Work Order** from the CSM menu bar.
- All new work orders are automatically assigned to the Facilities Dispatch team except for scheduled recurring work orders. By default, the owning team for scheduled recurring work orders is the team of the user who opened the work order.
- Journals track what occurs during the record's lifecycle, including notes to track progress or comments, history to track important field changes, email correspondence, etc. View or manually add journals by selecting the **Journal** tab in the record's arrangement.
- Attachments supplement records by providing additional details in the form of linked/imported files (.pdf, .doc, etc.), images, web pages, and document repositories. View and manage attachments using the **Attachment** button and **Attachments** bar.
- The main pane displays work order information (Requestor Work Order ID, Title, Description, Building Code, Building Name, Location, Cost Code, Proposed Start Date, Target Completion, Priority, Category, Subcategory, and Work Order type).
- The arrangement dynamically displays linked records that are related to the work order record (Facilities Building, Supplier, Equipment, Proposals, Project, Work Orders, Tasks for time and cost tracking, and Journals).
- Required fields are often conditional, meaning some are required to save a record, others to change the status of a record, others to close the record, etc. You are reminded when fields are required, either by an asterisk beside the field or a reminder message.
- Use rich text fields to use formatting and image/screenshots to complement the text. To format the text or embed an image, select the **Zoom** button.
- In fields, press F3 to open a **Selector** window, where you can select a legal value or create a new value.

Create a Work Order (User)

Users can open a work order directly from the CSM Portal. Frequently requested items are available for easy categorization.

To create a work order (users):


1. Log in to the CSM Portal.









Note: The URL is unique to your organization.

2. Select a frequently requested item (example: **Replace/Fix Lighting, Plumbing Issue, Temperature Control**, etc.), or select **Browse All Services** to select the appropriate category of the issue or request.
In the following example, the user selected **Temperature Control**, and a new page opened with fields for entering additional details about the issue. Note that the categorization **HVAC-Repair** has been applied to the issue.

Figure 1. User Work Order

 **cherwell** FACILITIES MANAGEMENT PORTAL

[Home](#) [My Items](#) [Service Catalog](#)

 Save  Cancel  Refresh  Delete  Attach (0) 

Work Order ID 1003

Facilities Management > HVAC > Repair

Description *

Temperature in the training room is too high.

Building Name

Main Building

Location/Floor/Area

Training Room

Cost Center

[Cancel](#) [Save](#)

3. Enter information in the fields. Fields with an asterisk are required.
4. Select **Save** to complete the work order.

The new work order displays. As it processes, the phases are updated, and the assignee is provided.

Create a Work Order (Dispatch)

A dispatch employee can open a non-recurring work order from either the CSM Desktop Client or the CSM Browser Client. The procedure in this topic covers the Browser Client.

To create a work order (dispatch or supervisor):

1. Log in to the Browser Client to access your Dashboard.
2. Select **Create New Work Order** and provide the work order information in the fields. By default, the requestor is the current user, but you can modify this value, if needed (example: The user may be someone who called the help desk to make a request).
3. Change the **Owned by Team** value to the team that will handle the work order. By default, the value is **Facilities Dispatch**.
4. Select **Save**, and select **Home** to return to the Dashboard.

Create a Recurring Work Order (Supervisor)

Create a recurring work order from either the CSM Desktop Client or the CSM Browser Client. The steps below are based on the Browser Client.

To create a recurring work order (supervisor):

1. Log in to the Browser Client to access your Dashboard.
2. Select **New > > New Work Order** and enter the work order information in the fields (details, title, description, building code, and cost code). By default, the requestor is the current user, but you can modify this value, if needed (example: The user may be someone who called the help desk to make a request).
3. Change the **Owned by Team** value to the team that will handle the work order. By default, the value is **Facilities Dispatch**.
4. Select the **Equipment** tab, and add equipment to the work order. Then select the **Link Existing** button.
5. To define the classification structure, specify **Recurring Maintenance** as the subcategory. All categories must be associated with the **Recurring Maintenance** subcategory.
6. Select **Schedule Recurring Future Work Orders**, and specify schedule frequency, start date for the schedule, and the number of recurring work orders. The appropriate number of linked future work orders is generated.
7. Select **Save** to generate the recurring work orders.
8. After the automation runs, the top of the work order indicates that the work order generation is complete. A new field is checked to indicate this is the master work order, and the work order tab shows the linked future work orders.
9. Select the **Home** button to go back to the Dashboard. Recurring work orders for your team will show in the grid if they have a proposed start date less than 30 days from today. This provides planning information without cluttering up the Dashboard with work orders with future dates.

Process Work Orders

Dispatch functions include reviewing, assigning, and completing work orders. While processing work orders, dispatch determines whether the customer needs to be contacted again or if any fiscal activities need to occur before the work order is closed.

Review and Assign Work Orders (Dispatch)

When tickets are created from the CSM Portal or through inbound email, a team typically reviews the work order, updates it with additional information, determines if approvals are required, reviews cost center information, and more.

After an initial review, work orders are assigned to a Facilities Management team and can be located in the **Work Orders** grid.

To review and assign a work order (dispatch):

1. Log in to the CSM Browser Client.
2. Select an unassigned work order.
3. Assign a new **Owned By** team, such as **Facilities Building**, **Facilities Grounds**, etc. Provide the cost center, if needed, and specify the priority.
4. Save the work order.
The work order is now in **Assigned** state and appears in the Dashboard of the supervisor of the assigned team.

Review Completed Work Orders

When reviewing completed work orders, dispatch determines whether the customer needs to be contacted again and/or fiscal activities need to occur before closing the work order.

To review a completed work order (dispatch):

1. Log in to the CSM Browser Client.
2. Select a completed work order.
3. Review payment and billing for attachments such as invoices, screen captures, and other documents.
4. Review items that are related to time and cost for tracking and invoicing needs.
5. After the review is completed, select **Closed** in the status box to close the work order.

Assign Work Orders (Supervisor)

Supervisors see all work orders and associated work loads that are assigned to their team. Supervisors can assign work orders as needed to manage and track these work loads.

To assign a work order (supervisor):

1. Log in to the CSM Browser Client.
2. Select an unassigned work order.
3. Select **Owned By**, and then assign the work order to an employee. Add journal notes and track time and costs.

The newly assigned work order now appears in the employee's Dashboard.

Facilities Service Management mApp Solution Items

The **Items** table provides a list of Business Objects and associated items that are included when applying the Facilities Service Management mApp Solution.

Table 1. mApp Solution Items

Item Category	Item	Typical Merge Action
Major Business Objects	Contract Links Facilities Building, Contract Links Specifics, Tab (Facilities Building), Specifics Type ID, Work Order, Facilities Building, Facilities, Configuration Item Links Facilities Building, Configuration Item Links Work Order, Configuration Item Links Facilities Building, Configuration Item Links Work Order, Expiration Date, and (HR, FM, IT) Multi-Tenant Fields, Default, Site1, Site2, Site3, Site4, Supplier Service, Supplier Account#, Supplier Rank, Supplier Links Facilities Buildings, Supplier Links Work Orders, Supplier Owns Proposals	Overwrite or Import (if not found)
Supporting Business Objects	Change Order, Proposal, Facilities - Contract - Lease, Facilities - Contract - Standard, Facilities - Copy Service, Facilities - ID Badge, Facilities - Mail Room Service, Facilities - Research, Facilities - Scanning Service, Facilities - Storage	Overwrite or Import (if not found)
Lookup Tables	Contract Category, Department Oversight, Facilities Pending Reason, Facilities Status, Facilities COS, Work order type, WorkOrder Priority, WorkOrder Status, CI Light Fixtures, Cost Item	Overwrite
Automation Processes	Create Scheduled Maint Tasks, Create Scheduled Maint Work Orders, Not Scheduled, Notify Owned By Team Changed - Work Order, Notify Owner Changed - Work Order, WorkOrder - Confirmation Email on Create, WorkOrder-AutoClose	Overwrite
Counters	Work order ID	Overwrite

Item Category	Item	Typical Merge Action
Dashboards	Facilities Dispatch, Facilities Management, Facilities Team Manager, Facilities Tech, Facilities-Service-Catalog, Facilities-V2, Facilities-V2-My Items, Home, IT-V2, Accounting-V2	Overwrite or Import (if not found)
Widgets	Numerous	Overwrite
Expressions	30 Days, AdminOnly, Fiscal Closed, Greater Than 4 days, Recurring, Resolve by, Respond by, Set Scheduled Status Field, Set ScheduledTasksStatus Field, Total Pending Time, Total Task Cost WO, Total Task Time WO, Total Time, Within 4 days, Work Order Phase, WorkOrderID, PortalLink	Overwrite
Group Maps	Specifics for Facilities	Overwrite
Images	Numerous	Overwrite
One-Step™ Actions	Create Work Order, etc.	Overwrite
Search	Numerous	Overwrite
Site	Facilities	Overwrite
Stored Values	WO-Link to CI - Recurring, Work Order - Link CI	Overwrite
Teams	PMD Records Management, PMD Grounds, PMD Facilities, PMD Dispatch, PMD Construction	Overwrite
Theme	Facilities	Overwrite

Related information

[Configure Merge Actions for Business Object Definitions](#)

HR Service Management 1.6

Cherwell HR Service Management mApp® Solution (Cherwell HRSM) combines HR Case Management and HR Employee Administration. Designed around HR workflow processes and Centers of Excellence (COE), Cherwell HRSM is an ideal solution for organizations needing to mature their HR operations and employee experience.

Requirements

Platform version requirements: CSM 10.2.0.

Content version requirements: Tested on CSM 10.2.0.



Note: This mApp Solution contains specific updates based on 10.2.0 OOTB content related to our enhanced Approval Engine feature. If you have an older content version, you may choose to use HRSM 1.5 instead.

This mApp Solution is designed to work with the ITSMStarter.czar and ITSMDemo.czar.

Prerequisites

If you are working with content from CSM 10.0.0 - 10.0.2, you might notice an incorrect German translation for Location ID in both the Default and Portal Views for the Customer - Internal form. This issue produces a scan error when attempting to apply the HRSM mApp Solution.

To fix the issue before publishing the mApp Solution:

1. At the end of the Apply mApp Wizard, select the option to open the Blueprint to review changes.
2. Switch to German, and then select **Kunde - Intern > Business Objekt bearbeiten**.
3. Locate and double-click the **Positions-ID** text field with size 20. Now the field is in edit mode.
4. Set the **Name** field to **Lage-ID**, and select **OK** to save your changes.
5. Repeat the previous steps for the Portal View.
6. Publish your Blueprint.

Available Languages

English, German, Spanish, French, and Portuguese

Overview

Cherwell HRSM is designed to provide a consumer-like service experience and increase HR productivity and employee satisfaction. This is made possible through a combination of the following elements:

- A powerfully intuitive Cherwell HRSM Portal.
- The persona-specific HR knowledge base.
- Shared services capabilities with pre-built automated workflows designed specifically for HR service delivery.

Cherwell HRSM combines ITSM and HR into a single solution to help customers address a technology and information gap in HR systems that support request, knowledge, and fulfillment workflows. Your company can resolve the majority of employee requests through the Cherwell HRSM Portal.

This solution focuses on a set of best practice processes based on the Society for Human Resource Management standards.

How the mApp Solution Works

Cherwell HRSM is designed to be applied to your development CSM system, where you can view and publish the solution. After evaluating and testing the solution against the development system, you can apply it to your production environment.

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	9.5.0	Tested on 9.2.0. Globalized for a clean scan, however Cherwell HR Service Management can be installed with other content versions. ¹	None
1.2	9.6.1	Tested on 9.6.1 and 9.5.3. ²	None
1.3	10.0.0	Tested on 10.0.0 ³	None
1.5	10.0.0	Tested on 10.0.0 ⁴	None
1.6	10.2.0	Tested on 10.2.0 ⁵	None

¹ Service Catalog Templates are used in this solution, so minimally the content version needs to be 7.x. Additionally, a little extra care and adjusting will be needed for non-Globalized systems. The Task Business Object was promoted to a Group Business Object type in CSM 9.4.0. If you are running CSM 9.4.0 or 9.5.0, you need to import two CED files to update the Onboarding and Offboarding One-Step Actions and use the updated Task Business Object. If you have already installed HR Case Management (versions 2 or 3), loading this new solution will not impact form and workflow modifications you have made locally. However, if you apply the optional HR Service Management Starter Data.mApp, your catalog and workflows will be impacted due to the shared catalog object data (Service Catalog Template, Work Unit, Case Category, and Case Subcategory). No data is lost when applying the HR Service Management.mApp file, only configuration modifications.

² For content versions earlier than those listed, review the documentation and carefully test against a copy of the current installation to determine suitability for your environment. Additional manual work may be required based on current system configurations.

³ For content versions earlier than those listed, review the documentation and carefully test against a copy of the current installation to determine suitability for your environment. Additional manual work may be required based on current system configurations.

⁴ For content versions earlier than those listed, review the documentation and carefully test against a copy of the current installation to determine suitability for your environment. Additional manual work may be required based on current system configurations.

⁵ For content versions earlier than those listed, review the documentation and carefully test against a copy of the current installation to determine suitability for your environment. Additional manual work may be required based on current system configurations.

Apply Cherwell HR Service Management

When applying the mApp Solution, be sure to follow the recommendations and steps that are outlined in this topic.

Download the Cherwell HR Service Management.zip file, which includes the following:

- Cherwell HR Service Management v1_6.mApp
- Offboarding 9.4 & 9.5 Content.ced
- Onboarding 9.4 & 9.5 Content.ced
- HRSM Reports.ced
- HRServiceManagementv1_6(en-US).tsv

To apply the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.
4. When you reach the **Overwrite Portal Security Groups** window, consider the following:
 - a. If you have customized the Portal Customer or Portal Workgroup Manager Security Groups, your custom data will be overwritten if you leave the **Enabled** check box selected and apply the Cherwell HR Service Management v1_6.mApp file. If you want to keep your custom data in these Portal Security Groups, clear the **Enabled** check box and instead manually configure the HRSM Portal Security Groups.
 - b. If you have not customized the Portal Customer or Portal Workgroup Manager Security Groups, verify that the **Enabled** check box is selected. The HRSM Portal Security Groups are applied with the Cherwell HR Service Management v1_6.mApp file.

Apply Cherwell HRSM to Non-Localized Content

You can apply the Cherwell HRSM mApp® Solution to non-localized content versions of CSM.

When the Blueprint is published, you may encounter this scan error on the following fields:

The constraint references a non-existent field. Field is missing from the Service Catalog Template business object

- Case Service Business Object (Default View) > Task Template Name
- Case Service Business Object (Portal Default View) > Task Template Name
- Role Business Object > Existing Employee Access Template Name
- Role Business Object > Existing Position Equip Template Name
- Role Business Object > New Hire Access Template Name
- Role Business Object > New Position Equip Template Name

To avoid these errors, edit the limiting value constraints (no update is required) for each of the impacted fields.

Considerations for Installing HR Service Management with HR Case Management

HRSM Case is the primary Business Object for HR Service Management. HR Case Management has a distinct Business Object called HR Case. The two share some supporting Business Objects and Lookup Tables, and you must avoid overwriting data configured in HR Case when you apply HRSM.

Shared Lookup Tables include:

- Case Category
- Case Subcategory
- Case Priority
- HR Case Pending Reason
- HR Case Resolution Code
- HR Case Status

To avoid overwriting HR Case Management data, perform the following steps prior to publishing the Blueprint created while applying the Cherwell HRSM mApp Solution:

1. Select the HR Case Status object and select **Edit Data**.
2. Highlight all records listed and select **File > Restore**.
3. Select the Case Priority object and select **Edit Data**.
4. Highlight all records listed and select **File > Restore**.
5. Select the HR Case Pending Reason object and select **Edit Data**.
6. Highlight all records listed and select **File > Restore**.
7. Select the HR Case Resolution Code object and select **Edit Data**.
8. Highlight all records listed and select **File > Restore**.
9. Do not apply the Cherwell HR Service Management Starter Data mApp Solution file. It will overwrite the Case Catalog and Case Subcategory data and potentially overlay any Task Templates (Service Catalog Templates) that have been configured for HR Case Management.

HR Service Management and HR Case Management cannot function in the same environment as configured after the Cherwell HRSM mApp Solution is applied. The primary reason is the HR Case Status record contains commands to execute when moving to the next status. To configure this Business Object for HR Service Management, review each of the HR Case Status records and select the appropriate One-Step Action in the **Next Status Command** field that is associated with the HRSM Case Business Object.

To configure HR Service Management and HR Case Management to function in parallel:

1. Modify the HR Case Status Business Object to include an additional command field to store the HRSM Case One-Step Action.
2. Modify the Next Status from Relationship One-Step Action to use the new command field.

Configure Cherwell HRSM

The configuration requirements for Cherwell HRSM vary depending on your existing environment. Review each topic in this section to determine which areas need to be manually configured.

Complete the following procedures to configure Cherwell HRSM. Configuration procedures are completed in the CSM Desktop Client and CSM Administrator.

HRSM Roles, Security Groups, and Portal Security Groups

HRSM Roles, Security Groups, and Portal Security Groups are automatically applied with the mApp Solution to align with the Dashboards.

Exception: When applying the mApp Solution, you can clear the **Enabled** check box on the **Overwrite Portal Security Groups** screen and instead manually configure the HRSM Portal Security Groups.

Verify HR Case Automatic Actions

In cases where the HRSM Case Automatic Actions are not created by Cherwell HRSM, they must be added manually.

Related concepts

[Cherwell HRSM Security Groups](#)

Related information

[Configure Merge Actions for Business Object Definitions](#)

Cherwell HRSM Roles

Several HRSM Roles are implemented with the Cherwell HRSM mApp® Solution. These roles align with CSM Dashboards.

Roles determine the user's default HR Dashboard, but they can also be used with Security Groups to allow users to log in using a different Role.

Table 1. Roles, Objects, and Dashboards

Role	Primary Object	Dashboard
HR Executive	HRSM Case	HRSM Executive
HR Knowledge Manager	Knowledge - HR	HRSM-Knowledge-Base-Articles
HR Manager	HRSM Case	HRSM Manager
HR Tier 1	HRSM Case	HRSM Tier 1
HR Tier 2	HRSM Case	HRSM Tier 2

Cherwell HRSM Security Groups

The following Cherwell® HRSM Security Groups are implemented with Cherwell® HR Service Management mApp Solution. These Security Groups align with the CSM Dashboards.

Security Groups include:

- HR Executive
- HR Knowledge Manager
- HR Manager
- HR Tier 1
- HR Tier 2

Configure Cherwell HRSM Portal Security Groups

If enabled when running the Apply mApp Wizard, the following HRSM Portal Security Groups are implemented with the Cherwell HRSM mApp® Solution.

If you have customized any of the Portal Customer or Portal Workgroup Manager Security Groups, you should manually configure the HRSM Portal Security Groups rather than applying them with the mApp Solution because your custom data will be overwritten by the new data applied.

To manually configure HRSM Portal Security Groups:

1. Open CSM Administrator and select **Security > Edit Security Groups**.
2. In the **Group** list, select **Portal Customer**. (Repeat these steps for Portal Workgroup Manager and any additional Portal Security Groups.)
3. Select the **Business Objects** tab.
4. In the **Business Object** list, select the following Business Objects and settings:

Business Object	Setting
HRSM Case	<ul style="list-style-type: none"> ◦ General: View, Add, Edit ◦ Limit Records (select one option or the other): <ul style="list-style-type: none"> ◦ Customer Display Name = CurrentUserDisplayName() ◦ All of the following: <ul style="list-style-type: none"> ◦ Submit on behalf of Name = CurrentUserDisplayName() ◦ Send Notifications to On Behalf of equals true ◦ File Attachments: View, Add, Delete ◦ New Field: View, Edit
HR Task	<ul style="list-style-type: none"> ◦ General: View, Edit ◦ File Attachments: View, Add, Delete ◦ New Field: View, Edit
Knowledge - HR	<ul style="list-style-type: none"> ◦ General: View, Edit ◦ Limit Records: Status = Published, Visible in Portal = True ◦ File Attachments: View ◦ New Field: View, Edit
Checklist Item	<ul style="list-style-type: none"> ◦ General: View, Add ◦ File Attachments: View ◦ New Field: View, Edit
Case Type, Case Category, Case Priority, Case Subcategory, Case Service, Case Service List	<ul style="list-style-type: none"> ◦ General: View ◦ New Field: View

Business Object	Setting
HR Specifics - All group members	<ul style="list-style-type: none">◦ General: View, Add, Edit◦ File Attachments: View◦ New Field: View, Edit<ul style="list-style-type: none">◦ AdditionalDetails◦ Benefit Change◦ Direct Deposit◦ Disciplinary Action◦ Employee Information Change◦ Employee Offboarding◦ Employee Transfer◦ Employment Verification◦ FMLA◦ General Leave◦ HR System Access◦ I9◦ Modify W4◦ Retirement◦ SF-256◦ SF-85◦ Tuition Reimbursement Pre-Approval◦ Tuition Reimbursement Request◦ Visa Assistance◦ Visa Question◦ W4 Modify

Configure Cherwell HRSM Teams

The **Team Info** table in the CSM Desktop Client has been expanded to allow HR Knowledge Teams that are separate from HR Teams that handle HRSM Cases. HR Knowledge Teams handle the HR Knowledge workflow.

HR Teams handle HR Cases. If the Team is also an HR Knowledge Team, members can also perform technical approvals for HR Knowledge Articles.

HR Teams are the default owners of specific services (HR Cases). Based on the service that the customer requests, it will be assigned to a specific HR team. In the **Case Service** table, you can set the Default Shared Services team and the Default Escalation Team for a specific HR Case Service. This default team will be the automatic assignee for that service. Review the services and adjust to suit your organization's structure and teams.

If the Team is also an HR Knowledge Team, members can also perform technical approvals for HR Knowledge Articles.

HR Teams

For Teams to be available in HR Service Management and HR Knowledge, the Team Info records must be modified in Table Management to reflect their use.

1. Open the Desktop Client and select **Tools > Table Management**.
2. In the **Type** drop-down list, select **Team Info**.
3. Double-click the HR team and select the appropriate check boxes (example: **HR Team** and **HR Knowledge Team**).

The HR Teams listed in the table below are provided by default if you apply the Cherwell HR Service Management Starter Data mApp file.

Name	HR Knowledge Team
T1-NA	
T1-EMEA	
T1-APAC	
T2-Benefits-US	TRUE
T2-Benefits-CND	
T2-Benefits-EMEA	
T2-Benefits-APAC	
T2-Benefits-LATM	
T2-Payroll-US	TRUE
T2-Payroll-CND	

T2-Payroll-EMEA	
T2-Payroll-APAC	
T2-Payroll-LATM	
T2-Global-Recruiting	
T2-HRIS-NA/LATM	TRUE
T2-HRIS-EMEA/APAC	TRUE
BPartner-US	
BPartner-CND	
BPartner-EMEA	
BPartner-APAC	
BPartner-LATM	
COE-Total Rewards	TRUE
COE-Employee Relations	TRUE
COE-Workforce Admin	TRUE
COE-Payroll	TRUE
COE-HRIS Operations	TRUE

HR Knowledge-Only Teams

HR Knowledge Teams can perform technical approvals and publish HR Knowledge Articles.

Name	HR Knowledge Team
HRKM - Publisher	TRUE
HRKM - Benefits	TRUE
HRKM - Payroll	TRUE
HRKM - Operations	TRUE

Configure User Persona Filtering

To take advantage of the user persona filtering for HR Knowledge and HRSM Case categories, add data to all existing Customer-Internal records.

Pay particular attention to the following fields, which are critical for the Cherwell HRSM mApp® Solution features to work correctly:

- **Country Code:** When customers enter the HR Portal site, the Country Code defined as part of their user record is used to filter the available resources based on the individual's country policies. You can find valid country codes listed in the Cherwell content.
- **Exemption Status:** (Exempt or Non-Exempt - Default: NULL) Employee's Exempt or Non-Exempt status affects which HR Articles apply to the individual. By default, this field has a NULL value, meaning that it will need to be set before the employee can see HR Articles.
- **IsAManager:** (Checkbox - Default: N) Employee's status as a manager allows employee to view HR Articles listed as relevant to managers.

Related concepts

[Configure Existing Forms to Include HRSM Fields](#)

Configure HR Knowledge Mapping

To allow HR Knowledge to help HRSM Case resolve issues, the HR Knowledge must be mapped to the HRSM Case Business Object.

To create the mapping:

1. In CSM Administrator, select **Create a New Blueprint**.
2. Select **Managers > Knowledge > Knowledge Mapping**.
3. Select **HRSM Case** in the **Search From** drop-down list.
4. Select **Allow Knowledge Search**.
5. Add the following Knowledge Sources:
 - HR Knowledge - Guideline
 - HR Knowledge - How To
 - HR Knowledge - Policy
 - HR Knowledge - Q&A
6. Highlight each of the Knowledge Sources above and fill out the **Solution Goes To** options:
 - a. Select the **Field** check box, and select **HRSM Case > Close Description** in the drop-down list.
 - b. Select the **Relationship** check box, and select **HR Case Links HR Knowledge Solution** in the drop-down list.
7. Save your changes.

Configure HRSM Service Catalog Templates

The Cherwell HR Service Management mApp® Solution includes several HRSM Service Catalog Templates.

Table 1. HRSM Service Catalog Templates

SCT ID	Title	Description	IT Service	IT Category	IT SubCategory
76	Access Request for Executive Transfer	Access Request for Executive Transfer	Employee Support	Add/Change	Update Employee
73	Access Request for New Employee - Standard	Access Request for New Employee	Employee Support	Add/Change	New Employee Setup
66	Benefit Changes	Benefit Changes	Employee Support	Add/Change	Update Employee
39	New Employee Setup	Create all necessary items for a new employee setup	Employee Support	Add/Change	New Employee Setup
60	Direct Deposit	Direct Deposit	Employee Support	Add/Change	Update Employee
55	Employee Information Change	Employee Information Change	Employee Support	Add/Change	Update Employee
64	Employee Transfer	Employee Transfer	Employee Support	Add/Change	Update Employee
54	Employment Verification	Employment Verification	Employee Support	Add/Change	Update Employee
75	Access Request for New Employee - Executive	Executive Access Request for New Employee	Employee Support	Add/Change	New Employee Setup
53	FMLA Procedures and Resources	FMLA Procedures and Resources	Employee Support	Add/Change	Update Employee
68	HR Case Offboarding	HR Case Offboarding	Employee Support	Add/Change	Employee Separation
69	HR IT Termination	HR IT Termination	Employee Support	Add/Change	HR Termination
59	HR Systems Access	HR Systems Access	Employee Support	Add/Change	Update Employee
71	Initiate Retirement	Initiate Retirement	Employee Support	Add/Change	Update Employee
65	Modify W4	Modify W4	Employee Support	Add/Change	Update Employee

62	HR Case Onboarding	Onboarding	Employee Support	Add/Change	Update Employee
70	Leave of Absence Procedures (General)	Procedure for Leave of Absence	Employee Support	Add/Change	Update Employee
77	Review equipment needs for existing employee	Review equipment needs for existing employee	Employee Support	Add/Change	Update Employee
74	Access Request for Transfer - Standard	Standard Transfer Access	Employee Support	Add/Change	Update Employee
58	Tuition Reimbursement - Class Authorization	Tuition Reimbursement - Class Authorization	Employee Support	Add/Change	Update Employee
57	Tuition Reimbursement - Course Completion	Tuition Reimbursement - Course Completion	Employee Support	Add/Change	Update Employee
72	Grievance/Disciplinary/ Harassment Incident	Verify information and determine if additional actions are needed	Employee Support	Add/Change	Update Employee

Related information

[Create a Service Catalog Template](#)

About HRSM Service Catalog Templates

The HR Service Catalog Templates specify a set of Tasks that are created when an HR Case enters the in-progress phase. The HR Tasks are generated in a series of One-Step™ Actions.

Most HRSM Service Catalog Templates create HR Tasks, but some also generate IT requests and associated Tasks.

Service Catalog Templates are associated with HR Case Service and with Role. In the Case Service table, certain services (example: Tuition Reimbursement) have associated tasks. Some Roles have associated tasks that are initiated by Service Catalog Templates.

SCT Initiation from HR Case Service Table

The HR Case Service table stores the SCT that is called to create HR Tasks.

When the HR Case Service field is populated in an HR Case, the Task Template Rec ID is captured from the associated Case Service record.

An Automation Process (Generate HR Tasks from Template) then calls the One-Step Action (Generate HR Case Tasks from Template), which creates the HR Tasks identified in the SCT.

The following SCTs are initiated in the method outlined above:

- Benefit Changes
- Direct Deposit
- Employee Information Change
- Employee Transfer
- Employment Verification
- FMLA Procedures and Resources
- Grievance/Disciplinary/Harassment Incident
- HR Case Onboarding
- HR Case Offboarding
- HR System Access
- Initiate Retirement
- Leave of Absence Procedures
- Modify W4
- Tuition Reimbursement - Class Authorization
- Tuition Reimbursement - Course Completion

Onboarding Flow

After a case is submitted, the HR person reviews the case and selects the **Start Onboarding** button.

1. A Service Request (One-Step Action for Start Onboarding) is created so that IT can create an Active Directory (AD) account.
2. After the AD account is created, IT enters the account in the specific form and resolves the request. An Automation Process kicks off and assigns the new employee as the On Behalf Of on the HR Case.
3. Two Service Requests also kick off for Access and Equipment along with the necessary tasks based on the SCTs found in the Role.
4. HR Tasks are also created based on the SCT tied to the Service in the categorization.

A role is created and marked as an HR role (it will be used in the HR Case side). On each role, SCTs are set to determine which tasks get created during onboarding for both Equipment and Access Requests.

Modify SCT after Installing Cherwell HRSM

The Service Classification field in SCTs is a required field. However, this field does not display any HR Classifications. We recommend you update the field properties so the Service Classification is not required if the SCT will be used for an HR Process.

To update the Service Classification field in SCTs:

1. In CSM Administrator, create a new Blueprint.
2. In the **Manage objects** screen, select **Service Catalog Template**.
3. Select **Edit Business Object**.
4. Right-click **Smart Classify Search String** and then select **Edit Smart Classify Search String field**.
5. Select the **Properties** page and expand the **Required for Save** section.
6. Select **Expression** and then select the **Custom Expression** button.
7. Set the expression:
 - a. **Value:** Service Catalog Template SCT Category
 - b. **Operator:** Not Equal
 - c. **Value:** HR Process
8. Publish the Blueprint.

Configure HRSM Case Service Table

The Case Service table allows you to select a Case Service and define availability to customers, default shared services, escalation teams, and more.

You can define:

- Availability to customers and/or HR technicians
- Default Shared Services and Escalation Teams
- Availability to employees based on limiting factors (example: manager status, country)
- Associated templates and/or checklists

The following HR Case Services are defined by default:

- Initiate Onboarding
- Initiate Offboarding
- Start Transfer

To configure additional HRSM Case Services:

1. In the CSM Desktop Client, select **Tools > Table Management**.
2. In the **Type** list, select **Case Service**.
3. Double-click the specific Case Service.
4. Select or clear the check boxes, depending on your preferences.
5. Link the following fields to the applicable HRSM-specific elements. See [HRSM Case](#) to understand how the One-Step™ Actions handle these configurations:
 - HR Specifics Name
 - Task Template Name
 - Default Shared Services Team
 - Default Escalation Team
 - First Checklist Name
 - Second Checklist Name
 - Valid Countries

Related concepts

[HRSM Case](#)

[Configure HRSM Service Catalog Templates](#)

[Configure Cherwell HRSM Teams](#)

[Cherwell HRSM Checklists](#)

[Configure User Persona Filtering](#)

Related tasks

[Configure Cherwell HRSM Portal Security Groups](#)

Configure HR Work Units

You can configure several HR Work Units that are provided by default in Cherwell HR Service Management.

Work Unit ID	Name	WU Category	Description
42	Provide Email Account	Request Service	Provide an email account
45	Deliver Equipment	Perform a Task	Deliver the equipment to the customer
46	Create AD account	Perform a Task	Create an AD account for the specified user
61	Review documentation for completeness	General Task	Review documentation for completeness. If incomplete create an ad-hoc task for customer to provide additional information
62	Update Workday	General Task	Update Workday
63	Manager Authorization	Authorization	Manager Authorization
64	Update information as needed	General Task	Update information as needed
65	Review Access Request form	General Task	Review Access Request form
66	View Access Compliance (role/title)	General Task	View Access Compliance (role/title)
67	Complete access	General Task	Complete access
68	Provide Eligibility Notice	General Task	Provide Eligibility Notice
69	Complete and return Certification form (if required)	General Task	Complete and return Certification form (if required)
70	Provide designation notice to employee	General Task	Provide designation notice to employee
71	Transmit Verification	General Task	Transmit Verification depending on the method in the verification request
72	Complete Verification form	General Task	Complete Verification form
73	Complete Reimbursement	General Task	Complete Reimbursement
74	Execute Direct Deposit	General Task	Execute Direct Deposit
78	New Hire Activities	Checklist	Complete the New Hire activities in the checklist.
79	Complete Training	Complete Training	Complete Training
80	Welcome Letter	General Task	Welcome Letter
81	Set up Payroll	General Task	Set up Payroll
82	Set up Benefits	General Task	Set up Benefits
83	Payroll Activities	General Task	Last check and discontinuation in system
84	Benefit Activities	General Task	Benefit Activities

85	Remove access to HR System	General Task	Remove access to HR System
86	Paperwork Activities	General Task	Cobra Severance info
87	Review Application Access	Perform a Task	Review Application Access and remove if necessary.
89	Request for Documentation/ Proof	HR Work	Request for Documentation/Proof
90	Review Documentation and confirm valid change event	HR Work	Review Documentation and confirm valid change event
91	Make requested changes in HRIS	HR Work	Make requested changes in HRIS
92	Make changes as needed in provider systems	HR Work	Make changes as needed in provider systems
94	Complete the following form: W4	Provide Document	<ul style="list-style-type: none"> • Follow the link and instructions below • Employee Withholding Allowance Certificate - W4 • Click on the link below and save the rendered document • Save the form and edit with your information • Attach the form to this task when complete • Mark the Task as Complete when you are comfortable
95	Complete the following form: I9	Provide Document	<ul style="list-style-type: none"> • Employment Eligibility Verification - I9 • Use the link below for an overview of the I9 purpose and additional information • Navigate to the "Form I-9 (PDF, 551KB)" link • Save the form and edit with your information • Attach the form to this task when complete

96	Complete the following form: SF-256	Provide Document	<ul style="list-style-type: none"> • Voluntary Self-Identification of Disability - SF-256 • Use the link below • Save the form and edit with your information • Attach the form to this task when complete • Mark the Task as Complete when you are finished with this activity • Note: completion of this form is voluntary
97	Complete the following form: SF-85	Provide Document	<ul style="list-style-type: none"> • Background Investigation Questionnaire - SF-85 • Use the link below and save the rendered document • Save the form and edit with your information • Attach the form to this task when complete • Mark the Task as Complete when you are finished with this activity
98	Initiate Retirement Process in HRIS	General Task	Initiate Retirement Process in HRIS
99	Contact Requestor	HR Work	Verify information and determine if additional actions are needed
100	Badge Access Updates		Perform access updates on employee badge
101	Create employee badge		Configure facilities access
102	Review equipment needs	Perform a Task	Review equipment needs
104	SAP Access	Perform a Task	Provide access to SAP
105	SAP Security Setup	Perform a Task	Configure SAP Security
106	SalesForce Security Setup	Perform a Task	Configure SalesForce Security
107	SalesForce Access	Perform a Task	Provide Access to SalesForce

Configure the New Hire Portal

Using the New Hire Portal, new hires can complete HR tasks before their first day on the job.

To give a new hire access to the New Hire Portal:

1. Set up a Security Profile for pre-hire candidates. This may be a copy of the Portal Customer security group with only the New Hire portal available as a Site.
2. Set up your common HR Request links.
3. Provide the appropriate comma-separated keywords to the HR Knowledge Article. At a minimum, add the exact category and subcategory terms (example: Benefits, Beneficiaries) so the article appears in the proper location in the Portal.

Configure Existing Forms to Include HRSM Fields

Cherwell HRSM adds several new fields to existing Business Objects. To ensure customer configuration is not overwritten on the forms, new forms were created to contain these fields. The fields on these forms must be copied to the Default forms to be viewed in CSM.

The following forms require modification:

- Customer-Internal Default form: Additional fields can be copied from the HR Supplemental section of the HRSM Fields form.



Note: Manually copy (drag and drop) the **Country Code** field to the Overview form. This field must be populated for filtering the available resources for an individual's country policies. Unlike the other fields for persona filtering, the **Country Code** field is not automatically copied over from the HR Supplemental section of the HRSM Fields form.

- Announcements Default form: The additional **Announcements** field can be copied from the HRSM Discussion Fields form.
- Work Unit Default form: The additional **Work Unit** field can be copied from the Work Units Fields form.

Related concepts

[Configure User Persona Filtering](#)

Import HRSM Sample Reports

Import HRSM Sample Reports using the HRSM Reports.ced file provided with the mApp® Solution.

To import HRSM Sample Reports:

1. In CSM Administrator, create a new Blueprint.
2. Select **Managers > Reports**.
3. In the **Association** drop-down list, select **HRSM Case**.
4. Navigate to the **Global** folder.
5. Select **File > Import**.
6. Select the HRSM Reports.ced file and select **Open**.
7. Select **Close**.
8. Publish the Blueprint.

Configure HRSM One-Step Actions for CSM 9.4.0 and CSM 9.5.0 Support of the Task Business Object

If you are using CSM 9.4 or 9.5 content (your system has a Task Group Object with Work Items) then you will need to load the Onboarding 9.4 & 9.5 Content.ced and Offboarding 9.4 & 9.5 Content.ced files.

These files replace the IT Access and IT Equipment One-Step™ Actions for onboarding, offboarding, and transfer so they are compatible with 9.4 and 9.5 content.

To update the One-Step Actions:

1. In CSM Administrator, create a new Blueprint.
2. Select **Managers > One-Step**.
3. In the **Association** drop-down list, select **HRSM Case**.
4. Navigate to the **Onboarding** folder.
5. Select **File > Import**.
6. Select the Onboarding 9.4 & 9.5 Content.ced file and select **Open**.
7. Navigate to the **Offboarding** folder.
8. Select **File > Import**.
9. Select the Offboarding 9.4 & 9.5 Content.ced file and select **Open**.
10. Publish the Blueprint.

Using Cherwell HRSM

You can use Cherwell HRSM to help HR Case Agents, customers, and new hires perform common tasks.

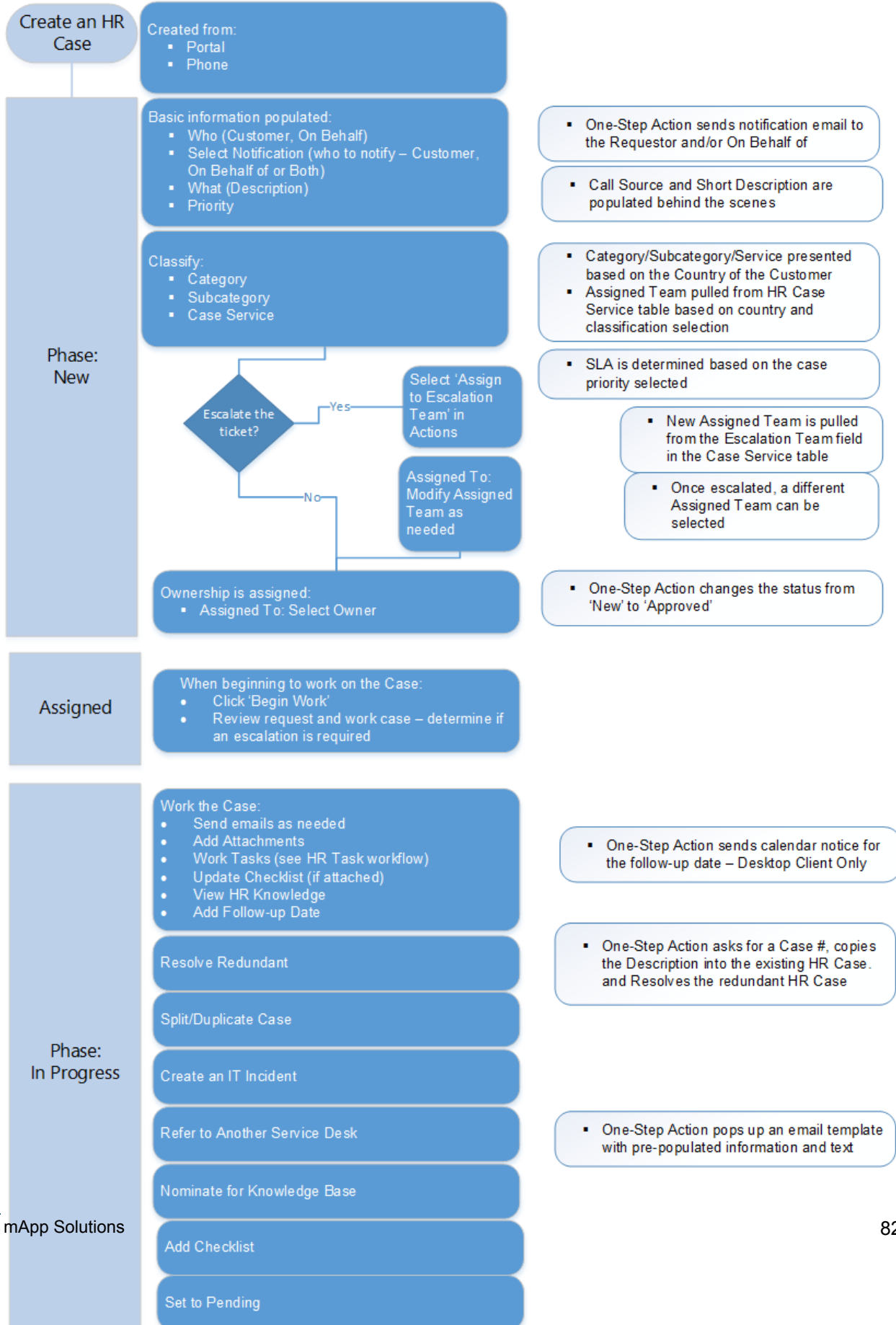
Use Cherwell HRSM to:

- Allow HR Case Agents to easily organize and track their work.
- Handle onboarding, offboarding, and employee transfer activities.
- Let your customers access the HR knowledge base.
- Allow new hires to complete pre-employment tasks via the New Hire Portal.

HRSM Case

Use HRSM Cases to track and manage HR-related work items. Each HRSM case can have multiple HR Tasks associated with it. You can also use HR Checklists to simplify the work.

See the following workflow diagram.



Employees' assigned countries drive many behaviors in Cherwell® HRSM. Depending on the country, CSM renders different specifics forms, task templates, and checklist assignments. The country also drives default service and escalation teams.

With HR Case Management, you can:

- Optimize the HR caseload:
 - Resolve redundant cases.
 - Split and duplicate cases.
 - Open an IT request from an HR Case.
 - Set an HR Case to Pending status while waiting for external input.
 - Nominate the resolution of an HR Case for the HR Knowledge Base.
- Securely view HR Cases.
- Submit an HR Case on behalf of another employee.
- Use HR SLAs (based on HR Case priority).
- Take advantage of many HR Reports.

Good to Know:

- The **Employment Verification** link appears in the **Actions** list in the specific form for Employment verification. It triggers an email with the requester name and a template to be filled out by the HR Case Agent.
- The **Update Customer** link appears in the **Actions** list on several specifics forms. It triggers a One-Step Action to update a customer record. As HR Cases progress, you may want to update customer records with the information you collect. You might also choose to configure the One-Step Action to trigger an API call if you are running an integration with HRIS applications such as WorkDay or ADP.

Create a Cherwell HRSM Case

HR professionals can use the HR Case Object to open a Cherwell® HRSM Case for a customer (example: Create an Onboarding Case for a new employee in the company).

To create an HR Case:

1. In the CSM Browser Client, select **New > New HRSM Case**.
2. **Customer**: Select a name.
3. **On Behalf Of**: Select the button to the right of the **Customer** field to request a service for someone else. It can be used for onboarding and offboarding, or an administrator can make a request on behalf of a manager. Select **True** if both the customer and requester should receive communications regarding the status.
4. **Description**: Enter a case description.
5. (Optional) **Effective Date**.
6. (Optional) **Follow-up Date**: Set a follow-up date.
7. **Category**: Select a category from the drop-down list.
8. **Subcategory**: Select a subcategory from the drop-down list. The customer profile, including the customer's resident country, drives the choices available.
9. **Case Service**: Select a Case Service from the drop-down list. The customer profile drives the choices available.
10. **Priority**: Select a priority.
11. **Assigned Team**: This field is auto-populated from the Table Service table. The only way you can assign it to another team is by selecting **Assign to Escalation Team** under **Actions**. This assigns the HR Case to the escalation team, but you can change it from the **Assigned Team** field.
12. **Assigned To**: Select an owner prior to beginning work on the case.
13. Fill out the **HRSM Specifics** tab as needed. This tab has specifics forms that are determined by the category and subcategory choices.
14. Save the HR Case.

The Pending status allows you to put the HR Case on hold temporarily until you can move forward. The **HRSM Specifics** tab has additional information. Tasks are created from Service Catalog Templates (SCTs). SCTs create HR Tasks as well as Incidents.

The **Potential Solutions** tab shows HR Knowledge Articles whose keywords match the HRSM case's category and subcategory.

HR Case Actions

Use the **Actions** list to quickly initiate actions such as resolving duplications, assigning the case to an escalation team, limiting access to the case, and more.

To initiate actions:

- **Generate Tasks from Template:** Select a Task Template. The Tasks will show up in the Tasks tab after you save the HR Case.
- **Assign to Escalation Team:** The default escalation team is set in the Case Service table.
- **Assign to Me:** Use this link to assign yourself the HRSM Case. Your name will now appear in the **Assigned To** field.
- **Resolve Redundant:** Use this function when a customer opens duplicate cases.
- **Split/Duplicate Case:** Generates a new HR Case with duplicated **Customer** and **Description** fields. You will need to manually add categorization information.
- **Create an IT Incident:** If an HRSM Case needs to be addressed via an IT Incident, use this link to convert the HRSM Case.
- **Refer to Another Service Desk:** Generates an email message containing HRSM Case details.
- **Nominate for Knowledge Base:** If the case resolution would be helpful for other HR Agents, use this link to create an HR Knowledge Article. The article will appear in draft status.
- **Add a Checklist:** Add a pre-built Checklist to the HRSM Case.
- **Set a Follow-Up Date Reminder:** Creates a calendar reminder (CSM Desktop Client).
- **Limit Access to this Case:** Sets the current assignee as the only individual with access to this case.
- **Set to Pending:** You can place an HRSM Case in the Pending status to put the Case on hold.
- **Cancel:** Cancel the HRSM Case; the status will be set to Closed.

Work an HR Case

When working an HR Case, you can manage multiple related tasks, streamline workflow, or escalate the Case to another team.

1. You can escalate an HR Case to another team. Selecting the **Assign to Escalation Team** link will re-assign the Case to the default escalation team (identified in the Case Service table). You can assign it to a different team if necessary, but you must use the **Assign to Escalation Team** link first.
2. Use the **Tasks** tab to manage associated tasks.
3. Use the **Skip Task** and **Quick Complete** Task Actions to streamline the workflow.

Cherwell HRSM Tasks

To help organize your Cherwell® HRSM work, you can assign Tasks to HRSM Cases. Some HRSM Tasks are automatically generated via Service Catalog Templates as part of an HR Case.

You can also manually add HR Tasks to HR Cases. The HR Tasks can be assigned to HR team members, or to end users. When you assign HR Tasks to users, they will appear in the Portal.

The default Task Template is identified in the HR Case Service record. These can be owned by an HR Case agent and, if applicable, can identify actions for users. SCTs are used for Task Templates.



Note: Even though you can attach files to a Task, the attachment appears on the parent HR Case.

Cherwell HRSM Task Actions

Use the **Actions** list to quickly initiate actions such as adding a checklist, assigning the task, and more.

Actions include:

- **Assign to Me:** Puts your name in the **Assigned To** field.
- **Add a Downstream Task:** Select to open a new Task Form. This adds an additional dependency to the parent record. The Downstream Task must be completed after the parent HR Task.
- **Link to an Upstream Task:** Select to link an Upstream Task to the HR Task. The Upstream Task must be completed prior to completing the current HR Task.
- **Add a Checklist:** Select **Form** or **Tab**.
- **Quick Complete**
- **Skip Task:** Sets the status to Closed, and notes the HR Task was skipped.
- **Assign To:** Select a user to assign the HR Task to.

Cherwell HRSM Batch Case

Use the HRSM Batch Case function to create the same HR Case for multiple employees. Each individual will have a Case on record and get notifications from the workflow.

After completing the details of the Batch Case, before you create new Cases, you must link employees to the Batch Case from the **Employees** tab.



Note: The list of employees are tied directly to the country code that you selected on the **Overview** tab. For example, if you selected **US** in the **Country Code** field, only employees who have a US country code are available for linking.

After employees are linked to the Batch Case, when you initiate the Start Cases task, you will see a list of individual cases for each employee in the **HR Cases** tab. Details that you provided in the Batch Case are automatically moved to the individual employee Cases. You can also continue to add more individual employee cases, as needed.

You can close the parent Batch Case and all of the individual Cases that are linked to it at one time.

Cherwell HRSM Onboarding Process

HR Cases for Onboarding can be created automatically (via an HRIS system like ADP, Workday, UltiPro, etc.) or manually through CSM.

Once the Onboarding HR Case is submitted, the HR Case Agent reviews the Case and initiates the onboarding process by selecting **Start Onboarding**. An IT ticket with associated Tasks is created with the HR Case Tasks.

To access the Onboarding process:

1. Open a new HR Case.
2. For the Category, select **Employee Lifecycle**.
3. For the Subcategory, select **Onboarding**.
4. For the Case Service, select **Initiate Onboarding**.

When an HR Case for Onboarding is initiated, an HR worker will review the Case, then select the **Start Onboarding** button. This action opens an Incident for the service desk to perform required tasks (example: Setting up an Active Directory account).

HR Onboarding Tasks (determined by the persona information) include:

- Complete Training
- Welcome Letter
- Set Up Payroll
- Set up Benefits
- Complete the following form: W4
- Complete the following form: SF-256
- Complete the following form: I9
- Complete the following form: SF-85

Good to Know:

- An IT Service Request is triggered to create an Active Directory account.
- After the Active Directory account is created, IT enters the account in the Specific Form to resolve the Request. An Automation Process enters the new employee in the **On Behalf Of** field of the HR Case.
- Two more IT Service Requests are triggered for Access and Equipment along with the necessary Tasks based on the Service Catalog Templates associated with the new employee's Role.
- HR Tasks are also created based on the Service Catalog Template tied to the Service Category. Some HR Tasks are handled by HR Case Agents, and some are assigned to the new employee (accessible through the HR New Hire Portal).

Cherwell HRSM Offboarding Process

After the Offboarding HR Case is submitted, the HR Case Agent reviews the Case and initiates the offboarding process by selecting **Start Offboarding**. An IT ticket with associated Tasks is created with the HR Case Tasks.

Offboarding Tasks include:

- Last check and discontinuation is in the system
- Benefit Activities
- Remove access to HR system
- Cobra severance info, etc.

To access the Offboarding process:

1. Open a new HR Case.
2. For the Category, select **Employee Lifecycle**.
3. For the Subcategory, select **Offboarding**.
4. For the Case Service, select **Initiate Offboarding**.

You can also access and complete the HR Offboarding Checklist.

Cherwell HRSM Employee Transfer Process

After an Employee Transfer HR Case is submitted, the HR Case Agent reviews the Case and selects the **Start Transfer** button. The IT Tickets with Tasks and the HR Tasks are created in parallel.

To access the Employee Transfer process:

1. Open a new HR Case.
2. For the Category, select **Employee Lifecycle**.
3. For the Subcategory, select **Employee Transfer**.
4. For the Case Service, select **Initiate Transfer**.

Employee Transfer Tasks include:

- Update Workday
- Complete access
- Complete training

Update Customer Function

The **Update Customer** button appears on several specific forms, and it triggers a One-Step™ Action to update a customer record. As HR Cases progress, you may want to update customer records with the information you collect.

You might also choose to configure the One-Step Action to trigger an API call if you are running an integration with HRIS applications such as WorkDay or ADP.

Below is a list of Case Services and the customer record fields they can modify.

- Case Service: Onboarding Customer Updates
 - Building
 - Country Code
 - Department
 - Employee Status
 - First Date of Work
 - First Name
 - Home Phone
 - Last Name
 - Management Level
 - Middle Initial
 - Middle Name
 - Personal Email
 - Position Time Type
 - Title
 - Worker Type
- Case Service: Offboarding Customer Updates
 - Not Eligible for Rehire
 - Position Time Type
 - Resignation Date
 - Resigned
 - Retired
 - Retirement Date
 - Terminated
 - Termination Date
- Case Service: Employee Transfer Customer Updates
 - Building
 - Department

- Employee Status
- Exemption Status
- Management Level
- Position Time Type
- Title
- Worker Type
- Case Service: Change Information
 - Country Code
 - Emergency Contact Name
 - Emergency Contact Phone
 - First Name
 - Home Address 1
 - Home Address 2
 - Home City
 - Home Country
 - Home Phone
 - Home Postal Code
 - Home Province/State
 - Last Name
 - Marital Status
 - Middle Initial
 - Middle Name
 - Mobile
 - Personal Email

Cherwell HRSM Knowledge Articles

You can create new Knowledge Articles and make them available for HR staff to use when working Cases.

The Knowledge Article workflow consists of four phases:

1. Create a new HR Knowledge Article.
2. The Technical Review Team reviews and modifies the technical content.
3. The Format Review team ensures the Knowledge Article renders correctly in the Portals. The Format Review is only required if the HR Knowledge Article is intended to be visible in the Portals.
4. Retire an article, if needed.

Good to know:

- When searching for HR Knowledge Articles in the CSM Browser Client, you must select which article type you want to search for.
- Use the **Article** and **Details** buttons to toggle views.
- Searches for HR Knowledge Article only query the keywords that are associated with an HR Knowledge Article, such as the category and subcategory (example: Benefits, Beneficiaries).
- In HR Cases, a **Potential Solutions** tab lists HR Knowledge Articles that match the Case Subcategory against HR Knowledge Article keywords.

Create an HR Knowledge Article

The first step in the HR Knowledge Article workflow is to create the Knowledge Article itself. Then, you can move to the next step, which is the Technical Review.

To create an HR Knowledge Article:

1. In the CSM Desktop Client, select **New > New Knowledge - HR**.
A new HR Knowledge Article form opens.
2. Select a Category.
3. Subcategory choices are driven by the Category selection.
The Teams and Publishers are populated in the left panel.
 - The teams for technical review, format review, and Publishing approval are stored in the HR Category table.
 - All articles have a technical review. Format review is only initiated if the article is marked Visible in the Portal. All have a Publishing approval.
4. Service: Service choices are driven by the Category and Subcategory selections.
5. Publish Date: You can queue up articles and set a publish date. Approvals can be performed ahead of time, but the HR Knowledge Article will not publish until the date you set.
6. Knowledge Type: Each Knowledge Type has a different article format.
7. **Assigned Team**: Automatically populated based on the Category choice.
8. **Assigned To**
9. **Format Review Team**: Automatically populated based on the Category choice.
10. **Visible on Customer Portal**: You may have some articles that are for internal use only; if you want this KA viewable by end users, check the **Visible in Portal** box.
11. **Make FAQ on Customer Portal**: Select this option if you want the KA to appear in the FAQ grid on the HR Portal.
12. **Set Review Date**. Sets a timeframe for review of the article. The article won't be removed from the Published state, but a Ready for Review alert will appear on the Knowledge Dashboard.
13. **Keywords**: Keywords are used to determine which Knowledge Articles appear as solution suggestions in HR Cases. At a minimum, add the exact category and subcategory terms separated by commas (example: Benefits, Beneficiaries) so the article appears in the proper location in the Portal. Consider including informal language and misspellings.

Fill out the Customer Persona Details. This information is used to determine which HR Knowledge Articles are available on the Portal for end users. These can be extended to include any other core customer attributes (union membership, campus, etc.). These fields are not required.

14. **Exemption Status**: Choose exempt or non-exempt.
15. **Employee Status**: Choose a status.
16. Select the **Manager** check box if the Knowledge Article should be visible only to users who are designated as managers.
17. **Country Code**: Use the **Add a Country** and **Remove a Country** links to select which employees can access the HR Knowledge Article.

18. **States/Provinces:** Use the **Add a State/Province** and **Remove a State/Province** links to select which employees can access the HR Knowledge Article.
19. Select the **Article** button to add Article information; fields are driven by the Knowledge Type.

HR Knowledge Article Actions

Use the **Actions** list to quickly initiate actions, including a technical review, adding attachments, emailing the customer, and more.

Actions include:

- Technical Review: Changes the status to Technical Review.
- Add Attachments: Add files to the HR Knowledge Article.
- Technical Review: Sends the HR Knowledge Article to the Technical Review team. Once completed, this option is no longer enabled.
- Format Review: Sends the HR Knowledge Article to the Format Review team. Once completed, this option is no longer enabled.
- Email Customer: Generates an email with a link to the Knowledge Article.
- Review Completed: Review process complete.

Cherwell HRSM Checklists

HR Checklist is a feature designed specifically for HR. HR organizations track many different action items and documents based on employee requests.

Most HR organizations choose the lighter 'checklist' functionality over the default Tasks. Checklists are selected in the HRSM Case Service records and track specific items required for each of these individual areas (example: FMLA requests).

HR Checklists can take the place of HR Tasks in an HR Case, or you can use them with Tasks.

Cherwell HRSM Self-Service Portal

The HRSM Portal provides access to HR Knowledge Articles as well as a form so users can submit an HRSM Case.

Increase employee self-sufficiency and reduce ticket volume using the HRSM Self-Service Portal. The HRSM Self-Service Portal filters HR Knowledge, FAQs, and announcements based on the employee's profile information. Employees can see their open HR Cases and assigned HR Tasks.

As employees navigate through the HR Service Catalog, they can see related HR Knowledge Articles. With a well planned collection of HR Knowledge Articles, your customers will need to open fewer HR Cases.



Note: When creating Knowledge Articles, add comma-separated keywords that exactly match the category and subcategory names (example: Benefits, Beneficiaries). When employees select **Make a HR Request** and select a relevant category, only the Knowledge Articles that are tagged with that exact category name appear on the page. Likewise, Knowledge Articles on the subsequent page appear only when they are tagged with the exact subcategory name.

The HRSM Portal provides:

- HR Knowledge Articles based on the user's profile attributes (example: employment type, country, state, etc.).
- Commonly-requested links.
- FAQs.
- Multi-language support.
- Targeted announcements relevant to the user's profile
- Separate landing pages for each of the key areas of HR to provide additional information specific to the area (example: Benefits, Talent Acquisition, Payroll, etc.).
- Forms for submitting a new HR Case.



Note: When accessing the HRSM Self-Service Portal, users must log in and then select an additional **Enter** button. Selecting this button captures user persona information used for filtering the Knowledge and Services available.

New Hire Portal

New hires can use the HRSM New Hire Portal to complete pre-employment HR Tasks (EEO documents, I-9, training, etc.).

When HR initiates an Onboarding HR Case, Tasks for the new hire are generated. Those HR Tasks will appear in the New Hire Portal. The Journal Notes in the HR Case is used for notes to and from HR and the new hire.

Cherwell HR Service Management mApp Solution Items

The Cherwell HRSM mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Major Business Objects	HRSM Batch Case, HRSM Case, Knowledge Management (Group), Knowledge - HR	Import
	Customer Internal - Additional fields to support HR, Work Unit - Extended to assign HR Tasks to Requestor	Merge
Supporting Business Objects	Checklist Item, HR Task, HR Case Limited Access List, HRSpecifics (Group), AdditionalDetails, Benefit Change, Direct Deposit, Disciplinary Action, Employee Information Change, Employee Offboarding, Employee Onboarding, Employee Transfer, Employment Verification, FMLA, General Leave, HR System Access, I9, Modify W4, SF-256, SF-85, Tuition Reimbursement Pre-Approval, Tuition Reimbursement Request, Visa Assistance, Visa Question, W4, W4 Modify, Role, Specifics (Group), HR IT New Hire	Import
	Approval - Added relationships to HRSM, Journal - Additional functionality to reply to Notes, SLA Target Time - added a Parent Type of HR Case	Merge
Lookup Tables	Case Category, Case Priority, Case Service, Case Service List, Case Subcategory, Case Type, Checklist, HR Case Pending Reason, HR Case Resolution Code, HR Case Status, HR KB Page Display, HR Specifics Lookup Field, HR Benefits Lookup Value, HR Task Close Code, HR Task Status, HR Task Type, Knowledge Management Article Type, Knowledge Management Review Period, Knowledge Management Status, Knowledge Management Status List	Import
	Country - Added 3-character abbreviation support, SCT WU Category	Merge
Dashboard	Reporting Dashboards, HRSM Tier 1, HRSM Tier 2, HRSM Knowledge Base Articles, HRSM Manager, HRSM Executive, Portal, HRSM Benefits Payroll, HRSM Home, HRSM Jobs, HRSM My HR Requests, HRSM Policies, HRSM Service Catalog, HRSM Service Catalog Service, HRSM Service Catalog Subcategory, HRSM Training, HRSM Welcome, New Hire Portal, New Hire Home, New Hire Logged In, New Hire Messages, New Hire Tasks	Import
Team		Import

Related concepts

[Cherwell HRSM Security Groups](#)

Related information

[Configure Merge Actions for Business Object Definitions](#)

Information Security Management System (ISMS)

2.4

As a comprehensive solution for managing risk, compliance, and security operations, the Cherwell ISMS mApp® Solution leverages Cherwell's Configuration Management Database (CMDB), Information Technology Service Management (ITSM) framework, and lifecycle processes to marry the capabilities of typical Governance, Risk, Compliance (GRC) tools with real-time operational benefits for Security Incident handling.

Platform Version Requirements: Tested on CSM version 10.2.0.

Content Version Requirements: Tested on CSM 10.2.0; ISMS 2.4 contains specific changes to work with the enhanced Event Management Business Objects within 10.2.0 OOTB content. If you have an older content version, you should download the ISMS 2.3 mApp Solution, available in the Customer Support Portal.

Prerequisites: None.

Available languages: English.



Note: This functionality is only available after you apply the mApp Solution.

Overview

Cherwell Software's Information Security Management System (ISMS) mApp Solution serves as a:

- Governance, Risk, Compliance (GRC) Tool: Cherwell ISMS provides a centralized platform for organizations to assess risk and manage compliance against numerous authoritative sources.
- Security Operations Tool: Cherwell ISMS serves as an aggregation point where security analysts can assess security alerts and events of interest from multiple sources and take appropriate actions when necessary.

Cherwell ISMS can align security controls and policies across multiple industry standards such as International Organization for Standardization (ISO) 27001:2013, Health Insurance Portability and Accountability Act of 1996 (HIPAA), Payment Card Industry (PCI), and more. Downloading Cherwell ISMS is not a requirement for security industry standards and does not automatically make an organization compliant with security standards.

Cherwell ISMS provides the following benefits:

- Centralized tracking of and adherence to security and compliance policies.
- Analysis and mitigation of risks and employment of applicable controls.
- Streamlined audits, findings reports, and process for appropriate actions.
- Important data related to security events in a single platform for assessment.
- Rapid containment of any breaches and documentation of steps taken in a secure, need-to-know process.

- Integrated hand-offs between IS and IT.

Key Business Objects

The following are the key Business Objects associated with Cherwell ISMS:

- Audit
- Security Incident
- Compliance (Corrective and Preventative Actions)
- Authority Documents
- Citations
- Controls
- Policies
- Risk Assessment

Authority Documents, Citations, Controls, and Policies

Authority Documents: External contractual obligations, standards, regulations, or statutes containing security measures your company is required to comply with.

Citations: Detailed statements of compliance requirements from the Authority Documents.

Controls: Actions required to comply with Citations. Controls may be associated with multiple Citations or Policies.

Policies: How your company intends to comply with Controls (example: password complexity, password expiration interval).

How Cherwell ISMS Works

CSM provides Cherwell ISMS as a mApp Solution so you can effectively manage your security processes. Use the Apply mApp Wizard to apply the mApp Solution to your development CSM system, where the solution can then be viewed and published. After evaluating and testing the solution against the development system, apply it to your production environment.

For a list of items included in the mApp Solution, see [ISMS mApp Solution Items](#).

Apply the mApp Solution

1. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
2. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.



Note: While you publish the Blueprint, you may see a set of warnings in the **Scan Results** page concerning Security Groups and Roles. Select the **Ignore Warnings and Continue** check box and select **OK** to publish the Blueprint.

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	8.2.1	8.2.1	None
1.1	8.2.1	8.2.1	None
2.0a	9.3.1 - 9.4.0	9.1 - 9.4.0; depending on your configurations, versions back to 8.2.1 may also be compatible.	If you have ISMS 1.1 installed, install the ISMSv2-prerequisite mApp Solution first. This will change the name of the Control Object to Citations to prepare the system for ISMS 2.0 Business Objects.
2.1	Tested on 9.7.0	Tested on 9.7.0; ISMS 2.1 may not be compatible on content versions older than 9.7.0, but as with all mApp Solutions, it should be tested on your customized system.	If you have ISMS 1.1 installed, install the ISMSv2-prerequisite mApp Solution first. This will change the name of the Control Object to Citations to prepare the system for ISMS 2.0 Business Objects.
2.2	Tested on 10.0.0	Tested on 10.0.0; ISMS 2.2 may not be compatible on content versions older than CSM 9.7.0, but as with all mApp Solutions, it should be tested on your customized system.	None
2.3	Tested on 10.0.0	Tested on 10.0.0; ISMS 2.3 may not be compatible on content versions older than CSM 9.7.0, but as with all mApp Solutions, it should be tested on your customized system.	None

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
2.4	Tested on 10.2.0	Tested on 10.2.0; ISMS 2.4 contains specific changes to work with the enhanced Event Management Business Objects within 10.2.0 OOTB content. If you have an older content version, you should download the ISMS 2.3 mApp Solution, available in the Customer Support Portal.	None

Related concepts[About mApp Solutions](#)

Set the Dashboard for the Security Analyst Role

Edit security roles to set dashboard rights for the Security Analyst.

Cherwell ISMS and its workflows are based off Security Analyst and Security Manager roles. Depending on the size and security needs of your company, additional roles may be required.

To set the dashboard for the Security Analyst role:

1. In CSM Administrator, select > **Security > Edit roles**.
2. Select **Security Analyst** from the list of roles.
 - a. In the **Dashboard** section, select the **Dashboard** option.
 - b. Select the **Dashboard Manager** button.
 - c. Select the **ISMS Dashboards** folder (**Global > mApp Factory**).
 - d. Select **Operations**, and then select **OK**.
3. Select **Save** to save the Security role.

Set the Dashboard for the Security Manager Role

Edit security roles to give dashboard manager rights to the Security Manager.

To set the dashboard for the Security Manager role:

1. In CSM Administrator, select **Security > Edit roles**.
2. Select **Security Manager** from the list of roles.
 - a. In the **Dashboard** section, select the **Dashboard** option.
 - b. Select the **Dashboard Manager** button.
 - c. Select the **ISMS Dashboards** folder (**Global > mApp Factory**).
 - d. Select **Posture**, and then select **OK**.
3. Select **Save** to save the Security role.

Provide Object Data in Table Management

Limited sample data is included with Cherwell ISMS as an example only. Users must provide their own values to existing Lookup Tables.

Data can be added, edited, and customized through Table Management. Additionally, .csv files can be used to upload data to the tables.

New Business Object values display in the Table Management interface. Use the **Type** drop-down list to switch between ISMS Lookup Objects.

ISMS Control Group Object

Create Control Groups that align with current industry standards such as FedRAMP:2014, ISO 27001:2013, and ISO 9001:2015. Specified Controls are later added to each Control Group. XXX Control Group is now a Lookup Table object, and populating this table is optional. You can use this to help group your controls for organizational purposes. This table is populated with a few examples from HIPAA and ISO 27001.

To provide Object data for the ISMS Control Group Object:

1. On the CSM Desktop Client or Browser Client menu bar, select **Tools > Table Management**.
2. In the **Type** drop-down list, select **ISMS Control Group**.
3. Create a new Control Group or edit an existing Control Group.
Create a new Control Group:
 - a. Right-click and select **New**.
 - b. Provide a name for the control group. This can be the same as the name of one of the Authority Documents (example: ISO 27001:2013).
 - c. (Optional) Provide a control group number.
 - d. Provide a control group name.
4. Edit an existing Control Group:
 - a. Double-click any example control.
 - b. Edit desired fields, and then select the **Save** button.

ISMS Risk Mitigation Questions Object

You must create Questions and assign Risk Values, Question Weight, and Question Sequence to use the Risk Assessment form. ISMS Risk Mitigation Questions and Threat Analysis Questions populate the Risk Assessment. It is recommended to align Risk Assessment Questions with current industry standards such as FedRAMP:2014, ISO 27001:2013, or ISO 9001:2015.

To provide Object data for the ISMS Risk Mitigation Questions Object:

1. On the CSM Desktop Client or Browser Client menu bar, select **Tools > Table Management**.
2. In the **Type** drop-down list, select **ISMS Risk Mitigation Questions**.

3. Create a new Risk Mitigation Question or edit an existing question.
Create a new Risk Mitigation Question:
 - a. Right-click and select **New**.
 - b. Provide an industry standard question title and question details.
 - c. Specify the question type.
 - d. Provide a numeric risk value and sequence number based on industry standards.
 - e. Select a value from the **ISMS Risk Assessment Type** drop-down list.
4. Edit an example question:
 - a. Double-click any example risk mitigation question.
 - b. Edit desired fields, and then select the **Save** button.
5. Repeat steps 1-4 above for ISMS Threat Analysis Questions.

Cherwell ISMS Portal Event Configuration

You can submit a Security Event via a CSM Portal form, but ensure the feature is enabled and configured.

Update the Portal Customer Security Group

To update the Portal Customer security group:

1. Open the Security Group Manager
2. Select **Portal Customer** from the **Group** drop-down list.
3. In the **Business Objects** tab, select **Security Event** from the **Business Object** drop-down list.
4. In the **General** section, select the **View**, **Add**, and **Edit** check boxes.
5. In the **New Business Object Rights** pane (under the **Security Event** Business Object), select **New Field**, and then select the **View** and **Edit** check boxes.
6. Select **Save**, and then close the Security Group Manager.

Update the Portal Dashboard with Security Event Link

To update the Portal dashboard with a Security Event link:

1. In CSM Administrator, select **Browser and Mobile > Site Manager**.
2. Right-click on the portal site, and select **Edit**.
3. On the **Display** page, select the **Dashboard** link (under the **Startup** section, in the **Show on login** field).
4. In the Dashboard Editor (under the **Shapes, etc.** widgets), drag a **Link** Action on to the dashboard.
5. Update the Link Label and font.
6. Right-click the link and select **Widget properties**.
7. On the **Choose Action** page, select the **ellipsis** to access the **Action Manager** page.
8. Select the **Commands** page, and then select **System > Other**.
9. Double-click **Create Business Object**.
 - a. Select **Event - Security** in the **Business Object** drop-down list.
The **Display Text** field autofills with *Create Event - Security*.
 - b. Select the **Use One-Step for Creation** check box.
10. Select **OK**, and then select **OK** again.
11. Close the Site Editor properties window, and then close the Site Manager.

Create Recurring Audit Scheduler

To create a recurring Audit Scheduler:

1. In CSM Administrator, select **Scheduling > Edit Schedule**.

2. Select **Add**.
 - a. On the **General** page, give the Scheduled Item a name.
 - b. On the **Schedule** page, select the **Recurring** option.
 - c. Set a start time, recurrence, and range of recurrences. Recommended settings are:
 - Start Time: 12:00 AM
 - Recurrence: Daily
 - Range of Recurrences: No end Date
 - d. On the **Action** page, select **One-Step** from the **Action** drop-down list.
 - e. Next to the **One-Step** field, select the **ellipsis**. In the One-Step™ Action Manager, select **ISMS Audit** from the **Association** drop-down list.
 - f. Under the **Blueprint** folder, select **Create a new Audit**.
3. Select **OK**, and then select **OK** again
4. Select **Exit**.

Related concepts[Managing Security Groups](#)[Dashboard Editor](#)[Define and Format Widget Text](#)

Security Event Supplemental Form

Use the Event - Security Supplemental form to add links and fields to the Security Overview form.

Use the links and fields to add One-Step™ Actions and fields that are pre-configured and formatted for the Security Event form.

1. In CSM Administrator, edit the Event - Security form.
2. Open the Event - Security Supplemental form.
3. Copy any of the following links and paste them onto the Event - Security Overview form, under the **Actions** list.
 - Escalate to Security Incident
 - Create Preventative Action
 - Create Corrective Action
4. Copy any of the following fields and labels (and controls) and paste them onto the Event - Security Overview form.
 - Config Item
 - CI Risk
 - Supporting Service Config Item
 - Supporting Service Risk
 - Runbook Name
5. Publish the Blueprint.

Related concepts

[Open the Form Editor](#)

[Publish a Blueprint](#)

Use Cherwell ISMS

Use Cherwell ISMS to manage records such as Security Events, Risk Assessments, and Audits.

You can use Cherwell ISMS functionality to create and manage the following:

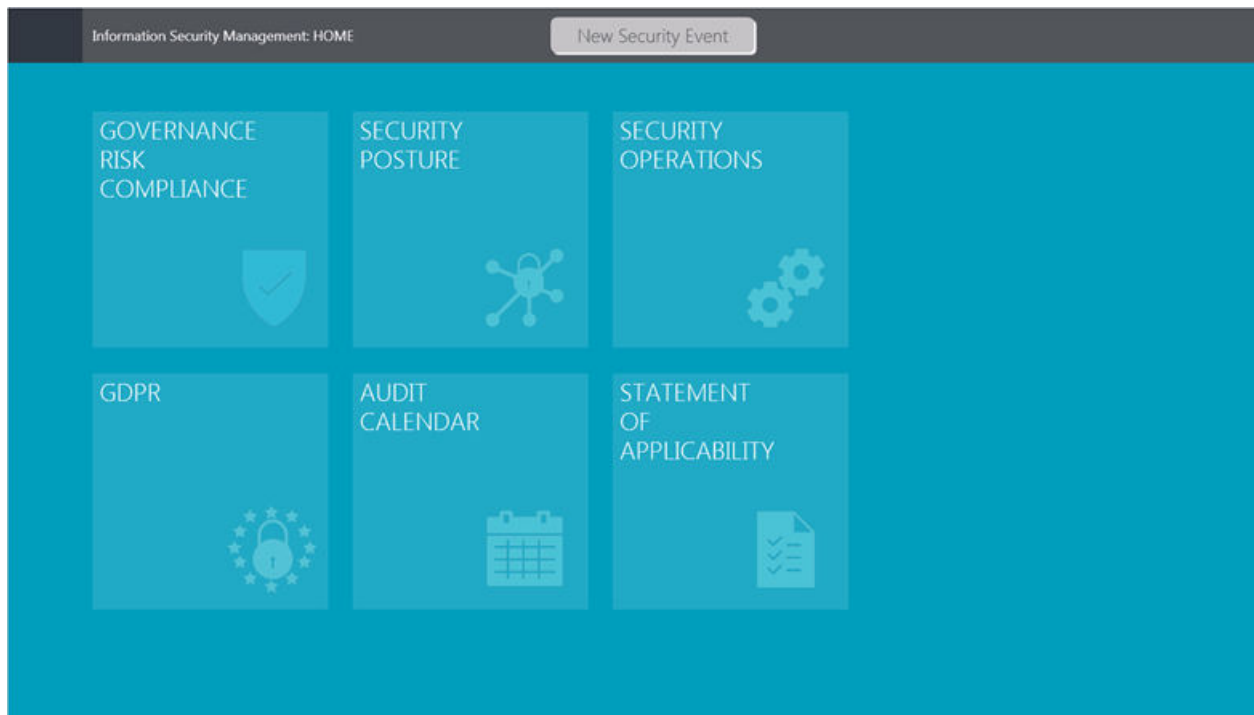
- Security Events
- Security Incidents
- Risk Assessments
- Authority Documents
- Citations
- Controls
- Policies
- Audits
- Corrective Actions
- Preventative Actions

Cherwell ISMS Dashboards

Cherwell ISMS provides six security-oriented dashboards.

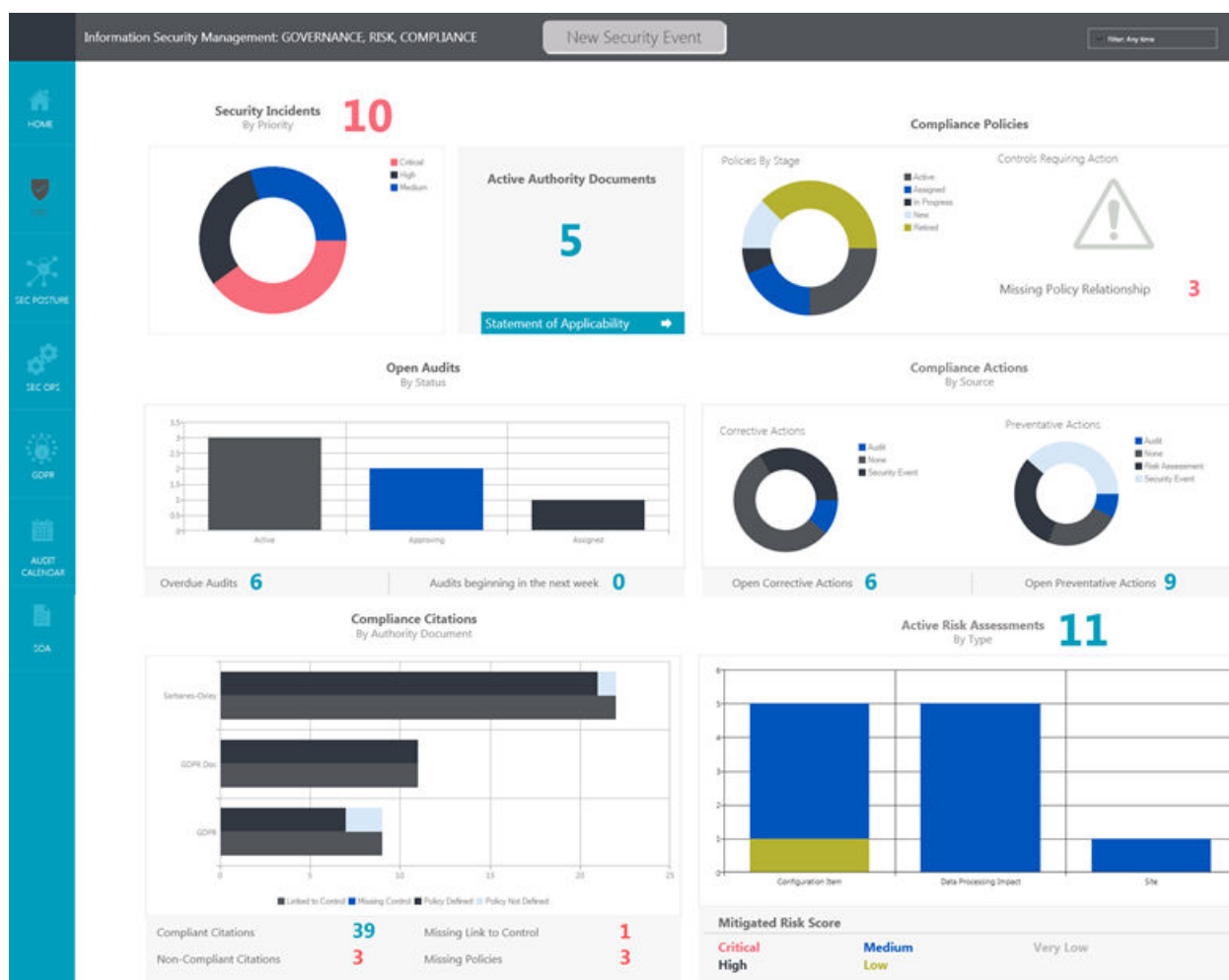
ISMS Home Dashboard

The Cherwell ISMS home dashboard launches each of the security-oriented dashboards.



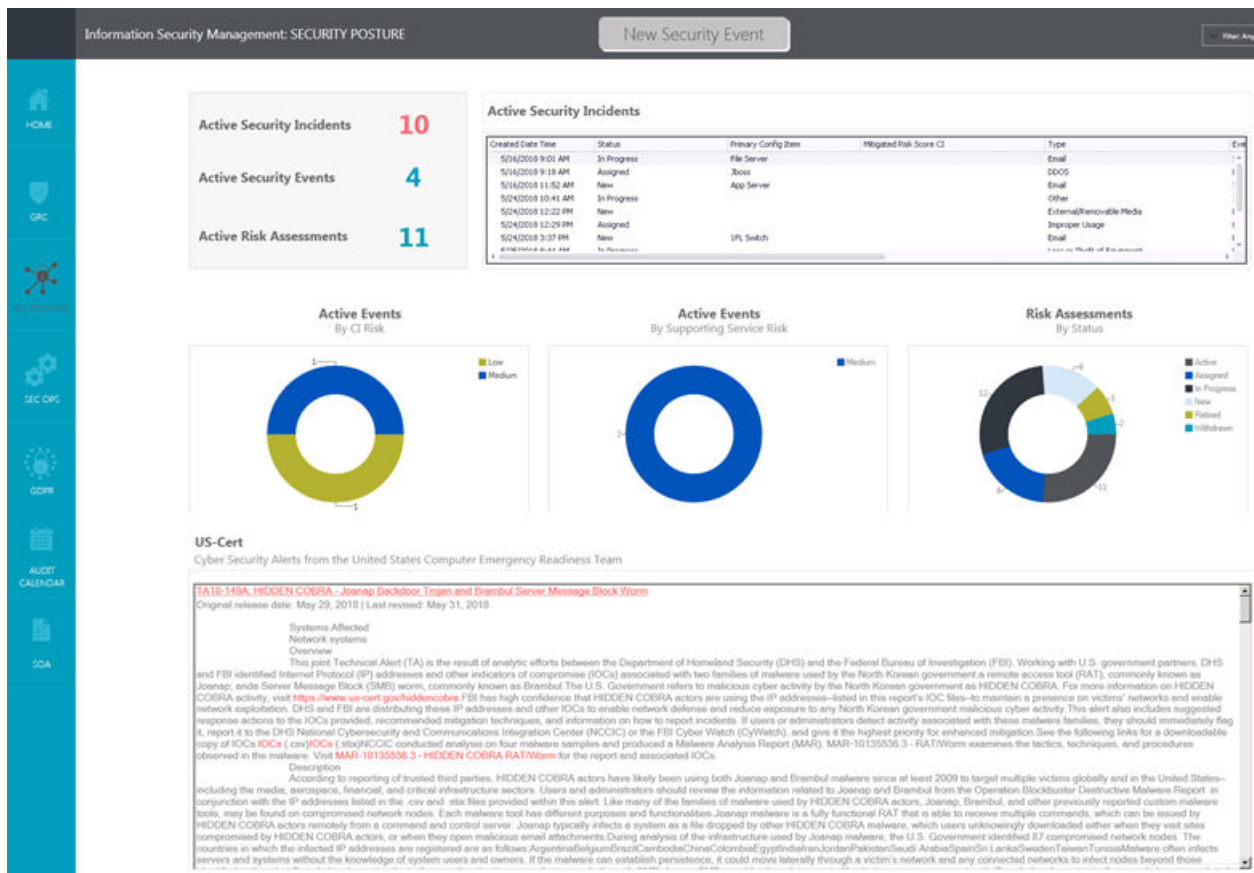
GRC Dashboard

The Governance, Risk & Compliance (GRC) dashboard is focused on providing information dealing with an organization's overall compliance and risk posture, as well as ongoing audit activities. This dashboard is primarily built for Compliance Managers or Governance department members.



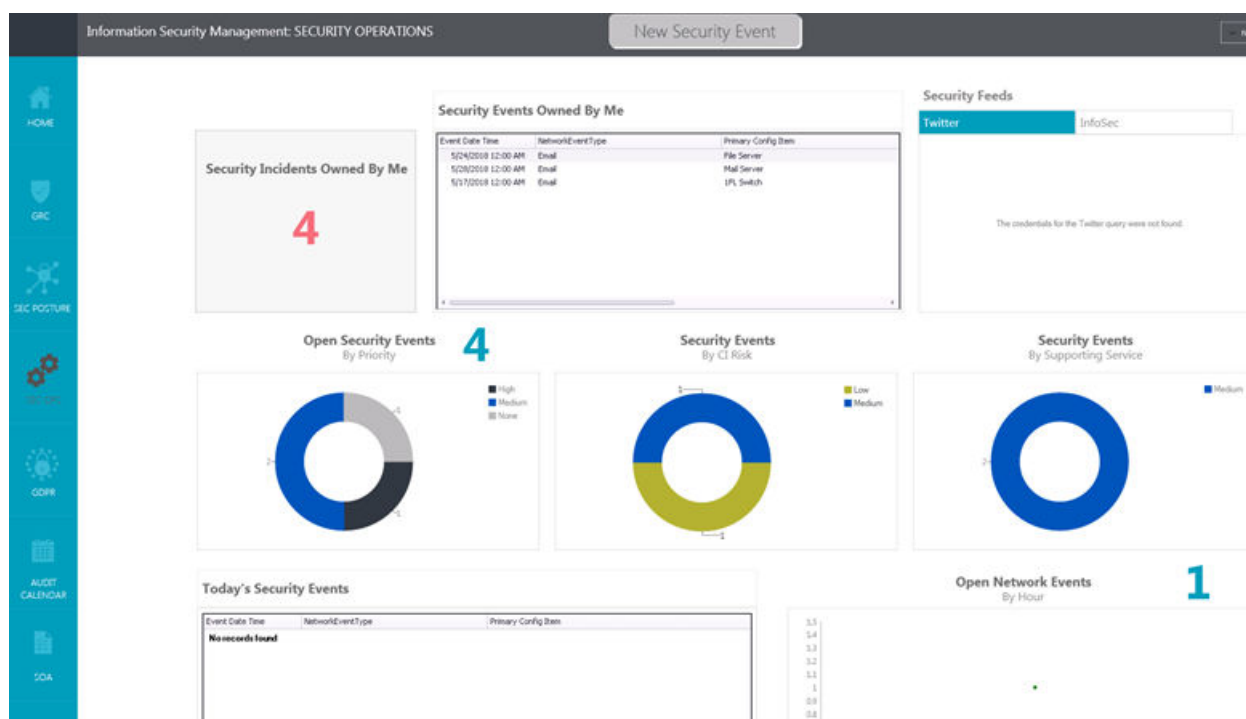
Security Posture Dashboard

The Security Posture dashboard aims to provide a Security Manager or Chief Information Security Officer (CISO) with an overall view of the organization's current security status. The dashboard delivers real-time information on Security Incident and Events by Risk as well as a Really Simple Syndication (RSS) feed of all recently posted cyber threats from the United States Computer Emergency Readiness Team (US-CERT) website.



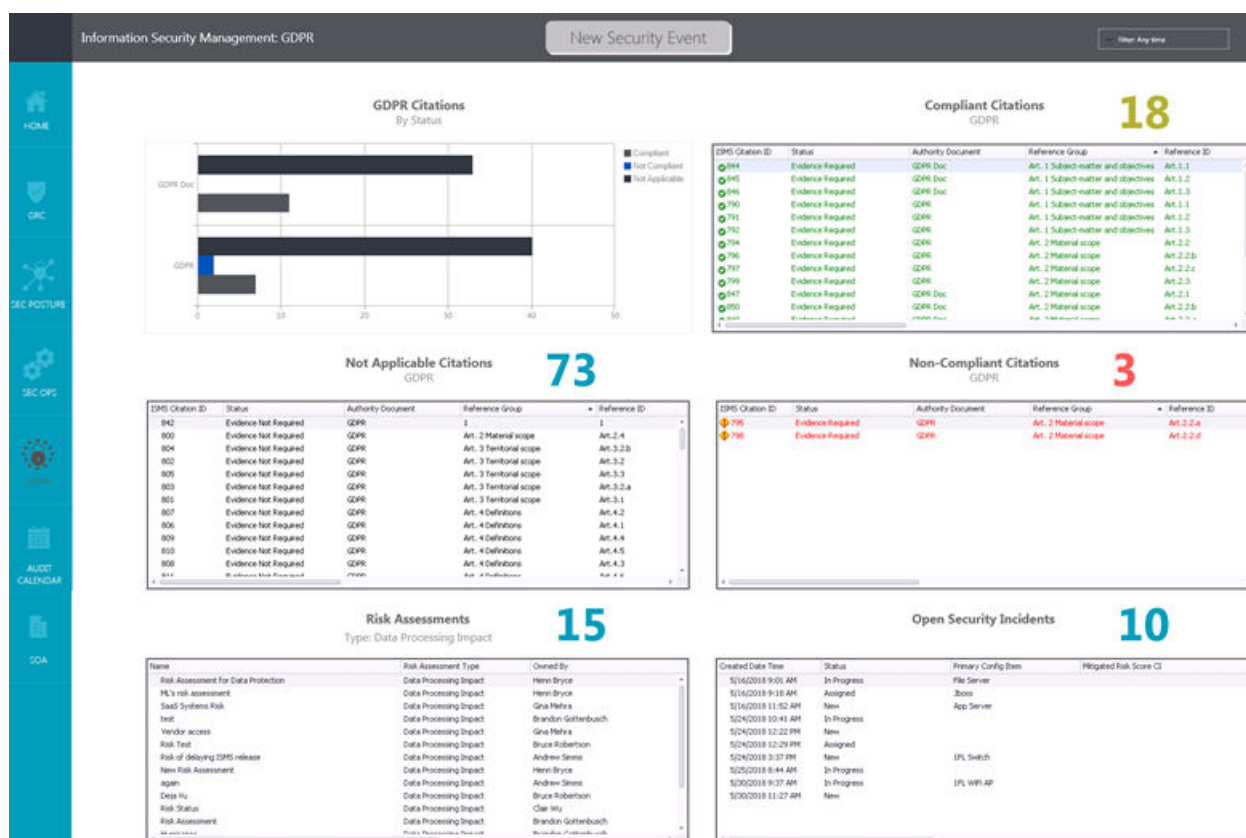
Security Operations Dashboard

The Security Operations dashboard is intended to be an aggregator of key operational security information and allow Security Analysts to quickly analyze potential security threats. Events of interest from Security Information and Event Management (SIEM), point security solutions, and network monitoring solutions are presented on the Security Operations dashboard. Security analysts can quickly review these events in one place, compare them to active security feeds from outside sources, and manage Security Event and Security Incident handling processes.



GDPR Citations Dashboard

The GDPR Citations dashboard provides an overview of GDPR-related Citations, Risk Assessments, and Security Incidents.



ISMS Audit Calendar Dashboard

The ISMS Audit Calendar dashboard shows actual and proposed audits in a calendar view.

ISMS Statement of Applicability (SoA) Dashboard

The SoA is a useful dashboard for everyday operational use because it displays comprehensive coverage of your organization's information security measures. The list of controls implemented provides understanding into risks accepted as well as risks avoided. A SoA can also be used to justify your organization's position during an audit.

Information Security Management: STATEMENT OF APPLICABILITY					
New Security Event					
Filter: GDPR					
Generate Report >>					
ISMS Clonon ID	Status	Authority Document	Reference Group	Reference ID	Exclusion Justification
842	Evidence Not Required	GDPR	1	1	
790	Evidence Required	GDPR	Art. 1 Subject matter and objectives	Art. 1.1	
791	Evidence Required	GDPR	Art. 1 Subject matter and objectives	Art. 1.2	
792	Evidence Required	GDPR	Art. 1 Subject matter and objectives	Art. 1.3	
794	Evidence Required	GDPR	Art. 2 Material scope	Art. 2.2	
795	Evidence Required	GDPR	Art. 2 Material scope	Art. 2.2.a	
798	Evidence Required	GDPR	Art. 2 Material scope	Art. 2.2.d	
796	Evidence Required	GDPR	Art. 2 Material scope	Art. 2.2.b	
797	Evidence Required	GDPR	Art. 2 Material scope	Art. 2.2.c	
799	Evidence Required	GDPR	Art. 2 Material scope	Art. 2.3	
800	Evidence Not Required	GDPR	Art. 2 Material scope	Art. 2.4	
801	Evidence Not Required	GDPR	Art. 3 Territorial scope	Art. 3.1	
804	Evidence Not Required	GDPR	Art. 3 Territorial scope	Art. 3.2.b	
802	Evidence Not Required	GDPR	Art. 3 Territorial scope	Art. 3.2	
805	Evidence Not Required	GDPR	Art. 3 Territorial scope	Art. 3.3	
803	Evidence Not Required	GDPR	Art. 3 Territorial scope	Art. 3.2.a	
807	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.2	
806	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.1	
809	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.4	
810	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.5	
808	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.3	
811	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.6	
813	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.8	
812	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.7	
816	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.11	
815	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.10	
814	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.9	
817	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.12	
819	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.13	
822	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.16.a	
820	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.15	
821	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.16	
819	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.14	
825	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.18	
824	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.17	
823	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.18.b	
826	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.19	
827	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.20	
830	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.22.a	
829	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.22	
828	Evidence Not Required	GDPR	Art. 4 Definitions	Art. 4.23	

Create a Security Event

Security Events are generated from multiple sources.

You can create Security Events from:

- IT Incident
- Integration with a Security Information and Event Management (SIEM) and/or network monitoring systems
- Manually

Related concepts

[Security Events](#)

Related tasks

[Create a Network or Security Event](#)

Manually Create a Security Event

Manually create a Security Event to track and manage security-specific events.

To manually create a Security Event:

1. CSM Desktop Client or Browser Client toolbar, select **New > New Event > New Event - Security**.
2. Provide a name (optional) and details of the event (example: Laptop stolen; Laptop stolen from rental car).
3. Select an event type (example: Loss or Theft of Equipment).
The type displays on the top of the form.
4. Select a priority and event severity.
5. Select a reported date time and who reported the event (optional).
6. Select a source and external source ID (optional).
7. The **Assigned Team** field is auto populated.
8. Assign an owner (**Assigned To** field).
When an owner is selected, the Security Event automatically enters the In Progress phase.
9. A **Runbook** will be populated if there is one associated to the selected type.
10. Enter a Config Item if it is not automatically populated from an integration source.
If there is an active Risk Assessment associated with the Config Item, the **Mitigated CI Risk** field will also be populated.
11. Enter a supporting service, if known. The **Mitigated Service Risk** field will be populated if there is an active Risk Assessment for the supporting service.
12. (Optional) Add notes to the **Event Response Notes** field.
These fields are audited; Journal entries track modifications.
13. (Optional) Select a cause code and add resolution details.
14. (Optional) Initiate other Actions using the appropriate links in the **Actions** list, in response to a new Security Event.

Create a Security Event via an IT Incident

Create a Security Event from an IT Incident to link the Event to the Incident.

Cherwell ISMS contains the following *Create ISMS Security Event* capabilities:

- One-Step™ Action to open a Security Event.
- Relationship between Incident and Security Event.
- Summary forms for a Security Event.

To configure the Incident form:

1. Add a link to the Incident form to initiate this One-Step Action.
2. Add the Security Event tab to the Incident form.

Related tasks

[Add a Link Label Control to a Form](#)

Create a Security Incident

A Security Incident is defined as a violation or imminent threat of violation of computer security policies, acceptable use policies, or standard security practices. Security Incidents can only be opened through a Security Event.

Security Incidents have the following specific security rules against them:

- The Default Owner team is Security Incident.
- The user who opened the Security Incident is added to the Granted Users list (and associated tab). Only users who are in the Security Manager security group and/or are on the Granted Users list can view/modify a Security Incident (once security groups are set up as outlined in Configuring Cherwell ISMS).

To create a Security Incident:

Open the Security Event.

- a. Select the **Escalate to Security Incident** link in the **Actions** list.
A prompt opens for a Security Incident description.
- b. Enter key details in the **Security Incident Description** field, and then select **OK**.
- c. Fields in the **Detection** and **Analysis** sections are populated from the Security Incident. Fill in any additional information in this area, as appropriate.
- d. Select a Security Incident owner from the **Assigned To** drop-down list.
- e. Select the **Next: In Progress** link under **Status**.

You are now ready to begin work on the Security Incident.

Related concepts

[Create a Security Event](#)

Work a Security Incident

Work a Security Incident to determine the cause of the violation and resolve it.

To work a Security Incident (one that is already in the In Progress phase):

1. Open the Security Incident.
2. Complete the **Incident Containment** field and select a reviewer.
3. Use the form arrangement tabs to view information associated with the Security Incident or to add Tasks for addressing the Incident.
 - **Overview**
 - **Journals**
 - **Runbook**
 - **Security Events**
 - **Granted Access**
 - **Tasks**
 - **Security Incident Timeline**
4. (Optional) Create supporting tickets from the **Actions** list or initiate supporting actions. These can be initiated at any stage prior to Resolved. A few are highlighted below.
 - a. **Security Incident Notification**: Provides an email template that can be modified to send out notifications to interested parties, such as Legal or HR.
 - b. **Grant Access to Users**: Allows you to add users that will now have rights to view and edit this Security Incident.
 - c. **Create a Preventative Action** and **Create Corrective Action**: Opens a Preventative or Correction Action form.
 - d. **Create an IT Incident** and **Create Change Request**: Opens an Incident or Change form.
5. Complete the **Eradication** and **Recovery Actions** fields.
6. Select an Incident resolution code.
7. When appropriate, a Post Review can be completed on the Security Incident. Select the **Post Review** link (under **Stage**) and complete the fields on the Post Review form. You can go back to the other information by selecting the **Stage: Eradication and Recovery** link. Select the **Stage: Post Review** link to move to the Post Review stage and complete the relevant **Post Review** fields. The Security Incident can be resolved prior to Post Review being completed.
8. Select the **Next: Resolved** link to change the status to Resolved. There is no Closed status. Security Incident tickets can be resolved if there are open Compliance Records. This can be modified by the customer based on business requirements.

Related tasks

[Create a Security Incident](#)

Create an ISMS Exemption

ISMS Exemptions are entered to document and get approval for non compliance with an Audit, Risk, or Policy.

To create an Exemption:

1. On the CSM Desktop Client or Browser Client toolbar, select **New > New ISMS Exemption**.
2. Select the requester and exemption type.
3. Depending on the exemption type you choose, a field to link the associated audit, policy, or risk assessment appears.
A tab for the association will also display in the form arrangement.
4. Select the assigned team and owner.
The assigned team will drive the options available in the **Assigned To** drop-down list.
5. Select a value in the **Exemption Term in Months** drop-down list and add details to the **Current Use** field.
6. (Optional) Select the date approved and expiration date.
7. Add details for the justification for the exemption in the **Reason for Exemption** field.
8. (Optional) Select the device type.
Depending on the device type selection, there may be additional fields to complete (example: **Asset, Device Name, Location**).
9. (Optional) Provide details in the **Mitigation** field.
10. Select **Save** if you need to come back to the form later to submit it.
11. When the Exemption form is complete, select the **Next: Submitted** link under **Status**.
While in the Submitted phase, the assigned team reviews the request and determines if more information is required.
12. When the Exemption is ready for approval, select the **Next: Approving** link under **Status**.
An **Approvals** tab appears in the form arrangement.
13. The Approver can vote to Approve, Deny, or Abstain, as well as provide comments. Add additional Approvers, if necessary. If there are multiple Approvers, each will need to provide approval before the Exemption can move to the next step.
The Approver for the Exemption is determined by the Exemption Type:

Exemption Type	Approver
Risk	Risk Owner
Audit	Lead Auditor
Policy	Business Owner

14. Once the Exemption is approved, the status changes to Active.
If the Exemption is approved and the status is not Active, select the green refresh button.
15. Close the Exemption when it is no longer applicable.

Create a Risk Assessment

Information security risk assessment is an on-going process of discovering, correcting, and preventing security problems.

To create a Risk Assessment:

1. On the CSM Desktop Client or Browser Client toolbar, select **New > New ISMS Risk Assessment**.
2. Provide general information.
 - a. Provide a name and description.
 - b. Provide details (example: Evaluate laptops for potential security risks).
 - c. Select the assigned team and owner.
This choice will drive the users available in the **Asset Owner** drop-down list.
 - d. Select a risk assessment type.
This choice drives the set of assessment questions you will answer.
 - e. Select a risk owner.
The risk owner is the stakeholder that is responsible for any risks identified as part of the Risk Assessment.
 - f. Select an asset owner.
The asset custodian is the stakeholder that owns the related Business Service or Configuration Item (example: Desktop Management).
3. Depending on the Risk Assessment type you choose, an associated tab or tabs will appear in the form arrangement. In the tab, associate an object with the Risk Assessment. You must make this association before you can begin the assessment.
4. Assess the Risk.
 - a. Select the **Begin Assessment** link in the **Actions** list to start the Risk Assessment activities.
The status changes to In Progress, and a **Complete Risk Assessment** window appears.

This tells you which assessment areas you will need to complete.
 - b. Depending on which Risk Assessment type you choose, two tabs will appear in the form arrangement for each set of applicable risk assessment questions: **Threat Analysis** and **Risk Mitigation**. Unanswered questions appear in red; answered questions are green.
 - c. If you are unable to answer all the assessment questions, you can return to the Overview form and select **Update Percentage Complete**. You cannot move forward to the findings activities until each assessment area is 100%.
 - d. Select **Calculate Risk** when all areas are 100%. The left panel shows the Classification, Unmitigated Risk Score, and Mitigated Risk Score.
See [About Risk](#).
5. (Optional) Select the **Create Preventative Action** or **Create Correction Action** links from the **Actions** list.
6. (Optional) Complete the **Findings** area of the Risk Assessment. These fields are not visible until all questions are completed.
 - **Accept the Risk**: No additional steps are required.
 - **Avoid the Risk**: No additional steps are required.

- **Transfer the Risk:** No additional steps are required.
 - **Mitigate Risk with Controls:** A **Controls** tab appears in the form arrangement.
7. Select the **Update Assessment** icon in the middle of the Overview form. Modify answers to the analysis or mitigation questions or other information as appropriate.
Calculate Risk and select **Submit** to return the record to Active status with any new values.
 8. Select the **Retire a Risk Assessment** link from the **Actions** list to retire the Risk Assessment.

Create/Update a Policy

A Policy is the written guidelines your company communicates to its employees about how they execute security strategy.

To create a Policy:

1. On the CSM Desktop Client or CSM Browser Client toolbar, select **New > New ISMS Policy**.
2. Provide a description and details.
3. Select the assigned team, owner, and business owner.
4. Select the **Next: Assigned** link under **Status**.
5. When the assignees are ready to begin work on the Policy, select the **Next: In Progress** link under **Status**.
6. Select the projected start and end dates.

Follow these steps to continue creating a Policy, or to update an existing Policy:

7. (Optional) Use the **ISMS Participants** tab in the form arrangement to add additional participants.
8. Link to applicable Controls in the **ISMS Controls** tab. You can also link a Policy to a Control from the Control record.
9. Link any other record types that are applicable in their respective tabs.
10. In the **Overview** tab, provide the following Policy details:
 - a. Select the document type and provide a document ID.
 - b. Select the review frequency and provide a document title.
 - c. Provide a document version and select a publish date.
 The publish date is the date the Policy document became effective. **Revision Date** and **Review Date** fields now display with a date that is based on the review frequency. Dashboards or email notifications can be set up as desired to notify appropriate people of the review date. There are different options when review is initiated:
 - i. Select the **Reviewed - No Action Needed** button to change the review date to the date that maps to the review frequency. A Journal entry is added identifying the date/time and user who did the review.
 - ii. Select the **Revise this Policy** link under the **Actions** list. Use this option when a Policy needs to be modified. A new Policy record is created and the current Policy is put into a Retired status and is referenced in a tab.
 - d. Provide a document purpose and document scope.
 - e. Use the **ISMS Policy Documents** tab to add any additional information about the Policy.
11. Once all fields are completed, select the **Next: Active** link under **Status**.

Create/Update a Control

Controls are security mechanisms used to ensure adherence to Policies and assist with compliance to laws, regulations, and other authoritative standards.

To create a Control:

1. On the CSM Desktop Client or CSM Browser Client toolbar, select **Tools > Table Management**.
2. In the **Type** drop-down list, select **ISMS Control**.
3. From the toolbar, select **New**.
4. Provide a title and description.
5. (Optional) Select a control group and type.
6. In the form arrangement tabs, link ISMS Authority Documents, Citations, and Policies as appropriate.

Create Citations and Link to Controls

Citations are the individual records that represent the statement, articles, and laws associated with an Authority Document. Controls state how the organization will comply with the Citations that require evidence.

Citations can be created manually or through a .csv import. It is recommended that the import be utilized for consistency and ease of entry.

To create a Citation manually:

1. On the CSM Desktop Client or CSM Browser Client toolbar, select **Tools > Table Management**.
2. Select **ISMS Citation** from the **Type** drop-down list.
3. From the toolbar, select **New**.
4. Provide a title and select an existing authority.
Authority ID field will automatically populate.
5. Provide the reference group and reference ID.
These values are determined by the strategy in your organization.
6. For **Status**, select one of the following options:
 - a. **Evidence Required**
 - i.
 - Select the **Control Implemented** check box when at least one Control is linked in the **Controls** tab in the form arrangement.
 - Select the **Policy defined** check box if the Control has at least one associated linked Policy.
 - ii. In the **Justification** section, select the following:
 - **Legal Requirements**
 - **Result of Risk Assessment**
 - **Business Process**
 - **Contract Requirement**
 - iii. Use the **Controls** tab to link Controls. Edit the Control itself to link Policies.
 - b. **Evidence Not Required**
 - i. In the **Justification** section, provide an exclusion justification.
7. (Optional) Provide a description.

Import ISMS Citations and Controls

Prior to creating Authority Documents, import Citations and Controls via the Data Import Wizard in CSM Administrator.

Citations can be imported via a .csv file (template provided). If Controls already exist in the system, they can be automatically linked (1:1) with the associated Citation in the spreadsheet. Additional Controls can be linked to Citations manually once the Citations are created.

1. In CSM Administrator, select **Database > Run a one-off data import (CSV files)**.
2. In the Import Data Wizard, navigate to the .csv file you wish to import. From the **Primary business object** drop-down list, select **ISMS Citation**.
3. To map records, follow the spreadsheet template.
4. Select the **Import into field** option and select **Authority Document** from the drop-down list.

When the Citations are imported, they will be shown in green, red, or black font depending on their state. Red means that the organization has determined that it will comply and provide evidence of this compliance through Control(s). Green means that the organization will comply and there is at least one Control and one Policy linked to the Citation.

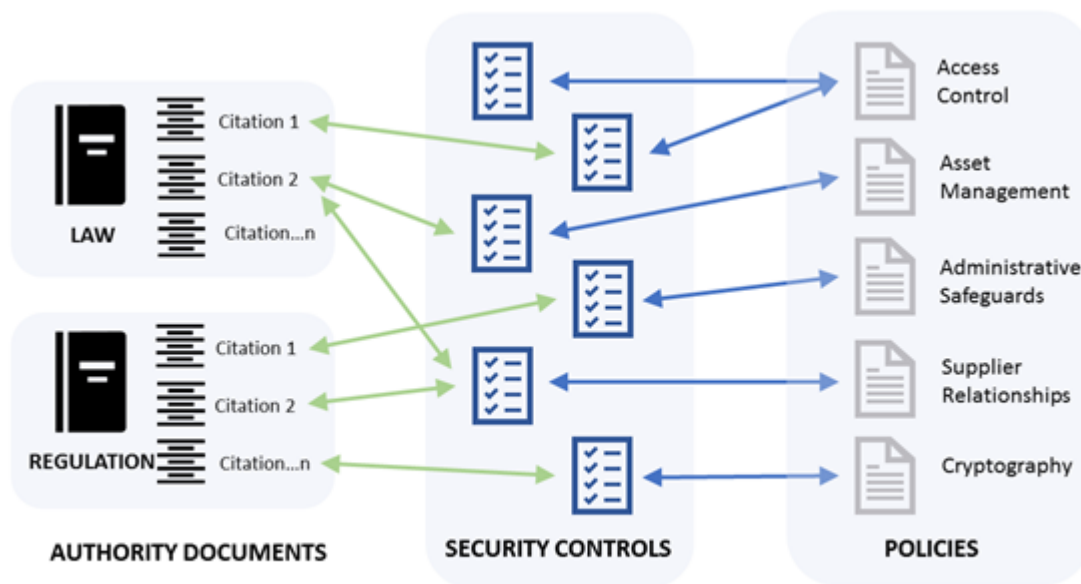
Related tasks

[Run a One-time Import of Business Object Data](#)

Create an Authority Document

After an Authority Document is created, Citations with associated Controls and Policies can be uploaded and linked to the Authority Document.

Authority Documents consist of Citations. Citations are linked to Controls, and Controls are linked to Policies. External Controls are most likely driven by an Authority Document such as International Organization for Standardization (ISO), while internal Controls may not have an Authority Document unless your organization chooses to create one. Policies are business driven (example: How your organization will handle the Controls and how the Controls will be met).



To create an Authority Document:

1. From the CSM Desktop Client or CSM Browser Client toolbar, select **New > New ISMS Authority Document**.
2. Provide a name and description.
3. Select the assigned team and owner.
4. Select a sponsor team and executive sponsor.
5. Provide an originator.
6. Choose an effective date.
The **Active Date** field is populated automatically when the Authority Document is activated. Retired date will be populated automatically when the Authority Document is retired.
7. Choose a type.
8. Select the **Activate Authority Document** link in the **Actions** list.

Add Citations and link those to Controls until all Citations have a status of Evidence Not Required or Evidence Required and display in green.

Related tasks

[Import ISMS Citations and Controls](#)

Conduct an Audit

Conduct an audit for review of compliance related to an industry standard or key Configuration Items.

To conduct an audit:

1. On the CSM Desktop Client or the CSM Browser Client toolbar, select **New > New ISMS Audit**.
2. Record the following details:
 - a. Provide a description and details.
 - b. Select a source and type.
 - c. Select a priority and level of effort. The priority is displayed in the priority alert bar.
3. Select a lead auditor.
 - a. Select the **Next: Assigned** link under **Status**.
 - b. In the **Audit Participants** tab of the form arrangement, define stakeholders for the audit. Use Table Management to populate this table or select **New ISMS Participant**.



Note: You need to have at least one participant with a role of Approver to move the audit to the Approving phase.

4. In the **Audit Scope** and **Schedule** section, (in the **Overview** tab of the form arrangement), provide audit scope and audit criteria.
 For the audit scope, provide information related to the extent and boundaries of the audit (example: Audit affects all laptops, but focuses on remote employee laptops). The audit criteria will be used as a reference for analyzing evidence found during the audit.
 - a. Select the proposed start and end dates. These dates are populated and represented on the audit calendar.
 - b. Select the **Recurring Audit** check box, if appropriate. If selected, choose the following:
 - **Review Frequency**
 - **Future Start Date**
 - **Future End Date**
5. Under **Status**, select the **Next: Approving** link.
 - a. The audit automatically enters the Approving phase. An Approval record displays in the **Approvals** tab of the form arrangement. The Approver reviews the audit record details and validates the dates, scope, and criteria.
 - b. After the audit is approved, the status changes to Active. During this phase, the **Audit Description**, **Audit Scope**, and **Schedule** fields are locked.
6. (Optional) On the **Security Incidents** tab, select the **Link** button.
 The **ISMS Security Incident Selector** window opens.
 - a. Select one or more Security Incidents from the list, and then select **OK**.
7. (Optional) On the **Risk Assessments** tab, select the **Link** button.
 The **ISMS Risk Assessment Selector** window opens.
 - a. Select one or more Risk Assessments from the list, and then select **OK**.
8. (Optional) On the **Controls** tab, select the **Link** button.
 The **ISMS Control Selector** window opens.

- a. Select one or more controls from the list, and then select **OK**.
 9. Select an audit response (example: **Corrective Actions Created**).
 10. Select the actual start and end dates.
 11. Provide objective evidence.
This information is related to evidence found during the course of the audit (example: Discovered that two employees downloaded unauthorized programs on their computers).
 12. Provide an overall conclusion (example: Provided two employees with additional security training).
 13. Under **Status**, select the **Next: Complete** link.
The status changes to Completed. This indicates that the core auditor activities have been completed. Active compliance activities may still occur.
 14. Under **Status**, select the **Next: Closed** link to close the audit once all activities are completed.
- (Optional) Select the **Create Preventative Action** or **Create Corrective Action** link in the **Actions** list and complete the form.

Audit Calendar

The Audit calendar provides a calendar view of proposed start/end dates and actual start/end dates for audits.

To open the Audit calendar:

1. From a dashboard: Open the Governance, Risk and Compliance dashboard and select the **Audit Calendar**. Entries in blue are planned audits and entries in green are completed audits.
2. From the CSM Desktop Client or CSM Browser Client: Select **Tools > Calendars > Calendar Manager > Audit Calendar**.

Create Compliance Records

Use Compliance Records in conjunction with other ISMS Business Objects to track proactive actions or ensure compliance with security policies and Citations.

Compliance Records are tools to align company security programs with industry standards. Downloading Cherwell ISMS is not a requirement for security industry standards and does not automatically make an organization compliant with security standards

Users can:

- Create a Corrective Action
- Create a Preventative Action

Create a Corrective or Preventative Action

Create a Corrective or Preventative Action manually or from a Security Event, Security Incident, Audit, or Risk Assessment.

To create a Corrective or Preventative Action:

1. Select the **Create a Corrective Action** or **Create a Preventative Action** link from the **Actions** list of an active Security Event, Audit, or Risk Assessment form.
2. Provide a description and details.
Examples include: A noncompliance was discovered while conducting a Risk Assessment on the Sales team's laptops; and, additional security training should be provided to the Sales team, and the noncompliance should be removed from all laptops.
3. The **Source** and **Type** fields automatically populate.
4. Select the asset and priority.
The asset is the Configuration Item that is the focus of the action (optional).
5. Select a projected start and end date.
6. Select the assigned team and owner.
The **Assigned To** options are driven by the **Assigned Team** selection.
7. Select the business owned by team and business owner.
The **Business Owner** options are driven by the **Business Owned By Team** selection.

After owners have been assigned, select the **Next: Assigned** link (under **Status**) to move the Corrective or Preventative Action to the Assigned phase.

Work a Corrective or Preventative Action

After creating a Corrective or Preventative Action, move it to In Progress to start work on it.

To work a Corrective or Preventative Action:

1. Under **Status**, select the **Next: In Progress** link to move it to the In Progress phase.
2. Provide root cause and action plan information.
3. Select a completion date.
4. Under **Status**, select the **Next Status: Complete** link to close the Corrective or Preventative Action record.

Network Event

Create a Network Event to track and manage network-specific events.

Network Events will generally be opened via automation but can also be opened manually.

To manually create a Network Event:

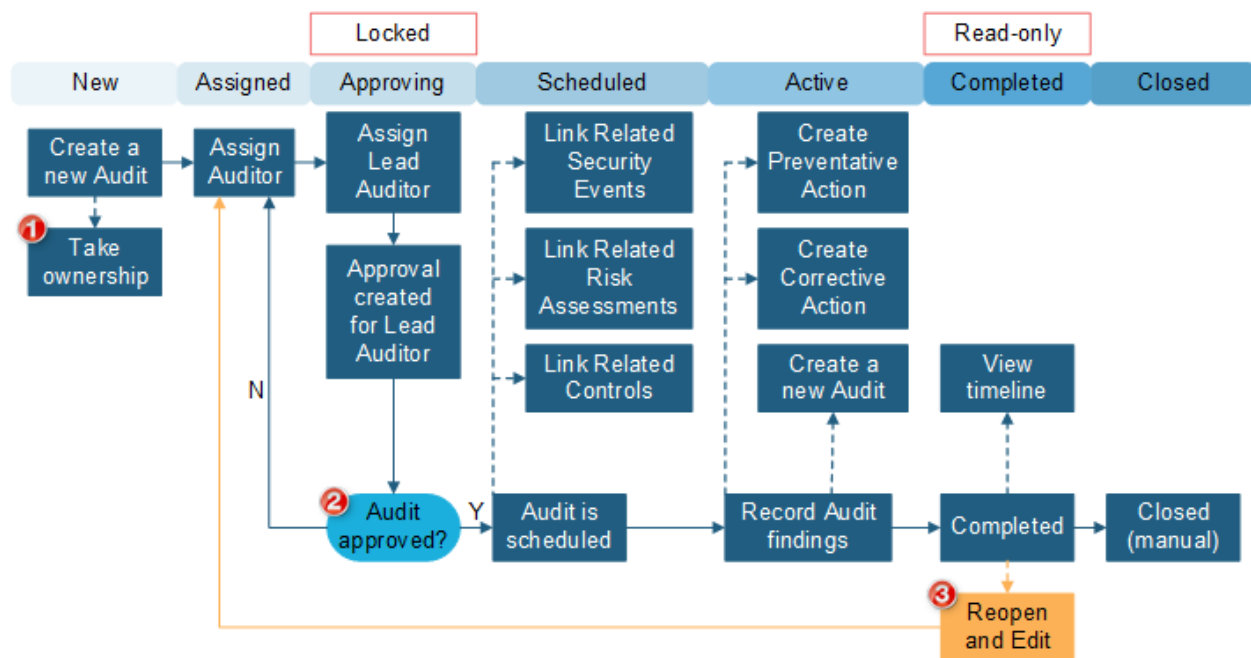
1. CSM Desktop Client or Browser Client toolbar, select **New > New Event > New Event - Network**.
2. Provide a name and details of the event (optional).
3. (Optional) Select an event type and service.
The type displays on the top of the form.
4. Select a priority and event severity.
5. Select a reported date time and who reported the event (optional).
6. Select a source and external source ID (optional).
7. (Optional) Select the assigned team and owner (**Assigned to** field). You can also select the **Assign to Me** link in the **Actions** list.
8. (Optional) Add notes to the **Response Notes** field.
These fields are audited; Journal entries track modifications.
9. (Optional) Select a cause code and add resolution details.
10. (Optional) Initiate other Actions using the appropriate links in the **Actions** list, in response to a new Network Event.

Cherwell ISMS Workflow Diagrams

These workflows demonstrate the various features offered by the Cherwell ISMS mApp® Solution.

ISMS Audit

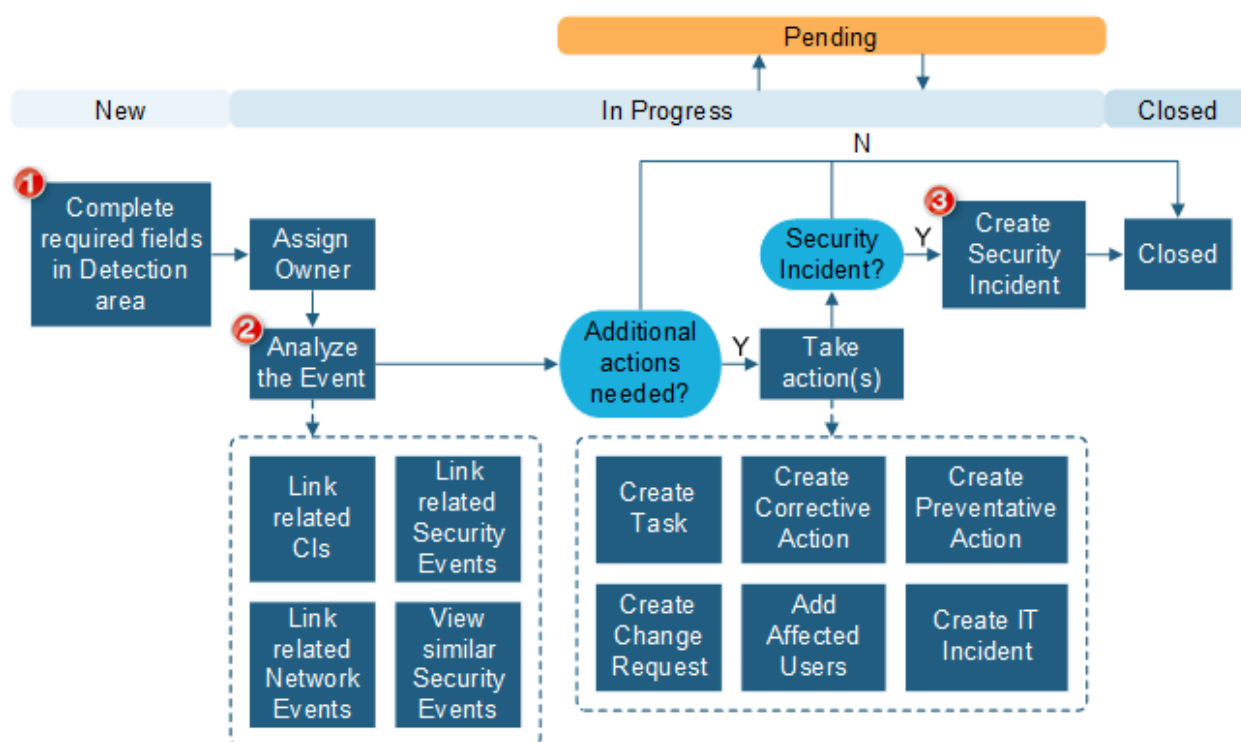
An audit is a scheduled review of compliance related to an industry standard, such as ISO 20071:2013 or key Configuration Items (infrastructure, supporting services, and/or collateral). Audits can be scheduled on a recurring basis and Actions such as Preventative and Corrective can be associated with audit activities.



1	Required fields include: Description, Operating Unit, Source, Type, Priority, Level of Effort.
2	When an Approval is Denied or Approved, the Approval Block ID is cleared. This removes the Approval tab so Approval History is not tracked.
3	This is an Enhancement Request and does not currently exist in the functionality.

Security Event

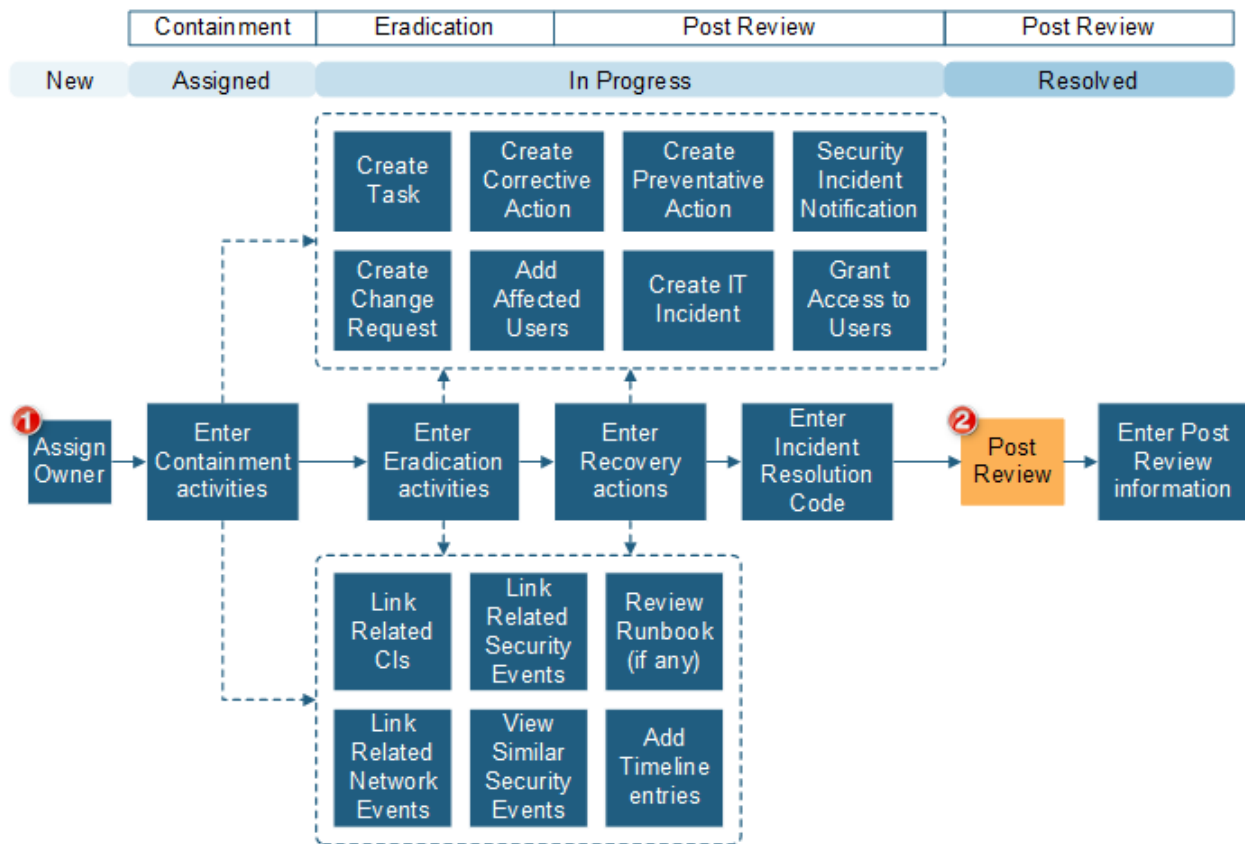
Security Events are used to track and manage security-specific events using an independent process and lifecycle. Security Events provide the means for analysts to quickly analyze possible security threats and take necessary action. The following graphic shows a Security Event workflow.



1	These fields may be automatically completed by integration or when opened from Incidents or Network Events.
2	Complete the Analysis and Event Actions information ongoing throughout the analysis activities.
3	A Security Event can be closed or remain open independent of the state of the Security Incident.

Security Incident

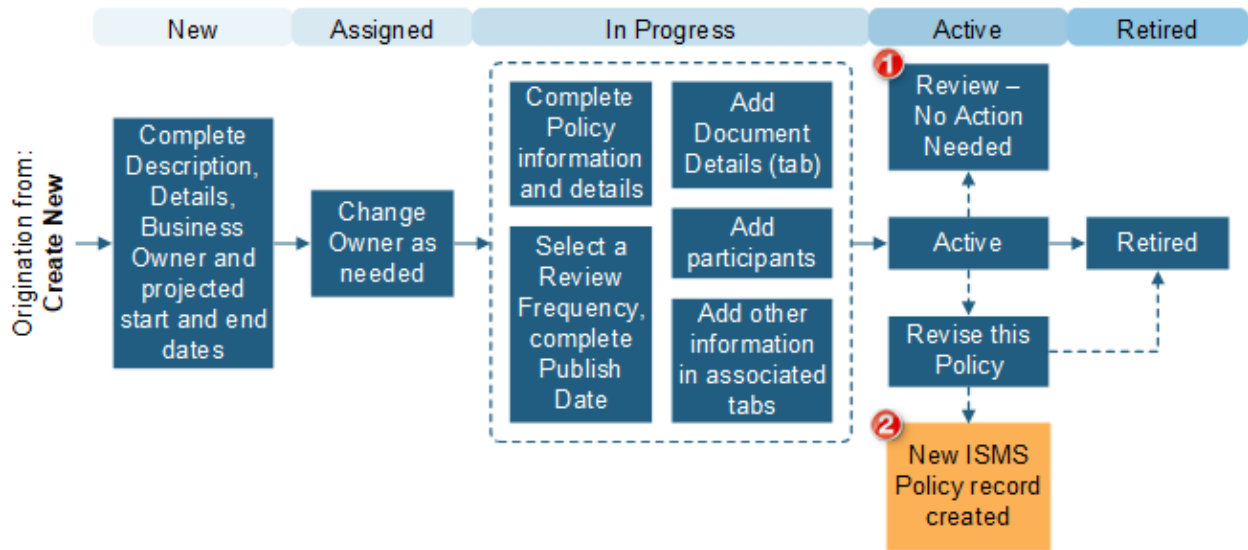
If a Security Event results in a breach or loss of any type, the event can be escalated to a Security Incident. ISMS Security Incidents are specific to security breaches, and differ from the CSM Incident Business Object. Security Incidents follow the NIST guidelines for Security Incident handling and allow strict privacy throughout the process to recovery. The following graphic shows a Security Incident workflow.



1	<p>You must always open a Security Incident through a Security Event.</p> <p>The Security Incident Detection and Analysis fields are copied from the Security Event. The Containment, Eradication and Recovery areas of the Security Incident are all displayed on the Overview tab.</p> <p>To view the Post Review form, select the Post Review link under Stage.</p>
2	Security Incidents can be Resolved without a completed Post Review.

Policy

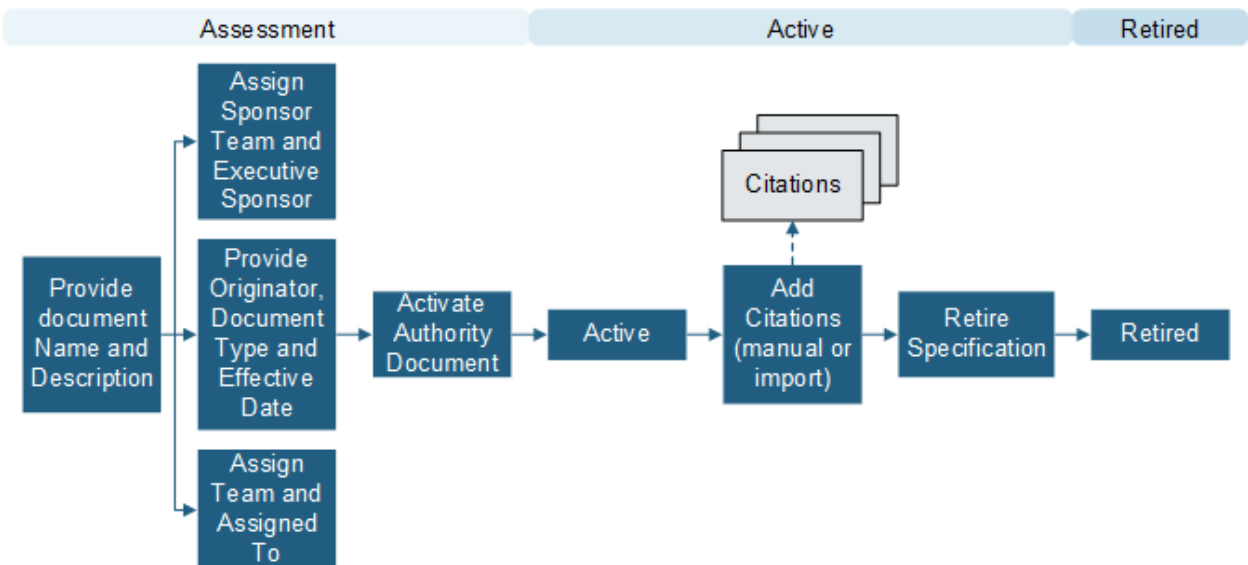
Policies are used to create policy documents and track related Controls. The following graphic shows a Policy workflow.



1	Review Date field modified.
2	Current information is copied to the new record.

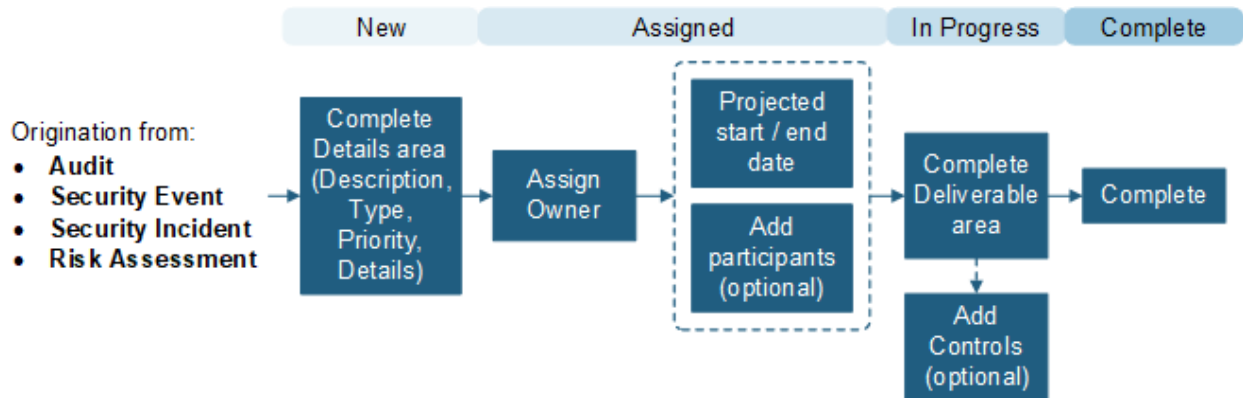
Authorization Document

Use an Authorization Document to define a set of Controls (individual requirements for specific areas of security) that align to industry standards, such as ISO 20071:2013. The following graphic shows an Authorization Document workflow.



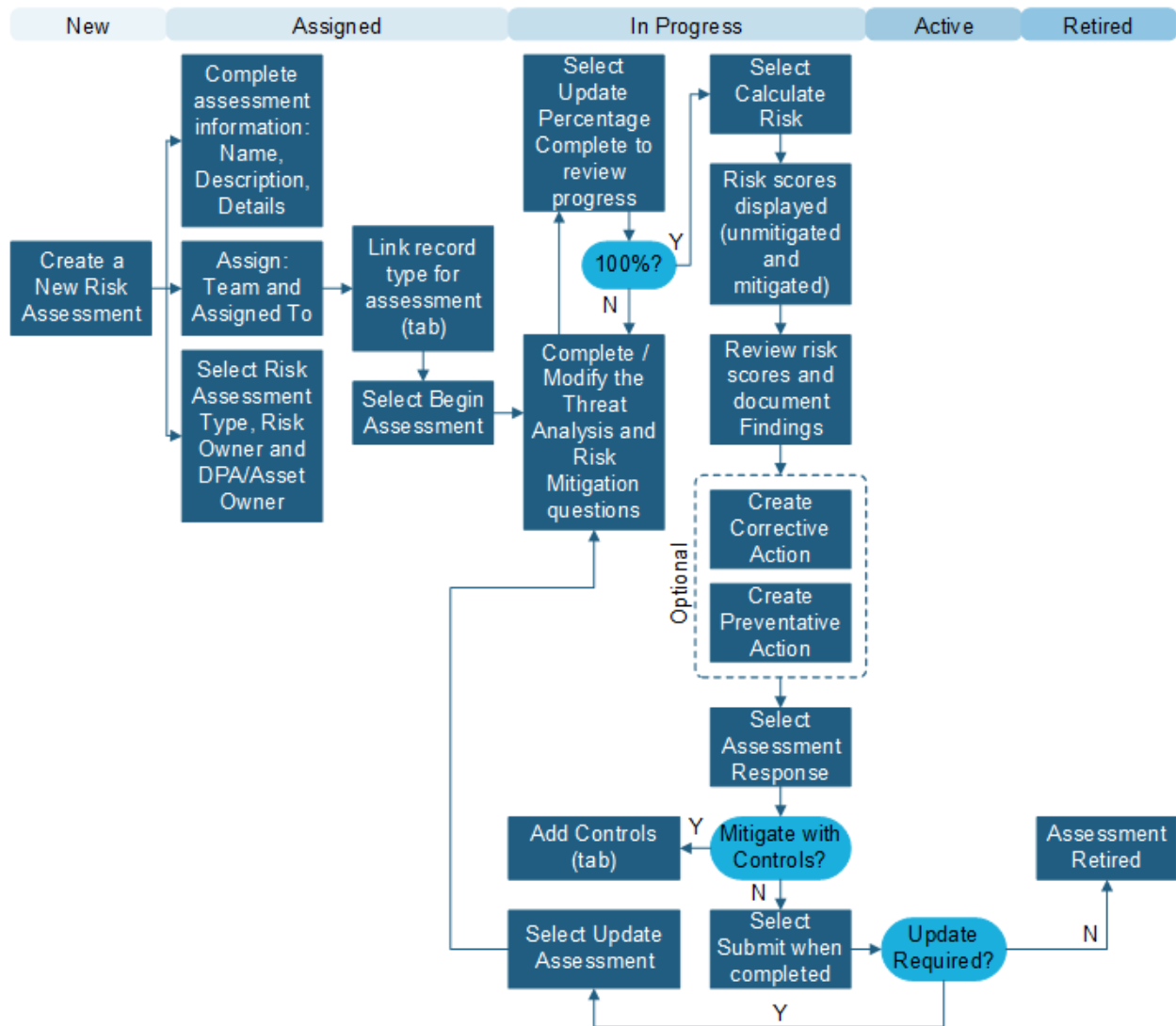
Compliance Corrective and Preventative Actions

A Compliance Corrective Action is used to record and track reactive actions taken to ensure compliance of a policy or Control. You can create a Corrective Action directly from a Security Event or audit. A Compliance Preventative Action is used to record and track proactive actions taken to ensure compliance of a policy or Control. You can create a Preventative Action directly from a Security Event or audit. The following graphic shows a Corrective/Preventative Action workflow:



ISMS Risk Assessment

A Risk Assessment is completed by answering a set of questions that are weighted using a classification scale driven by Table Management. The following graphic shows a Risk Assessment record workflow:

**Related concepts**

[Create a Security Event](#)

Related tasks

[Conduct an Audit](#)

[Create a Security Incident](#)

[Create/Update a Policy](#)

[Create an Authority Document](#)

ISMS mApp Solution Items

The Items table provides a list of items included when applying the mApp Solution and the typical merge action.

These are the items included in this mApp Solution:

Item Category	Item	Typical Merge Action
Business Objects	Config - Supporting Service, Event Operation, EventOpsSecurityLinksCI, Exemption term, Facilities Building, ISMS Audit, ISMS Authority Document, ISMS Business Impact Classes, ISMS Category, ISMS Citation, ISMS Compliance, ISMS Control, ISMS Control Group, ISMS Control Source, ISMS Data Classes, ISMS Data Classification, ISMS Data Classification Questions, ISMS Exemption, ISMS Groups, ISMS Operating Unit, ISMS Participant, ISMS Pending or Withdraw Cause, ISMS Policy, ISMS Priority Matrix, ISMS RACI Definition, ISMS Risk Assessment, ISMS Risk Assessment Type, ISMS Risk Mitigation, ISMS Risk Mitigation Questions, ISMS Risk Response, ISMS Roles, ISMS Root Cause Codes, ISMS Root Cause Deficiency Category, ISMS Root Cause Factors, ISMS Root Cause Types, ISMS Security Cause Code, ISMS Security Incident, ISMS Source, ISMS Specification Lookup, ISMS Status, ISMS Status List, ISMS Status Phases, ISMS Support Service Format, ISMS Threat Analysis, ISMS Threat Analysis Classes, ISMS Threat Analysis Questions, ISMS Threat Analysis Type, ISMS Threat Likelihood Classes, ISMS Type, ISMSAuditLinksControl, ISMSAuditLinkstoCI, ISMSAuthorityDocument_to_CommonControl, ISMSCitationlinkstoControl, ISMSComplianceLinksCI, ISMSComplianceLinksControl, ISMSRiskAssessmentLinksAgreements, ISMSRiskAssessmentLinksCI, ISMSRiskAssessmentLinksService, ISMSRiskAssessmentLinksSupplier, ISMSRiskAssessmentsLinksBuilding, ISMSRiskAssessmentsLinksSite, ISMSRiskEventLinksCI, Journal - Security Event, Network Event, Network Event Source, Network Event Status, Network Event Type, Recovery Objective, Security Event Status, Security Event Type, Security Runbook, SecurityEventLinksISMSAssessmentCI, SecurityEventLinksISMSRiskAssessmentSS, SecurityIncidentLinksISMSRiskAssessment, SecurityIncidentLinksISMSRiskAssessmentSS, Site, State/Province/Territory, Supervisory Authority	Import
	Agreement, Change Request, Configuration Item, Customer Journal, Supplier, Task	Don't Change
	Change Request, Incident, Service	Merge
	Secret Question	Overwrite
Stored Values	CI Rec Link, CI Risk Assessment, ISMS Authority Document Current, ISMS Compliance RecID, Linked False, Linked True, Network Event Ops ID, Security Operations Tab Links, Selected Compliance Policy, SS Risk Assessment, Temp Affected User, Temp Control, Temp Grant Access	Import

Teams	Security, Security Incident	Import
Themes	ISMS Dashboard, ISMS Theme	Import
Widgets	Active Assessments, Active Authority Document Count, Active Events by Risk, Active Events by SS, Active Events by Support Service, Active Evnets by CI, Active Security Incident List, Active Security Incidents, All Active Security Incidents, Audits By Status, Audits Starting in the Next Week, Authority Document Citations, Authority Document Filter, Corrective Actions by Source, ISC Sans, ISMS Main Filer, missing justification deatils, My Pending Approvals - Number, My Security Events, My Security Incidents, Open Corrective Actions, Open Network Events, Open Network Events - Total, Open Preventative Actions, Overdue Audit, Policies missing relationships, Policy by Stage, Preventative Actions by Source, Risk Assessment by Stage, Risk Assessment Mitigation Score, Security Events by Priority, Security Events Owned by Me, Security Incident by Level, Security Twitter, Todays Security Events, US-Cert	Import
	Discussions, Knowledge Article Search, Knowledge Articles with Like Counts, Known Errors, My Active Discussions Count, My Devices Count, My Open Incidents, My Open Incidents and Requests, My Open Incidents Count, My Open Requests, My Open Requests Count, My Recently Closed Incidents and Requests, Problems with a Work Around, Problems with no Work Around, Subscribed, Top Issues Count	Overwrite

One-Step™ Actions	Add Activity, Add Affected User, Add Role, Add SOP to Current Control, Add Staff Responsibility, Add Supervisory Authority, Add user, Advance Page Forward, Advance Status, Advance Status, Approval Accepted, Approval Denied, Approve, Assign Asset Custodian Team, Assign Asset Owner, Assign Lead Auditor Team, Assign Location, Assign Owner, Assign Owner Team, Assign Risk Owner, Assign Risk Owner Team, Assign Source, Assign to, Assign to a Team, Assign to an Owner, Assign to Any Asset Custodian, Assign to Any Auditor, Assign to ANY Business Owner, Assign to ANY Individual, Assign to ANY Individual for Owner, Assign to ANY Individual for Sponsor, Assign to ANY Owner, Assign to ANY Reviewer, Assign to Any Risk Owner, Assign to Business Owner, Assign to BusinessTeam, Assign to Individual, Assign to Individual for Sponsor, Assign to Lead Auditor, Assign to Owner, Assign to Policy Author, Assign to Reviewer, Assign to Team, Assign to Team and Owner, Assign to Team for Owner, Assign to Team for Sponsor, Assign Type, Attach SOP, Begin Assessment, Calculate Abbr, Calculate Risk, Check for Related Policy, Check Values, Close Security Event, Complete Specification Definition, Compliance Records Open, Copy of Complete Specification Definition, Copy of Iterate Questions Backward, Copy of Iterate Questions Forward, Copy Policy Control Group Relationship to Join, Create a Boundary Definition, Create a Control, Create a Control Audit, Create a Corrective Action, Create a new Audit, Create a Preventative Action, Create a Preventative Record, Create a Related Record, Create a Risk Assessment, Create a Root Cause, Create a Security Event from an RSS Feed, Create All Controls, Create Audit, Create Change, Create Change Request, Create Compliance, Create Compliance Action, Create Compliance Policy, Create Compliance Record, Create Corrective Action, Create Event from Twitter, Create Gap Supporting Records, Create Incident, Create IT Incident, Create Preventative Action, Create Related Compliance Records, Create Related Compliance Records (Backup), Create Related Records, Create Revise Policy, Create Security Event, Create Security Event from Portal, Create Security Incident, Create Supporting Records-old, Create Task, Create Task for supervisory authority., Create Threat Supporting Questions, Customer Follow-up E-mail, Delete Denied Approval Rec ID, Denied, Denied Review, Email Asset Owner, Email Owned by - Network Event, Email Owner, Email Reported by - Network Event, Email Reported by - Security Event, Email Security Incident, Email Security Incident Team, Follow-up Email to Asset Custodian, Follow-up Email to Owner, Follow-up Email to Risk Owner, Goto Service, Grant Access to User, Iterate Questions Backward, Iterate Questions Forward, Link Citation to Control, Link Controls, Link Primary CI Item, Link to an Audit, Memo Style - Security Incident with Events, Move Back Control Pages, New Security Event, Next Stage In Incident, Next Status, Notify Granted Access Users, Notify Owner, Notify Owner of Approval, Notify Owner of Assignment, Notify Owner of Denial, Notify Owner of Risk Assessment, Notify Owner of Security Event, Notify Participant of Audit, Notify Risk Owner, Notify Team of Security Event, Owner Follow-up E-mail, Populate Control Questions, Previous Stage In Incident, Print Boundary Def, Recalculate, Recalculate All Scores, Recalculate Percent Complete, Recurring Audit, Re-Enable Editing, Remove from Pending, Remove Record Lock - Approved, Report Anonymously, Reset All, Retire Risk Assessment, Review and Create Journal, Reviewer Follow-up E-mail, Risk Analysis Completion, Risk Analysis Completion (Data Classification), Risk Analysis Completion (Mitigated Risk Score), Risk Analysis Completion (Risk Mitigation), Risk Analysis Completion (Threat Analysis), Risk Analysis Completion Next Steps, Risk Review Denied, Save n Back to Home, Save Selected Controls 01-23, Save Selected Controls 24-45, Save Selected Controls_SAVE, Security Operations - Infosec-Tab, Security Operations - Twitter Tab, Select and Link Policy or Unlink Policy, Select CI, Select Owner, Select Requestor, Select Supporting Service, Set Alt Status, Set Next Question Number for Risk Midigation, Set Next Question Number for Security Class, Set Next Question Number for Threat Analysis, Set Next Status, Set Pending, Set Record Type, Set Risk Assessment to Withdrawn, Set Risk to Active, Set Status, Set Status to Active, Set Status to Closed, Set Status to Definition,	Import	
CSM mApp Solutions			150

Expressions	<p>Asset owner, Asset owner ID, Business Impact Answer Percentage, Business Owner, Business Owner Team, Calc End Dates, Calc Start Dates, Calculate Answer Value, Calculate Answer Value, Calculate Answer Value, Calculated Risk Midigation Score, Calculated Total Business Impact Question Value, Calculated Total Risk Midigation Answer Value, Calculated Total Risk Midigation Question Value, Calculated Total Security Class Question Value, Calculated Total Threat Analysis Answer Value, Calculated Total Threat Analysis Question Value, Calculated Total Threat Likelihood Question Value, Control Defined, Control Display of Completion Button, Control ID, Controls Requiring Action is False, Count of Audit Approvers, Count of Closed Compliance Actions, Create Supporting Records Run if - Data Class, Create Supporting Records Run if - Goto Action, Create Supporting Records Run if - Risk Mitigation, Create Supporting Records Run if - Threat Analysis, Current User ReclID, Data Classification Answer Percentage, Data Protection Officer, Data Protection Officer ID, Determine the Security Class, Evaluate which Assessment is Active, Existing Specifications, Finance Asset Value, Finance High, Finance Low, Finance Med, Future End Date Calculation, Future Start Date Calculation, Hyperlink to Approval, Increment Control Question, Iterate Backwards Run if - Data Class, Iterate Backwards Run if - Risk Mitigation, Iterate Backwards Run if - Threat Analysis, Legal and Regulatory Asset Value, Legal High, Legal Low, Legal Med, Lessons Learned Validation Date, Lock Active Status - CA/PA, Lock Active Status - Policy, Lock Active Status - Policy, Lock Closed Status, Lock Common Fields, Lock Field, Lock Fields, Lock Record, Market Cost Asset Value, Market Cost High, Market Cost Low, Market Cost Med, New-Control Display of Completion Button, New-Evaluate which Assessment is Active, No Change - Set Review Date, No Change - Set Review Date, Number Of Controls, Old_Set Review Dates, Older than 30days, One Week From Today, Overall Risk Calculation, Percent Complete Data Class, Percent Complete Risk Mitigation, Percent Complete Threat Analysis, Policy Defined, Policy ID Counter, Policy Linked, Policy Publish Prev 2 Weeks, Populate Answer Value, Populate Answer Value, Populate Answer Value, Primary Control Count, Primary Control Score, Required Fields, Required for both, Required For Final Corrective, Required For Final Preventive, Return ISMS Group from Type, Secondary Control Count, Secondary Control Score, Select All Choice 01, Set Closed Date, Set Review Date, Set Review Date, Show Fields Locked, Simular Risk Assessments, Status Read Only, Status Read-Only, Threat Analysis Answer Percentage, Threat Likelihood Answer Percentage, Total Data Classification Questions, Total Risk Mitigation Questions, Total Threat Questions, Two weeks out, Unlock Record, Unmitigated Risk Percentage, Validate if Run - Data Classification, Validate if Run - Risk Mitigation, Validate if Run - Threat Analysis, Validate Policy Fields before Active, Validate Status Phases</p>	Import
Automation Processes	<p>Create Link to Controls Upon Citation Imports, mApp Factory - Copy Group Control Relationship to Join, mApp Factory - Notification of Assignment, mApp Factory - Notify Asset Owner on Risk Assessment, mApp Factory - Notify Audit Participant, mApp Factory - Notify Granted Access Users, mApp Factory - Notify Owned By on Assignment, mApp Factory - Notify Owned By on Risk, mApp Factory - Notify Owned By on Security Incident, mApp Factory - Notify Owner on Assignment, mApp Factory - Notify Risk Owner on Risk Assessment, mApp Factory - Notify Security Incident Team, mApp Factory - Notify Team on Assignment or High Priority</p>	Import

Dashboards	Compliance, ISMS Portal Home, ISMS Portal Knowledge, ISMS Portal My Items, Operations, Posture, Statement-of-Applicability	Import
Searches	Active Authority Document, Active Audits, Active Audits Starting in the Next Week, Active Audits with Major NonCompliances, Active Authority Documents propt, Active Boundary Definitions, Active Events by CI Risks, Active Risk Assessments, Active Security Incidents 2, Active Security Incidents by Type, Active Specification Controls, Active Support Service Risk, All Audits, All Audits - No None Preventative Actions, All Audits with Major NonCompliances, All Authority Documents, All Citations, All Compliance Records, All Corrective Actions, All Events, All Exclusion Controls, All Inclusion Controls, All Open Compliance Records, All Participants, All Policies, All Preventative Actions, All Risk Assessments, All Security Incidents, Audit Corrective Actions, Audit Preventative Actions, Audits, Audits Awaiting Approval, Audits Completed, Audits Ending in the Next Week, Audits with Open Resolution Actions, Confidential, Critical Mitigation Risk, Current Authority Document, High Mitigated Risk Assessments, High Mitigation, In Progress Risk Assessments, Internal Use, Low Risk Mitigation, Medium Mitigation Risk, Missing Justification Details, Missing Policy Relationship, My Active Audits, My Security Incidents, Open Corrective Actions, Open Events for Today, Open Network Events, Open Network Events, Open Preventative Actions, Open Security Events, Open Security Events by CI Risk, Open Security Events by priority, Overdue Audits, Policies missing relationships, Print Boundary Def, Public Data, Report Active Specification Controls, Restricted Data, Risk Assessments Owned by Me, Security Events Owned by Me, Security Incident by Priority, Security Incident Corrective Actions, Security Incidents Older than 30days, Two weeks out, Very Low Risk Mitigation	Import
Counters	Event-Ops Network Event ID, Event-Ops Security Event ID, ISMS Audit ID, ISMS Boundary ID, ISMS CAPA ID, ISMS Citation ID, ISMS Compliance ID, ISMS Exemption, ISMS Policy ID, ISMS Risk Assessment, ISMS Security Incident ID	Import
	Supplier ID	Overwrite
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related concepts

[Apply a mApp Solution](#)

Project & Portfolio Management mApp Solution 1.6

The Cherwell PPM mApp® Solution allows executives, Portfolio, Program, Project, and Demand Managers to review the submission of Demands, manage staffing and tasking for Projects, and track Projects to completion.

Platform Version Requirements: Tested on CSM 10.0.x — 10.2.0.

Content Version Requirements: Tested on CSM 10.0.x — 10.2.0; this mApp Solution may or may not be compatible on content versions earlier than CSM 9.6.0, but as with all mApp Solutions, be sure to test it on your customized system.

Prerequisites: If you import from Microsoft Project or Microsoft Excel (.csv files), full user names cannot contain commas or special characters. For example, a full user name listed as "Smith, John" will not be allowed in the Resource field of MS Project. MS Excel (.csv) will read the comma as a delimiter and fail to process imports correctly.

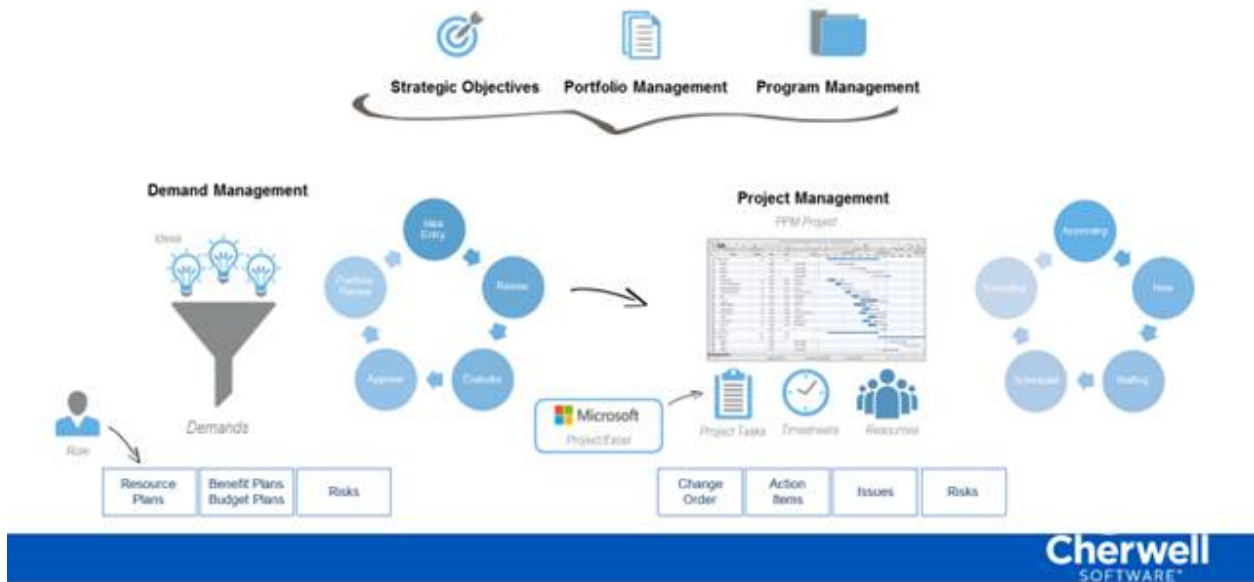
Available languages: English.

Overview

Project & Portfolio Management (PPM) is the continuous process of selecting and managing the optimum set of project-oriented initiatives that deliver the maximum in business value or return on investment. It is a dynamic decision-making process, enabling management to reach consensus on the best use of resources to focus on projects that are achievable and strategically aligned with their business goals and objectives. (Source: PMI)

The Ideas are evaluated by a Demand Manager for acceptance as a Demand. Once a Demand is reviewed and accepted, it becomes a Project. The Project will be part of a Portfolio and potentially a Program and can also be linked to Strategic Objectives.

Solution Overview



Note: For content versions earlier than those listed above, please review the documentation and carefully test against a copy of the current installation to determine fit for your environment. Additional manual work may be required based on current system configurations.

Apply the mApp Solution

Follow these steps to download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM. The contents of the .zip file includes the following:
 - PPM Foundations 1.6.mApp file
 - MS Project Template:
 - MS Project Template example.mpp file
 - MS Project Template example.xml file
 - MS Excel Template:
 - PPM Excel Template for CSV Project Task Import.csv file
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.
4. On the **How automatic should the merge process be?** screen of the Apply mApp Wizard, choose either **Ask me about every decision** or **Make reasonable decisions, but ask me if unsure**.



Note: In certain areas, functionality is not guaranteed unless you use the CSM Desktop Client.

For a list of items included in the mApp Solution, see [PPM mApp Solution Items](#).

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites	Version/Release Notes
1.0	9.2.1, 9.3.0, 9.3.2, 9.4.0	8.3.2, 9.1.0, 9.2.1 globalized, 9.2.1 non-globalized, 9.3.0, 9.3.2, 9.4.0	Known Issue: When the mApp Solution is created on a version earlier than 9.4.0 or is installed on a 9.4.0 system, the widgets are disassociated with the dashboards or the dashboards cannot be edited (anticipated fix in version 9.5.0).	
1.1	9.3.0, 9.3.2, 9.4.0	9.3.0, 9.3.2, 9.4.0	None.	Contains several bug fixes.
1.2	9.6.1	9.5.3 and 9.6.1	If you import from Microsoft Project or Microsoft Excel (.csv files), full user names cannot contain commas or special characters.	Contains bug fixes specific to 9.6.0 content.
1.3	9.6.x - 9.7.0	9.5.3 and 9.6.x - 9.7.0	If you import from Microsoft Project or Microsoft Excel (.csv files), full user names cannot contain commas or special characters.	
1.5	10.0.x	10.0.x; PPM 1.5 may or may not be compatible on content versions earlier than 9.6.0, but as with all mApp Solutions, be sure to test it on your customized system.	If you import from Microsoft Project or Microsoft Excel (.csv files), full user names cannot contain commas or special characters.	Contains UI update.

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites	Version/Release Notes
1.6	10.0.x — 10.2.0	10.0.x — 10.2.0; PPM 1.5 may or may not be compatible on content versions earlier than 9.6.0, but as with all mApp Solutions, be sure to test it on your customized system.	If you import from Microsoft Project or Microsoft Excel (.csv files), full user names cannot contain commas or special characters.	Contains bug fix for missed Item in PPM 1.5 mApp Solution creation.

Related concepts[About mApp Solutions](#)[Apply a mApp Solution](#)[Create/Edit a Field](#)[Publish a Blueprint](#)[Open the mApp Editor](#)

PPM Key Terms

Key terms for understanding PPM.

Portfolio	A collection of projects or programs or other work grouped together to facilitate effective management of work to meet strategic business objectives.
Project Portfolio Management	The centralized management of one or more portfolios. This involves identifying, prioritizing, authorizing, managing, and controlling projects, programs, and other related work, to achieve specific strategic business objectives.
Strategic Objective	Organizational goals that help to convert a mission statement from a broad vision into more specific plans and projects. They set the major benchmarks for success.
Demand	Demand management is the process an organization puts in place to internally collect new ideas, projects, and needs during the creation of a portfolio.
Program	A program is a group of related projects managed in a coordinated manner to obtain benefits not available from managing them individually. Program management is the application of knowledge, skills, tools and techniques to meet program requirements.
Stakeholder	Those who can affect or are affected by a new demand and are key success factors for the management of project portfolios.
T-shirt Size	A way of making rough estimates for projects that is relative and less prone to errors than estimation of effort, in real days.
Demand Scoring	A set of weighted criteria and corresponding key indicators to measure and score specific (and potential) components for comparison and prioritization purposes.

Source: PMI

Configure Cherwell Project & Portfolio Management

Configure PPM to set up Roles, Resources, and other key areas.

Complete the following procedures to configure Cherwell PPM:

- Create PPM Roles
- Create PPM Resources
- Create PPM Areas
- Create PPM Strategic Objectives
- Create PPM Programs
- Create PPM Portfolios
- Create PPM Stakeholders
- Create PPM Scheduled Items

Items to Consider Prior to Configuring Cherwell Project & Portfolio Management

Important considerations prior to configuring Cherwell PPM.



Note: This functionality is only available after you apply the mApp Solution.

You will need to identify and document areas such as Roles, Resources, Areas, Stakeholders, Strategic Objectives, Portfolios, and Programs.

- Roles and Resources are used for time reporting, availability, and Project Tasks.
 - Areas and Stakeholders are used for Demands.
 - Foundations are Strategic Objective, Portfolio, and Program.
1. **Roles:** These are used in conjunction with Resources and help provide key availability information for Demand and Project Management planning activities. Roles can be identified for different areas (example: Project, HR, Facilities, Security).
 2. **Resource:** Work Week hours and Operational Percentage are very important. When you look at graphs showing Role or Resource availability, the Work Week hours and Operational Percentage help determine that availability.
 3. **Area:** Area is used throughout Demands and Project Management to identify the associated business area (example: HR, IT, Facilities).
 4. **Stakeholders:** These are a key part of the approval process in Demands. Stakeholders are populated in the Stakeholder table and can be designated as Approvers and Executive Approvers. Stakeholders are associated with a Demand based on the Demand Area.
 5. **Strategic Objectives:** These are documented executive-level business objectives that should help guide the approved initiatives/projects. They are referenced in Portfolios, Programs, Demands, and Projects as appropriate.
 6. **Portfolios:** Portfolios are collections of Projects, Programs, or other work grouped together to facilitate effective management of work to meet strategic business objectives.
 7. **Programs:** Programs are groups of related projects managed in a coordinated manner to obtain benefits not available from managing them individually. Program management is the application of knowledge, skills, tools and techniques to meet program requirements.

Globalization Considerations

Use the information below to prepare the environment to be localized.

The following tables should be globalized in Cherwell PPM:

- Operational Task Status
- Operational Task Type
- PPM Area

- PPM Focus Area
- PPM Predecessory Type
- PPM Scope
- PPM Health Type
- PPM Status Group

The following tables are dependent on PPM Status Group and PPM Health Type being globalized:

- PPM Status
- PPM Type

The following PPM Status Fields should have foreign keys enabled:

- PPM Group
- Next Status
- Alt 1 Status
- Alt 2 Status

The following PPM Type Fields should have foreign keys enabled:

- Group Name
- Health Type

Create PPM Security Groups

Security Groups establish the rights for users and Roles.



Note: This functionality is only available after you apply the mApp Solution.

When creating a Security Group, in the **Rights** tab, select the **One-Step** Category. Select the **One-Steps can access values for fields for which the security group doesn't have rights?** parameter.

You must include this parameter in any Security Group that will be importing and updating Projects from MS Excel (.csv files). This parameter allows the staging table to be updated, which is a key action in the Update Project from Excel One-Step™ Action. Updates will not apply without this right.

Related concepts

[Create a Security Group](#)

[One-Step Security Rights](#)

Create PPM Roles

Create Roles to use for high-level Resource planning.



Note: This functionality is only available after you apply the mApp Solution.

Each Resource is assigned a PPM Role. Some Roles are included in Cherwell PPM. You can modify, delete, or add new Roles as needed.

The following Roles are included:

- Architect - Infrastructure
- Asset Manager
- Business Engagement Manager
- DBA - SQL
- DBA - Unix
- Developer
- Facilities
- HR
- Legal
- Network Administrator
- Process Engineer
- Procurement
- Project Manager
- Security Analyst
- Sr. Developer
- Technical Writer
- Tester/UAT
- Trainer - Content Developer
- Trainer - Delivery
- UI/UX Designer
- Web Specialist

To create a new Role:

1. In the CSM Desktop Client or CSM Browser Client, select **Tools > Table Management**.
2. Select **Role** from the **Type** drop-down list, then select the **New** button.
3. Provide the Role name and select Area(s) the Role may be associated with.

The PPM functionality for Resource and Role availability and Project Task assignment looks for Resources where the associated Role and the Project Area checked.

If you choose to batch import Resources, Role creation is automatic.

Related tasks

[Import PPM Resources](#)

Create PPM Scheduled Items

Create Scheduled Items to automatically run defined actions.



Note: This functionality is only available after you apply the mApp Solution.

Create the following PPM Scheduled Items:

- Weekly Timesheet Reports
- Delete Unused Timesheets
- Update Resource Time Bookings
- Resource Time Cleanup

Weekly Timesheet Reports

To create weekly timesheet reports:

1. Open the Scheduled Items Manager and select the **Add** button.
2. On the **General** page, enter the name and description.
3. On the **Schedule** page, select the **Recurring** option.
4. Set Scheduled Time and Recurrence.
We recommend running this Scheduled Item during the earliest time slot available at the beginning of the work week.
5. On the **Action** page, select **One-Step** from the **Action** drop-down list.
6. Next to the **One-Step** drop-down list, select the ellipsis to open the One-Step™ Action Manager.
7. Select **PPM Resource** from the **Association** drop-down list.
8. Select the **Create Weekly Timesheets** One-Step Action and select **OK**.
9. (Optional) Configure any necessary settings on the **Error Handling** page and select **Save**.

Delete Unused Timesheets

To delete unused timesheets:

1. Follow Steps 1 - 3 above.
2. Set Scheduled Time and Recurrence.
We recommend running this Scheduled Item monthly
3. On the **Action** page, select **One-Step** under the **Action** drop-down list.
4. Next to the **One-Step** drop-down list, select the ellipsis to open the One-Step Action Manager.
5. Select **PPM Timesheet** from the **Association** drop-down list.
6. Select the **Blueprint** folder under the One-Step Actions file tree.

7. Select the **Delete Old Timesheets** One-Step Action and select **OK**.
8. (Optional) Configure any necessary settings on the **Error Handling** page and select **Save**.

Update Resource Time Bookings

To update resource time bookings:

1. Follow Steps 1 - 3 under *Weekly Timesheet Reports* above.
2. Set Scheduled Time and Recurrence.
We recommend running this Scheduled Item as frequently as needed or every hour.
3. On the **Action** page, select **One-Step** under the **Action** drop-down list.
4. Next to the **One-Step** drop-down list, select the ellipsis to open the One-Step Action Manager.
5. Select **PPM Resource Time** from the **Association** drop-down list.
6. Select the **Blueprint** folder under the One-Step Actions file tree.
7. Select the **Update Resource Time Bookings** One-Step Action and select **OK**.
8. (Optional) Configure any necessary settings on the **Error Handling** page and select **Save**.

Resource Time Cleanup

To perform resource time cleanup:

1. Follow Steps 1 - 3 under *Weekly Timesheet Reports* above.
2. Set Scheduled Time and Recurrence.
We recommend running this Scheduled Item weekly or bi-weekly.
3. On the **Action** page, select **One-Step** under the **Action** drop-down list.
4. Next to the **One-Step** drop-down list, select the ellipsis to open the One-Step Action Manager.
5. Select **PPM Resource Time** from the **Association** drop-down list.
6. Select the **Blueprint** folder under the One-Step Actions file tree
7. Select the **Resource Time Cleanup** One-Step Action.
8. (Optional) Configure any necessary settings on the **Error Handling** page and select **Save**.

Related concepts

[Open the Scheduled Items Manager](#)

Create PPM Resources

PPM Resource is a major Business Object that tracks Resources available to be assigned to Project Tasks and their associated information to provide availability and allocated time views for Demand and Project Managers.



Note: This functionality is only available after you apply the mApp Solution.

A Resource record is required for each person who will be assigned Project Tasks. All PPM Resources must be in your User Info Table, but not all users have to be a PPM Resource. The Name field within PPM Resource is validated to the Full Name field in User Info.

You can also import a batch of Resources.

To create an individual resource:

1. From the CSM Desktop Client or CSM Browser Client menu bar, select **New > New PPM Resource**.
2. Select the full name and department from the drop-down lists.
3. Select a role and employment type from the drop-down lists.
4. (Optional) Enter any skills.
5. Enter the standard work week hours.
6. **Operational Percent:** Enter a number from 0 to 100 to indicate the percent of work week hours spent on day-to-day operational and administrative (non-project) tasks. The Available Project Hours Field automatically calculates using the Operational Percent and Work Week Hours values. For example, with 40 Work Week Hours and an Operational Percent of 10, the Resource will have 36 Available Project Hours.

Work Week Hours and Operational Percent plus PTO numbers are used during the creation of Resource Time records.

7. (Optional) Enter an hourly cost for the resource.
8. Select **Save**, and then select the **Create Resource Time Records** link (under **Actions**). This creates a time record for each day of the rest of the calendar year and the following year, which will be used to determine availability at the role and resource level.



Important:

A One-Step™ Action (Create Weekly Timesheets) is provided in the solution to create a weekly Timesheet for each Resource in the Resource table. This One-Step Action should be set up as a scheduled process as part of the initial configuration activities.

Related tasks

[Import PPM Resources](#)

Import PPM Resources

Import a batch of Resources instead of creating them individually.



Note: This functionality is only available after you apply the mApp Solution.

At initial set up of Cherwell PPM, most Administrators will choose to import a batch of Resources. An Automation Process will create daily resource time records through the end of the current calendar year and next year.

Important:



Importing a batch of Resources in bulk requires significant processor speed and memory to run concurrent Automation Processes and cache queued automation requests (when a Resource is added, an Automation Process creates time summary records for each remaining day in the current calendar year and all of the following calendar year). Run this bulk import using server resources. If Cherwell Services are running on a laptop instead of a server, we recommend adding Resources one at a time and waiting three minutes between each addition to allow the automation processes to complete.

In benchmark testing, importing 300 Resources took 4.5 hours.

To import resources:

1. Enter your Resource information in a CSV that will be imported.
2. Open CSM Administrator.
3. Select the **Database** option under **Categories**.
4. Select the **Run a one-off data import (CSV files)** link.
5. Follow the prompts in the Import Data Wizard.

Create PPM Areas

Use an Area appended by a sequential number to create project identification numbers.



Note: This functionality is only available after you apply the mApp Solution.

The following PPM Areas are included:

- IT
- Facilities
- HR
- Finance
- Sales

To add a new PPM Area:

1. In the CSM Desktop Client or CSM Browser Client, select **Tools > Table Management**.
2. Select **PPM Area** from the **Type** drop-down list, and then select the **New** button.
3. Provide the area name and save the record.

Create PPM Strategic Objectives

Strategic Objectives are generally corporate-level, senior leadership-driven initiatives used to group Portfolios, Programs, and Projects.



Note: This functionality is only available after you apply the mApp Solution.

While Strategic Objectives have a simple workflow with statuses of New, Review, Active, and Closed, there is no formal approval process. The statuses let you decide how to manage review and implementation of the Strategic Objectives. Once a Strategic Objective is Closed, it will no longer appear as an option in Portfolio, Program, and Demand creation.

To create a new Strategic Objective:

1. From the CSM Desktop Client or CSM Browser Client menu bar, select **New > New PPM Strategic Objective**.
2. Provide an Objective and select a Focus Area from the drop-down list.
3. (Optional) Provide a Driver (example: Compliance) and Weighting (example: 10%).
4. (Optional) Add a Description.
5. (Optional) Choose a Target Date from the calendar selector.

When a Strategic Objective is in the active phase, you can use the tabs to track the child Programs and Portfolios.

Create PPM Portfolios

A Portfolio is a collection of projects or programs or other work grouped together to facilitate effective management of work to meet strategic business objectives.



Note: This functionality is only available after you apply the mApp Solution.

While Portfolios have a simple workflow with statuses of New, Assessing, Active, Closed, and Review, there is no formal approval process. The statuses let you decide how to manage review and implementation of the Portfolios. Once a Portfolio is Closed, it will no longer appear as an option in Demand and Program creation. You can use the Review phase to perform analysis of the success of completed Portfolios.

To create a PPM Portfolio:

1. From the CSM Desktop Client or CSM Browser Client menu bar, select **New > New PPM Portfolio**.
2. Complete the Portfolio Details:
 - a. Provide a name and description.
 - b. (Optional) Select a Portfolio Manager and Primary Strategic Objective from the **Related Item Picker**.
The Primary Strategic Objective choice will autofill the **Strategic Objective** Field.
 - c. (Optional) Choose the Assigned Team and Assigned To from the drop-down lists.
3. Complete the Portfolio Budget:
 - a. (Optional) Set a Portfolio Budget, and select Term Start and End Dates.
 - Once the Portfolio is active, the **Total Budget Committed** Field will reflect a sum of the budgets of accepted Projects.
 - Total Budget Remaining is the Program Budget minus Total Budget Committed.
4. Select **Save**.

When a Portfolio is in the active phase, you can use the Form Arrangement to track the child Demands, Programs, and Projects. The Issues, and Risks are Portfolio-level. There is also a tab for the parent Strategic Objective.

To see the most comprehensive numbers for the Portfolio, use the My Portfolio Dashboard. You can also use the My Portfolio Dashboard to see whether a proposed Demand can fit into the Portfolio budget.

Related concepts

[PPM Dashboards](#)

Create PPM Programs

A Program is a group of related projects managed in a coordinated manner to obtain benefits not available from managing them individually.



Note: This functionality is only available after you apply the mApp Solution.

While Programs have a simple workflow with statuses of New, Assessing, Active, Closed, and Review, there is no formal approval process. The statuses let you decide how to manage, review, and implement the Program. Once a Program is Closed, it will no longer appear as an option in Demand creation. You can use the Review phase to perform analysis of the success of completed Programs.

To create a PPM Program:

1. From the CSM Desktop Client or CSM Browser Client menu bar, select **New > New PPM Program**.
2. Complete the Program Details:
 - a. Provide a Name and select a Program Manager. The Program Manager will be reflected in Projects opened under the Program. .
 - b. Choose a Portfolio Name from the drop-down list. That choice will autofill the Strategic Objective Field.
 - c. (Optional) Add Details and select the person the Program is assigned to.
3. Complete the Program Budget:
 - a. Set a Program budget and select Budget Start and End Dates (optional).
 - Once the Program is active, the **Total Budget Committed** Field will reflect a sum of the budgets of accepted Projects.
 - Total Budget Remaining is the Program Budget minus Total Budget Committed.
4. Select **Save**.

When a Program is in the active phase, you can use the tabs to track the child Demands and Projects. The Issues are Program-level. There is also a tab for the parent Strategic Objective.

Create PPM Stakeholders

Stakeholders can affect or are affected by a new demand and are key success factors for the management of project portfolios.



Note: This functionality is only available after you apply the mApp Solution.

Stakeholders are populated from the Stakeholder table. Stakeholders for each Demand are based on the Demand's Area.

If a Demand's Estimated Cost is less than \$1 million, the Demand's Area Stakeholders marked as Approvers are Approvers for the Demand. If the Demand Estimated Cost is greater than \$1 million, Stakeholders (regardless of Area) marked as Executive Committee are Approvers.

To create a new Stakeholder:

1. In the CSM Desktop Client or CSM Browser Client, select **Tools > Table Management**.
2. Select **PPM Stakeholder** from the **Type** drop-down list and select the **New** button.
3. Choose a Stakeholder from the drop-down list.
The Email Field automatically populates.
4. (Optional) Enter a Phone number and select a Department from the drop-down list.
5. Select a Process, Area, and Role from the drop-down lists.
The Role is based on a RACI matrix model.
6. Select the **Approver** and/or **Executive Approval Committee** check boxes, if appropriate.
7. Save and publish the Blueprint.

Use Cherwell Project & Portfolio Management

Use PPM from the CSM Desktop Client, the CSM Browser Client, or the CSM Portal.



Note: This functionality is only available after you apply the mApp Solution.

The following sections describe the ways you can use Cherwell PPM:

PPM Demands

Demand management is the process an organization puts in place to internally collect new ideas, projects, and needs during the creation of a portfolio.



Note: This functionality is only available after you apply the mApp Solution.

Demands are called Ideas during the initial stages of Demand Management. Ideas can be created by Demand Managers, Project Managers, Executives, customers, and other CSM users. The Ideas are reviewed and either put into workflow for further detailed evaluation, approval, and consideration for inclusion in a portfolio, or rejected by the Demand Manager. During the detailed Evaluation activities, key areas of the Demand are *scored* (using information in Resource Plans, Financial Scores) to help normalize a summary of the information for the Approval and Portfolio Review activities.

Create a PPM Demand

Create a PPM Demand to add an Idea for approval.



Note: This functionality is only available after you apply the mApp Solution.

PPM Demands begin as Ideas and anyone with CSM credentials can submit an Idea. Customers can also add Ideas with additional expansion of the configuration to include submission from the Portal.

To create a PPM Demand:

1. From the CSM Desktop Client or CSM Browser Client menu bar, select **New > New PPM Demand**.
2. Provide a title and description of the Idea.
3. The rest of the fields on the form are not required to move the Idea to the Review Idea phase, but users such as managers will likely have more information and can add to more fields in the Idea.
4. Select **Save**.
The Idea is now available for Demand Managers to evaluate and approve.

Review a PPM Demand

Demand Managers can access and review Ideas in the Demand Management Dashboard.



Note: This functionality is only available after you apply the mApp Solution.

To review a PPM Demand:

1. Open the PPM Demand that is in the Idea status and select the **Review Idea** link under **Actions**.
2. Enter the Requested Start Date and Requested Completion Date (both are required fields), as well as any missing information in the **Proposed Initiative** section.
3. Enter applicable information in the Assessment section:
 - a. Select a T-shirt Size and Area from the drop-down lists.
 - b. Enter the Estimated Total Cost and Estimated Revenue.
These are very high-level estimates of costs and revenue associated with the Demand.
 - c. (Optional) Choose a Portfolio and Program from the drop-down lists (this may not be required, depending on the Portfolio and Program relationships you have set up).
 - d. Choose a Type from the drop-down list.



Note: If you choose **Strategic Objective** from the **Type** drop-down list, you will need to choose the specific Strategic Objective.

4. If necessary, select the **Need More Information** link under **Actions** to send an email to the requester. This action will revert the Demand back to the Idea phase.
5. When the **Assessment** section is completed, the **Accept Idea** link under **Actions** becomes active. Accepting the Idea will move the Demand into the Evaluate phase.
6. You may also choose to reject the Idea by selecting the **Reject Idea** link under **Actions**.

If you decide a PPM Demand can be addressed as a Service Request, you can select the **Convert to Service Request** link under **Actions**. A dialog box asking for confirmation to open a Service Request and close the Demand will appear. The Demand will be closed and you will be taken to the Incident to populate additional fields. This becomes a Service Request based on the category/subcategory selected. The information from the Demand is populated into the newly-created Service Request.

Evaluate a PPM Demand

After a Demand is accepted, it moves to the Evaluate phase.



Note: This functionality is only available after you apply the mApp Solution.

During the Evaluate phase, you will enter more detailed information (in the Form Arrangement) to be used to assess the viability of the Demand.

In the Demand Evaluation phase, you will put together a low-level resource plan, a benefit plan, a budget plan, and risks. The financial assessment is auto-filled.

In the Evaluation phase, you can create *plans* to further detail the cost, opportunity, and resource impacts of the Demand. None of these are required to move to the Approval phase; this is an option you can use if you wish to evaluate at a less formal level. Controls for the amount of required information can be configured in CSM Administrator, as appropriate.

To evaluate a PPM Demand:

1. Enter Resources in the **Resource Plan** tab.
2. Enter Benefit Items in the **Benefit Plan** tab.
3. Enter Budget Items in the **Budget Plan** tab.
4. The **Financial Assessment** tab automatically populates with an aggregate of the numbers in your Budget and Benefits Plan.
5. Enter Risks in the **Risks** tab.
6. The **Stakeholders** tab automatically populates based on area. For more information, see [Create PPM Stakeholders](#).
7. The Portfolio, Program (if applicable), and Strategic Objective tabs are links to the parent record information.

When a Demand is ready for the approval phase, select the **Submit for Approval** link under **Actions**. For more information, see [PPM Demand Approval](#).

Related tasks

[PPM Resource Plan](#)

[PPM Benefit Plan](#)

[PPM Budget Plan](#)

[PPM Financial Assessment](#)

[PPM Risks](#)

PPM Resource Plan

Create a PPM Resource Plan in the Form Arrangement.



Note: This functionality is only available after you apply the mApp Solution.

During the Demand evaluation phase, you will check roles to see if they are available to execute the scope of the Demand in the timeframe requested. Individual resources are not assigned until the Staffing phase of the approved Project.

You can look at the Resource Management Dashboard to see a high-level view of requests and how they match up with availability.

To create a PPM Resource Plan:

1. In the **Resource Plan** tab, select **New PPM Resource Plan**.
2. Select a Role from the drop-down list and enter Hours (optional) the role will require over the course of the Demand.
3. (Optional) Select a Start and End Dates.
4. Select the **Check Available Hours** link.

Remaining Availability (number of hours available for that role) and **Percent of Overall Demand** Fields are now visible.

The Percent of Overall Demand will change as additional Resources are added.

5. Select a Score from the drop-down list.
The Score and the Percent of Overall Demand will feed the Demand Scoring Widget.

Ensure you assign a score for each new Resource item. Resource Items that are not scored will appear in red in the **Resource Plan** tab list view.

Related concepts

[PPM Demand Scoring](#)

PPM Benefit Plan

Create a PPM Benefit Plan in the Form Arrangement.



Note: This functionality is only available after you apply the mApp Solution.

During the Demand Evaluation, you will create Benefit Items. Benefit Items are broken into up to 12 quarters. Cost Savings, Revenue, and Cost Avoidance will be rolled up in the Benefit Years buckets in the Financial Assessment tab.

To create a PPM Benefit Item:

1. In the **Benefit Plan** tab, select **New Benefit Item**.
2. Select a Type from the drop-down list. The Type chosen determines the form displayed. If you accidentally pick the wrong Type, you must delete the record and create a new one with the correct Type.
If you choose **Business Value**, the value information feeds into the Business Value Score, and does not have a quarterly benefit view.
 - a. (Optional) Provide a Description and select a Focus Area from the drop-down list.
 - b. (Optional) Provide a number (1-5) for Benefit If Done and Impact If Deferred.
3. If you choose any other Type from the drop-down list, the form displays the **Benefit Breakdown** section and the **Totals** section.
4. (Optional) Provide a Description.
5. The Total Field (under the **Total** section) automatically populates with the sum of the **Benefit Breakdown** section.
6. In the **Benefit Breakdown** section, enter costs for up to 12 quarters. The yearly totals are automatically calculated.
You can see the Totals by Year in the Benefit Fields of the **Financial Assessment** tab.

Related concepts

[PPM Demand Scoring](#)

PPM Budget Plan

Budget Items capture anticipated costs for this Demand.



Note: This functionality is only available after you apply the mApp Solution.

If a Demand is accepted into a Portfolio, the Budget Items transfer to that Project. Project Costs can be tracked to these Budget Items based on the Type and Expense categories. The budget numbers you enter will also show up in the Cost Fields in the **Financial Assessment** tab.

To create a new Budget Item:

1. In the **Budget Plan** tab, select **New Budget Item**.
2. Enter the Budget Item name in the **Details** Field.
3. Choose a Cost Type from the drop-down list.
4. The Total Cost Field automatically populates with the sum of the quarterly numbers.
5. Select the **Capital Expense** or **Operational Expense** option.
6. In the **Budget Breakdown** section, enter costs for up to 12 quarters. The yearly totals automatically calculate.



Note: If you exceed the Demand's Estimated Total Cost when adding Budget Items, the Estimated Total Cost will not increase. This lets you compare the estimated cost and the Demand cost after it has been evaluated.

PPM Financial Assessment

Use the Financial Assessment tab for an overview of items such as costs, benefits, and expenses.



Note: This functionality is only available after you apply the mApp Solution.

The **Financial Assessment** tab is in the Form Arrangement.

During the Demand Evaluation, you will review the Financial Assessment. The Financial Assessment is populated with:

- Yearly Costs (the sum of Yearly Costs from the Budget Plans).
- Yearly Benefits (the sum of the Yearly Benefits from the Benefit Plans).
- Capital Expenses and Operating Expense (figures come from the Budget Plans).
- Effort (a total of the Resource Plans).

The ROI is based on these numbers.

PPM Risks

PPM Risks include budget uncertainty, potential resource problems, or aging technology.



Note: This functionality is only available after you apply the mApp Solution.

During the Demand Evaluation, you will create Risks.

To create a PPM Risk:

1. In the **Risks** tab, select **New PPM Risk**.
2. Enter a name in the **Risk** Field.
3. (Optional) Select a Type from the drop-down list.
4. (Optional) Assign an Impact (0 to -5) and Probability (10 to 90%) from the drop-down lists.
This will feed the Demand Scoring Widget.
5. (Optional) Provide a Description and select **Save**.

Related concepts

[PPM Demand Scoring](#)

PPM Demand Scoring

The numbers in the Demand Scoring section are driven by values entered during the evaluation phase.



Note: This functionality is only available after you apply the mApp Solution.

The Demand Scoring numbers are valuable as decision-making tools when compared against other Demands. Demand Scoring is comprised of the following four scored areas:

- **Business Value Score:** Business Value items from the Benefit Plan.
- **Financial Score:** ROI from the Financial Assessment.
- **Resource Score:** The scores of the Resource Plan Items.
- **Risk Score:** The impact and probability of Demand risks.

The overall Demand score is calculated based on the four areas.

The objective of the scoring grid is to normalize all critical areas when making decisions about Demands and their inclusion in Portfolios. This normalization allows you to do a true comparison across multiple Demands.

Business Value Score

Benefit Items have a Benefit if Done (1-5) Field with a score of 1 to 5; this drives the Business Value Score. The Focus Area, Impact if Deferred (1-5), and Description Fields and are used to determine the Benefit. The Impact if Deferred (1-5) Field is not used in calculating score.

Financial Score

The Financial Score is calculated based off the ROI% from the Financial Assessment.

- **ROI:** Automatically populates using the following equation: $(\text{Return} / \text{Total Cost} * 100)$.
- **Total Return:** Automatically calculates using Total Revenue minus Total Cost.
- **Total Cost:** The sum of all the Demand Budget Items (Year 1, Year 2, and Year 3 Costs).
- **Total Revenue:** The sum of the Benefit Plans (Year 1, Year 2, and Year 3 Benefits) with a type of Revenue, Cost Savings, and Cost Avoidance.

Resource Score

Each Resource Item receives a score from -2 to 2. Users manually enter a Score based on the following information:

- Available hours for that Role during that period.
- The overall percent of the Demand's work that this resource is responsible for.

When a Score is assigned, a weighted score is applied to a Score Calculated Field; this field is used in the overall Demand Score.

Risk Score

Each PPM Risk is assigned an Impact from 0 to -5, and a Probability from 10% to 90%. The Impact and Probability Fields are manually entered on each Risk, and negatively affect the overall Demand score. A weighted score is applied to a Risk Score Weight Field; the calculation used is (Probability * Impact).

Scoring of Demand Score Quadrants and Overall Demand Score

Business Value Score Quadrant

The Business Value Score is an average of all the Benefit Items' Benefit if Done Fields.

Financial Score Quadrant

Financial Score is based on ROI% and is assigned a score from 0 to 5, calculated as follows:

- Equal or less than 19% = 0
- Between 20% and 39% = 1
- Between 40% and 69% = 2
- Between 70% and 89% = 3
- Between 90% and 124% = 4
- Equal or Above 125% = 5

Resource Score Quadrant

Resource Score is a total of all the Score Calculated Fields from all Resource Items. The range is -2 to 2.

Risk Score Quadrant

Risk Score is a total of the Risk Score Weight Fields.

Overall Demand Score

The overall Demand Score is shown in the center of the Demand Scoring. The score is calculated using the sum of all four quadrants.

Related tasks

[PPM Resource Plan](#)

[PPM Benefit Plan](#)

[PPM Budget Plan](#)

[PPM Financial Assessment](#)

[PPM Risks](#)

PPM Demand Approval

When the information for the Evaluation phase has been completed, the Demand is ready for approval by the identified Stakeholders.



Note: This functionality is only available after you apply the mApp Solution.

The Approvers for Demands are determined by the Demand area and the Approvers for each Demand are displayed in the **Stakeholder** tab of the Form Arrangement. Approvers can choose to Approve the Demand, Deny it, or Abstain. Approvers can also choose to Defer the Demand if it has merit but is not appropriate for Portfolio inclusion at the time. Approvers receive an email with the Demand information and the email contains a link to complete the approval. If any of the Stakeholders deny the Demand, the Demand returns to the Evaluate phase and a Journal entry tracks the denied approval.

PPM Portfolio Review

Use the Portfolio Review phase to perform analysis of the success of completed Portfolios.



Note: This functionality is only available after you apply the mApp Solution.

When a Demand is approved (all Stakeholders approve) it moves to Portfolio Review. When the Demand enters the Portfolio Review phase, a placeholder Project is created and put in the Assessing phase. The information from the Demand is brought into the placeholder Project so Approvers can compare it against projects in progress.

In the Portfolio Review phase, you can use the My Portfolio Dashboard to evaluate current status of your Portfolios.

To view Demands awaiting approval:

1. Right-click the Demand in the **Demand for Consideration** section of the Dashboard.
2. Select **Actions**.
3. Select **Add to Portfolio**. You can now see the updated values for Portfolio budgets and revenue. In Portfolio Review phase, you can adjust the cost and budget of the Demand to better fit into the available Portfolio figures.
4. Right-click the moved Project; under **Actions** you can select to move it back to the **Demands for Consideration** section, or select **Commit to Portfolio**.
5. If you chose to commit the Project to the Portfolio, refresh the Dashboard to see updated numbers.
6. At this point, a Project Manager can begin work on the Project. The Demand moves to a Closed status and the Project is in New status.

When the Demand is in Closed status, the status change options are: Defer the Demand, Modify the Demand, or Accept the Demand. If the Demand is deferred, the status is set to Deferred. The One-Step™ Action *Set to Portfolio Review* will return the status to Portfolio Review. Modifying the Demand returns the Demand to the Evaluation phase.

PPM Projects

Projects can be created independent of an associated Demand depending on customer business processes.



Note: This functionality is only available after you apply the mApp Solution.

Once a PPM Demand is accepted into a Portfolio, the Project created during the Portfolio Review phase changes status from Assessing to New. The Project Form is used to track status through the lifecycle of the PPM Project. Information from the associated Demand (Planned effort, budget items, resource plan, benefit plan, risks) rolls into the Project.

Project Phases

There are no controls or requirements for moving from phase to phase within a PPM Project; the statuses let you track the Project through its lifecycle. The following are Project statuses:

- **Assessing:** When the associated Demand is in Portfolio Review, the Project is in the Assessing phase. It allows for side-by-side review with other Projects in the Portfolio.
- **New:** The Demand has been added to a Portfolio.
- **Staffing:** Adding individual Resources to the Project.
- **Scheduled:** Staffed but not yet active.
- **Executing:** Project is in progress.
- **Closed:** Project completed.

Create a PPM Project

Create a new Project to add supporting information and plan the staffing and resources necessary to complete the Project. You can do this during the New and Staffing phases.




Note: This functionality is only available after you apply the mApp Solution.

Create a Project from the CSM Desktop Client or CSM Browser Client (**New > New PPM Project**).

1. Provide a name and select an Area from the drop-down list.
2. Add a description (optional) and select a Requester.
3. Select an Assigned Team and an Assigned To from the drop-down lists.
4. Select a Site from the drop-down list.
5. Select a Portfolio and Program Name, if applicable.
The Portfolio, Program (if applicable), and Demand tabs are links to the parent record information.
6. The Planned Start and Planned End Date Fields are initially populated from the associated fields in the Demand. Going forward, these dates are populated based on the dates in the '0' Outline Task once Project Tasks are imported. These will change with each import update as appropriate.
7. Select Actual Start and End Dates.
8. The Planned Effort Field is initially populated based on the Resource Plans created in the Demand. As Project Tasks are created, the '0' Outline Task provides the overall Planned Effort number (Effort Field in that Summary Task).
9. The Projected Remaining Effort Field is the Planned Effort minus Actual Effort.
10. The Actual Effort Field is based on the sum of Task Summary times in the weekly Timesheets.

Provide supporting information in the Form Arrangement.

11. The Resource Plan tab contains Resource Items populated from the Demand. You can add more Resource Items here, but it will not affect the Demand baseline. Individual Resources are assigned in PPM Project Tasks.
12. The Benefit Plans tab contains Benefit Items populated from the Demand. You can add more Benefit Items here, but it will not affect the Demand baseline.
13. Enter additional Budget Items in the **Budget Items** tab.
Once Budget Items transfer into a Project, fields labeled *Remaining* below the quarterly budget breakdown figures show the budget remaining after Cost Items have been applied. An alert icon  will identify any Budget Items with Cost Items that exceed the budgeted amount.
14. Enter Cost Items in the **Cost Items** tab. Cost items that do not have an associated Budget Item are identified with an alert icon. For more information, see [PPM Cost Items](#).
15. Enter Project Tasks in the **Project Tasks** tab. It is recommended that Project Tasks be created and updated with MS Project or Excel.
16. Enter Issues in the **Issues** tab. The **Open Issues** area of Project Health will reflect the number of open Issues for each health area based on the Issue Type. For more information, see [PPM Issues](#).

17. The Risks tab contains Risks rolled over from the Demand. You can add more Risks here, but it will not affect the Demand baseline.
18. Enter Action Items in the **Action Items** tab. For more information, see [Create PPM Action Items](#).
19. Use the Change Orders tab to accommodate Project needs that will affect scope, budget, or schedule.
20. Use the Change Requests tab to track associated IT changes associated with the Project (example: Install a new Server).
21. Use the Project Task Import tab to import information exported from Microsoft Project or Excel. For more information, see [Import Project Info](#).
This tab is only available on the CSM Browser Client.
22. Select **Save**.

The Project Health Widget provides a view from the Project Manager perspective of the three key areas that are indicators of overall project health: Budget, schedule, and scope. You must manually change this Widget.

Related concepts

[PPM Project Health](#)

Related tasks

[Evaluate a PPM Demand](#)

[PPM Project Tasks](#)

[PPM Risks](#)

[PPM Change Order](#)

PPM Cost Items

Cost Items are tracked costs related to ongoing project expenses.



Note: This functionality is only available after you apply the mApp Solution.

Cost Items may or may not directly tie to a Budget Item. If a Cost Item does match a Budget Item (Type and Cost Type) the cost will be tracked against that Budget Item. Once you enter the Cost Items, you can refresh the Budget Items to see the changes. You can apply costs to a certain quarter of a budget so you can see run rates. All the Cost Items populate to the **Cost** section of the **Project** pane.

To create a PPM Cost Item:

1. In the **Cost Items** tab, select **New Cost Entry**.
2. Enter Details (example: Server) and choose a Type from the drop-down list.
3. Choose a Cost Type option.
4. Choose a Budget from the drop-down list.
This drop-down list is populated with Budget Items that match the Type and Expense for the Cost Entry. If Budget is empty, the Type and Capital Expense/Operational Expense do not match an existing Budget Item. You can add a new Budget Item or Change Order, or the Cost can be tracked without a Budget Item.
5. Enter a Total Cost and select a Quarter from the drop-down list.
6. Select **Save**.

Impact of Cost Items on Budget Items

If the Cost exceeds the Budgeted amount for the year, an alert appears by the Budget Item.

Cost Items with No Matching Budget Item

If a Cost Item does not have a matching Budget Item, it will be highlighted with the hazard marking for potential Project Management attention. A possible solution is to initiate a Change Order requesting additional budget.

PPM Issues

PPM Issues have a simple workflow of New, In Progress, and Closed.



Note: This functionality is only available after you apply the mApp Solution.

The Type Field populates into the Project Health numbers.

To create a PPM Issue:

1. In the **Issues** tab, select **New PPM Issue**.
 - a. Enter a Title and Description (optional).
 - b. Select a Type from the drop-down list.
The Type you choose will reflect in the Project Health Widget.
 - c. (Optional) Select an Assigned Team and an Assigned To from the drop-down lists.
 - d. Select an Open Date and Expected Resolution Date.
 - e. Select the **Impact To Scope** and/or **Identified as a Risk** check boxes, if necessary.
 - f. Select a Priority from the drop-down list.
2. (Optional) Select a Date Completed and Disposition.
3. (Optional) Provide an Action Plan.

Related concepts

[PPM Project Health](#)

PPM Action Items

PPM Action Items have a simple workflow of New, In Progress, and Closed; although there are no controls for moving from phase to phase.



Note: This functionality is only available after you apply the mApp Solution.

Project and Project Manager are automatically populated with the parent Project information.

To create an Action Item:

1. In the **Action Items** tab, select **New PPM Action Item**.
2. Enter a Title and Description (optional).
3. (Optional) Assign a Priority.
4. (Optional) Enter a Date Opened and Target Date.
5. (Optional) Select an Assigned Team and an Assigned To from the drop-down lists.
6. (Optional) Enter a Closed Date and provide Resolution Details.
7. Select **Save**.

PPM Change Order

Use Change Orders for changes in Project duration, effort, or budget.



Note: This functionality is only available after you apply the mApp Solution.

Change Orders have a simple workflow of Initial, Evaluation, Review, and Closed; although there are no controls for moving from phase to phase.

To create a PPM Change Order:

1. In the **Change Orders** tab, select **New PPM Change Order**.
2. Select a Sponsor and provide a Change Order Title.
3. The Project Field is automatically populated based on the parent object.
4. (Optional) Select a Required By date and the Estimated Additional Effort (in hours).
5. (Optional) Enter a Description.
6. (Optional) For each section (**Scope**, **Budget**, and **Schedule**), select the **Yes** or **No** check box and provide details for impacts for the Change Order.
7. (Optional) Enter any necessary Comments.
8. Provide an Action and any Comments and then select **Save**.

PPM Project Tasks

Individual Resources are assigned at a PPM Project Task level.



Note: This functionality is only available after you apply the mApp Solution.

You can import Project information from Microsoft Project or Excel to create or update Project Task plans.



Note: Cherwell PPM does not support a bi-directional relationship and associated date updates to Project Tasks like MS Project can. For example, if you update a Project Task date or effort, CSM does not modify the associated successor tasks with new information based on the Project Task update.

If Project Tasks (example: change assignment, effort, start/end dates) are updated in CSM, these updates will only reside in CSM and will be overlaid if there is an update activity initiated from MS Project.

We recommend you use one of the two following methods for creating and maintaining your Project Tasks:

- Use MS Project/Excel for new and update activities for CSM Project Tasks.
- Use MS Project/Excel to create the new CSM Project Tasks and then all updates are done in CSM.

To manually create a PPM Project Task:

1. In the **Project Tasks** tab, select **New Project Task**.
2. Enter a Title.
3. Project automatically populates.
4. Select an owner (Assigned To).
The Role Field automatically populates based on the Assigned To Field.
5. (Optional) Select a Task Type and add a Description.
Use the Rich Text editor if necessary.
6. The Duration automatically calculates after entering the Scheduled Start and End Dates.
7. Enter an Outline Number.



Remember: There must be a "0" Outline Task. The information from this task will populate the Project start date, end date, and effort Fields in the Project. For other Project Tasks, provide an Outline number that is unique, sequential, and represents the relationship to other tasks (example: Task 1 is a parent task and it can have child tasks with outline numbers such as 1.1, 1.2, 1.3)

If you are manually creating Project Tasks, we recommend they be at a high level (not many levels deep with predecessors), because CSM will not modify the downstream impacted fields based on changed parent information.

8. (Optional) Enter the Effort hours and a Resource Percentage (this is informational only and does not impact the Effort Field).
9. Select Scheduled Start and End Dates.
10. (Optional) Select Actual Start and End Dates.
11. Hours Worked is automatically populated from the Time Entry process.
The Hours Worked Field populates up to parent tasks.
12. % Complete automatically populates from the Time Entry process, but can be changed.
13. Planned Remaining Effort automatically populates by calculated Effort minus Hours Worked.
The Planned Remaining Effort Field populates to parent tasks.
14. Est. Remaining Effort automatically populates from the Time Entry process (this is the resource's estimate of what effort is remaining, regardless of the planned effort or hours worked).
The Est. Remaining Effort Field populates to parent tasks.
15. Total Effort automatically populates by calculating Hours Worked plus Estimated Remaining Effort.
16. You can set up three Predecessors Tasks, if necessary. Enter information for the following:
 - a. Predecessor Task name and Task Type.
 - b. Predecessor Name automatically populates. The Predecessor tab shows the Predecessor Tasks.

Related concepts[Import Project Info](#)

PPM Decision

Use Decisions for Project Managers' reference and as a historical record.



Note: This functionality is only available after you apply the mApp Solution.

To create a Decision:

1. In the **Decisions** tab, select **New PPM Decision**.
2. Provide a Title and Details (optional).
3. Select an Owner and the date the Decision was made.
4. Select **Save**.

Import Project Info

Import an .xml file from Microsoft Project or .csv file from Microsoft Excel to populate information into Cherwell PPM.

This is an ideal solution for project managers to build and manage the WBS in Project or Excel, but manage Resources and Demands in CSM. Project managers can continue to maintain the WBS in Project and periodically import the updated files into CSM.



Note: You may need to import large projects as a Scheduled Item due to time limit constraints. See [Create a Scheduled Item](#).

Maintain Project Task Information

Typically, you modify items that impact schedule or resources in Microsoft Project and re-import. If you make updates in Cherwell PPM, it will not be reflected in Microsoft Project. Modifications made in PPM do not flow down to dependencies (example: Resource changes).



Important: Imports from Microsoft Project and Microsoft Excel (.csv) cannot successfully process PPM Resources (created from users) that have commas or special characters as part of the string. For example, a User Full Name of Smith, Joseph will not be allowed in the Resource field of Microsoft Project. Microsoft Excel (.csv) reads the comma as a delimiter and fails to process imports correctly.

Use Microsoft Project with Cherwell PPM

Use Microsoft Project to create and update your CSM Project Tasks and harness the power of Microsoft Project to automatically adjust dates, effort, and duration for the creation of new plans or updating existing project tasks.



Note: This functionality is only available after you apply the mApp Solution.

CSM does not have the ability in this version to cascade appropriate updates across dependent project tasks.

A sample Microsoft Project template is provided with the Cherwell PPM .zip file.

Good to Know

- Integration between CSM and Microsoft Project is single direction (Microsoft Project to CSM).
- The import activities are initiated from within an existing CSM Project.
- Microsoft Project plans are saved as .xml documents for import into CSM.
- If Project Tasks are updated in CSM (example: change assignment, effort, start/end dates) these updates will only reside in CSM and will be overlaid if there is an update activity initiated from Microsoft Project.

Overview

Create a New Task Plan for a CSM Project:

1. Create a Microsoft Project plan following the instructions below for key areas (example: Outline Number).
2. Save the plan in .xml format.
3. Select the **Import Project** link in the PPM Project.

Update existing Project Tasks:

1. In Microsoft Project, apply the updates required. These can include adding new tasks, deleting existing tasks, modifying predecessors, and changing effort.
2. Save the plan in .xml format.
3. Select the **Update Project** link in the PPM Project.

Key Concepts

1. A '0' Outline Summary task is required to be the first Project plan line. This can be enabled by selecting **Project Summary Task** in the **Format** tab of Microsoft Project. The Duration, Effort, and

Dates are populated from this line and provide the totals and start/end information for the overall project.

- There can only be one Resource per Task. If two Resources will be working on the same activities, two different tasks are required, with one resource each.
- Up to three prerequisites can be captured and included with the Project Task. These will be seen in CSM in the associated Project Task Fields and in linked tabs.
- Resource Names must match the Resource Names in the PPM solution. In the example, the Resource table was exported from CSM, and the Resource names were pasted into the Microsoft Project Resource sheet to ensure a match. If you wait to add resources to Project Tasks in CSM, you will need to manually populate the Effort Field since this is not a calculated field. It is assumed that Effort will populate from Microsoft Project. Task Effort is not populated in Microsoft Project unless a Resource is assigned, so the Effort Field in the CSM Project Task will also be 0.

Task ID	Task Name	Duration	Work	Start	Finish	Predecessors	Resource Names
0	Business Continuity Project	76 days	984 hrs	Mon 11/27/17	Thu 3/15/18		
1	Analysis	17 days	176 hrs	Mon 11/27/17	Fri 1/26/18		
2	Business Impact Analysis	10 days	80 hrs	Mon 11/27/17	Fri 12/8/17		Pete Process
3	Threat and Risk Analysis	10 days	80 hrs	Mon 11/27/17	Fri 12/8/17		Brian BEM
4	Impact Scenarios	10 days	80 hrs	Mon 12/11/17	Fri 12/22/17	3	Brian BEM
5	Recovery Requirement	10 days	80 hrs	Wed 12/27/17	Wed 1/30/18	4	Brian BEM
6	Documentation	7 days	56 hrs	Thu 1/11/18	Fri 1/26/18	5,2,4	Brian BEM
7	Analysis Complete	0 days	0 hrs	Fri 1/19/18	Fri 1/26/18	6	
8	Solution Design	17 days	240 hrs	Mon 1/22/18	Tue 2/13/18	1	
9	Crisis Management command structure	3 days	24 hrs	Mon 1/22/18	Wed 1/24/18		Pete Process
10	Secondary work sites	4 days	32 hrs	Thu 1/25/18	Tue 1/30/18	9	Brian BEM
11	Telecom architecture	5 days	40 hrs	Mon 1/29/18	Fri 1/26/18		Neil Network
12	Physical data requirements	10 days	80 hrs	Wed 1/31/18	Tue 2/13/18	11,10	Brian BEM
13	Data Replication	8 days	64 hrs	Mon 1/22/18	Wed 1/30/18		
14	Critical Applications	3 days	24 hrs	Mon 1/22/18	Wed 1/24/18		Anna Arch
15	Key Executive Data	5 days	40 hrs	Thu 1/25/18	Wed 1/30/18	14	
16	Global	2 days	16 hrs	Thu 1/25/18	Fri 1/26/18		Anna Arch
17	Regional	3 days	24 hrs	Mon 1/29/18	Wed 1/31/18	16	Anna Arch
18	Design Complete	0 days	0 hrs	Tue 2/13/18	Tue 2/13/18	11,12,1	
19	Implementation	15 days	256 hrs	Wed 2/14/18	Tue 3/6/18	8	
20	Policy Changes	6 days	48 hrs	Wed 2/14/18	Wed 2/21/18		Pete Process
21	Policy Changes	4 days	32 hrs	Wed 2/14/18	Mon 2/19/18		Wanda Webb
22	Material acquisitions	10 days	80 hrs	Wed 2/14/18	Tue 2/27/18		Paula PM[50%]
23	Staffing	4 days	32 hrs	Wed 2/28/18	Mon 3/5/18	22	Paula PM[50%]
24	System Modifications	15 days	120 hrs	Wed 2/14/18	Tue 3/6/18		Steve Sr
25	Implementation Complete	0 days	0 hrs	Tue 3/6/18	Tue 3/6/18	24	
26	Testing	7 days	112 hrs	Wed 3/7/18	Thu 3/15/18	19	
27	Crisis command team call-out testing	4 days	32 hrs	Wed 3/7/18	Mon 3/12/18		Paula PM[50%]
28	Technical swing test for primary and secondary locations	5 days	40 hrs	Wed 3/7/18	Tue 3/13/18	18	Anna Arch
29	Application test	2 days	16 hrs	Wed 3/7/18	Thu 3/8/18		Steve Sr
30	Business Process Test	5 days	40 hrs	Fri 3/9/18	Thu 3/15/18	29	Brian BEM
31	Integration testing complete	0 days	0 hrs	Thu 3/15/18	Thu 3/15/18	30	

Create a New Project Task Plan from Microsoft Project in the CSM Desktop Client

Use the Desktop Client to import a new Project Task Plan (to create new Project Tasks). Assignment, Dates, Predecessors, Duration, Effort, and Title fields are populated in the Project Task based on the Microsoft Project Plan task information.



Note: This functionality is only available after you apply the mApp Solution.

Use the **Import Project** link in the CSM Desktop Client.

To import a new Project Task plan from Microsoft Project:

1. Save the Microsoft Project file in .xml format.
2. Open CSM and access the Project you want to update.
3. Select the **Import Project** link (under **Actions**).
4. When prompted, browse for the .xml file and select **OK**.
When the import is complete, the Project Task tab will show the newly created Project Tasks. The Import Project link is replaced with an Update Project link.

Update Task Plan from Microsoft Project in the CSM Desktop Client

Use the Desktop Client to update an existing Project Task Plan. After you modify the Project Plan in Microsoft Project, you can update the Project Tasks in CSM using the **Update Project** link.



Note: This functionality is only available after you apply the mApp Solution.

CSM uses the Unique ID Field from Microsoft Project to update, create, and delete Project Tasks.

To update a Task Plan from Microsoft Project using the CSM Desktop Client:

1. Modify the MS Project plan with the updates for the Project Tasks.
2. Save the Microsoft Project file in .xml format.
3. Open CSM and open the Project you want to update.
4. Select the **Update Project** link (under **Actions**).
5. When prompted, browse for the .xml file and select **OK**.

Create a New Project Task Plan from Microsoft Project in the CSM Browser Client

Use the Browser Client to import a new Project Task Plan. This creates new Project Tasks and populates certain fields based on the Microsoft Project Plan task information.



Note: This functionality is only available after you apply the mApp Solution.

Use the **Import Project** link in the CSM Browser Client.

To import a new Project Task plan from Microsoft Project:

1. Save the Microsoft Project file in .xml format.
2. Open CSM and access the Project you want to update.
3. Open the .xml file in a text editor program (example: Notepad) and copy the data.
4. In the **Project Task Import** tab, paste the data into the **Full Text for Import** Field.
5. Select the **Import Project** link (under **Actions**).
When the import is completed, the Project Task tab will show the newly created Project Tasks. The Import Project link is replaced with an Update Project link.

Update Task Plan from Microsoft Project in the CSM Browser Client

Use the Browser Client to update an existing Project Task Plan. After you modify the Project Plan in Microsoft Project, you can update the Project Tasks in CSM using the **Update Project** link.



Note: This functionality is only available after you apply the mApp Solution.

CSM uses the Unique ID Field from the MS Project to update, create, and delete Project Tasks.

To update a Task Plan from Microsoft Project using the CSM Browser Client:

1. Modify the Microsoft Project plan with the updates for the Project Tasks.
2. Save the Microsoft Project file in .xml format.
3. Open CSM and open the Project you want to update.
4. Copy and paste the xml code into the **Project Task Import** tab.
5. Select the **Update Project** link (under **Actions**).

Use Microsoft Excel with Cherwell PPM


Use Microsoft Excel to create and update your CSM Project Tasks and use the template provided with the Cherwell PPM .zip to lay out your project plan in a spreadsheet format.



Note: This functionality is only available after you apply the mApp Solution.

Unlike Microsoft Project, project task line items will not automatically update based on dependencies.

Good to Know

- Integration between CSM and Microsoft Excel is single direction (Microsoft Excel to CSM).
- The import activities are initiated from within an existing CSM Project.
- Microsoft Excel plans are saved as .csv documents for import into CSM.
- If Project Tasks are updated in CSM (example: change assignment, effort, start/end dates), these updates will only reside in CSM and will be overlaid if there is an update activity initiated from Microsoft Excel.
-  **Important:** Values in cells cannot have a trailing space (whitespace at the end of a value). Ensure you remove any trailing spaces in the .csv values prior to import, or the import process will fail.

Overview

Create a New Task Plan for a CSM Project:

1. Create a Microsoft Excel plan following the instructions below for key areas (example: Outline Number).
2. Save the plan in .csv format.
3. Select the **Import Project from Excel (CSV)** link in the PPM Project (under **Actions**).

To update existing Project Tasks:

1. In Microsoft Excel, apply the updates required. These can include adding new tasks, deleting existing tasks, modifying predecessors, and changing effort.
2. Save the plan in .csv format.
3. Select the **Update Project from Excel (CSV)** link in the PPM Project (under **Actions**).

Key Concepts

For Microsoft Excel project plans, all of the fields need to be manually populated.

1. The Project ID is the existing PPM Project ID.
2. The Project Task UID must be a unique number because it is used during updates (add, modify, delete) and is the relational field between Cherwell PPM and Microsoft Excel.
3. Outline Number:
 - A '0' Outline Summary task is required to be the first project plan line. The Duration, Effort, and Dates are populated from this line and provide the totals and start/end information for the overall project on the PPM Project record.
 - Other Outline numbers indicate Task Types (example: 1 is a Parent, 1.1 is a Child)
4. Duration, Effort, Scheduled Start Date, and Scheduled End Date are used by the associated fields in the CSM Project Task.
5. The Resource must match the Resource Name in CSM.
6. Enter a Utilization Percent.
7. Up to three Predecessors can be captured and included with the Project Task. The values in these fields are the appropriate Project Task UIDs. These will be populated in CSM in the associated Project Task Fields and in linked tabs.
8. Save as a .csv file (for the import into CSM).

Project ID	Project Task UID	Outline Number	Title	Duration (H)	Effort (hours)	Scheduled Start Date	Scheduled End Date	Resource	Utilization Percent	Predecessor Task UID 1	Predecessor Task UID 2	Predecessor Task UID 3
IT-94	0	0	App Decommissioning - DOPAC	500	160	3/1/2018	6/8/2018		100	0	0	0
IT-94	1	1	Analysis Activities	80	80	3/1/2018	3/30/2018	Brenda Business Engagement Manager	100	0	0	0
IT-94	2	1.1	Business Analysis (user base)	80	80	3/1/2018	3/15/2018	Sam Sr Dev	100	0	0	0
IT-94	3	1.2	System Data	56	56	3/19/2018	3/22/2018	Brenda Business Engagement Manager	100	0	0	0
IT-94	4	1.3	Documentation	0	0	3/30/2018	3/30/2018		100	0	0	0
IT-94	5	1.4	Analysis Complete and Reviewed	100	200	5/3/2018	5/31/2018		100	0	0	0
IT-94	6	2	Implementation	40	40	5/3/2018	5/10/2018	Sam Sr Dev	100	5	0	0
IT-94	8	2.1	Technical - Data migration/storage	24	24	5/14/2018	5/21/2018	Brenda Business Engagement Manager	100	5	0	0
IT-94	9	2.2	Communication	40	96	6/4/2018	6/8/2018		100	0	0	0
IT-94	23	3	Testing	32	16	6/4/2018	6/8/2018	Sam Sr Dev	100	8	0	0
IT-94	24	3.1	Data Access									

Create a New Project Task Plan from Microsoft Excel in the CSM Desktop Client

Use the Desktop Client to import a new Task Plan. This creates new Project Tasks and populates certain fields based on the Microsoft Excel Task information.



Note: This functionality is only available after you apply the mApp Solution.

Use the **Import Project from Excel (CSV)** link in the CSM Desktop Client.

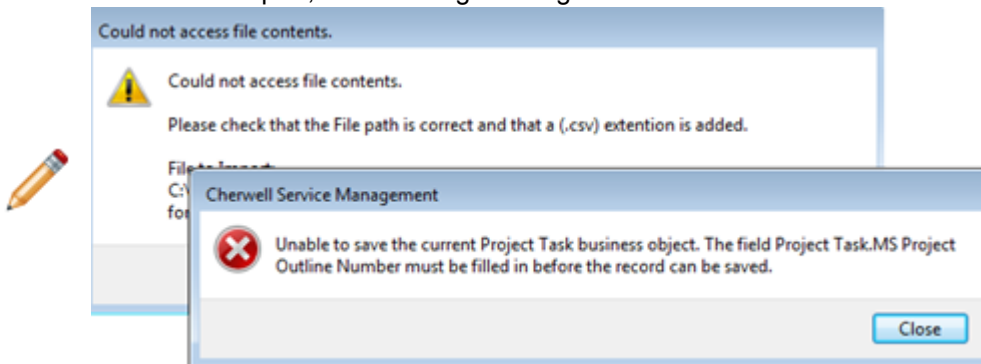
To create a new Task Plan from Microsoft Excel:

1. Save the Microsoft Excel file in .csv format.
2. Open CSM and access the Project you want to update.
3. Select the **Import Project from Excel (CSV)** link (under **Actions**).
4. Browse for the .csv file and select **OK**.

The .csv file cannot be open during this process, or the import will fail.

When the import is complete, the Project Task tab will show the newly created Project Tasks. The **Import Project** link is replaced with the **Update Project from Excel (CSV)** link.

Note: The most common error occurs when the Excel template is not modified to reflect the accurate CSM Project ID. If the Project ID in the CSV does not match the CSM Project ID that initiates the import, the following message will occur:



If you get an error on the import, delete any Project Tasks that were created prior to retrying. You will know this is the case if the import link says *Update* instead of *Import*.

Update Task Plan from Microsoft Excel in the CSM Desktop Client

CSM uses the Unique ID Field from the Microsoft Excel spreadsheet to update, create or delete Project Tasks.



Note: This functionality is only available after you apply the mApp Solution.

If Project Tasks are updated in CSM (example: change assignment, effort, start/end dates) these updates will only reside in CSM and will be overlaid if there is an update activity initiated from Microsoft Excel. We recommend one of the following:

1. Microsoft Excel is used for new and updated activities for CSM Project Tasks
2. Microsoft Excel is used to create the new CSM Project Tasks and then all updates are done in CSM.

To update a Task Plan from Microsoft Excel in CSM Desktop Client:

1. In Microsoft Excel, apply the updates required. These can include adding new tasks, deleting existing tasks, modifying predecessors, and changing effort.
2. Save the Microsoft Excel file in .csv format.
3. Open CSM and access the Project you want to update.
4. Select the **Update Project from Excel (CSV)** link (under **Actions**).
5. When prompted, browse for the .csv file and select **OK**.

Create a New Project Task Plan from Microsoft Excel in the CSM Browser Client

Use the Browser Client to import a new Project Task Plan. This creates new Project Tasks and populates certain fields based on the Microsoft Excel task information.



Note: This functionality is only available after you apply the mApp Solution.

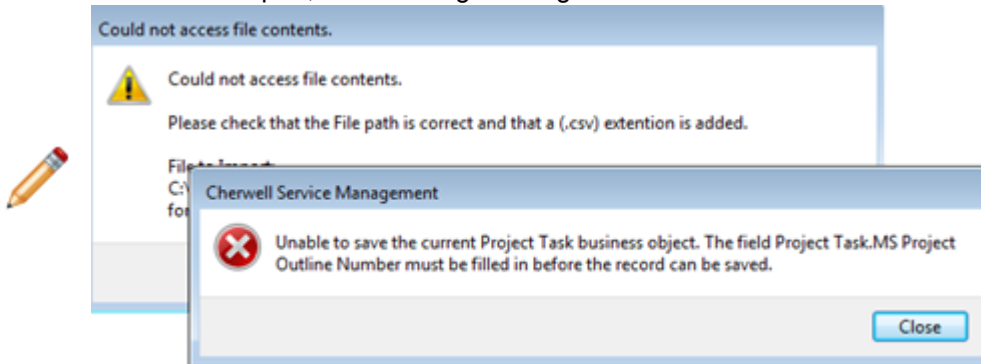
Use the **Import Project from Excel (CSV)** link in the CSM Browser Client.

To create a new Task Plan from Microsoft Excel:

1. Save the Microsoft Excel file in .csv format.
2. Open CSM and access the Project you want to update.
3. Open the .csv file in a text editor program (example: Notepad) and copy the data.
4. In the **Project Task Import** tab, paste the data into the **Full Text for Import** Field.
5. Select the **Import Project from Excel (CSV)** link (under **Actions**).

When the import is complete, the Project Task tab will show the newly created Project Tasks. The **Import Project** link is replaced with an **Update Project from Excel (CSV)** link.

Note: The most common error occurs when the Excel template is not modified to reflect the accurate CSM Project ID. If the Project ID in the CSV does not match the CSM Project ID that initiates the import, the following message will occur:



If you get an error on the import, delete any Project Tasks that were created prior to retrying. You will know this is the case if the import link says *Update* instead of *Import*.

Update Task Plan from Microsoft Excel in the CSM Browser Client

Use the Browser Client to update an existing Project Task Plan. After you modify the Project Plan in Microsoft Excel, you can update the Project Tasks in CSM using the **Update Project** link.



Note: This functionality is only available after you apply the mApp Solution.

Use the **Update Project** link in the CSM Browser Client.

If Project Tasks are updated in CSM (example: change assignment, effort, start/end dates) these updates will only reside in CSM and will be overlaid if there is an update activity initiated from Microsoft Excel. We recommend one of the following:

1. Microsoft Excel is used for new and updated activities for CSM Project Tasks
2. Microsoft Excel is used to create the new CSM Project Tasks and then all updates are done in CSM.

To update a Task Plan from Microsoft Excel in CSM Browser Client:

1. In Microsoft Excel, apply the updates required. These can include adding new tasks, deleting existing tasks, modifying predecessors, and changing effort.
2. Save the Microsoft Excel file in .csv format.
3. Open CSM and access the Project you want to update.
4. Select the **Update Project from Excel (CSV)** link (under **Actions**).

PPM Project Health

Use the Project Health Widget (in the Project Details Dashboard) to track the overall project status.



Note: This functionality is only available after you apply the mApp Solution.

Select the link to change the color/status, depending on your organization's perception of the project health:

- Green: On Track
- Orange: At Risk
- Red: Off Track

When Issues associated with a Project have a Type selected, the selected Type is mapped to Health areas. The open Issues listed in the Widget are a quick reference for the Project Manager. It is still up to the Project Manager's to decide if the Issues are a significant enough impact to move the health sliders to yellow or red.

The slider categories are driven by the classifications of PPM Issues:

- Budget Health is driven by PPM Issues classified as budget/cost and projected benefit.
- Schedule Health is driven by PPM Issues classified as resources and schedule.
- Scope Health is driven by PPM Issues classified as change management, design, external, integration, organizational, quality, and resistance.

Use PPM Tasks

Add the Project Task and Timesheet Widgets into your existing My Work Dashboard (or any Dashboard you have created to track your work).



Note: This functionality is only available after you apply the mApp Solution.

As a PPM Resource, use the My Work Dashboard to view your Project-related work.

When performing Project-related work, use the Project Tasks and My Project Timesheet objects on the Dashboard. Select Tasks to work on from the **My Project Tasks** section. Open the Task to see detailed information, such as expected effort and predecessors.

After you perform Project Task work, you need to update the Task.

To update the Task:

1. Double-click the Task to open it.
2. Add appropriate information in the Description Field about the Project Task work performed.
3. Populate Actual Start and Actual End information during the Project Task lifecycle.
4. When finished with the Task, move it to Closed status.

Use PPM Timesheets

Use Timesheets to log time for Project Tasks.



Note: This functionality is only available after you apply the mApp Solution.

In a given week, you may have several different Tasks you're working on, but you can account for all Task in one Timesheet. However, the Timesheet is only for Project-related work, not Incidents and Service Requests.

Only the Task owner can enter hours against the Task. Timesheets are generated weekly for all Resources, but they are automatically deleted after a month if they do not have any time entered.

To fill out a PPM Timesheet:

1. From the **My Work** Dashboard, open the Timesheet for the Task you want to log time against.
2. In the **Task Summary** tab, select **New Task Summary**. Add additional summaries for each Project Task that requires time logged against it.
3. Select **Task Search**.
The **Project Task Selector** displays. This list contains all the Project Tasks owned by the logged-in Resource.
4. Select the Project Task you want to log time against.
 - a. Select **New Task Summary** in the **Task Summary** tab. The Task ID, Project Name, Project Manager, Estimated Remaining Effort, and Percent Complete automatically populate.
 - b. Enter time for each day as appropriate.
Enter time reporting in a way most convenient for you; day by day or end of week. Time will not be applied to the Timesheet until you select **Submit Hours**. You can return to this screen to edit the hours as needed until you submit the Timesheet (not the Task Summary record).
 - c. The Est Remaining Effort (Hours) will default to the Remaining Effort within the Project Task record. This field should be updated by the Resource entering time to reflect the new estimated remaining effort for the Task. Percent Complete should also be populated. If the Est Remaining Effort (Hours) plus the hours entered are greater than the original task estimate, an alert icon appears by the Task to alert the Project Manager.
 - d. Select **Submit Hours** when hours have been entered for the Task Summary. If there are multiple Task Summaries, each must be submitted individually. The time from the summary record will be added to the Timesheet.

Next, the Project Manager for the associated projects is reviewed and committed and the reported time is posted to the Task (along with the Estimated Remaining Effort and Percent Complete).

PPM Dashboards

Cherwell PPM offers several OOTB Dashboards.



Note: This functionality is only available after you apply the mApp Solution.

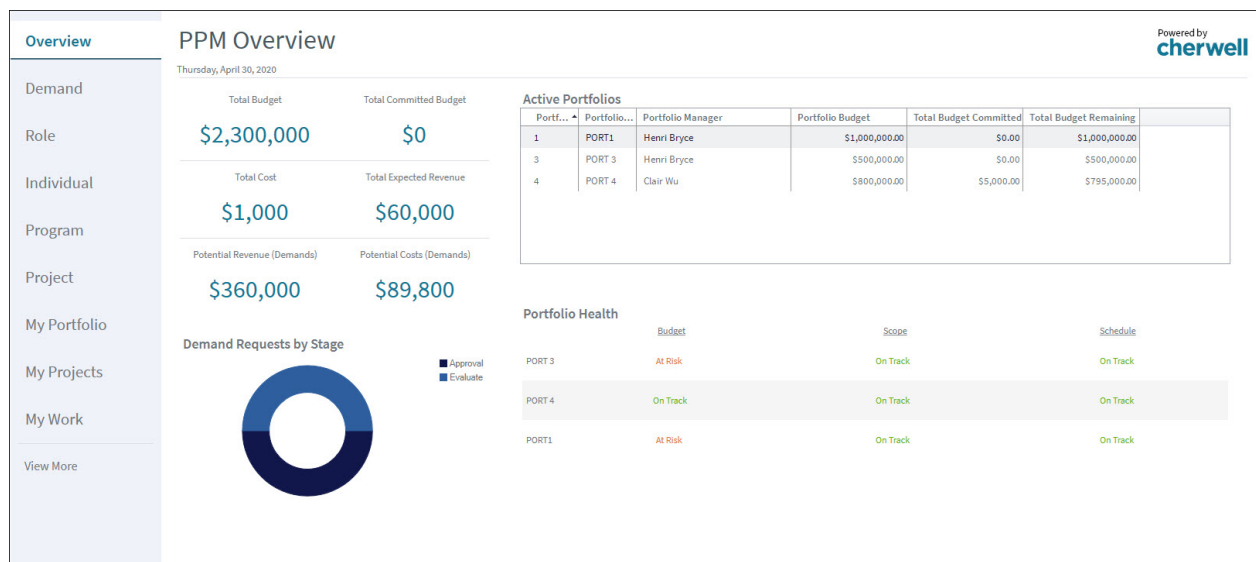
When viewing a PPM Dashboard, PPM-related Dashboards appear in a sidebar for easy access.

PPM provides the following OOTB Dashboards:

- PPM Overview
- Demand Management
- Resource Management - Role
- Resource Management - Individual
- Program Details
- Project Details
- My Portfolio Details
- My Projects
- My Work

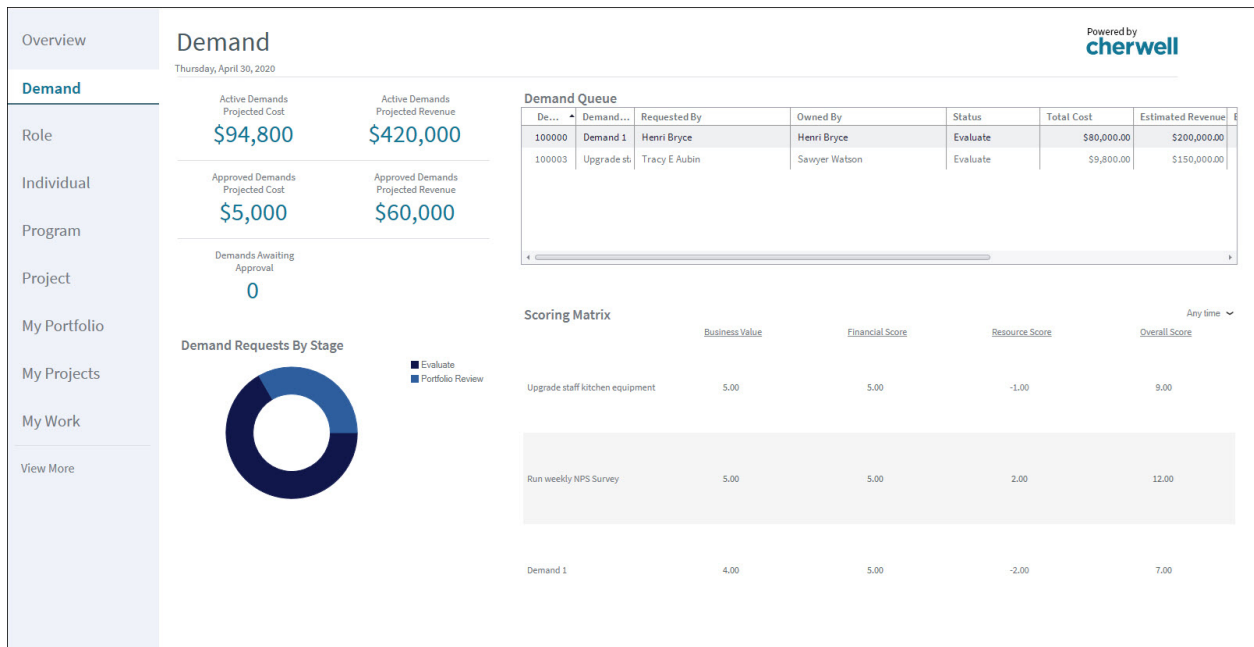
PPM Overview

The PPM Overview Dashboard provides a snapshot into the organization's overall PPM scope. The rollup includes Budget, Cost, and Revenue for all active Portfolios, as well as, potential Revenue and Cost of all in-flight Demands. The Dashboard allows you to easily drill-down into the details for more information on specific Portfolios or Demands.



Demand Management

The Demand Management Dashboard provides a high-level overview of all Demands in flight. Compare the total projected Demand Costs against projected potential Revenue. Monitor Demands pending approval to follow up or take action as needed.



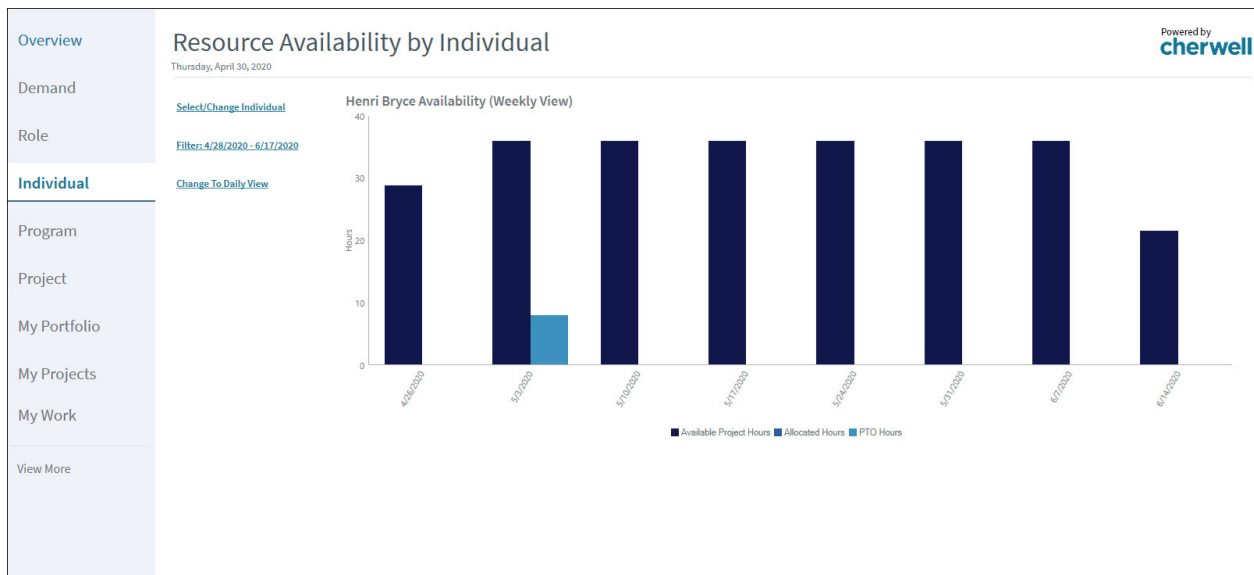
Resource Management - Role

1. Select **Select/Change Role** and select a Role from the **PPM Role Selector** window.
2. Select **OK**.
3. Enter a Start and End date.
The resulting graph will show a high-level view of available and allocated project hours for the selected role. Toggle between the weekly and daily view as needed.



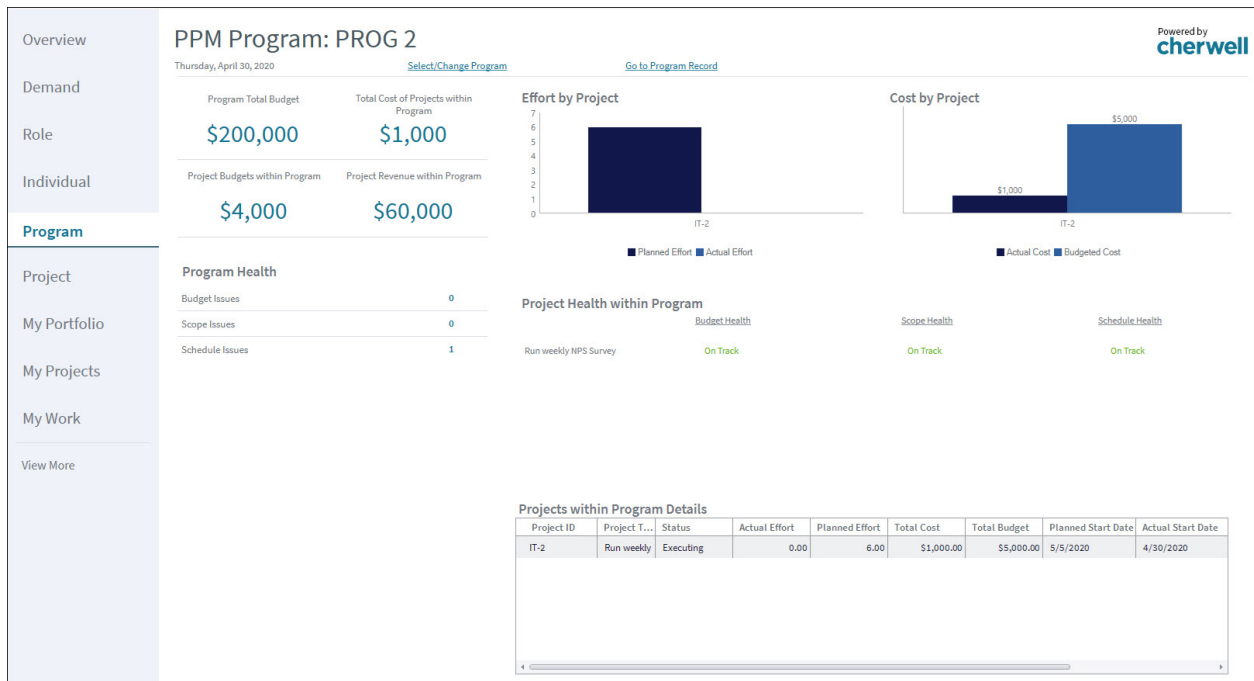
Resource Management - Individual

1. Select **Select/Change Individual** and select a Resource from the **PPM Resource Selector** window.
2. Select **OK**.
3. Enter a Start and End date.
The Work Week Hours and Operational Percent information for the Resource determine the hours available in the graph. Toggle between the weekly and daily view as needed.



Program Details

1. Select **Select/Change Program** and select a Program from the window to see a detailed view.



Project Details

1. Select **Select/change project** and select a Project from the window to see a detailed view.



Note: If you open a Project record and make changes, when you return to the Dashboard, you must reselect the Project to refresh the Widgets.

Overview

Demand

Role

Individual

Program

Project

My Portfolio

My Projects

My Work

View More

Project Details: Run NPS Survey

Thursday, April 30, 2020

Select/change project

Go to Project Record

Budgeted Cost

Actual Cost

Planned Hours

\$5,000

\$1,000

6

Actual Hours

Projected Remaining Hours

Tasks Starting This Week

0

6

1

Tasks at Risk

Tasks Behind Schedule

All Open Risks

1

1

0

All Open Issues

0

Project Health

Budget Issues

Scope Issues

Schedule Issues

0

0

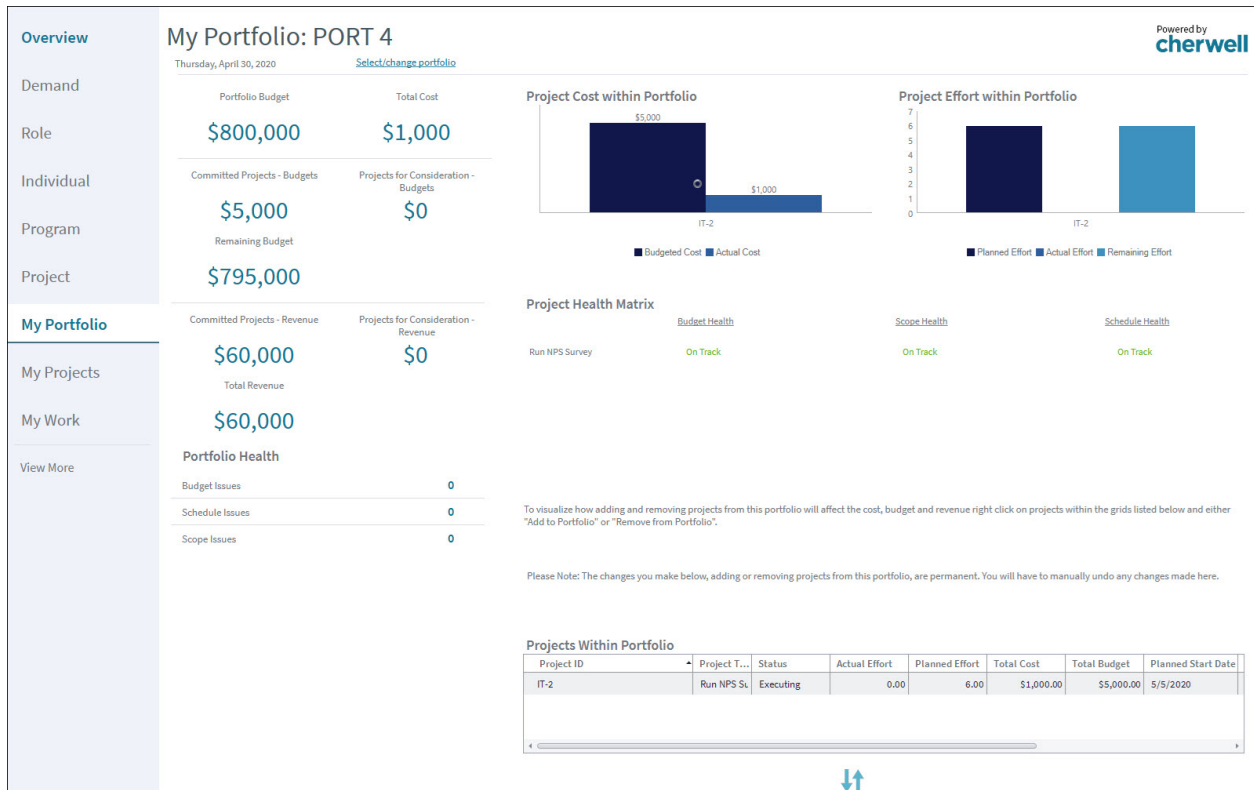
0

Project Tasks

Task ID	Task Title	Status	Duration (Ho...	Hours Worked	Owned By	Start Date	End Date	Task Type
100000	Create and	In Progress	2.00	0.50	Henri Bryce	4/30/2020	5/1/2020	Work
100001	Send 2nd S	Assigned	2.00	0.00	Henri Bryce	5/5/2020	5/6/2020	Work
100002	Send 3rd S	Assigned	2.00	0.00	Henri Bryce	5/12/2020	5/13/2020	Work

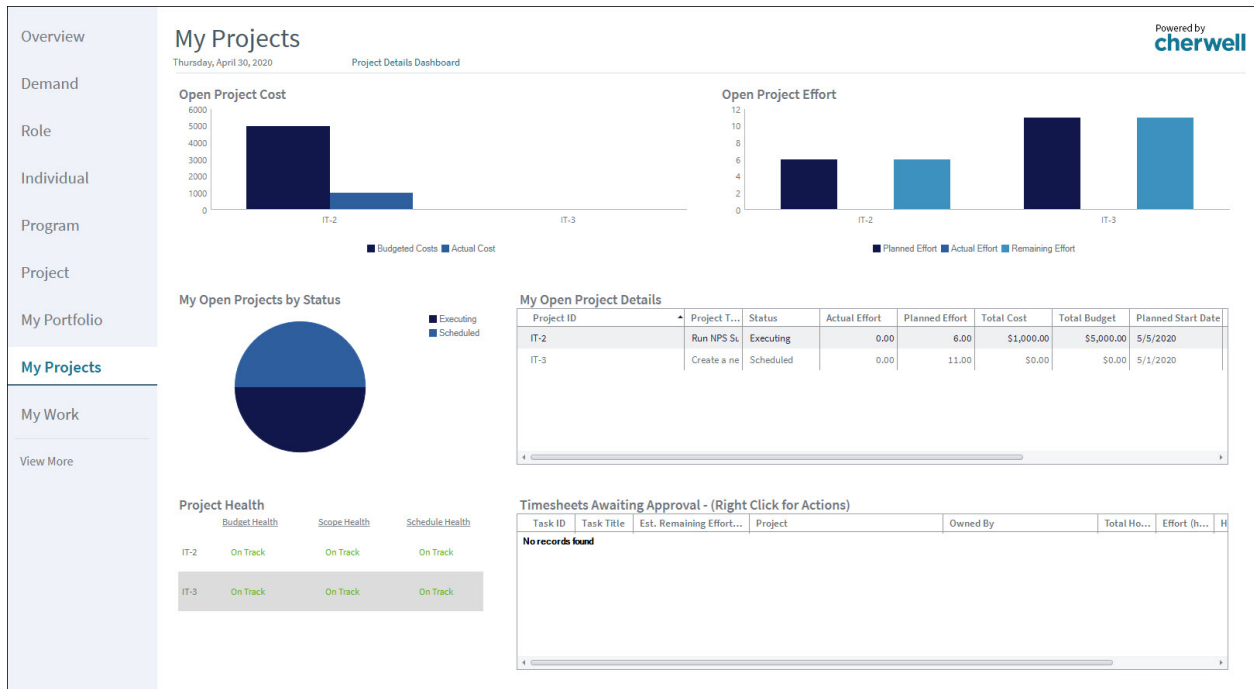
My Portfolio Details

1. Select **Select/change portfolio** and select a Portfolio from the window to see a detailed view. Use the **Demands for Consideration** section to move candidate Projects in and out of the Portfolio to see budget impacts.



My Projects

This Dashboard shows all the Projects for the logged-in Project Manager.



My Work Dashboard

My Work shows the logged-in user's Timesheets and Project Tasks, in addition to non-PPM work assigned via CSM.

Overview

Demand

Role

Individual

Program

Project

My Portfolio

My Projects

My Work

View More

My Work

Thursday, April 30, 2020

My VIP Requests

0

My Priority 1 Requests

0

All My Requests

3

My VIP Incidents

0

My Priority 1 Incidents

0

All My Incidents

5

My Operational Tasks

0

My Project Tasks

5

My Project Timesheets

0

My Teams Problems

2

My Teams Change Requests

11

My Operational Tasks

Task ID	Title	Owned By	Status	Description
No records found				

My Teams Operational Tasks

Task ID	Title	Owned By	Status	Description
10304	Check Email Ser		New	Please chec
10305	Bounce Exchan	Emma Carson	New	Bounce the
10309	UnBox a PC and		New	

Powered by

cherwell

My Incidents and Requests

Type	Assigned Team	ID	Customer Name	Created Date Time	Status
Incident	1st Level Support	102026	Jamie Young	11/6/2019 11:27 AM	Pri
Incident	1st Level Support	102027	Jacalyn Medina	11/6/2019 11:49 AM	Pri
Incident	1st Level Support	102085	Klein Gusev	11/10/2019 9:52 AM	In
Service Request	1st Level Support	102195	Henri Bryce	1/1/2020 7:57 AM	In
Service Request	1st Level Support	102232	Jamie Young	3/18/2020 12:36 PM	In
Incident	1st Level Support	102237	Susan Malach	3/18/2020 11:31 PM	Pri

My Teams Incidents

Type	Assigned Team	ID	Customer Name	Created Date Time	Status
Incident	1st Level Support	100957	Molly Isaacs	10/10/2019 1:12 PM	Re
Incident	1st Level Support	100958	Eric Lambert	10/11/2019 9:33 AM	Re
Service Request	1st Level Support	100967	Molly Isaacs	10/24/2019 3:10 PM	Pri
Incident	1st Level Support	101322	Molly Isaacs	10/30/2019 1:05 AM	In
Incident	1st Level Support	101325	Montell Maalouf	10/30/2019 12:05 PM	Pri
Incident	1st Level Support	101326	John Allard	10/30/2019 12:21 PM	Pri

My Project Tasks

Task ID	Task Title	Status	Duration (Mo...	Hours Worked	Owned By	Start Date	End
100000	Create and	In Progress	2.00	0.50	Henri Bryce	4/30/2020	5/1
100001	Send 2nd S	Assigned	2.00	0.00	Henri Bryce	5/5/2020	5/6
100002	Send 3rd S	Assigned	2.00	0.00	Henri Bryce	5/12/2020	5/1
100003	Create new	In Progress	1.00	3.00	Henri Bryce	5/1/2020	5/2
100004	Review new	In Progress	2.00	3.00	Henri Bryce	5/4/2020	5/2

My Project Timesheets

Week Of	Owned By	Weekly T...	Sunday	Monday	Tuesday	Wednes...	Thursday
No records found							

Managing Cherwell Project & Portfolio Management

Project Managers can use Cherwell PPM to track progress on Projects and Portfolios, manage Resources, and work with Resource Timesheets.



Note: This functionality is only available after you apply the mApp Solution.

Use Cherwell PPM to:

- Manage PPM Projects
- Manage PPM Resources
- Manage PPM Timesheets

Manage PPM Projects

As Projects progress, you may need to add new Costs, Risks, Action Items, Issues, and Change Orders.



Note: This functionality is only available after you apply the mApp Solution.

If you are tracking the Project in Microsoft Project or Excel, you may choose to import and update Project Tasks.

- Project Managers will primarily use the My Projects and Project Details Dashboards. You can use these Dashboards to view Project Health, cost, and effort; identify Project Tasks that need attention; and review and commit Timesheets.
- The My Projects Dashboard provides an overview of all projects assigned to the logged in user. It provides a high-level view of Project status, costs, health, and Timesheets awaiting approval.
- An alert icon by a Project means that at least one of the Health indicators is red.
- The Project Details Dashboard provides more details on the individual Projects.
- In the Project Tasks pane, Tasks at risk are flagged with an alert icon. Double-click the Task to go to the Project Task record. If the Est Remaining Effort is greater than the Estimated Effort, the Total Effort has a red box.
- An alert icon also appears by Tasks that have more hours recorded against them than estimated. As a Project Manager, you can choose to update the Project plan, re-allocate the work, or create a new Task for another Resource.
- If a Budget Item yearly total is exceeded, an alert icon appears by the Budget item in the Project record.
- Use the Update Project Task Hours link to populate the Project Task hours to the parent Tasks.

Manage PPM Resources

View a Resource record from a Project or from the Resource Management - Individual Dashboard.



Note: This functionality is only available after you apply the mApp Solution.

Use the PTO tab in the Form Arrangement to set PTO for each Resource.

View a Resource's Time Record

Access a PPM Resource Time record by double-clicking on a Resource record from the Resource Management - Individual Dashboard. These records hold all reportable information for Resources and are used for the Resource Management Dashboards. Information includes Date, Role, Name, Weekly Hours, Daily Hours, Allocated Hours, Available Project Hours, PTO Hours, and Operation Percent. Allocated Hours is a sum of the hours per day for any Project Tasks that the Resource is assigned on that date. PTO Hours are populated when Scheduled PTO is added for that Resource.

Update Resources

To update a Resource record (Role, Hours available, or Operational time), in the record, select the **Update Resource** link (under Actions) and a set of prompts will collect the necessary information and all associated records.

Delete Resources

Use the Delete Resource One-Step™ Action (the **Delete Resource** link under **Actions**) on the record to ensure the Resource record and all linked entries are deleted.

Manage PPM Timesheets

PPM Timesheets are a tool for Project Managers to track hours logged against Projects and evaluate any adjustments needed to the Project plan.



Note: This functionality is only available after you apply the mApp Solution.

- Use the information recorded in Timesheets to update Hours Worked, Percent Complete, and Remaining Effort on the Project Tasks Business Object. A One-Step™ Action is provided in the solution to create a weekly Timesheet for each Resource in the Resource table. This One-Step Action should be set up as a scheduled process during the initial configuration activities.
- Task Summaries with submitted time are visible to the assigned Project Manager of the associated Project. Each must be Committed (accepted) for the time to post to the Task (along with the Est Remaining Effort and Percent Complete). One Timesheet can accommodate multiple Project Tasks.
- In the My Projects Dashboard, use the Timesheets Awaiting Approval section.

Commit Hours

To commit the hours:

- In the **Task Summaries** tab, right-click the task summary and select **Commit**.

Project managers can also choose to view individual timesheets for a more granular look at the work performed on a task. If necessary, they can edit the time entries.

To view the Task Summary record:

- Select the **Commit hours to task** link.

When the Estimated Total Task Effort exceeds the Planned Effort minus the Hours Worked, an alert icon



appears on the grid showing the project tasks. The committed hours populate to the Hours Worked on the Project Task.

Project & Portfolio Management mApp Solution Items

The Items tables provides a list of items included when applying the mApp® Solution and the typical merge action.

Item Category	Item	Typical Merge Action
Automation Process Definitions	Additional Resource Time Entries, Create Project From Demand, Create Resource Time Entries, Delete Resource, Delete Staging table, Delete Task From Project Import, Edit Via Browser, mApp Factory - Link Predecessor, mApp Factory - Link Predecessors 2 & 3, mApp Factory - Link to Parent, Set Baseline Date - Project, Set Task Status to In Progress - Timesheet, Set to Assigned, Submit Via Browser, Update Budgets	Overwrite
Business Objects	Benefit Item, Budget Item, Cost Entry, Operational Task, Operational Task Status, Operational Task Type, Plans, PPM Action Item, PPM Area, PPM Change Order, PPM Decision, PPM Demand, PPM Focus Area, PPM Health Type, PPM Issue, PPM Portfolio, PPM Predecessor Type, PPM Program, PPM Project, PPM Resource, PPM Resource Plan, PPM Resource Time, PPM Risk, PPM Scheduled PTO, PPM Scope, PPM Stakeholder, PPM Status, PPM Status Group, PPM Strategic Objectives, PPM Timesheet, PPM Type, PredecessorLinksSuccessor, Project Task, Project Task Staging Table, Task Summary, WatchListLinkTable	Overwrite
	Cost Item	Don't Change
	Role	Import
Calendar	My Project Tasks	Overwrite
Counters	Action Item ID, Benefit Item ID, Budget Item ID, Demand, Issue, Operational ID, Portfolio, PPM Project Calendar, Program, Project, Resource Plan ID, Risk, Strategic Objective	Overwrite
Dashboards	Demand Management, My Portfolio Details, My Projects, My Work - Alt IT, Overview PPM, Program Details, Project Details, Resource Management - Individual, Resource Management - Role	Overwrite

Item Category	Item	Typical Merge Action
Fields	<p>1st Quarter, 1st Quarter Remaining, 2nd Quarter, 2nd Quarter Remaining, 3rd Quarter, 3rd Quarter Remaining, 4th Quarter, 4th Quarter Remaining, 5th Quarter, 5th Quarter Remaining, 6th Quarter, 6th Quarter Remaining, 7th Quarter, 7th Quarter Remaining, 8th Quarter, 8th Quarter Remaining, 9th Quarter, 9th Quarter Remaining, 10th Quarter, 10th Quarter Remaining, 11th Quarter, 11th Quarter Remaining, 12th Quarter, 12th Quarter Remaining, Action, Action Comments, Action Plan, Actual Effort, Actual End Date, Actual Hours, Actual Start Date, Allocated Hours Per Day, Alt 1 Command, Alt 1 Command Name, Alt 1 Next Status, Alt 1 Next Status Text, Alt 1 Status, Alt 1 Status Text, Alt 2 Command, Alt 2 Command Name, Alt 2 Status, Alt 2 Status Text, Alt Status, Approval Block ID, Approved, Area, Asset Management, Assigned Role, Assignments, Available Hours, Available Project Hours, Baseline End Date, Baseline Start Date, Benefit If Done, Benefit Item ID, Booking Type, Budget, Budget Cost, Budget End Date, Budget Health, Budget Health Score, Budget Item ID, Budget Start Date, Budget Term End Date, Budget Term Start Date, BudgetChangeDetails, BudgetChangeNo, BudgetChangeYes, Business Driver, Business Objective, Business Reason, Business Value Score, CapEx Budget, Capital Expenses, Capital items, Change Order Title, ChildID, ChildJoinReason, ChildType, Closed Date, Committee Approval Required, Completed Projects, Cost, Cost Item Type ID, Cost Item Type Name, Cost Type, Counter, Create New Records, Created By, Created By ID, Created Culture, Created Date Time, Customer Accepted, Customer Display Name, Customer ID, Customer Type ID, Daily Hours, Date, Date Completed, Date Of Decision, Date Opened, Delete record, Delete Resource, Demand Estimated Revenue, Demand ID, Demand ROI, Demand Score, Demand Size, Demand Sponsor, Demand Sponsor Email, Department, Dependencies, Description, Details, Disposition, Driver, Duration, Duration (Hours), Duration (In Days), Edit Via Browser, Effort, Effort (hours), Effort at Risk, Email, Employment Type, End Date, End Date Changed, Estimated Additional Effort, Estimated Capital Expenses, Estimated Cost, Estimated Effort, Estimated Operating Expenses, Estimated Remaining Effort, Estimated Revenue, Estimated Total Cost, Executive Approval, Expected Resolution Date, Facilities, File to Import, Financial Plan, Financial Score, Financial Score New, Focus Area, Friday, Full Name, Group Name, Health Issue, Health Type, Hours, Hours Per Day, Hours Per Week, Hours Worked, HR, Identified as a Risk, Impact, Impact Comments, Impact If Deferred, Impact on other initiatives, Impact To Scope, Initiated By, Issue Description, Issue ID, Issue Name, Issues, IT, ITPT Project ID, JoinReason, Last Mod Time Stamp, Last Modified By, Last Modified By ID, Last Modified Date Time, LastModTimeStamp, Linked Budget Item ID, Lock Summary, Locked, Manager, Monday, MS Project Milestone, MS Project Outline Number, MS Project Parent Outline Number, MS Project UID, MSPProject Milestone, Name, New Projects, Next Status, Next Status Command, Next Status Command Name, Next Status One-Step, Next Status Text, No One Step, Notes, Objective, Old End Date, Old Start Date, Open Date, Operating Expense items, Operating Expenses, Operational Hours, Operational Hours per Day, Operational Hours per Week, Operational Percent, Operational Task, Operational Task ID, Operational Task Name, Operational Task RecID, Operational Tasks, OperationalTask Type ID, OperationalTask Type Name, OpEx Budget, Original Total, Other, Overall Score, Owned By, Owned By Email, Owned By ID, Owned By Manager, Owned By Manager Email, Owned By Manager ID, Owned By Manager Phone, Owned By Phone, Owned By Team, Owned By Team ID, Parent ID, Parent RecID, ParentID, ParentType, ParentType, Percent Complete, Percent of Demand, Percent of demand Unshown, Percentage, Phone, Planned Effort, Planned End Date, Planned Remaining Effort, Planned Start Date, Plans Type ID, Plans Type Name, Portfolio, Portfolio Approved, Portfolio Budget, Portfolio Flag, Portfolio ID, Portfolio Manager, Portfolio Manager Email, Portfolio Manager ID, Portfolio Name, Portfolio</p>	Overwrite
CSM mApp Solutions		226

Item Category	Item	Typical Merge Action
Forms	ActionItem, BenefitPlan, BudgetItem-ProjectForm, CostEntry, CostItemEntry, Demand, Demand Financial Assessment, Demand Overview, Issue, ITPTArea, OperationalTaskStatus, OperationalTaskType, Portfolio, Portfolio Overview, PPM Program Overview, PPM ProjectTask Overview, PPMChangeOrder, PPMDecision, PPMDemand Risk, PPMDemand Summary, PPMFocusArea, PPMHealthType, PPMPortfolio Summary, PPMPredecessorType, PPMProgram Summary, PPMProject, PPMResourceTime, PPMScope, PPMStakeholder, PPMStatus, PPMStatusGroup, PPMStrategicObjectives Summary, PPMTasks, PPMTimesheet Overview, PPMType, Program, Project Header, ProjectSummary, ProjectTaskSupportingTable	Overwrite
Form Arrangements	PPMDemand, PPMPortfolio, PPMProgram, PPMResourcePlan, PPMResourceTime, PPMStrategicObjectives, PPMTask, PPMTimesheet, Project, ProjectTaskStagingTable, Resource, TaskSummary	Overwrite
Grids	ActionItem, BenefitPlan, CostEntry-Grid, CostItemEntry, Demand, Issue, ITPTArea, ITPTDemandRisk, ITPTFocusArea, ITPTPredecessorType, ITPTStakeholder, ITPTType, OperationalTask, OperationalTaskStatus, OperationalTaskType, Plans, Portfolio, PPMActionItem1, PPMChangeOrderGrid, PPMDecision, PPMDemand Dashboard, PPMHealthType, PPMPortfolio Dashboard, PPMProject Dashboard, PPMProject-Simple, PPMResourceTime, PPMRisk1, PPMScope, PPMStakeholder-2, PPMStatus, PPMStatusGroup, PPMStrategicObjectives-Grid, PPMStrategicObjectives-Portfolio, PPMTasks, Program, Proj Details Dashboard Grid, Project, ProjectTask for Project, ProjectTaskSupportingTable, Resource, ResourcePlan, Role, ScheduledPTO, StrategicObjectives, TaskSummary, Timesheet, Timesheet Dashboard, WatchListLinkTable	Overwrite
Image Definitions	Demand100x100, Demand-Icon, DemandNew100x100, Exec-Icon, Home-Icon, Milestone100x100, My-Portfolio-Icon, My-Projects-Icon, My-Work-Icon, Operational Task Icon100x100, Portfolio100x100, PPM-Double-Arrows, Program100x100, Program-Details-Icon, Project Task100x100, Project100x100, Project-Details-Icon, PTO100x100, Resource Plan100x100, Resource100x100, Resources-Icon, Role100x100, Role-Icon, Role-Icon-100x100, Strategic Objectives100x100, Task Summary100x100, Timesheet100x100, White Arrow	Overwrite

Item Category	Item	Typical Merge Action
Indexes	BenefitItem_BenefitItemID, Demand_DemandID, Issue_IssueID, OperationalTask_OperationalTaskID, PK_ActionItem, PK_CostItem, PK_Demand, PK_Issue, PK_ITPTArea, PK_ITPTFocusArea, PK_ITPTPredecessorType, PK_ITPTType, PK_OperationalTask, PK_OperationalTaskStatus, PK_OperationalTaskType, PK_Plans, PK_Portfolio, PK_PPMDecision, PK_PPMHealthType, PK_PPMResourceTime, PK_PPMScope, PK_PPMStakeholder, PK_PPMStatus, PK_PPMStatusGroup, PK_PredecessorLinksSuccessor, PK_Program, PK_ProjectTaskSupportingTable, PK_Resource, PK_ResourcePlan, PK_Role, PK_ScheduledPTO, PK_StrategicObjectives, PK_Timesheet, PK_WatchListLinkTable, Portfolio_PortfolioID, PPMActionItem_PPMActionItemID, PPMChangeOrderIdx0, PPMDecision_PPMDecisionID, PPMHealthType_PPMHealthTypeID, PPMProgram_PPMProgramID, PPMProjectIdx0, PPMProjectIdx1, PPMResourceTime_PPMResourceTimeID, PPMRiskIdx0, PPMScope_PPMScopeID, PPMStakeholder_PPMStakeholderID, PPMStatus_PPMStatusID, PPMStatusGroup_PPMStatusGroupsID, PredecessorLinksSuccessorIdx0, ProjectTaskStagingTable_Title, Resource_FullName, ResourcePlan_ResourcePlanID, Role_Role, RoleIdx0, StrategicObjectives_StrategicObjectivesID, Timesheet_TimesheetID	Overwrite
Mergeable Area	Budget Item Actions, Cost Entry Actions, ITPT Project Actions, PPM Demand Actions, PPM Demand Approvals, PPM Resource Actions, PPM Resource Item Actions, PPM Resource Time Actions, PPM Timesheet Actions, Project Task Actions, Task Summary Actions	Overwrite

Item Category	Item	Typical Merge Action
One-Step™ Actions	<p>Accept Idea, Accept In Portfolio, Add Budget Items to Project, Add To Portfolio, Alt Step 1 from Relationship, Alt Step 2 from Relationship, Approval, Approval Denied, Approve, Assign a Project Manager, Assign a Role, Assign a Team, Assign an Individual, Assign an Initiator, Assign ID - delete me, Assign to a Project Manager, Assign to Individual, Assign to Me, Assign to Team, Automation - Update Successors Start Date change, Change Requester, Check Available Hours, Commit, Commit Hours to Task, Committee Approval, Committee Denied, Convert Demand to Service Request, Create Change, Create Committee Approval, Create Project from Demand, Create Project When Demand Approved, Create Weekly Timesheets, Date Time Information, Delete Old TimeSheets, Delete Resource, Delete Staging Table, Delete Tasks, Demand Approved, Edit, Edit entries, Edit Via Browser, Email Assigned To, Email Portfolio Manager, Email Program Manager, Email Project Requester, Export XML, Flag for Delete, Go to Calendar, Go to portfolio record, Go to Program record, Go to Project Record, Go to Record, Go to the Task, Import CSV Update to Staging Table, Import into staging table, Import New Project CSV, Import New Project XML, Import Project, Import Project from CSV, Import Project Tasks into Staging Table, Import Update to Staging Table, Link MS Project Predecessor, Link parent, Modify Demand, My Portfolio Dashboard Button, My Program Dashboard Button, My Project Dashboard Button, Need More Information, Next Status, Next Status Step, Next Step from Relationship, Open Task, Owner Email, Portfolio Approved, Portfolio Approved From Demand, Portfolio Approved From Project, Portfolio follow Up Email, Portfolio Manager Email, Predecessor 1, Predecessor 2, Predecessor 3, Project Approved, Refresh, Refresh Cost, Refresh Cost on Save, Reject Idea, Remove from Deferred, Remove From Portfolio, Requester Email, Requester Follow Up Email, Resource Daily Time Entries, Resource Management Individual Selector, Resource Management Individual Set View - Per Day, Resource Management Individual Set View - Per Week, Resource Management Individual Update Dates, Resource Management Update End Date, Resource Management Update Start Date, Resource Time Cleanup, Save, Select a task, Select a Team, Select an Individual, Select an Owner, Select Customer, Select Department, Select Employment Type, Select Name, Select Portfolio Manager, Select Requester, Select Resource Manager, Select Role, Send Project Health Update, Set Associated Task to In Progress, Set BaselineDates, Set Budget Health, Set Flag To Create New Records, Set Parent Outline Number, Set Planned Dates, Set Predecessor 2&3, Set Schedule Health, Set Scope Health, Set Status To Deferred, Set to Assigned, Set to Committed, Set View - Per Day, Set View - Per Week, Submit, Submit for approval, Submit For Review, Submit Hours to Weekly Time Sheet, Submit Via Browser, Take Ownership, uncheck, update, Update Available Hours, Update Budget, Update Budgets, Update Dashboard, Update Estimated Hours, Update Health, Update Hours, Update Parent Successor/Child End date, Update Parent Successor/Child Start Date, Update Parent Time Reporting, Update Percent, Update Project, Update Project from CSV, Update Project Tasks, Update Project Tasks Hours, Update pt, Update Resource, Update Resource Time Bookings, Update Resource Time Entries, Update Start/End Dates, Update Successor Start Date Change (Finish to Start Process), View Date Time Information</p>	Overwrite

Item Category	Item	Typical Merge Action
Relationships	<p>Budget Item Owned By PPM Project, Budgets Links to Cost Entries, Cost Entry Links to Budgets, Cost Entry Owned By PPM Project, Demand Links Operational Tasks, Demand Links Program, Demand Owns Journals, Operational Task Links Demand, Operational Task Links Task Summaries, Operational Tasks Link Resources (PPM Softbook), PPM Action Item Owned By PPM Project, PPM Change Order Links Users, PPM Change Order Owned By PPM Project, PPM Decision Owned By PPM Project, PPM Demand Links Customer, PPM Demand Links PPM Portfolio, PPM Demand Links PPM Project, PPM Demand Links PPM Resource Plans, PPM Demand Links PPM Status, PPM Demand Links PPM Strategic Objectives, PPM Demand Links UserInfo, PPM Demand Owns Approvals, PPM Demand Owns Benefit Plans, PPM Demand Owns Budget Item, PPM Demand Owns PPM Demand Risks, PPM Demand Owns Stakeholders, PPM Demand Owns Stakeholders Committee Approval, PPM Issue Links UserInfo, PPM Portfolio Links Owned By, PPM Portfolio Links PPM Demands, PPM Portfolio Links PPM Projects, PPM Portfolio Links PPM Strategic Objectives-ManyToMany, PPM Portfolio Links User, PPM Portfolio Owns PPM Issues, PPM Portfolio Owns PPM Programs, PPM Portfolio Owns PPM Risks, PPM Program Links PPM Projects, PPM Program Links PPM Strategic Objectives, PPM Program Owned By PPM Portfolio, PPM Program Owns Journals, PPM Program Owns PPM Issues, PPM Program Owns UserInfo - Owned By, PPM Program Owns UserInfo - Program Manager, PPM Project Links Change Requests, PPM Project Links CustomerPPM Project Links Operational Tasks, PPM Project Links PPM Demand, PPM Project Links PPM Portfolio, PPM Project Links PPM Program, PPM Project Links PPM Resource Plans, PPM Project Links Project Tasks, PPM Project Links to Status, PPM Project Links to UserInfo, PPM Project Owns Benefit Plans, PPM Project Owns Budget Items, PPM Project Owns Cost Entry, PPM Project Owns Journals, PPM Project Owns PPM Action Items, PPM Project Owns PPM Change Orders, PPM Project Owns PPM Decisions, PPM Project Owns PPM Issues, PPM Project Owns Risks, PPM Resource Owns PPM Scheduled PTOs, PPM Resource Plan Links PPM Demand, PPM Resource Plan Links PPM Project, PPM Resource Time Owned By Resource, PPM Scheduled PTO Owned By PPM Resource, PPM Strategic Objectives Links PPM Portfolios, PPM Strategic Objectives Links PPM Programs, PPM Timesheet Links Task Summaries, Predecessor links Successor, Program Owned By Demands, Project Task Links PPM Project, Project Task Links Project Task - Parent, Project Task Links Project Tasks - Children, Project Task Links Resource Time, Project Task Links Task Summaries, Project Tasks owns Staging tasks, Resource Links PPM Tasks (Softbooking), Resource Owns Operational Tasks, Resource Owns PPM Resource Times, Resource Plan Links Project Tasks, Resource Plan Links Resource Plans, Resource Plans Links Resource Time, Resource Time Links Project Task - Allocated, Resource Time Links Project Task Softbook, Role Links Resource, Staging task owned by project tasks, Stakeholder Links UserInfo, Successor Links Predecessor, Task Summary Links Operational Task, Task Summary Links PPM Project, Task Summary Links PPM Timesheet, Task Summary Links ProjectTask, TimeSheet Links PTO</p>	Overwrite
	PPM Demand Links Phase Set, PPM Portfolio Links Phases, PPM Project Links Milestones, PPM Project links Phase Set	Import

Item Category	Item	Typical Merge Action
Reports	Demand vs Project, Demand vs Project Execution, PPM Project Snapshot, Weekly Resource Availability by Role	Overwrite
Searches	Active Projects, Active within Date Range for Report, All, All Demands, All Portfolios, All Programs, ALL Project Tasks, All Projects, All Projects Closed Calendar Year, ALL Resource Plans, All Resources, All staging records, All Task Summaries, Approved Demands, Awaiting Approval Demands, Calendar - Child Project Tasks, Calendar - Milestone Project Tasks, Calendar - Parent Project Tasks, Calendar - Project Tasks, Committed Projects within Program, Date Range and Role, Deferred Demands, Demand Matrix, Issues Type is Budget, Issues Type is Schedule, Issues Type is Scope, My Open Project Tasks, My Open Projects, My Project Tasks, My Resources, My Task Summaries, My Timesheets, New Demands, Open Demands, Open Portfolios, Owner Resource Times, Portfolio Budget Issues, Portfolio Schedule Issues, Portfolio Scope Issues, Program Issues Type is Schedule, Program Issues Type is Scope, Program Rec ID equals Stored Value, Project ID equals Stored ID, Project Task, Project Tasks Owned by My Team, Projects Not In Portfolio, Projects Open Portfolio, Projects Within Portfolio, Projects within Program, Resource Allocation Report, Resource Entries Greater Than Today, Resource Time aged 2 Weeks, Resource Time by Date Range, Resource Time by Role Dates, Resource Time Dashboard - Individual, Resource Time Dashboard - Role, Resource Time Owned By, Resources by Role, Selected Closed Project for Report, Selected Portfolio, Selected Project for Report, Submitted Timesheets, Task Summaries By Project, Tasks at Risk	Overwrite

Item Category	Item	Typical Merge Action
Stored Expressions	# High Impact Open Risks, # of Open Issues, 1st Quarter, 2 Weeks Ago, 2nd Quarter, 2nd Quarter Remaining, 3rd Quarter, 3rd Quarter Remaining, 4th Quarter, 4th Quarter Remaining, 5th Quarter, 6th Quarter, 7th Quarter, 8th Quarter, 9th Quarter, 10th Quarter, 10th Quarter Remaining, 11th Quarter, 11th Quarter Remaining, 12th Quarter, Actions Visible Only in Assessing Status, Actual Start Date, All Open Projects, All Task Summaries, Automation Finish to Start, Budget Health Color Link, Budget Item ID, Budget Remaining, Business Value, CapEx Budget, Clear Approver, Clear Executive Approver, Copy of Hours per day, Cost Year 1, Cost Year 2, Date is Valid, Days per Task, Demand Score, Effort, End of the Week, Estimated Hours For Project, Financial, Finish to Start, High Impact Open Risks/Issues Trigger, Hours per Day, Hours per Week, Logical Field Projects at Risk, Next End of Year, OpEx Budget, Portfolio Budget Health, Portfolio Budget Remaining, Portfolio Schedule Score Value, Project ID, Project Name, Project Status, Read Only Background, Remaining Availability, Remaining Effort For Project, Remove Actions Visible Only in Assessing Status, Required Fields Review Idea, Resource Plan ID, risk score, Risk Total, Schedule Health Color Link, Scope Health Color Link, Set budget Health, Set Schedule Health, Set Scope Health, Softbooked Resource, Start Date, Start of the Week, Submitted Task Summaries, System State Email, System State E-mail, Tasks at Risk, test, Time, Total Budget, Total Budget Committed, Total Cap Expenses rollup, Total Closed Project Budgets, Total Cost, Total Hours, Total Labor, Total Op Expenses rollup, Total Open Project Budgets, Total Portfolio Budget Spent, Total Value, true, Weekly Total, Weeks Per Task, Year 3 Cost	Overwrite
Stored Values	Answer, Budget Health, Budget Issues, Calendar Project ID, Demand Approval Size, MS Project Outline ID, MS Project Pred UID, Parent End Date, Portfolio Budget Health, Portfolio Description, Portfolio ID, Portfolio RecID, Portfolio Schedule Health, Portfolio Scope Health, Portfolio Status, Portfolio Title, PPM Rec ID, Predecessor 1, Predecessor 2, Predecessor 3, Predecessor End Date, Predecessor RecID, Program Budget Health, Program Description, Program RecID, Program Schedule Health, Program Scope Health, Program Status, Program Title, Project Budget Health, Project Cost Score, Project Description, Project ID, Project RecID, Project Schedule Health, Project Scope Health, Project Status, Project Title, PTO End Date, PTO Start Date, Resource, Resource Dashboard - Chart View, Resource Dashboard End Date, Resource Dashboard Individual, Resource Dashboard Role, Resource Dashboard Start Date, Resource RecID, Resource Time Date, Role, Schedule Health, Schedule Issues, Scope Health, Scope Issues, Start Date Difference, Successor Count, Successor Count Child, Task RecID, Test First Of Year, Test Iterator, Working Hours	Overwrite

Item Category	Item	Typical Merge Action
Tabs	Approvals, Action Items, Allocated, Benefit Plan, Benefit Plans, Budget Items, Budget Plan, Change Orders, Change Requests, Children Task(s), Cost Items, Decisions, Demand, Demands, Financial Assessment, Issues, Journals, Operational Tasks, Overview, Parent Task, Portfolio, PPM Demand, PPM Project, PPM Resource Plans, PPM Resource Time, PPM Resource Times, PPM Timesheet, Predecessor(s), Program, Programs, Project, Project Task, Project Task Import, Project Tasks, Projects, PTO, Resource Plan, Risks, Softbooked, Stakeholders, Strategic Objectives, Successor(s)	Overwrite
Teams	Project Management, Demand Management	Overwrite
Widgets	Active Demands - Projected Cost, Active Demands - Projected Revenue, Actual Project Cost, Actual Project Hours, All Portfolio Budgets, Approved Projected Revenue - Demand Management, Budget Issues, Budgeted Project Cost, Committed Project Budget, Committed Project Revenue, Dashboard Resources, Demand Projects, Demand Requests By Stage, Demands Awaiting Approval, Incidents and Requests Owned by Me, My Incident Tickets, My Open Project Tasks, My Open Projects - Details, My Open Timesheet Count, My Operational Tasks, My Operational Tasks - Detail, My Priority 1 Incident Tickets, My Priority 1 Service Requests, My Project Effort, My Project Task Details, My Project Timesheets, My Projects by Status, My Projects Cost, My Teams Change Requests - Count, My Teams Open Incidents and Request, My Teams Operational Tasks, My Teams Problems - Count, My Total Service Requests, My VIP Incident Tickets, My VIP Service Requests, Number Of Resources, Open Portfolios, Planned Project Hours, Portfolio Health Matrix, Portfolio Project Health Matrix, Potential Costs - Demands, Potential Revenue - Demands, Program Budget Issues, Program Cost by Project, Program IssuesType is Scope, Program Project Budget, Program Project Health Matrix, Program Resources by Project, Program Revenue, Program Schedule Issue, Program Total Budget, Program Total Cost, Project Cost within Portfolio, Project Effort within Portfolio, Project Health Matrix, Project Issues Total, Project Risks Total, Project Tasks, Projected Remaining Project Hours, Projected Revenue - Demand Management, Projects for Consideration Budget, Projects for Consideration Revenue, Projects Not In Portfolio, Projects Within Portfolio, Projects within Program, Remaining Budget, Resource Bar - Daily (Individual), Resource Bar - Daily (Role), Resource Bar - Weekly (Individual), Resource Bar - Weekly (Role), Schedule Issues, Scope Issues, Scoring Matrix - Demand Management, Tasks at Risk - Total, Tasks Behind Schedule, Tasks Starting This Week, Timesheets Awaiting Approval - Grid, Total Budget of Portfolio, Total Committed Budgets, Total Cost of All Portfolios, Total Cost of Portfolio, Total Expected Revenue, Total Revenue	Overwrite

Item Category	Item	Typical Merge Action
<ul style="list-style-type: none">• Import: Add new item.• Overwrite: Replace target item.• Merge: Merge differences.• Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).		

Integration mApp Solutions

An Integration mApp® Solution integrates with CSM to provide additional functionality or an interface with other applications or solutions. These integrations can incorporate solutions, platforms, or applications into CSM.

AWS mApp Solution 1.0

Use the Amazon Web Services (AWS) mApp Solution to add AWS provisioning scenarios to your Portal service catalog.

Platform version requirements: Tested on CSM 10.1.0 — 10.2.0.

Content version requirements: Tested on CSM 10.1.0 — 10.2.0. This mApp Solution may or may not be compatible with content versions earlier than CSM 10.1.0, but as with all mApp Solutions, be sure to test it on your customized system.

Prerequisites: You must have an AWS account in which you have configured services. Additionally, your CSM instance must be on a publically accessible server, with an SSL certificate installed.

Available languages: English.

The AWS mApp Solution includes the following item for downloading:

- AWS 1.0.mApp

After the file is downloaded, you can apply the mApp Solution using the **Apply mApp** wizard in CSM Administrator.

Overview

The AWS mApp Solution allows Portal users and licensed CSM users to provision an AWS product from your organization's AWS Service Catalog, such as an EC2 instance, LAMP Stack, RDS instance, or S3 bucket.

Portal users can make an AWS request by choosing **Desktop Management > Computer > New CFT** in the Service Catalog.

The Service Request form gathers requester information along with AWS-specific information like Account, Portfolio, and Region data. The customer then chooses an AWS product and fills out additional fields based on the product choice. Once the service request is approved, the AWS product is provisioned via the AWS API. A new Configuration Item (CI) is created for the provisioned product and added to the CMDB, and the service request is closed. When the instance is no longer needed, customers terminate the AWS product directly from the CI in CMDB.

Key Features

Use the AWS mApp Solution to:

- Provision an AWS product directly from Cherwell (via the CSM Portal for customers or via the Desktop Client or Browser Client for users).
- Automatically add provisioned AWS products directly to the Cherwell CMDB, including relevant details for each.
- Terminate an AWS product directly from CSM.
- Automatically create Incidents for existing AWS resources in the Cherwell CMDB if a CloudWatch Alarm goes into alarm state.

This mApp Solution includes multiple features, including direct access to select AWS products in a given portfolio and secure encryption for AWS access keys. This mApp Solution uses Action Blocks, webhooks, and direct calls to the AWS API so you don't need to download or synchronize your AWS Products into the service catalog.

Apply the mApp Solution

Follow these steps to download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).



Note: This mApp Solution is not intended to be applied over a previous AWS mApp Solution version. It is not an upgrade to the previous version.

2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM. Do not select **Finish** yet.
4. Still in the Apply mApp Solution Wizard, when you reach the **Final Options** window, select **Open a Blueprint so that I can preview the changes**, and then select **Finish**.
5. When the Blueprint opens, select **File > Blueprint changes**.
6. Save the Blueprint.

Revision History

mApp Solution Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	Tested on 10.1.0 — 10.2.0.	Tested on 10.1.0 — 10.2.0. This mApp Solution may or may not be compatible with content versions earlier than 10.1.0, but as with all mApp Solutions, be sure to test it on your customized system.	None

Related concepts

[AWS mApp Solution Items](#)

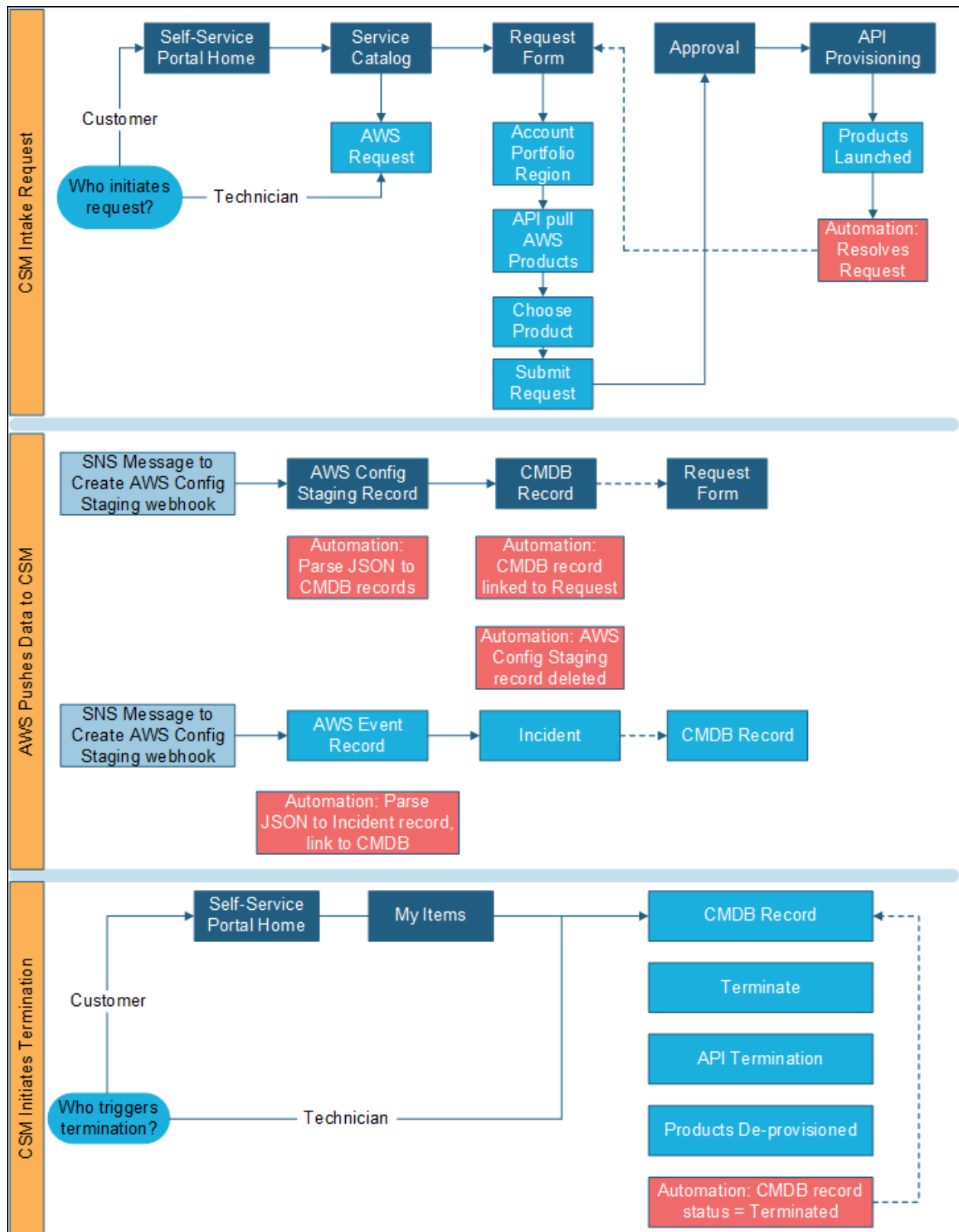
[Considerations for Applying mApp Solutions](#)

How the AWS mApp Solution Works

The AWS mApp Solution integrates with AWS Service Catalog so CSM Portal customers and CSM users can directly query the AWS API to provision and terminate the AWS products which their organization has defined and made available in the AWS Service Catalog Portfolio.

This mApp Solution covers these primary use cases:

- Allow a CSM Portal customer or CSM user to make an AWS request by choosing **Desktop Management > Computer > New CFT** in the Service Catalog. When the request is approved, the resource is provisioned in AWS and added to the Cherwell CMDB.
- Allow a CSM Portal customer or CSM user to terminate AWS resources directly from the Cherwell CMDB. Portal users can access their AWS CIs by going to **My Items**.
- Allow a user to manually add existing AWS resources directly to the Cherwell CMDB.
- Create an Incident in CSM for AWS resources that have CloudWatch Alarms in Alarm state, and associate the Incident to a related CSM configuration item.



For more details about each of these cases, see:

- [Provision an AWS Product from the CSM Portal](#)
- [Provision an AWS Product from the Desktop Client or Browser Client](#)
- [Manually Add an Existing AWS Configuration Item](#)
- [Manage an AWS Configuration Item](#)
- [Terminate an AWS Configuration Item from the CSM Portal](#)
- [Terminate an AWS Configuration Item from the Desktop Client or Browser Client](#)

CSM Features Leveraged in this mApp Solution

This mApp Solution leverages several features of CSM which are either relatively new or more advanced topics. This section serves as an overview of those features.

Action Blocks

Action Blocks are similar to One-Step™ Actions, but can be reused across objects by passing in appropriate object-specific data through parameters.

The provision and terminate use cases in this mApp Solution leverage Action Blocks to make API calls directly to the AWS API, bypassing the need to import the AWS Service Catalog into CSM.

For more details on the use of Action Blocks in this mApp Solution, see [AWS Action Blocks](#).

Encryption

Every AWS account has a public (Access Key ID) and private key (Secret Key). Keys are stored in the AWS Account table, with the Secret Key properly encrypted. This key appears as a hashed until decrypted when needed.

For more details on the use of encryption in this mApp Solution, see [AWS Key Encryption](#) or [Add AWS Access Keys to CSM](#).

Webhooks

This mApp Solution contains webhooks, which enable the automatic creation of CIs and Incidents for AWS resources.

For more details on the use of webhooks in this mApp Solution, see [Configure CSM to Add Incidents for AWS Product Events](#) and [Configure CSM to Add AWS Product Configuration Items to your CMDB](#)

AWS Action Blocks

This mApp® Solution leverages Action Blocks for the API calls made to AWS. This allows reusable components, such as the Generate Amazon Signature Action Block to be called multiple times without the need to recreate the block steps where they need to be used.

Overview

Action Blocks are reusable sets of Actions that are not associated with a Business Object. Instead, they inherit both specific details (through Parameters) and object context from a One-Step™ Action, where they are called. This allows actions that need to be repeated to be defined and maintained in a single block, but used in many places.

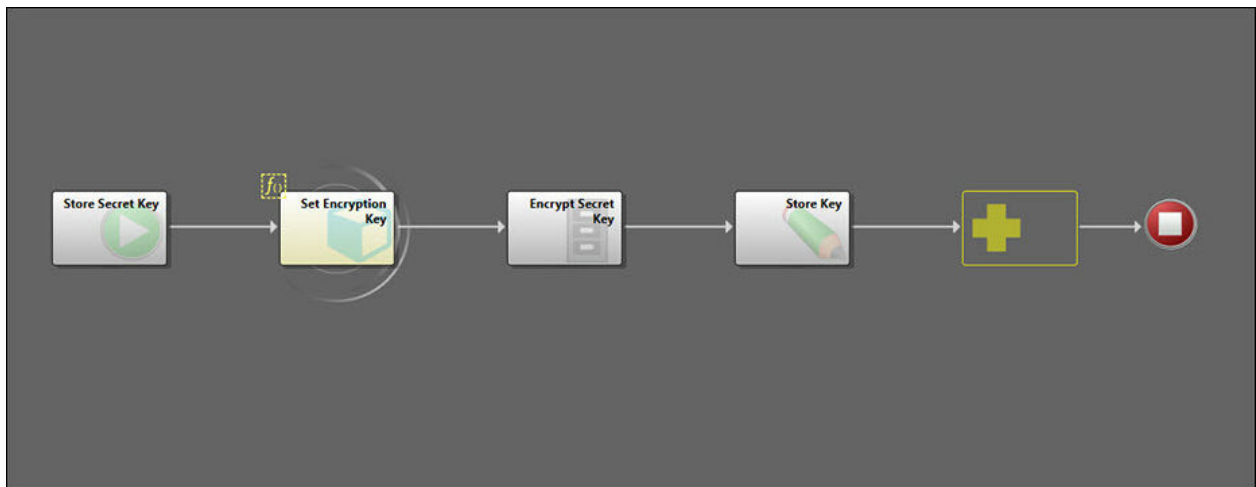
This topic covers the Action Blocks used in this mApp Solution and how they can be modified to suit your organization's needs, if desired. You can also use these Action Blocks as-is to cover the use cases described in [How the AWS mApp Solution Works](#).

Secure Authentication to AWS

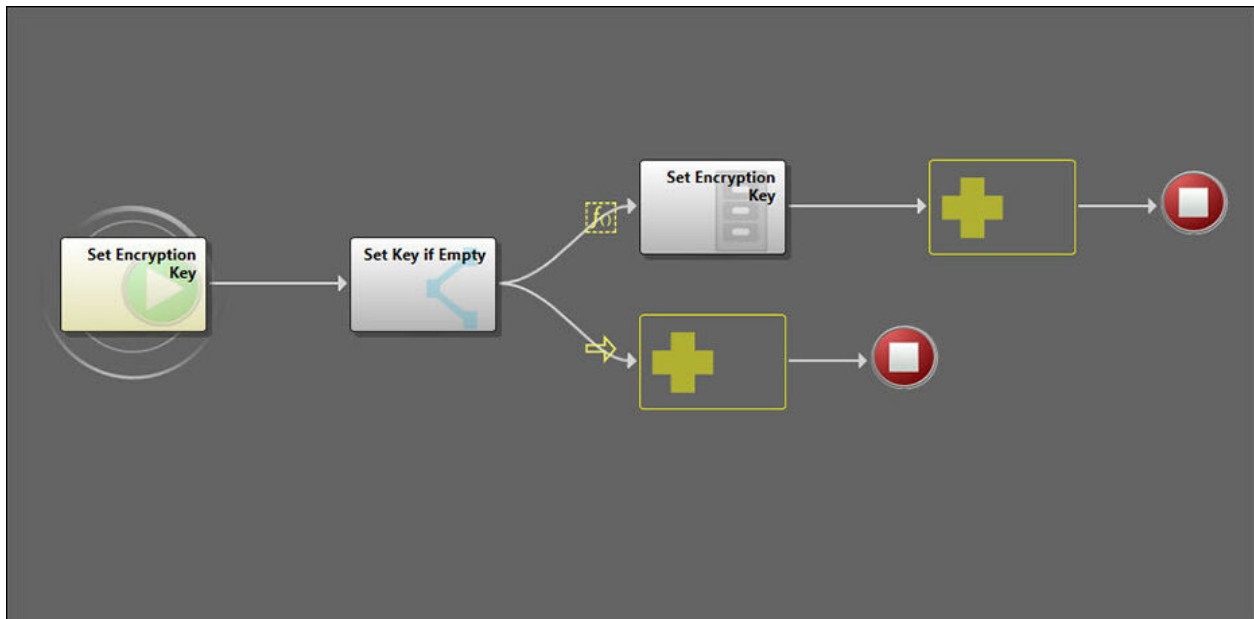
To facilitate authenticated AWS requests, there are two Action Blocks used by CSM to provide secure, encrypted authentication.

Set Encryption Key

The Set Encryption Key Action Block is called by the Store Secret Key One-Step Action to set the Encryption Key stored value, if it is empty.



The Set Encryption Key Action Block then checks to see whether the encryption key is currently populated. If it is, the Action Block cancels, but does not stop running the rest of the Store Secret Key One-Step Action. Although there is no need to set the encryption key if the value exists for the system, we do want to continue storing the secret key.



Generate Amazon Signature

The Generate Amazon Signature Action Block follows the standard Signature Version 4 signing process from Amazon. See [Signature 4](#). This Action Block is the only one stored in the Blueprint scope as it is delicate and should not be changed, unless the signing process itself changes. Its reusability means that each call doesn't need to add in these authentication steps (which can be difficult to troubleshoot), only call the Action Block and pass it the correct parameters for the specific API call.

Example: In the SearchProductsAsAdmin call, the Get Products As Admin Action Block calls the Generate Amazon Signature Action Block in step 2. See [Search Products as Admin](#).

Step Details for Generate Signature :

Parameters:

Name	Required
<input checked="" type="checkbox"/> Generate Signature.Request-DateTime	True
<input checked="" type="checkbox"/> Generate Signature.Request-Header	True
<input checked="" type="checkbox"/> Generate Signature.Request-Body	False
<input checked="" type="checkbox"/> Generate Signature.Service	True
<input checked="" type="checkbox"/> Generate Signature.Region	True
<input checked="" type="checkbox"/> Generate Signature.Algorithm	False
<input checked="" type="checkbox"/> Generate Signature.Debug	False
<input checked="" type="checkbox"/> Generate Signature.AmazonSecretKey	True
<input checked="" type="checkbox"/> Generate Signature.AmazonAccessKey	True
<input checked="" type="checkbox"/> Generate Signature.Verb	True
<input checked="" type="checkbox"/> Generate Signature.Nonce	False

Parameter Info:

Name: Generate Signature.Request-Header

Data Type: JSON Array

Required: True

Value:

```
[{"content-type":"application/x-amz-json-1.1"},
{"host":"servicecatalog.Region.amazonaws.com"},
{"x-amz-content-sha256":"29630dd1affde4a29c7737dfa10d9c33eea7091455018eee6ff4b364e371d4ae"},
{"x-amz-date":"Generate Signature.Request-DateTime"},
{"x-amz-target":"AWS242ServiceCatalogService.SearchProductsAsAdmin"}]
```

It then passes header information for the SearchProductAsAdmin call, which will be used by the Generate Amazon Signature Action Block to authenticate that specific call.

Step Details for Generate Amazon Signature :

General

General setup

Name: Generate Amazon Signature

General Description: Generates a signature to authorize the request, using the Signature Version 4 signing process as outlined in AWS General Reference documentation.

Business Object: (None)

☐ Execute Post Steps if One-Step fails

☐ Display in designer toolbox

Action Block Category: Amazon

Options

Request AWS Products

The series of API calls to request an AWS product for a particular customer uses four Action Blocks, one for each call made. It may use a fifth block if the product contains parameters, but this block does not correspond to an AWS API call.

1. [SearchProductsAsAdmin](#): The Get Products As Admin Action Block makes this call to obtain a list of products available for the portfolio that the Service Request customer can access.
2. [ListProvisioningArtifacts](#): The List Provisioning Artifacts Action Block makes this call to obtain the available provisioning artifacts, needed for the ListLaunchPaths call. It returns the currently active artifact details.
3. [ListLaunchPaths](#): The List Launch Paths Action Block retrieves the Launch Paths for a product to be provisioned.
4. [DescribeProvisioningParameters](#): The Describe Provisioning Parameters Action Block queries the AWS API for the parameters needed by a particular product to make the provisioning call.
 - a. (Optional) If the AWS product contains required parameters, CSM will run the Set Provisioning Parameters Action Block to populate the details needed on the Service Request specifics form.



Note: The required parameters are different for any given product, and are set in the CFT of the product in the AWS Service Catalog.

Provision AWS Product

Once you have completed the request workflow above, you can submit your request for approval. Once approved, this request automatically fires the ProvisionProduct API call, stored in an Action Block of the same name. See [Provision Product](#).

When the Service Request was created, all the details necessary for the provisioning are passed to this Action Block. If the AWS product contained required parameters, CSM will run the Update Provisioning Parameters Action Block as the first step in the Provision Product call, to gather any details that were entered by the user on the request.

Terminate AWS Product

The Terminate Provisioned Product Action Block makes the TerminateProvisionedProduct API call. See [Terminate Provisioned Product](#). Again, this Action Block receives all specific details from the One-Step™ Action which calls it. This call terminates any resources associated to a given product. Once they are terminated in AWS, they cannot be retrieved.

AWS Key Encryption

This mApp® Solution uses AWS Access keys to make direct API calls to AWS. These keys are securely encrypted and used in the Generate Amazon Signature Action Block to generate a signature according to Amazon's sig4 signing process.

This topic covers the encryption process in this mApp Solution as well as some CSM encryption best practices. For details about how to authenticate with keys after applying this mApp Solution, see [Configure AWS IAM for CSM](#) and [Add AWS Access Keys to CSM](#).

Encrypt Sensitive Data

To use this mApp Solution, your system is required to store private API keys in the database. You should rotate these keys as per AWS recommendation. For more details, see [Best practices for managing AWS access keys](#).



Note: While there is field-level encryption available in CSM, it is not designed to be used for values required in expressions and One-Step™ Actions. Instead, use the encryption modifier for these values.

There are three components needed for encryption with a modifier:

- **Encryption Key:** The Encryption Key is designed to be a global key unique to your CSM instance. When you apply the mApp Solution, this value will be blank. It will be set the first time you enter an encrypted value for your system, using the Set Encryption Key Action Block.
- **Nonce:** The nonce changes per encrypted value. A nonce is generated automatically for every record in the AWS Account table, where key values are stored.
- **Value to be encrypted:** In this case the secret key part of the AWS Access key



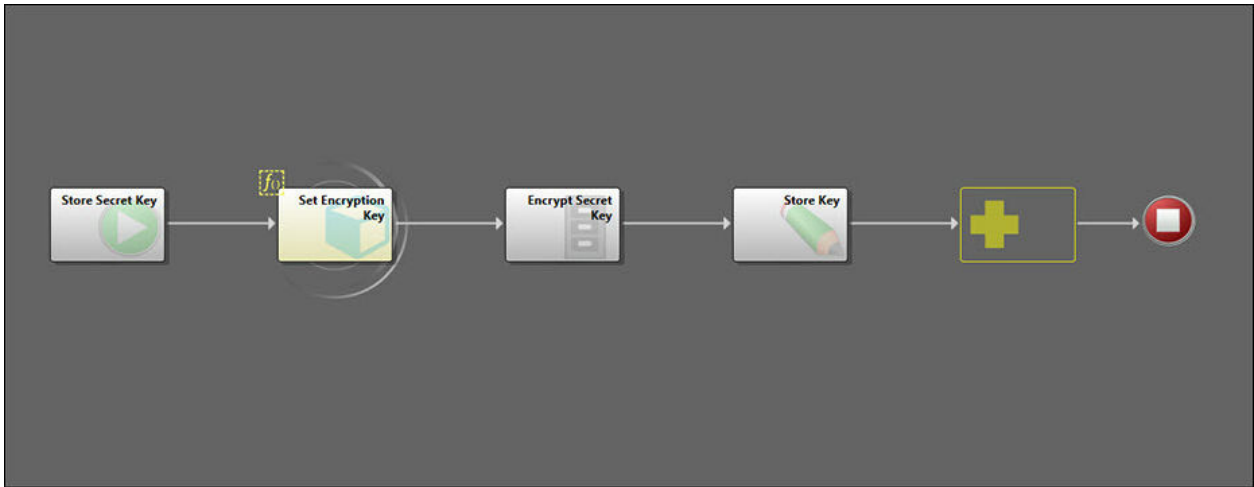
Important: The encryption modifier uses both the Encryption key and the nonce values to encrypt and decrypt the AWS secret key value. Once a value has been encrypted using the key and nonce values, you will need those same values to decrypt it. Ensure that your nonce and encryption key values are not overwritten or accidentally changed as this would leave you unable to decrypt these values and make authenticated calls to the AWS API.

Secure Authentication to AWS

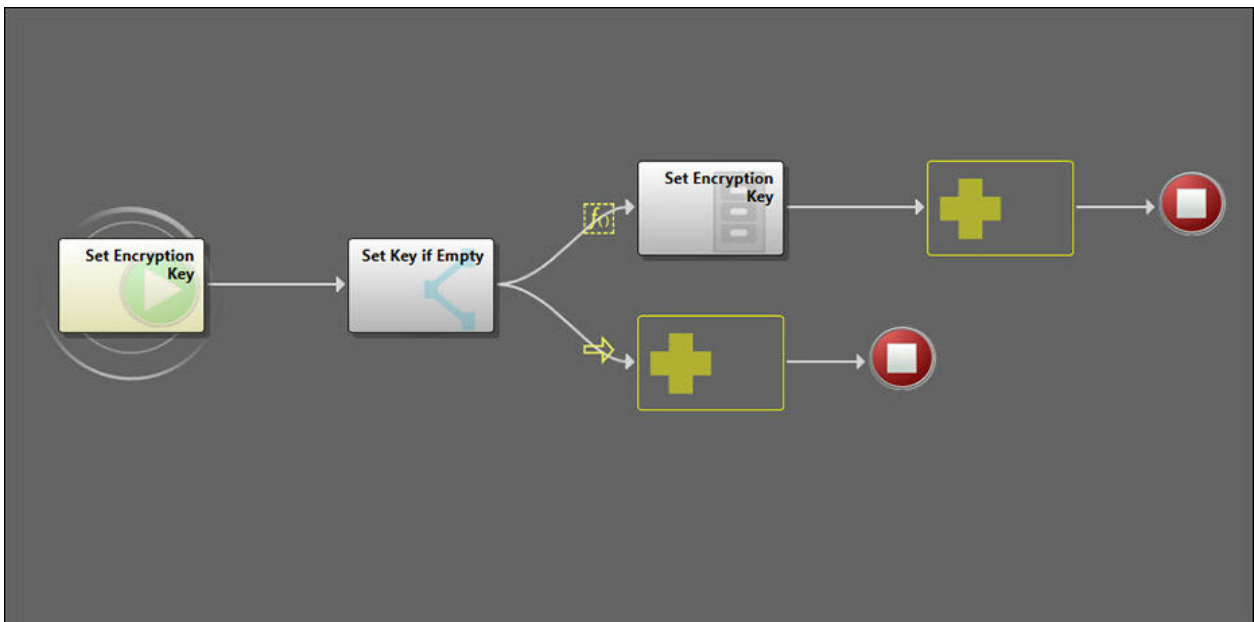
To facilitate authenticated AWS requests, there are two Action Blocks used by CSM to provide secure, encrypted authentication.

Set Encryption Key

The Set Encryption Key Action Block is called by the Store Secret Key One-Step Action to set the Encryption Key stored value, if it is empty.



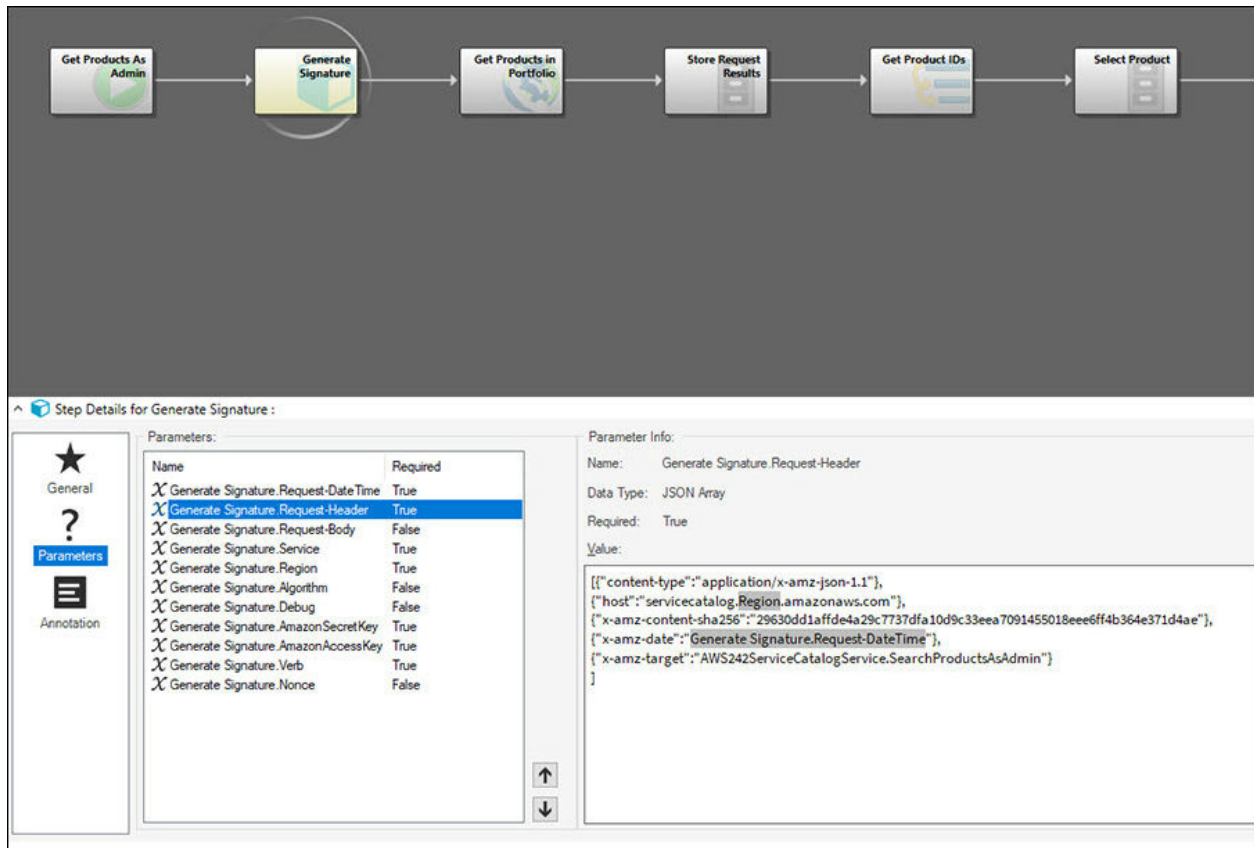
The Set Encryption Key Action Block then checks to see whether the encryption key is currently populated. If it is, the Action Block cancels, but does not stop running the rest of the Store Secret Key One-Step Action. Although there is no need to set the encryption key if the value exists for the system, we do want to continue storing the secret key.



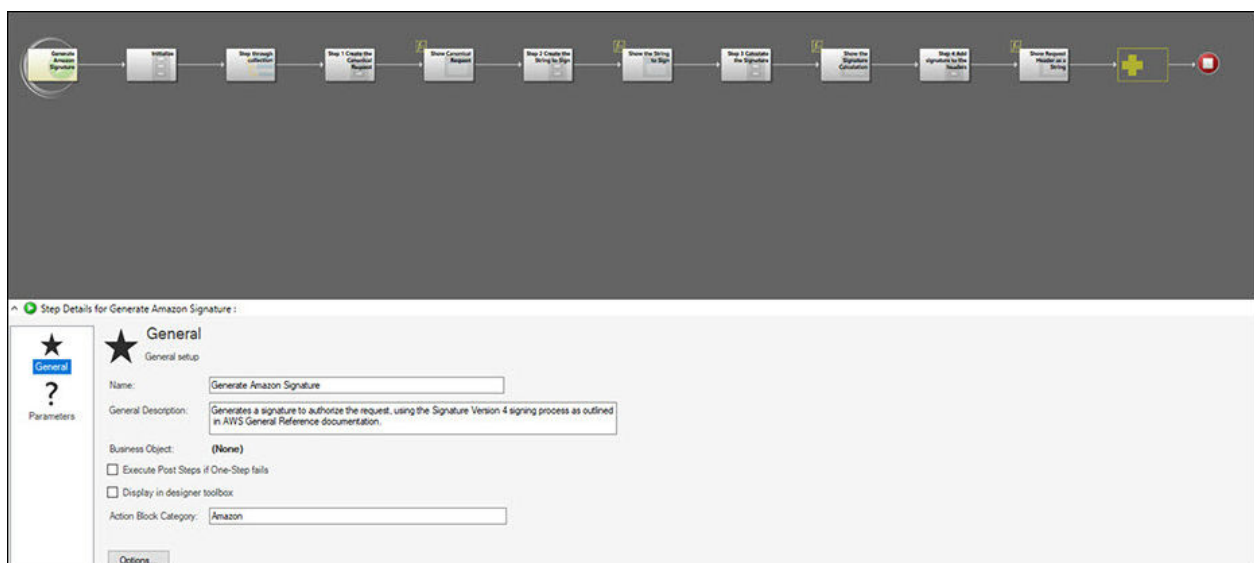
Generate Amazon Signature

The Generate Amazon Signature Action Block follows the standard Signature Version 4 signing process from Amazon. See [Signature 4](#). This Action Block is the only one stored in the Blueprint scope as it is delicate and should not be changed, unless the signing process itself changes. Its reusability means that each call doesn't need to add in these authentication steps (which can be difficult to troubleshoot), only call the Action Block and pass it the correct parameters for the specific API call.

Example: In the SearchProductsAsAdmin call, the Get Products As Admin Action Block calls the Generate Amazon Signature Action Block in step 2. See [Search Products as Admin](#).



It then passes header information for the SearchProductAsAdmin call, which will be used by the Generate Amazon Signature Action Block to authenticate that specific call.



Decryption and Use of the AWS Secret Key

This mApp Solution implements the AWS Signature Version 4 (sig4) signing process within the Generate Amazon Signature Action Block. This block handles key decryption at the point where the key is used, to ensure that it is decrypted at the last possible moment. At no point is the secret key value stored or output to plain text.

Grant AWS Account Access to CSM Users

This mApp® Solution has been configured to expect AWS Access keys at the organizational level. You may have a single or multiple keys; however, you do not need a key for every CSM user who will need access to AWS products. Rather, this access is granted by linking departments in CSM to portfolios in AWS.

This topic covers the method by which this access has been granted. Use the approach as-is, or modify it to suit your organizational needs.

Design Requirements for AWS Account Access

When designing the AWS Account access for customers in this mApp Solution, there are three requirements:

1. Customers should inherit their portfolio permissions from their department.
2. Customers could have access to multiple portfolios within a single account, or even multiple accounts. Therefore, access should be granted via AWS portfolios, rather than directly to accounts. Granting access via portfolios provided flexibility to offer multi-account access, while still limiting said access only to the portfolios deemed appropriate within any accounts.
3. Design should be as simple to edit as possible, while still meeting the first two requirements.

To meet these requirements, we implemented a multi-layered approach, outlined in detail below.

Inherit Portfolio Access from Departments

When a customer makes a request for an AWS product, their department information has been auto-populated on the Service Request by default, in `Incident.Department`. CSM then compares the department stored on the Service Request with a comma-separated list of departments on the AWS Account table to check whether the customer's department has access to this account.

CSM limits the accounts in the drop-down menu on the Specifics - AWS Provision form to only those where it can confirm a department match.

Field Properties

Validation/Auto-Population (Specifics - AWS Provision.Account Name field)
Choose if field should be validated and have its value automatically populated under certain conditions.
Press on the arrows (↕) for more options

☒ Validation

☒ Validate from AWS Account table [Edit Table Data...](#) [Sync](#)

Table: ☐ Lookup tables ☒ All tables

Field:

☒ Validation is enforced
☒ Selecting values triggers fill
☐ On conflict use first match

Limit values:

[Add](#) [Edit](#) [Delete](#)

☐ When limiting values change, clear field's value (normal)

Custom Error:

☒ Validate with range
☒ Validate from list
☒ Validate from User/Customer
☒ Other validation types

☒ Auto populate

☐ Auto populate

[OK](#) [Cancel](#)

Expressions Manager English (United States)

File Edit View Help

[+](#) [✗](#) [+](#) [+](#) View [↕](#) [A](#) Association:

Expressions

- Pinboard
- Blueprint
- User (CSDAdmin)
- Global

Valid Department f...

Expression

Name:

Description:

Editor:

[+](#) New [✗](#) Delete

Cases:

Default: %[Incident.Department]%

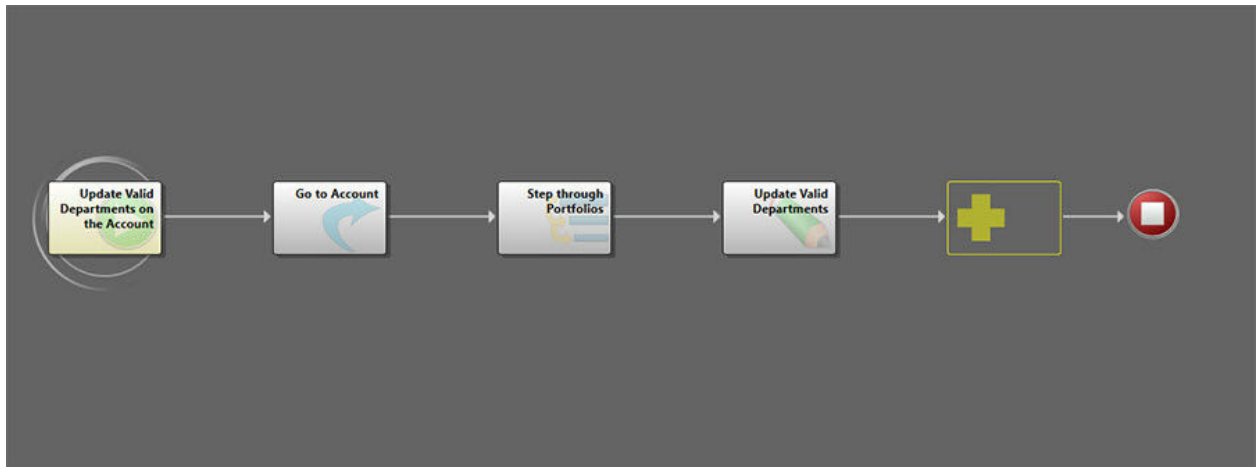
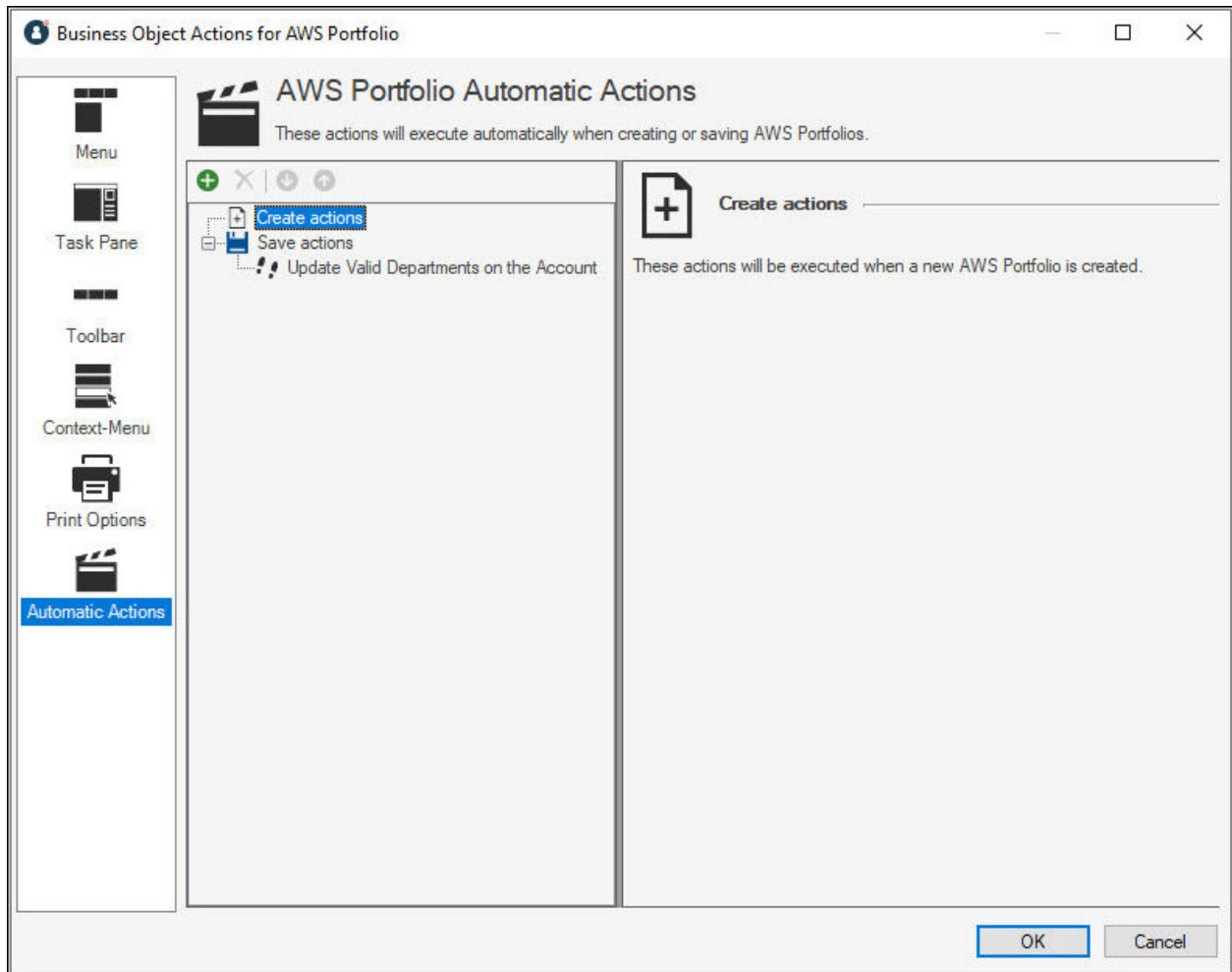
If condition is true

☒ Simple ☐ Advanced ☐ Named expression

Link Departments to AWS Account Records

Because departments are linked only to portfolios, but portfolios can only exist in the context of an AWS account, we established some automated updating of the AWS Account table, using Automatic Actions on the AWS Portfolio Business Object. When an AWS Portfolio record is saved, any departments linked that portfolio will update on the related AWS account record as well.

The Update Valid Departments on the Account One-Step™ Action happens on save of any portfolio record. It first navigates to the related AWS Account record, and then checks all portfolios tied to this AWS Account. From that check, it then builds a single list of valid departments and updates that list on the AWS Account record. By checking all related portfolios in addition to the one being saved, we can avoid duplication of departments in the valid departments list.



Change Portfolio Access

If you want to change portfolio access to another approach, you could modify the related expressions and One-Step™ Action to use different criteria.

You can also provide access to every CSM user via a personal AWS Access Key, and remove these account restrictions altogether. Consider your organization's security policies and needs for your implementation.

Apply the AWS mApp Solution

Prior to installing the AWS mApp Solution, you must have an established AWS instance, including products (defined by CloudFormation Templates [CFTs]) located inside portfolios in AWS Service Catalog. The approval process included in the mApp Solution will need to be customized to your organization's requirements. You will also need to update security rights for the Specifics - AWS Provision form so it can be viewed on the CSM Portal.

To apply the mApp Solution:

1. Download the mApp Solution.
2. Apply the mApp Solution using the Apply mApp Wizard in CSM Administrator.
3. You can choose **Make reasonable decisions, but ask me if unsure**, and then select **Next** until you get to the **Summary of Selected mApp Changes to Apply** window.
4. Review the summary of changes and ensure everything looks good for your implementation. Save to file if you wish. Select **Next**.
5. Select **Open a Blueprint so that I can preview the changes**.
6. Select **Finish**.
The Blueprint builds and opens.
7. We recommend saving and scanning the Blueprint prior to publishing. If you are using a Globalized environment, choose **Update validation foreign keys**. Select **Publish**.
The Blueprint should publish without error and the changes will apply to your database.

Configure the AWS mApp Solution

This topic covers the steps to configure the AWS mApp Solution using CSM Administrator and AWS Console. There are global configuration items, which need to be completed for any mApp Solution functionality to work, and use-case specific configuration items.

The configuration requirements for mApp Solutions vary depending on your existing environment and the setup in your AWS account. Review each topic in this section to determine which areas need to be manually configured.

Configuration by AWS Service

These services need to be enabled and configured for the AWS mApp Solution to work.

1. Identity and Access Management (IAM).
2. Service Catalog.
3. Simple Notification Service (SNS).

Configuration for CSM

Complete the following procedures to configure this mApp Solution. Configuration procedures are completed in the Desktop Client and CSM Administrator.

Complete these steps for the AWS mApp Solution to work.

1. [Configure Security Groups.](#)
2. [Add AWS Access Keys to CSM.](#)
3. [Add Departments to the AWS Portfolio Supporting Object.](#)

Configure these steps to support specific mApp Solution use cases.

- [Configure CSM to Add AWS Product Configuration Items to your CMDB.](#)
- [Configure CSM to Add Incidents for AWS Product Events.](#)

Required AWS Services

This mApp® Solution relies on these AWS Services to be enabled in your account: AWS Identity and Access Management (IAM), AWS Service Catalog, AWS Simple Notification Service (SNS), AWS Config, AWS CloudWatch and, optionally, AWS EventBridge. If your organization does not use these services, you may need to modify core functionality in the mApp Solution for proper integration.

For more details on specific setup steps for each service and how the mApp Solution uses each, see the related topics for each service.

Configure AWS IAM for CSM

Before you can connect to the AWS API, you will need to set up a pair of access keys in your AWS account.

Your specific AWS account should be set up according to your organization's security policies and AWS best practices. For CSM to connect via the AWS API, you must create access keys for use by the application. This can be done using a single key pair to connect for the organization, or it can be done on a user level. This mApp® Solution assumes the organization will use a single key pair for the entire organization, and rotate that key on an appropriate schedule.

Note: Make sure that the Identity and Access Management (IAM) user for which you generate these keys has the following permissions:



- AWSServiceCatalogAdminReadOnlyAccess
- AmazonS3ReadOnlyAccess
- AmazonEC2ReadOnlyAccess

Access to individual CSM users is granted through CSM. Individual customers should belong to a department, and departments should be granted access to an AWS Portfolio. For more information, see [Grant AWS Account Access to CSM Users](#) or [Add Departments to the AWS Portfolio Supporting Object](#).



Note: Make sure that the Identity and Access Management (IAM) user for which you generated the key also has access to any portfolios in your AWS account.

To set up AWS IAM for CSM:

1. In the AWS console, navigate to [AWS Identity and Access Management](#).
2. Follow the steps outlined in [Managing Access Keys for IAM Users](#) to generate a key pair for use with this integration. Save these access keys prior to completing [Add AWS Access Keys to CSM](#).

Configure AWS Service Catalog for CSM

This mApp® Solution expects that your AWS products will be stored inside a portfolio in AWS Service Catalog. The integration also supports multiple portfolios, but this is not required.

To configure the AWS Service Catalog:

1. Log into the AWS console and navigate to [Service Catalog](#).
2. Follow the steps outlined in the Getting Started section of AWS Service Catalog documentation (see [Getting Started](#)). Complete these steps prior to setting up [Add Departments to the AWS Portfolio Supporting Object](#). Ensure that you have at least one portfolio here and your products are stored inside it.
3. Select **AWS Service catalog**. This mApp Solution assumes that Service Catalog and portfolio are used, even if you have only one.

Service Catalog End User Baseline Permissions

4. If you have not already done so, you will need to make sure the CFTs in the Service Catalog have the correct IAM roles and security to run.
5. Add the following permissions (policies) to the user whose keys you will use to call the API:
 - a. AWSServiceCatalogAdminReadOnlyAccess (AWS managed policy)
 - b. AmazonS3ReadOnlyAccess (AWS managed policy)
 - c. AmazonEC2ReadOnlyAccess (AWS managed policy)

Sample CFT for an EC2 Instance

This is the sample CloudFormation Template (CFT) used to create RDS instances for testing this mApp® Solution. Because this mApp Solution pulls information dynamically via the AWS API, request details for provisioning the RDS samples in this integration come directly from this CFT.

```

    AWSTemplateFormatVersion: '2010-09-09'

Description: >-
    AWS CloudFormation Sample Template EC2InstanceWithSecurityGroupSample: Cr
    eate an Amazon EC2 instance running the Amazon Linux AMI. The AMI is chose
    n based on the region in which the stack is run. This example creates an EC
    2 security group for the instance to give you SSH access. **WARNING** This
    template creates an Amazon EC2 instance. You will be billed for the AWS res
    ources used if you create a stack from this template.

Parameters:
    Environment:
        Description: Can be test or prod
        Type: String
        AllowedValues:
            - test
            - prod
        Default: test
    KeyName:
        Description: Name of an existing EC2 KeyPair to enable SSH access to th
        e instance
        Type: 'AWS::EC2::KeyPair::KeyName'
        Default: aws-bastion
        ConstraintDescription: must be the name of an existing EC2 KeyPair.
    InstanceType:
        Description: WebServer EC2 instance type
        Type: String
        Default: t2.small
        AllowedValues:
            - t1.micro
            - t2.nano

```

- t2.micro
- t2.small
- t2.medium
- t2.large
- m1.small
- m1.medium
- m1.large
- m1.xlarge
- m2.xlarge
- m2.2xlarge
- m2.4xlarge
- m3.medium
- m3.large
- m3.xlarge
- m3.2xlarge
- m4.large
- m4.xlarge
- m4.2xlarge
- m4.4xlarge
- m4.10xlarge
- c1.medium
- c1.xlarge
- c3.large
- c3.xlarge
- c3.2xlarge
- c3.4xlarge
- c3.8xlarge
- c4.large
- c4.xlarge
- c4.2xlarge
- c4.4xlarge
- c4.8xlarge
- g2.2xlarge
- g2.8xlarge

- r3.large
- r3.xlarge
- r3.2xlarge
- r3.4xlarge
- r3.8xlarge
- i2.xlarge
- i2.2xlarge
- i2.4xlarge
- i2.8xlarge
- d2.xlarge
- d2.2xlarge
- d2.4xlarge
- d2.8xlarge
- hi1.4xlarge
- hs1.8xlarge
- cr1.8xlarge
- cc2.8xlarge
- cg1.4xlarge

ConstraintDescription: must be a valid EC2 instance type.

SSHLocation:

Description: The IP address range that can be used to SSH to the EC2 instances

Type: String

MinLength: '9'

MaxLength: '18'

Default: 0.0.0.0/0

AllowedPattern: '(\d{1,3})\.\d{1,3})\.\d{1,3})\.\d{1,3})/(\d{1,2})'

ConstraintDescription: must be a valid IP CIDR range of the form x.x.x.x/x.

Mappings:

AWSInstanceType2Arch:

t1.micro:

Arch: PV64

t2.nano:

```
Arch: HVM64
t2.micro:
Arch: HVM64
t2.small:
Arch: HVM64
t2.medium:
Arch: HVM64
t2.large:
Arch: HVM64
m1.small:
Arch: PV64
m1.medium:
Arch: PV64
m1.large:
Arch: PV64
m1.xlarge:
Arch: PV64
m2.xlarge:
Arch: PV64
m2.2xlarge:
Arch: PV64
m2.4xlarge:
Arch: PV64
m3.medium:
Arch: HVM64
m3.large:
Arch: HVM64
m3.xlarge:
Arch: HVM64
m3.2xlarge:
Arch: HVM64
m4.large:
Arch: HVM64
m4.xlarge:
```

```
Arch: HVM64
m4.2xlarge:
  Arch: HVM64
m4.4xlarge:
  Arch: HVM64
m4.10xlarge:
  Arch: HVM64
c1.medium:
  Arch: PV64
c1.xlarge:
  Arch: PV64
c3.large:
  Arch: HVM64
c3.xlarge:
  Arch: HVM64
c3.2xlarge:
  Arch: HVM64
c3.4xlarge:
  Arch: HVM64
c3.8xlarge:
  Arch: HVM64
c4.large:
  Arch: HVM64
c4.xlarge:
  Arch: HVM64
c4.2xlarge:
  Arch: HVM64
c4.4xlarge:
  Arch: HVM64
c4.8xlarge:
  Arch: HVM64
g2.2xlarge:
  Arch: HVMG2
g2.8xlarge:
```

```
Arch: HVMG2
r3.large:
  Arch: HVM64
r3.xlarge:
  Arch: HVM64
r3.2xlarge:
  Arch: HVM64
r3.4xlarge:
  Arch: HVM64
r3.8xlarge:
  Arch: HVM64
i2.xlarge:
  Arch: HVM64
i2.2xlarge:
  Arch: HVM64
i2.4xlarge:
  Arch: HVM64
i2.8xlarge:
  Arch: HVM64
d2.xlarge:
  Arch: HVM64
d2.2xlarge:
  Arch: HVM64
d2.4xlarge:
  Arch: HVM64
d2.8xlarge:
  Arch: HVM64
hi1.4xlarge:
  Arch: HVM64
hs1.8xlarge:
  Arch: HVM64
cr1.8xlarge:
  Arch: HVM64
cc2.8xlarge:
```

```
Arch: HVM64
AWSInstanceType2NATArch:
t1.micro:
  Arch: NATPV64
t2.nano:
  Arch: NATHVM64
t2.micro:
  Arch: NATHVM64
t2.small:
  Arch: NATHVM64
t2.medium:
  Arch: NATHVM64
t2.large:
  Arch: NATHVM64
m1.small:
  Arch: NATPV64
m1.medium:
  Arch: NATPV64
m1.large:
  Arch: NATPV64
m1.xlarge:
  Arch: NATPV64
m2.xlarge:
  Arch: NATPV64
m2.2xlarge:
  Arch: NATPV64
m2.4xlarge:
  Arch: NATPV64
m3.medium:
  Arch: NATHVM64
m3.large:
  Arch: NATHVM64
m3.xlarge:
  Arch: NATHVM64
```

```
m3.2xlarge:
  Arch: NATHVM64
m4.large:
  Arch: NATHVM64
m4.xlarge:
  Arch: NATHVM64
m4.2xlarge:
  Arch: NATHVM64
m4.4xlarge:
  Arch: NATHVM64
m4.10xlarge:
  Arch: NATHVM64
c1.medium:
  Arch: NATPV64
c1.xlarge:
  Arch: NATPV64
c3.large:
  Arch: NATHVM64
c3.xlarge:
  Arch: NATHVM64
c3.2xlarge:
  Arch: NATHVM64
c3.4xlarge:
  Arch: NATHVM64
c3.8xlarge:
  Arch: NATHVM64
c4.large:
  Arch: NATHVM64
c4.xlarge:
  Arch: NATHVM64
c4.2xlarge:
  Arch: NATHVM64
c4.4xlarge:
  Arch: NATHVM64
```

```
c4.8xlarge:
  Arch: NATHVM64
g2.2xlarge:
  Arch: NATHVMG2
g2.8xlarge:
  Arch: NATHVMG2
r3.large:
  Arch: NATHVM64
r3.xlarge:
  Arch: NATHVM64
r3.2xlarge:
  Arch: NATHVM64
r3.4xlarge:
  Arch: NATHVM64
r3.8xlarge:
  Arch: NATHVM64
i2.xlarge:
  Arch: NATHVM64
i2.2xlarge:
  Arch: NATHVM64
i2.4xlarge:
  Arch: NATHVM64
i2.8xlarge:
  Arch: NATHVM64
d2.xlarge:
  Arch: NATHVM64
d2.2xlarge:
  Arch: NATHVM64
d2.4xlarge:
  Arch: NATHVM64
d2.8xlarge:
  Arch: NATHVM64
hi1.4xlarge:
  Arch: NATHVM64
```

```
hs1.8xlarge:
  Arch: NATHVM64
cr1.8xlarge:
  Arch: NATHVM64
cc2.8xlarge:
  Arch: NATHVM64
AWSRegionArch2AMI:
us-east-1:
  PV64: ami-2a69aa47
  HVM64: ami-6869aa05
  HVMG2: ami-22b68b59
us-west-2:
  PV64: ami-7f77b31f
  HVM64: ami-7172b611
  HVMG2: ami-be4ea3c6
us-west-1:
  PV64: ami-a2490dc2
  HVM64: ami-31490d51
  HVMG2: ami-cfe5cfaf
eu-west-1:
  PV64: ami-4cdd453f
  HVM64: ami-f9dd458a
  HVMG2: ami-aedb26d7
eu-west-2:
  PV64: NOT_SUPPORTED
  HVM64: ami-886369ec
  HVMG2: NOT_SUPPORTED
eu-central-1:
  PV64: ami-6527cf0a
  HVM64: ami-ea26ce85
  HVMG2: ami-40b8102f
ap-northeast-1:
  PV64: ami-3e42b65f
  HVM64: ami-374db956
```



```
HVMG2: ami-d95aabbf
ap-northeast-2:
  PV64: NOT_SUPPORTED
  HVM64: ami-2b408b45
  HVMG2: NOT_SUPPORTED
ap-southeast-1:
  PV64: ami-df9e4cbc
  HVM64: ami-a59b49c6
  HVMG2: ami-15660276
ap-southeast-2:
  PV64: ami-63351d00
  HVM64: ami-dc361ebf
  HVMG2: ami-0b5a4168
ap-south-1:
  PV64: NOT_SUPPORTED
  HVM64: ami-ffbdd790
  HVMG2: ami-f4cdb79b
us-east-2:
  PV64: NOT_SUPPORTED
  HVM64: ami-f6035893
  HVMG2: NOT_SUPPORTED
ca-central-1:
  PV64: NOT_SUPPORTED
  HVM64: ami-730ebd17
  HVMG2: NOT_SUPPORTED
sa-east-1:
  PV64: ami-1ad34676
  HVM64: ami-6dd04501
  HVMG2: NOT_SUPPORTED
cn-north-1:
  PV64: ami-77559f1a
  HVM64: ami-8e6aa0e3
  HVMG2: NOT_SUPPORTED
Resources:
```

```
EC2Instance:
  Type: 'AWS::EC2::Instance'
  Properties:
    InstanceType:
      Ref: InstanceType
    SecurityGroups:
      - Ref: InstanceSecurityGroup
    KeyName:
      Ref: KeyName
    ImageId:
      'Fn::FindInMap':
        - AWSRegionArch2AMI
        - Ref: 'AWS::Region'
        - 'Fn::FindInMap':
            - AWSInstanceType2Arch
            - Ref: InstanceType
            - Arch
    InstanceSecurityGroup:
      Type: 'AWS::EC2::SecurityGroup'
      Properties:
        GroupDescription: Enable SSH access via port 22
        SecurityGroupIngress:
          - IpProtocol: tcp
            FromPort: '22'
            ToPort: '22'
            CidrIp:
              Ref: SSHLocation
  Outputs:
    InstanceId:
      Description: InstanceId of the newly created EC2 instance
      Value:
        Ref: EC2Instance
    AZ:
      Description: Availability Zone of the newly created EC2 instance
```

```
Value:
  'Fn::GetAtt':
    - EC2Instance
    - AvailabilityZone
PublicDNS:
  Description: Public DNSName of the newly created EC2 instance
  Value:
    'Fn::GetAtt':
      - EC2Instance
      - PublicDnsName
PublicIP:
  Description: Public IP address of the newly created EC2 instance
  Value:
    'Fn::GetAtt':
      - EC2Instance
      - PublicIp
```

Sample CFT for an RDS Instance

This is the sample CloudFormation Template (CFT) used to create RDS instances for testing this mApp® Solution. Because this mApp Solution pulls information dynamically via the AWS API, request details for provisioning the RDS samples in this integration come directly from this CFT.

```
{
  "AWSTemplateFormatVersion": "2010-09-09",
  "Description": "AWS CloudFormation Sample Template RDS_with_DBParameterGroup: Sample template showing how to create an Amazon RDS Database Instance with a DBParameterGroup.**WARNING** This template creates an Amazon Relational Database Service database instance. You will be billed for the AWS resources used if you create a stack from this template.",
  "Parameters": {
    "DBName": {
      "Default": "MyDatabase",
      "Description": "The database name",
      "Type": "String",
      "MinLength": "1",
      "MaxLength": "64",
      "AllowedPattern": "[a-zA-Z][a-zA-Z0-9]*",
      "ConstraintDescription": "must begin with a letter and contain only alphanumeric characters."
    },
    "DBUser": {
      "NoEcho": "true",
      "Description": "The database admin account username",
      "Type": "String",
      "MinLength": "1",
      "MaxLength": "16",
      "AllowedPattern": "[a-zA-Z][a-zA-Z0-9]*",
      "ConstraintDescription": "must begin with a letter and contain only alphanumeric characters."
    },
    "DBPassword": {
```

```

        "NoEcho":"true",
        "Description":"The database admin account password",
        "Type":"String",
        "MinLength":"8",
        "MaxLength":"41",
        "AllowedPattern":"[a-zA-Z0-9]*",
        "ConstraintDescription":"must contain only alphanumeric characters
    ."
    }
},
"Resources":{
    "MyDB":{
        "Type":"AWS::RDS::DBInstance",
        "Properties":{
            "DBName":{
                "Ref":"DBName"
            },
            "AllocatedStorage":"5",
            "DBInstanceClass":"db.t2.small",
            "Engine":"MySQL",
            "EngineVersion":"5.7.22",
            "MasterUsername":{
                "Ref":"DBUser"
            },
            "MasterUserPassword":{
                "Ref":"DBPassword"
            }
        }
    }
},
"Outputs":{
    "JDBCCConnectionString":{
        "Description":"JDBC connection string for the database",
        "Value":{

```

```
"Fn::Join":[
  "",
  [
    "jdbc:mysql://",
    {
      "Fn::GetAtt":[
        "MyDB",
        "Endpoint.Address"
      ]
    },
    ":",
    {
      "Fn::GetAtt":[
        "MyDB",
        "Endpoint.Port"
      ]
    },
    "/",
    {
      "Ref":"DBName"
    }
  ]
]
}
```

Sample CFT for an S3 Bucket

This is the sample CloudFormation Template (CFT) used to create the S3 Buckets for testing this mApp® Solution. Because this mApp Solution pulls information dynamically via the AWS API, request details for provisioning the S3 Bucket samples in this integration come directly from this CFT.

```
AWSTemplateFormatVersion: '2010-09-09'

Description: >-
  AWS CloudFormation Sample Template S3 Bucket: Create an Amazon S3 Bucket
  .
  **WARNING** This template creates an Amazon S3 Bucket. You will be billed for
  the AWS resources used if you create a stack from this template.

Resources:
  Bucket:
    Type: 'AWS::S3::Bucket'

Outputs:
  InstanceId:
    Description: Name of the newly S3 Bucket Name
    Value:
      Ref: Bucket
```

Sample CFT for a LAMP Stack

This is the sample CloudFormation Template (CFT) used to create RDS and EC2 instances that form a LAMP Stack for testing this mApp® Solution. Because this mApp Solution pulls information dynamically via the AWS API, request details for provisioning the LAMP Stack samples in this integration come directly from this CFT.

```
{
  "AWSTemplateFormatVersion": "2010-09-09",

  "Description": "AWS CloudFormation Sample Template LAMP_Multi_AZ: Create
a highly available, scalable LAMP stack with an Amazon RDS database instanc
e for the backend data store. This template demonstrates using the AWS Clou
dFormation bootstrap scripts to install the packages and files necessary t
o deploy the Apache web server and PHP at instance launch time. **WARNING*
* This template creates one or more Amazon EC2 instances, an Application Lo
ad Balancer and an Amazon RDS DB instance. You will be billed for the AWS r
esources used if you create a stack from this template.",

  "Parameters": {
    "VpcId": {
      "Type": "AWS::EC2::VPC::Id",
      "Description": "VpcId of your existing Virtual Private Cloud (VPC)",
      "ConstraintDescription": "must be the VPC Id of an existing Virtual P
rivate Cloud."
    },

    "Subnets": {
      "Type": "List<AWS::EC2::Subnet::Id>",
      "Description": "The list of SubnetIds in your Virtual Private Cloud (
VPC)",
      "ConstraintDescription": "must be a list of at least two existing sub
nets associated with at least two different availability zones. They shoul
d be residing in the selected Virtual Private Cloud."
    }
  },
```



```
"KeyName": {
  "Description": "Name of an existing EC2 KeyPair to enable SSH access
to the instances",
  "Type": "AWS::EC2::KeyPair::KeyName",
  "ConstraintDescription": "must be the name of an existing EC2 KeyPair
."
},

"DBName": {
  "Default": "myDatabase",
  "Description": "MySQL database name",
  "Type": "String",
  "MinLength": "1",
  "MaxLength": "64",
  "AllowedPattern": "[a-zA-Z][a-zA-Z0-9]*",
  "ConstraintDescription": "must begin with a letter and contain only a
lphanumeric characters."
},

"DBUser": {
  "NoEcho": "true",
  "Description": "Username for MySQL database access",
  "Type": "String",
  "MinLength": "1",
  "MaxLength": "16",
  "AllowedPattern": "[a-zA-Z][a-zA-Z0-9]*",
  "ConstraintDescription": "must begin with a letter and contain only a
lphanumeric characters."
},

"DBPassword": {
  "NoEcho": "true",
  "Description": "Password for MySQL database access",
```

```

    "Type": "String",
    "MinLength": "8",
    "MaxLength": "41",
    "AllowedPattern": "[a-zA-Z0-9]*",
    "ConstraintDescription": "must contain only alphanumeric characters."
  },

  "DBAllocatedStorage": {
    "Default": "5",
    "Description": "The size of the database (Gb)",
    "Type": "Number",
    "MinValue": "5",
    "MaxValue": "1024",
    "ConstraintDescription": "must be between 5 and 1024Gb."
  },

  "DBInstanceClass": {
    "Description": "The database instance type",
    "Type": "String",
    "Default": "db.t2.small",
    "AllowedValues": ["db.t1.micro", "db.m1.small", "db.m1.medium", "db.m1.large", "db.m1.xlarge", "db.m2.xlarge", "db.m2.2xlarge", "db.m2.4xlarge", "db.m3.medium", "db.m3.large", "db.m3.xlarge", "db.m3.2xlarge", "db.m4.large", "db.m4.xlarge", "db.m4.2xlarge", "db.m4.4xlarge", "db.m4.10xlarge", "db.r3.large", "db.r3.xlarge", "db.r3.2xlarge", "db.r3.4xlarge", "db.r3.8xlarge", "db.m2.xlarge", "db.m2.2xlarge", "db.m2.4xlarge", "db.cr1.8xlarge", "db.t2.micro", "db.t2.small", "db.t2.medium", "db.t2.large"],
    "ConstraintDescription": "must select a valid database instance type."
  },

  "MultiAZDatabase": {
    "Default": "true",
    "Description": "Create a Multi-AZ MySQL Amazon RDS database instance"
  }
}

```

```

    ,
    "Type": "String",
    "AllowedValues": ["true", "false"],
    "ConstraintDescription": "must be either true or false."
  },

  "WebServerCapacity": {
    "Default": "2",
    "Description": "The initial number of WebServer instances",
    "Type": "Number",
    "MinValue": "1",
    "MaxValue": "5",
    "ConstraintDescription": "must be between 1 and 5 EC2 instances."
  },

  "InstanceType": {
    "Description": "WebServer EC2 instance type",
    "Type": "String",
    "Default": "t2.small",
    "AllowedValues": ["t1.micro", "t2.nano", "t2.micro", "t2.small", "t2.
medium", "t2.large", "m1.small", "m1.medium", "m1.large", "m1.xlarge", "m2.
xlarge", "m2.2xlarge", "m2.4xlarge", "m3.medium", "m3.large", "m3.xlarge",
"m3.2xlarge", "m4.large", "m4.xlarge", "m4.2xlarge", "m4.4xlarge", "m4.10xlarge",
"c1.medium", "c1.xlarge", "c3.large", "c3.xlarge", "c3.2xlarge", "c3.
4xlarge", "c3.8xlarge", "c4.large", "c4.xlarge", "c4.2xlarge", "c4.4xlarge",
" ", "c4.8xlarge", "g2.2xlarge", "g2.8xlarge", "r3.large", "r3.xlarge", "r3.2
xlarge", "r3.4xlarge", "r3.8xlarge", "i2.xlarge", "i2.2xlarge", "i2.4xlarge",
" ", "i2.8xlarge", "d2.xlarge", "d2.2xlarge", "d2.4xlarge", "d2.8xlarge", "hi
1.4xlarge", "hs1.8xlarge", "cr1.8xlarge", "cc2.8xlarge", "cg1.4xlarge"],
    "ConstraintDescription": "must be a valid EC2 instance type."
  },

  "SSHLocation": {
    "Description": " The IP address range that can be used to SSH to the
EC2 instances",

```

```

    "Type": "String",
    "MinLength": "9",
    "MaxLength": "18",
    "Default": "0.0.0.0/0",
    "AllowedPattern": "(\\d{1,3})\\. (\\d{1,3})\\. (\\d{1,3})\\. (\\d{1,3}) /
(\\d{1,2})",
    "ConstraintDescription": "must be a valid IP CIDR range of the form x
.x.x.x/x."
  }
},

"Mappings": {
  "AWSInstanceType2Arch": {
    "t1.micro": {
      "Arch": "HVM64"
    },
    "t2.nano": {
      "Arch": "HVM64"
    },
    "t2.micro": {
      "Arch": "HVM64"
    },
    "t2.small": {
      "Arch": "HVM64"
    },
    "t2.medium": {
      "Arch": "HVM64"
    },
    "t2.large": {
      "Arch": "HVM64"
    },
    "m1.small": {
      "Arch": "HVM64"
    },
  },

```

```
"m1.medium": {
  "Arch": "HVM64"
},
"m1.large": {
  "Arch": "HVM64"
},
"m1.xlarge": {
  "Arch": "HVM64"
},
"m2.xlarge": {
  "Arch": "HVM64"
},
"m2.2xlarge": {
  "Arch": "HVM64"
},
"m2.4xlarge": {
  "Arch": "HVM64"
},
"m3.medium": {
  "Arch": "HVM64"
},
"m3.large": {
  "Arch": "HVM64"
},
"m3.xlarge": {
  "Arch": "HVM64"
},
"m3.2xlarge": {
  "Arch": "HVM64"
},
"m4.large": {
  "Arch": "HVM64"
},
"m4.xlarge": {
```

```
    "Arch": "HVM64"
  },
  "m4.2xlarge": {
    "Arch": "HVM64"
  },
  "m4.4xlarge": {
    "Arch": "HVM64"
  },
  "m4.10xlarge": {
    "Arch": "HVM64"
  },
  "c1.medium": {
    "Arch": "HVM64"
  },
  "c1.xlarge": {
    "Arch": "HVM64"
  },
  "c3.large": {
    "Arch": "HVM64"
  },
  "c3.xlarge": {
    "Arch": "HVM64"
  },
  "c3.2xlarge": {
    "Arch": "HVM64"
  },
  "c3.4xlarge": {
    "Arch": "HVM64"
  },
  "c3.8xlarge": {
    "Arch": "HVM64"
  },
  "c4.large": {
    "Arch": "HVM64"
```

```
,
  "c4.xlarge": {
    "Arch": "HVM64"
  },
  "c4.2xlarge": {
    "Arch": "HVM64"
  },
  "c4.4xlarge": {
    "Arch": "HVM64"
  },
  "c4.8xlarge": {
    "Arch": "HVM64"
  },
  "g2.2xlarge": {
    "Arch": "HVMG2"
  },
  "g2.8xlarge": {
    "Arch": "HVMG2"
  },
  "r3.large": {
    "Arch": "HVM64"
  },
  "r3.xlarge": {
    "Arch": "HVM64"
  },
  "r3.2xlarge": {
    "Arch": "HVM64"
  },
  "r3.4xlarge": {
    "Arch": "HVM64"
  },
  "r3.8xlarge": {
    "Arch": "HVM64"
  },
}
```

```
"i2.xlarge": {
  "Arch": "HVM64"
},
"i2.2xlarge": {
  "Arch": "HVM64"
},
"i2.4xlarge": {
  "Arch": "HVM64"
},
"i2.8xlarge": {
  "Arch": "HVM64"
},
"d2.xlarge": {
  "Arch": "HVM64"
},
"d2.2xlarge": {
  "Arch": "HVM64"
},
"d2.4xlarge": {
  "Arch": "HVM64"
},
"d2.8xlarge": {
  "Arch": "HVM64"
},
"hi1.4xlarge": {
  "Arch": "HVM64"
},
"hs1.8xlarge": {
  "Arch": "HVM64"
},
"cr1.8xlarge": {
  "Arch": "HVM64"
},
"cc2.8xlarge": {
```



```
        "Arch": "HVM64"
    },
    },
    "AWSInstanceType2NATArch": {
        "t1.micro": {
            "Arch": "NATHVM64"
        },
        "t2.nano": {
            "Arch": "NATHVM64"
        },
        "t2.micro": {
            "Arch": "NATHVM64"
        },
        "t2.small": {
            "Arch": "NATHVM64"
        },
        "t2.medium": {
            "Arch": "NATHVM64"
        },
        "t2.large": {
            "Arch": "NATHVM64"
        },
        "m1.small": {
            "Arch": "NATHVM64"
        },
        "m1.medium": {
            "Arch": "NATHVM64"
        },
        "m1.large": {
            "Arch": "NATHVM64"
        },
        "m1.xlarge": {
            "Arch": "NATHVM64"
        }
    }
```

```
,
  "m2.xlarge": {
    "Arch": "NATHVM64"
  },
  "m2.2xlarge": {
    "Arch": "NATHVM64"
  },
  "m2.4xlarge": {
    "Arch": "NATHVM64"
  },
  "m3.medium": {
    "Arch": "NATHVM64"
  },
  "m3.large": {
    "Arch": "NATHVM64"
  },
  "m3.xlarge": {
    "Arch": "NATHVM64"
  },
  "m3.2xlarge": {
    "Arch": "NATHVM64"
  },
  "m4.large": {
    "Arch": "NATHVM64"
  },
  "m4.xlarge": {
    "Arch": "NATHVM64"
  },
  "m4.2xlarge": {
    "Arch": "NATHVM64"
  },
  "m4.4xlarge": {
    "Arch": "NATHVM64"
  },
},
```

```
"m4.10xlarge": {
  "Arch": "NATHVM64"
},
"c1.medium": {
  "Arch": "NATHVM64"
},
"c1.xlarge": {
  "Arch": "NATHVM64"
},
"c3.large": {
  "Arch": "NATHVM64"
},
"c3.xlarge": {
  "Arch": "NATHVM64"
},
"c3.2xlarge": {
  "Arch": "NATHVM64"
},
"c3.4xlarge": {
  "Arch": "NATHVM64"
},
"c3.8xlarge": {
  "Arch": "NATHVM64"
},
"c4.large": {
  "Arch": "NATHVM64"
},
"c4.xlarge": {
  "Arch": "NATHVM64"
},
"c4.2xlarge": {
  "Arch": "NATHVM64"
},
"c4.4xlarge": {
```

```
    "Arch": "NATHVM64"
  },
  "c4.8xlarge": {
    "Arch": "NATHVM64"
  },
  "g2.2xlarge": {
    "Arch": "NATHVMG2"
  },
  "g2.8xlarge": {
    "Arch": "NATHVMG2"
  },
  "r3.large": {
    "Arch": "NATHVM64"
  },
  "r3.xlarge": {
    "Arch": "NATHVM64"
  },
  "r3.2xlarge": {
    "Arch": "NATHVM64"
  },
  "r3.4xlarge": {
    "Arch": "NATHVM64"
  },
  "r3.8xlarge": {
    "Arch": "NATHVM64"
  },
  "i2.xlarge": {
    "Arch": "NATHVM64"
  },
  "i2.2xlarge": {
    "Arch": "NATHVM64"
  },
  "i2.4xlarge": {
    "Arch": "NATHVM64"
  }
```

```
,
  "i2.8xlarge": {
    "Arch": "NATHVM64"
  },
  "d2.xlarge": {
    "Arch": "NATHVM64"
  },
  "d2.2xlarge": {
    "Arch": "NATHVM64"
  },
  "d2.4xlarge": {
    "Arch": "NATHVM64"
  },
  "d2.8xlarge": {
    "Arch": "NATHVM64"
  },
  "hi1.4xlarge": {
    "Arch": "NATHVM64"
  },
  "hs1.8xlarge": {
    "Arch": "NATHVM64"
  },
  "cr1.8xlarge": {
    "Arch": "NATHVM64"
  },
  "cc2.8xlarge": {
    "Arch": "NATHVM64"
  }
},
"AWSRegionArch2AMI": {
  "us-east-1": {
    "HVM64": "ami-0080e4c5bc078760e",
    "HVMG2": "ami-0aeb704d503081ea6"
  }
},
```

```
"us-west-2": {
  "HVM64": "ami-01e24be29428c15b2",
  "HVMG2": "ami-0fe84a5b4563d8f27"
},
"us-west-1": {
  "HVM64": "ami-0ec6517f6edbf8044",
  "HVMG2": "ami-0a7fc72dc0e51aa77"
},
"eu-west-1": {
  "HVM64": "ami-08935252a36e25f85",
  "HVMG2": "ami-0d5299b1c6112c3c7"
},
"eu-west-2": {
  "HVM64": "ami-01419b804382064e4",
  "HVMG2": "NOT_SUPPORTED"
},
"eu-west-3": {
  "HVM64": "ami-0dd7e7ed60da8fb83",
  "HVMG2": "NOT_SUPPORTED"
},
"eu-central-1": {
  "HVM64": "ami-0cfbf4f6db41068ac",
  "HVMG2": "ami-0aa1822e3eb913a11"
},
"eu-north-1": {
  "HVM64": "ami-86fe70f8",
  "HVMG2": "ami-32d55b4c"
},
"ap-northeast-1": {
  "HVM64": "ami-00a5245b4816c38e6",
  "HVMG2": "ami-09d0e0e099ecabba2"
},
"ap-northeast-2": {
  "HVM64": "ami-00dc207f8ba6dc919",
```

```
    "HVMG2": "NOT_SUPPORTED"
  },
  "ap-northeast-3": {
    "HVM64": "ami-0b65f69a5c11f3522",
    "HVMG2": "NOT_SUPPORTED"
  },
  "ap-southeast-1": {
    "HVM64": "ami-05b3bcf7f311194b3",
    "HVMG2": "ami-0e46ce0d6a87dc979"
  },
  "ap-southeast-2": {
    "HVM64": "ami-02fd0b06f06d93dfc",
    "HVMG2": "ami-0c0ab057a101d8ff2"
  },
  "ap-south-1": {
    "HVM64": "ami-0ad42f4f66f6c1cc9",
    "HVMG2": "ami-0244c1d42815af84a"
  },
  "us-east-2": {
    "HVM64": "ami-0cd3dfa4e37921605",
    "HVMG2": "NOT_SUPPORTED"
  },
  "ca-central-1": {
    "HVM64": "ami-07423fb63ea0a0930",
    "HVMG2": "NOT_SUPPORTED"
  },
  "sa-east-1": {
    "HVM64": "ami-05145e0b28ad8e0b2",
    "HVMG2": "NOT_SUPPORTED"
  },
  "cn-north-1": {
    "HVM64": "ami-053617c9d818c1189",
    "HVMG2": "NOT_SUPPORTED"
  },
}
```

```
    "cn-northwest-1": {
      "HVM64": "ami-0f7937761741dc640",
      "HVMG2": "NOT_SUPPORTED"
    }
  }

},

"Resources": {

  "ApplicationLoadBalancer": {
    "Type": "AWS::ElasticLoadBalancingV2::LoadBalancer",
    "Properties": {
      "Subnets": {
        "Ref": "Subnets"
      }
    }
  },

  "ALBListener": {
    "Type": "AWS::ElasticLoadBalancingV2::Listener",
    "Properties": {
      "DefaultActions": [{
        "Type": "forward",
        "TargetGroupArn": {
          "Ref": "ALBTargetGroup"
        }
      }
    ],
    "LoadBalancerArn": {
      "Ref": "ApplicationLoadBalancer"
    },
    "Port": "80",
    "Protocol": "HTTP"
  }
}
```



```

    },

    "ALBTargetGroup": {
      "Type": "AWS::ElasticLoadBalancingV2::TargetGroup",
      "Properties": {
        "HealthCheckIntervalSeconds": 10,
        "HealthCheckTimeoutSeconds": 5,
        "HealthyThresholdCount": 2,
        "Port": 80,
        "Protocol": "HTTP",
        "UnhealthyThresholdCount": 5,
        "VpcId": {
          "Ref": "VpcId"
        },
        "TargetGroupAttributes": [{
          "Key": "stickiness.enabled",
          "Value": "true"
        },
        {
          "Key": "stickiness.type",
          "Value": "lb_cookie"
        },
        {
          "Key": "stickiness.lb_cookie.duration_seconds",
          "Value": "30"
        }
      ]
    },

    "WebServerGroup": {
      "Type": "AWS::AutoScaling::AutoScalingGroup",
      "Properties": {
        "VPCZoneIdentifier": {

```

```

        "Ref": "Subnets"
    },
    "LaunchConfigurationName": {
        "Ref": "LaunchConfig"
    },
    "MinSize": "1",
    "MaxSize": "5",
    "DesiredCapacity": {
        "Ref": "WebServerCapacity"
    },
    "TargetGroupARNs": [{
        "Ref": "ALBTargetGroup"
    }]
},
"CreationPolicy": {
    "ResourceSignal": {
        "Timeout": "PT5M",
        "Count": {
            "Ref": "WebServerCapacity"
        }
    }
},
"UpdatePolicy": {
    "AutoScalingRollingUpdate": {
        "MinInstancesInService": "1",
        "MaxBatchSize": "1",
        "PauseTime": "PT15M",
        "WaitOnResourceSignals": "true"
    }
}
},

"LaunchConfig": {
    "Type": "AWS::AutoScaling::LaunchConfiguration",

```

```

    "Metadata": {
        "Comment1": "Configure the bootstrap helpers to install the Apache
Web Server and PHP",
        "Comment2": "The website content is downloaded from the CloudFormat
ionPHPSample.zip file",

        "AWS::CloudFormation::Init": {
            "config": {
                "packages": {
                    "yum": {
                        "httpd": [],
                        "php": [],
                        "php-mysql": []
                    }
                },

                "files": {
                    "/var/www/html/index.php": {
                        "content": {
                            "Fn::Join": [ "", [
                                "<html>\n",
                                "  <head>\n",
                                "    <title>AWS CloudFormation PHP Sample</title>\n",
                                "    <meta http-equiv=\"Content-Type\" content=\"text/h
tml; charset=ISO-8859-1\">\n",
                                "  </head>\n",
                                "  <body>\n",
                                "    <h1>Welcome to the AWS CloudFormation PHP Sample</
h1>\n",
                                "    <p/>\n",
                                "    <?php\n",
                                "      // Print out the current data and tie\n",
                                "      print \"The Current Date and Time is: <br/>\";\n
",

```

```

"    print date(\"g:i A l, F j Y.\");\n",
"    ?>\n",
"    <p/>\n",
"    <?php\n",
"        // Setup a handle for CURL\n",
"        $curl_handle=curl_init();\n",
"        curl_setopt($curl_handle,CURLOPT_CONNECTTIMEOUT,
2);\n",
"        curl_setopt($curl_handle,CURLOPT_RETURNTRANSFER,
1);\n",
"        // Get the hostname of the instance from the ins
tance metadata\n",
"        curl_setopt($curl_handle,CURLOPT_URL,'http://169
.254.169.254/latest/meta-data/public-hostname');\n",
"        $hostname = curl_exec($curl_handle);\n",
"        if (empty($hostname))\n",
"        {\n",
"            print \"Sorry, for some reason, we got no host
name back <br />\";\n",
"        }\n",
"        else\n",
"        {\n",
"            print \"Server = \" . $hostname . \"<br />\";
\n",
"        }\n",
"        // Get the instance-id of the instance from the
instance metadata\n",
"        curl_setopt($curl_handle,CURLOPT_URL,'http://169
.254.169.254/latest/meta-data/instance-id');\n",
"        $instanceid = curl_exec($curl_handle);\n",
"        if (empty($instanceid))\n",
"        {\n",
"            print \"Sorry, for some reason, we got no inst
ance id back <br />\";\n",

```

```

"    }\n",
"    else\n",
"    {\n",
"        print \"EC2 instance-id = \" . $instanceid . \"
\"<br />\";\n",
"    }\n",
"    $Database    = \"\", {
        \"Fn::GetAtt\": [\"MySQLDatabase\", \"Endpoint.Address\"]
    }, \"\";\n",
"    $DBUser      = \"\", {
        \"Ref\": \"DBUser\"
    }, \"\";\n",
"    $DBPassword = \"\", {
        \"Ref\": \"DBPassword\"
    }, \"\";\n",
"    print \"Database = \" . $Database . \"<br />\";\n",
n",
"    $dbconnection = mysql_connect($Database, $DBUser
, $DBPassword)\n",
"                                or die(\"Could not connect: \"
. mysql_error());\n",
"    print (\"Connected to $Database successfully\");
\n",
"    mysql_close($dbconnection);\n",
"    ?>\n",
"    <h2>PHP Information</h2>\n",
"    <p/>\n",
"    <?php\n",
"        phpinfo();\n",
"    ?>\n",
"    </body>\n",
"    </html>\n"
]]
},

```

```

        "mode": "000600",
        "owner": "apache",
        "group": "apache"
    },
    "/etc/cfn/cfn-hup.conf": {
        "content": {
            "Fn::Join": ["", [
                "[main]\n",
                "stack=", {
                    "Ref": "AWS::StackId"
                }, "\n",
                "region=", {
                    "Ref": "AWS::Region"
                }, "\n"
            ]]
        },
        "mode": "000400",
        "owner": "root",
        "group": "root"
    },

    "/etc/cfn/hooks.d/cfn-auto-reloader.conf": {
        "content": {
            "Fn::Join": ["", [
                "[cfn-auto-reloader-hook]\n",
                "triggers=post.update\n",
                "path=Resources.LaunchConfig.Metadata.AWS::CloudFormati
on::Init\n",

                "action=/opt/aws/bin/cfn-init -v ",
                "        --stack ", {
                    "Ref": "AWS::StackName"
                },
                "        --resource LaunchConfig ",
                "        --region ", {

```

```

        "Ref": "AWS::Region"
    }, "\n",
    "runas=root\n"
    ]]
},
"mode": "000400",
"owner": "root",
"group": "root"
}
},

"services": {
    "sysvinit": {
        "httpd": {
            "enabled": "true",
            "ensureRunning": "true"
        },
        "cfn-hup": {
            "enabled": "true",
            "ensureRunning": "true",
            "files": ["/etc/cfn/cfn-hup.conf", "/etc/cfn/hooks.d/cfn-
auto-reloader.conf"]
        }
    }
}
},
"Properties": {
    "ImageId": {
        "Fn::FindInMap": ["AWSRegionArch2AMI", {
            "Ref": "AWS::Region"
        }],
        {

```

```

        "Fn::FindInMap": ["AWSInstanceType2Arch", {
            "Ref": "InstanceType"
        }, "Arch"]
    },
    "InstanceType": {
        "Ref": "InstanceType"
    },
    "SecurityGroups": [{
        "Ref": "WebServerSecurityGroup"
    }],
    "KeyName": {
        "Ref": "KeyName"
    },
    "UserData": {
        "Fn::Base64": {
            "Fn::Join": ["", [
                "#!/bin/bash -xe\n",
                "yum update -y aws-cfn-bootstrap\n",

                "# Install the files and packages from the metadata\n",
                "/opt/aws/bin/cfn-init -v ",
                "          --stack ", {
                    "Ref": "AWS::StackName"
                },
                "          --resource LaunchConfig ",
                "          --region ", {
                    "Ref": "AWS::Region"
                }, "\n",

                "# Signal the status from cfn-init\n",
                "/opt/aws/bin/cfn-signal -e $? ",
                "          --stack ", {

```



```

        "Ref": "AWS::StackName"
    },
    "
        --resource WebServerGroup ",
    "
        --region ", {
        "Ref": "AWS::Region"
    }, "\n"
    ]]
    }
}
},
"WebServerSecurityGroup": {
    "Type": "AWS::EC2::SecurityGroup",
    "Properties": {
        "GroupDescription": "Enable HTTP access via port 80 locked down to
the ELB and SSH access",
        "SecurityGroupIngress": [{
            "IpProtocol": "tcp",
            "FromPort": "80",
            "ToPort": "80",
            "SourceSecurityGroupId": {
                "Fn::Select": [0, {
                    "Fn::GetAtt": ["ApplicationLoadBalancer", "SecurityGroups"]
                }]
            }
        }],
    },
    {
        "IpProtocol": "tcp",
        "FromPort": "22",
        "ToPort": "22",
        "CidrIp": {
            "Ref": "SSHLocation"
        }
    }
}

```

```

    }
  ],
  "VpcId": {
    "Ref": "VpcId"
  }
}
},

"DBEC2SecurityGroup": {
  "Type": "AWS::EC2::SecurityGroup",
  "Properties": {
    "GroupDescription": "Open database for access",
    "SecurityGroupIngress": [{
      "IpProtocol": "tcp",
      "FromPort": "3306",
      "ToPort": "3306",
      "SourceSecurityGroupId": {
        "Ref": "WebServerSecurityGroup"
      }
    }],
    "VpcId": {
      "Ref": "VpcId"
    }
  }
},

"MySQLDatabase": {
  "Type": "AWS::RDS::DBInstance",
  "Properties": {
    "Engine": "MySQL",
    "DBName": {
      "Ref": "DBName"
    },
    "MultiAZ": {

```

```
        "Ref": "MultiAZDatabase"
    },
    "MasterUsername": {
        "Ref": "DBUser"
    },
    "MasterUserPassword": {
        "Ref": "DBPassword"
    },
    "DBInstanceClass": {
        "Ref": "DBInstanceClass"
    },
    "AllocatedStorage": {
        "Ref": "DBAllocatedStorage"
    },
    "VPCSecurityGroups": [{
        "Fn::GetAtt": ["DBEC2SecurityGroup", "GroupId"]
    }]
}

}

},

"Outputs": {
    "WebsiteURL": {
        "Description": "URL for newly created LAMP stack",
        "Value": {
            "Fn::Join": ["", ["http://", {
                "Fn::GetAtt": ["ApplicationLoadBalancer", "DNSName"]
            }]]
        }
    }
}

}
```

Configure AWS SNS for CSM


Simple Notification Service (SNS) sends messages to CSM webhooks to enable key features in the AWS mApp® Solution.

You need a minimum of two topics for this mApp Solution, one for each webhook in the system.

To configure AWS SNS for CSM:

1. In the AWS console, navigate to <https://console.aws.amazon.com/sns/>.


Update the Cherwell CMDB

2.  **Note:** Webhook passwords should *not* correspond to any CSM logins. Instead, they are arbitrary and used for the webhook only to enhance security.

If you have not already done so, in CSM Administrator, go to **Managers > Webhook Manager** and set a custom webhook username and password for the AWS webhooks that were provided with the mApp Solution.

- a. Copy the **Full Endpoint** from the **General** page of the **Webhook Manager**. Using the new username and password you just set for the webhook, modify the copied URL to fit the following format (replace the sample information for webhook username and password, as well as the external URL of your CSM server): `https://webhookUsername:webhookPassword@yourserverurl.com/CherwellAPI/api/Webhooks/createawsconfigstaging`
3. To create a topic for the AWS Create Config Staging webhook, see [Creating an Amazon SNS Topic](#). You do not need to complete any of the optional steps for the mApp Solution to work properly. In our examples, the topic was named 'update-cherwell-cmdb' and will use that for our guide.
 4. To create a subscription for the AWS Create Config Staging webhook, see [Subscribing to an Amazon SNS Topic](#). Use the following information:
 - a. **Topic ARN:** Select **update-cherwell-cmdb**.
 - b. **Protocol:** HTTPS
 - c. **Endpoint:** Enter the modified URL from your database.
 5. Check to make sure that your subscription has been confirmed. This should happen automatically through CSM, provided your URL and credentials are accurate.

Add Events as Incidents for AWS Configuration Items

6.  **Note:** Webhook passwords should *not* correspond to any CSM logins. Instead, they are arbitrary and used for the webhook only to enhance security.

If you have not already done so, in CSM Administrator, go to **Managers > Webhook Manager** and set a custom webhook username and password for the AWS webhooks that were provided with the mApp Solution.

- a. Copy the **Full Endpoint** from the **General** page of the **Webhook Manager**. Using the new username and password you just set for the webhook, modify the copied URL to fit the

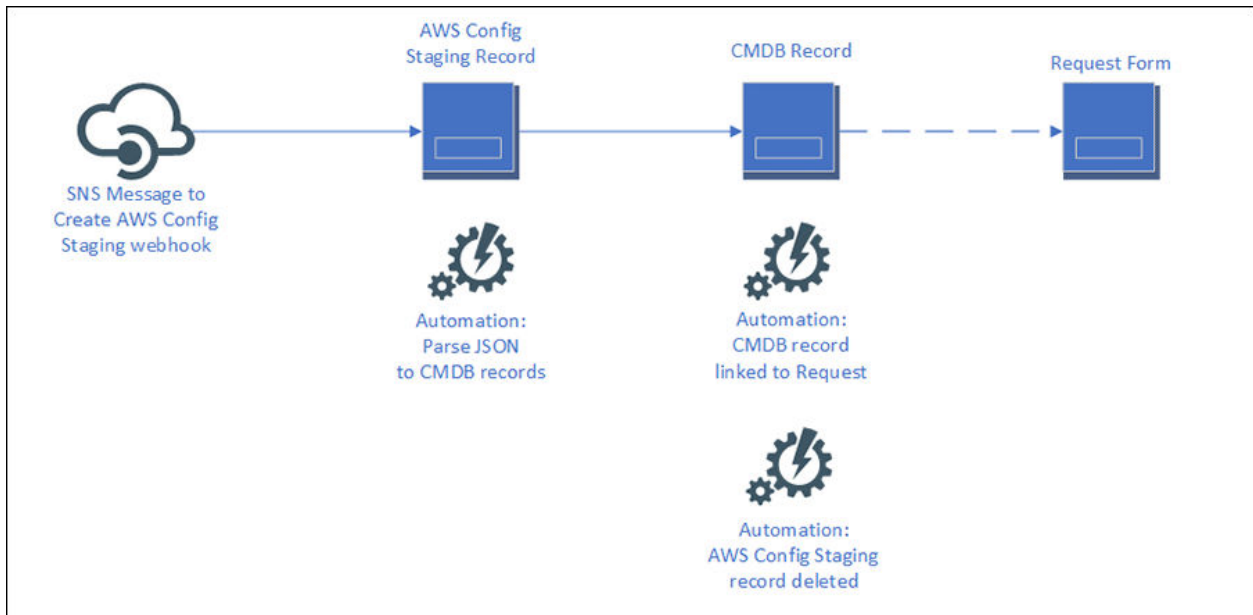
following format; replace the sample information for webhook username and password, as well as the external URL of your CSM server. `https://
webhookUsername:webhookPassword@yourserverurl.com/CherwellAPI/api/
Webhooks/createawsevent`

7. To create a topic for the AWS Event webhook, repeat the steps in [Creating an Amazon SNS Topic](#). You do not need to complete any of the optional steps for the mApp Solution to work properly. In our examples, the topic was named 'cherwell-ci-event-incident' and we will use that for our guide.
8. To create a subscription for the AWS Create Config Staging webhook, see [Subscribing to an Amazon SNS Topic](#). Use the following information:
 - a. **Topic ARN:** Select **cherwell-ci-event-incident**.
 - b. **Protocol:** HTTPS.
 - c. **Endpoint:** Enter the URL from your database.
9. Check to make sure that your subscription has been confirmed. This should happen automatically through CSM, provided your URL and credentials are accurate.

Configure AWS Config for CSM

This mApp® Solution uses AWS Config to monitor when new AWS products are provisioned. AWS Config needs to be enabled, and set to send messages via AWS Simple Notification Service (SNS) to CSM. Optionally, you may also configure notifications for AWS Config rules which are not compliant to create Incidents in CSM.

The overall workflow for the automatic creation of AWS Product CIs in your CMDB is depicted here:



This webhook triggers the Create AWS Config Staging One-Step™ Action, which creates an AWS Config Staging Business Object. This object stores incoming AWS Config notifications from Amazon SNS in a new AWS Config Staging object. An automation process (AWS Config Staging - Create CI) then reads this staging record, parses the stored JSON message, and from it creates the CI in your CMDB. Optionally, a separate automation process (AWS Config Staging - Delete Staging Record) can be enabled to follow up and delete the processed AWS Config Staging record.

1. In the AWS console, navigate to <https://console.aws.amazon.com/config/>.
2. Set up recording for your AWS Account (see [Setting Up AWS Config with the Console](#)). When you get to the setup step for SNS, make sure to choose the topic you created previously in [Configure AWS SNS for CSM](#).

Configure AWS CloudWatch Alarms for CSM

This mApp® Solution allows you to automatically create Incidents in CSM, based on CloudWatch Alarms. These Incidents are linked to existing AWS Configuration Item records.

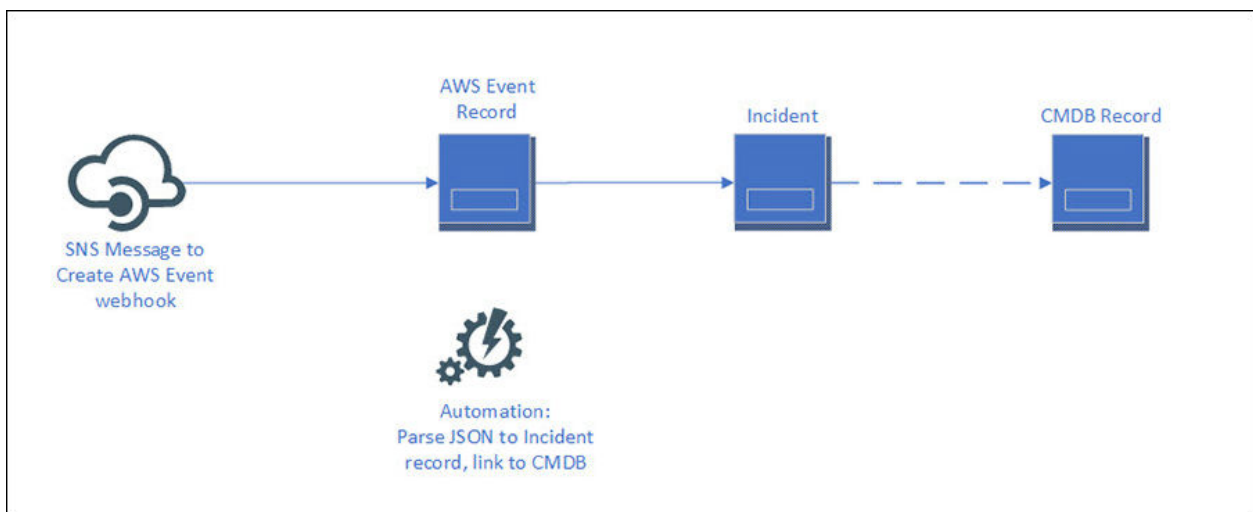
Before you begin configuring your CloudWatch alarms, ensure that you have appropriate topics and subscriptions to which you can publish CloudWatch Alarm messages from AWS. Refer to [Configure AWS SNS for CSM](#).

You can connect CloudWatch alarms so that when they go into alarm state, an Incident is created in CSM and tied to the appropriate AWS Configuration Item in your CMDB. Depending on your usage of AWS, you may already have configured AWS CloudWatch Alarms for your AWS resources. You can connect these existing alarms, or you can create new ones.



Note: For our example, we will create a CloudWatch Alarm for CPU Usage on a specific EC2 instance. However, the principles are the same and the setup is similar for alarms of other types. You may need to modify some of the JSON parsing in the workflow of One-Step™ Actions connected to the Create AWS Event webhook.

The overall workflow for the automatic creation of Incidents for your AWS Product configuration items is shown below:



A webhook triggers the Create AWS Event One-Step Action. This webhook was designed as a sample to demonstrate how you might automatically create Incidents for your AWS resources when they go into alarm state or violate an established rule. This sample expects a CloudWatch Alarm notification from Amazon SNS, such as an EC2 instance which has exceeded its CPU utilization threshold, and stores the JSON from that alarm notification in an AWS Event object record. Then, an automation process (AWS Event) creates an Incident linked to the associated CI in your CMDB. You may wish to configure additional, similar event types using either AWS CloudWatch or AWS Config. To facilitate this process, we have included sample JSON for these event types, as well as configured the (None) Create AWS Event One-Step Action with a decision tree that covers two possible paths: a notification from AWS Config that a CloudWatch Alarm has changed from OK to ALARM state, and a CloudWatch alarm which sends the SNS notification directly with details about the affected resource. There is a sample of what kind of JSON is expected for the event. It's very particular, so we provide relevant sample code.

To configure AWS CloudWatch Alarms for CSM:

1. In the AWS console, navigate to <https://console.aws.amazon.com/cloudwatch/>.
2. Create a new alarm for use with this integration (see https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/US_AlarmAtThresholdEC2.html). You can modify existing alarms for use with this mApp Solution by simply adding a notification for these alarms to the 'cherwell-ci-create-incident' topic created in [Configure AWS SNS for CSM](#).

Configure AWS EventBridge for CSM

This mApp® Solution allows you to automatically create Incidents in CSM, based on multiple event sources. These Incidents are linked to existing AWS Configuration Item records.

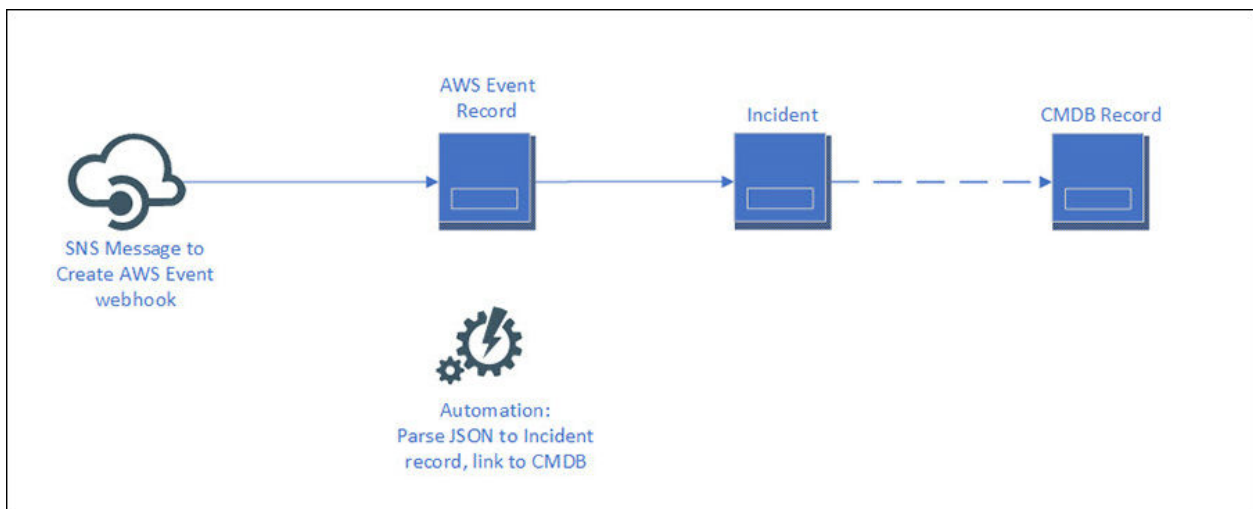
Before you begin configuring your EventBridge rules, ensure that you have a CloudWatch alarm configured, and appropriate topics and subscriptions to which you can publish EventBridge messages from AWS. Refer to [Configure AWS SNS for CSM](#) and [Configure AWS CloudWatch Alarms for CSM](#).

To set up your system to accept events from multiple event sources, use the AWS EventBridge service. This provides a standard notification format for all event types, which can be parsed when creating incidents in CSM.



Note: For our example, we will create a CloudWatch Alarm for CPU Usage on a specific EC2 instance. However, the principles are the same and the setup is similar for alarms of other types. You will need to update the One-Step™ Actions for the Create AWS Event webhook described in [Configure CSM to Add Incidents for AWS Product Events](#).

The overall workflow for the automatic creation of Incidents for your AWS Product configuration items is shown below:



A webhook triggers the Create AWS Event One-Step Action. This webhook was designed as a sample to demonstrate how you might automatically create Incidents for your AWS resources when they go into alarm state or violate an established rule. This sample expects a CloudWatch Alarm notification from Amazon SNS (example: An EC2 instance which has exceeded its CPU utilization threshold) and stores the JSON from that alarm notification in an AWS Event object record. Then, an automation process (AWS Event) creates an Incident linked to the associated CI in your CMDB. You may wish to configure additional, similar event types using either AWS CloudWatch or AWS Config. To facilitate this process, we have included sample JSON for these event types, as well as configured the (None) Create AWS Event One-Step Action with a decision tree that covers two possible paths:

- A notification from AWS Config that a CloudWatch Alarm has changed from OK to ALARM state.

- A CloudWatch alarm which sends the SNS notification directly with details about the affected resource.

There is a sample of what kind of JSON is expected for the event. It's very particular, so we provide relevant sample code.

To configure AWS CloudWatch Alarms for CSM:

1. In the AWS console, navigate to <https://console.aws.amazon.com/eventbridge/>.
2. Create a new rule for use with this integration (see <https://docs.aws.amazon.com/eventbridge/latest/userguide/create-eventbridge-rule.html>). You can modify existing alarms for use with this mApp Solution by simply adding a notification for these alarms to the 'cherwell-ci-create-incident' topic created in [Configure AWS SNS for CSM](#).

The screenshot shows the 'Define pattern' page in the AWS EventBridge console. It is divided into two main sections: 'Event pattern' (selected) and 'Schedule'. The 'Event pattern' section includes options for 'Pre-defined pattern by service' and 'Custom pattern'. Under 'Pre-defined pattern by service', the 'Service provider' is set to 'AWS', the 'Service name' is 'CloudWatch', and the 'Event type' is 'CloudWatch Alarm State Change'. A JSON preview on the right shows the resulting event pattern. At the bottom, there is a 'Test event pattern' button.

Define pattern

Build or customize an Event Pattern or set a Schedule to invoke Targets.

☒ **Event pattern** [Info](#)
Build a pattern to match events

☐ **Schedule** [Info](#)
Invoke your targets on a schedule

Event matching pattern
You can use pre-defined pattern provided by a service or create a custom pattern

☒ **Pre-defined pattern by service**
☐ **Custom pattern**

Service provider
AWS services or custom/partner services
AWS

Service name
The name of partner service selected as the event source
CloudWatch

Event type
The type of events as the source of the matching pattern
CloudWatch Alarm State Change

Event pattern [Edit](#)

```
{
  "source": [
    "aws.cloudwatch"
  ],
  "detail-type": [
    "CloudWatch Alarm State Change"
  ]
}
```

[▶ Test event pattern](#)

Configure CSM for AWS

These steps will prepare your CSM instance for making AWS API calls, as well as support essential mApp Solution features.

Complete the global configuration steps:

1. Configure your CSM security groups as outlined in [Configure Security Groups for the AWS mApp Solution](#).
2. Add access key information to the AWS Account table as outlined in [Add AWS Access Keys to CSM](#).
3. Add portfolios and departments to the AWS Portfolio table as outlined in [Add Departments to the AWS Portfolio Supporting Object](#).
4. Complete steps 1-3 for [webhook setup](#).
5. Enable the [System Event Processing service](#).

The next two configuration topics cover specific use cases for this mApp Solution.

6. [Configure CSM to Add AWS Product Configuration Items to your CMDB](#)
7. [Configure CSM to Add Incidents for AWS Product Events](#)

Related concepts

[Webhooks Process](#)

[Enable the System Event Processing Service](#)

Related tasks

[Configure Security Groups for the AWS mApp Solution](#)

[Add AWS Access Keys to CSM](#)

[Add Departments to the AWS Portfolio Supporting Object](#)

Use the Cherwell Encryption Modifier with AWS

When your organization needs access to Amazon Web Services (AWS) resources through CSM, Cherwell has a unique Amazon key that must be used in each request.

Amazon Key

The Amazon key (secret) is a string of characters that must be sent to Amazon every time a CSM user interacts with AWS (example: when a support agent logs a ticket requesting an Amazon EC2 resource). The Amazon key is sent through the HTTP header of every CSM request. This key is unique to Cherwell and does not change.

Encryption Key and Nonce (Cherwell-Generated)

Because of its sensitive nature, the Amazon key is encrypted and stored in CSM in the Business Object field. With every request to AWS, the key must be decrypted and passed through the HTTP header of the request. The encryption and decryption actions require both a Cherwell-generated encryption key and a nonce.

The Cherwell-generated encryption key is generated and stored only one time, and the value of the key remains constant. This key is stored globally and should be protected so that it's never overwritten. One option is to wrap the global value into an Action Block that makes sure that it's only populated if it doesn't already have a value. You can also add other protection measures such as scoping so that only a designated set of people are allowed to write to the storage location.

The Cherwell-generated nonce is an arbitrary value that is unique to each Business Object. The nonce value is stored with the Amazon key in the Business Object field and is used together with the Cherwell-generated encryption key during the encryption and decryption processes.

Security and Scope

All configuration to the Amazon key and the Cherwell-generated encryption key and nonce is performed in CSM Administrator within a Blueprint. As a precaution to protect sensitive data, the encryption key stored value, nonce field, and the encrypted Amazon key should be scoped so that only appropriate users can read and modify the values.



Note: If the Amazon key is modified erroneously, you cannot decrypt the value on the Business Object, which means you will have to request a new key from Amazon.

Recommendations for Configuring AWS Encryption

You can build CSM resources to ensure successful communication with AWS while maintaining an encrypted version of the Amazon key. Suggested configuration includes storing the Amazon key and nonce in Business Object fields, creating an Action Block that checks for the Cherwell-generated encryption key stored value, and creating a One-Step™ Action and form button for submitting the AWS request.

Creating Fields for Storing the Amazon Key and Nonce

As a best practice, store the Amazon key and nonce inside text fields in the Business Object that is used for the AWS request. Once the fields are available, you can run the One-Step Action that stores the Amazon key and Cherwell-generated nonce directly inside text fields.

To create the text fields:

1. In CSM Administrator, open the Business Object in edit mode.
2. Add a text field for the Amazon key. The key is populated through the One-Step Action that you create below.
3. Create a text field for the Cherwell-generated nonce. This field is populated by setting its default value as the output of the `GenerateEncryptionNonce` system function in the **Field Properties** window.
4. Change the default character length of the text field that you created in the previous step to 24 characters. The default length is 15 characters.
5. Save and publish your changes.

Creating an Action Block to Populate the Encryption Key Stored Value

Create an Action Block that populates a stored value containing the Cherwell-generated encryption key. This Action Block is used in a One-Step Action that decrypts the Amazon key and passes it to AWS through the HTTP request header.

The Action Block first uses an expression to check for the stored value. If it does not exist, a system function is called to generate the encryption key and store it on the Business Object field. The encryption key is generated and stored only one time. From that point forward, when the Action Block is triggered in the One-Step Action, the expression confirms that the stored value exists and moves to the next step.



Note: Before creating the Action Block, create a stored value for the Cherwell-generated encryption key.

To create the Action Block:

1. In CSM Administrator, select **Managers > Action Blocks** to open the Action Block Manager.
2. In the **General** tab, in the **Name** field, provide an intuitive name (example: `Encryption Key`).
3. Drag the **Decide Between Multiple Cases** action from the **Advanced Actions** section in the designer toolbox on to the editor as the first step.
4. Configure Case 1 with a custom expression:
 - a. In the **Value** field, select the stored value that you created for the Cherwell-generated encryption key. This key is used with the Cherwell-generated nonce to encrypt and save the Amazon key on the Business Object Form.
 - b. In the **Operator** field, select **Empty**.
5. Configure the first decision step to take action when the stored value is empty:
 - a. Drag the **Update Variables and Stored Values** action from the **Advanced Actions** section in the designer toolbox on to the step.
 - b. In the **General** tab, in the **Stored Value** field, select the stored value that you created for the Cherwell-generated encryption key.

- c. In the **Value** field, select the `GenerateEncryptionKey` system function.

Creating a One-Step Action for the AWS Request

Use a One-Step Action to populate the header of the HTTP request with the Amazon key so that CSM can successfully interact with the AWS resource. Individual steps include confirming that the Cherwell-generated encryption key exists in the Business Object, updating the Business Object with updated variables, decrypting the Amazon key, and passing the decrypted Amazon key to AWS through the header of the HTTP request.

To create the One-Step Action:

1. Create a new One-Step Action.
2. From the designer toolbox, drag the Action Block that you created above as the first step in the One-Step Action.
3. Add a second step that prompts the user for the Amazon key, which is then encrypted through the Cherwell-generated encryption key and nonce. To configure the step:
 - a. Open the **Modify/Format Value** window.
 - b. Add an **Encryption Key** modifier.
 - c. Update the **Key** field with the value of the encryption key.
 - d. Update the **Nonce** field with the AWS Resource Nonce value.
 - e. Select **OK**.
4. Add a third step and set the value to **Encrypted Secret**.
5. Add a final action step that decrypts the Amazon key and submits an HTTP request to AWS with the Amazon key in the header of the request.
 - a. Add the **HTTP Request** action type to the One-Step Action.
 - b. In the **General** tab, select **GET**.
 - c. In the **URL** field, add the URL to the Amazon site.
 - d. In the **Headers** tab, select the green plus sign.
 - e. In the **Key** field, select the Amazon key. In the **Value** field, select the **AWS Resource Amazon Key** and then select to modify the value.
 - f. Select the green plus sign again to open the **Modify/Format Value** window.
 - g. Select **Encryption** in the **Modifier** field.
 - h. Select the nonce and the Cherwell-generated encryption key.
 - i. Select **Decrypt**.
 - j. Select **OK**.
6. Save your changes to the One-Step Action.

After running the One-Step Action from the form, CSM completes the request to AWS.

Creating the Form Button that Launches the One-Step Action

In the Business Object form, add a button that launches the One-Step Action that you configured above.

To add the button:

1. Open the form in edit mode.
2. Drag a button to the form.
3. Right-click the button and select **Control properties**.
4. Configure the button with the One-Step Action.
5. Save the form.

Configure Security Groups for the AWS mApp Solution

Update Security Groups associated with the AWS mApp Solution Webhooks, Specifics Business Object, and new Configuration Items.

To configure Security Groups for AWS:

1. Open CSM Administrator and select **Security > Edit Security Groups**.
2. Select the **Rights** tab, then select **Webhooks**.
3. Select the **Anonymous Browser** security group and enable View rights. (Repeat this step for any security group which may need to manage these webhooks.)
4. Select any additional security groups that may need to manage these webhooks and enable View and Edit rights for these groups.
5. Select the **Business Objects** tab.
6. In the **Group** list, select **Portal Customer**. (Repeat these steps for Portal Workgroup Manager and any additional Portal Security Groups.)
7. In the **Business Object** list, select the following Business Objects and settings:

Business Object	Setting
Specifics - AWS Provision	<ul style="list-style-type: none">◦ General: View, Add, Edit◦ New Field: View, Edit
Config - Cloud Services Storage	<ul style="list-style-type: none">◦ General: View, Add, Edit◦ New Field: View, Edit
Config - Cloud Services Database	<ul style="list-style-type: none">◦ General: View, Add, Edit◦ New Field: View, Edit
Config - Cloud Services Virtual Machine	<ul style="list-style-type: none">◦ General: View, Add, Edit◦ New Field: View, Edit

Related concepts

[About Security Groups](#)

Add AWS Access Keys to CSM

Before you can make API calls to AWS, you must add access keys to CSM.

You will need to first add keys to your AWS account. See [Configure AWS IAM for CSM](#).

1. In the CSM Desktop Client or Browser Client, navigate to **Tools > Table Management**. Go to the AWS Account table and create a new record.
2. In your new record, enter these details:
 - a. Account ID: You can use either the numerical ID of your AWS account or the alias. For information on where to find this number, see [Your AWS Account ID and Its Alias](#).
 - b. Access Key ID: This is the public key from your AWS Key Pair.
 - c. Valid Departments: This field is read-only and can only be edited by adding a portfolio and attaching departments to it.
 - d. Select **Actions > Add Secret Key**. In the prompt, enter the secret key from your AWS Key Pair and select **OK**. Your key pair has now been securely stored in this table using encryption to protect your private key.

Add Departments to the AWS Portfolio Supporting Object

Create a record for each portfolio in your organization's AWS account. When a CSM user makes a request to provision an AWS product, the available products they can select will be determined by the portfolio(s) available to their department.

Add department(s) to each Portfolio. Every user must have at least one Portfolio. When you update the AWS portfolio, it updates the account table. Adding departments to Portfolios is required.

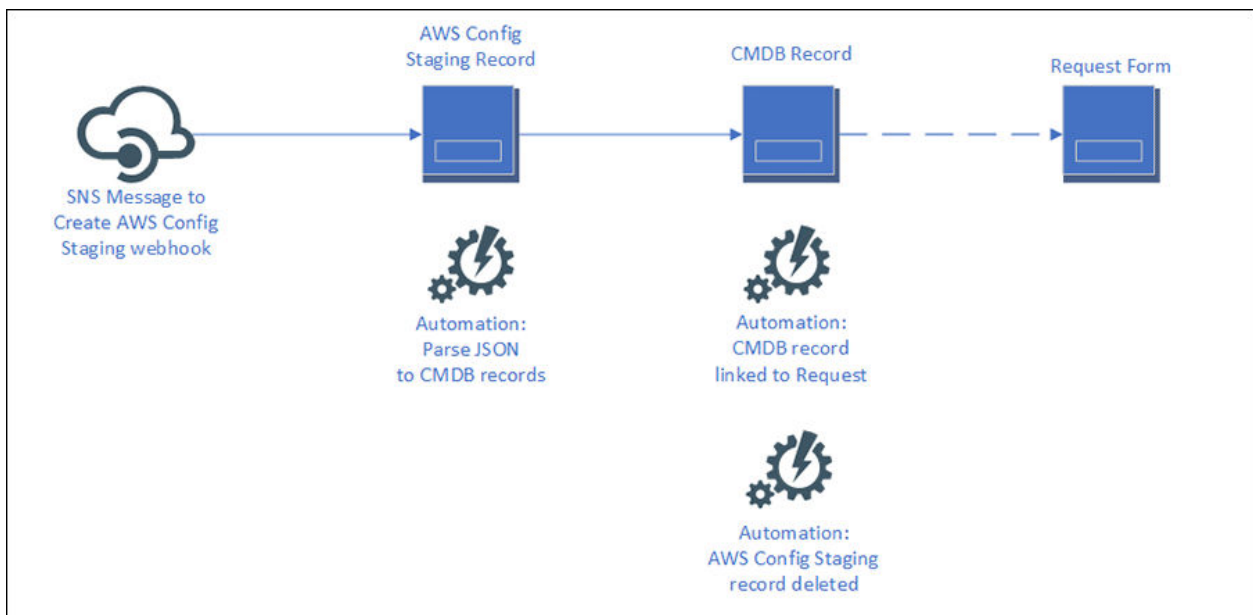
1. In the CSM Desktop Client or Browser Client, select **Tools > Table Management**. Go to the AWS Portfolio table.
2. Create a record for each portfolio. Make sure the name of the Portfolio in AWS matches exactly to what you put into CSM.
 - a. **Account Name:** Select an account.
 - b. **Account ID:** This information will populate automatically when you select the account.
 - c. **Portfolio ID:** Enter a valid AWS portfolio ID here. You can find this information by logging in to the AWS console and viewing the <https://console.aws.amazon.com/servicecatalog/>.
 - d. **Portfolio Name:** Enter a user-friendly name for your portfolio here, such as the same portfolio name used in AWS.
 - e. In the portfolio record, link the existing departments to this portfolio to grant access.
3. Select **Save** to save the record and link departments to the associated AWS Account. You can verify the AWS Portfolio record by navigating to **Tools > Table Management** in the Desktop Client or Browser Client. Select **AWS Account**, then open the corresponding account record. You should see the departments you linked now listed in the **Valid Departments** field.

Configure CSM to Add AWS Product Configuration Items to your CMDB


Prepare your CSM instance for adding new AWS products to your CMDB automatically, based on SNS messages.

Before you begin, complete the global steps outlined in [Configure CSM for AWS](#). To support this use case, you will also need to complete [Configure AWS Config for CSM](#).

The overall workflow for the automatic creation of AWS Product CIs in your CMDB is depicted here:



This webhook triggers the Create AWS Config Staging One-Step™ Action, which creates an AWS Config Staging Business Object. This object stores incoming AWS Config notifications from Amazon SNS in a new AWS Config Staging object. An automation process (AWS Config Staging - Create CI) then reads this staging record, parses the stored JSON message, and from it creates the CI in your CMDB. Optionally, a separate automation process (AWS Config Staging - Delete Staging Record) can be enabled to follow up and delete the processed AWS Config Staging record.


1.  **Note:** Webhook passwords should *not* correspond to any CSM logins. Instead, they are arbitrary and used for the webhook only to enhance security.

If you have not already done so, in CSM Administrator, go to **Managers > Webhook Manager** and set a custom webhook username and password for the AWS webhooks that were provided with the mApp® Solution.

- a. Copy the **Full Endpoint** from the **General** page of the **Webhook Manager**. Using the new username and password you just set for the webhook, modify the copied URL to fit the following format; replace the sample information for webhook username and password, as well as the external URL of your CSM server. `https://`

```
webhookUsername:webhookPassword@yourserverurl.com/CherwellAPI/api/  
Webhooks/createawsconfigstaging
```

Configure any One-Step™ Actions that parse incoming messages from AWS specific to your Amazon CFTs. Specifically, check these:

2.  **Note:** If you are not using AWS Config for your notifications of new devices, you may need to adjust both this One-Step Action and the Automation Process (AWS Config Staging) AWS Config Staging - Create CI. This process expects specific JSON parsing of incoming SNS messages to create CIs properly, so if your JSON is different you may get different results and need to adjust this.

(None) Create AWS Config Staging: This One-Step Action splits up the SNS JSON and stores the message body for the newly-created item in the message field to be parsed later. The AWS Config Staging Record will contain JSON specific to your particular CFTs and to the services that you have enabled in Amazon.
3. **(AWS Config Staging) Create CI from Incident:** This One-Step Action is the action for the Automation Process (AWS Config Staging) AWS Config Staging - Create CI. It connects the AWS Config Staging object to the Incident, in case you wish to keep these.
4. **(Incident) Create Config Item:** This One-Step Action will create a CI in your CMDB from an AWS Config Staging Record. Change this One-Step Action in order for your CIs to be added correctly to your CMDB. Set up one branch in the decision tree for each CI type that your CFTs reflect. For our example, we set up branches as follows:
 - a. **EC2:** Creates a Config - Cloud Services Virtual Machine configuration item.
 - b. **RDS:** Creates a Config - Cloud Services Database configuration item.
 - c. **S3 Bucket:** Creates a Config - Cloud Services Storage configuration item.

Sample SNS message for an EC2 Instance

This is a sample JSON response from AWS Config, sent via SNS. This message will be stored in an AWS Config Staging record before being processed by the Create CI automation process to add a Cloud Services - Virtual Machine record to your CMDB. You can use this sample JSON to test the Create AWS Config Staging webhook.

```
{
  "recordVersion": "1.3",
  "messageType": "ConfigurationItemChangeNotification",
  "configurationItemDiff": {
    "changedProperties": {

    },
    "changeType": "CREATE"
  },
  "notificationCreationTime": "2020-06-29T02:44:07.192Z",
  "configurationItem": {
    "relatedEvents": [

    ],
    "relationships": [
      {
        "resourceId": "eni-0123456789",
        "resourceType": "AWS::EC2::NetworkInterface",
        "name": "Contains NetworkInterface"
      },
      {
        "resourceId": "sg-01123456789",
        "resourceType": "AWS::EC2::SecurityGroup",
        "name": "Is associated with SecurityGroup"
      },
      {
        "resourceId": "subnet-a0ccc19e",
        "resourceType": "AWS::EC2::Subnet",
```

```

        "name": "Is contained in Subnet"
    },
    {
        "resourceId": "vol-069736e00b70a0948",
        "resourceType": "AWS::EC2::Volume",
        "name": "Is attached to Volume"
    },
    {
        "resourceId": "vpc-ba848ec0",
        "resourceType": "AWS::EC2::VPC",
        "name": "Is contained in Vpc"
    }
],
"configuration": {
    "amiLaunchIndex": 0,
    "imageId": "ami-6869aa05",
    "instanceId": "i-01123456789",
    "instanceType": "t2.small",
    "keyName": "aws-stuff",
    "launchTime": "2020-06-29T02:41:54.000Z",
    "monitoring": {
        "state": "disabled"
    },
    "placement": {
        "availabilityZone": "us-east-1e",
        "groupName": "",
        "tenancy": "default"
    },
    "privateDnsName": "ip-172-0-0-0.ec2.internal",
    "privateIpAddress": "172.0.0.0",
    "productCodes": [

],
    "publicDnsName": "ec2-35-153-79-147.compute-1.amazonaws.com",

```

```
"publicIpAddress":"35.0.0.0",
"state":{
  "code":16,
  "name":"running"
},
"stateTransitionReason":"",
"subnetId":"subnet-a0ccc19e",
"vpcId":"vpc-ba848ec0",
"architecture":"x86_64",
"blockDeviceMappings":[
  {
    "deviceName":"/dev/xvda",
    "ebs":{
      "attachTime":"2020-06-29T02:41:55.000Z",
      "deleteOnTermination":true,
      "status":"attached",
      "volumeId":"vol-069736e00b70a0948"
    }
  }
],
"clientToken":"SC-49-EC2In-GIQR0X01Y3GI",
"ebsOptimized":false,
"enaSupport":true,
"hypervisor":"xen",
"elasticGpuAssociations":[

],
"elasticInferenceAcceleratorAssociations":[

],
"networkInterfaces":[
  {
    "association":{
      "ipOwnerId":"amazon",
```

```

        "publicDnsName":"ec2-35-153-79-147.compute-1.amazonaws.co
m",
        "publicIp":"35.0.0.0"
    },
    "attachment":{
        "attachTime":"2020-06-29T02:41:54.000Z",
        "attachmentId":"eni-attach-0658d3e3e45501bf5",
        "deleteOnTermination":true,
        "deviceIndex":0,
        "status":"attached"
    },
    "description":"",
    "groups":[
        {
            "groupName":"SC-49123456789-pp-k123456789-InstanceSecu
rityGroup-17123456789",
            "groupId":"sg-01123456789"
        }
    ],
    "ipv6Addresses":[

    ],
    "macAddress":"06:2b:75:7a:34:97",
    "networkInterfaceId":"eni-0123456789",
    "ownerId":"49123456789",
    "privateDnsName":"ip-172-0-0-0.ec2.internal",
    "privateIpAddress":"172.0.0.0",
    "privateIpAddresses":[
        {
            "association":{
                "ipOwnerId":"amazon",
                "publicDnsName":"ec2-35-153-79-147.compute-1.amazon
aws.com",
                "publicIp":"35.0.0.0"
            }
        }
    ]
}

```



```

        },
        "primary":true,
        "privateDnsName":"ip-172-0-0-0.ec2.internal",
        "privateIpAddress":"172.0.0.0"
    }
],
"sourceDestCheck":true,
"status":"in-use",
"subnetId":"subnet-a0ccc19e",
"vpcId":"vpc-ba848ec0",
"interfaceType":"interface"
}
],
"rootDeviceName":"/dev/xvda",
"rootDeviceType":"ebs",
"securityGroups":[
    {
        "groupName":"SC-49123456789-pp-k123456789-InstanceSecurityGroup-17123456789",
        "groupId":"sg-01123456789"
    }
],
"sourceDestCheck":true,
"tags":[
    {
        "key":"aws:cloudformation:logical-id",
        "value":"EC2Instance"
    },
    {
        "key":"aws:cloudformation:stack-name",
        "value":"SC-49123456789-pp-k123456789"
    },
    {
        "key":"aws:servicecatalog:portfolioArn",

```

```

        "value":"arn:aws:catalog:us-east-1:49123456789:portfolio/port-
t-cfy123456789"
    },
    {
        "key":"aws:servicecatalog:provisioningArtifactIdentifier",
        "value":"pa-abjk1234567498"
    },
    {
        "key":"aws:servicecatalog:provisionedProductArn",
        "value":"arn:aws:servicecatalog:us-east-1:49123456789:stack/
grey-salamander/pp-k123456789"
    },
    {
        "key":"aws:servicecatalog:provisioningPrincipalArn",
        "value":"arn:aws:iam::49123456789:user/Henri.bryce"
    },
    {
        "key":"aws:servicecatalog:productArn",
        "value":"arn:aws:catalog:us-east-1:49123456789:product/prod-
qy123465789"
    },
    {
        "key":"instance-purpose",
        "value":"autoscaling"
    },
    {
        "key":"aws:cloudformation:stack-id",
        "value":"arn:aws:cloudformation:us-east-1:49123456789:stack/
SC-49123456789-pp-k123456789/0f26f4f0-b9b2-11ea-a346-12c1d85cca19"
    }
],
"virtualizationType":"hvm",
"cpuOptions":{
    "coreCount":1,

```

```

        "threadsPerCore":1
    },
    "capacityReservationSpecification":{
        "capacityReservationPreference":"open"
    },
    "hibernationOptions":{
        "configured":false
    },
    "licenses":[

],
    "metadataOptions":{
        "state":"applied",
        "httpTokens":"optional",
        "httpPutResponseHopLimit":1,
        "httpEndpoint":"enabled"
    }
},
    "supplementaryConfiguration":{

},
    "tags":{
        "aws:servicecatalog:productArn":"arn:aws:catalog:us-east-1:4912345
6789:product/prod-qy123465789",
        "aws:cloudformation:stack-name":"SC-49123456789-pp-k123456789",
        "aws:servicecatalog:provisioningPrincipalArn":"arn:aws:iam::491234
56789:user/Henri.bryce",
        "aws:cloudformation:stack-id":"arn:aws:cloudformation:us-east-1:49
123456789:stack/SC-49123456789-pp-k123456789/0f26f4f0-b9b2-11ea-a346-12c1d8
5cca19",
        "aws:cloudformation:logical-id":"EC2Instance",
        "aws:servicecatalog:provisioningArtifactIdentifier":"pa-abjk123456
7498",
        "aws:servicecatalog:portfolioArn":"arn:aws:catalog:us-east-1:49123

```

```
456789:portfolio/port-cfy123456789",
    "instance-purpose":"autoscaling",
    "aws:servicecatalog:provisionedProductArn":"arn:aws:servicecatalog
:us-east-1:49123456789:stack/grey-salamander/pp-k123456789"
  },
  "configurationItemVersion":"1.3",
  "configurationItemCaptureTime":"2020-06-29T02:44:06.023Z",
  "configurationStateId":1593398646023,
  "awsAccountId":"49123456789",
  "configurationItemStatus":"ResourceDiscovered",
  "resourceType":"AWS::EC2::Instance",
  "resourceId":"i-01123456789",
  "ARN":"arn:aws:ec2:us-east-1:49123456789:instance/i-01123456789",
  "awsRegion":"us-east-1",
  "availabilityZone":"us-east-1e",
  "configurationStateMd5Hash":"",
  "resourceCreationTime":"2020-06-29T02:41:54.000Z"
}
}
```

Sample SNS message for an RDS Instance

This is a sample JSON response from AWS Config, sent via SNS. This message will be stored in an AWS Config Staging record before being processed by the Create CI automation process to add a Cloud Services - Database record to your CMDB. You can use this sample JSON to test the Create AWS Config Staging webhook.

```
{
  "recordVersion": "1.3",
  "messageType": "ConfigurationItemChangeNotification",
  "configurationItemDiff": {
    "changedProperties": {},
    "changeType": "CREATE"
  },
  "notificationCreationTime": "2020-06-28T21:51:31.599Z",
  "configurationItem": {
    "relatedEvents": [],
    "relationships": [{
      "resourceId": "default",
      "resourceType": "AWS::RDS::DBSubnetGroup",
      "name": "Is associated with DBSubnetGroup"
    },
    {
      "resourceId": "sg-70712345",
      "resourceType": "AWS::EC2::SecurityGroup",
      "name": "Is associated with SecurityGroup"
    }
  ],
  "configuration": {
    "dbInstanceIdentifier": "sm1231456",
    "dbInstanceClass": "db.t2.small",
    "engine": "mysql",
    "dbInstanceStatus": "creating",
    "masterUsername": "myfavusername",
    "dbName": "MyDatabase",
```

```
"allocatedStorage": 5,
"preferredBackupWindow": "03:49-04:19",
"backupRetentionPeriod": 1,
"dbSecurityGroups": [],
"vpcSecurityGroups": [{
  "vpcSecurityGroupId": "sg-70712345",
  "status": "active"
}],
"dbParameterGroups": [{
  "dbParameterGroupName": "default.mysql5.7",
  "parameterApplyStatus": "in-sync"
}],
"availabilityZone": "us-east-1c",
"dbSubnetGroup": {
  "dbSubnetGroupName": "default",
  "dbSubnetGroupDescription": "default",
  "vpcId": "vpc-ba123456",
  "subnetGroupStatus": "Complete",
  "subnets": [{
    "subnetIdentifier": "subnet-89123456",
    "subnetAvailabilityZone": {
      "name": "us-east-1f"
    },
    "subnetStatus": "Active"
  },
  {
    "subnetIdentifier": "subnet-a0ccc19e",
    "subnetAvailabilityZone": {
      "name": "us-east-1e"
    },
    "subnetStatus": "Active"
  },
  {
    "subnetIdentifier": "subnet-91758bf7",
```

```
    "subnetAvailabilityZone": {
      "name": "us-east-1b"
    },
    "subnetStatus": "Active"
  },
  {
    "subnetIdentifier": "subnet-119b125c",
    "subnetAvailabilityZone": {
      "name": "us-east-1d"
    },
    "subnetStatus": "Active"
  },
  {
    "subnetIdentifier": "subnet-76f20829",
    "subnetAvailabilityZone": {
      "name": "us-east-1a"
    },
    "subnetStatus": "Active"
  },
  {
    "subnetIdentifier": "subnet-e9f83cc8",
    "subnetAvailabilityZone": {
      "name": "us-east-1c"
    },
    "subnetStatus": "Active"
  }
]
},
"preferredMaintenanceWindow": "sat:04:41-sat:05:11",
"pendingModifiedValues": {
  "masterUserPassword": "****",
  "processorFeatures": []
},
"multiAZ": false,
```

```

    "engineVersion": "5.7.22",
    "autoMinorVersionUpgrade": true,
    "readReplicaDBInstanceIdentifiers": [],
    "readReplicaDBClusterIdentifiers": [],
    "licenseModel": "general-public-license",
    "optionGroupMemberships": [{
      "optionGroupName": "default:mysql-5-7",
      "status": "in-sync"
    }],
    "publiclyAccessible": true,
    "statusInfos": [],
    "storageType": "standard",
    "dbInstancePort": 0,
    "storageEncrypted": false,
    "dbiResourceId": "db-TNILOCYT4B123456789",
    "cACertificateIdentifier": "rds-ca-2019",
    "domainMemberships": [],
    "copyTagsToSnapshot": false,
    "monitoringInterval": 0,
    "dbInstanceArn": "arn:aws:rds:us-east-1:123456789:db:sm1231456",
    "iAMDatabaseAuthenticationEnabled": false,
    "performanceInsightsEnabled": false,
    "enabledCloudwatchLogsExports": [],
    "processorFeatures": [],
    "deletionProtection": false,
    "associatedRoles": []
  },
  "supplementaryConfiguration": {
    "Tags": [{
      "key": "aws:servicecatalog:productArn",
      "value": "arn:aws:catalog:us-east-1:123456789:product/prod-gcm123
456789"
    }],
    {

```



```

        "key": "aws:cloudformation:stack-name",
        "value": "SC-123456789-pp-mv2123456789"
    },
    {
        "key": "aws:servicecatalog:provisioningPrincipalArn",
        "value": "arn:aws:iam::123456789:user/Henri.Bryce"
    },
    {
        "key": "aws:cloudformation:stack-id",
        "value": "arn:aws:cloudformation:us-east-1:123456789:stack/SC-123
456789-pp-mv2123456789/314735f0-b989-11ea-84d2-12d8771823f5"
    },
    {
        "key": "aws:cloudformation:logical-id",
        "value": "MyDB"
    },
    {
        "key": "aws:servicecatalog:provisioningArtifactIdentifier",
        "value": "pa-rel123456789"
    },
    {
        "key": "aws:servicecatalog:portfolioArn",
        "value": "arn:aws:catalog:us-east-1:123456789:portfolio/port-cfyx
123456789"
    },
    {
        "key": "aws:servicecatalog:provisionedProductArn",
        "value": "arn:aws:servicecatalog:us-east-1:123456789:stack/fuchsi
a-cheetah/pp-mv2123456789"
    }
]
},
"tags": {
    "aws:servicecatalog:productArn": "arn:aws:catalog:us-east-1:123456789

```

```

:product/prod-gcm123456789",
    "aws:cloudformation:stack-name": "SC-123456789-pp-mv2123456789",
    "aws:servicecatalog:provisioningPrincipalArn": "arn:aws:iam::123456789:user/Henri.Bryce",
    "aws:cloudformation:stack-id": "arn:aws:cloudformation:us-east-1:123456789:stack/SC-123456789-pp-mv2123456789/314735f0-b989-11ea-84d2-12d8771823f5",
    "aws:cloudformation:logical-id": "MyDB",
    "aws:servicecatalog:provisioningArtifactIdentifier": "pa-rel123456789"
  ,
    "aws:servicecatalog:portfolioArn": "arn:aws:catalog:us-east-1:123456789:portfolio/port-cfyx123456789",
    "aws:servicecatalog:provisionedProductArn": "arn:aws:servicecatalog:us-east-1:123456789:stack/fuchsia-cheetah/pp-mv2123456789"
  },
  "configurationItemVersion": "1.3",
  "configurationItemCaptureTime": "2020-06-28T21:51:31.064Z",
  "configurationStateId": 1593381091064,
  "awsAccountId": "123456789",
  "configurationItemStatus": "ResourceDiscovered",
  "resourceType": "AWS::RDS::DBInstance",
  "resourceId": "db-TNILOCYT4B123456789",
  "resourceName": "sm1231456",
  "ARN": "arn:aws:rds:us-east-1:123456789:db:sm1231456",
  "awsRegion": "us-east-1",
  "availabilityZone": "us-east-1c",
  "configurationStateMd5Hash": "",
  "resourceCreationTime": "2020-06-28T21:51:31.183Z"
}
}

```

Sample SNS message for an S3 Instance

This is a sample JSON response from AWS Config, sent via SNS. This message will be stored in an AWS Config Staging record before being processed by the Create CI automation process to add a Cloud Services - Storage record to your CMDB. You can use this sample JSON to test the Create AWS Config Staging webhook.

```
{
  "recordVersion": "1.3",
  "messageType": "ConfigurationItemChangeNotification",
  "configurationItemDiff": {
    "changedProperties": {},
    "changeType": "CREATE"
  },
  "notificationCreationTime": "2020-06-28T21:20:41.065Z",
  "configurationItem": {
    "relatedEvents": [],
    "relationships": [],
    "configuration": {
      "name": "sc-123456789-pp-z7123456-bucket-p3qxc9174zfa",
      "owner": {
        "id": "8a95ee125c3ea8f3b300e97daaf77effb5c5dcf427ff164bc3fb5abc3e8f528e"
      },
      "creationDate": "2020-06-28T21:18:36.000Z"
    },
    "supplementaryConfiguration": {
      "AccessControlList": "{\"grantSet\":null,\"grantList\": [{\"grantee\": {\"id\": \"8a95ee125c3ea8f3b300e97daaf77effb5c5dcf427ff164bc3fb5abc3e8f528e\", \"displayName\": null}, \"permission\": \"FullControl\"}], \"owner\": {\"displayName\": null, \"id\": \"8a95ee125c3ea8f3b300e97daaf77effb5c5dcf427ff164bc3fb5abc3e8f528e\"}, \"isRequesterCharged\": false}\",
      "BucketAccelerateConfiguration": {},
      "BucketLoggingConfiguration": {},
      "BucketNotificationConfiguration": {
```

```

    "configurations": {},
  },
  "BucketPolicy": {},
  "BucketTaggingConfiguration": {
    "tagSets": [{
      "tags": {
        "aws:servicecatalog:productArn": "arn:aws:catalog:us-east-1:123456789:product/prod-kr1234567",
        "aws:cloudformation:stack-name": "SC-123456789-pp-z7123456",
        "aws:servicecatalog:provisioningPrincipalArn": "arn:aws:iam::123456789:user/Henri.bryce",
        "aws:cloudformation:stack-id": "arn:aws:cloudformation:us-east-1:123456789:stack/SC-123456789-pp-z7123456/e931d440-b984-11ea-b140-0e167b726915",
        "aws:cloudformation:logical-id": "Bucket",
        "aws:servicecatalog:provisioningArtifactIdentifier": "pa-6p123456",
        "aws:servicecatalog:portfolioArn": "arn:aws:catalog:us-east-1:123456789:portfolio/port-cf1234567",
        "aws:servicecatalog:provisionedProductArn": "arn:aws:servicecatalog:us-east-1:123456789:stack/teal-marmot/pp-z7123456"
      }
    }]
  },
  "BucketVersioningConfiguration": {
    "status": "Off"
  },
  "IsRequesterPaysEnabled": false
},
"tags": {
  "aws:servicecatalog:productArn": "arn:aws:catalog:us-east-1:123456789:product/prod-kr1234567",
  "aws:cloudformation:stack-name": "SC-123456789-pp-z7123456",
  "aws:servicecatalog:provisioningPrincipalArn": "arn:aws:iam::12345678

```

```

9:user/Henri.bryce",
    "aws:cloudformation:stack-id": "arn:aws:cloudformation:us-east-1:1234
56789:stack/SC-123456789-pp-z7123456/e931d440-b984-11ea-b140-0e167b726915",
    "aws:cloudformation:logical-id": "Bucket",
    "aws:servicecatalog:provisioningArtifactIdentifier": "pa-6p123456",
    "aws:servicecatalog:portfolioArn": "arn:aws:catalog:us-east-1:1234567
89:portfolio/port-cf1234567",
    "aws:servicecatalog:provisionedProductArn": "arn:aws:servicecatalog:u
s-east-1:123456789:stack/teal-marmot/pp-z7123456"
  },
  "configurationItemVersion": "1.3",
  "configurationItemCaptureTime": "2020-06-28T21:20:41.003Z",
  "configurationStateId": 1593379241003,
  "awsAccountId": "123456789",
  "configurationItemStatus": "ResourceDiscovered",
  "resourceType": "AWS::S3::Bucket",
  "resourceId": "sc-123456789-pp-z7123456-bucket-p3qxc9174zfa",
  "resourceName": "sc-123456789-pp-z7123456-bucket-p3qxc9174zfa",
  "ARN": "arn:aws:s3:::sc-123456789-pp-z7123456-bucket-p3qxc9174zfa",
  "awsRegion": "us-east-1",
  "availabilityZone": "Regional",
  "configurationStateMd5Hash": "",
  "resourceCreationTime": "2020-06-28T21:18:36.000Z"
}
}

```

Sample SNS message for a LAMP Stack EC2 Instance

This is a sample JSON response from AWS Config, sent via SNS. This message will be stored in an AWS Config Staging record before being processed by the Create CI automation process to add a Cloud Services - Virtual Machine record to your CMDB. This record would be one of three for a sample LAMP stack. You can use this sample JSON to test the Create AWS Config Staging webhook.

```
{
  "recordVersion": "1.3",
  "messageType": "ConfigurationItemChangeNotification",
  "configurationItemDiff": {
    "changedProperties": {},
    "changeType": "CREATE"
  },
  "notificationCreationTime": "2020-06-28T21:53:59.121Z",
  "configurationItem": {
    "relatedEvents": [],
    "relationships": [{
      "resourceId": "default",
      "resourceType": "AWS::RDS::DBSubnetGroup",
      "name": "Is associated with DBSubnetGroup"
    },
    {
      "resourceId": "sg-0766c123456789",
      "resourceType": "AWS::EC2::SecurityGroup",
      "name": "Is associated with SecurityGroup"
    }
  ],
  "configuration": {
    "dbInstanceIdentifier": "smfg123456798",
    "dbInstanceClass": "db.t2.small",
    "engine": "mysql",
    "dbInstanceStatus": "creating",
    "masterUsername": "myfavusername",
```

```
"dbName": "myDatabase",
"allocatedStorage": 5,
"preferredBackupWindow": "04:01-04:31",
"backupRetentionPeriod": 1,
"dbSecurityGroups": [],
"vpcSecurityGroups": [{
  "vpcSecurityGroupId": "sg-0766c123456789",
  "status": "active"
}],
"dbParameterGroups": [{
  "dbParameterGroupName": "default.mysql5.7",
  "parameterApplyStatus": "in-sync"
}],
"availabilityZone": "us-east-1c",
"dbSubnetGroup": {
  "dbSubnetGroupName": "default",
  "dbSubnetGroupDescription": "default",
  "vpcId": "vpc-ba848ec0",
  "subnetGroupStatus": "Complete",
  "subnets": [{
    "subnetIdentifier": "subnet-89d76487",
    "subnetAvailabilityZone": {
      "name": "us-east-1f"
    },
    "subnetStatus": "Active"
  },
  {
    "subnetIdentifier": "subnet-a0ccc19e",
    "subnetAvailabilityZone": {
      "name": "us-east-1e"
    },
    "subnetStatus": "Active"
  },
  {
```

```
        "subnetIdentifier": "subnet-91758bf7",
        "subnetAvailabilityZone": {
            "name": "us-east-1b"
        },
        "subnetStatus": "Active"
    },
    {
        "subnetIdentifier": "subnet-119b125c",
        "subnetAvailabilityZone": {
            "name": "us-east-1d"
        },
        "subnetStatus": "Active"
    },
    {
        "subnetIdentifier": "subnet-76f20829",
        "subnetAvailabilityZone": {
            "name": "us-east-1a"
        },
        "subnetStatus": "Active"
    },
    {
        "subnetIdentifier": "subnet-e9f83cc8",
        "subnetAvailabilityZone": {
            "name": "us-east-1c"
        },
        "subnetStatus": "Active"
    }
]
},
"preferredMaintenanceWindow": "fri:05:22-fri:05:52",
"pendingModifiedValues": {
    "masterUserPassword": "*****",
    "processorFeatures": []
},
```



```

    "multiAZ": true,
    "engineVersion": "5.7.22",
    "autoMinorVersionUpgrade": true,
    "readReplicaDBInstanceIdentifiers": [],
    "readReplicaDBClusterIdentifiers": [],
    "licenseModel": "general-public-license",
    "optionGroupMemberships": [{
      "optionGroupName": "default:mysql-5-7",
      "status": "in-sync"
    }],
    "publiclyAccessible": true,
    "statusInfos": [],
    "storageType": "standard",
    "dbInstancePort": 0,
    "storageEncrypted": false,
    "dbiResourceId": "db-NRZ123456789",
    "cACertificateIdentifier": "rds-ca-2019",
    "domainMemberships": [],
    "copyTagsToSnapshot": false,
    "monitoringInterval": 0,
    "dbInstanceArn": "arn:aws:rds:us-east-1:123456789:db:smfg123456798",
    "iAMDatabaseAuthenticationEnabled": false,
    "performanceInsightsEnabled": false,
    "enabledCloudwatchLogsExports": [],
    "processorFeatures": [],
    "deletionProtection": false,
    "associatedRoles": []
  },
  "supplementaryConfiguration": {
    "Tags": [{
      "key": "aws:servicecatalog:productArn",
      "value": "arn:aws:catalog:us-east-1:123456789:product/prod-mv1234
56789"
    }],
  },

```

```

    {
      "key": "aws:cloudformation:stack-name",
      "value": "SC-123456789-pp-yqf123456789"
    },
    {
      "key": "aws:servicecatalog:provisioningPrincipalArn",
      "value": "arn:aws:iam::123456789:user/Henri.Bryce"
    },
    {
      "key": "aws:cloudformation:stack-id",
      "value": "arn:aws:cloudformation:us-east-1:123456789:stack/SC-123
456789-pp-yqf123456789/0d913660-b989-11ea-abae-0a029b5a039d"
    },
    {
      "key": "aws:cloudformation:logical-id",
      "value": "MySQLDatabase"
    },
    {
      "key": "aws:servicecatalog:provisioningArtifactIdentifier",
      "value": "pa-z123456789"
    },
    {
      "key": "aws:servicecatalog:portfolioArn",
      "value": "arn:aws:catalog:us-east-1:123456789:portfolio/port-cfy1
23456789+"
    },
    {
      "key": "aws:servicecatalog:provisionedProductArn",
      "value": "arn:aws:servicecatalog:us-east-1:123456789:stack/plum-b
umblebee/pp-yqf123456789"
    }
  ]
},
"tags": {

```

```

    "aws:servicecatalog:productArn": "arn:aws:catalog:us-east-1:123456789
:product/prod-mv123456789",
    "aws:cloudformation:stack-name": "SC-123456789-pp-yqf123456789",
    "aws:servicecatalog:provisioningPrincipalArn": "arn:aws:iam::12345678
9:user/Henri.Bryce",
    "aws:cloudformation:stack-id": "arn:aws:cloudformation:us-east-1:1234
56789:stack/SC-123456789-pp-yqf123456789/0d913660-b989-11ea-abae-0a029b5a03
9d",
    "aws:cloudformation:logical-id": "MySQLDatabase",
    "aws:servicecatalog:provisioningArtifactIdentifier": "pa-z123456789",
    "aws:servicecatalog:portfolioArn": "arn:aws:catalog:us-east-1:1234567
89:portfolio/port-cfy123456789+",
    "aws:servicecatalog:provisionedProductArn": "arn:aws:servicecatalog:u
s-east-1:123456789:stack/plum-bumblebee/pp-yqf123456789"
  },
  "configurationItemVersion": "1.3",
  "configurationItemCaptureTime": "2020-06-28T21:53:58.555Z",
  "configurationStateId": 1593381238555,
  "awsAccountId": "123456789",
  "configurationItemStatus": "ResourceDiscovered",
  "resourceType": "AWS::RDS::DBInstance",
  "resourceId": "db-NRZ123456789",
  "resourceName": "smfg123456798",
  "ARN": "arn:aws:rds:us-east-1:123456789:db:smfg123456798",
  "awsRegion": "us-east-1",
  "availabilityZone": "Multiple Availability Zones",
  "configurationStateMd5Hash": "",
  "resourceCreationTime": "2020-06-28T21:53:58.707Z"
}
}

```

Sample SNS message for a LAMP Stack RDS Instance

This is a sample JSON response from AWS Config, sent via SNS. This message will be stored in an AWS Config Staging record before being processed by the Create CI automation process to add a Cloud Services - Database record to your CMDB. This record would be one of three for a sample LAMP stack. You can use this sample JSON to test the Create AWS Config Staging webhook.

```
{
  "recordVersion": "1.3",
  "messageType": "ConfigurationItemChangeNotification",
  "configurationItemDiff": {
    "changedProperties": {},
    "changeType": "CREATE"
  },
  "notificationCreationTime": "2020-06-28T21:53:59.121Z",
  "configurationItem": {
    "relatedEvents": [],
    "relationships": [{
      "resourceId": "default",
      "resourceType": "AWS::RDS::DBSubnetGroup",
      "name": "Is associated with DBSubnetGroup"
    },
    {
      "resourceId": "sg-0766c123456789",
      "resourceType": "AWS::EC2::SecurityGroup",
      "name": "Is associated with SecurityGroup"
    }
  ],
  "configuration": {
    "dbInstanceIdentifier": "smfg123456798",
    "dbInstanceClass": "db.t2.small",
    "engine": "mysql",
    "dbInstanceStatus": "creating",
    "masterUsername": "myfavusername",
```

```
"dbName": "myDatabase",
"allocatedStorage": 5,
"preferredBackupWindow": "04:01-04:31",
"backupRetentionPeriod": 1,
"dbSecurityGroups": [],
"vpcSecurityGroups": [{
  "vpcSecurityGroupId": "sg-0766c123456789",
  "status": "active"
}],
"dbParameterGroups": [{
  "dbParameterGroupName": "default.mysql5.7",
  "parameterApplyStatus": "in-sync"
}],
"availabilityZone": "us-east-1c",
"dbSubnetGroup": {
  "dbSubnetGroupName": "default",
  "dbSubnetGroupDescription": "default",
  "vpcId": "vpc-ba848ec0",
  "subnetGroupStatus": "Complete",
  "subnets": [{
    "subnetIdentifier": "subnet-89d76487",
    "subnetAvailabilityZone": {
      "name": "us-east-1f"
    },
    "subnetStatus": "Active"
  },
  {
    "subnetIdentifier": "subnet-a0ccc19e",
    "subnetAvailabilityZone": {
      "name": "us-east-1e"
    },
    "subnetStatus": "Active"
  },
  {
```

```
        "subnetIdentifier": "subnet-91758bf7",
        "subnetAvailabilityZone": {
            "name": "us-east-1b"
        },
        "subnetStatus": "Active"
    },
    {
        "subnetIdentifier": "subnet-119b125c",
        "subnetAvailabilityZone": {
            "name": "us-east-1d"
        },
        "subnetStatus": "Active"
    },
    {
        "subnetIdentifier": "subnet-76f20829",
        "subnetAvailabilityZone": {
            "name": "us-east-1a"
        },
        "subnetStatus": "Active"
    },
    {
        "subnetIdentifier": "subnet-e9f83cc8",
        "subnetAvailabilityZone": {
            "name": "us-east-1c"
        },
        "subnetStatus": "Active"
    }
]
},
"preferredMaintenanceWindow": "fri:05:22-fri:05:52",
"pendingModifiedValues": {
    "masterUserPassword": "*****",
    "processorFeatures": []
},
```

```

    "multiAZ": true,
    "engineVersion": "5.7.22",
    "autoMinorVersionUpgrade": true,
    "readReplicaDBInstanceIdentifiers": [],
    "readReplicaDBClusterIdentifiers": [],
    "licenseModel": "general-public-license",
    "optionGroupMemberships": [{
      "optionGroupName": "default:mysql-5-7",
      "status": "in-sync"
    }],
    "publiclyAccessible": true,
    "statusInfos": [],
    "storageType": "standard",
    "dbInstancePort": 0,
    "storageEncrypted": false,
    "dbiResourceId": "db-NRZ123456789",
    "cACertificateIdentifier": "rds-ca-2019",
    "domainMemberships": [],
    "copyTagsToSnapshot": false,
    "monitoringInterval": 0,
    "dbInstanceArn": "arn:aws:rds:us-east-1:123456789:db:smfg123456798",
    "iAMDatabaseAuthenticationEnabled": false,
    "performanceInsightsEnabled": false,
    "enabledCloudwatchLogsExports": [],
    "processorFeatures": [],
    "deletionProtection": false,
    "associatedRoles": []
  },
  "supplementaryConfiguration": {
    "Tags": [{
      "key": "aws:servicecatalog:productArn",
      "value": "arn:aws:catalog:us-east-1:123456789:product/prod-mv1234
56789"
    }],
  },

```

```

    {
      "key": "aws:cloudformation:stack-name",
      "value": "SC-123456789-pp-yqf123456789"
    },
    {
      "key": "aws:servicecatalog:provisioningPrincipalArn",
      "value": "arn:aws:iam::123456789:user/Henri.Bryce"
    },
    {
      "key": "aws:cloudformation:stack-id",
      "value": "arn:aws:cloudformation:us-east-1:123456789:stack/SC-123
456789-pp-yqf123456789/0d913660-b989-11ea-abae-0a029b5a039d"
    },
    {
      "key": "aws:cloudformation:logical-id",
      "value": "MySQLDatabase"
    },
    {
      "key": "aws:servicecatalog:provisioningArtifactIdentifier",
      "value": "pa-z123456789"
    },
    {
      "key": "aws:servicecatalog:portfolioArn",
      "value": "arn:aws:catalog:us-east-1:123456789:portfolio/port-cfy1
23456789+"
    },
    {
      "key": "aws:servicecatalog:provisionedProductArn",
      "value": "arn:aws:servicecatalog:us-east-1:123456789:stack/plum-b
umblebee/pp-yqf123456789"
    }
  ]
},
"tags": {

```



```

    "aws:servicecatalog:productArn": "arn:aws:catalog:us-east-1:123456789
:product/prod-mv123456789",
    "aws:cloudformation:stack-name": "SC-123456789-pp-yqf123456789",
    "aws:servicecatalog:provisioningPrincipalArn": "arn:aws:iam::12345678
9:user/Henri.Bryce",
    "aws:cloudformation:stack-id": "arn:aws:cloudformation:us-east-1:1234
56789:stack/SC-123456789-pp-yqf123456789/0d913660-b989-11ea-abae-0a029b5a03
9d",
    "aws:cloudformation:logical-id": "MySQLDatabase",
    "aws:servicecatalog:provisioningArtifactIdentifier": "pa-z123456789",
    "aws:servicecatalog:portfolioArn": "arn:aws:catalog:us-east-1:1234567
89:portfolio/port-cfy123456789+",
    "aws:servicecatalog:provisionedProductArn": "arn:aws:servicecatalog:u
s-east-1:123456789:stack/plum-bumblebee/pp-yqf123456789"
  },
  "configurationItemVersion": "1.3",
  "configurationItemCaptureTime": "2020-06-28T21:53:58.555Z",
  "configurationStateId": 1593381238555,
  "awsAccountId": "123456789",
  "configurationItemStatus": "ResourceDiscovered",
  "resourceType": "AWS::RDS::DBInstance",
  "resourceId": "db-NRZ123456789",
  "resourceName": "smfg123456798",
  "ARN": "arn:aws:rds:us-east-1:123456789:db:smfg123456798",
  "awsRegion": "us-east-1",
  "availabilityZone": "Multiple Availability Zones",
  "configurationStateMd5Hash": "",
  "resourceCreationTime": "2020-06-28T21:53:58.707Z"
}
}

```

Configure CSM to Add Incidents for AWS Product Events

Prepare your CSM instance for creating new Incidents when your AWS resources go into Alarm state, based on SNS messages.

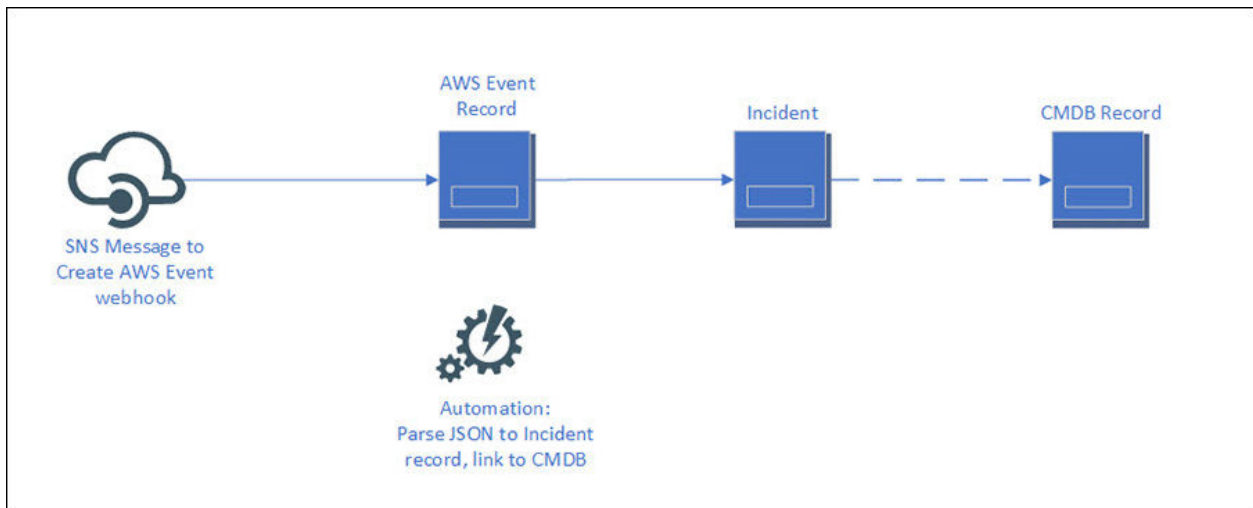
Before you begin, complete the global steps outlined in [Configure CSM for AWS](#). To support this use case, you will also need to complete [Configure AWS CloudWatch Alarms for CSM](#).

You can connect CloudWatch alarms so that when they go into alarm state, an Incident is created in CSM and tied to the appropriate AWS Configuration Item in your CMDB. Depending on your usage of AWS, you may already have configured AWS CloudWatch Alarms for your AWS resources. You can connect these existing alarms, or you can create new ones.



Note: For our example, we will create a CloudWatch Alarm for CPU Usage on a specific EC2 instance. However, the principles are the same and the setup is similar for alarms of other types. You may need to modify some of the JSON parsing in the workflow of One-Step™ Actions connected to the Create AWS Event webhook.

The overall workflow for the automatic creation of Incidents for your AWS Product configuration items is shown below:




A webhook triggers the Create AWS Event One-Step Action. This webhook was designed as a sample to demonstrate how you might automatically create Incidents for your AWS resources when they go into alarm state or violate an established rule. This sample expects a CloudWatch Alarm notification from Amazon SNS, such as an EC2 instance which has exceeded its CPU utilization threshold, and stores the JSON from that alarm notification in an AWS Event object record. Then, an automation process (AWS Event) creates an Incident linked to the associated CI in your CMDB. You may wish to configure additional, similar event types using either AWS CloudWatch or AWS Config. To facilitate this process, we have included sample JSON for these event types, as well as configured the (None) Create AWS Event One-Step Action with a decision tree that covers two possible paths: a notification from AWS Config that a CloudWatch Alarm has changed from OK to ALARM state, and a CloudWatch alarm which sends the

SNS notification directly with details about the affected resource. There is a sample of what kind of JSON is expected for the event. It's very particular, so we provide relevant sample code.

To configure AWS CloudWatch Alarms for CSM:


1. In CSM Administrator, go to **Managers > One-Step Action Managers**, and then to **Global > Integrations > AWS**.
2. Import the supplemental **Create AWS Event from EventBridge** mApp Solution from the mApp Exchange.
3. In CSM Administrator, go to **Managers > Webhook Managers**, and then to **Global > Integrations > AWS**. Update the Create AWS Event webhook to use the new One-Step Action imported in the prior step.

4.  **Note:** Webhook passwords should *not* correspond to any CSM logins. Instead, they are arbitrary and used for the webhook only to enhance security.

If you have not already done so, in CSM Administrator, go to **Managers > Webhook Manager** and set a custom webhook username and password for the AWS webhooks that were provided with the mApp® Solution.

- a. Copy the **Full Endpoint** from the **General** page of the **Webhook Manager**. Using the new username and password you just set for the webhook, modify the copied URL to the fit the following format; replace the sample information for webhook username and password, as well as the external URL of your CSM server. `https://webhookUsername:webhookPassword@yourserverurl.com/CherwellAPI/api/Webhooks/createawsevent`

Configure any One-Step Action that parse incoming messages from AWS specific to your CloudWatch Alarms. Specifically, check these:

5.  **Note:** If you are not using AWS CloudWatch or AWS Config for your event source, you may need to modify this One-Step Action to accommodate additional decision tree branches.

(None) Create AWS Event: Creates an AWS Event record from an incoming SNS notification. Parses the incoming JSON based on whether stored values are set to enable AWS Config, AWS CloudWatch, and the event source, as described above.

6. **(AWS Event) Create Incident from Event:** This creates the Incident and links it to the affected CI.

Sample SNS message for a CloudWatch Alarm State Change from AWS CloudWatch

This is a sample JSON response from AWS Config, sent via SNS. This message will be stored in an AWS Event record before being processed by the (AWS Event) AWS Event automation process to an Incident to your database and link the Incident to the affected CI in your CMDB. You can use this sample JSON to test the Create AWS Event webhook.

```
{
  "Type": "Notification",
  "MessageId": "836fe1ec-79e0-56b8-827f-b66569e37e11",
  "TopicArn": "arn:aws:sns:us-east-1:498849832712:update-cherwell-cmdb",
  "Message": "{\r\n  \"AlarmName\": \"Saffron-Octopus-RDS\", \r\n  \"AlarmDescription\": null, \r\n  \"AWSAccountId\": \"498849832712\", \r\n  \"NewStateValue\": \"ALARM\", \r\n  \"NewStateReason\": \"Threshold Crossed: 1 datapoint [2.1533759377604764 (20\//07\//20 21:07:00)] was greater than or equal to the threshold (0.0175).\", \r\n  \"StateChangeTime\": \"2020-07-20T21:12:01.544+0000\", \r\n  \"Region\": \"US East (N. Virginia)\", \r\n  \"AlarmArn\": \"arn:aws:cloudwatch:us-east-1:498849832712:alarm:Saffron-Octopus-RDS\", \r\n  \"OldStateValue\": \"INSUFFICIENT_DATA\", \r\n  \"Trigger\": {\r\n    \"MetricName\": \"CPUUtilization\", \r\n    \"Namespace\": \"AWS/RDS\", \r\n    \"StatisticType\": \"Statistic\", \r\n    \"Statistic\": \"AVERAGE\", \r\n    \"Unit\": null, \r\n    \"Dimensions\": [\r\n      {\r\n        \"value\": \"sm16lm1jrrjf0rk\", \r\n        \"name\": \"DBInstanceIdentifier\" \r\n      } \r\n    ], \r\n    \"Period\": 300, \r\n    \"EvaluationPeriods\": 1, \r\n    \"ComparisonOperator\": \"GreaterThanOrEqualToThreshold\", \r\n    \"Threshold\": 0.0175, \r\n    \"TreatMissingData\": \"\", \r\n    \"EvaluateLowSampleCountPercentile\": \"\" \r\n  } \r\n}",
  "Timestamp": "2020-07-15T14:08:03.824Z",
  "SignatureVersion": "1",
  "Signature": "JNdxahPfT0tVsX8+ZVPeA23M09UcCbIQ8uar5AZ4VqscGhzqpMcy4v00mluwr3eyJuFsogxhvlRprFIHU0ZH4bNRWxDpzdVnFIGVSnSBZDVi075ynf+oxagTLhSs7aa9Aar38RcQicaYBc6kHiCg5FHIwwU10XeehVjHavFKC1ymSegaxtD2pUG4jST30gC2P55I+qyFItpOj+Ih8ZqRBXc3H989mwdKU0Qa54/lQ0cFMC8YwZcQzqwSoZQwIvsrCzLjNR7l2IIEq4pk9d2thq9C/tyS"
```

```
FNlXd4/HP/Vd6I9wuP08c0nspmmWxQY1X7CQOvwKway7V9WmKVpku3avxQ==",  
  "SigningCertURL": "https://sns.us-east-1.amazonaws.com/SimpleNotification  
Service-a86cb10b4e1f29c941702d737128f7b6.pem",  
  "UnsubscribeURL": "https://sns.us-east-1.amazonaws.com/?Action=Unsubscrib  
e&SubscriptionArn=arn:aws:sns:us-east-1:498849832712:update-cherwell-cmdb:e  
0cff011-7a6a-4425-9c0c-e812474debe5"  
}
```

Sample SNS Message for an Incident Creation

This is a sample JSON response from AWS Config, sent via SNS. This message will be stored in an AWS Event record before being processed by the (AWS Event) AWS Event automation process to an Incident to your database and link the Incident to the affected CI in your CMDB. You can use this sample JSON to test the Create AWS Event webhook.

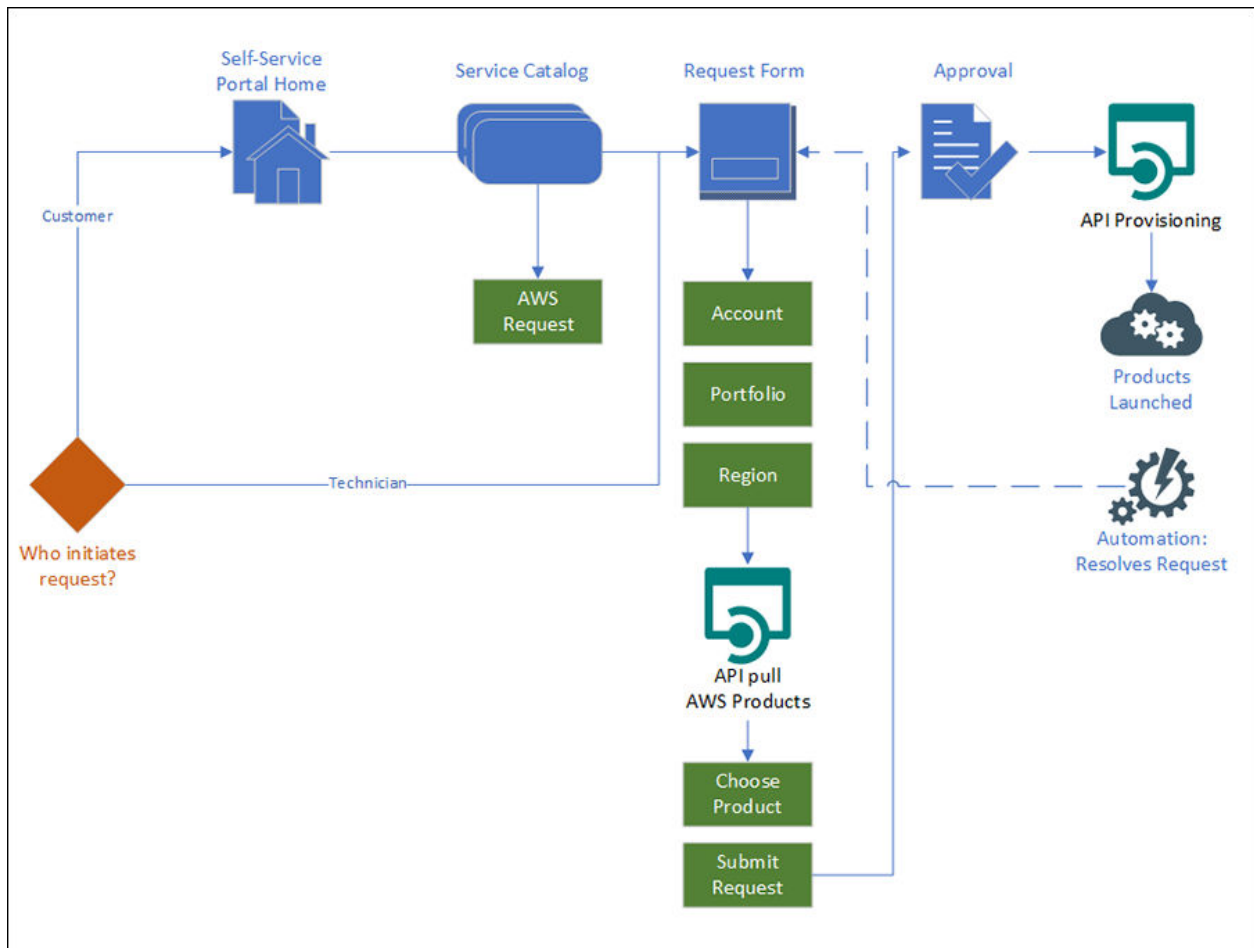
```
{
  "Type": "Notification",
  "MessageId": "836felec-79e0-56b8-827f-b66569e37e11",
  "TopicArn": "arn:aws:sns:us-east-1:498849832712:update-cherwell-cmdb",
  "Message": "{\r\n  \"version\": \"0\", \r\n  \"id\": \"5f2af47e-43db-7cdb-ae3b-bcdf0932659d\", \r\n  \"detail-type\": \"CloudWatch Alarm State Change\", \r\n  \"source\": \"aws.cloudwatch\", \r\n  \"account\": \"498849832712\", \r\n  \"time\": \"2020-07-09T14:30:01Z\", \r\n  \"region\": \"us-east-1\", \r\n  \"resources\": [\"arn:aws:cloudwatch:us-east-1:498849832712:alarm:CPU Usage Alarm\"], \r\n  \"detail\": {\r\n    \"alarmName\": \"CPU Usage Alarm\", \r\n    \"state\": {\r\n      \"value\": \"ALARM\", \r\n      \"reason\": \"Threshold Crossed: 1 out of the last 1 datapoints [0.2706214689265534 (09/07/20 14:20:00)] was greater than the threshold (0.05) (minimum 1 datapoint for OK -> ALARM transition).\", \r\n      \"reasonData\": \"{\\\"version\\\":\\\"1.0\\\"\",\\\"queryDate\\\":\\\"2020-07-09T14:30:01.387+0000\\\"\",\\\"startDate\\\":\\\"2020-07-09T14:20:00.000+0000\\\"\",\\\"statistic\\\":\\\"Average\\\"\",\\\"period\\\":300,\\\"recentDatapoints\\\":[0.2706214689265534],\\\"threshold\\\":0.05}\"\", \r\n      \"timestamp\": \"2020-07-09T14:30:01.391+0000\"\", \r\n      \"previousState\": {\r\n        \"value\": \"INSUFFICIENT_DATA\", \r\n        \"reason\": \"Unchecked: Initial alarm creation\", \r\n        \"timestamp\": \"2020-07-09T14:28:40.178+0000\"\", \r\n        \"configuration\": {\r\n          \"metrics\": [{\r\n            \"id\": \"7ab999fd-3d39-6f59-0f6a-47de61d53e46\", \r\n            \"metricStat\": {\r\n              \"metric\": {\r\n                \"namespace\": \"AWS/EC2\", \r\n                \"name\": \"CPUUtilization\", \r\n                \"dimensions\": {\r\n                  \"InstanceId\": \"i-0ee0478b095c210ba\"\", \r\n                  \"period\": 300, \r\n                  \"stat\": \"Average\", \r\n                  \"returnData\": true\r\n                }\r\n              }\r\n            }\r\n          }\r\n        }\r\n      }\r\n    }\r\n  }\r\n}"
```

```
n  }\r\n}",
  "Timestamp": "2020-07-15T14:08:03.824Z",
  "SignatureVersion": "1",
  "Signature": "JNdxahPfT0tVsX8+ZVPeA23M09UcCbIQ8uar5AZ4VqscGhzqpMcy4v00mlu
wr3eyJuFsogxhv1RprFIHU0ZH4bNRWxDpzdVnFIGVSnsSBZDVi075ynf+oxagTLhSs7aa9Aar38R
cQicaYBc6kHiCg5FHIwwU1OXeehVjHavFKC1ymSegaxtD2pUG4jST30gC2P55I+qyFItpOj+Ih8
ZqRBXc3H989mwdKU0Qa54/lQ0cFMC8YwZcQzqwSoZQwIvsrCzLjNR7l2IIEq4pk9d2thq9C/tyS
FNlXd4/HP/Vd6I9wuP08c0nspmmWxQY1X7CQOvwKway7V9WmKVpku3avxQ==",
  "SigningCertURL": "https://sns.us-east-1.amazonaws.com/SimpleNotification
Service-a86cb10b4e1f29c941702d737128f7b6.pem",
  "UnsubscribeURL": "https://sns.us-east-1.amazonaws.com/?Action=Unsubscrib
e&SubscriptionArn=arn:aws:sns:us-east-1:498849832712:update-cherwell-cmdb:e
0cff011-7a6a-4425-9c0c-e812474debe5"
}
```

Using the AWS mApp Solution

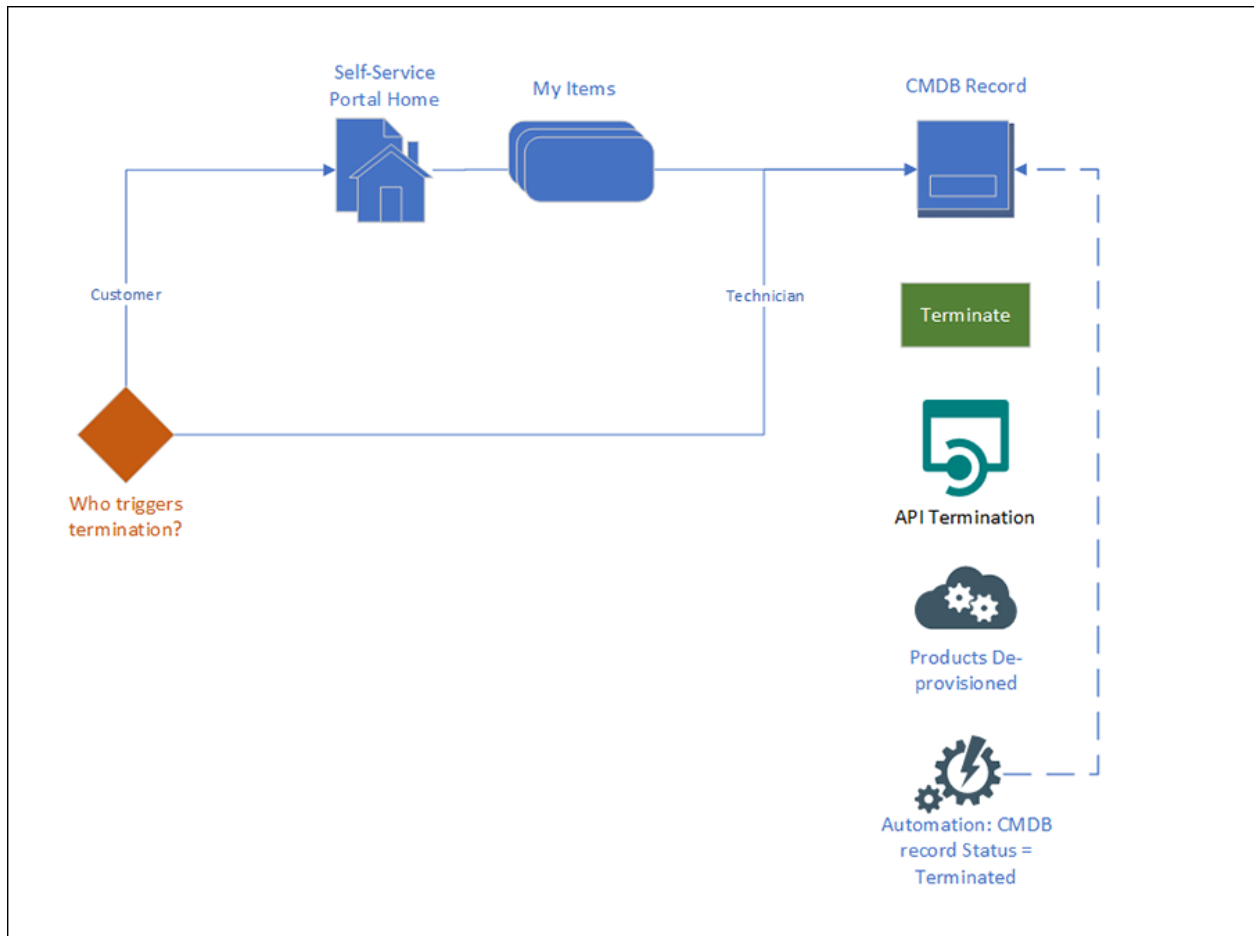
The AWS mApp Solution allows Portal users and licensed CSM users to provision an AWS product from your organization's AWS Service Catalog, such as an EC2 instance, LAMP Stack, RDS instance, or S3 bucket.

When you use this mApp Solution to provision a product, this is the overall workflow.



When you request an AWS product, CSM makes a series of API calls behind the scenes, as described in [AWS Action Blocks](#). Once your request has been approved, the Provision Product call is made.

When you use this mApp Solution to terminate a product, this is the overall workflow.



Provision an AWS Product from the CSM Portal

Unlicensed CSM users can provision an AWS product directly from the CSM Portal.

To provision an AWS product from the CSM Portal:

1. Log into the CSM Portal and access the service catalog.
2. Select **Desktop Management > Computer > New CFT**.
3. The AWS products you can choose from depend on the permissions you have.
4. Enter the **Account Name**, **Portfolio**, and **Region**, then select **Request AWS Product**.
5. In the pop-up dialog, select the AWS product you want.
Additional fields appear in the **Additional Questions** section based on the product you selected.
6. Complete the fields in the **Additional Questions** section. The fields vary depending on the AWS product you request. Some fields are auto-populated.
7. Select **Submit for Approval**.
Once the Incident is approved, an automation process to provision the product begins. After the product is provisioned, the Incident will reflect the new Configuration Item, and the Incident is marked as closed.

The newly-provisioned AWS product is assigned a configuration item record and added to the CMDB.

Provision an AWS Product from the Desktop Client or Browser Client

Licensed CSM users can provision an AWS product directly from the Desktop Client or Browser Client.

To provision an AWS product from the Desktop Client or Browser Client:

1. Select **New > New Incident**.
2. In the **Service Classification** menu, select **New CFT**.
Enter required fields. You must enter a customer.
3. Under the **Additional Questions** section, enter the **Account Name**, **Portfolio**, and **Region**, then select **Request AWS Product**.
4. In the pop-up dialog, select the AWS product you want.
5. Complete the fields in the **Additional Questions** section. The fields vary depending on the AWS product you request. Some fields are auto-populated.
6. Select **Submit for Approval**.
Once the Service Request is approved, an automation process to provision the product begins. After the product is provisioned, the Service Request will reflect the new Configuration Item, and the Service Request is marked as closed.



Note: The Service request closes after provisioning initiates, but the CI may not be available immediately. AWS products take varying amounts of time to provision; be aware that the process is not instant. LAMP stacks, in particular, can take up to several hours to build.

Manually Add an Existing AWS Configuration Item



You can add configuration items to the Cherwell CMDB for resources that have already been provisioned in AWS.

While this mApp® Solution can be configured to automatically add configuration items to your CMDB based on SNS messages from AWS Config, if you have existing AWS resources you may wish to add those in as well.

1. In the Desktop Client or Browser Client, select **New > New Configuration Item**, then choose the correct config type for your AWS Product:
 - a. Config - Cloud Services Database: for RDS instances
 - b. Config - Cloud Services Storage: for S3 buckets
 - c. Config - Cloud Services Virtual Machine: for EC2 instances
2. Complete the fields for the configuration item.
 - a.


Config - Cloud Services Database


Business Object Field	AWS element	Message Config JSON Path
ARN	Amazon Resource Name (ARN)	<i>\$.configurationItem.ARN</i>
AWS Account	AWS account ID	<i>n/a</i>
Database Name	Instance Identifier	<i>\$.configurationItem.configuration.instanceId</i>
Friendly Name	Provisioned Product Name - Instance Identifier	Provisioned Product Name: <i>\$.configurationItem.tags.aws:servicecatalog:provisionedProductArn</i> <i>Text After /</i> <i>Text Before /pp-</i> Database Instance Identifier: <i>\$.configurationItem.resourceName</i>
Instance Class	Instance Type	<i>\$.configurationItem.configuration.dbInstanceClass</i>

Business Object Field	AWS element	Message Config JSON Path
Instance Name  Important: This ID is used in a variety of subsequent mApp Solution features. It is particularly important to complete this field correctly.	DB Instance Identifier	<code>\$.configurationItem.configuration.dbInstanceIdentifier</code>
Provisioned Product ID	Provisioned Product ID for the instance  Important: This ID is used in a variety of subsequent mApp Solution features. It is particularly important to complete this field correctly.	Provisioned Product Name: <code>\$.configurationItem.tags.aws:servicecatalog:provisionedProductArn</code> Text After / Text After /
Region	Region where the instance is located	<code>\$.configurationItem.awsRegion</code>
Size	Size (GB) of database	<code>\$.configurationItem.configuration.allocatedStorage</code>
Username	Login name for DB Owner	<code>\$.configurationItem.configuration.masterUsername</code>
Version	Database Engine	<code>\$.configurationItem.configuration.engine</code>

b.

Config - Cloud Services Storage



Business Object Field	AWS element	Message Config JSON Path
ARN	Amazon Resource Names (ARNs)	<i>\$.configurationItem.ARN</i>
AWS Account	AWS account ID	<i>n/a</i>
Friendly Name	Provisioned Product Name - Instance Identifier	Provisioned Product Name: <i>\$.configurationItem.tags.aws:servicecatalog:provisionedProductArn</i> <i>Text After /</i> <i>Text Before /pp-</i> Bucket: <i>\$.configurationItem.resourceName</i> <i>Text After Next word bucket-</i>
Name	Bucket Name  Important: This name is used in a variety of subsequent mApp Solution features. It is particularly important to complete this field correctly.	<i>\$.configurationItem.configuration.name</i>

Business Object Field	AWS element	Message Config JSON Path
Provisioned Product ID	Provisioned Product ID for the instance  Important: This ID is used in a variety of subsequent mApp Solution features. It is particularly important to complete this field correctly.	Provisioned Product Name: <code>\$.configurationItem.tags.aws:servicecatalog:provisionedProductArn</code> <i>Text After /</i> <i>Text After /</i>
Region	Region where the instance is located	<code>\$.configurationItem.awsRegion</code>

c.

Config - Cloud Services Virtual Machine

Business Object Field	AWS element	Message Config JSON Path
ARN	Amazon Resource Names (ARNs)	<code>\$.configurationItem.ARN</code>
AWS Account	AWS account ID	<i>n/a</i>
Client Token	AWS Client Token	<code>\$.configurationItem.configuration</code>
Friendly Name	Provisioned Product Name - Instance Identifier	Provisioned Product Name: <code>\$.configurationItem.tags.aws:servicecatalog:provisionedProductArn</code> <i>Text After /</i> <i>Text Before /pp-</i> Instance Identifier: <code>\$.configurationItem.resourceId</code>

Business Object Field	AWS element	Message Config JSON Path
Host Name  Important: This ID is used in a variety of subsequent mApp Solution features. It is particularly important to complete this field correctly.	Instance Identifier	<code>\$.configurationItem.configuration.instanceId</code>
Instance Type	Instance Type	<code>\$.configurationItem.configuration.instanceType</code>
Launch Time	Launch Time of the instance	<code>\$.configurationItem.configuration.launchTime</code>
MACAddress	MAC Address of the instance	<code>\$.configurationItem.configuration.networkInterfaces[0].macAddress</code>
Private DNS Name	Private DNS name of the instance	<code>\$.configurationItem.configuration.privateDnsName</code>
Private IP Address	Private IP address of the instance	<code>\$.configurationItem.configuration.privateIpAddress</code>
Provisioned Product ID	Provisioned Product ID for the instance  Important: This ID is used in a variety of subsequent mApp Solution features. It is particularly important to complete this field correctly.	Provisioned Product Name: <code>\$.configurationItem.tags.aws:servicecatalog:provisionedProductArn</code> Text After / Text After /
Public DNS Name	Public DNS name of the instance	<code>\$.configurationItem.configuration.publicDnsName</code>

Business Object Field	AWS element	Message Config JSON Path
Public IP Address	Public IP address of the instance	<i>\$.configurationItem.configuration.publicIpAddress</i>
Region	Region where the instance is located	<i>\$.configurationItem.awsRegion</i>

Manage an AWS Configuration Item

Customers can access their own AWS CIs in the CMDB.

Customers can access their provisioned products in the CSM Portal. However, it is important to note that changes to record details on the CIs do not update AWS. The only action that will affect resources in AWS is the **Terminate Provisioned Product** link under the **Actions** menu.

In the CSM Portal, select **My Items > Devices Assigned to Me**. From this dashboard, a customer can open a CI record for which they are the primary customer. This CI record will contain basic details about the AWS resource, depending on what was configured in your CloudFormation Templates (CFTs), and in the Create Config Item One-Step™ Action. Customers can also choose the **Open in AWS Console** link under the **Actions** menu to open the AWS console in a browser window. In this case, they will need a direct login to AWS in order to see details there.

Terminate an AWS Configuration Item from the CSM Portal

Unlicensed CSM users can provision an AWS product directly from the CSM Portal.

To terminate an AWS product:

1. In the CSM Portal, select **My Items > Devices Assigned to Me**.
2. Open the AWS CI and select **Terminate Provisioned Product**.
Confirm you want to terminate the product. Once you terminate an AWS product, it is marked as retired in the CMDB. The AWS resource will be permanently deleted, and you cannot recover this.

Terminate an AWS Configuration Item from the Desktop Client or Browser Client

Licensed CSM users can terminate an AWS product directly from the Desktop Client or Browser Client.

To terminate an AWS product:

1. In the Desktop Client or Browser Client, open the CMDB.
2. Open the AWS CI and select **Terminate Provisioned Product**.
Confirm you want to terminate the product. Once you terminate an AWS product, it is marked as retired in the CMDB. The AWS resource will be permanently deleted, and you cannot recover this.

Troubleshooting the AWS mApp Solution

Troubleshooting solutions for the AWS mApp Solution.

- **Why do I see an error that says "List Provisioning Artifacts execution halted, action block parameter ProductID is required"?**

You may see this message when one of your Action Blocks has failed, and did not generate the required parameter for the next Action Block in the chain. Make sure that you are passing in exactly the values that match AWS, such as with the PortfolioID. Check that the PortfolioID is valid for AWS, and ensure there are no leading or trailing spaces for values pasted into the AWS Portfolio record in CSM.

- **I need to change or update a One-Step™ Action.**

There are several pop-up Actions in this One-Step Action that are set up for troubleshooting purposes; they are set to display only if Debug equals true. If you must change a One-Step Action, set this value to true so the action will display debug pop-ups.

- **I loaded a .czar on my system, and now the webhooks aren't processing.**
 - Ensure you have created AWS Accounts with secret keys and AWS Portfolios.
 - Ensure you have added departments to the AWS Portfolios.
 - Set the encryption key in the Cherwell Encryption Key stored value.
 - Give the Anonymous Browser security group view permissions for webhooks.
 - Give the Portal Customer and Portal Workgroup Manager security groups view, add, and edit permissions on the Specifics - AWS Provision Supporting Business Object.
- **Configuration Items are being terminated, but not marked as Retired**

The Terminate Provisioned Product One-Step Action is set to update the status and create journals if the Return Result of the preceding Terminate Provisioned Product Action block is "OK OK". However, sometimes the return from AWS is "OKOK" (without the space). You may need to adjust accordingly for your specific AWS-side configuration.

Cannot Complete AWS Provision Form

If users cannot successfully complete the form, this topic aims to help you troubleshoot potential issues.

You can make a request to provision an AWS product from either the CSM Portal or the Browser Client. Once you make the request, it must be submitted for approval. After it's approved, the provision product call is made to the AWS API using the key credentials you added to the AWS Account table, and provided access to via the AWS Portfolio table.

CSM Portal

- **Problem:** Cannot see field drop-down menus to select the **AWS Account**.

The screenshot shows the Cherwell IT Service Portal interface. The top navigation bar includes links for Home, My Items, Service Catalog, Knowledge Articles, and Service Orders. Below the navigation bar is a toolbar with icons for Save, Cancel, Refresh, Delete, Attach (0), and navigation controls. The main content area is titled 'New CFT' and shows a breadcrumb trail 'Desktop Management > Computer > New CFT'. There is a checkbox labeled 'Submit on behalf of another user'. At the bottom of the form, there is a button labeled 'Request AWS Products'. The form is mostly empty, suggesting that the dropdown menus for selecting an AWS account are not visible.

Solution: If you see something like the image here, you likely need to set appropriate permissions for your portal customer security groups, as described in this topic: [Configure Security Groups for the AWS mApp Solution](#).

CSM Portal or Browser Client

- **Problem:** Cannot see available accounts in the **AWS Account** drop-down menu.

New CFT
Desktop Management > Computer > New CFT

☐ Submit on behalf of another user

[Cancel](#) [Add to Cart](#)

Account Name *

NO DATA FOUND.

[Request AWS Products](#)

Provisioned Product Name

Solution: To resolve the issue shown here, check through these configuration steps:

- Ensure that there are valid portfolios in the AWS Portfolio table, as described in [Add Departments to the AWS Portfolio Supporting Object](#). The **Portfolio ID** and **Portfolio Name** should exactly match the Portfolio ID and Name in your AWS account.
- Confirm that the user who is attempting the request in the CSM Portal belongs to a department that is linked to a valid portfolio within the account. For more information on this configuration, see: [Grant AWS Account Access to CSM Users](#).
- **Problem:** Nothing happens after selecting **Request AWS Products**.

Solution: If your API call to request products is successful, you will see a prompt like this one:

DISTRIB...	HASDEF...	ID	NAME	OWNER	PRODU...	SHORTD...	SUPPOR...	SUPPOR...	SUPPOR...	TYPE
False		prodvie...	LAMP St...	Hannah...	prod-mv...	This is a...		hannah...	http://lo...	CLOUD_...
False		prodvie...	Ruby On...	Cherwell...	prod-4t2...	Ruby On...				CLOUD_...
False		prodvie...	RDS Inst...	Cherwell...	prod-gc...	Test RD...				CLOUD_...
False		prodvie...	S3 Bucket	Cherwell...	prod-kr7...	Sample...				CLOUD_...
False		prodvie...	EC2	Cherwell...	prod-qy...	This is a...				CLOUD_...

If you select **Request AWS Products** and nothing appears to happen, likely one of your calls to the AWS API has failed. There are several common reasons for this failure; check the following configuration steps:

- Ensure that the account whose AWS keypair you are using for the calls has appropriate permissions to see items in the AWS Portfolio, as described in [Configure AWS IAM for CSM](#).
- Each of the API call Action Blocks has a Debug parameter. When enabled, these turn on a series of pop-up windows that give you more information about the API call responses. To get more insight into this problem, turn on debugging for the **Request Product** One-Step Action, located at **(Incident)Global > Integrations > AWS**.
 - To turn on One-Step Action debugging in the CSM Desktop Client or Browser Client, open the One-Step Action.
 - Select the One-Step Action and select **Parameters**. Select the **Debug** parameter and enter a value of `TRUE`.
 - Save the One-Step Action and try your request again. You should now see additional pop-up windows that indicate the response to your API call, similar to the one shown

here:



AWS Product Not Provisioned

If you have completed the request to provision form, but you do not see any items provisioned in your AWS account, follow these steps to troubleshoot.

Before you begin these steps, you should have worked through any issues in [Cannot Complete AWS Provision Form](#) and be able to successfully complete the form requesting the AWS product.

1. **Problem:** No product provision in AWS Console

Solution: If you log into the AWS Console and you cannot see at least an attempt to provision a product, there are two possibilities. Either your call was not made, or it failed. The ProvisionProduct API call is not actually made until after the request has been approved, so it is important to ensure that the approval process has successfully completed before moving on to other troubleshooting steps.

To check that the call was made, open the CSM Desktop Client and navigate to the request, then:

- a. From your current record, select **Tools > Current Record Automation Processes**.
- b. There should be two Automation Processes that run against this request. The first, **Incident Approval Process**, should show as successfully completed. This indicates that the provision product request has been attempted.

If you do not see anything in this tool:

- Open Cherwell Server Manager and confirm that your **Cherwell Service Host** is turned on and pointed to the database connection on which you are currently making the request.
- Confirm that the approval tied to your Service Request has been approved. Confirm that your Service Request has also been saved.

If you confirm that your **Incident Approval Process** has a status of completed and shows **Executed Approval actions for an AWS Request block**, then you know that the ProvisionProduct API call was made and the failure may have occurred at that point. Proceed to the next steps.

If you have confirmed that the API call has been made, you can turn on debugging for your Provision Product One-Step™ Action, located at **(Incident) > Global > Integrations > AWS**.

- a. To turn on One-Step Action debugging in the CSM Desktop Client or Browser Client, open the One-Step Action.
- b. Select the One-Step Action and select **Parameters**. Select the **Debug** parameter and enter a value of `TRUE`.

- c. Save the One-Step Action and try your request again. You should now see additional pop-up windows that indicate the response to your API call, similar to the one shown here:



Once you have enabled debugging, you can try the One-Step Action again manually against your service request to see additional details.

2. **Problem:** AWS user associated with stored account key does not have provisioning permissions

It's also possible that your provisioning issue is related to the permissions that the user to whom your authentication key is tied does not have permission to provision the specific product you requested.

Solution: To test that your AWS key has appropriate permissions to provision the product, try launching it directly from the AWS console.

Configuration Item Not Created in CMDB

If your product has provisioned in your AWS account, but you do not see the automatic creation of a Configuration Item in the CMDB, follow these steps to troubleshoot.

Before you begin these steps, you should have worked through any issues described in [AWS Product Not Provisioned](#) and be able to successfully complete the provision of an AWS product.

After you can see a successfully provisioned product in your AWS account, your incident should close and show that the provisioned CFT has a status of 'Active.' You should see a new CI connected to it and in your CMDB after a short period of time, from 5-10 minutes. If you do not, here are the steps to check.

1. **Problem:** Server not open to the public.

Solution: If your server does not have an external-facing address, you will not be able to hit any of the webhooks. You can confirm that this is set up correctly by accessing the Browser Client from a machine other than your CSM server.

2. **Problem:** SNS subscription cannot confirm.

Solution: Your SNS subscription should be able to confirm automatically. If it doesn't, check to make sure your password is correctly entered in the webhook and in SNS.



Note: If you have complex characters in your password, make sure they are properly encoded for URL transmission. For more information, see: [HTML URL Encoding Reference](#).

3. **Problem:** SNS message not sent.

Solution: Once you are confident that your SNS subscription for the CSM webhook is correct, ensure the message has been sent by SNS.

You can set up a Hookbin subscription for your SNS topic (see <https://hookbin.com/>), or another service to receive the JSON sent by SNS. This will serve the dual purpose of allowing you to see precisely what SNS has sent your webhook, but also confirm that the message has been sent.



Note: Make sure you leave the tab with your Hookbin URL open or you won't be able to get back to the results. If you accidentally close the tab, you will need to recreate the Hookbin endpoint and recreate your SNS subscription.

4. **Problem:** Message stuck in RabbitMQ.

When SNS hits the webhook successfully, you will see a log message in the CSM Web API log as follows:

```
{"Level": "STATS", "Message": "Execution of Post took 477  
Milliseconds.", "TimeStamp": "2020-12-04T21:27:47.5775259+00:"}
```

```
00","ThreadName":"Thread_14","Domain":null,"pid":"11908","DebugCategory":
":"InfoLogMessage","Host":"EC2AMAZ-KBCFCVH","Object[]":["\"ActionName\"
,\"Post\"\",\"RequestUri\"\",\"https://awsmapp.cherwelltest.com/CherwellAPI
/api/Webhooks/createawsevent\"\",\"ElapsedTime\"\",477,\"RequestContentSize
\",2108,\"ResponseContentSize\",null,\"ResponseStatusCode\",200]"}}
```

Solution: If you see this message in the logs, but you do not see your object in the staging table, you can check RabbitMQ to confirm that it has not gotten stuck in queue. If it has, try restarting the Cherwell Service Host and testing your provision again.

5. **Problem:** Staging table object is created, but corresponding CI or Incident is not created.

Solution: If the object created by your webhook (either **AWS Event** or **AWS Config Staging**) has been created but you do not see a corresponding **Incident** or **Configuration Item**, you can check these things:

- Ensure your Cherwell Service Host is turned on and pointed to the correct database.
- To navigate to the staging object, select **Searching > Quick Search Builder**. Select the staging object (either AWS Event for Incidents or AWS Config Staging for Configuration Items).
- From your current record, select **Tools > Current Record Automation Processes**.
- If any of your automation processes have failed, double-click that item to get additional details on what caused the failure.
- Confirm the JSON parsing in any associated One-Step™ Actions is configured to the specific response you are receiving. You may find these tools useful in assessing what kind of parsing is required:
 - [JSON Formatter and Validator](#): Useful for evaluating whether the test JSON you are using in the link below is valid.
 - [JSONPath Online Evaluator](#): Useful for evaluating whether the parsing currently used gives you the expected value.

Incident Not Created for a CI with an Alarm

If your CI alarms have been triggered but you see no Incident, follow these steps to troubleshoot.

Before you begin these steps, you should be able to successfully complete the form requesting the AWS product, as described in [Cannot Complete AWS Provision Form](#), including getting specific CFT details for the AWS products in your Service Catalog portfolio.

After you can see a successfully provisioned product in your AWS account and received the CI in your CMDB, you may wish to automatically create incidents for your CI if it has an event. If you follow the configuration steps for this case but cannot see your incident, follow these troubleshooting steps.

1. **Problem:** Event alarm not in alarm state.

Solution: Before you begin troubleshooting the Incident, confirm that your alarm is in alarm state. If it has gone into alarm state and your system was not yet configured, you may need to move it out of alarm state and back in again to get the proper notification to create the Incident.

2. **Problem:** SNS subscription cannot confirm.

Solution: Your SNS subscription should be able to confirm automatically. If it doesn't, check to make sure your password is correctly entered in the webhook and in SNS.



Note: If you have complex characters in your password, make sure they are properly encoded for URL transmission. For more information, see: [HTML URL Encoding Reference](#).

3. **Problem:** SNS message not sent.

Solution: Once you are confident that your SNS subscription for the CSM webhook is correct, ensure the message has been sent by SNS.

You can set up a Hookbin subscription for your SNS topic (see <https://hookbin.com/>), or another service to receive the JSON sent by SNS. This will serve the dual purpose of allowing you to see precisely what SNS has sent your webhook, but also confirm that the message has been sent.



Note: Make sure you leave the tab with your Hookbin URL open or you won't be able to get back to the results. If you accidentally close the tab, you will need to recreate the Hookbin endpoint and recreate your SNS subscription.

4. **Problem:** Message stuck in RabbitMQ.

When SNS hits the webhook successfully, you will see a log message in the CSM Web API log as follows:

```
{"Level": "STATS", "Message": "Execution of Post took 477  
Milliseconds.", "TimeStamp": "2020-12-04T21:27:47.5775259+00:"}
```

```
00","ThreadName":"Thread_14","Domain":null,"pid":"11908","DebugCategory":
":"InfoLogMessage","Host":"EC2AMAZ-KBCFCVH","Object[]":["\"ActionName\"
,\"Post\"\",\"RequestUri\"\",\"https://awsmapp.cherwelltest.com/CherwellAPI
/api/Webhooks/createawsevent\"\",\"ElapsedTime\"\",477,\"RequestContentSize
\",2108,\"ResponseContentSize\",null,\"ResponseStatusCode\",200]"} }
```

Solution: If you see this message in the logs, but you do not see your object in the staging table, you can check RabbitMQ to confirm that it has not gotten stuck in queue. If it has, try restarting the Cherwell Service Host and testing your provision again.

5. **Problem:** Staging table object is created, but corresponding CI or Incident is not created.

Solution: If the object created by your webhook (either **AWS Event** or **AWS Config Staging**) has been created but you do not see a corresponding **Incident** or **Configuration Item**, you can check these things:

- Ensure your Cherwell Service Host is turned on and pointed to the correct database.
- To navigate to the staging object, select **Searching > Quick Search Builder**. Select the staging object (either AWS Event for Incidents or AWS Config Staging for Configuration Items).
- From your current record, select **Tools > Current Record Automation Processes**.
- If any of your automation processes have failed, double-click that item to get additional details on what caused the failure.
- Confirm the JSON parsing in any associated One-Step™ Actions is configured to the specific response you are receiving. You may find these tools useful in assessing what kind of parsing is required:
 - [JSON Formatter and Validator](#): Useful for evaluating whether the test JSON you are using in the link below is valid.
 - [JSONPath Online Evaluator](#): Useful for evaluating whether the parsing currently used gives you the expected value.

Troubleshooting AWS mApp Solution Webhooks

You can use an external service such as Hookbin to collect and view SNS messages to ensure that you are receiving the message you expect. If you are receiving the proper message but do not see it being processed, check RabbitMQ. CSM uses RabbitMQ for processing webhook requests.


SNS Message Troubleshooting

1. Visit the URL to confirm your subscription after you request confirmation.
2. Make sure you leave this tab open or you won't be able to get back to the results. If you accidentally close the tab, you will need to recreate the Hookbin endpoint and recreate your SNS subscription.

Testing Your JSON Parsing

3. You can use the Test Webhook feature in the mApp Solution to ensure that the JSON you are receiving from SNS is being parsed as expected.
4. In CSM Administrator, go to **Browser and Mobile > Webhook Manager** and edit the webhook you are troubleshooting.
5. Under the **Action** tab, select **Test Webhook** and paste in the JSON you received to your Hookbin subscription.
6. Select **Run** and check to see if an appropriate object was created in CSM.

RabbitMQ Troubleshooting

7. Before trying the steps below, try restarting the Cherwell Service Host, as it may resolve any RabbitMQ issues. If it does not, proceed to the next steps.
8. Stop the Cherwell Service Host.
9.  **Important:** Deleting these queues will delete anything in progress in a production system, so take care with the steps below to ensure you do not inadvertently purge additional data.

Delete any duplicate Exchanges and Queues. These will be recreated on Cherwell Service Host start.

- a. Delete all CSM Exchanges.
 - b. Delete all CSM-related queues.
10. Start the Cherwell Service Host.

AWS mApp Solution Items

This is a high-level list of items included when applying the AWS mApp Solution.

Business Objects

- Major
 - AWS Config Staging
 - AWS Event
 - Config - Cloud Services Database
 - Config - Cloud Services Storage
 - Config - Cloud Services Virtual Machine
- Supporting
 - AWS Account
 - AWS Portfolio
 - Specifics - AWS Provision
- Lookup Tables
 - AWS Deployment Status
 - AWS Region
 - Cloud Services - Providers

Automation Processes

AWS Event: Create an event based on AWS event details. This is set up to work with the specific JSON scenarios included with this mApp Solution. It triggers the Create Incident from Event One-Step™ Action.

One-Step™ Actions

- Create Config Item
- Provision Product
- Provisioning Status
- Request Product

Webhooks

The AWS mApp Solution includes two webhooks:

- Create AWS Event: Includes four expressions
 - AWS Cloudwatch Only
 - AWS Config and AWS Cloudwatch
 - AWS Config Only

- AWS Enabled Services
- Create AWS Config Staging Record: this triggers the Create AWS Config Staging One-Step™ Action.

BeyondTrust (Formerly Bomgar) Remote Support mApp Solution 3.1

Use the BeyondTrust Remote Support mApp® Solution to launch real-time remote support sessions directly from CSM.

Cherwell version requirements: Tested on CSM 9.6.x — 10.2.0.

Content version requirements: Tested on CSM 9.6.0 — 10.2.0; this mApp Solution may or may not be compatible on content versions earlier than CSM 9.6.0, but as with all mApp Solutions, be sure to test it on your customized system.

BeyondTrust version requirements: 18.2.3; may be compatible with earlier versions, but functionality is not guaranteed

Prerequisites:

- BeyondTrust URL
- BeyondTrust Account Username
- BeyondTrust Account Password
- BeyondTrust API Client ID
- BeyondTrust API Client Secret
- Target path to BeyondTrust.exe (or bomgar-rep.exe)*
- Incident Business Object ID** (if applicable)
- Journal Remote Session History Business Object ID** (if applicable)

*The easiest way to get the target path for your local BeyondTrust.exe is to create a shortcut to your BeyondTrust Representation Console on your desktop. On the shortcut, right-click and select **Properties**. Select the **Shortcut** tab and copy the path in the Target field.

**To find the Business Object ID, see Step 5 in [Define Advanced Properties for a Business Object](#).

Overview

The BeyondTrust Remote Support mApp Solution provides functionality that enables secure, real-time remote support sessions. CSM technicians and customers can launch remote support sessions directly from CSM to encourage real-time collaboration and fast resolution of IT issues. Session details (example: Chat conversation history) can then be stored in an applicable Business Object.

CSM integrates with BeyondTrust's remote support services using the BeyondTrust Application Programming Interface (API). BeyondTrust remote support service commands are configured in CSM so technicians can launch remote support sessions directly from any CSM Business Object. Technicians and customers can initiate these sessions through the CSM Desktop Client or CSM Portal. At the end of a session, CSM Business Objects (example: Incidents and Change Requests) are created or updated to store the session's details in the Business Object's Journal.

The CSM remote support integration allows customers to request immediate assistance with IT issues and to communicate real-time with technicians through a chat window in the Portal. Technicians provide remote support to customers through the BeyondTrust Representative Console. The Console is the interface that BeyondTrust provides for technicians to chat with customers, remotely control their computers and share files, to resolve the customer's issues.



Note: To use BeyondTrust remote support capabilities in CSM, a BeyondTrust Appliance must be purchased, installed, and configured. Refer to the BeyondTrust website for more details (www.beyondtrust.com). In addition, customers must have at least one BeyondTrust account that CSM can use to make API requests to BeyondTrust. Technicians that use the BeyondTrust Representative Console to conduct remote support sessions with customers also need individual BeyondTrust accounts to download and use the Console.

Apply the mApp Solution

Follow these steps to download and apply the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.
4. When prompted, enter the Business Object IDs, BeyondTrust/Bomgar URL, API Client ID, and API Client Secret. Select the **Open a Blueprint so that I can preview the changes** option. *Before you publish the Blueprint, you need to configure the mApp Solution.*

For a list of items included in the mApp Solution, see [BeyondTrust mApp Solution Items](#).

Configure Settings in BeyondTrust

Follow these steps to configure the settings in BeyondTrust:

1. Configure the Outbound Event in BeyondTrust.
2. Configure the BeyondTrust API.
3. Configure the API Fields in BeyondTrust.

Configure the mApp Solution

Follow these steps to configure the mApp Solution:

1. Define CSM remote support.
2. Update the URL in the Web Service Object.
3. Set the Journal - Remote Support History as the default Form.
4. Add BeyondTrust Form elements to Incident Forms.

5. Add BeyondTrust Form elements to the view-only Portal Incident Form.
6. Add BeyondTrust Form elements to the Portal Configuration Item Form.
7. Define BeyondTrust menu bar option.
8. Define security rights for Portal Customers and Workgroup Managers.
9. Define the automation process for Business Hours.
10. Define the Configure BeyondTrust Path One-Step Action.
11. Configure the Outbound Event in BeyondTrust.
12. Configure the BeyondTrust API.
13. Configure the API Fields in BeyondTrust.

For more details on these steps, see [Configuring the BeyondTrust Remote Support mApp Solution](#).

Use the mApp Solution

Follow these steps to use the mApp Solution:

1. Test the BeyondTrust Integration.
2. Conduct a Remote Support Session using the BeyondTrust Representative Console.
3. Launch a Remote Support Session from the CSM Desktop Client (CSM technicians).
4. Launch a Remote Support Session from the CSM Portal (customers).

For more details on these steps, see [Using the BeyondTrust mApp Solution](#).

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
3.1	Tested on 9.6.x — 10.2.0.	Tested on 9.6.0 — 10.2.0; this mApp Solution may or may not be compatible on content versions earlier than 9.6.0, but as with all mApp Solutions, be sure to test it on your customized system.	BeyondTrust URL, BeyondTrust Account Username, BeyondTrust Account Password, BeyondTrust API Client ID, BeyondTrust API Client Secret, Target path to BeyondTrust.exe (or bomgar-rep.exe), Incident Business Object ID, Journal Remote Session History Business Object ID

Related concepts

[Go to the Cherwell Marketplace \(formerly the mApp Exchange\)](#)

[Apply a mApp Solution](#)

[Configure the BeyondTrust API](#)

[About mApp Solutions](#)

Related tasks

[Configure the Outbound Event in BeyondTrust](#)

[Configure the API Fields in BeyondTrust](#)

Define BeyondTrust Stored Values

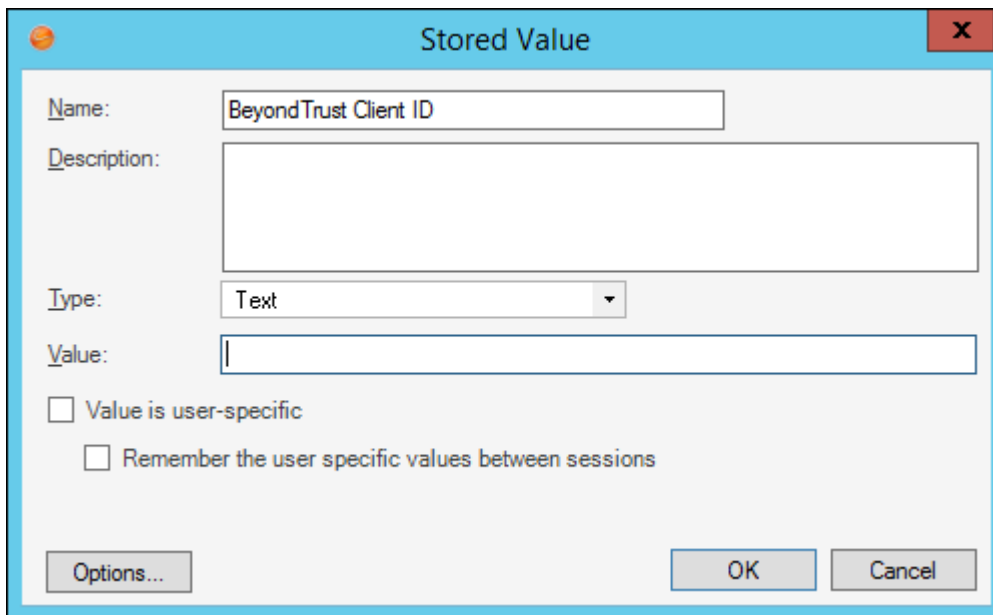
Define BeyondTrust Stored Values for One-Step Actions that control buttons and links.

During the installation of the BeyondTrust Remote Support mApp Solution, you are prompted to define several Stored Values. The values are used by One-Step Actions that control BeyondTrust buttons and links on the Incident and Configuration Item forms (Generate Session Key, Initiate Remote Control, Chat with Support Representative, and Chat with Support).

For additional information, see [About Stored Values](#).

To define the BeyondTrust Stored Values, provide a value for each of the following Stored Values:

- BeyondTrust Client ID: Provide the BeyondTrust Client ID in the Value Field.



The screenshot shows a 'Stored Value' dialog box. The 'Name' field is filled with 'BeyondTrust Client ID'. The 'Description' field is empty. The 'Type' dropdown is set to 'Text'. The 'Value' field is empty. There are two checkboxes: 'Value is user-specific' and 'Remember the user specific values between sessions', both of which are unchecked. At the bottom, there are three buttons: 'Options...', 'OK', and 'Cancel'.

- BeyondTrust Client Secret: Provide the BeyondTrust Client Secret in the Value Field.
- BeyondTrust URL: Provide the URL for the BeyondTrust server in the Value Field.
- Incident Object ID: Provide the Incident ID in the Value Field. The value can be found in the Business Objects Properties window (Advanced page).
- Journal Object ID: Provide the Journal ID in the Value Field. The value can be found in the Business Objects Properties window (Advanced page).

Configuring the BeyondTrust Remote Support mApp Solution

Configure the BeyondTrust Remote Support mApp Solution using CSM Administrator.

Complete the following procedures to configure the BeyondTrust Remote Support mApp Solution:

1. [Define CSM remote support.](#)
2. [Update the URL in the Web Service Object.](#)
3. [Set the Journal - Remote Support History as the default Form.](#)
4. [Add BeyondTrust Form Elements to Incident Form.](#)
5. [Add BeyondTrust Form Elements to the View-Only Portal Incident Form.](#)
6. [Add BeyondTrust Form Elements to the Portal Configuration Item Form.](#)
7. [Define BeyondTrust menu bar options.](#)
8. [Set security rights for Portal Customers and Workgroup Managers.](#)
9. [Define the Automation Process for Business Hours.](#)
10. [Define the Configure BeyondTrust Path One-Step.](#)
11. [Configure the Outbound Event in BeyondTrust.](#)
12. [Configure the BeyondTrust API.](#)
13. [Configure the API Fields in BeyondTrust.](#)

Define CSM Remote Support Settings for the BeyondTrust Remote Support mApp Solution

Define CSM remote support settings in CSM Administrator.

Use the Chat and Remote Support Connector Settings window to configure how CSM accesses and initiates BeyondTrust remote support, how CSM identifies Customers requesting remote support, and which Business Objects are linked to remote support sessions.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp® Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define CSM remote support settings:

1. In CSM Administrator, select **Settings**, and then select **Edit Chat and Remote Support Connector Settings**.
The Chat and Remote Support Connector Settings window opens.
2. Define the General page options for remote support:

Setting	Description
Enable Chat and Remote Control Services	Verify this check box is cleared.
Service URL	Provide the base URL for the remote support service API. Security Warning: Use HTTPS for this URL to ensure security.
Chat Server IP Address	Leave default settings.
Chat Service Credentials	Provide the User Name and Password for a remote support service user authorized to perform API requests.
Cherwell Credentials for Processing Chat Service Events	Select the Use Specific CSM User radio button. Use a CSM User login (internal or Windows user). Provide the User name and Password of the CSM User that is used for logging in to process remote support events. This User must have the proper security rights to process events, run CSM, and create or modify Business Objects and Customer Records.

Setting	Description
Chat Service Technician Queue	<p>These options (only supported in CSM) allow CSM technicians to have remote support sessions placed in their personal queues in the BeyondTrust Representative Console.</p> <p>Select Technician Queue Using Current User Login: Match the user name for the currently logged-in CSM technician against the usernames of all CSM technicians who are currently logged into the BeyondTrust Representative Console. If a match is found, the remote support session is created within that technician's queue.</p> <p>Select Technician Queue Using Login Stored In Current User Business Object: Match the user name stored in a Field in the User Business Object (UserInfo) for the currently logged-in technician against the user names of all technicians who are currently logged into the BeyondTrust Representative Console. If a match is found, the remote support session is created within that technician's queue. To indicate which Field contains the technician's User name, add an attribute with the name ChatUserName to the Field. For more information about Field attributes, see Define Advanced Properties for a Field.</p> <p>Note: If both options are selected, the first option is tried first and if no match can be found, the second option is tried. If still no match can be found, the BeyondTrust team queue is determined by the selected or specified support issue.</p>
Chat Service Support Issue Queue	<p>These options determine whether a Customer can select from a list of support issues when launching a remote support session, or whether all remote support sessions launched by Customers are categorized under a specified support issue.</p> <p>Prompt for Support Issue: Select this option to have a pop-up open for the Customer to select from a list of issues downloaded from the BeyondTrust configuration website.</p> <p>Always Use a Specific Support Issue: Automatically use a specified issue. Default indicates that the request should be placed in the general queue in the BeyondTrust Representative Console.</p> <p>Select Issue: Select a specific issue to use, which determines the queue the request is placed in.</p> <p>Note: If issues are changed in the BeyondTrust configuration website, it might be necessary to reset the Specific Support Issue in CSM.</p> <p>Note: If the Technician queue options described above are enabled and a Technician match is found, the support issue queue options are ignored and the remote support session is created in the technician's personal queue.</p>
Chat Invitation E-mail	<p>(Optional) Create a remote support session invitation e-mail template that CSM technicians can use to invite Customers to remote support sessions.</p>

3. Select **OK**.

Update the URL in the Web Service Object

Update the URL in the Web Service Object with your BeyondTrust URL.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp Solution.

To update the URL in the Web Service Object:

1. In CSM Administrator, select **Browser and Mobile Settings** and select **Web Services Manager**.
2. In the Web Services Manager, right-click **BeyondTrust > Edit**.
3. In the Web Service Options window, fill out the information on the General page as follows:

Option	Description
Name	BeyondTrust
Description	Leave with default description
URL	Provide your BeyondTrust URL
Service Type	REST
Security Type	None
Always call web services from Cherwell Server check box	Select
Log calls to this web service (depending on system settings, might happen anyway) check box	Select

4. Select **OK** and then select **Close**.

Set the Journal - Remote Support History Form as the Default

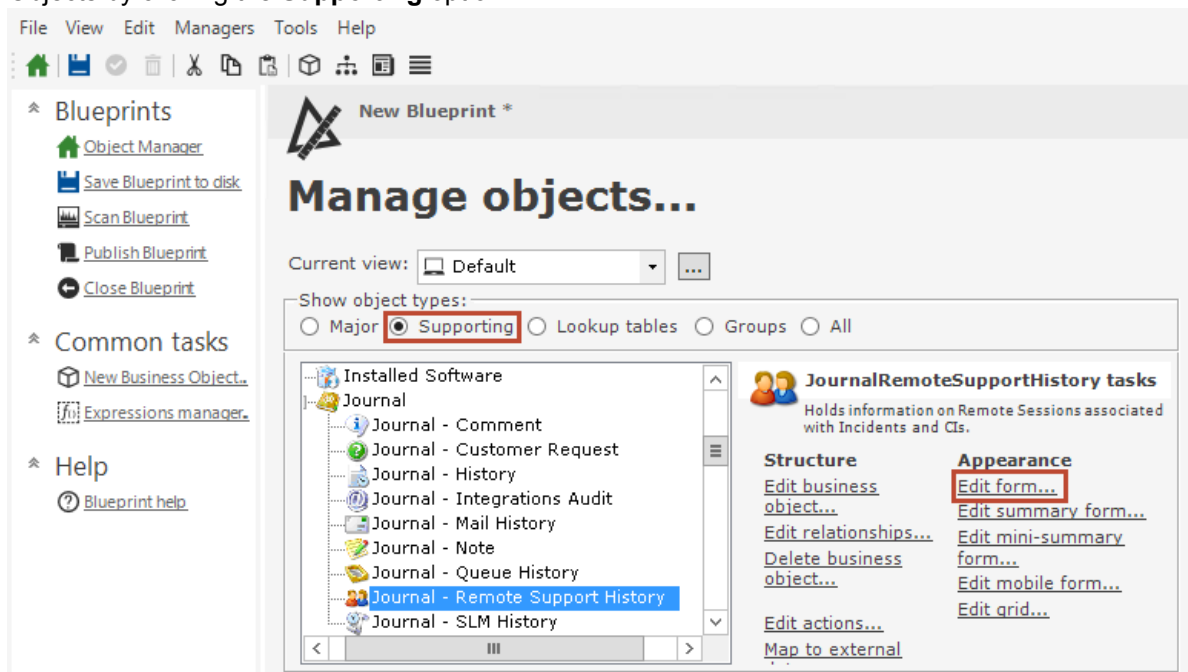
Set the Journal - Remote Support History Form as the default Form for easier access to information on remote sessions.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp Solution. For more information, refer to the [mApp Tech Notes](#) documentation.

To set the Journal - Remote Support History Form as the default:

1. Use the [Form Editor](#) (accessed from within a Blueprint in CSM Administrator) and filter the Business Objects by clicking the **Supporting** option.



2. From the **Form** drop-down list, select **BeyondTrust Report**.
3. From the menu bar, select **Form > Make this the default standard form**.
4. Select **Yes**.
5. From the **Form** drop-down list, select **Default Form**.
6. From the menu bar, select **Form > Form properties**. Rename the Form to something that will label it as the old Form (example: Old Default Form).

Add BeyondTrust Form Elements to the Incident Form

Use the Form Editor to add BeyondTrust Form Controls to Incident Forms.

The Form Controls provide two buttons: one generates a session key and the other allows remote control for a technician.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To add Form Controls to the Incident Form:

1. In the Business Object tree, select **Incident**.

2. Select the **Form** button .


Tip: You can also select **View>View Form** (from the Object Manager menu bar) or select the **Edit Form** link (under the Appearance area).


3. From the **Form** drop-down list, select the **BeyondTrust Controls** Form.
 - a. Select the **Generate Session Key** and **Initiate Remote Session** Form Controls simultaneously.




Note: If the Primary CI field does not contain a Computer-CI on the Incident, the Initiate Remote Control button is disabled and does not show on the Form.

BeyondTrust Controls for Incident

☐  Generate Session Key

☐  Initiate Remote Control

 [Chat With Support](#)

The Link Label version is ideally used on the Portal Incident forms.

Copy and paste these controls onto the Incident default form. They contain the required visibility expressions and are linked to the One-Steps to connect to BeyondTrust and initiate a support session.

Note: You must have previously populated the **Settings > Remote Session** parameters for BeyondTrust, and also updated all the BeyondTrust Stored Values. Also, for Remote Control to function, you must install the BeyondTrust Representative Console on each Support Desk computer.

- b. From the menu bar, select **Edit>Copy**.

4. From the **Form** drop-down list, select **Default Form** (for CSM OOTB content versions earlier than 9.6.0). For CSM OOTB content version 9.6.x or later, select **Incident Overview** (If a pop-up displays that says Apply changes to Incident form back to the Blueprint, select **Yes**).
 - a. From the menu bar, select **Edit>Paste**.

The Form Controls display on the Form.



Note: The BeyondTrust Form Controls are pasted in a defined location for the default Incident Form. If you have a custom Form, move the Form Controls to a location that fits your Form design. If you have multiple Adaptive Layouts, paste and move the Form Controls on to each one. If you are using multiple languages, adjust the location of the Form Controls on those layouts.

5. Select the **Update Blueprint** button  , and then select the **Home** button .

Add BeyondTrust Form Elements to the View-Only Portal Incident Form


Use the Form Editor to add a BeyondTrust Form Control to the view-only Portal Incident Forms.

The Form Control is a link that allows Users to initiate a remote chat session with a representative.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp Solution.

To add the Form Control to the Form:

1. From the **Current View** drop-down list, select **Portal Default**.
2. In the Business Object tree, select **Incident**.
3. Select the **Form** button .

Tip: You can also select **View>View Form** (from the Object Manager menu bar) or select the **Edit Form** link (under the Appearance area).

4. From the **Form** drop-down list, select the **BeyondTrust Controls** Form.
 - a. Select the **BeyondTrust icon** and the **Chat with Support** link Form Controls simultaneously.



Note: You must define the CSM Remote Support Settings and the BeyondTrust Stored Values for the Control function to work.


- b. From the menu bar, select **Edit>Copy**.
 - c. Select the **Home** button .
5. Select the **Edit view-only form** task in the Appearance section.
 - a. From the menu bar, select **Edit>Paste**.

The Form Controls displays on the Form.



Note: The BeyondTrust Form Controls are pasted in a defined location for the default Form. If you have a custom Form, move the Form Controls to a location that fits your Form design. If you have multiple Adaptive Layouts, paste and move the Form Controls on to each one. If you are using multiple languages, adjust the location of the Form Controls on those layouts.


If the font is too large when you paste the link, change the font to (Theme) Form Control Font.

6. Select **Update Blueprint** .
7. Select and copy the **BeyondTrust icon** and the **Chat With Support** control.
8. Select the **Home** button (If a pop-up message displays that says Apply changes to Incident form back to the Blueprint, select **Yes**.).
9. Select the **Edit "existing" form** task in the Appearance section.
10. From the menu bar, select **Edit>Paste**.

The Form Control shows on the Form.



Note: The BeyondTrust Form Controls are pasted in a defined location for the default form. If you have a custom Form, move the Form Controls to a location that fits your form design. See the Note above for multiple Adaptive Layouts and multiple languages.

11. Select the **Update Blueprint** button, and then select the **Home** button .

Related concepts

[Form Editor](#)

[Cherwell-provided mApp Solutions](#)

[Define CSM Remote Support Settings for the BeyondTrust Remote Support mApp Solution](#)

[Define BeyondTrust Stored Values](#)

Related tasks

[Define and Format Control Text](#)

Add BeyondTrust Form Elements to the Portal Configuration Item Form


Use the Form Editor to add a BeyondTrust Form Control to applicable Portal Configuration Item (CI) Forms.

The Form Control allows Users to initiate a remote chat session with a representative. The mApp Solution provides the option of using a button Form Control or link Form Control, based on your Form design.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp Solution.

To add the Form Control to the Form:

1. From the **Current View** drop-down list, select **Portal Default**.
2. In the Business Object tree, select a **CI Business Object** (example: Config - Computer).
3. Select the **Form** button .

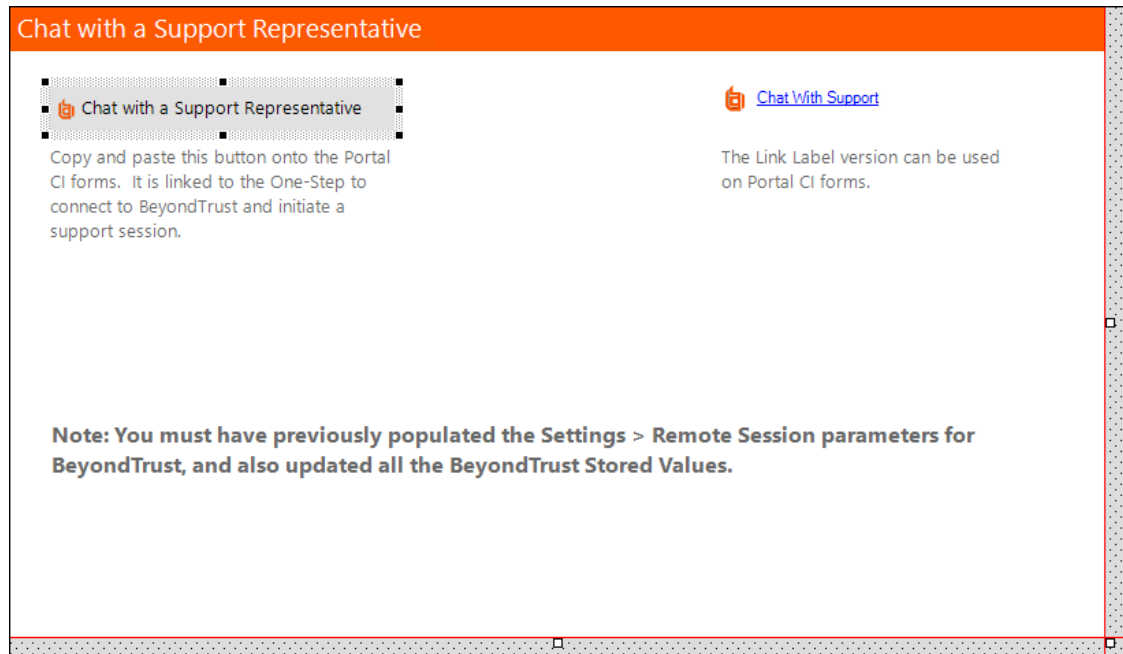



Tip: You can also select **View>View Form** (from the Object Manager menu bar) or select the **Edit Form** link (under the Appearance area).

4. From the **Form** drop-down list, select the **BeyondTrust CI Controls** Form.
 - a. Select either the **Chat with a Support Representative** Form Control or the **Chat With Support** text link.



Note: You must define the CSM Remote Support Settings and the BeyondTrust Stored Values for the Form Control functionality to work.



- b. From the menu bar, select **Edit>Copy**.
- c. Select the **Home** button  (If a pop-up displays that says Apply changes to Config - Computer form back to the Blueprint, select **Yes**.).
5. Under **Appearance**, select **Edit view-only form** .
 - a. From the menu bar, select **Edit>Paste**.
The Form Control shows on the Form.



Note: The BeyondTrust Form Control is pasted in a defined location for the default CI form. If you have a custom Form, move the Form Control to a location that fits your form design. If you have multiple Adaptive Layouts, paste and move the Form Control on to each one. If you are using multiple languages, adjust the location of the Form Control on those layouts.

If the font is too large when you paste the link, change the font to (Theme) Form Control Font.

Computer (Asset Tag:) [Create Incident](#)

Status:

PRIMARY USE

MODEL

MANUFACTURER

OPERATING SYSTEM

[Chat with a Support Representative](#) [Link to Map](#)

6. (Optional) Add the Form Control to additional CI forms or add it to other Business Object forms, if necessary.
7. Save the changes to the Blueprint and publish the Blueprint.

Related concepts[Form Editor](#)[Cherwell-provided mApp Solutions](#)[Define CSM Remote Support Settings for the BeyondTrust Remote Support mApp Solution](#)[Define BeyondTrust Stored Values](#)[Save a Blueprint](#)[Publish a Blueprint](#)**Related tasks**[Define and Format Control Text](#)

Define the BeyondTrust Menu Bar Options

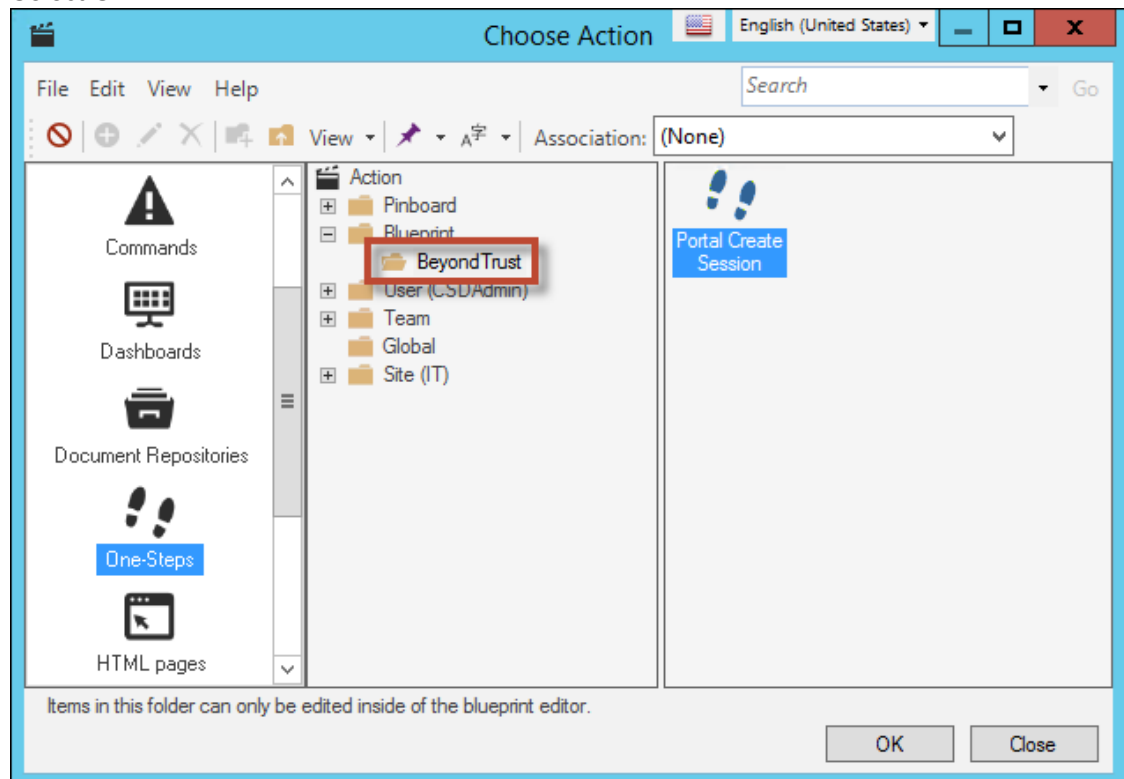
Use CSM Administrator to define the BeyondTrust menu bar options.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp® Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define the BeyondTrust menu bar options:

1. In CSM Administrator, select **Browser and Mobile**, and then select **Site Manager**.
2. Select the **Portal site** and select **Edit** (Typically, portal is the IT site).
3. In the Properties window, select the **Menu** page.
4. In the menu tree, select **BeyondTrust Chat Request**.
5. Action: Select **Ellipses**.
 - a. In the **Choose Action** window, select **One-Steps**.
 - b. From the **Association** drop-down list, select **(None)**.
 - c. Expand the **Blueprint** folder in the menu tree and select **BeyondTrust**.
 - d. Select the **Portal Create Session** One-Step Action.
 - e. Select **OK**.



6. Display text: BeyondTrust Chat Request. If BeyondTrust is not listed in the menu tree, you can [create a One-Step Action](#) by selecting **Add action > Add One-Step action**.
 - a. In the One-Step Action Manager, select **Association > (None)**.
 - b. Select any One-Step Action as a placeholder.
 - c. Display text: BeyondTrust Chat Request.
7. Help text: Requests a BeyondTrust chat session with a Service Desk Technician.
8. Expressions:
 - a. Clear the **Visible** check box.
 - b. Select the **Enabled** check box.
 - c. Select **Ellipses**.
 - d. In the Expression Manager, select **Service Desk Open**.
 - e. Select **OK**.
9. Security Options:
 - a. Visible: From the drop-down list, select **Logged-In only**.
 - b. Right: From the drop-down list, select **(None)**.
 - c. Enabled: From the drop-down list, select **Logged-In only**.
 - d. Right: From the drop-down list, select **(None)**.
10. Select **OK** and then select **Close**.

Properties

Menu properties

Edit the menu for the site

General

Display

Banner

Footer

Menu

Localization

+ Add action X ↓ ↑

- Menu
 - Home
 - Service Catalog
 - My Devices
 - IT Calendar
 - + Charts and Items
 - Home
 - Reset Password
 - BeyondTrust Chat Request
 - + Service Orders

Action: [Portal Create Session](#) ...

Display text: BeyondTrust Chat Request

Help text: Requests a BeyondTrust chat session with a Serv

None

Expressions

☐ Visible: Bomgar Chat Integration stored v... ... √x

☒ Enabled: Service Desk Open ... √x

Security Options

Visible: Logged-In only Right: (None)

Enabled: Logged-In only Right: (None)

☐ Begin group

☒ Show menu

Hide properties

OK Cancel

Define Security Rights and Chat Settings for Portal Customers and Workgroup Managers

Use CSM Administrator to define security rights and chat settings.

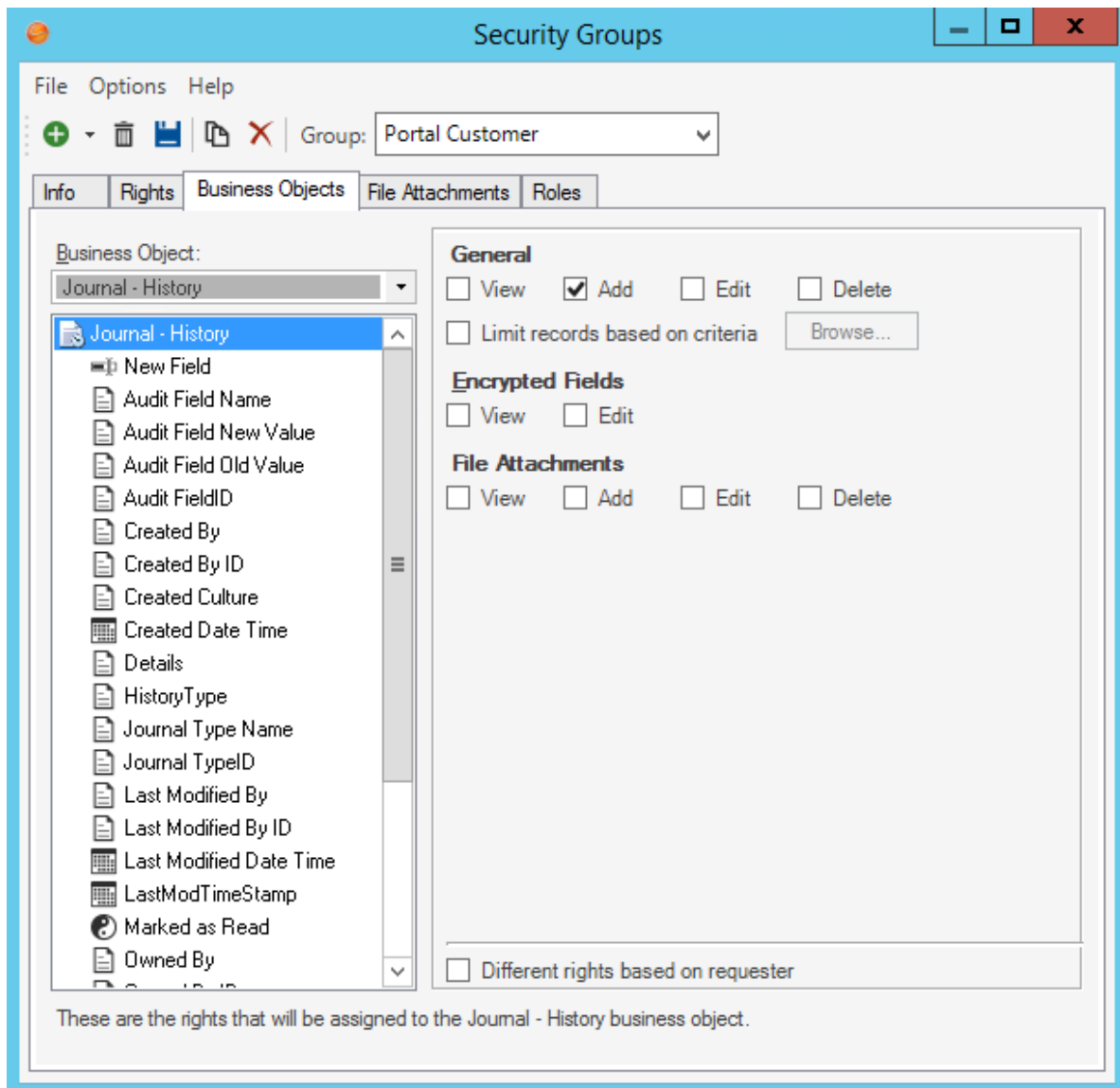


Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp® Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define security rights for Portal Customers and Workgroup Managers:

1. In CSM Administrator, select **Security** and then select **Edit security groups**.
2. In the **Security Groups** window, from the **Group** drop-down list, select **Portal Customer**.
3. Select the **Business Objects** tab.

Option	Description
Business Object drop-down list	Select Journal History .
General	Select the Add check box.



4. Select the **New Field** Business Object.

Option	Description
General	Select the Edit check box.

5. From the **Business Object** drop-down list, select the **Journal - Integrations Audit**.

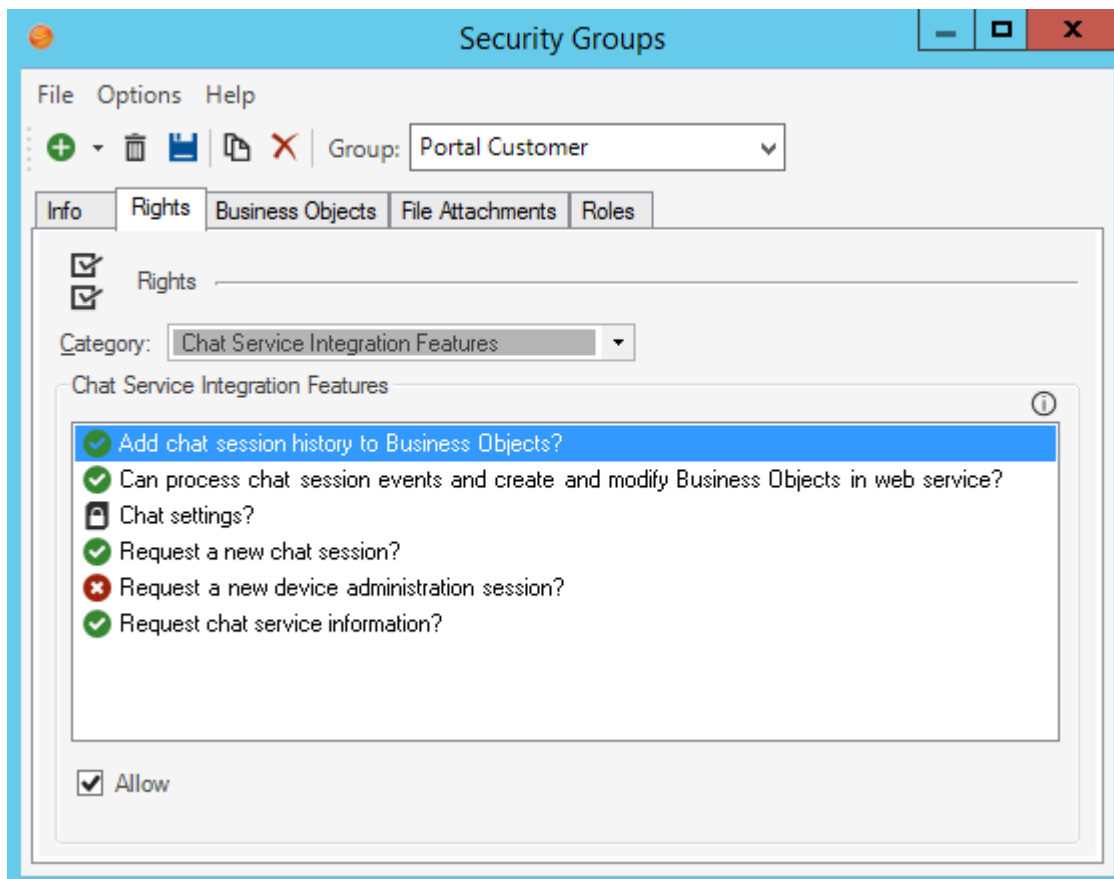
Option	Description
Business Object	Select Journal-Integrations Audit .
General	Select the Add check box.

6. Select the **New Field** Business Object.

Option	Description
General	Select the Edit check box.

7. Select the **Rights** tab.
 8. From the **Category** drop-down list, select **Chat Service Integration Features**.

Verify the Chat rights for the Portal Customer are available.



9. Select **Save** .
10. From the **Group** drop-down list, select **Portal Workgroup Manager**. Repeat steps 1-9 for Portal Workgroup Managers.

Define the Automation Process for Business Hours

Use CSM Administrator to define the Automation Process for Business Hours.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp® Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define the automation process for Business Hours:

1. In CSM Administrator, select **Automation Processes** and then select **Business Hours**.
2. In the Business Hours Manager, right-click **Service Desk Hours** > **Edit**.
Verify the time zone and default hours are correct.
3. Select **OK** and then select **Close**.

Define the Configure BeyondTrust Path One-Step Action

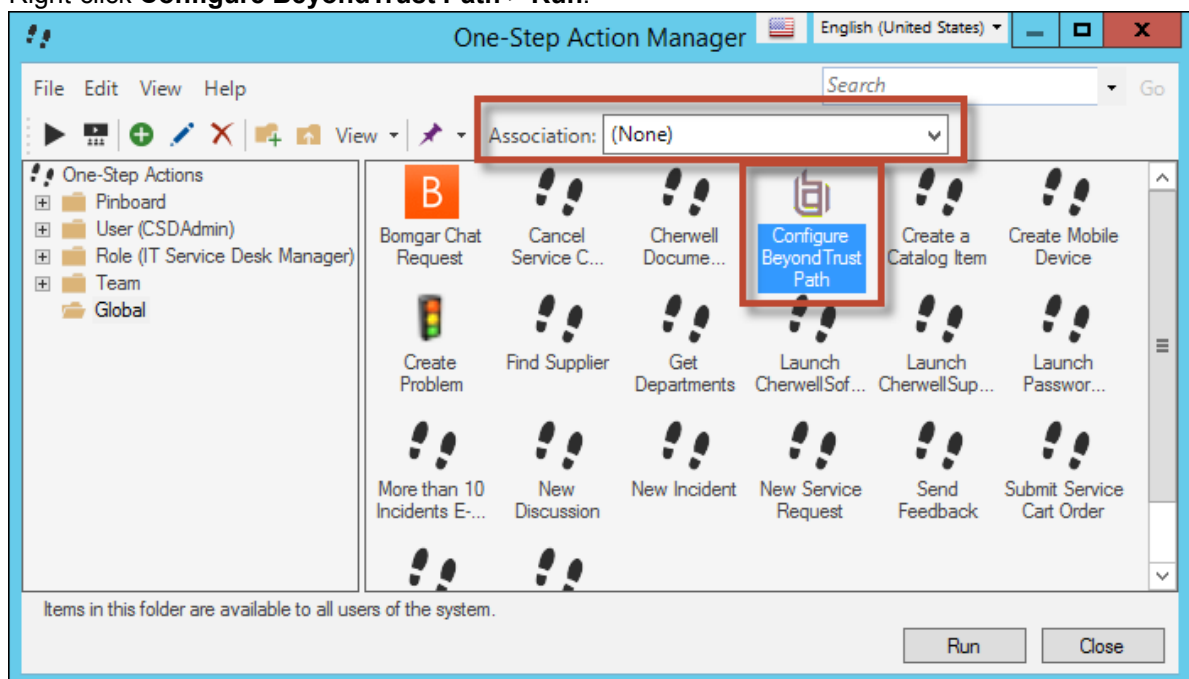
Use the CSM Desktop Client to define the One-Step Action.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define the Configure BeyondTrust Path One-Step Action:

1. In the CSM Desktop Client, [open the One-Step Action Manager](#).
2. From the **Association** drop-down list, select **(None)**.
3. Right-click **Configure BeyondTrust Path > Run**.



A Prompt window opens.

4. Enter the target path to the BeyondTrust.exe (or bomgar-rep.exe) in the Prompt window. To find the target path see the Prerequisites in [BeyondTrust \(Formerly Bomgar\) Remote Support mApp Solutions V3.1](#).
5. Select **OK**.
A **BeyondTrust Configuration** window opens to verify the path.
6. Select **OK**.

Configure the Outbound Event in BeyondTrust

Configure the Outbound Event in the BeyondTrust console.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp® Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation. The menu options may vary slightly depending on your BeyondTrust version. Refer to [BeyondTrust documentation](#) for further information.

To configure the Outbound Event in BeyondTrust:

1. Log in to your company's instance of the BeyondTrust console (example: yourcompany@beyondtrust.com).
2. Select the **Management** menu option.
3. Select **Outbound Events** on the lower menu bar.
4. Select **Add New HTTP Recipient**.
 - a. Provide a name.
 - b. Provide the URL (example: https://YOURCHERWLLSERVER/CherwellAPI/api/V1/savebomgarsessionid)
 - c. In the **Events to Send** section, select the **Support Session Ends** check box.
 - d. Select **Add Recipient**.

The newly created HTTP recipient displays on the **Outbound Events** page.

You will also need to import the base -64 x.509 Public Certificate from the customer-hosted server (that BeyondTrust points to). This needs to be added to the **Security/Certificates** section.



Note: The logged in user account to BeyondTrust must have security rights to see the security menus.

For customers hosted in the BeyondTrust cloud, the settings are in a different location. Please contact your cloud provider for more information.

Configure the BeyondTrust API

Configure the API in the BeyondTrust console.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp® Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

The menu options may vary slightly depending on your BeyondTrust version. Refer to [BeyondTrust documentation](#) for further information.

To configure the BeyondTrust API:

1. Log in to the BeyondTrust console.
2. Select the **Management** menu option.
3. Select **API Configuration** on the lower menu bar.
4. Select **Create New API Account**.
 - a. Provide a Name (example: Cherwell Service Management).
 - b. Select the **Enabled** check box.
 - c. Under Command API, select the **Full Access** option.
 - d. Under Reporting API, select all of the check boxes.
 - e. Under the following options, select the **Allow Access** check box:
 - i. Backup API
 - ii. Real-time State API
 - iii. Endpoint Credential Manager API
5. Leave Network Restrictions blank.
6. Copy the OAuth Client ID and save it for future use (this is the API Client ID).
7. Select **Generate New Client Secret**.
8. Copy the OAuth Client Secret and save it for future use (this is the API Client Secret).
9. Select **Save**.

Configure the API Fields in BeyondTrust

Configure the API Fields in the BeyondTrust console.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp® Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation. The menu options may vary slightly depending on your BeyondTrust version. Refer to [BeyondTrust documentation](#) for further information.

To configure the API Fields in BeyondTrust:

1. Log in to the BeyondTrust console.
2. Select the **Configuration** menu option.
3. Select **Custom Fields** on the lower menu bar.
4. Under **API :: Custom Fields**, select **Create New Field**.
The following Custom Fields must be created:

Display Name	Code Name	Show in Rep Console
External Key	external_key	Yes
Type issue	issue	Yes

5. Select **Add Custom Field**.
The new fields show in the API : Custom Fields grid.

The BeyondTrust setup is complete.

Using the BeyondTrust Remote Support mApp Solution

Users can test the BeyondTrust integration and conduct or launch a remote support session.

When working with the BeyondTrust Remote Support mApp® Solution, you have the following options:

- Test the BeyondTrust Integration.
- Conduct a Remote Support Session Using the BeyondTrust Console.
- Launch a Remote Support Session from the CSM Desktop Client(CSM Technicians).
- Launch a Remote Support Session from the CSM Portal (Customers).

Test the BeyondTrust Integration

Test the BeyondTrust integration from an Incident, Service Request, Computer CI, CSM Portal, CSM Desktop Client, and CSM Browser Client.

Follow the steps below to test the BeyondTrust integration with CSM. You must have an agent logged into BeyondTrust for the following tests to work.

From an Incident or Service Request

To test the BeyondTrust integration from an Incident or Service Request:

1. Log into the CSM Portal.
2. Open an existing Incident or Service Request. If you do not have one, submit a new Incident or Service Request and then open it as if you were going to check the status.
3. Select the **Chat with Support** link. A dialog opens with instructions.
4. Select **OK**. The BeyondTrust window opens.
5. Follow the BeyondTrust prompts to initiate the remote session.
6. If an error occurs, an Incident is created and logged with error details.
7. If no support representatives are currently logged into BeyondTrust, a pop-up displays asking the Customer to check back later.

From a Computer Configuration Item (CI)

To test the BeyondTrust integration from a Computer CI:

1. Log into the CSM Portal.
2. Open an existing computer/device record that is assigned to you. Do this by selecting **My Devices** in the OOTB Portal menu bar. If you do not have any devices assigned to you, log into the CSM Desktop Client and assign a CI - Computer to yourself.
3. Select the **Chat with Support** link. A dialog opens with instructions.
4. Select **OK**. The BeyondTrust window opens.
5. Follow the BeyondTrust prompts to initiate the remote session.
6. If the session is unsuccessful or it is outside of service desk hours, an Incident is created for the CI.

From the CSM Portal Toolbar

To test the BeyondTrust integration from the Portal toolbar:

1. Log into the CSM Portal.
2. On the menu bar, select the **Chat with Support** link. A dialog opens with instructions.
3. Select **OK**. The BeyondTrust window opens.

4. Follow the BeyondTrust prompts to initiate the remote session.
5. If the session is unsuccessful or it is outside of service desk hours, an Incident is created in the CSM Desktop Client with details from the chat session.

From the CSM Desktop Client or CSM Browser Client — Incident Form

To test the BeyondTrust integration from the Desktop Client or Browser Client:

1. Log into the Desktop or Browser Client.
2. Open an existing Incident.
3. Select **Generate Session Key**.
4. Select the **Send an email** options and then select **OK**. An email message opens with instructions for the Customer to join you in the remote session.
5. Select **Send**.
6. A Journal - History is created with details from the chat and is attached to the Incident.
7. If an error occurs during the operation, a Journal - Integration Audit will be attached to the Incident.

From the CSM Desktop Client Task Pane

To test the BeyondTrust integration from the Desktop Client Task Pane:

1. Log into the CSM Desktop Client.
2. Open an existing Incident.
3. In the Task Pane, select the **Create BeyondTrust Chat Session** link.
4. Select the **Send an email** option and then select **OK**. An email message opens with instructions for the Customer to join you in the remote session.
5. Select **Send**.
6. If the session is unsuccessful, an Incident is created with details from the chat session.

Conduct a Remote Support Session Using the BeyondTrust Console

Conduct a remote support session from the BeyondTrust Console by logging in to the console.

The application can be opened directly from the technician's computer.



Note: This functionality is only available if you have applied the BeyondTrust Remote Support mApp® Solution. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

Using the BeyondTrust Representative Console, technicians can chat with Customers, remotely control a Customer's computer, and securely transfer files during a remote support session. For more information about the features of the BeyondTrust Representative Console and how to use it, refer to the [BeyondTrust documentation](#).

To conduct a remote support session using the BeyondTrust console:

Technician

1. In CSM, select **Generate Session Key**.

A window opens with the session key and asks if you would like to send an email.

2. In the CSM window, select **Send an email** and then select **OK**.

An email message opens with the Incident number and a session link to begin a chat session.

3. Select **Send**.

An email Journal is generated.

Customer

1. In the received email, select the link to populate a BeyondTrust download window.

After you download the BeyondTrust application, a Chat window opens so the technician can initiate a chat session.

Technician

1. Type a message in the chat window.
2. Select **Send**.



Note: Select **Share Screen** to view the Customer's computer screen.

To end the remote support session:

1. Select the **End Session** button in the BeyondTrust Representative Console. A window opens with the following options:
 - **Close Session:** Disconnects the Customer and ends the remote support session.
 - **Hold Session:** Closes the chat window, but keeps the session in the technician's queue so it can be transferred to another representative. The Customer receives a message in her chat window that the session has ended.

Note: Remote support sessions are typically ended by technicians (preferred method). Customers can also end remote support sessions by selecting the **x** that closes the chat window in their Browser. The Customer is disconnected and the technician receives a message in the chat window of the BeyondTrust Representative Console that the Customer has left the conversation.

After a session ends a Remote Support History appears under Journal. Once CSM and BeyondTrust sync, the banner of the Journal changes to orange signifying the Incident is linked with a BeyondTrust session. A link for a transcript of the chat window and a video of the screen sharing is available. For more information about the Journal entry, see [Journal - Remote Support History Form](#).

Launch a Remote Support Session from the CSM Desktop Client (CSM Technicians)

Technicians can use the CSM Desktop Client to request remote support sessions with Customers.

After a technician requests a remote support session with a Customer, the Customer receives an email with a link to join the session.

To launch a remote support session from the CSM Desktop Client:

1. Select the **Chat Request** control on a Business Object Form (example: Incident) or select **Tools>Chat>New Chat Session** from the menu bar.



Note: By default, the BeyondTrust Chat Session control is located on the CSM Desktop Client Task Pane under Common Tasks, as well as under Incident Actions on an Incident Form. Additional controls that initiate remote support service commands from Business Object Forms must be configured in CSM Administrator. The name and appearance of these additional controls is determined by how it is configured.

2. Select a **support issue**, if necessary, and then select **OK**.



Note: The option to select a support issue is only available if it was configured in the Chat and Remote Support Connector Settings (General page) or in the options for the New Chat Session command in CSM Administrator.



Note: This is the email template that was designed in the Chat and Remote Support Connector Settings (General page) in CSM Administrator.

3. Edit the email as necessary and select **Send**.
4. When the Customer receives the email invitation, they select the link contained in the email and are prompted to download a temporary client chat application, which is used to join the remote support session.

Related concepts

[CSM Desktop Client Task Pane](#)

[Configure CSM Remote Support Settings](#)

[Define General Settings](#)

[Define Options for the New Chat Session Command](#)

[Create the Remote Support Session Invitation E-mail Template](#)

Launch a Remote Support Session from the CSM Portal (Customers)

Customers can use the Portal to launch a remote support session with a technician.

Customers who want immediate assistance from the Portal can launch a remote support session, which is sent to a team queue in the BeyondTrust Representative Console and claimed by a technician. Chat messages are passed from Customers to technicians using a Browser chat window (if launched from the Portal) or a temporary client chat application (if launched from a link in a remote support session invitation email).

To launch a remote support session from the Portal:

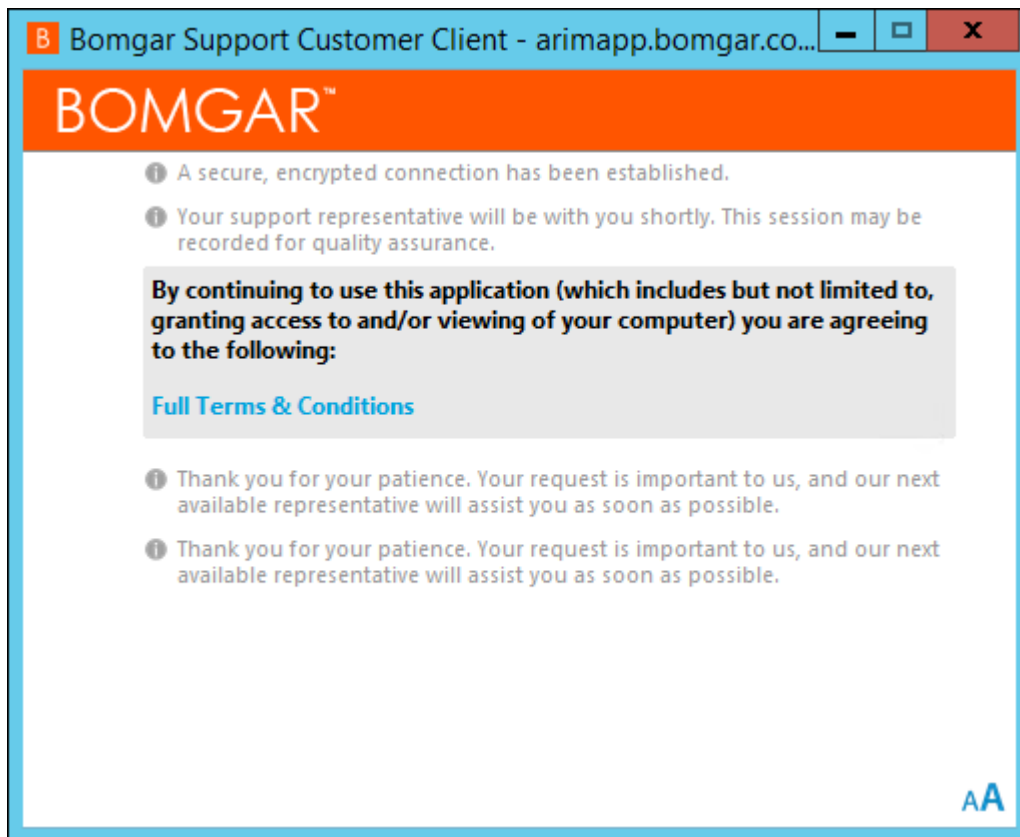
1. Sselect the BeyondTrust **New Chat Session** command.



Note: By default, the BeyondTrust Chat Session control is located on the Portal Menu bar (if the BeyondTrust Chat Integration Stored Value is set to Active). If this control is not shown in the Portal, talk to an administrator.

A window opens requesting the information specified in the Customer settings in CSM Administrator (if any).

2. Provide the information as requested and select **OK**.



3. A support technician logged into the BeyondTrust Representative Console receives the Customer remote support session by double-clicking it in the appropriate team queue.



Note: The Team queue in which the remote support session appears in the BeyondTrust Representative Console is based on either the support issue selected in the Chat and Remote Support Connector Settings (General page) or New Chat Session command options for technician queues.

- a. The Customer receives a message in her chat window that the session has been transferred to a technician.
- b. If no technicians are currently available, the Customer receives the warning specified in the New Chat Session command options.
 - Select **Yes** to continue with the remote support session request and wait for the next available technician.
 - Select **No** to abort the remote support session request.

Related concepts

[Define BeyondTrust Stored Values](#)

[Define Identify Customer Settings](#)

[Define General Settings](#)

Define Options for the New Chat Session Command

BeyondTrust mApp Solution Items

The Items table provides a list of items included when applying the mApp Solution and the typical merge action.

These are the items included in this mApp Solution:

Item Category	Item	Typical Merge Action
Automation Process	BeyondTrust Update Session Record	Import
Business Hours	Service Desk Hours	Don't Change
Business Object	Journal - Integrations Audit	Import
	Config - Computer, Configuration Item, Incident, Journal - Comment, Journal - Customer Request, Journal - History, Journal - Mail History, Journal - Note, Journal - Queue History, Journal - SLM History	Don't Change
	Journal - Remote Support History	Overwrite
	Journal	Merge
Custom View	Portal Default	Don't Change
Expression	400, 401, 403, 404, 405, 500, 503, json, xml, BeyondTrust Client ID and Secret, Chat Availability, Is WorkingHours, Server Date plus 1 hour	Import
	Service Desk Open	Overwrite
Field	Journal Type Name, Chat Conversation, Chat Event Details, Chat Start Time, Created By, Created By ID, Created Culture, Created Date Time, Details, Journal Type Name, Journal TypeID, Last Modified By, Last Modified By ID, Last Modified Date Time, LastModTimeStamp, Marked as Read, Owned By, Owned By ID, Owned By Team, Owned By Team ID, Parent RecID, Parent TypeID, RecID, Show In Self Service, Sub Parent ID	Overwrite
	Caller, Collection Name, Created By, Created By ID, Created Culture, Created Date Time, Details, Direction, Journal Type Name, Journal TypeID, Last Modified By, Last Modified By ID, Last Modified Date Time, LastModTimeStamp, Marked as Read, Parent RecID, Parent TypeID, RecID, Request, Response Code Show In Self Service, Sub Parent ID, Success, Version, Web Service, Attempts, Chat End Time, Chat Recording URL, Chat Session ID, Chat Session Key, Chat Session Report ID, Customer Full Name, Customer Survey Complete, Representative, Representative Survey Complete, Service Name, Success	Import

Form	BeyondTrust CI Controls, BeyondTrust Controls, JournalIntegrationsAudit, BeyondTrust Report	Import
	ConfigComputer View-only, Incident Edit-existing, Incident View-only	Don't Change
Grid	JournalServices	Import
Image	beyondTrust 16x16, beyondTrust 32x32, Create Chat Session	Import
Index	History_HistoryType, Journal_ParentRecordID, Journal_ParentTypeID, JournalComment_CommentID, JournalNote_JournalTypeName, PK_Journal	Import, Overwrite
Mergeable Area	Computer Actions, Configuration Item Actions, Incident Actions	Overwrite
One-Step Action	Configure BeyondTrust Path, Create Journal from Email, OpenSessionRecording, Portal Create CI BeyondTrustSession, Portal Create New Session, Portal Create Session, Remote Control, Tech Start Chat Session, Update Remote Session Info	Import
	Go Home	Don't Change
	Save	Overwrite
Search	Orphaned Journals, Remote Support Errors	Import
Stored Value	BeyondTrust Client ID, BeyondTrust Client Secret, BeyondTrust Path, BeyondTrust Token, BeyondTrust Token Date, BeyondTrust URL, BeyondTrust Version, Incident Object ID, IsAvailable, Journal Object ID, SessionKey	Import
Theme	Prussian Blue	Overwrite
Web Service	BeyondTrust	Import
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Cherwell Asset Management mApp Solution 2.8

The Cherwell Asset Management (CAM) mApp® Solution provides an interface between Cherwell Asset Management and Cherwell Service Management. The mApp Solution provides maximum visibility and control over your network IT inventory software, license entitlements, and purchasing data.

Platform Version Requirements: Tested on CSM 10.2.0.

Content Version Requirements: Tested on CSM 10.2.0; CAM mApp Solution 2.8 contains specific changes to work with 10.2.0 OOTB content. If you have an older content version, you should download the CAM mApp Solution 2.7 instead, available in the Customer Support Portal.

Prerequisites: CAM 15.0, 15.1, and 15.2. These versions require a patch to be applied to the CAM system, available from Customer Support.

Available languages:

- German
- English
- Spanish
- French
- Portuguese



Note: For content versions earlier than those listed above, review the documentation and carefully test against a copy of the current installation to determine suitability for your environment. Additional manual work may be required based on current system configurations.

Overview

When you incorporate CAM into CSM, you can share with and use inventory data (example: Workstations, installed programs and software, installed services, disks) within the CSM Configuration Management Database (CMDB) as Configuration Item records.

This mApp Solution includes multiple features, including Business Objects (example: Config - Not Inventoried), One-Step™ Actions (example: Update Config - Not Inventoried), and saved searches (example: CAM Computer).

The mApp Solution is compatible with Trusted Agents. See [Trusted Agents](#).

How the mApp Solution Works

Use the CAM mApp Solution to easily discover all of your devices on the network and choose to view additional information about those devices. If a device is imported and the system cannot identify what it is, then the new Business Object holds the information.

For a list of items included in the mApp Solution, see [CAM mApp Solution Items](#).

Apply the mApp Solution

To apply the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.
4. Review the language packs included with the mApp Solution, then select **Next**.



Note: Refer to [Apply a Language Pack](#) for the procedure to apply translated strings to your system. English is the default language for the CAM mApp Solution.

5. Select the **Edit External Connection** option to open the External Connection Wizard. Use the External Connection Wizard to create an External Connection with the CAM Database. The selections for each page of the External Connection Wizard are:
 - a. **Data Source:** Select **SQL Server**.
 - b. **Database Location:** Select **Specific Server** and provide the database name.
 - c. **Select Database:** Provide the database name or select **Browse** to locate and select the database.
 - d. **Login Options:** Select **Windows authentication** or type the ID and password for the database.
 - e. **Database Owner or Schema:** Select a database owner or schema in the drop-down list, if implemented. If the schema is not implemented, provide the owner name. If unsure, provide the default dbo.
 - f. **Pooling Options:** Use the default pooling options, which are usually acceptable for most scenarios. Optional: Customize your caching options by setting your own pool sizes.
 - g. **Connection Name:** Pre-populated with the name of the database provided from step b above. Optional: Provide a description for the connection.
 - h. **Connection String:** Select **Test Connection** to verify the connection string used. Text appears next to the button, confirming the connection is successful. If the test connection is not successful, contact your system administrator or Cherwell administrator.
6. Select **Finish**.

The External Connection Wizard closes.



Note: If you're using the 10.2.0 ESM czar, you'll encounter the following Blueprint scan error: "Table validation expression references a non-existent field." The referenced table was deleted, so to avoid this error, turn validation off.

Steps to Configure the mApp Solution

1. Configure Security Roles.
2. Schedule Configuration Items.
3. Schedule One-Step Actions.

How to Use the mApp Solution in the CSM Desktop Client

1. Access Secondary Forms with Imported Fields.
2. View Imported Data for Configuration Items.
3. Optionally Assign Configuration Items to Customers.
4. Replace License Fields in the Config - Software License Business Object Form.

For more details on these steps, see [Use the CAM mApp Solution](#).

This functionality is only available after you apply the mApp Solution.

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
2.8	Tested on 10.2.0	Tested on 10.2.0; CAM mApp Solution 2.8 contains specific changes to work with 10.2.0 OOTB content. If you have an older content version, you should download the CAM mApp Solution 2.7 instead, available in the Customer Support Portal.	CAM 15.0, 15.1, and 15.2. These versions require a patch to be applied to the CAM system, available from Customer Support.
2.7	Tested on 10.1.0	Tested on 10.1.0	CAM 14.2
2.6	10.1.0	10.1.0	CAM 14.2
2.5	9.6.0	9.6.0	CAM
2.1	9.3.1	9.2.0	CAM
2.0	9.3.1	9.2.0	CAM
1.5.1	5.0.0	8.1.0 to 9.2.0	CAM
1.0	5.0.0	8.0.2 or earlier	CAM

Related concepts

[Go to the Cherwell Marketplace \(formerly the mApp Exchange\)](#)

[About CSM Data and Databases](#)

Related tasks

[Configure Security Roles](#)

[Schedule Configuration Items](#)

[Schedule One-Step Actions](#)

Upgrade CAM mApp Solution 2.5 to a Newer Version

If you have the CAM mApp® Solution 2.5 and want to upgrade to a newer version (2.6, 2.7, or 2.8), you must make modifications for the mApp Solution to work correctly. Newer versions of the mApp Solution have been upgraded to be compatible with Trusted Agent.

Due to new hosting constraints, CSM uses Trusted Agent to connect and import data. The CAM mApp Solution 2.5 has 11 Supporting Business Objects that are directly linked to the CAM database. The linked tables can't be edited or modified, so you must overwrite the CAM external mappings. The following Supporting Business Objects need to be re-mapped:

- CAM Drives
- CAM License Purchases
- CAM License Unit Machines
- CAM Login History
- CAM Machine Purchasing
- CAM Network Adapter
- CAM Services
- CAM Software
- CAM Software Purchase Agreement
- CAM Virtual Machine
- CAM Web Console URLs



Note: These steps were tested on a demo database. If your CAM tables (and their relationships) are customized, ensure that customization is documented so you can recreate it. In addition, the steps for overwrite may include more Business Objects than specified here. As with all mApp Solutions, be sure to test this process on your customized system first.

Overwrite CAM External Data Mappings

Create a Blueprint, and then select the **Supporting** option under **Show object types** to overwrite the CAM external mappings.

See [Map an Existing Business Object to External Data](#).



Note: For all external mapping, pay particular attention to the field that holds the Unique ID. If the Unique ID is not set correctly, the imported data will not update correctly.

- Select **Yes** when a dialog box displays the following message: "[Business Object] is already mapped to external data. Overwrite existing mapping?"
- In the External Data Wizard, on the **Fields to Map** page, select **Map all fields**.
 - Select **No** when a dialog box displays the following message: "Should new fields be automatically created when no match is found?"

This example shows the **External Data** page of the **Business Object Properties** window for the CAM Drives Business Object.

Business Object Properties

External Data (CAM Drives)
Map between external database table/view and Cherwell Service Management.

Mapped External Connection: CAM Add... Remove

Imported External Table: ESM_v_GetMachineDrivesData

Mapped fields:

External Table Field Name	Cherwell Field Name
c_drive	Drive Name
c_drivesizeinmegabytes	Drive Size Bytes
c_drivetype	Drive Type
c_path	Path
c_percentused	Percent Used
drive	Drive
filesystem	File System
machinedomain	Machine Domain
machineid	Machine ID
machinename	Machine Name
UniqueID	Unique ID

Add... Edit... Remove

Field that holds ESM_v_GetMachineDrivesData unique ID:
Unique ID

Field that holds last modified date/time:
(None)

Number of records to import at a time (3-tier connection only):
1,000

OK Cancel

After you finish overwriting all external mappings, scan and publish the Blueprint.

Overwrite External Mapping to CAM Drives

Use this information to overwrite external mapping to the CAM Drives Business Object.

- **Imported External Table:** ESM_v_GetMachineDrivesData
- **Field that holds unique ID:** Unique ID

External Table Field Name	Cherwell Field Name
c_drive	Drive Name
c_drivesizeinmegabytes	Drive Size Bytes
c_drivetype	Drive Type
c_path	Path
c_percentused	Percent Used
drive	Drive
filesystem	File System
machinedomain	Machine Domain
machineid	Machine ID
machinename	Machine Name
UniqueID	Unique ID

Overwrite External Mapping to CAM License Purchases

Use this information to add overwrite mapping to the CAM License Purchases Business Object.

- **Imported External Table:** ESM_v_GetLicenseUnitPurchases
- **Field that holds unique ID:** UniqueId

External Table Field Name	Cherwell Field Name
LicenseType	License Type
LicenseUnit	License Unit
LicenseUnitId	License Unit ID
licenseunitsummaryURL	License Unit Summary URL
LineItemId	Line Item ID
LineItemName	Line Item Name
LineItemType	Line Item Type
ManufacturerName	Manufacturer Name
OrderDate	Order Date
OrderID	Order ID
OrderNumber	Order Number
OrderType	Order Type
Quantity	Quantity
UniqueId	UniqueId
UnitPrice	Unit Price

Overwrite External Mapping to CAM License Unit Machine

Use this information to overwrite external mapping to the CAM License Unit Machine Business Object.

- **Imported External Table:** ESM_v_GetLicenseUnitMachines
- **Field that holds unique ID:** Unique ID

External Table Field Name	Cherwell Field Name
applicationName	Application Name
applicationVersion	ApplicationVersion
installPath	Install Path
licenseUnitId	License Unit ID
machineDomain	Machine Domain
machineId	Machine ID
machineName	Machine Name
serialNumber	Serial Number
suiteId	Suite ID
UniqueId	Unique ID

Overwrite External Mapping to CAM Login History

Use this information to overwrite external mapping to the CAM Login History Business Object.

- **Imported External Table:** ESM_v_GetLoginHistory
- **Field that holds unique ID:** Unique ID

External Table Field Name	Cherwell Field Name
firstName	First Name
lastName	Last Name
login	Login
logout	Logout
machineDomain	Machine Domain
machineId	Machine ID
machineName	Machine Name
serverDomain	Server Domain
serverName	Server Name
Uniqueld	Unique ID
userDomain	User Domain
userName	User Name

Overwrite External Mapping to CAM Machine Purchasing

Use this information to overwrite external mapping to the CAM Machine Purchasing Business Object.

- **Imported External Table:** ESM_v_GetMachinePurchasingData
- **Field that holds unique ID:** Unique ID

External Table Field Name	Cherwell Field Name
AccessProfile	Access Profile
AssignedMachineGroup	Assigned Machine Group
AssignedUser	Assigned User
BiosSerialNumber	Bios Serial Number
ContractDescription	Contract Description
ContractNumber	Contract Number
HardwareType	Hardware Type
Invoice	Invoice
LineItemDescription	Line Item Description
LineItemId	Line Item ID
LineItemName	Line Item Name
LineItemStatus	Line Item Status
MachineDomain	Machine Domain
MachineId	Machine ID
MachineName	Machine Name
MachineSerialNumber	Machine Serial Number
ManufacturerName	Manufacturer Name
Notes	Notes
OrderDate	Order Date
OrderDescription	Order Description
OrderId	Order ID
OrderNumber	Order Number
PartNumber	Part Number
PONumber	PO Number
PurchaseSerialNumber	Purchase Serial Number

External Table Field Name	Cherwell Field Name
Uniqueld	Unique ID
UnitPrice	Unit Price
Vendor	Vendor

Overwrite External Mapping to CAM Network Adapter

Use this information to overwrite external mapping to the CAM Network Adapter Business Object.

- **Imported External Table:** ESM_v_GetNetworkAdapterInformation
- **Field that holds unique ID:** Unique ID

External Table Field Name	Cherwell Field Name
adapterDescription	Adapter Description
adapterName	Adapter Name
adapterType	Adapter Type
autoconfigureEnabled	Autoconfigure Enabled
connectionSpecificDnsSuffix	Connection Specific DNS Suffix
dhcpEnabled	DHCP Enabled
dhcpleaseexpires	DHCP Lease Expires
dhcpleaseobtained	DHCP Lease Obtained
dhcpServer	DHCP Server
dnsServers	DNS Servers
gateways	Gateways
ipAddress	IP Address
macAddress	MAC Address
machineDomain	Machine Domain
machineId	Machine ID
machineName	Machine Name
mediaDisconnected	Media Disconnected
networkAdapterId	Network Adapter ID
subnetMask	Subnet Mask
Uniqueld	Unique ID
winsPrimary	Wins Primary
winsSecondary	Wins Secondary

Overwrite External Mapping to CAM Services

Use this information to overwrite external mapping to the CAM Services Business Object.

- **Imported External Table:** ESM_v_GetServicesInformation
- **Field that holds unique ID:** Unique ID

External Table Field Name	Cherwell Field Name
instance	Instance
machinedomain	Machine Domain
machineid	Machine ID
machinename	Machine Name
ServiceDisplayName	Service Display Name
ServiceName	Service Name
ServiceStartMode	Service Start Mode
ServiceState	Service State
UniqueID	Unique ID
wmiid	WMI ID

Overwrite External Mapping to CAM Software

Use this information to overwrite external mapping to the CAM Software Business Object.

- **Imported External Table:** ESM_v_GetMachineSoftwareData
- **Field that holds unique ID:** Unique ID

External Table Field Name	Cherwell Field Name
c_metered	Metered
licenseanalyticsURL	License Analytics URL
licenseunitid	License Unit ID
licenseunitname	License Unit Name
licenseunitsummaryURL	License Unit Summary URL
machinedomain	Machine Domain
machineid	Machine ID
machinename	Machine Name
name	Name
suiteid	Suite ID
UniqueID	Unique ID
versionstring	Version String

Overwrite External Mapping to CAM Software Purchase Assignment

Use this information to overwrite external mapping to the CAM Software Purchase Assignment Business Object.

- **Imported External Table:** ESM_v_GetSoftwarePurchaseAssignmentInformation
- **Field that holds unique ID:** Unique ID

External Table Field Name	Cherwell Field Name
Assigned	Assigned
AssignedGroup	Assigned Group
AssignedGroupType	Assigned Group Type
AssignedType	Assigned Type
AssignmentQuantity	Assignment Quantity
LicenseUnitId	License Unit ID
LicenseUnitName	License Unit Name
SerialNumber	Serial Number
UniqueId	Unique ID

Overwrite External Mapping to CAM Virtual Machine

Use this information to overwrite external mapping to the CAM Virtual Machine Business Object.

- **Imported External Table:** ESM_v_GetVirtualMachineInformation
- **Field that holds unique ID:** Guest ID

External Table Field Name	Cherwell Field Name
vguestclientinstalled	Guest Client Installed
vguestdomain	Guest Domain
vguestid	Guest ID
vguestipaddress	Guest IP Address
vguestipaddresssort	Guest IP Address Sort
vguestname	Guest Name
vguestos	Guest OS
vguestserialnumber	Guest Serial Number
vhostdescription	Host Description
vhostdomain	Host Domain
vhostid	Host ID
vhostipaddress	Host IP Address
vhostipaddresssort	Host IP Address Sort
vhostname	Host Name
vhostos	Host OS
vhostserialnumber	Host Serial Number
vhostvendor	Host Vendor

Overwrite External Mapping to CAM Web Console URLs

Use this information to overwrite external mapping to the CAM Web Console URLs Business Object.

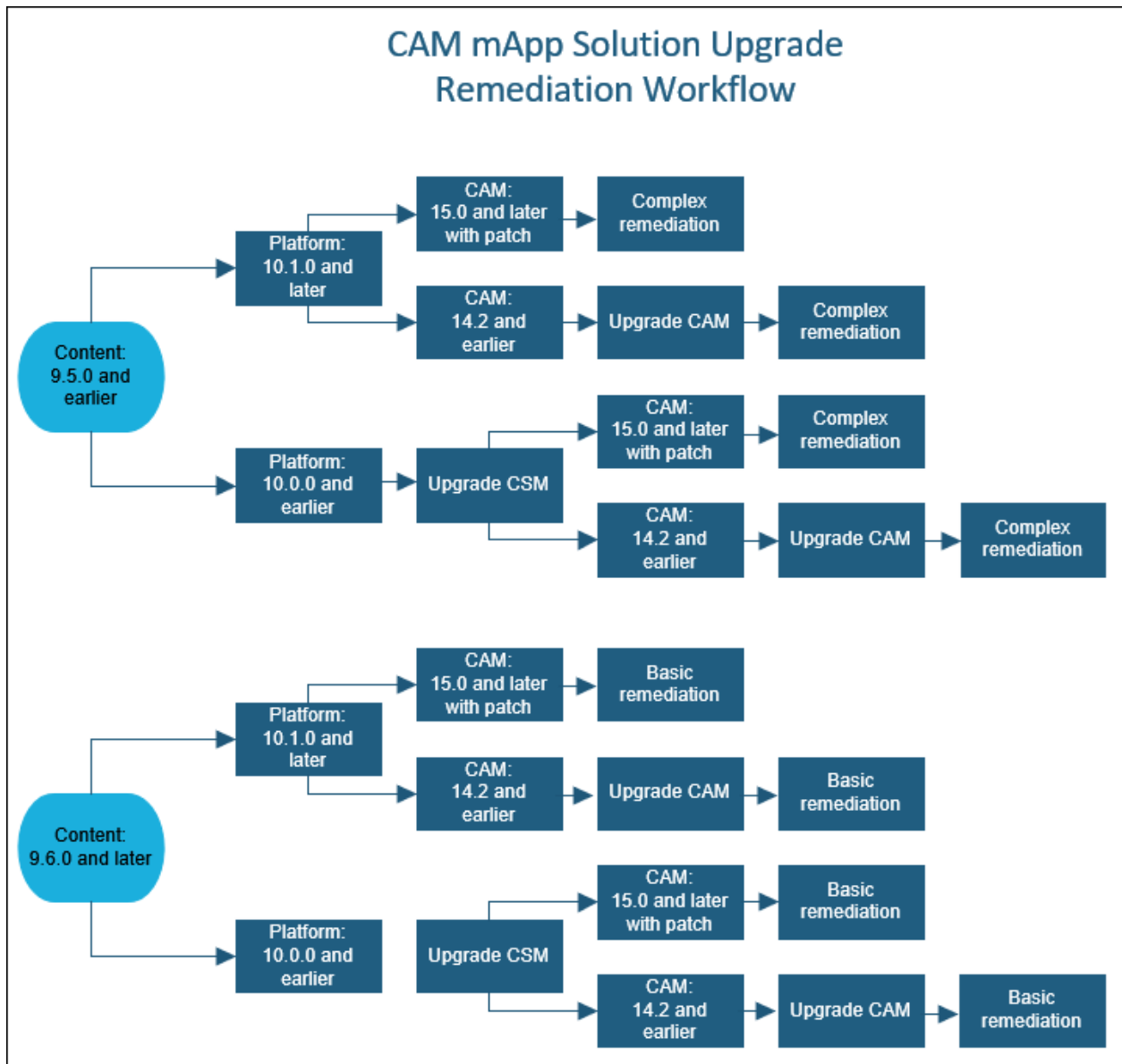
- **Imported External Table:** ESM_v_GetWebConsoleURLs
- **Field that holds unique ID:** CAM Reports URL

External Table Field Name	Cherwell Field Name
ESMLicenseAnalyticsConsoleURL	CAM License Analytics Console URL
ESMPurchasingConsoleURL	CAM Purchasing Console URL
ESMReportsConsoleURL	CAM Reports Console URL
ESMReportsURL	CAM Reports URL

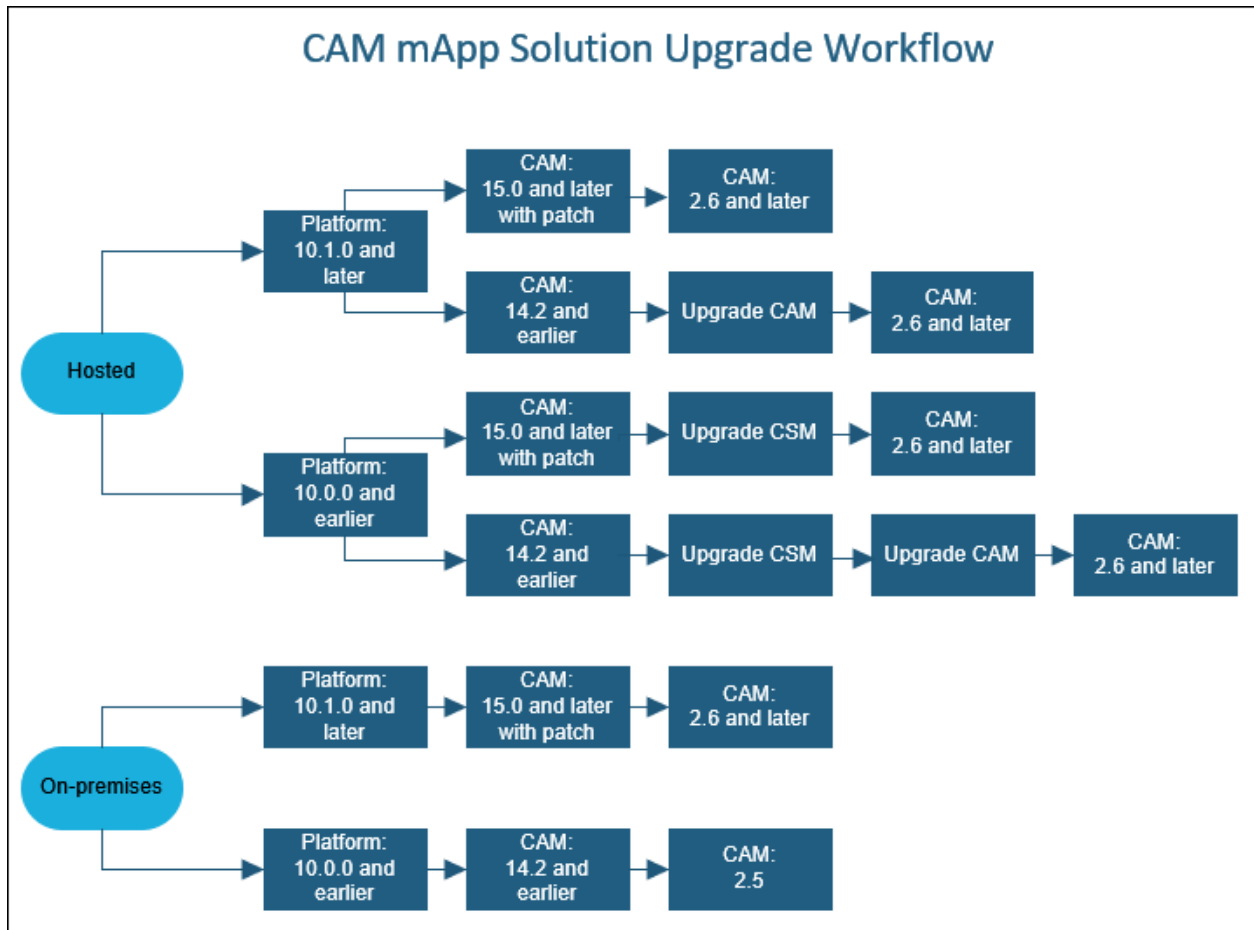
CAM mApp Solution Upgrade Workflows

The CAM mApp® Solution upgrade workflows include a remediation workflow for existing CAM mApp Solution customers and one for new CAM mApp Solution customers.

The remediation workflow is for hosted customers that have a previous version of the CAM mApp Solution installed and want to upgrade to CAM mApp Solution version 2.6, 2.7, or 2.8.



The upgrade workflow is for new CAM mApp Solution customers.



Configure Security Roles

Grant permission to the CSM security roles to access the CAM mApp® Solution and its One-Step™ Actions. This enables users to edit the Scheduler or associated CIs, and view the CMDB.

To configure security roles:

1. In CSM Administrator, select the **Security** category.
2. Select **Edit roles**, and then select the **IT Service Desk** role.
3. Select the **Role Options** menu item, and then select **Configure task pane**.
4. Ensure the **Use default task pane setup** option is clear.
5. Select **Add**, and then in the **Task Pane Section** window, select **Add**.
The Action Manager opens.
6. Select the **One-Steps** category, and then from the **Association** drop-down list, select **Config - Computer**.
7. From the **Global** folder, select the **License Analytics** One-Step Action, and then select **OK** to add the action.
8. Repeat Steps 5-7 for the remaining two One-Step Actions in the folder: **Purchasing** and **Reports Console**.
9. Select **OK** in both the **Task Pane** and the **Configure** task pane window.
10. Repeat steps 1-9 for the **IT Service Desk Manager** role.
11. Repeat configuration procedures for any company-specific security roles that also require access to the CAM mApp Solution. Do not configure any portal security roles.

Schedule Configuration Items

To import data into the CMDB, add Schedule Items to configure the mApp® Solution. You can import all CIs in a Business Object category, or apply custom filters. Importing existing CAM data into the CMDB does not affect data for CIs that were created manually in CSM.

To schedule Configuration Items:

1. In CSM Administrator, select the **Scheduling** category.
2. Select **Edit Schedule**, and then select **Add** to add a Schedule Item.
3. In the **General** category, provide a schedule group, name, and description.
4. In the **Schedule** category, select the **Recurring** option, and then provide the schedule time, recurrence, and range of recurrence.
We recommend running a scheduled item outside regular business hours and importing items consecutively, not concurrently. However, all scheduled items must run in the same day for the CAM mApp Solution to work effectively.
5. In the **Action** category, select **Import from External Data** from the drop-down list.
6. Select **Setup** to open the External Data Import Wizard, and then select **Next**.
The selections for pages of the External Data Import Wizard are:
 - **Business Object** page: From the drop-down list, select a Business Object (example: Config-Computer).
 - **Existing Records** page: Select the **Update Existing Records** option.
 - **Choose Filter**: Select **All records**, or select **Use Filter**, and then select the **ellipsis**.

If using filters, select filters in the Search Manager as follows:

Schedule Item	Filter Name
Config-Computer	CAM Computers
Config-Network Device	No Filter, select Update All Records
Config-Not Inventoried	CAM Not Inventoried
Config-Server	CAM Server
Config-Software License	No Filter, select Update All Records
CAM Drives	No Filter, select Update All Records
CAM License Purchases	No Filter, select Update All Records
CAM License Unit Machines	No Filter, select Update All Records
CAM Login History	No Filter, select Update All Records
CAM Machine Purchasing	No Filter, select Update All Records
CAM Network Adapter	No Filter, select Update All Records
CAM Services	No Filter, select Update All Records
CAM Software	No Filter, select Update All Records

Schedule Item	Filter Name
CAM Software Purchase Assignment	No Filter, select Update All Records
CAM Virtual Machine	No Filter, select Update All Records
CAM Web Console URLs	No Filter, select Update All Records

7. Select **Finish** to close the External Data Import Wizard.
8. Repeat steps 2-6 for all Business Objects in the table above.
9. Select **OK** to see the imported items in the **Scheduled Items** window.

Schedule One-Step Actions

The One-Step™ Actions associated with the CAM mApp® Solution analyze inventory data imported by the Scheduler, and then add it to the CMDB.

To schedule One-Step Actions:

1. In the **Schedule Items** window, select **Add**.
2. In the **General** category, provide the schedule group (default) and name (example: Match Server to Not Inventoried).
3. In the **Schedule** category:
 - a. Select the **Recurring** options.
Ensure that the import for Config - Not Inventoried and Server are scheduled to run before the One-Step Actions run. Otherwise, the One-Step Actions do not have correct and comprehensive data to analyze.
 - b. **Action:** Select **Run One-Step Action**.
4. In the **Action** category:
 - a. From the drop-down list, select **Run One-Step Action**.
The One-Step Action Manager opens.
 - b. From the **Association** drop-down list, select **Config-Computer**.
 - c. From the **Global** folder, select the **Update Config-Not Inventoried One-Step Action**, and then select **OK**.
 - d. From the **Association** drop-down list, select **Config-Server**.
 - e. From the **Global** folder, select the **Update Config-Not Inventoried with Server Data One-Step Action**.



Important: The two One-Step Actions must run *after* the Scheduled Items for the most recent CI information to be imported into the CMDB interface.

5. Select **OK**.
Based on the One-Step Actions, CIs populate in the Scheduler. The scheduled start time varies, based on when the mApp Solution was configured to import CIs into the CMDB interface.

The CMDB interface automatically populates accordingly. Users can now choose to view CIs from within the CMDB.

Use the Cherwell Asset Management mApp Solution

Use the CAM mApp® Solution to access forms, view imported data, assign CIs, and replace fields.

Access Secondary Forms with Imported Fields

When you apply the mApp Solution secondary forms are added to the following CI Business Objects:

- Config - Computer
- Config - Network Device
- Config - Not Inventoried



Remember: This is a new Business Object that is created when you apply the mApp Solution.

- Config - Server
- Config - Software License

The secondary form shows the available fields for the selected Business Object, including fields that already exist on the default form as well as fields that are imported from the CAM database, as part of the mApp Solution application. You may choose to include some or all of the available fields on your Business Object forms.

To view the secondary form:

1. In CSM Administrator, open a Blueprint.
2. Select a CI Business Object, then select **Edit Form**.
3. From the **Form** drop-down list, select **CAM - Imported Fields**.
The secondary form appears in the Form Editor.

View Imported Data for Configuration Items

You can view the imported data for a CI from the form arrangement in the CI record. The imported data comes in through scheduled jobs. Imported data may include:

- Authorized Software
- Installed Services
- Discovered Software
- Installed Drives
- Discovered Drives
- CAM Services
- Virtual Guests

Optionally Assign Configuration Items to Customers

After importing your CAM data into CSM and running the associated One-Step™ Actions, the status for each imported CI record becomes *in stock*, and it is not assigned to a customer. You may choose to assign the CI record to a customer, or you can use an imported field to display the last user for a CI record directly on the Business Object form.

Replace License Fields in the Config - Software License Business Object Form

On a default system, the Config - Software License Business Object displays fields for Total Licenses and Licenses in Use. Equivalent fields are imported with the mApp Solution and are accessible from the CAM - Imported Fields form for the Business Object. The equivalent fields are Licenses Purchased and Total Installs. You can replace the default fields with the imported fields, or you can use the imported fields as comparison data points.

Cherwell Asset Management mApp Solution Items

The Items table provides a list of items included when applying the mApp® Solution and the typical merge action.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Objects	CI Asset Type, Config-Computer, Config-Network Device, Config-Server, Config-Software License	Overwrite
	Config-MobileDevice, Config-Other CI, Config-Printer, Config-System, Config-Telephony Equipment, Configuration Item, Customer-Internal, Drive Info	Don't Change
	CAM Drives, CAM License Purchases, CAM License Unit Machines, CAM Login History, CAM Machine Purchasing, CAM Network Adapter, CAM Services, CAM Software, CAM Software Purchase Assignment, CAM Virtual Machine, CAM Web Console URLs, Config-Not Inventoried	Import
Dashboards	CMDB	Overwrite
External Connection	Cherwell Asset Management	Import
Image Definitions	ExpressMetrix, ExpressMetrix16, ExpressMetrix-X16, License-Analytics_16x16, License-Analytics_32x32, Purchasing_16x16, Purchasing_32x32, Reporting_16x16, Reporting_32x32	Import
Metric Values	License Analytics URL, Purchasing, Reports, Reports Console	Import
One-Step™ Actions	License Analytics, Machine Summary, Purchasing, Reports Console, Update Config-Not Inventoried, Update Config-Not Inventoried Server, Update Config-Not Inventoried with Server Data	Import
Stored Expressions	CI Details, Discovered, Discovered Items	Import
Stored Queries	All Not Inventoried Devices, CAM Computers, CAM Not Inventoried, CAM Printers, CAM Server, Express Printers, Express Server, Imported Today, Matched to Other CI, Update CAM Computer Status, Update CAM Server Status	Import
Theme	Prussian Blue	Import
Widgets	Not Inventoried in CMDB	Import
	Varies	Overwrite

Merge Actions

- Import: Add new item.
- Overwrite: Replace target item.

- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

Slack Integration mApp Solution 1.0

Use the Slack Integration mApp® Solution to integrate Slack with CSM.

Platform version requirements: Tested on CSM 10.0.0 — 10.2.0

Content version requirements: Tested on CSM 10.0.0 — 10.2.0; this mApp Solution may or may not be compatible with content versions earlier than CSM 10.1.0, but as with all mApp Solutions, be sure to test it on your customized system.

Prerequisites:

- A publicly accessible web server running a version of CSM that includes the Slack Integration features. To verify this, launch the Webhooks Manager, create a new webhook, and verify the Provider Type *Slack* appears in the drop-down list. For more information, see [Configure a Slack Workspace for Webhooks](#).
- Administrator rights to a Slack workspace.
- Cherwell Service Host installed and configured to run the *System Event Processing Service*.

Available languages:

- German
- English
- Spanish
- French
- Portuguese

Overview

Using the Slack Integration mApp Solution, users can integrate Slack with CSM. Slack's bot user performs a variety of functions in CSM. Some examples include:

- Create Incidents
- Check the status of Incidents
- Close Incidents

Apply the mApp Solution

Follow these steps to download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

For a list of items included in the mApp Solution, see [Slack Integration mApp Solution Items](#).

Use the mApp Solution

Follow these steps to use the mApp Solution:

Create, check status, or close an Incident from Slack.

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	Tested on 10.0.0 — 10.2.0	Tested on 10.0.0 — 10.2.0; this mApp Solution may or may not be compatible with content versions earlier than 10.1.0, but as with all mApp Solutions, be sure to test it on your customized system.	<ul style="list-style-type: none">• A publicly accessible web server running a version of CSM that includes the Slack Integration features. For more information, see Configure a Slack Workspace for Webhooks.• Administrator rights to a Slack workspace.• Cherwell Service Host installed and configured to run the <i>System Event Processing Service</i>.

Related concepts

[About the Cherwell Service Host](#)

[About mApp Solutions](#)

Related tasks

[Create, Check Status, or Close an Incident from Slack](#)

Create, Check Status, or Close an Incident from Slack

Use Slack to create an Incident, check the status, or close the Incident.

Before you make any changes to an Incident, review the following two Actions to ensure the Slack integration works on your system: Create Incident and Close Incident. These are Actions within the Slackbot One-Step™ Action.

1. In the One-Step Action Manager, select **(None)** from the **Association** drop-down list, and then select the **Global** folder.
2. Edit the Slackbot One-Step Action, and on the Designer Board, select the **Create Incident** Action.
3. Select the **Fields** page and review the values set in the Incident fields to ensure they are valid for your database and consider if you have added any new fields to the Incident that are required for save. See step 6 on [Define a Create a New Business Object Action](#).
4. Follow the previous step for the Close Incident Action.

To create, close, or check the status of an Incident:

1. From the CSM Desktop Client, add yourself as a new customer (**Customer > Contact Manager**).



Important: The Incident is created based on the user's first and last name, so they must match what is in Slack.

2. From your Slack workspace, join your Slack bot channel and add your App.
See <https://api.slack.com/start/overview#auth>.
3. Use the following commands:
 - a. @[App name] create incident
Any information you type after the word *incident* will appear in the Description field.
You should receive a response with the new Incident number, the description, and the priority number.
 - b. @[App name] status of incident <Incident ID>
You should receive a response with the Incident number, status, who it's assigned to, and the priority number.
 - c. @[App name] close incident <Incident ID>
You should receive a response that the Incident was successfully closed.

Related concepts

[Slack Integration Troubleshooting](#)

[Open the One-Step Action Manager](#)

[Create/Edit a One-Step Action](#)

Slack Integration Troubleshooting

Use these guidelines for troubleshooting issues for Slack Integration and CSM.

Issues with Slack Request URL Verification

1. Verify the Signing Secret is accurate on the CSM webhooks **Authentication** page.
2. Copy and paste the request URL into a browser window (not on the CSM server) and verify that you get the following XML error message: *The requested resource does not support http method 'GET'*.
 - a. If you don't get the error message, check the URL from the server and if it's not there, there may be an issue with your browser setup. Check the Cherwell Browser connection and ensure the database is correct and verify that the browser is installed correctly.
 - b. If you get the error message, verify that you're using a publicly accessible server.
3. Verify that the Anonymous Browser has rights to view the webhook in the Security Groups settings.

No Response to Commands in Slack

1. Verify that the bot token in Slack and the Bot User OAuth Token Stored Value in CSM match.
2. Verify that **Enable Events** is turned on in Slack and the *app_mention* is in the **Subscribe to bot events** section.
See <https://api.slack.com/bot-users#setup-events-api>.
Remember to select **Save Changes**.
3. Verify that *chat:write* is included in Slack OAuth permission scope.
See <https://api.slack.com/events-api#subscriptions>.
4. If you don't received a response to the *create incident* command, verify that your Slack user has a customer record in CSM.
5. If you don't receive a response to the *status of incident* command, verify that your Incident ID is correct.

All Other Issues - Logging

If you're still experiencing problems with the Slack Integration, you can configure logging for the Cherwell Service Host to record errors.



Note: Logging is included in the Slackbot One-Step™ Action, but logging must be turned on before the logs will write.

1. Use the Cherwell Service Manager to configure logging for the Cherwell Service Host.
 - a. Select **Log to file** and for the **Log Level**, select **Info and above**.
 - b. For the **File Name**, select the **Ellipses** to choose a location and file name for the log file.
2. Restart IIS and the Cherwell Service Host.

3. Make a note of the time (to track for the Cherwell Service Host to restart). From Slack, use the *create incident* command.
4. From the Cherwell Server, check the log file.
It may take a few minutes for the Cherwell Service Host to restart, but if five minutes have elapsed and there are no logs, the issue is most likely one of the following:
 - Signing Secret
 - Event Subscription
 - Subscribe to bot events
5. The specific log file to look for is <computername>.EventProcessingWorker.<number>.txt. Within the log file, all Slack messages will start as:
`{"Level":"INFO","Message":"One Step Log - [Slackbot - 2020-01-27T16:12:02]:`
and will be followed by an informational message. If you don't see any Slack messages, the issue is most likely one of the items listed in the previous step.
6. If you see Slack messages, but useful information isn't being displayed, you can customize the information you want displayed.
 - a. From CSM Administrator, open the Webhook Manager to edit the Slack webhook (**Browser and Mobile > Webhook Manager > Edit Slack webhook**).
 - b. From the **Action** page, select the **Ellipses** to edit the Slackbot One-Step Action.
 - c. Select the **Parse Debug Logging** Action and in the **Contents** field, make any necessary modifications.
The **Log Level** must be set to **Info and above** for the logs to write.

Related concepts[Configure Logging for a CSM Service, Web Application, and Cherwell REST API](#)[CSM Services](#)[Create/Edit a One-Step Action](#)**Related tasks**[Configure a Slack Workspace for Webhooks](#)[Create, Check Status, or Close an Incident from Slack](#)

Slack Integration mApp Solution Items

The Items table provides a list of items included when applying the mApp Solution and the typical merge action.

These are the items included in this mApp Solution:

Item Category	Item	Typical Merge Action
One-Step™ Action	Slackbot	Import
Stored Value	Bot User OAuth Token	Import
Web Service	SlackAPI	Import
Webhook	Slack	Import
<ul style="list-style-type: none">• Import: Add new item.• Overwrite: Replace target item.• Merge: Merge differences.• Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).		

Standalone mApp Solutions

A Standalone mApp® Solution provides a complete solution. These can include support, managed service providers, and IT purchasing and project tracking.

Change Management mApp Solution 1.0

The Change Management mApp® Solution introduces a streamlined Change Request form, ITIL-aligned Change Request lifecycle, advanced risk assessment, updated Approvals, and an updated Change Management Dashboard.

Platform Version Requirements: Tested on CSM 9.7.0.

Out-of-the-Box Content Version Requirements: Tested on CSM 9.6.x and 9.7.0. This mApp Solution may not be compatible on Content versions older than 9.6.0, but as with all mApp Solutions, it should be tested on your customized system.

How the mApp Solution Works

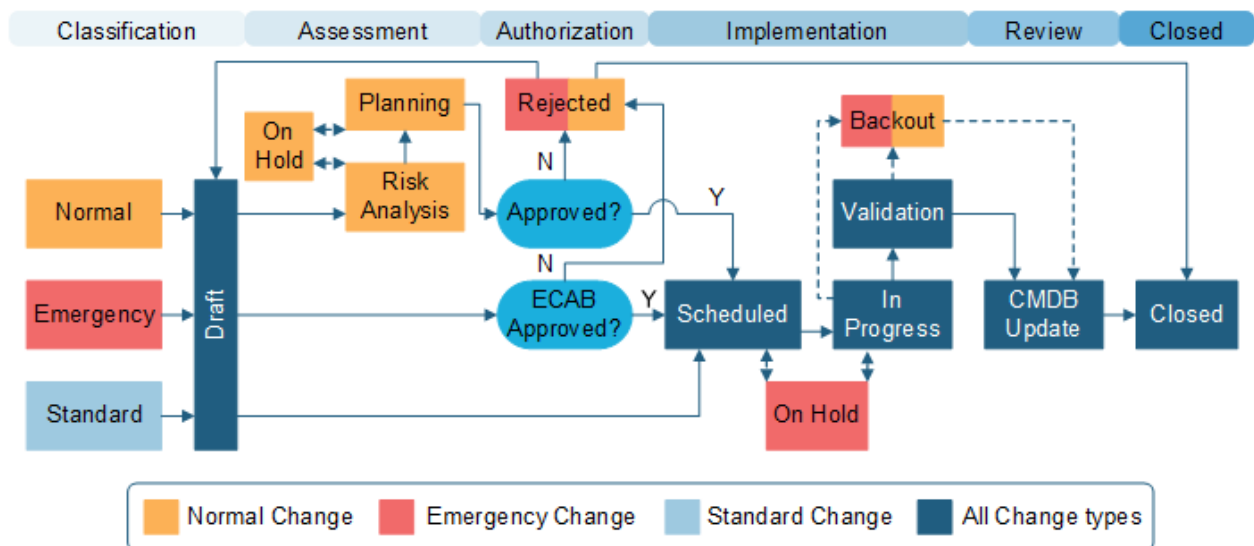
The Change Management mApp Solution offers an improved ITIL-centered process-oriented Change workflow. It includes a streamlined interface, consolidated workflow, and introduces a new Change Model Business Object which makes the creation of similar Change Requests easier.

Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp Wizard to apply the mApp Solution to your CSM system. The Apply mApp Wizard generates a Blueprint, which can then be viewed and published to a test or live system to commit the changes.



Note: Apply the mApp Solution and select the **Open a Blueprint so that I can preview the changes** radio button. *Before* publishing the Blueprint, you will need to configure the mApp Solution.

The following graphic shows a high-level workflow for the different Change Request types.



For a list of items included in the Change Management mApp Solution, see [Change Management mApp Solution Items](#).

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

After applying the mApp Solution, perform the following high-level steps to configure the mApp Solution:

1. Create Change Models for Standard Change types.
2. Apply a One-Step™ Action against your open Change Requests to set their required fields.
3. Apply a One-Step Action against to your open Change Requests to update them to the new status values.

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.0	9.7	Tested on 9.6.x and 9.7.0. This mApp Solution may not be compatible on Content versions older than 9.6.0, but as with all mApp Solutions, it should be tested on your customized system.	

Related reference

[Change Management mApp Solution Items](#)

Configure the Change Management mApp Solution

Configure the Change Management mApp Solution using CSM Administrator and the Desktop Client.

The Change Management mApp Solution introduces a new Business Object called Change Model. Change Models are required for each Standard Change, so you will have to create enough Change Models to suit your company's needs.

Applying the Change Management mApp Solution clears out the Change Status Lookup Table and adds new status values, so you will need to run several One-Step Actions to account for these new values.

After applying the Change Management mApp Solution:

Create Change Models

1. Create Change Models for your organization's Standard Change types.
2. In each of your open Standard Change Requests, select the appropriate Change Model and save the record.

Update Open Change Requests

3. Update existing open Change Request required fields by running the Set Required Fields One-Step™ Action.
 - a. Run a search for all open Change Requests.
 - b. Select the open Change Requests, then open the One-Step Manager.
 - c. Run the **Set Required Fields** One-Step Action.
4. Update existing open Change Request status fields by running the Update to New Status One-Step Action.
 - a. Run a search for all open Change Requests.
 - b. Select the open Change Requests, then open the One-Step Manager.
 - c. Run the **Update to New Status** One-Step Action.

Related concepts

[Change Management mApp Solution Change Models](#)

[Run a One-Step Action](#)

About Change Management mApp Solution

Change Requests

A Change Request is a record that tracks the addition, removal, or modification of anything that could affect IT Services. These can include changes to architectures, processes, tools, metrics, documentation, and other Configuration Items.

The Change mApp® Solution manages three types of Changes:


- A Standard Change is documented, low risk, low cost, occurs frequently, and is thoroughly understood by the Change Advisory Board (CAB). The change only needs to be approved by the CAB once before it is added to a list of Standard Changes. After that, Standard Changes do not need to go through the approval process.
- A Normal Change is undocumented and it is unknown how the Change might affect the system. Though the CAB must approve the Change before implementation, it is not considered a high priority, and can be addressed during the regular CAB meeting time.
- An Emergency Change is a break in the system and must be addressed immediately so that the system can resume operation. Since the change is critical, it requires immediate attention from either the CAB or Emergency Change Advisory Board (ECAB).

For example:

- A new employee requires a software installation (Normal Change). If this becomes a common scenario, a Change Request can be submitted to make it a pre-authorized Change (Standard Change).
- A technician reboots the e-mail server because several employees are unable to access email (Emergency Change).

Change Management mApp Solution Change Good to Know

CSM uses several features to manage the Change workflow. The Change Form helps create, manage, and track Changes; One-Step Actions help move the Change through its workflow; Automation Processes notify stakeholders via email; an Approval process enforces Approvals; and a Change Dashboard notifies stakeholders and tracks metrics.

- Search for one or more Changes that meet a specific criteria by running a Quick Search or Search Group.
- Create a new Change by selecting **New > New Change Request**.
- If enabled (via an Automation Process), email notifications are automatically created and sent to stakeholders. For example:
 - A Customer to notify her of a status change.
 - Team owners to notify them of ownership.
 - The User owner to notify him of the ownership.
 - Approvers when a Change requires approval.
- When on a record, you can send an email directly to the current Customer (requestor) by selecting **File > E-mail Current Customer** in the Desktop Client or by selecting **E-mail > E-mail Current Customer** in the Browser Client. You can also select the Customer's email address in the Change Form.
- Journals track what occurs during the record's lifecycle (example: Notes to track progress or comments, and History to track important field changes, email correspondence, etc.). View or add Journals by selecting the Journal tab in the record's Arrangement.
- Fields:
 - Many fields with drop-down menus are driven by a Lookup Table and can be edited in the CSM Desktop Client using Table Management. To see what table is providing the data, click inside the field, and then press **F3**.
 - Required fields are often conditional, meaning some are required to save a record, some are required to change the status of a record, some are required to close the record, etc. Required fields are marked with an asterisk by the field label.
 - The Description field is a Rich Text field, so formatting and images/screenshots can be used to complement the text. To format the text or embed an image, select the **Zoom** button .
 - Some validated fields can recognize what you are typing and will suggest a value for you (example: If you type "P" into the field, CSM will suggest the first item it finds that starts with the letter P). Use the down arrow button to scroll through other possible values.
 - Press **TAB** to move to the next field on the Form.



Note: A full list of Fields is beyond the scope of this document. Export a schema document from CSM Administrator (Create a **Blueprint > Tools > Export Schema**) to view a full list of fields associated with a particular type of Business Object (example: Major).

- Saving:
 - Date, time, and user name information is recorded the first time the form is saved, and each time the form is modified.
 - Clicking **Save** triggers an audit of fields that are being tracked for modification (example: Status). If a modification is detected in a tracked field, a Journal-History record is created to track the modification. View the modifications in the Journals tab (Arrangement area).

Related concepts

[Change Management mApp Solution Journals](#)

[Lookup Business Objects](#)

[About Table Management](#)

[About Rich Text](#)

Change Management mApp Solution Change Advisory Boards (CABs)

Normal and Emergency Change Requests require at least one approval by a Change Advisory Board.

The Change Management mApp® Solution uses two boards:

- **Change Advisory Board:** The Change Advisory Board (CAB) is a group of people that support the assessment, prioritization, authorization and scheduling of Changes.
- **Emergency Change Advisory Board:** The Emergency Change Advisory Board (ECAB) is a subgroup of the Change Advisory Board that makes decisions about Emergency Changes.

By default, Standard Changes do not require the approval of the CAB, but you can define an Approval Process in CSM Administrator (Create a Blueprint>[Business Object]>Edit Approvals), if necessary.



Tip: Use the [Change Advisory Board Worksheet](#) to organize information relating to CAB and ECAB members. You will need this information when defining the approval boards.

Creating a Change Management mApp Solution

Change Advisory Board

Select CAB members and assign basic Approval rights.

Use the [Change Advisory Board worksheet](#) to help you organize information relating to CAB members. CSM Administrator.



Note: CSM provides three OOTB Approvals for Change, including Emergency Change Implementation Requests, and Normal Change Implementation Approval. Add, edit, or delete Approvals for Change in CSM Administrator.

To define a CAB member:

1. Select **Tools > Table Management**.



Note: By default, you must be a Service Desk Level 2 or higher to view Table Management.

2. In the **Type** drop-down menu, select **Standing CAB Member**.

The Standing CAB Member grid opens.

3. In the Select **Actions > New** in the Browser Client or **New** in the Desktop Client.

The Standing CAB Member form opens.

Note: The following fields are driven by a Lookup Table. If you have security rights, use Table Management (Tools>Table Management) to add, edit, or delete field values.

- a. Click the **Change Type** drop-down menu, and then select a Change type (example: Normal).
 - b. Click the **Member Name** drop-down menu, and then select a User (example: Andrew).
 - c. Click the **Role** drop-down menu, and then select a role for the User (example: Change Manager).
4. Click **Save**.

Related concepts

[About Approvals](#)

[Security Features Security Rights](#)

[Change Management mApp Solution Change Request Forms](#)

Change Management mApp Solution Change Advisory Board Worksheet

Use the Change Advisory Board worksheet to organize information relating to CAB members.

A subset of the CAB are members of the Emergency Change Advisory Board (ECAB), who approve Emergency Change Requests.

Table 1. Change Advisory Board

Table	Selections	Comments
CAB Member Name:		Member names come from a UserInfo table that is set up when identifying CSM users.
Change Type	<ul style="list-style-type: none"> • Emergency • Normal • Standard 	Defined using the Change Type Lookup Table in Table Management.
Role	<ul style="list-style-type: none"> • Business Analyst • Change Manager • Developer • End-User • Financial Analyst • Project Manager • Project Team Member • Sponsor • Stakeholder • Technical Analyst • Tester 	Defined using the CAB Role Lookup Table in Table Management.
Approval Phase	<ul style="list-style-type: none"> • Assessment Phase • Implementation Phase 	By default, Standard Changes do not require an Approval.

Related concepts

[Table Management](#)

Change Management mApp Solution Approvals

The Change Management mApp® Solution includes Approvals for the CAB and ECAB members.

Change Requests include a **Current Approvals** page, which is populated with the CAB members associated with the Change Type.

You can add additional Approvals by selecting the **New Approval** button. On the Approval Record form, you can enter the Approver Name, Approval Team, Deadline, Details, and Comments.

When the Change Request enters the Approval/ECAB Approval status (or when a new Approval Record is created), an email is sent to all approvers.



Note: Emergency Changes with a Service Restoration subtype do not require approval.

When Normal Change Requests are rejected by the CAB, the status changes to Rejected. You can choose to rework the change or close it. The **Rework Change** button moves the Change Request back to Draft status. All previous approvals move to the **Approval History** page. The Close Change button moves the Change Request to Closed status. Any open Tasks are cancelled and closed.

When an Emergency Change is rejected by the ECAB, the status changes to Closed and the Close Code is set to Rejected. Any open Tasks are cancelled and closed.

Related concepts

[About Approvals](#)

Change Management mApp Solution Workflows

CSM offers three workflows based on Change types.

Change Types

- **Standard** - Does not require review.
- **Normal** - Requires review but is not urgent.
- **Emergency** - Requires review and is urgent.

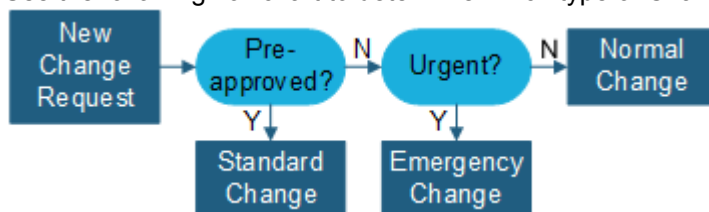
Contributors

A Change typically has several contributors. Depending on your workflow and the size of your company, many of these contributors may have combined roles:

- **Creator:** User who first logs the Change. This is typically a technician.
- **Requestor:** User who requests the Change. This is typically an IT manager.
- **Owner:** User who manages the Change. This is typically a change manager.
- **Approver:** User who ensures that the Change should be implemented. This is typically one or more members of the CAB Team. Standard Changes do not require an approval.

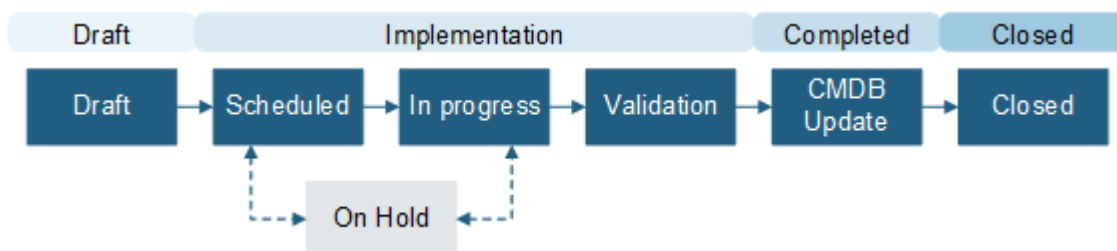
Which Workflow Should I Use?

Use the following flowchart to determine which type of Change workflow to follow.



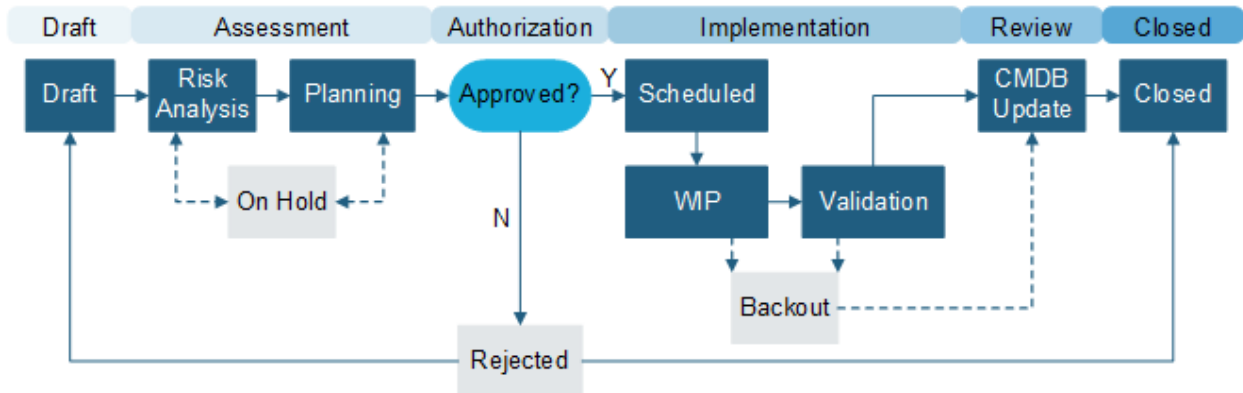
Standard Change Workflow

This is a high-level workflow for Standard Changes. See [Create a Standard Change Request](#) for more detail.



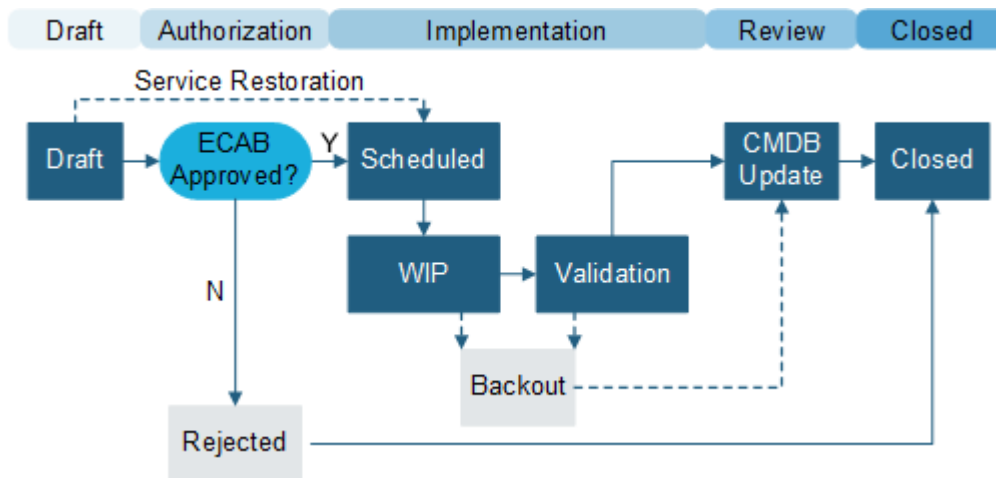
Normal Change Workflow

This is a high-level workflow for Normal Changes. See [Create a Normal Change Request](#) for more detail.



Emergency Change Workflow

This is a high-level workflow for Emergency Changes. See [Create an Emergency Change Request](#) for more detail.



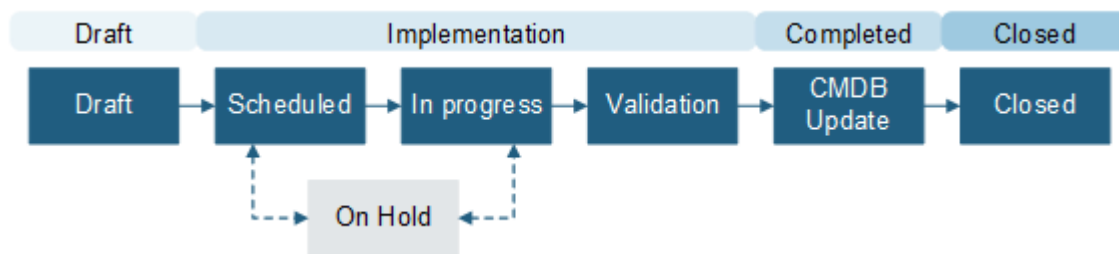
Change Management mApp Solution Change Request Forms

Normal Changes and Emergency Changes require steps to create a plan and gain approval from a Change Advisory Board (CAB). Standard Changes consist of pre-approved procedures and Tasks.

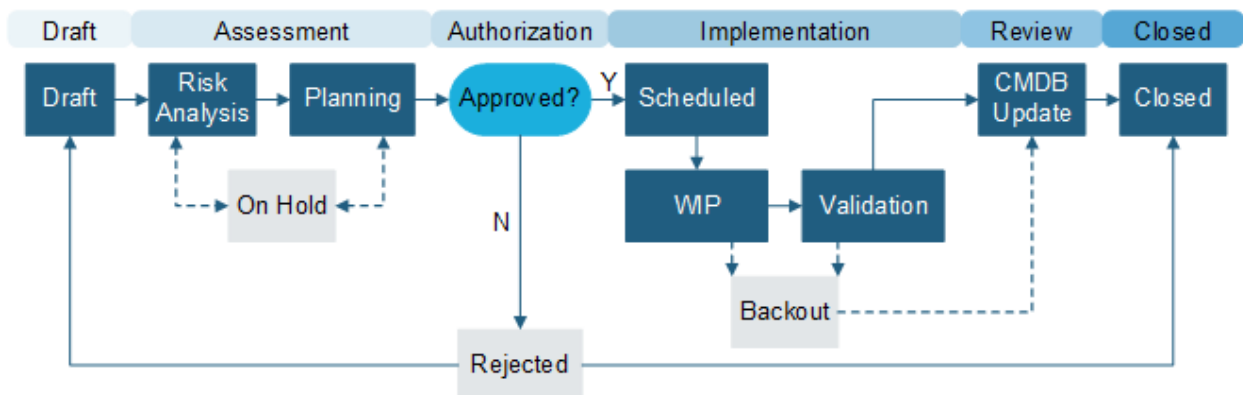
Normal, Emergency, and Standard Change Requests each have slightly different forms, but share many fields. This topic provides an overview of the Change Request form. Refer to [Create a Standard Change Request](#), [Create a Normal Change Request](#), and [Create an Emergency Change Request](#) for details on the workflow for each Change Type.

The diagrams below show high-level workflows for each Change Type.

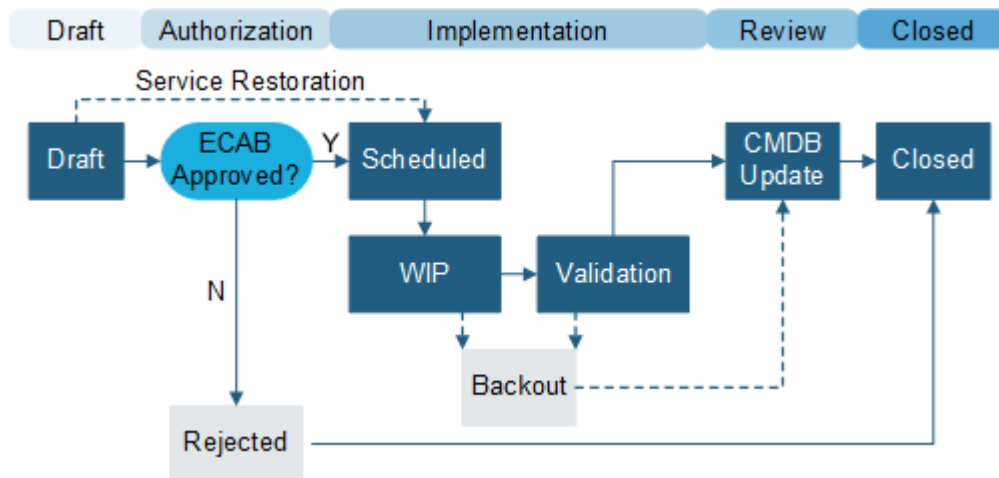
High-Level Standard Change Workflow



High-Level Normal Change Workflow





High-Level Emergency Change Workflow





Create and Classify the Change

On the CSM toolbar, click **New > New Change Request**.

A new Change record is created with a unique Change ID.

Field	Description
Requester	In the Requestor field, specify the name of the person who initiated the Change, and then press Enter or Tab to search for the Customer Record. If an exact match is found, the Requested by fields in the Default Form are auto-populated with the Customer's name and e-mail. If multiple matches are found, the Contact Manager opens so that you can select the appropriate Customer. To browse Customers, select the Related Item Picker.
Title	Specify a title for the Change.
Description	Specify a description of the Change.
Change Type	Select Normal, Standard, or Emergency. The fields that are show on the rest of the form depend on this selection.
Change Model	Click the Related Item Picker button  to choose a Change Model (required for Standard Changes, optional for Normal and Emergency Changes). The Change Model will pre-populate several fields, depending upon how the Change Model was set up.
Emergency Subtype	Select a subtype (Service Restoration or Outage Avoidance) from the drop-down menu (Emergency Change only).
Primary Configuration Item	Click the Related Item Picker button  to launch the CMDB window, and then select a CI. This shows CIs for any Customer or for a selected Customer.
Assigned Team	Specify the Team Owner of the Change.
Reason	Use the drop-down list to select a reason for the Change.
Change Already Implemented?	Indicates whether the Emergency Change has already been implemented (Emergency Change only).

Field	Description
Assigned To	Specify the member of the Team who will be the User Owner of the change.  Note: The Creator can take ownership of the Change by selecting Assign to Me in the Actions List.
Proposed Start Date	Click the Calendar Date Selector button to select a start date for the Change (Standard and Normal Change only).
Proposed End Date	Click the Calendar Date Selector button to select an end date for the Change (Standard and Normal Change only). Note: If a Stop icon appears next to the Proposed Start Date and/or the Proposed End Date, you are outside of the maintenance window, and you must select an acceptable date.
Impact	Select the scope of the Change from the Impact drop-down menu.
Urgency	Select the service level from the Urgency drop-down menu. The Impact and Urgency scores are used to calculate the Priority.
Priority	The Impact and Urgency scores are used to calculate the Priority.
Service Affected	Click the Related Item Picker button  to select the affected Service .
View Change Calendar	Click the View Change Calendar link to open the Change Calendar.
View Collision Detection	Click the View Collision Detection link to open a Configuration Map of the Primary CI.
Review Date	Enter a date to review the change (Normal Change only).

Assess Risk and Plan the Change

The procedures in this section are for Normal Changes and Emergency Changes but do not apply to Standard Changes. These types of changes require approval from a Change Advisory Board (CAB).

Field	Description
Implementation Plan	Specify the process required to implement the change.
Justification	Enter a justification for the Change Request.
Acceptance Criteria	Specify the functionality and quality requirements.
Validation Plan	Provide a validation plan (Normal Change only).
Implementation Notes	Enter notes for the implementation.
Back Out Plan	Specify a plan to back the change out if implementation fails.
Outage Required	Select this check box if the CI will experience an outage while the change is implemented (Normal Change only).
Impact Assessment	Provide an impact assessment.

Field	Description
Outage Start Date	Click the Calendar Date Selector button to select a start date for the outage (Normal Change only).
Outage End Date	Click the Calendar Date Selector button to select a start date for the outage (Normal Change only).
Complete Risk Assessment	Select this link to open the Risk Assessment questionnaire.

Validate and Review the Change



Note: Emergency Changes are time sensitive and do not require all of the review procedures listed in this section. Steps that are used only for Normal Changes are marked **(Normal Change only)**.

1. Owner assesses the Change:

Field	Description
Impact Assessment	Specify the impact assessment (consequences of the Change).
Back Out Plan	Specify a back out plan or attach information that details what actions to perform if the Change implementation does not work.

2. A peer review task must be assigned and completed.
3. **(Normal Change only)** Owner submits the Change for authorization:
 - a. In the Status bar, click the **Next: Submit for Approval** button.
The status changes to Approval.
 - b. If a Peer Review task is incomplete, the change cannot be submitted for approval.
4. **(Normal Change only)** Approver approves the Change:
 - a. In the Approval grid, double-click an **Approval Record**.
The Approval Form opens. The Approver Name and Details Fields are auto-populated per the defined Approval process rules.
 - b. (Optional) In the Comments Field, provide your feedback.
 - c. Click **Approve**.
The Approval Status icons indicate the number of pending Approvals and their status (Pending, Approved, Denied, or Abstained).

The Change status changes to Pre-Implement and the Change enters the Implement phase.
5. **(Normal Change only)** If the Change is approved, it moves to the Scheduled status. The scheduled start and end times for an approved Change can only be modified by CAB members or Change Managers:
 - a. In the Status section of the Default Form, click the **Next: Scheduled** link.
6. When you are ready to implement the Change, select the **Next: Begin Work** link.
7. After deployment of the change, the owner completes the Validation and Review section.

Field	Description
Actual Start Date	Click the Calendar Date Selector button to select the date that the Change actually started.
Close Code	Select a close code from the drop-down menu.
Actual End Date	Click the Calendar Date Selector button to select the date that the Change actually ended.
Close Notes	Specify additional information related to implementation of the Change.
PIR	Select the PIR drop-down menu to select the Post Implementation Review status.
CMDB Update Complete	Select this check box when the CMDB update is finished.
Email Change Review	Select this link to the user assigned to this Change.

Complete the Change

Close the change.

Related concepts

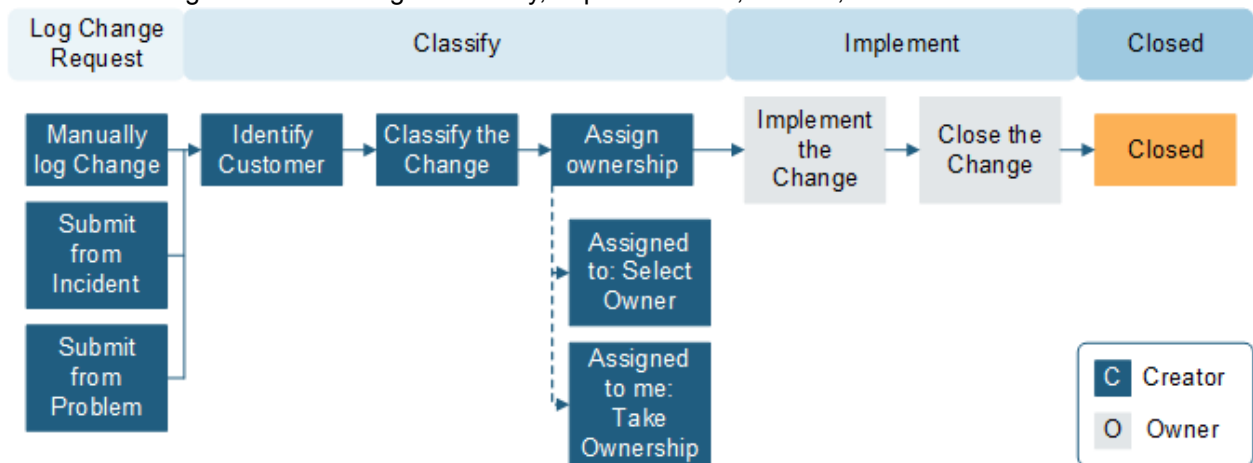
[Creating a Change Management mApp Solution Change Advisory Board](#)

[Change Management mApp Solution Change Models](#)

Create a Standard Change Request with the Change Management mApp Solution

Standard Change Requests do not require approval.

Standard Changes have four stages: Classify, Implementation, Review, and Closed.



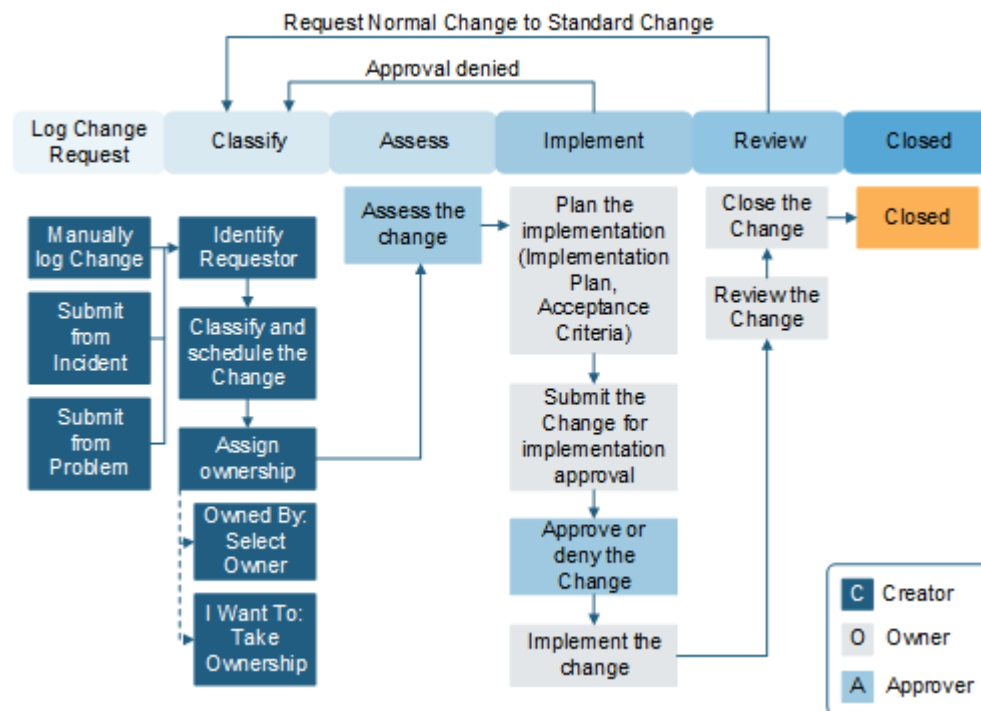
To create a Standard Change:

1. Create a Change Request and select **Standard** from the **Change Type** drop-down menu.
A new Change Request is created in Draft status.
2. Select a Change Model. The **Requestor**, **Change Type**, and **Reason** fields are required.
When you enter the Change Model, the **Title**, **Description**, and **Service Affected** fields are automatically populated.
3. Add any Tasks associated with the Change Request.
4. Once all the change information is entered, select **Scheduled**.
The status changes to Scheduled.
5. Select **Next: Begin Work** when you are ready to begin implementation tasks.
The Stage moves to In Progress. You can also place the Change Request on hold.
6. The **Implementation Notes**, **Actual Start Date**, **Actual End Date**, **Close Code**, and **Close Notes** fields are required. Complete all associated Tasks.
7. After the change is deployed, Select **Next: Validate Change**.
The status changes to Validation.
8. All implementation tasks must be closed before advancing to the next status.
9. Select **Next: CMDB Update**.
After the Change Owner updates the CMDB, check the **CMDB Update Complete**. check box.
10. Select **Next: Mark as Complete**.
The status changes to Closed.

Create a Normal Change Request with the Change Management mApp Solution

Normal Change requests require approval.

Normal Change types have six stages: Classify, Assessment, Authorization, Implementation, Review, and Closed.



To create a Normal Change Request:

1. Create a Change Request and select **Normal** from the **Change Type** drop-down menu.
2. Complete the required fields.
3. Select **Next: Risk Analysis**.
4. Select the **Risk Assessment** link to fill out the Risk Assessment survey (required).
You can't edit a Risk Assessment after you submit it.
5. Select **Next: Plan** to change the status to Planning.
CSM automatically generates a peer review task when you enter the Planning status.
6. Complete the implementation, validation, and back out plans.
Optionally, you can provide evidence of testing and add tasks.
7. Select scheduled start and end dates.
8. Assign the peer review.
9. Select **Next: Approval** to submit the Change Request for authorization. CSM calculates lead times and an approval deadline. If the proposed start date doesn't meet the lead time requirement, you'll have to either reschedule the Change or submit it as an exception.

If the CAB approves the Change Request, the status moves to Scheduled. If it's denied, the status moves to Rejected.

10. Select **Next: Begin Work** when you're ready to begin implementation tasks.
The status moves to In Progress. You can also place the Change Request on Hold.
11. Add implementation notes and actual start and end dates.
12. Add the close code, close notes, and complete all tasks.
13. After the Change is deployed, **Select Next: Validate Change** to change the status to Validation.
You can't advance to the next status until you close all implementation tasks.
14. Select **Next: CMDB Update**.
After the Change owner updates the CMDB, select the **CMDB Update Complete** checkbox.
15. Select **Next: Mark as Complete** to change the status to Closed.

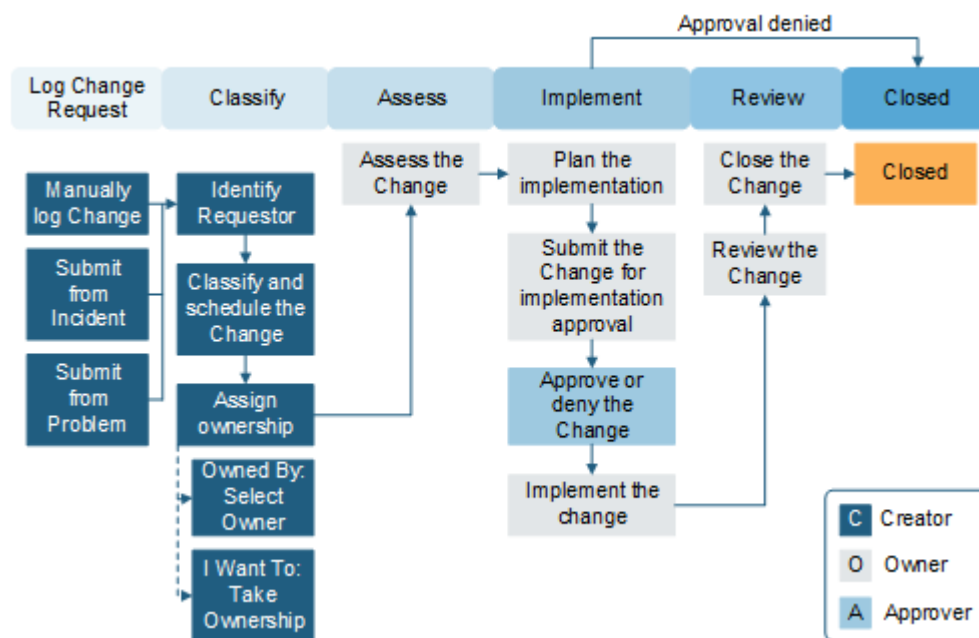
Create an Emergency Change Request with the Change Management mApp Solution

Emergency Change Requests are urgent requests that require approval.

Emergency Changes can be classified into sub-types to identify emergency change drivers and adjust business rules for submission.

- **Service Restoration:** a change necessary to resolved a service outage or a severe degradation of service delivery. Approval of actions to restore service is managed by the team working the incident; approvals are not executed in CSM.
- **Outage Avoidance:** the change must be executed outside the normal change process to prevent a service interruption. Approvals must be completed prior to implementation.

Emergency Changes have five Stages: Classify, Authorization, Implementation, Review, and Closed.



To create an Emergency Change Request:

1. Create a Change Request and select Emergency.
2. The Requestor, Change Type, Reason, and Emergency Subtype fields are required. When you enter the Change Type, the Title, Description, and Service Affected fields are automatically populated.
3. Add any Tasks associated with the Change Request.
4. Service Restoration changes move to Scheduled status, and Outage Avoidance changes move to ECAB Approval status.

5. When an Outage Avoidance is submitted for ECAB approval, formal review and authorization occurs. Scheduled Start Date and Scheduled End date fields are required, and Approval task(s) must be approved. If it is rejected, the Change Request is closed.
If it is approved, the Change Request moves to Scheduled status.
6. Select **Next: Begin Work** when you are ready to begin implementation tasks.
The Stage moves to In Progress. You can also place the Change Request on hold.
7. After the change is deployed, perform validation testing. Implementation Notes, Actual Start Date, Actual End Date, and Close Code fields are required.
8. Select **Next: CMDB Update**.
After the Change Owner updates the CMDB, check the **CMDB Update Complete**. check box. If no CMDB Update is required, you can move to the next step.
9. Select **Next: Mark as Complete**.
The status changes to Closed.

Change mApp Solution Features

The Change mApp Solution includes several tools to help manage Change.

Change Management mApp Risk Assessment

Use Risk Assessments to assess the risk of Normal and Emergency Change Requests.

Risk Assessments are mandatory for normal changes and optional for emergency changes. The OOTB Risk Assessment includes ten standard questions, but you can edit those if needed.

- How many users will be impacted by this change?
- Has this change been implemented before?
- Is there an impact to revenue if the change fails?
- How easy would it be to roll back this change if it failed?
- If there is a failure with the change, can services be restored within the proposed start and end date?
- Is the change fully documented?
- How many resources are required for this change?
- Is the change visible to external customers?
- Has the change been tested?
- Could a business service disruption occur if the change implementation does not go as planned?

A risk score of Low, Moderate, High, or Critical is calculated based on the answers.

Change Management mApp Solution Change Form

Use the Change Form to create, edit, and track Changes.

The form has five areas:

1. **Status Area:** Displays information relevant to the Change form, including Change ID, Change type (Standard, Normal, or Emergency), Status, and Requester.
2. **Pages:** Displays linked records (child records) that are related to the Change (parent record), such as Journals (to track notes and history), Problems, and Incidents.
3. **Form Area:** Displays the main form fields.
4. **Stages:** A list of the stages associated with the Change Request. Different Change Types have different stages.
5. **Actions List:** Dynamically displays a list of actions that are available for the current Change.

The following image shows a Standard Change form with the five sections identified.

Save Cancel Refresh Delete Attach (0) Knowledge Record 1 of 1 Not queued Current Record List Grid

CHANGE 10946 (Standard) Created by Henri Bryce on 9/19/2019 at 3:48 PM

STATUS: Draft PROPOSED START DATE: .. PROPOSED END DATE: .. REQUESTED BY: ASSIGNED TO: Next: Scheduled

Standard Change Activity Services Affected (0) Journals Tasks (0) Problem (0) Incidents (0) Configuration Items (0)

Classification

Requester *
Change Type *
Standard
Change Model
Primary Configuration Item
Assigned Team *
Assigned To
Impact * Urgency * Priority *
Service Affected *
Service Importance

Title *
Description *
Reason *
Proposed Start Date
Proposed End Date

Stage
Classify
Implementation
Review
Closed

Actions
Assign to Me
Link to an existing Problem
Link to an existing Incident
Create a Change Model
Cancel Change

Validation and Review
Actual Start Date
Actual End Date
PIR
Close Code
Close Notes
CMDB Update Complete
E-mail Change Review

Cancel Save

Change Management mApp Solution Journals

The Change Management mApp® Solution provides several Change Journal types.

- **Journal - Note:** Tracks User notes/comments. For example, a User might chronicle troubleshooting progress.
- **Journal - Customer Request:** Tracks Customer requests/comments.
- **Journal - History:** Tracks important Field changes. Tracked Fields are configurable and are defined in the Business Object definition.
- **Journal - Mail History:** Tracks e-mail correspondence. For example, e-mails sent for receipt, follow-up, resolution, and questions.
- **Journal - Queue History:** Tracks when records are added to/removed from a Queue.



Note: History Journals are automatically created by CSM. Note and Customer Request Journals are manually created.

Each Journal Type has its own unique form. Journals are child records, so they are linked to and available from their parent records (access Journals by clicking the Journals tab in the parent record's Arrangement).



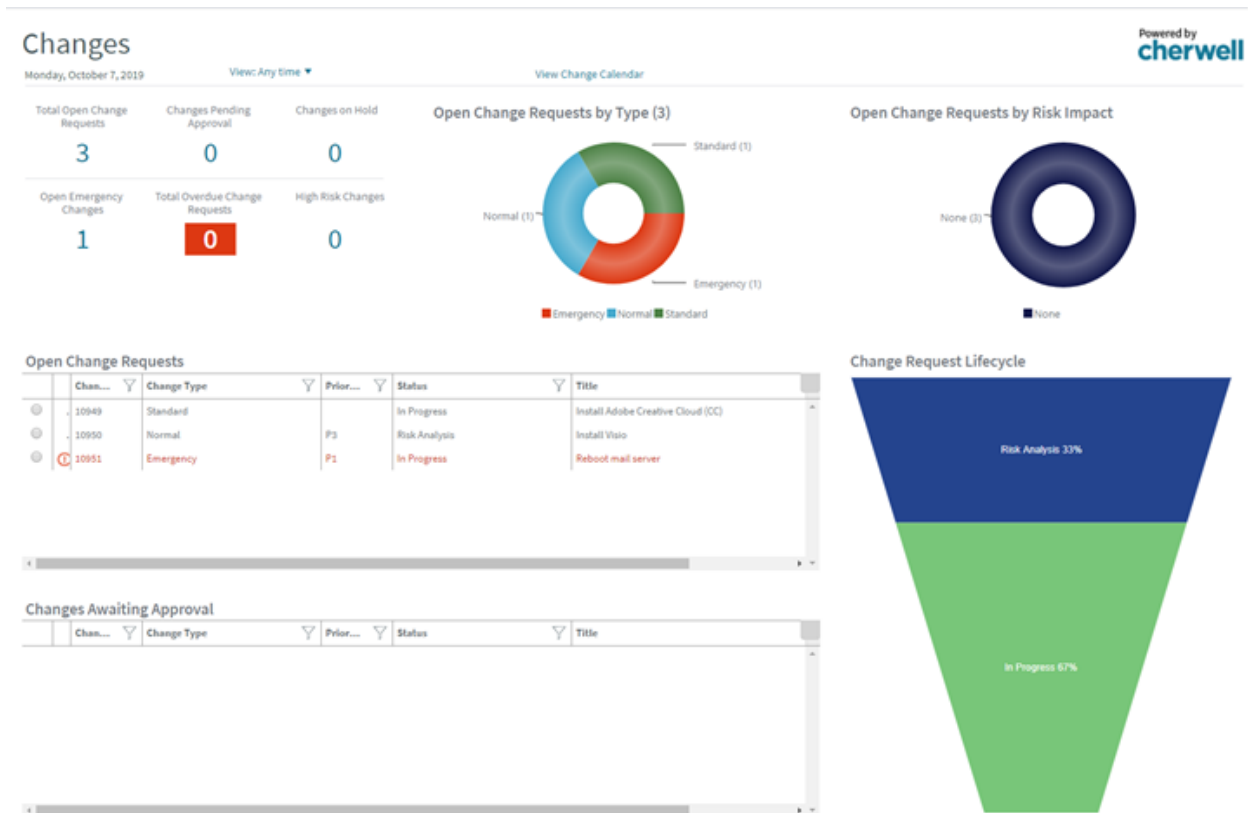
Note: For detailed information about Journal forms, refer to Journal forms.

Related concepts

[Change Management mApp Solution Change Good to Know](#)

Change Management mApp Solution Dashboard

The Change Management mApp® Solution provides a OOTB Change Dashboard that intuitively organizes your critical metrics into a single, real-time, at-a-glance Change control panel.



Note: Change metrics are also found on other OOTB Dashboards (example: Global IT).

The following table describes the items on the Dashboard.

Item	Description	Widget Type	Widget Name	Widget Uses:
Open Change Requests	All open Changes.	Search Results List	CDAll Open Changes	All Open Changes Saved Search
My Change Reviews	Number of approved Changes owned by the current User.	Search Results List	CDAll Approved Changes	My Approved Changes Saved Search
Approved Changes	All approved Changes.	Text Gauge	CDTotal Approved Changes	Approved Changes Saved Search

Item	Description	Widget Type	Widget Name	Widget Uses:
Linked Incidents or Problems	Open Changes that have either at least one linked Incident or one linked Problem.	Text Gauge	Changes with Linked Incidents or Problems	Active Changes with Linked Incidents and Problems Saved Search
Open Past Scheduled Close Date	Open Changes (Status does not = Closed) that are open past the time they are scheduled to be closed (Created Date Time is greater than Scheduled End Date).	Text Gauge	CDOpen Changes Past Request Date	All Open Past Scheduled Close Date Saved Search
Changes Outside Window	Open Changes (Status does not = Closed) that occur outside of the maintenance window (Not During Maintenance Window = True).	Text Gauge	CDOpen Change Outside of Maintenance Window	Open Changes Not During Maintenance Window Saved Search
High Risk Changes	Uncompleted Changes (Status does not = Complete) with a risk value that is greater than/equal to 3.	Text Gauge	CDHigh Risk Changes	High Risk Changes Saved Search
Change Request Life Cycle	Number of open Changes based on status.	Pipeline Chart	CDChange Request Lifecycle	All Open Changes Saved Search
Open Change Requests by Type	Percentage of open Changes based on type.	Doughnut Chart	CDChanges by Type	Change Requests Saved Search

Change Management mApp Solution One-Step Actions

The Change Management mApp® Solution provides multiple One-Step Actions associated with Changes.

One-Step Actions	Description/Actions	Associations	Executed From
Status			
Alt Step from Relationship	Conditionally change the Change status to next logical status (defined by the Change Status values in Table Management) and/or initiate the next appropriate One-Step Action.	Change Request	Change Form: <Status> link
Alt 2 Step from Relationship			
Next Step from Relationship			
Button Next Step	Conditionally changes the embedded form to the next logical form (based on Embedded Form) and/or initiates the next appropriate One-Step Action.	Change Request	Change Form: Form buttons
Form			
Ownership			
Assign to Anyone	Prompts the User to assign the record to any CSM User (not limited by Team). Uses Owned By ID and Owned By Team fields.	Change Request	Change Form: Assign To link
Assign Change to Owner	Launches the Choose Team window, where a user can choose an Owned By Team for the record; then, launches the Choose User window, where a user can choose a Primary User from the already-selected Team.	Change Request	Change Form: Select Owner link
Assign Change to Team	Launches the Choose Team window, where a user can choose an Owned By Team for the record.	Change Request	Change Form: Select Team link
Take Ownership of Change	Makes the Current User the Primary User of the record.	Change Request	Change Form: Take Ownership link
Other			

Create Change Review	Creates a new Review Questionnaire (Supporting Object) and creates an e-mail containing a link to the review and record details (Description, Scheduled End Date, Actual End Date, etc.).	Change Request	Change Form: E-Mail Change Review link Change Request Actions toolbar item; Create Change Review option
Create New Task	Creates a new Task in the Change's Form Arrangement.	Change Request	Change Form: Create New Task link
Nominate for Standard Change	Creates a new Normal Change Record.	Change Request	Change Form: Nominate for Standard Change link
Rework Change Request	Changes the Change status to New so that Users can edit fields and then resubmit the Change for CAB Approval.	Change Request	Change Form: Rework Change link

A full list of One-Step™ Actions is beyond the scope of this document. Export a schema document from CSM Administrator (**Create a Blueprint > Tools > Export Schema**) to view a full list of One-Step Actions associated with a particular type of Business Object.

Change Management mApp Solution Saved Searches

The Change Management mApp® Solution provides numerous OOTB Change Saved Searches.

Notable Change Saved Searches include:

Saved Search	Returns	Association	Executed From
Active Changes with Linked Incidents or Problems	Open Changes that have either at least one linked Incident or one linked Problem.	Change Request	Search Manager, Widgets
All Changes Waiting Approval	Changes that have a status of Waiting Approval.	Change Request	Metrics
Change Requests	All Change Requests, regardless of status.	Change Request	Search Manager, Widgets
Emergency Change	Changes that are defined as Emergency Changes.	Change Request	Search Manager, Widgets, Change Calendar
My Approved Changes	Changes approved by me (Current User).	Change Request	Search Manager, Widgets
My Open Change Requests	Open Changes owned by me (Current User).	Change Request	Search Manager, Widgets
My Teams Open Change Requests	Open Changes owned by one of my (Current User) Teams.	Change Request	Search Manager, Widgets
My Total Changes	Changes owned by me (Current User).	Change Request	Search Manager, Widgets
Normal Change	Changes that are defined as Normal Changes.	Change Request	Search Manager, Change Calendar
Standard Change	Changes that are defined as Standard Changes.	Change Request	Search Manager, Change Calendar

Related concepts

[About Saved Searches](#)

Change Management mApp Solution Automation Processes

The Change Management mApp® Solution provides the following OOTB Change Automation Processes.

Name	Description
Notify Requestor of Status Change	When the Status Field of a Change Request changes, the process initiates the Send Status Change E-mail One-Step™ Action, which sends an e-mail notification of the status change to the requestor of a Change Request.
Notify Change Team of Assignment	When the Owned By Team Field of a Change Request changes, the process initiates the Notify Owned By Team via E-mail One-Step Action, which sends a notification e-mail to members of the Team that owns the Change Request.
Notify Change Owner of Assignment	When the Owned By Field of a Change Request is changed, the process initiates the Notify Owned By via E-mail One-Step Action, which sends a notification e-mail to the new owner.
Change Approval Notifications	When an Approval is added to a Change Request, the process initiates the Send E-Mail One-Step Action, which sends a notification e-mail to members of the CAB.
Change - Escalate 4 Hours after End Date	Waits four hours after the Scheduled End Date. If the time limit passes, the process initiates the Escalate Change 4 Hours After End Date One-Step Action, which sends an e-mail to the Change Request owner requesting that they update the record.
Change - Notify Problem Owner	Waits until a Change Request that is linked to a Problem is closed, then initiates the Notify Problem Owner Change is Closed One-Step Action, which sends a notification e-mail to the Problem owner.

Related concepts

[Automation Processes](#)

Change Management mApp Solution Reports

The Change Management mApp® Solution provides several Reports.

Report	Description	Association	Saved Search
Planned Changes	Lists Normal and Standard Changes within a User-specified date range.	Change Request	All Open Changes
Post Implementation Review	Lists Changes and their associated Incidents and/or Problems.	Change Request	Changes with Linked Incidents and Problems
Change Trends	Line chart shows the number of Changes by the associated Service. Also lists Change details.	Change Request	Changes with Linked CIs
Past Year Change Trends	Line chart shows the number of Changes within the past year by the associated Service. Also lists Change details.	Change Request	Date Range for Report
Change Breakdown	Line chart shows the number of Changes by the reason for the Change (ex: Incident Resolution) within a User-specified date range. Also lists Change details.	Change Request	Date Range for Report
Past Year Change Breakdown	Bar chart shows the number of Changes by the reason for the Change (ex: Incident Resolution) within a User-specified date range. Also lists Change details.	Change Request	Date Range for Report
CI Change Request Metrics	Bar chart shows the top five CIs based on the highest number of associated Change Requests. Also lists Change details.	Change Request	Changes with Linked CIs
Proactive Service - Changes	Lists Changes based on Service Categorization within a User-specified date range.	Change Request	Date Range for Report

Related concepts

[About Reporting](#)

Change Management mApp Solution Change Models

Use Change Models to pre-populate certain fields in Change Request forms.

A Change Model is a pre-defined template you can apply to Change Requests. When you apply a Change Model to a Change Request, the template information is entered into the Change Request, and those fields are made read-only.

You can create and propose Change Models or Retire them.

Related concepts

[Change Management mApp Solution Change Request Forms](#)

Related tasks

[Configure the Change Management mApp Solution](#)

Create a Change Management mApp Solution Change Model

Create a Change Model for the most common changes you encounter in your organization.

To create a Change Model:

1. Select **New > New Change Model** in the Desktop Client or Browser Client.
2. Provide a name for the Change Model.
3. From the **Change Type** drop-down menu, select Standard, Normal, or Emergency. Depending on the Change Type you choose, you can include the following fields:

Field	Normal	Emergency	Standard
Owned By Team	x	x	x
Change Title	x	x	x
Justification	x	x	
Description	x	x	x
Service Affected	x	x	x
Risk and Impact	x	x	
Backout Plan	x	x	
Implementation Plan	x	x	x

4. The CAB members associated with the Change Model's Change Type are automatically added to the Standing Cab Members tab. Those members are also responsible for moving the Change Model through to activation.

Change Management mApp Solution Design Ideas

CSM provides an OOTB Change workflow with all the tools you need to successfully create and manage a Change. You can use this workflow as-is, or tailor it to meet the needs of your organization. Design ideas include:

- **Fields:** Change which Fields are required and when, which Fields support Rich Text, etc.
- **View Counter:** Incrementally track the number of times a record is viewed by a Customer or User in the Desktop Client, Browser Client, and Portal. View Counter functionality is configured in CSM Administrator.
- **Statuses:** Modify Change statuses and/or the One-Step™ Actions that are initiated when a Change enters each status.
- **Form:** Change the Form theme (background and text color), tab order, and size. Change the threshold and/or colors for priority.
- **Actions and One-Step Actions:** Create Actions/One-Step Actions to automate your workflow (ex: Add another Approval process), or implement any of the unused sample One-Step Actions that are shipped with CSM (example: Create and send out a Change Review questionnaire).
- **E-mail:** Change the templates that are used to create the e-mails sent by Automation Processes. Or, disable/change when and to whom notifications are sent (example: Notify Change owners by e-mail of any status updates).
- **Field Value Options:** Use Table Management to add/edit Lookup Object values for use in drop-down Fields (ex: CAB Members).
- **Approvals:** Modify the Approval process rules (example: The number or percentage of approvers needed to approve a Change).



Note: Detailed step-by-step instructions for the above is beyond the scope of this document.

Related concepts

[Rich Text](#)

[Counters](#)

[Forms](#)

[One-Step Actions](#)

[Automation Processes](#)

[Approvals](#)

Change Management mApp Solution Items

These are the items included in this Change Management mApp Solution.

Item Category	Item	Typical Merge Action
Automation Process Definitions	Change - Escalate 4 hours after End Date, Change - Notify Problem Owner, Change Approval Notifications, Notify Change Owner of Assignment, Notify Change Team of Assignment	Overwrite
	Change Request Email Confirmation on Create, Notify Task Owner of In Progress Change	Import
Business Objects	Change Request, Change Status, Change Status List	Overwrite
	Change Model, Change Model Status, Change Request Emergency Subtype, Change Request Normal Classification, Change Request PIR, Change Stage, Change Stage List, Risk, Risk Answer, Risk Questionnaire, Risk Value	Import
	Change Request Portal Default, Standing CAB Member, Task	Don't Change
Counters	Change Model ID, Risk Assessment	Import
Dashboard	Changes	Overwrite

	<p>Affected Service, Alt 1 Command, Alt 1 Command Name, Alt 1 Status, Alt 1 Status Text, Alt 1 Status Text_de-DE, Alt 1 Status Text_en-US, Alt 1 Status Text_es-ES, Alt 1 Status Text_fr-FR, Alt 1 Status Text_pt-BR, Alt 2 Command, Alt 2 Command Name, Alt 2 Status, Alt 2 Status Text, Alt 2 Status Text_de-DE, Alt 2 Status Text_en-US, Alt 2 Status Text_es-ES, Alt 2 Status Text_fr-FR, Alt 2 Status Text_pt-BR, Answer, Answer 1, Answer 1 Score, Answer 10, Answer 10 Score, Answer 2, Answer 2 Score, Answer 3, Answer 3 Score, Answer 4, Answer 4 Score, Answer 5, Answer 5 Score, Answer 6, Answer 6 Score, Answer 7, Answer 7 Score, Answer 8, Answer 8 Score, Answer 9, Answer 9 Score, Answer_de-DE, Answer_en-US, Answer_es-ES, Answer_fr-FR, Answer_pt-BR, Assigned Team, Backout Plan, CAB Approval Group, Change Already Implemented, Change Model, Change Model ID (Change Model), Change Model ID (Change Request), Change Request ID, Change Stage, Change Stage_de-DE, Change Stage_en-US, Change Stage_es-ES, Change Stage_fr-FR, Change Stage_pt-BR, Change Title, Change Type, (Change Model), Change Type (Change Stage), Classification, Classification_de-DE, Classification_en-US, Classification_es-ES, Classification_fr-FR, Classification_pt-BR, Classify Normal Change, CMDB Update Complete, Created By (Change Model), Created By (Change Stage), Created By (Change Stage List), Created By (Change Risk), Created By (Change Risk Value), Created By ID (Change Model), Created By ID (Change Stage), Created By ID (Change Stage List), Created By ID (Change Risk), Created By ID (Change Risk Value), Created Culture (Change Model), Created Culture (Change Model Status), Created Culture (Change Request), Created Culture (Change Request Emergency Change), Created Culture (Change Request Normal Change), Created Culture (Change Request PIR), Created Culture (Change Stage), Created Culture (Change Stage List), Created Culture (Risk), Created Culture (Risk Answer), Created Culture (Risk Questionnaire), Created Culture (Risk Value), Created Date Time (Change Model), Created Date Time (Change Stage), Created Date Time (Change Stage List), Created Date Time (Change Risk), Created Date Time (Change Risk Value), Date Approved, Description, Description, Emergency Subtype, Implementation Plan, Initial Status, Justification, Last Modified By (Change Model), Last Modified By (Change Stage), Last Modified By (Change Stage List), Last Modified By (Change Risk), Last Modified By (Change Risk Value), Last Modified By ID (Change Model), Last Modified By ID (Change Stage), Last Modified By ID (Change Stage List), Last Modified By ID (Change Risk), Last Modified By ID (Change Risk Value), Last Modified Date Time (Change Request), Last Modified Date Time (Change Model), Last Modified Date Time (Change Stage), Last Modified Date Time (Change Stage List), Last Modified Date Time (Risk), LastModTimeStamp (Risk Value), LastModTimeStamp (Change Model), Name, Next Status, Next Status Command, Next Status Command Name, Next Status Text, Next Status Text_de-DE, Next Status Text_en-US, Next Status Text_es-ES, Next Status Text_fr-FR, Next Status Text_pt-BR, Outage End Date, Outage Start Date, Owned By, Owned By ID, Owned By Team, Owned By Team ID, PIR (Change Request), PIR (Change Request PIR), PIR_de-DE, PIR_en-US, PIR_es-ES, PIR_fr-FR, PIR_pt-BR, Points,</p>	Import
CSM mApp Solutions		498

Forms	Change Model, Change Model Normal Emergency, Change Model Overview, Change Model Standard, Change Stage, ChangeModelStatus, ChangeRequestEmergencySubtype, ChangeRequestNormalClassification, ChangeRequestPIR, ChangeStageList, Emergency Change, Normal Change, Risk, Risk Answer, Risk Editable, Risk Questionnaire DE, Risk Questionnaire EN, Risk Questionnaire ES, Risk Questionnaire FR, Risk Questionnaire PT, Risk Questions, Risk Read Only, Risk Value, Standard Change	Import
	Change, ChangeStatus, ChangeStatusList, StandingCABMember, Task	Overwrite
Form Arrangements	ChangeModel, Risk, RiskQuestionnaire	Import
	Change	Overwrite
Grids	ChangeModel, ChangeModelStatus, ChangeEmergencySubtype, ChangeRequestNormalClassification, ChangeRequestPIR, ChangeStage, ChangeStageList, Risk, RiskAnswer, RiskQuestion, RiskValue	Import
	Change, Change-Dashboards-Grids, ChangeStatus, ChangeStatusList, My-Changes-Dashboard-Grid, StandingCAB Member	Overwrite
Image Definition	right_16_blue_tab	Import
Index	ChangeModel_ModelName, ChangeRequestEmergencySubtype_Subtypes, PK_ChangeModel, PK_ChangeModelStatus, PK_ChangeRequestEmergencySubtype, PK_ChangeRequestNormalClassification, PK_ChangeRequestPIR, PK_ChangeStage, PK_ChangeStageList, PK_Risk, PK_RiskAnswer, PK_RiskQuestions, PK_RiskValue, Risk_RiskID,	Import
	Change_ChangeID, ChangeCreatedDT, ChangeOwnedBy, ChangeStatus, ChangeStatus_ChangeStatusID, PK_Change, PK_ChangeStatus, PK_ChangeStatusList,	Overwrite
Mergeable Areas	Change Request Actions, Change Request Approvals, Risk Actions	Overwrite

Relationships	Change Links Change Stage, Change Model Links Change Model Status, Change Model Links Standing CAB, Change Request Links Change Model, Change Request Links Initial Status, Change Request Links Services, Change Request Owns Risk, Risk Links Risk Question, Risk Owned By Change Request	Import
	[Foreign Key] Change Request Links Change Status, Change Links Change Embedded Form, Change links Change Type, Change Links to Status, Change Links to Steps, Change Request links Assessment CAB Members, Change Request Links CAB and ECAB Members, Change Request Links CAB Member, Change Request Links Configuration Items, Change Request links Incident Temp Join Table, Change Request Links Incidents, Change Request Links Problem, Change Request Links Requester Customer, Change Request links Temp Join Table, Change Request Links User Testing, Change Request Links UserInfo, Change Request Owns Approval History, Change Request Owns Approvals, Change Request Owns Cost Items, Change Request Owns Journals, Change Request Owns PIR Questionnaires, Change Request Owns Tasks, Normal Change links to Nominated for Standard Chan	Overwrite

One-Step Actions	Alt 1 Status, Alt 1 Step from Relationship, Alt 2 Status, Alt 2 Step from Relationship, Assign Team, Cancel Change, Change Request Confirmation, Change Set to In Progress Notify Task Owners, Complete Risk Assessment, Create a Change Model, Draft Emergency Change Next Status, Go to Change Request, Link Service, Link to an Existing Incident, Link to an Existing Problem, Next Status, Set Approval, Set Planning, Set Required Fields, Set Risk Analysis, Standard Change Set to Scheduled, Submit Risk Assessment, Update to New Status, Withdraw Change Request	Import
	Assign Change to Anyone, Assign to Individual, Assign to Team, Back a Page, Basic Print, Clear Task Dependency, Close Show of Hands Form, Close Tasks before Review, Complete User Testing, Create Change Review, Create New Task, Create Normal Change from Standard Change, Emergency Change Approved, Emergency Changed Denied, Evaluate Change Request Risk, Impacted CI's Button Actions, Link to Tab, Mark My Approval as Abstained, Mark My Approval as Approved, Mark My Approval as Denied, Next Page, Next Step from Relationship, Nominate for Standard Change, Normal Change Approved, Normal Change Denied, Notify Problem Owner Change is Closed, Notify Owned by Team via E-Mail, Notify Requester, Refresh Change Dependency, Re-Open Change Request, Required Fields, Rework Change Request, Set Approval Lock to True, Set Request Status to Close, Show CAB Approval, Show CAB Denied, Show Info, Show Next Step, Show of Hands CAB, Show Previous Step, Submit Approval, Switch to Expanded View, Switch to Step View, Take Ownership of Change, Update Emergency Override to No, Update Emergency Override to Yes	Overwrite

Search	Active Change Models, All Change Models, All Changes on Hold, Proposed Change Models, Retired Change Models	Import
	Active Changes with Linked Incidents or Problems, All Change request Issues, All Changes Being Scheduled, All Changes in Assessment Stage, All Changes In Progress, All Changes in Review, All Changes in Risk Analysis, All Closed Changes, All Denied Changes, All New Changes, All Open Emergency (Unplanned) Changes, All Open Normal Changes, All Scheduled Change Requests, Change Approved Dates, Change Request Date Range for Report, Change Request Gantt Chart Report, Change Requests, Change with Linked CIs, Change with Linked Incidents or Problems, Changes closed on- time Changes, Changes Complete, Changes created within last year, Changes Pending Approval, Changes Requests, Emergency Change, High Risk Changes, My Approved Changes, My Change Approvals, My Change Request needing Approval, My Change Requests by status, My Open Change Requests, My Open Change Requests 30 days, My Open Change Requests this week, My Open Portal Change Requests, My Past Due Changes, My Pending Change approvals, My Teams Open Change Requests, My Total Changes, Normal Changes, Open Change Requests, Open Change Requests Past Scheduled Close Date, Open Changes Not During Maintenance Window, Open Changes with Linked Incidents, Open Changes with Linked Problems, Planned Changes, Portal Completed Change Requests, Standard Change, Team Change Approval, Tentative Changes, Unplanned Changes, Unsubmitted Changes	Overwrite

Stored Expressions	Current User Member of CAB, Customer - Assigned To Email addresses, Field Lock Background Color, Is Normal Change, Lock Form, Lock Form Color, Next Status Read Only	Import
	1 Month Ago, 1 Month From Now, 1 Week, 30 Day Window, Approval Lock, Approval Summary Text, Approval Tab Visibility, Approval Visibility, Assessment Approval Visibility, Budget Remaining, CapEx Budget, Change Details Tab Visibility, Change ID, Classify Phase, Criteria to Nominate for Standard Change, Current Date time is Before Schedule End Date?, Custom Expression, Customer E-Mail Ellipse Text, Embedded Form Next Status Trigger, Emergency Change Override Decision, Field Color Lock after Close, Field lock after Approval color change, Field Lock Approval, Field Lock on Assessment Approval, Form Assessment Status Visibility, Form Field Disabled Classify, Form Field Disabled Implement, Form Implementation Status Viability, Hide Create Emergency Change, High Priority Normal Change, Highest Embedded Form Step, Hyperlink to Change Request Cherwell Browser Client, Hyperlink to Change Request Cherwell Portal, Hyperlink to Change Request Cherwell Rich Client, Impact Visibility, Implement Phase, Implementation Approval Viability, Is End date valid against both calendars?, is End date valid against CI calendar, is End date valid against service calendar, is start date valid against both calendars?, is start date valid against CI calendar, is start date valid against service calendar, Linked Items Tab Visibility, Next Button Visibility, No Approvals Visibility, Normal Tab Visibility, Number 1 Background Color, Number 1 Color, Number 1 Status, Number 2 Background Color, Number 2 Color, Number 2 Status, Number 3 Background Color, Number 3 Color, Number 3 Status, Number 4 Background Color, Number 4 Color, Number 4 Status, Number 5 Background Color, Number 5 Color, Number 5 Status, Number 6 Background Color, Number 6 Color, Number 6 Status, Number Approvals Abstained, Number Approvals Approved, Number Approvals Denied, Number Approvals Waiting, Number Days Remaining 24x7, Number of Open Tasks, OpEx Budget, Phase Assess Approval, Phase Assessing, Phase Classify, Phase Implement, Phase Implement Approval, Phase Pre Implement, Phase Review, Phase Type Standard, Post-Implementation Tab Visibility, Proposed Start Date can't be after Scheduled End Date, Require PIR, Review Phase, Risk Impact, Risk Text Calculation, Schedule Phase, Scheduled End Date can't be before Proposed Start Date, Standard Exception Tab Visibility, Standard Workflow Identify Primary CI Status, Total Budget, Total of Attached Items Release Costs, Total of Cost Items, User E-Mail Ellipse Text, User Testing Tab Visibility, Workflow Assess Status, Workflow Classify Status, Workflow Identify Primary CI Status, Workflow Implement Status, Workflow Review Status, Workflow Schedule Status	Overwrite

Stored Values	Default Change Type, Incident RecID, Problem RecID, Service Affected	Import
Tab	Activity, Emergency Change, Normal Change, Risk, Services Affected, Standard Change	Import
	Approval History, Configuration Items, Current Approvals, Incidents, Journals, Problem, Related Change, Review Questionnaires	Overwrite
Widgets	Changes Awaiting Approval, Changes on Hold, Changes Pending Approval, High Risk Changes, Open Emergency Changes	Import
	All Open Change Requests, CD-All Open Changes, CD-Change Request Lifecycle, CD-Change Request Lifecycle Browser, CD-Changes by Category, CD-Open Changes Past Request Date, Changes by Risk Impact, Changes Filter	Overwrite
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related concepts

[Change Management mApp Solution 1.0](#)

Cherwell Knowledge-Centered Support mApp Solution 1.1

The Cherwell Knowledge-Centered Support (CKCS) mApp® Solution provides functionality that allows users to integrate KCS® Management as part of the support process.

Platform version requirements: Tested on CSM 9.7.0 — 10.2.0.

Content version requirements: Tested on 9.7.x — 10.0.0; this mApp Solution may or may not be compatible with content versions earlier than CSM 9.7.x, but as with all but as with all mApp Solutions, be sure to test it on your customized system.

Prerequisites: CSM email must be configured for Approval functionality to work properly. See [About CSM Email](#) and [Configuring Email Accounts](#).

If you have 10.2.0 content, ensure you apply the following workarounds to publish the mApp Solution application successfully:

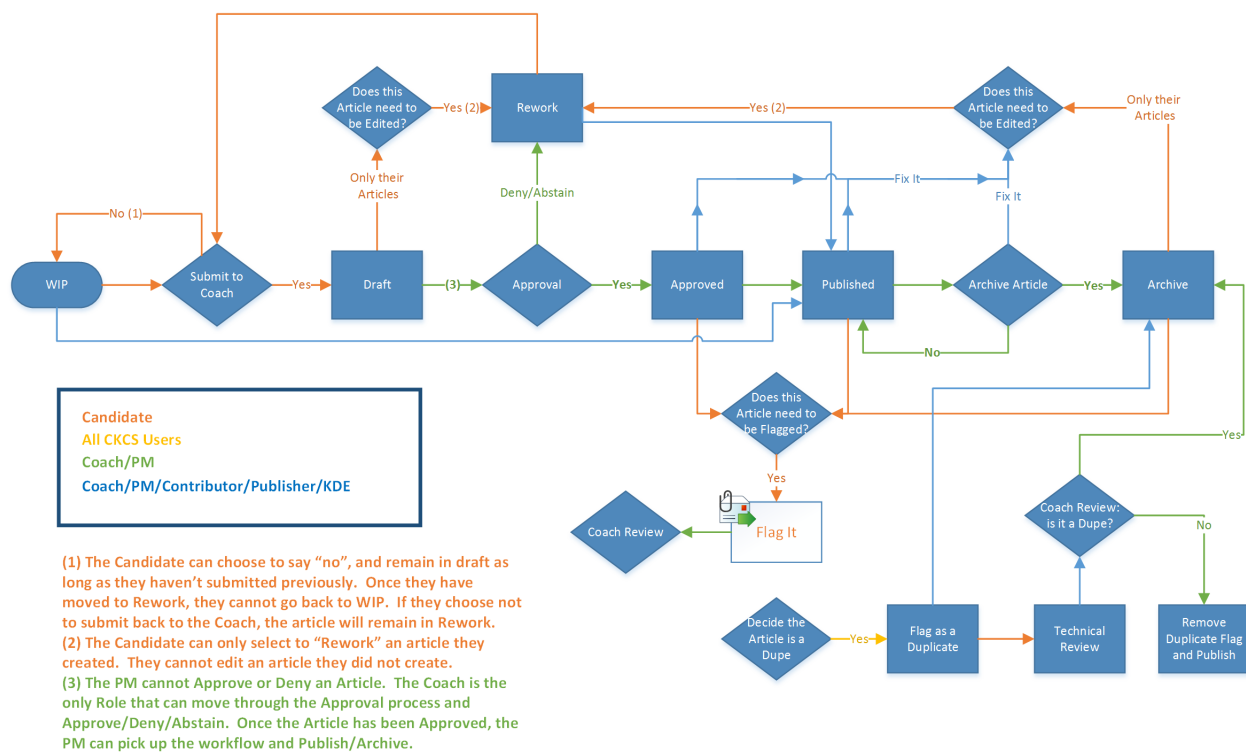
- Incident Business Object: The **IncidentService Index** in the **Business Object Properties** is missing the **Service RecID** field from the **Columns** list. To add the field, reselect the **Service RecID**, and then scan and publish your Blueprint.

Overview

The mApp Solution is configured by defining Knowledge Mapping, Incident form controls, Incident form arrangements, the Portal search, usage and rating calculations, security rights, and the new CKCS dashboard. After you configure the mApp Solution, users can create, edit, and publish CKCS articles. The functionality available to users is defined by the roles they are assigned.

This mApp Solution includes multiple features, including Business Objects (example: CKCS Article and CKCS Role), saved search (example: All Approved CKCS Articles and Draft CKCS Articles), and One-Step™ Actions (example: Fix it and Publish to Web). See [About Business Objects](#) and [About One-Step Actions](#).

The following graphic shows the detailed workflow provided with the mApp Solution:



The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	CKCS AQI Status, CKCS Article, CKCS Article Quality Index, CKCS Article Status, CKCS Article Type, CKCS Article Version History, CKCS Role, CKCS Use, IncidentLinksCKCS, Yes/No	Import
	Incident, UserInfo	Merge
Counter	CKCS Article ID	Import
Image	CKCS Icon_CKCS Article, CKCS Icon_CKCS Article Quality Index, CKCS Icon_CKCS Article Version History, CKCS Icon_CKCS Lookup Tables, CKCS Icon_Fix It, CKCS Icon_Fix It Disabled, CKCS Icon_Flag It, CKCS Icon_Flag It Disabled, CKCS Icon_Portal Banner, CKCS Icon_Publish, CKCS Icon_Publish Disabled, CKCS Icon_Rework, CKCS Icon_Rework Disabled, CKCS Icon_Submit to Coach, CKCS Icon_Submit to Coach Disabled	Import
Knowledge Source	CKCS Articles	Import

Dashboard	CKCS Overview	Import
Widget	Article Distribution, Articles by Creator, Articles Created in the Last Month, Articles Referenced, Date Filter, Number of Approved CKCS Articles, Number of Archived CKCS Articles, Number of Draft CKCS Articles, Number of Published CKCS Articles, Number of Rework CKCS Articles, Number of Technical Review CKCS Articles, Number of WIP CKCS Articles, Scored Articles, Solved Count	Import
	CKCS Articles Needing My Approval or Review, CKCS Articles Referenced at Least 5 Times	Overwrite
Automation Process	CKCS Article Approval Process	Import
One-Step	Numerous	Import
Stored Expression	CKCS Reference Count, CKCS Solved Count, Clear Edit State, Disable Field, Edit States, Edit State Calculation, Form Selector, Increase Article Version, Increase Referenced Count, Increase Solved Count	Import
Stored Query	Numerous	Import
Stored Value	Candidate Name - Flag It, Candidate Name - Set as Dupe, CKCS Article, CKCS Article ID, Incident, Incident Rec ID, Select an Analyst, temp_CKCSRelationshipReload	Import
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Apply the mApp Solution

Follow these steps to download and apply the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

Follow these steps to configure the mApp Solution:

1. [Define Knowledge Mapping](#)
2. [Add Form Controls to the Incident Form](#)
3. [Define the Incident Form Arrangements](#)
4. [Define Usage and Rating Calculations](#)
5. [Define the Portal Search](#)
6. [Define Security](#)
7. [View the CKCS Dashboard](#)

Use the mApp Solution in the CSM Desktop Client

There are multiple ways to use the mApp Solution functionality, including:

- [Create an Article](#)
- [Reference an Article](#)
- [Approve an Article](#)
- [E-mail an Article](#)

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	Tested on 9.0.1.	Tested on 8.2.0; configurations required for content versions 9.6.x — 9.7.0.	CSM email must be configured for Approval functionality to work properly.
1.1	Tested on 9.7.0 — 10.2.0.	Tested on 9.7.x — 10.0.0; this mApp Solution may or may not be compatible with content versions earlier than 9.7.x, but as with all but as with all mApp Solutions, be sure to test it on your customized system.	<p>CSM email must be configured for Approval functionality to work properly. If you have 10.2.0 content, ensure you apply the following workarounds:</p> <ul style="list-style-type: none"> • Incident Business Object: The IncidentService Index in the Business Object Properties is missing the Service RecID field from the Columns list. To add the field, reselect the Service RecID, and then scan and publish your Blueprint.

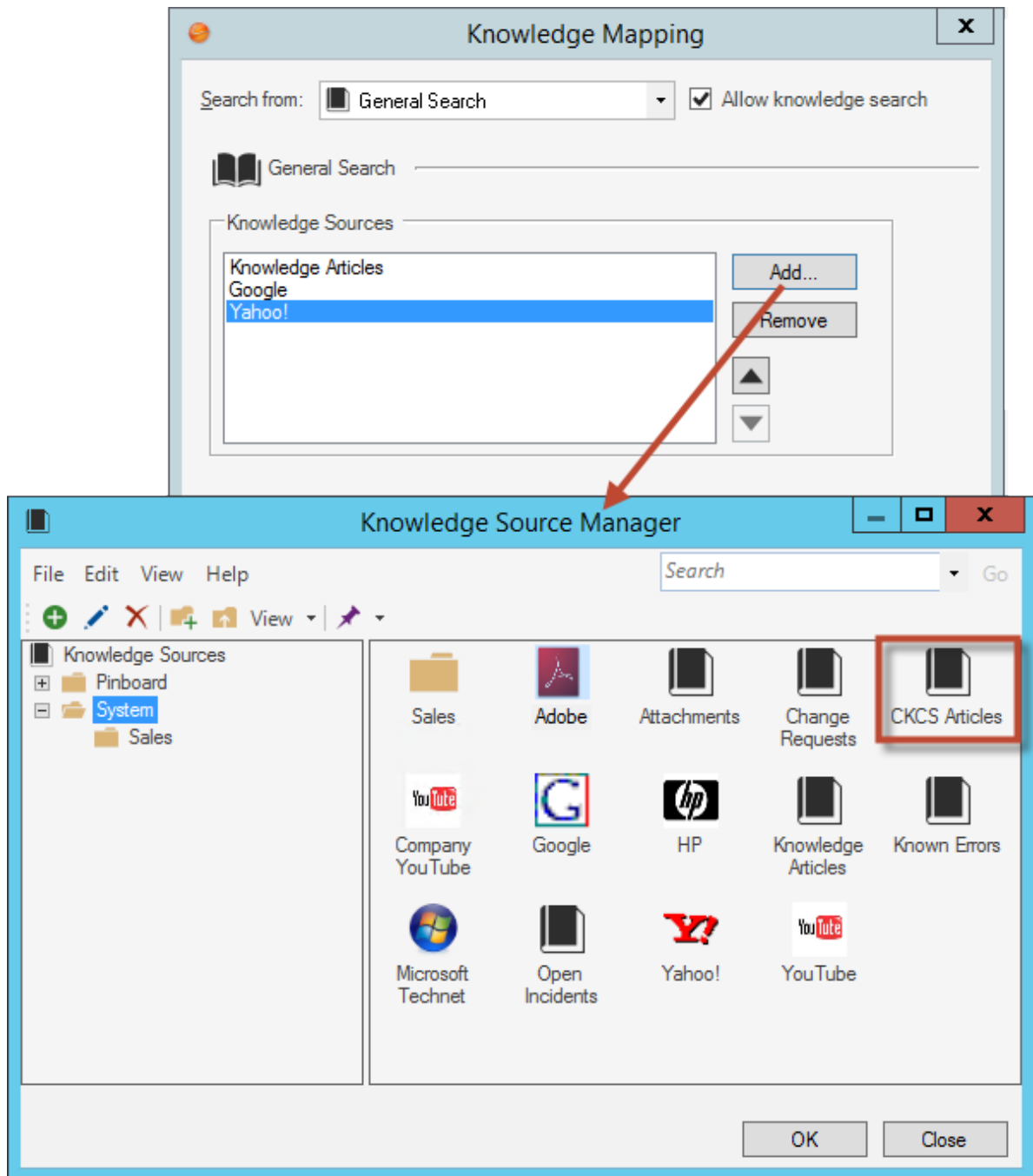
Configuring the Cherwell Knowledge-Centered Support mApp Solution

Define Knowledge Mapping

When you define Knowledge Mapping for Cherwell Knowledge-Centered Support, you add CKCS Article Search support for general Searches (example: A Search from the main Dashboard), Incident Searches (example: While on an Incident, a Search using the Quick Search field), and Knowledge Article Searches (example: While on a Knowledge Article, a Search using the Quick Search pane).

To configure Knowledge mapping:

1. From the Object Manager menu bar, click **Managers** and then select **Knowledge>Knowledge Mapping**.
2. In the Search From drop-down, select **General Search**.
3. Click **Add**.
4. Select the **CKCS Articles** Knowledge Source.



5. Click **OK** to add the CKCS Article Business Object to the General Search and return to the Knowledge Mapping window.
6. Select **Incident** in the Search From drop-down.
7. Click **Add**.
8. Select the **CKCS Articles** Knowledge Source.

9. Click **OK** to add the CKCS Article Business Object to the Incident search and return to the Knowledge Mapping window.
10. In the Knowledge Mapping window, select the **Field** check box.
11. In the Field drop-down, click **Incident fields>CKCS>temp_CKCSSolutionID**.
12. Select the **Attachment** check box.
13. Select the **Relationship** check box.
14. In the Relationship drop-down, select **Incident Links CKCS Articles**.
15. In the Search From drop-down, select **CKCS Article**.
16. Click **Add**.
17. In the Knowledge Source Manager, select **CKCS Articles**.
18. Click **OK** to return to the Knowledge Mapping window.
19. Click **Add**.
20. In the Knowledge Source Manager, select **Knowledge Articles**.
21. Click **OK** to return to the Knowledge Mapping window.
22. Click **OK** to close the Knowledge Mapping window.

Add Form Controls to the Incident Form

When you add Form Controls to the Incident form for CKCS, you add two links that allow you to search for a CKCS solution and a Specifics Form that holds CKCS options (example: E-mail CKCS Article to Customer, Unlink CKCS Article, etc.).

To add Form Controls to the Incident Form:

1. From the Object Manager, select the **Incident** Business Object and then **Edit form** link.
2. In the Form drop-down list, select **CKCS Mod - Incident Form**.
3. Select the **Search CKCS** icon and links, the **Show CKCS Window** link, and **Specifics Form** Form Control simultaneously.
4. Click **Edit>Copy**.
5. In the Form drop-down list, select **Default Form**.
6. Click **Edit>Paste**.
7. Drag-and-drop the **Form Controls** to a desired location on the Incident Form.
Consider the following Specifics Form options:
 - If your system uses Incident Specifics Forms, paste the new CKCS window control over the Specifics Form using the exact same size in the exact position and then remove the embedded Form border.
 - If your system does not use Incident Specifics Form, place the CKCS Form in a location that fits your form design.
8. Click the **Update Blueprint** button.

Define the Incident Form Arrangements

When you define the Incident Form Arrangements, you add the CKCS Articles tab to the default and Portal views and then define associated view options.

To configure the Incident Form Arrangements:

1. From the Object Manager, select the **Incident** Business Object and then the **Edit form arrangement** link.
2. Select the **Incident Links CKCS Articles** Relationship and drag-and-drop it to the tab area on the Form Arrangement.
3. Right-click the new **CKCS Articles** tab and click **Properties**.
4. (Optional) Click the **Tab** page and rename the tab (ex: Linked Articles) using the Text field in the Tab Name section.
5. Click the **Tab Contents** page.
6. Define the tab contents:

Option	Description
Default Form	Select Linked View .
Show Buttons	Select Quick View and deselect New , Delete , Link , and Unlink .
Supported Views	Use default selections.
Default View	(Optional) Select Grid and form (horizontal split) .
New Records	Select where to add new Records in a Grid.

Tab Properties

Tab Contents
Set form, grid, toolbar and views

Relationship: Incident Links CKCS Articles

Default form: Linked View

Grid: CKCS Article

Text to display when no record is loaded:

☒ Show toolbar

Show buttons

☐ New ☐ Delete ☐ Link ☐ Unlink

☒ Quick View

Supported Views

☒ Grid ☒ Form

☒ Grid and form (horizontal split) ☒ Grid and form (vertical split)

Show grid grouping

☐ Yes ☐ No ☐ Based on Grid Setting

☐ Allow user to show/hide grouping options

Default View

☐ Grid ☐ Form

☒ Grid and form (horizontal split) ☐ Grid and form (vertical split)

New records

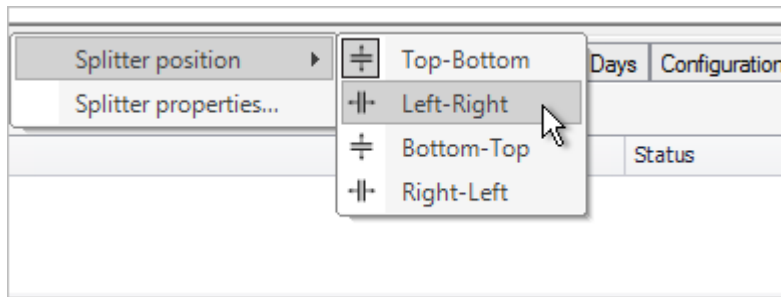
Where to add new records in grid: Bottom

Group members on New button: All group members

☐ New button adds default group member

OK Cancel

7. Click **OK**.
8. (Optional) To change the view of the Form Arrangement split from horizontal to vertical, right-click the Form Arrangement and then select **Splitter Position>Left-Right**.



9. Click the **Update Blueprint** button.
10. Click the **Home** button.
11. In the Current View drop-down, select **Portal Default**.
12. Select the **Incident** Business Object and then the **Edit form arrangement** link.
13. Select the **Incident Links CKCS Articles** Relationship and drag-and-drop it to the Tab section on the Form Arrangement.
14. Right-click the new **CKCS Articles** tab and click **Properties**.
15. (Optional) Click the Tab page and rename the tab (ex: Linked Articles) using the Text field in the Tab Name section.
16. Click the **Tab Contents** page.
17. Define the tab contents:

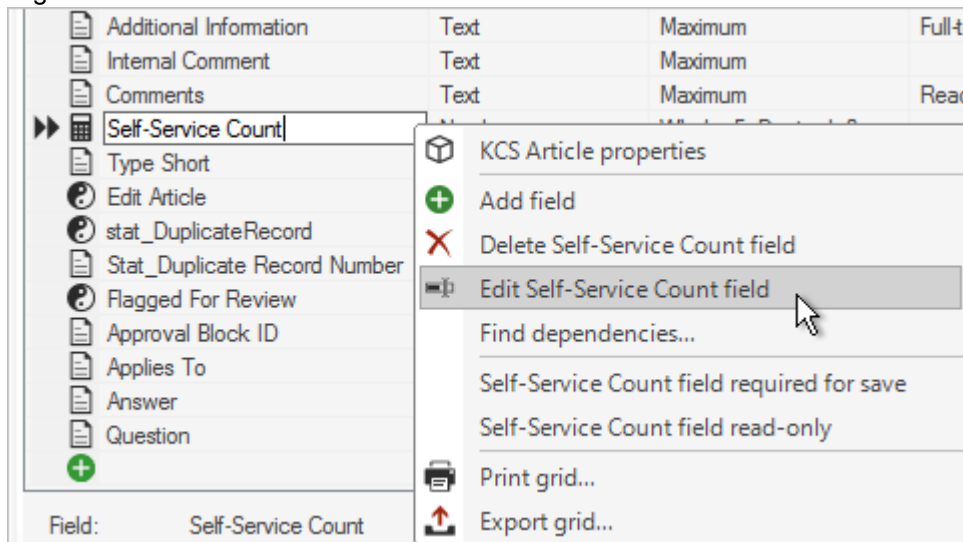
Option	Description
Default Form	Select Portal Incident Display .
Show Buttons	Deselect New , Delete , Link , Unlink , and Quick View
Supported Views	Deselect all options except Grid. Note: If you want to use your existing Incident Summary Form, select the Form check box.
Default Views	Select Grid . Deselect Grid and Form (Horizontal Split) , Form , and Grid and Form (Vertical Split) .
New Records	Select where to add new Records in a Grid.

18. Click **OK**.
19. Click the **Update Blueprint** button.

Define Usage and Rating Calculations

To define usage and rating calculations:

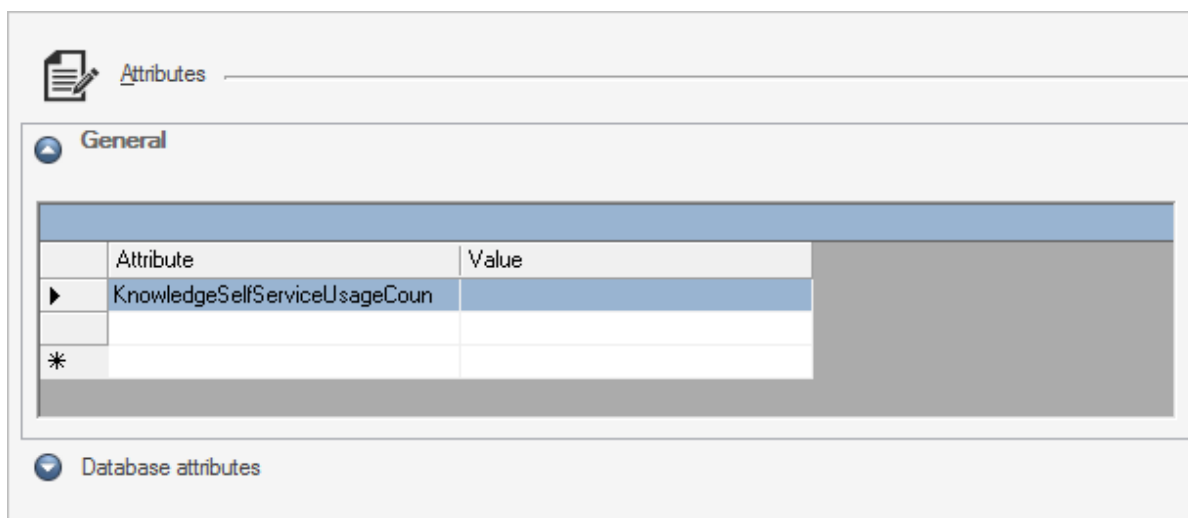
1. From the Object Manager, select the **CKCS Article** Business Object and then click **Edit Business Object**.
2. Right-click the **Self-Service Count** field and select **Edit Self-Service Count field**.



3. Click **Advanced** to open the Advanced page.
4. In the Attributes section, click the **blue arrow** next to General Attributes.
5. In the Attributes column in the first row, type **KnowledgeSelfServiceUsageCount**.



Note: If the Attribute already exists, you do not need to complete this step. If the term *null* displays in the Value column, delete the *null* text.



6. In the Attributes column in the second row, type **Rating**.



Note: If the Attribute already exists, you do not need to complete this step. If the term *null* displays in the Value column, delete the *null* text.

Attribute	Value
KnowledgeSelfServiceUsageCount	
Rating	

7. Click **OK**.
8. Right-click the **Reference Count** field and select **Edit Reference Count field**.
9. Click **Advanced** to open the Advanced page.
10. In the Attributes section, click the **blue arrow** next to General Attributes.
11. In the Attributes column in the first row, type **KnowledgeSelfServiceUsageCount**.



Note: If the Attribute already exists, you do not need to complete this step. If the term *null* displays in the Value column, delete the *null* text.

12. In the Attributes column in the second row, type **Rating**.



Note: If the Attribute already exists, you do not need to complete this step. If the term *null* displays in the Value column, delete the *null* text.

13. Click **OK**.
14. Right-click the **Solved Count** field and select **Edit Solved Count field**.
15. Click **Advanced** to open the Advanced page.
16. In the Attributes section, click the **blue arrow** next to General Attributes.
17. In the Attributes column in the first row, type **KnowledgeSelfServiceUsageCount**.



Note: If the Attribute already exists, you do not need to complete this step. If the term *null* displays in the Value column, delete the *null* text.

18. In the Attributes column in the second row, type **Rating**.



Note: If the Attribute already exists, you do not need to complete this step. If the term *null* displays in the Value column, delete the *null* text.

19. Click **OK**.
20. Click the **Update Blueprint** button.
21. Publish the Blueprint (**File>Publish Blueprint**).

Define the Portal Search

To define the Portal Knowledge Search:

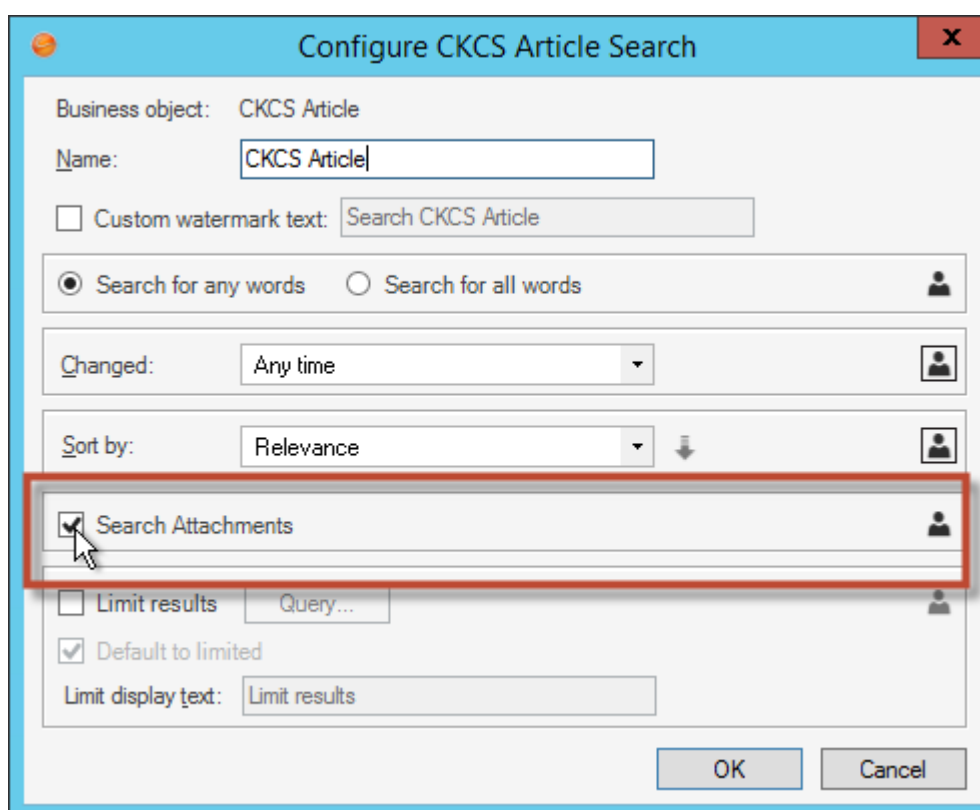
1. In CSM Administrator, select the **Browser and Mobile** category and then click **Site Manager**.
2. Right-click the **IT Site** and then select **Edit**.
3. Click the **Display** page.
4. In the Search section next to the Use Search Widget field, click the **ellipses** button.

The screenshot shows the 'Properties' dialog box for a site, specifically the 'Display' tab. The left sidebar contains icons for General, Display (selected), Banner, Footer, Menu, and Localization. The main area is titled 'Display' and contains sections for Appearance, Startup, and Search. The 'Search' section is highlighted with a red box. It includes the following options:

- ☐ Use default
- ☒ Use search widget:
- ☐ No search
- ☐ Require login before showing search results (excluding dashboards)

At the bottom of the dialog are 'Hide properties', 'OK', and 'Cancel' buttons.

5. Right-click the **Self Service Searches with Knowledge** Widget and then select **Edit**.
6. In the Quick Search section, click **Add>CKCS Article**.
7. Select the **Search Attachments** check box.



The image shows a 'Configure CKCS Article Search' dialog box. It has a title bar with a close button (X). The main area contains several configuration options: 'Business object' is set to 'CKCS Article'; 'Name' is 'CKCS Article'; 'Custom watermark text' is 'Search CKCS Article'; 'Search for any words' is selected; 'Changed' is 'Any time'; 'Sort by' is 'Relevance'; 'Search Attachments' is checked and highlighted with a red box; 'Limit results' is unchecked; 'Default to limited' is checked; and 'Limit display text' is 'Limit results'. At the bottom are 'OK' and 'Cancel' buttons.

Business object: CKCS Article

Name: CKCS Article

☐ Custom watermark text: Search CKCS Article

☒ Search for any words ☐ Search for all words

Changed: Any time

Sort by: Relevance

☒ Search Attachments

☐ Limit results Query...

☒ Default to limited

Limit display text: Limit results

OK Cancel

8. Click **OK**.

Define Security

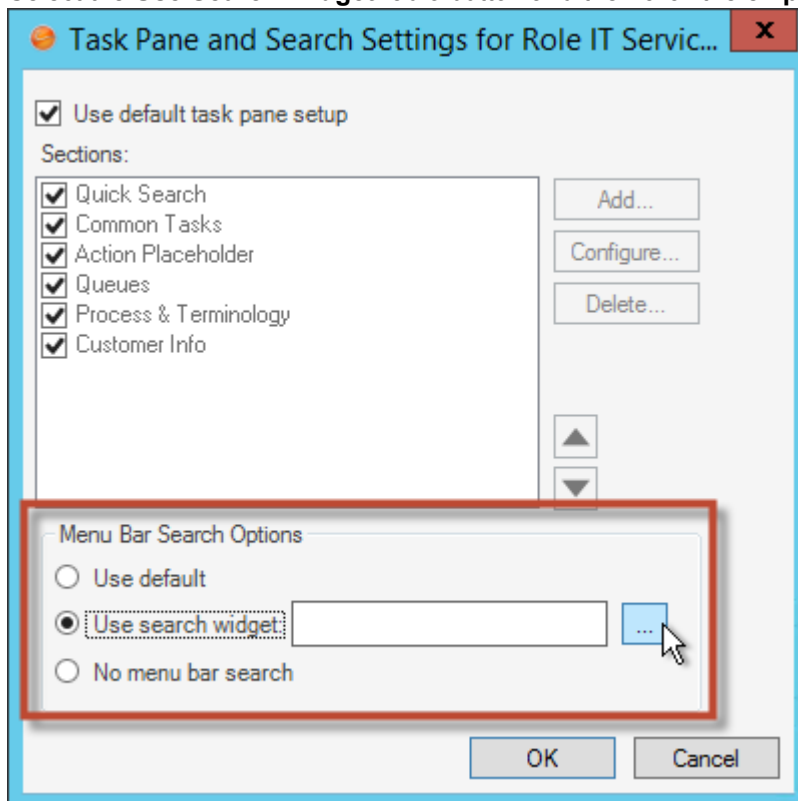
When you define Cherwell Knowledge-Centered Support Security, you assign Roles to CKCS stakeholders (example: Candidate, Coach, Contributor, Program Manager, Publisher, or Knowledge Domain Expert) and define Security Groups.



Note: For detailed descriptions of KCS® Roles, visit the Consortium for Service Innovation's KCS® [website](#).

To define Security:

1. In CSM Administrator, click the **Security** category.
2. Click the **Edit Roles** task.
3. In the Roles window menu bar, click **Role Options** and then select **Configure Task Pane**.
4. Select the **Use Search Widget** radio button and then click the **ellipses** button.



5. Open the **Global** folder.
6. Right-click the **Default Search Menu Widget** and select **Edit**.
7. In the Quick Search section, click **Add>CKCS Article**.
8. In the Configure CKCS Article Search window, select the **Search Attachments** check box.
9. Click **OK** and return to the Roles window.
10. Repeat steps 3 through 9 for each Role and then close the Role window.

11. In the Security task area, click the **Edit Users** task.
12. Click the **Users** tab.
13. Select the **User** that you want to set as a CKCS Coach.
14. In the User Information section, scroll to **CKCS Information**.

The screenshot shows the 'User' tab in the CSM mApp Solutions interface. The 'User information' section is highlighted with a red box. Within this section, the 'CKCS Information' sub-section is visible, featuring a CKCS logo and two dropdown menus labeled 'CKCS Role:' and 'CKCS Coach:'. Below this, the 'Account details' section contains several checkboxes for account settings.

15. In the CKCS Role drop-down, select **CKCS Coach**.
16. Click **Save**.
17. Select a **User** that is a CKCS stakeholder (example: Candidate, Coach, Contributor, Program Manager, Publisher, or Knowledge Domain Expert).
18. In the User Information section, scroll to **CKCS Information**.
19. In the CKCS Role drop-down, select a **Role**.
20. In the CKCS Coach drop-down, select the defined **coach**.
21. Click **Save**.
22. When all necessary stakeholders have assigned Roles, close the Users window.

23. Click the **Edit Security Groups** task.
24. In the Group drop-down, select **Portal Customer**.
25. Click the **Business Objects** tab.
26. In the Business Object drop-down, select **CKCS Article**.
27. In the General section, select **View** and **Edit**.
28. Select the **Limit Records Based on Criteria** checkbox.
29. Click the **Browse** button.
30. Click the first Comparison Clause drop-down and select **CKCS Article fields>Internal Only**.
31. Click the second Comparison Clause drop-down and select **Values>False**.

The screenshot shows a 'Comparison clause' configuration window. At the top, there are three dropdown menus: the first is set to 'CKCS Article.Internal Only', the second to 'Equals', and the third to 'False'. Below these is a search bar labeled 'Search CKCS Articles:'. Underneath the search bar is a list box containing the text 'CKCS Articles where all of the following are true:' followed by a single entry 'CKCSArticle.Internal Only equals False' which is highlighted in yellow. To the right of the list box are two arrow buttons for scrolling.

32. From the toolbar, click **New>Comparison Clause**.
33. Click the first Comparison Clause drop-down and select **CKCS Article fields>Status**.
34. Click the second Comparison Clause drop-down and select **Value>Published**.

Comparison clause

Search CKCS Articles:

CKCS Articles where all of the following are true:

CKCS Article.Internal Only equals False

➔ and CKCS Article.Status equals Published

35. Click **OK**.
36. In the File Attachments section, select **View**, **Add**, **Edit**, and **Delete**.
37. In the CKCS Article Business Object list, select **New Field**.
38. In the General section, select **View**.
39. In the CKCS Article Business Object list, select **Reference Count**.
40. In the General section, select **View** and **Edit**.
41. In the CKCS Article Business Object list, select **Self-Service Count**.
42. In the General section, select **View** and **Edit**.
43. Click **Save**.
44. In the Group drop-down, select **Portal Workgroup Manager**.
45. Click the **Business Objects** tab.
46. In the Business Object drop-down, select **CKCS Article**.
47. In the General section, select **View** and **Edit**.
48. Select the **Limit Records Based on Criteria** checkbox.
49. Click the **Browse** button.
50. Click the first Comparison Clause drop-down and select **CKCS Article fields>Internal Only**.
51. Click the second Comparison Clause drop-down and select **Values>False**.

Comparison clause

Search CKCS Articles:

CKCS Articles where all of the following are true:

- ➔ **CKCS Article.Internal Only equals False**

52. From the toolbar, click **New>Comparison Clause**.
53. Click the first Comparison Clause drop-down and select **CKCS Article fields>Status**.
54. Click the second Comparison Clause drop-down and select **Value>Published**.

Comparison clause

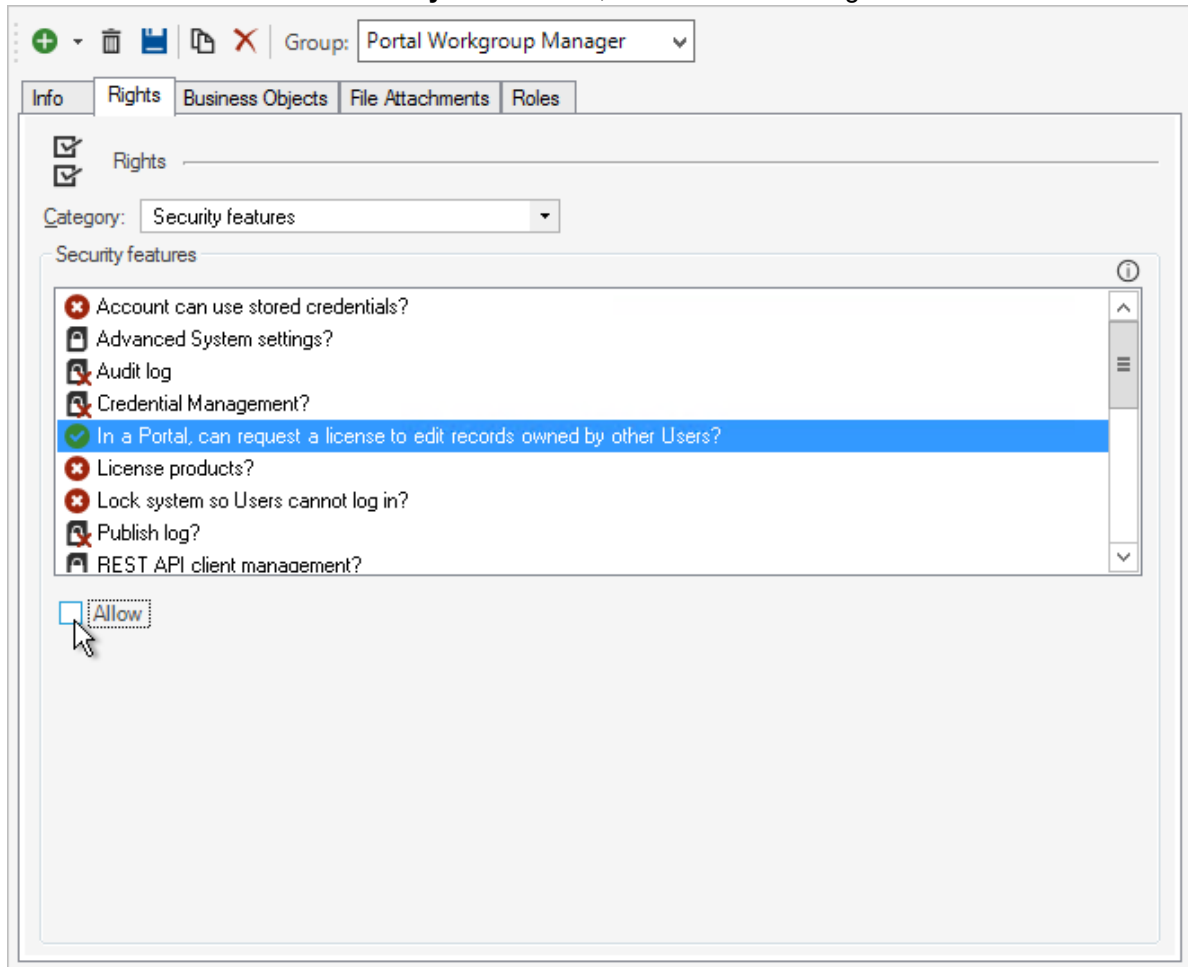
Search CKCS Articles:

CKCS Articles where all of the following are true:

- ➔ **and CKCS Article.Status equals Published**

55. Click **OK**.
56. In the File Attachments section, select **View**, **Add**, **Edit**, and **Delete**.
57. In the CKCS Article Business Object list, select **New Field**.
58. In the General section, select **View**.
59. In the CKCS Article Business Object list, select **Reference Count**.

60. In the General section, select **View** and **Edit**.
61. In the CKCS Article Business Object list, select **Self-Service Count**.
62. In the General section, select **View** and **Edit**.
63. (Optional) Prevent Portal Workgroup Managers from editing CKCS Articles by clicking the **Rights** tab, selecting **Security Features** from the Category drop-down, clicking the **In Portal, can request a license to edit records owned by other Users**, and then deselecting the **Allow** checkbox.



64. Click **Save**.

View the Dashboard

The Dashboard for Cherwell Knowledge-Centered Support allows Users to see:

- Articles by Creator and Articles by Type.
- Articles Created this Month.
- Scored, Resolved, and Referenced Articles.
- If your Role is Coach, you see CKCS Articles Needing Approval or Review that are assigned to you.

To view the Dashboard:

1. In CSM Desktop Client, click **Dashboards>Dashboard Manager**.
2. Open the **Global** folder.
3. Click **CKCS**.
4. Select **CKCS Overview** and then click **OK**.



Note: You can set the CKCS Dashboard as the default while viewing it by clicking **Dashboards>Set CKCS Overview dashboard as default**.

Using the Cherwell Knowledge-Centered Support mApp Solution

Create an Article

To create an article:

- Users can create a new CKCS Article two ways:
 - On the CSM Desktop Client toolbar, click **New>CKCS Article**.
 - On the Incident Form, click **Show Knowledge Window** if it is not open.

The following graphic shows a CKCS Article record created by a Candidate.

- Provide a **Title** for the article.
- Select a **Service** from the drop-down menu.
- Select a **Category** from the drop-down menu.



Note: If you're running a localized version of the CKCS mApp Solution, you will need to store foreign keys before Category options will be available. For more information on storing foreign keys, see [Storing Foreign Keys for Validated and Auto-populated Fields](#).

- Select a **Type** from the drop-down menu.

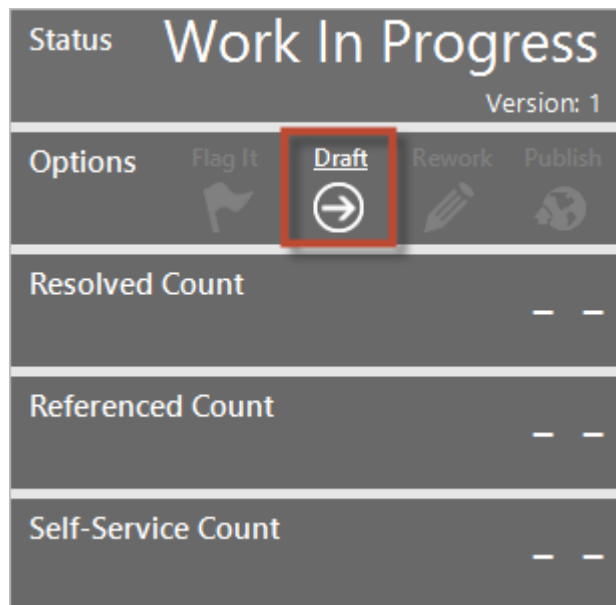


Note: When the Title and Type fields are complete, additional fields display (based on type).

- Provide the additional information (these fields vary based on article type).
- (Optional) Click **Flag Internal Only** to keep the article internal.

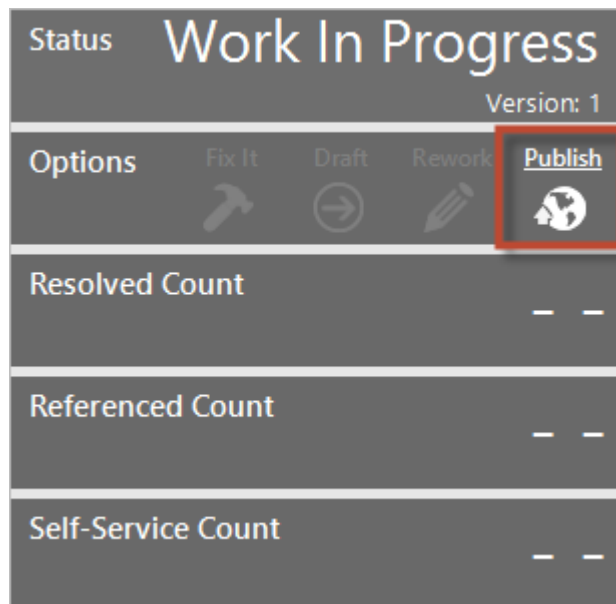


8. The next steps differ depending on your Role:
- Candidate: Click the **Draft** link to submit the article to the Coach for approval. If the article is approved, the status changes to Approved. If the article is denied, the status changes to Rework.



The article becomes read-only and is submitted to the Coach for review and approval. If you need to edit the article, click the Rework link.

- Coach, Knowledge Domain Expert, Publisher, Contributor: Click **Publish** to make the article available to Users. Articles created by these stakeholders do not require approval.



9. (Optional) Candidates can click the **Flag It** link to add a comment to the article and send a notification e-mail to the Coach. When the Coach reviews the comment, they must manually remove the flag from the record.
10. (Optional) Coaches, Knowledge Domain Experts, Publishers, and Contributors can click the **Fix It** link to change the status to Rework and edit the record.

Reference an Article

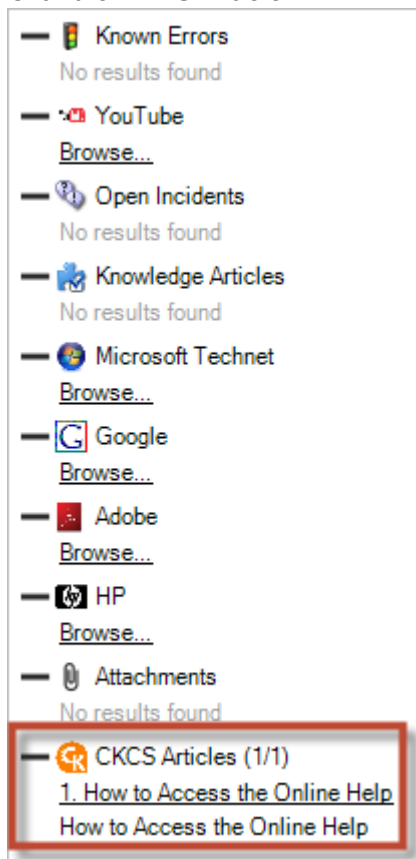
The mApp® Solution allows Users to link, or reference, articles to Incidents. Users can also resolve an Incident using an article.

Search and Reference Articles

Articles can be linked by using Search functionality while viewing an Incident.

To search and reference articles:

1. Open an Incident.
2. Click the **Search CKCS** link.
3. Provide a search term:
 - First search: The Incident Short Description auto-populates the Knowledge Pane **Search for** field. You can also delete the text and provide your own.
 - All subsequent searches: Provide a term in the **prompt**.
4. In the Knowledge Pane, scroll to **CKCS Articles**.
5. Click the **CKCS Article**.



The CKCS Article opens in a new window.

- Click the **Use Solution** button.
The CKCS Article displays on an Incident Specifics Form and in the CKCS Articles tab of the Form Arrangement. The Referenced Count bar on the CKCS Article Form increments based on the number of times the solution is used.

Reference and Resolve KCS Articles

KCS Articles can be used to resolve an Incident.

To resolve and reference a KCS Article:

- Open an Incident.
- Click the **KCS Search** link.
- Provide a search term in the **prompt** or in the **Search for** field.
- Scroll down the Search results for **KCS Articles**.
- Click the KCS Article, it opens in a new window.
- Click **Use Solution**.
- In the KCS window on the Incident, click **Resolve Using Referenced KCS Article**.

Step 3: Investigate the Incident

[Hide KCS Window](#)

Draft KCS Article 3 Currently Referenced

Article Title:

My PC is DOA



[Resolve Using Referenced KCS Article](#)



[Create New KCS Article](#)



[Email KCS Article to Customer](#)

- In the Prompt, select a cause code from the drop down.

Approve an Article

Approval functionality is only available for Users assigned to the Coach role. Contributor, Publisher, Knowledge Domain Expert, and Program Manager Roles do not need to have the CKCS Articles approved by a Coach. Candidates must submit their CKCS Articles for approval.

To approve an article:

1. Open the **CKCS Article Overview** Dashboard.
2. Under the CKCS Articles Needing My Approval or Review section, double-click an **article**.



Note: You can also click **Search>Search Manager>CKCS Association**, run the **All Draft CKCS Articles** Saved Search, and select a record.

3. In the Form Arrangement, click the **Coach Approval** tab.

Approval 11071

Approver Name:

Gina Mehra

Approval Team:

Deadline:

Approve

Deny

Abstain

Details:

Reset Windows Password

4. (Optional) Provide **comments** related to the Approval.
5. Click **Approve**.
The status of the article changes to Approved and the Publish link is enabled.

E-mail an Article

Referenced articles can be e-mailed to the Requestor on Incidents.


To e-mail an article:

1. Open an Incident.
2. Click the **CKCS Search** link.

Step 2: Classify

[\(clear classifications\)](#)

Service:
Desktop Management

 View Related KB Articles

Category:
Computer



Subcategory:
Submit Incident

Priority:

☐ Major Incident

Impact:
Urgency:

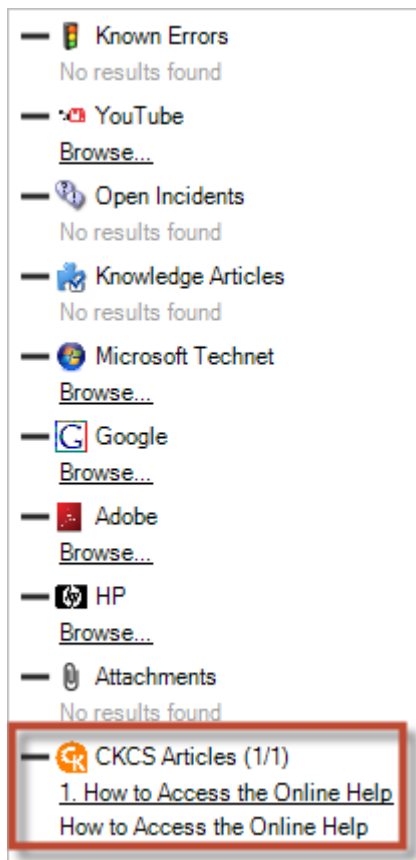
Primary CI:

Search CKCS:

 Search CKCS

3. Provide a search term in the **prompt** or in the **Search for** field.
4. Scroll down the Search results for **CKCS Articles**.



5. Click a **CKCS Article** to open it in a new window.
6. Click **Use Solution**.
7. In the CKCS window, click **Email CKCS Article to Customer**.



An e-mail window opens that includes the information from the CKCS Article.



Note: Only the latest referenced CKCS Article can be e-mailed. Articles that are flagged as Internal Only cannot be e-mailed.

8. Click **Send**.

IT Asset Management (ITAM) - Purchase Request through Receiving mApp Solution 1.2

Use the ITAM mApp® Solution to submit requests for IT goods through the CSM Portal.

Platform version requirements: Tested on CSM 9.6.3 — 10.2.0

Content version requirements: Tested on CSM 9.6.3 — 10.2.0

Prerequisites: If you have 10.2.0 content, ensure you apply the following workarounds to publish the mApp Solution application successfully:

- Supplier Links Supplier Catalog Item relationship:
 1. Under **Links**, from the **Default Link** drop-down list, reselect the **Supplier ID** field.
 2. Repeat this step on the reverse relationship for **Supplier Catalog Item Links Supplier** with the **Supplier Catalog Item ID**.
- Underpinning Contract Business Object: The **Purchasing - UnderpinningContract** form references a **SKU Number** field that no longer exists in OOTB content as of 10.2.0. Remove the field from the form and save the changes.
- Part Business Object:
 1. In the **field** properties for the **Supplier ID for Reorder** field, open the **Validation/Auto-populate** page.
 2. Expand the **Auto-populate** section, and under the **Populate with** option for **Field from Supplier Catalog Item** lookup table, reselect the **Supplier ID** field.
- SupplierCatalogItem grid: This references a field that no longer exists in 10.2.0 OOTB content. To automatically delete the field, from the **Scan Results** window, select **Go to Error**.

Cherwell Asset Management (CAM) version 13.0 or later and CAM API versions 2.5 or newer:

- CAM Customer Number
- CAM API Version
- CAM Server (if applicable)
- CAM Purchasing Manager email

Available languages:

- German
- English
- Spanish
- French
- Portuguese

Overview

The IT Asset Management (ITAM) - Purchase Request through Receiving mApp Solution is comprised of new Business Objects (example: Inventory) and modified SIAM Business Objects. Use the IT Purchasing solution to request IT goods through the CSM Portal by selecting from a Product Catalog that is tied to the back end Supplier Catalog Items. IT managers can make decisions about the procurement of the goods, either from stock or by issuing a Purchase Request. The solution provides for the integration with CAM (optional) to complete the loop from requesting through receiving.

This mApp Solution utilizes multiple Service Management processes, including:

- Product Catalog (modified)
- Supplier Catalog Item (modified)
- Inventory (new)
- Purchase Request (new)
- Service Request (new specific form and automation)
- Configuration Items
- Supplier
- Underpinning Contracts

Apply the mApp Solution

Follow these steps to download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Apply the mApp Solution and when prompted, enter the CAM Customer Number, CAM API Version, value for Own CAM, CAM Purchasing Manager email, and CAM Server (if applicable). Select the **Open a Blueprint so that I can preview the changes** option. *Before* publishing the Blueprint, you will need to configure the mApp Solution.



Note: This mApp Solution includes a Product Subcategory Table that allows customers to assign specific categorizations to the items found in their Product Catalog. This new table depends on values found in the out-of-the-box table Product Category. Because customers may have added additional data to this table, this mApp Solution does not include any new entries for the Product Category or Product Subcategory table. Customers should add Product Subcategory values during the implementation of this mApp Solution. Examples of Product Subcategory Items are: Notebook, Workstation, and Tablet.

For a list of items included in the mApp Solution, see [ITAM mApp Solution Items](#).

Steps to Configure the mApp Solution

Perform the following high-level steps to configure the mApp Solution:

1. [Schedule One-Step Action to Update Purchase Request.](#)
2. [Schedule One-Step Action to Update Config - Software License .](#)
3. [Configure Security Groups.](#)
4. [Update Friendly Name \(Only if using the Cherwell Asset Management mApp Solution\).](#)

Steps to Use the mApp Solution

Perform the following high-level steps to use the mApp Solution:

1. [Initiate a request for purchase from the Portal.](#)
2. [Work the Service Request.](#)
3. [Work the Purchase Request.](#)

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.0	9.1.0	8.1	CAM version 13.0 or newer; CAM API versions 2.5 or newer
1.1	9.6.x and 9.7.0	9.6.x and 9.7.0	CAM version 13.0 or newer; CAM API versions 2.5 or newer

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.2	Tested on 9.6.3 — 10.2.0	Tested on 9.6.3 — 10.2.0	<p>For 10.2.0 content, ensure you apply the following workarounds:</p> <ul style="list-style-type: none"> • Supplier Links Supplier Catalog Item relationship: Under Links, from the Default Link drop-down list, reselect the Supplier ID field. Repeat this step on the reverse relationship for Supplier Catalog Item Links Supplier with the Supplier Catalog Item ID. • Underpinning Contract Business Object: The Purchasing - UnderpinningContract form references a SKU Number field that no longer exists in OOTB content as of 10.2.0. Remove the field from the form and save the changes. • Part Business Object: In the field properties for the Supplier ID for Reorder field, open the Validation/Auto-populate page. Expand the Auto-populate section, and under the Populate with option for Field from Supplier Catalog Item lookup table, reselect the Supplier ID field. • SupplierCatalogItem grid: This references a field that no longer exists in 10.2.0 OOTB content. To automatically delete the field, from the Scan Results window, select Go to Error. <p>CAM version 13.0 or newer; CAM API versions 2.5 or newer.</p>
CSM mApp Solutions			

Related concepts

[About the Configuration Management Database \(CMDB\)](#)

[About mApp Solutions](#)

[About Security Groups](#)

Related tasks

[Assign Roles to a Security Group](#)

IT Asset Management (ITAM) - Purchase Request through Receiving mApp Solution Components

The ITAM mApp Solution contains a Dashboard, Product Catalog, Supplier, and Supplier Catalog Items.

- **Dashboard:** The Dashboard contains configurable, real-time, at-a-glance information for IT Purchasing. For example, the Dashboard might contain information regarding Purchase Requests (status, pending approval, and auto-renew), Low or Surplus Stock, and Inventory Items at Reorder Level.
- **Product Catalog:** The Product Catalog contains Fields that are directly related to the Supplier Catalog Items. These Fields are used to facilitate the Check Stock and Purchasing/Receiving activities of the IT Purchasing solution (example: Container, Container Type, and Manufacturer).
- **Supplier:** Use the Supplier Fields for detailed information for the supplier and management (example: Primary Contact, Address, Supplier Category, and Supplier Type). The Supplier relationships are displayed in the Form Arrangement. A few examples are Agreements, Supplier Catalog Items (OOTB relationship, can be removed at your discretion), Underpinning Contracts (direct relationship to the Supplier Object), and Supplier Catalog Items (relationship used with the mApp Solution functionality).
- **Supplier Catalog Items:** The following Supplier Catalog Items support the purchasing request and receiving processes.
 - **Container and Asset Type:** Use the Container drop-down list to identify the Configuration Item (CI) or Inventory. Use the Asset Type drop-down list for a list of valid CI Asset Types (not visible if the Container is Inventory). You can use these Fields to check stock against the appropriate CI or inventory items, or update or create new CIs or inventory during the receiving process.
 - **Department:** Use the drop-down list to choose the owning department.
 - **Preferred Supplier:** Select this check box to identify the supplier as preferred. This is visible during the purchasing decision activities.
 - **Common Information:** This section includes standard item information for hardware, software, and inventory. The Model drop-down list is used in the Product Catalog, CI and Inventory records, and the Supplier Catalog Items. If the Asset Type is Commercial or other software related type, the Model label changes to Software Title.
 - **Pricing:** Use these Fields for detailed information for CI and Inventory pricing at the item level by supplier.
 - **Special Properties:** Use these Fields for justification for Energy Star, Environmentally Preferred, and Made in the USA.
 - **Form Arrangement:** Use the tabs for adding or revising Supplier Catalog Items relationships (example: All Agreements, Supplier, and Underpinning Contract). Underpinning Contract has a direct relationship with Supplier Catalog Items.

Inventory Parts

Inventory is a Group Business Object that stores and tracks non-CI items. Parts is a group member of Inventory.

Inventory can include IT or non-IT related items (example: Logitech Mouse, air compressor filters). Parts are items that are generally not tracked in the CMDB.

As part of the request process, stock is assessed to determine if a purchase is required. Inventory is reviewed for requested parts. The appropriate CIs are reviewed for those that match the request and are in stock.

- The unique keys for this object are Model (enter the Model number) and Site (use the **Location - Site** drop-down list).
- The status of the part is based on the stock level. Set Surplus and Low Stock levels in the Fields.
- Service Requests that reserve parts are tracked using the Form Arrangement.
- There is a relationship between the Service Request and the Part/Site. The Requests tab in the Form Arrangement lists the Service Requests.
- Auto-Reorder automatically initiates a new Purchase Request when the Part stock level goes below the Reorder Threshold. Select the **Auto Reorder** check box and track the Purchase Request in the Auto Reorder PR tab of the Form Arrangement.

Location Information and Configuration Items (CIs)

Use the detailed location information to standardize location information. CMDB CI objects include these location Fields.

Detailed Location Information

The following areas provide a foundation for standardizing location information across the purchasing and receiving activities:

- Site - Major Business Object
- State/Province/Territory - Lookup Table
- Country - Lookup Table
- Building - Major Business Object

Configuration Items

CMDB CI objects include the following Fields:

- Location - Country
- Location - State
- Location - Site

Automation changes the status from In Stock to Planned when a CI is reserved as part of the purchase request process.

A Service Request that reserves a CI is linked in the Form Arrangement as a related Incident.

Specifics Form (Portal View) and Service Request

The ITAM Specifics Form is associated with the Purchasing subcategories.

The Select Product and Quantity One-Step™ Action provides catalog items from the Product Catalog based on the subcategory selected.

Use the Form Editor (accessed from within a Blueprint in CSM Administrator to access the One-Step Action.

1. From the **Current view** drop-down list, select **Portal Default**.
2. Under **Show object types**, select the **Supporting** option.
3. In the Business Object tree, select **Specifics - ITAL**.
4. Under **Appearance**, select the **Edit form** link.
5. From the **Form** drop-down list, select **Specifics ITAL**.
6. Right-click the **Add a Product** link to open the **Choose Action** window.
7. Select the **Ellipses** to open the Action Manager.

A Service Request (which is opened for the Purchase Request) can be initiated from the CSM Portal or directly by a user in CSM.

The Specific Form - ITAM is used both in the CSM Portal and the CSM Desktop Client to allow viewing and selection of products from the Product Catalog for the request.

- Use the **Service** drop-down list to choose a Service category.
- Use the **Category** and **Subcategory** drop-down lists to choose options (based on the Service category chosen).
- Select **Add a Product** to initiate a search of the Product Catalog to add products to the request.
- Select **Create Purchase Request** to create a new Purchase Request record to order any of the **Items for Purchase**.

Related concepts

[Action Manager](#)

Form Arrangement

The Form Arrangement displays tabs of child Forms and records such as Items Requested and Purchase Requests.

The following tabs are in the Form Arrangement:

1. **Items Requested:** Lists all requested items.
 - a. Select **Check Stock** to search for available stock (CMDB or Inventory) that match the Model number of the product. Select each list item to check stock. Once the check is complete, the list item will change from red to green.
 - b. If there is stock available (same Model), the Inventory or CIs display and you can reserve the item and/or purchase, depending on the fit, location, or other details.
 - c. If there are no items in stock, you have the option to purchase or cancel. If you select **Purchase**, the Supplier Catalog items display that match the Model number for the requested item. Preferred suppliers are identified with a True value. The **Items for Purchase** tab will list the items that are part of the Purchase Request process.

The process of checking stock, reserving from inventory, and purchasing as needed continues until all items in the Items Requested list are completed (green).

2. **Configuration Items:** Lists all CIs reserved for this request. The status of the CI will go from In Stock to Planned. If the request is canceled, the status needs to be manually changed back to In Stock.
3. **Reserved Inventory:** Lists all reserved parts by model/site. These reservations will NOT debit from the available parts - this is a manual process as part of receiving.

Select **Remove Inventory** if the request is canceled.

4. **Items for Purchase:** Lists all items that will go on the Purchase Request.
5. **Purchase Request:** When all items have been checked for stock and **Items for Purchase** have been completed, select **Create Purchase Request** to create a new Purchase Request record.

Service, Category, and Subcategory

Service, and its associated Categories and Subcategories, are available on the OOTB Portal Catalog view.

Use these as examples for how products can be requested and enter the purchasing process. Customers create their own entry point for the purchasing process based on their specific requirements. Enter the Service Name on the Form and find the associated Category and Subcategory tabs in the Form Arrangement.

Schedule One-Step Action to Update Purchase Request

Scheduling the Update Purchase Request One-Step Action allows CAM Purchase Orders and CSM Purchase Requests to be automatically reconciled.



Note: This functionality is only available if you have applied the ITAM mApp Solution. This step is not required if CAM is not being integrated.

1. In CSM Administrator, under **Categories**, select **Scheduling**.
2. Select **Edit Schedule**.
The **Scheduled Items** window opens.
3. Select **Add**.
The **Schedule Item** window opens.
4. Provide a **Name** and **Description**.
5. Select the **Schedule** page.
 - a. Select the **Recurring** option.
 - b. Provide a **Start time** and **Time zone**.
 - c. Set the Recurrence to Hours and provide the desired hourly recurrence.
The recommended setting is **Every 1 Hour**.
 - d. Select the **No end date** option and then select **OK**.
6. Select the **Action** page.
 - a. From the **Action** drop-down list, select **One-Step**.
 - b. Select the **Ellipses** to open the One-Step Action Manager.
 - c. From the **One-Step Actions** folder list, navigate to **One-Step Purchase Request > Blueprint > CAMAPI > Update Individual PR Status**.
 - d. Select **OK**.
7. Select the **Error Handling** page.
 - a. Select the **If scheduled item fails run One-Step** check box.
 - b. Select the **Ellipses** to open the One-Step Action Manager.
 - c. From the **One-Step Actions** folder list, navigate to **Global > CAMAPI > CAM PO Update Failure**.
 - d. Select **OK**.
 - e. Select the **If scheduled item fails, still schedule next run (if recurring)** check box.
8. Select **OK**.
9. (Optional) Select **Test** to verify that the One-Step Action runs.
10. Select **OK** and then select **Exit**.

Related concepts

[One-Step Actions](#)

Schedule One-Step Action to Update Config - Software License

Scheduling the Update Config - Software License One-Step Action allows CAM and CSM licenses to be automatically updated.



Note: This functionality is only available if you have applied the ITAM mApp Solution.

1. In CSM Administrator, under **Categories**, select **Scheduling**.
2. Select **Edit Schedule**.
The **Scheduled Items** window opens.
3. Select **Add**.
The **Schedule Item** window opens.
4. Provide a **Name** and **Description**.
5. Select the **Schedule** page.
 - a. Select the **Recurring** option.
 - b. Provide a **Start time** and **Time zone**.
 - c. Set the Recurrence to Hours and provide the desired hourly recurrence.
The recommended setting is **Every 1 Hour**.
 - d. Select the **No end date** option and then select **OK**.
6. Select the **Action** page.
 - a. From the **Action** drop-down list, select **One-Step**.
 - b. Select the **Ellipses** to open the One-Step Action Manager.
 - c. From the **One-Step Actions** folder list, navigate to **One-Step Config - Software License > Global > Update Licenses**.
 - d. Select **OK**.
7. Select the **Error Handling** page.
 - a. Select the **If scheduled item fails, still schedule next run (if recurring)** check box.
8. Select **OK**.
9. (Optional) Select **Test** to verify that the One-Step Action runs.
10. Select **OK** and then select **Exit**.

Related concepts

[One-Step Actions](#)

Update OOTB Portal Customer Security Group

The OOTB Portal Customer Security Group (or your own custom group, if used) must be updated for a Customer to request items for purchase from the CSM Portal.

1. In CSM Administrator, under **Categories**, select **Security**.
2. Select **Edit security groups**.
3. From the **Group** drop-down list, select **Portal Customer**.
4. Select the **Business Objects** tab.
 - a. From the **Business Object** drop-down list, select **Product Catalog**.
 - b. Under **General**, select the **View** check box.
 - c. Under the **Product Catalog** list of fields, select **New Field**.
 - d. Under **General**, select the **View** check box.
 - e. From the **Business Object** drop-down list, select **IncidentLinksProductCatalog**.
 - f. Under **General**, select the following check boxes: **View**, **Add**, **Edit**, and **Delete**.
 - g. Under the **IncidentLinksProductCatalog** list of fields, select **New Field**.
 - h. Under **General**, select the **View** and **Edit** check boxes.
5. Save the Security Group.

Update Friendly Name Field

Use the Form Editor (accessed from within a Blueprint in CSM Administrator) to update the Friendly Name Field.



Note: You only need to perform this task if you are using the CAM mApp® Solution to populate the CMDB.

1. From the **Current view** drop-down list, select **Default**.
2. Under **Show object types**, select the **Major** option.
3. In the Business Object tree, select **Config - Software License**.
4. Under **Appearance**, select the **Edit form** link.
5. Under the **Config - Software License fields** list, right-click **Friendly Name** and select **Edit Friendly Name field**.
6. Select the **Validation/Auto-populate** page.
 - a. Expand the **Auto populate** section.
 - b. From the **field** drop-down list, select **License Unit Name**.
 - c. Under the **Populate with** section, select **License Unit Name** from the **Field** drop-down list.
7. Select **OK**.
8. Publish the Blueprint.

Related concepts

[Open the Form Editor](#)

[Publish a Blueprint](#)

Initiate a Request for Purchase From the Portal

Log in to the CSM Portal to submit a Purchase Request.



Note: This functionality is only available if you have applied the ITAM mApp Solution.

1. Log in to the CSM Portal and view the Service Catalog.
2. Based on your request type, select from the Purchasing Categories and Subcategories.
A New Request Specific Form opens.
3. Select **Add a Product**.
A Prompt for Quantity Requested opens.
4. Enter a `Quantity` number and select **OK**.
The selected product displays in the Requested Product view.
5. Continue to add products from the Product Catalog until the request is complete.
6. Select **Add to Cart**.
7. Select **Submit Order** to complete the order or select **Continue Shopping** to add additional products to your order.

Related concepts

[Add Items to the Service Cart](#)

Related tasks

[Log in to a CSM Portal](#)

Work the Service Request

Once a Service Request is assigned to the appropriate team and owner, the process begins to review line items and information on availability.



Note: This functionality is only available if you have applied the ITAM mApp Solution.

Items will be in red until they have been processed by reserving parts from inventory or available CIs, or by identifying that a purchase is required.

1. Double-click a **product** from the Items Request Form view.
2. Select **Check Stock**.



Note: Select **Add a Product** to manually select and add from the Product Catalog.

Stock is checked based on information in the Product Catalog. The **Container** drop-down list options are **Configuration Item** or **Inventory**. If the **Container** is **Configuration Item**, the **Container Type** drop-down list is available to indicate the CI type. **Model** is the other key field used for the stock check.

3. Select the option to **Reserve**, **Purchase**, or **Cancel**.
 - a. If **Reserve** was selected, select the **CI** to reserve.
If the reservation satisfies the total number of items requested, the prompt will indicate that the quantity has been satisfied.
 - b. Select **OK**.
The product line item turns green and the reserved CI now has a status of *Planned* (changed from In Stock).
4. Continue the process above for each product in the list.
If reserving multiple items from a specific Site location, a prompt may display asking how much to reserve from that location. Enter the `quantity number` and select **OK**.
 - a. If reserving a number that does not equal the requested number, you will need to choose from the following options:
 - Reserve Remaining Inventory?
 - Create Purchase Request for Remainder?
 - Continue at a later time?

The Inventory Parts record shows a reduced total inventory based on debiting the reserved number from the request. The record also shows the associated Service Requests in the Requests tab of the Form Arrangement.

5. Select **Create Purchase Request**.
 - a. When prompted, select **Yes** if all products have been added.

You may be prompted with questions regarding the needed by date and location of the Purchase Request.

The Purchase Request is now visible in the Purchase Request tab in the Form Arrangement.

Work the Purchase Request

Once a Purchase Request has been created (from the Service Request), it is reviewed for accuracy, modified as needed, and approved.



Note: This functionality is only available if you have applied the ITAM mApp Solution.

Only Line Items with a Type of *Configuration Item* are processed in CAM. Line Item Types of *Inventory* are not ordered or managed in CAM. If you have a Purchase Request with only Inventory items requested, a CAM purchase order will be automatically created after approval of the purchase request; however, the line items are not part of the purchase order.

1. Open the Purchase Request Form and select **Submit for Review** to change the status (the initial status is New).
The Purchase Request is reviewed and modified, and an approval is initiated for the requester's manager.
2. The Purchase Request is now approved and the status changes to PO Created.
 - Without CAM Integration: The Purchase Request is Read-Only except for specific order fields which can be manually populated.
 - a. Select **Next: Ordered** to provide information on the Order Date and to change the status to Ordered.
 - CAM Integration: The Purchase Request is now Read-Only.
 - a. The ITAM mApp® Solution automatically sends the Purchase Request's information to CAM via the CAM API configured during mApp Solution installation.
 - b. The Purchasing Manager edits the Purchase Order and the Purchase Request is automatically updated with the CAM Order ID, the CAM Purchase Order number, the Vendor, and asset order details based on a Scheduled One-Step™ Action.
3. Select **Next: Set to Received** to change the status to Received.
4. Use the **Item Status** and **Qty to Check In** drop-down lists to update both fields.
Item Status can be updated in CSM or CAM.
5. Select **Check in and Create Inventory**.
The new Configuration Item (CI) is created and displayed on the Configuration Items tab of the Form Arrangement. The status is *Planned* and the serial number and any other additional information needs to be manually recorded.



Note: If the CI is not new (example: Software license that increases in license count instead of being created) it will not be displayed on the Configuration Items tab.

6. Close the Purchase Request and finish the Service Request by selecting **Close**.
The Service Request is removed from Pending status and moved to the status when the Purchase Request was initiated.

Tasks are created for the Items for Purchase line items so the appropriate actions can be taken for Inventory and CIs.

IT Asset Management (ITAM) - Purchase Request through Receiving mApp Solution Items

The items tables provides a list of items included when applying the mApp Solution and the typical merge action.

Item Category	Item	Typical Merge Action
Automation Process Definitions	Create Order, mApp Factory - Close PR create tasks, mApp Factory - Update Product List, Notify CAM Purchasing Manager When PO Created, Notify Requestor of PO Created, Send Delivery Notification to CAM, Set Status to Ordered Status	Import
Business Objects	Agreement, Building Status, Config - Computer, Config - Mobile Device, Config - Network Device, Config - Other CI, Config - Printer, Config - Server, Config - Software License, Config - System, Config - Telephony Equipment, Configuration Item, Site Status, Specifics, Specifics - Email, Specifics - Employee New, Specifics - Employee Separation, Specifics - Employee Update, Specifics - Generic, Specifics - ITAL, Specifics - New Device, Specifics - Printer	Don't Change
	Building, Purchase Request Status, Site, State Province Territory, Supplier Catalog Item	Overwrite
	Config - Computer, Config - Mobile Device, Config - Printer, Config - Software License, Configuration Item, Incident, Product Catalog, Supplier, Underpinning Contract	Merge
	IncidentLinksInventory, IncidentLinksProductCatalog, IncidentLinksSupplierCatalog Item, Inventory, Part, Product Subcategory, Purchase Request, Purchase Request Line Item, Purchase Request Line Item Status, Purchase Request Priority, Purchase Request Reason, Specifics - ITAL	Import
Counters	Inventory, Purchase Request ID	Import
	Purchase Order #, Purchase Request, PurchaseRequestID, Site	Overwrite
Custom View	Portal Default, Portal Secondary	Don't Change
Dashboard	IT Purchasing	Import

Item Category	Item	Typical Merge Action
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	<p>ABA Accessibility Flag, Alt, 1 Command, Alt 1 Command Name, Alt 1 Status, Alt 1 Status One Step, Alt 1 Status Text, Alt 2 Command, Alt 2 Command Name, Alt 2 Status, Alt 2 Status One Step, Alt 2 Status Text, ANSI Usable, Approval Block ID, Approved On Date Time, Area, Archive, Asset Type, Associated Models, Auto Reorder, Auto Reorder Part ID, Auto Reorder Submitted, Building Code, CAM Access Profile, Canceled, Category, ChildID, ChildJoinReason, ChildType, CI Asset Type ID, CI Software Rec ID, CI Type, Class, Closed, Commercial and Government Entity Code, Configuration Item Type, Construction Date, Container, Container Type, Contract ID, Contract Type, Country_de-DE, Country_en-US, Country_es-ES, Country_fr-FR, Country_pt-BR, Created By, Created By ID, Created Culture, Created Date Time, Date Required, Days ARO, Department, Description, Energy Star, Energy Star Justification, Environmentally Preferred, Environmentally Preferred Justification, Expedited Shipment Price, Extended Price, Hardware Model/Software Name, Hardware Model/Software Title, Hazardous Material, Historical Status, Impact, Incident ID, Incident Specifics RecID, In Stock CI Name, Is Complete, Inventory ID, Inventory Item Name, Inventory Type ID, Inventory TypeName, Invoice Number, Item Name, Item Status, JoinReason, Justification, Last Modified By, Last Modified By ID, Last Modified Date Time, LastModTimeStamp, Latitude, Line Item ID, Line Item Type, Location - Building, Location - Country, Location - Site, Location - State, Location - State/Province, Low Stock Level, Made in the USA, Made in the USA justification, Manufacturer, Manufacturer Number, Manufacturer Part Number, Matrix Order, Model, Name, Next Day Shipment Price, Next Status, Next Status Command, Next Status Command Name, Next Status One-Step, Next Status Text, Notes, Number On Hand, OEM CAGE Code, Order Date, Order ID, Order Number, Order Title, Ordered, Owned By, Owned By Email, Owned By ID, Owned By Phone, Owned By Team, Owned By Team ID, Owned/Leased, ParentID, Parent RecID, Parent Request, ParentType, Part ID, Pending, PO Created, PO URI, Preferred Supplier, Price, Priority, PR Line Item RecID, PR Line Item Type ID, PR RecID, Product Category, Product Catalog ImageLink Text, Product Container, Product Cost, Product Name, Product Service Code, Product Subcategory, Products Requested, Property Type, Purchase Date, Purchase Order Number, Purchase Price, Purchase Request ID, Purchase Request Line Item ID, Quantity, Quantity Available, Quantity Checked In, Quantity Per Unity Pack, Quantity Received, Quantity Requested, Quantity Reserved, Quantity to Reorder, Reason, Received, RecID, Reconciled Name, Reorder Status, Requested By, Requested By Email, Requested By ID, Requested By Phone, Request ID, Reviewed, Sale End Date, Sale Price, Sale Start Date, SCI ID, SCI Price, Selected Status, Service Cart Item RecID, Short Description, Site, SKU, Specifics FormRecID, Specific Type ID, Specific Type Name, Standard Shipment Price, Status, Status ID, Status Order, Subcategory, Supplier, Supplier Catalog Item ID, Supplier Catalog Item - Manufacturer, Supplier Catalog Item - Price, Supplier Catalog Item for Reorder, Supplier Catalog Item ID, Supplier for Reorder, Supplier ID, Supplier ID for Reorder, Supplier Name, Supplier Name for Reorder, Supplier Part Name, Supplier Part Number, Surplus Stock Level, Threshold for Reorder, Total Number of Items Received, Total Number of Items Requested, Total Price, Type, Underpinning Supplier ID, Total Parking Spaces, Underpinning Contract ID, Underpinning Supplier ID, Unit, Unit Cost, Unit of Issue, UPC, Urgency, URI, Vendor, Version Stamp</p>	Import
	<p>Address, Address 2, Building Address 1, Building Address 2, Building Name, Building Status ID, Carrier, City, Country, County, Created By, Created By ID, Created Culture, Created Date Time, Description, Full Address, Item Type, Last Modified By, Last Modified By ID, Last Modified Date Time, LastModTimeStamp, Lead Agreement ID, Lead Agreement Name, Lead Supplier, Lead Supplier ID, Location ID, Model, Name, Notes, Owned By, Owned By ID, Owned By Team, Owned By Team ID, Postal Code Zip, Rec ID, Region Code, Site, Site ID, Site Name, State, State Province Territory, Status, Status ID, Supplier Catalog Item ID, Zip</p>	Overwrite
Fields	<p>_Link Type, Accessory 1, Accessory 2, Accessory 3, Accessory 4, Accessory Cost 1, Accessory Cost 2, Accessory Cost 3, Accessory Cost 4, Accessory_1, Accessory_2, Accessory_3, Accessory_4, Additional IP Address, Additional Details, Additional Needs Completed, Any loose cables? Asset Status, Asset</p>	

Item Category	Item	Typical Merge Action
Form Arrangements	CatalogItem, FacilitiesBuilding, Incident, Site, UnderpinningContract, Vendor	Overwrite
	IncidentLinksProductCatalog, Part, PurchaseRequest, PurchaseRequestLineItem, SpecificsITAL	Import
Forms	IncidentLinksInventory, IncidentLinksProductCatalog, IncidentLinksSupplierCatalog	Import
	Item, Part, ProductSubcategory, PurchaseOrderLineItem, PurchaseRequest, PurchaseRequestLineItemStatus, PurchaseRequestPriority, PurchaseRequestReason, PurchaseRequest - SupplierCatalogItem, Purchasing - ProductCatalog, Purchasing - UnderpinningContract, SpecificsITAL	
	Purchase Request Status, Site, StateProvince	Overwrite
	Incident	Don't Change
Grid Change Persistence	_5JyZpXRggCw	Import
Grids	IncidentLinksInventory, IncidentLinksProductCatalog, IncidentLinksSupplierCatalog	Import
	Item, Inventory, Inventory 1 Dashboard, Part, ProductSubcategory, PurchaseOrderLineItem, PurchaseRequest, PurchaseRequestLineItemStatus, PurchaseRequestPriority, PurchaseRequestReason, SpecificsITAL	
	FacilitiesBuilding, Site, PurchaseRequestStatus, StateProvince, SupplierCatalogItem	Overwrite
Image Definition	ITAM-Add-Icon, ITAM-Add-Icon1, ITAM-Dashboard-Icon, ITAM-Dashboard-Icon1, ITAM-Inventory-Icon, ITAM-Reorder	Import

Item Category	Item	Typical Merge Action
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Indexes	<p>Agreement_Name, Config - Software License Actions, ConfigSoftwareLicenses_</p> <p>SoftwareID, ConfigurationItem_AssetTag, ConfigurationItem_FriendlyName, Incident_CustomerID, Incident_IncidentType, Incident_OwnedByID, Incident_RecID, IncidentCreatedDT, IncidentID, IncidentIdx_ServiceCartRecID, IncidentIdx_ServiceCatalogTemplateRecID, IncidentService, IncidentStatus, InstalledSoftware_Product, Latitude, Longitude, PK_Agreement, PK_ConfigurationItem, PK_ProductCatalog, PK_PurchaseRequestStatus, PK_Site, PK_StateProvince, PK_SupplierCatalogItem, PurchaseRequestStatus_Status, Site_SiteID, Supplier_SupplierID, SupplierCatalogItem_CatalogItemID, SupplierCatalogItem_Name, SupplierIdx0, SupplierIdx1</p>	Overwrite
	<p>ConfigSoftwareLicense_</p> <p>SoftwareID, ConfigurationItem_AssetTag, ConfigurationItem_FriendlyName, InstalledSoftware_Product, Latitude, Longitude, PK_ConfigurationItem, PK_Specifics, PrinterSpecifics_Model, Specifics_ParentID, Specifics_SpecificTypeName, SpecificsEMail_SpecificsEMailID, SpecificsNewComputer_SpecificsNewComputerID</p>	Don't Change
	<p>Inventory_InventoryID, PK_IncidentLinksInventory, PK_IncidentLinksProductCatalog, PK_IncidentLinksSupplierCatalog</p> <p>Item, PK_Inventory, PK_ProductSubcategory, PurchaseOrderLineItem, PK_PurchaseRequest, PK_PurchaseRequestLineItemStatus, PK_PurchaseRequestPriority, PK_PurchaseRequestReason, PurchaseRequest_PurchaseRequestID, PK_Specifics, PrinterSpecifics_Model, Specifics_ParentID, Specifics_SpecificTypeName, SpecificsEMail_SpecificsEMailID, SpecificsNewComputer_SpecificsNewComputerID</p>	Import

Item Category	Item	Typical Merge Action
Language Pack Bundle	DE_2019-09-04, EN-DE_ITAM, EN-ES_ITAM, EN-FR_ITAM, EN-PT_ITAM, ES_2019-09-04, FR_2019-09-04, PT_2019-09-04	Import
Mergeable Areas	Config - Software License Actions, Incident Actions, IncidentLinksProductCatalog Actions, Purchase Request Actions, Purchase Request Approvals, Purchase RequestLine Item Actions	Overwrite

One-Step™ Actions	Add Line Item, Add Line Item to CAM Purchase Order, Adjust Inventory, Alt 1 Step from Relationship, Alt 2 Step from Relationship, Approved, Assign to ANY Individual, Assign to Individual, Assign to Team, Auto Reorder, CAM PO Update Failure, Check Availability, Check for Existing Parts, Check In, Choose a Part, Choose an SCI, Create CI, Create Inventory, Create PO, Create PR, Create Purchase Order in CAM, Create Signature, Create Tasks in Incident, DEBUG: Notification Scheduled Job Ran, Get Hardware Types, GMT DateTime, Increment Version Stamp, Increment VersionStamp, Launch New Inventory Item, Launch New Purchase Request, Modifier Create Signature, New Inventory Item, New Purchase Request, Next Step from Relationship, Notify CAM Purchasing Manager of New PO, Notify CAM Purchasing Manager of Order Received, Notify Requestor of New PO, OLD-Scheduled Update PR Status, Open Purchase Order in CAM, Portal Select Product and Quantity, Refresh Item List, Remove an Item, Return to Inventory, Select a Team, Select Product and Quantity, Set Complete for Canceled, Set Owned By, Set Status, Set Status to PO Created, Set to Approved Status, Set to Canceled Status, Set to Closed Status, Set to Ordered Status, Set to Pending Status, Set to Received Status, Set to Reviewing Status, Show Date Time, Show Detailed Date Time, Take Ownership, TEST Dynamic URL in Web Service, TEST Get API Version, TEST XML Parse, TEST-Get Line Item, TEST-Get Line Item Detail, TEST-Get Order, TEST-Get Users, TEST-Signed Get Order, TEST-Signed Get Users, Update CAM Server, Update Individual PR Status, Update Licenses, Update PR Line Item Status, Update Products, Update Status, URI String Test	Import
	Add to Cart, Assign to a Team, Assign to Individual, Assign to Team, Create a Catalog Item, New Submit or Add to Cart, Take Ownership	Overwrite

Item Category	Item	Typical Merge Action
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Relationships	Auto Reorder Links Purchase Requests, Configuration Item Links Purchase Request Line Item, Existing Part Links Purchase Request Line Item, Incident Links Inventory, Incident Links Product Catalog, Incident Links Purchase Request, Incident Links Supplier Catalog Item, Incident Owns Inventory Join Table, Incident Owns Supplier Catalog Item Join Table, Incident Owns Product Catalog Join Table, Inventory Links Incident, Inventory Links Owned By, Inventory Links Supplier Catalog Item, Inventory Owns Incident Join Table, Part Owns, Product Catalog Join Links CMDB, Product Catalog Join Links, Part, Product Catalog, Join Links Specifics, Product Catalog Join Table Owned by Incident, Product Catalog Link Software, Purchase Request Line Item links CI Type, Purchase Request Line Item links CIs, Purchase Request Line Item Links Existing Part, Purchase Request Line Item Owned By Part, Purchase Request Line Item Owned By Purchase, Purchase Request Line Items, Purchase Request Links Auto Reorder, Purchase Request Links CI, Purchase Request Links Customer Internal, Purchase Request Links Incident, Purchase Request Links OwnedBy, Purchase Request Links, Phase Set, Purchase Request Links, to Status, Purchase Request Links UserInfo, Purchase Request Owns Approvals, Purchase Request Owns Journals, Purchase Request Owns Line Items, Specifics is related to an Incident, Supplier Catalog Item Links Supplier, Supplier Catalog Item Links Underpinning Contract, Supplier Links Supplier Catalog Items, Supplier Links Underpinning Contracts, Underpinning Contract Links Supplier, Underpinning Contract Links Supplier Catalog Items	Import
	[Foreign Key] Configuration Item Links CI Status, CI has auto-created Incident, CI Links Customers, CI links Downstream CIs, CI links Logical Services, CI links Problems, CI Links Site, CI links Upstream CIs, Configuration Item Group Links Change Request, Configuration Item Group Links Configuration Item Group, Configuration Item Group Links Customers, Configuration Item Group Links Incidents, Configuration Item Group Links Journals, Configuration Item Group Links Status, Configuration Item Links Configuration Items, Configuration Items Links Purchase Request Line Item, Configuration Item Links SLA, Configuration Item Links Vendors, Configuration Item Owns CIEvents, Configuration Item Owns Journal - Notes, Configuration Item Owns Tiered Alerts	Don't Change
	Site Links Buildings, Site Links Status	Overwrite

Item Category	Item	Typical Merge Action
Searches	All Line Items, All Parts, All Purchase Requests, Auto Reorder PRs, Auto-Renew Items, Canceled Purchase Requests, Completed Purchase Request, Desktop, Inventory at Reorder Level, Laptops in Stock, Low Stock, Mobile Devices in Stock, Open PR in CAM, Open Purchase Requests, Printers in Stock, Purchase Requests Under Review, Surplus Stock	Import

Stored Expressions	API LineItem Asset Type, API LineItem Category, Approval Lock, CAM Not Editable, Check-in Fields Disabled, Configuration Item Type, Delivered or Canceled, Fields Disabled, Line Item Is Complete, Number of Complete Line Items, Number of Hardware CIs on Hand, Number of Items Received, Number of Line Items, Number of Line Items in Ordered Status, Number of Line Items Not Canceled, Number of Line Items Received, Number of Line Items Requested, Number of Software CIs for this Line Item, Owned By Member of Owned By Team, PurchaseRequestID, Stock Status, Total Cost	Import
Stored Queries	All Line Items, All Parts, All Purchase Requests, Auto Reorder PRs, Canceled Purchase Requests, Completed Purchase Requests, Desktop, Inventory at Reorder Level, Laptops in stock, Low Stock, Mobile Devices in Stock, Open PR in CAM, Open Purchase Requests, Printers in Stock, Purchase Requests Under Review, Surplus Stock	Import
Stored Values	CAM API Version, CAM Customer Number, CAM Date, CAM Default Access Profile, CAM mApp Version, CAM Purchasing E-Mail, CAM Server, Current Product Join RecID, Current Product Name, CurrentDateTime, Endpoint, Inventory Joint Table RecID, IsDebug, Item County Selected, Item Search RecID, New CAM Server, Own CAM?, Product RecID, PS Options, Secret Key, Signature, Signature Success, Specifics CI Type, Supplier RecID, Test Blank	Import
	Country, Site, State	Overwrite
Tabs	Journals, Overview, Supplier	Don't Change
	Comments, Items for Purchase, Items Requested, Overview, Purchase Request, Requested Products, Reserved Inventory, Supplier, Supplier Catalog Items, Underpinning Contract Catalog Items (0), Underpinning Contracts	Import
	Activity, Additional Information, Agreements (0), All Agreements, Approvals (0), Building, Comments, Configuration Items, Customer History (0), FacilitiesBuilding, Journals, Lead Agreement, Lead Supplier, Linked Incidents (0), Linked to Major Incident, Overview, Related Device, Related CIs (0), Related Problem, Resolution Details, 's Open Incidents (0), Scorecards (0), Service Complaints (0), Service Impact Events (0), Similar Incidents (0), Site, Supplier Catalog Items (0), Supplier Risk Assessments (0), Tasks (0), Work Units (0)	Overwrite
Web Services	CAM API, Secure CAM API	Import
Widgets	Desktop Stock by Model, Inventory at Reorder Level, Laptop Stock by Model, Low Stock by Item List, Mobile Devices Stock by Model, Printer Stock by Model, Purchase Request Filter, Purchase Requests by Status, Purchase Requests from Auto-Reorder, Purchase Requests Pending Approval, Surplus Stock by Item List	Import

- Import: Add new item.
- Overwrite: Replace target item.
- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

IT Project Tracking (ITPT) mApp Solution 1.5

Use the IT Project Tracking (ITPT) mApp® Solution to track project progress through the lifecycle.

Platform version requirements: Tested on CSM 10.0.0 — 10.2.0.

Content version requirements: Tested on CSM 10.0.0 — 10.2.0; this mApp Solution may or may not be compatible on content versions earlier than CSM 10.0.0, but as with all mApp Solutions, be sure to test it on your customized system.

Prerequisites: None.

Available languages: English.

Overview

The ITPTmApp Solution provides functionality that allows you to use ITPT features such as One-Step™ Actions, expressions, search groups, widgets, and a dashboard. ITPT is the process of documenting the progress of a project throughout the defined lifecycle. ITPT is a CSM Business Object that allows Project Managers to track project components (Deliverables, Cost Items, Project Members, Risks/Issues, Meeting Minutes, and Tasks) at a high level using a custom workflow (Initiation, Awaiting Approval, Execution, Closing). CSM integrates with IT Project Tracking so you can incorporate the CSM ITPT Business Process into your system.

ITPT Form

Use the ITPT form to track the project details as it progresses through the project lifecycle.

PROJECT

Created by Henri Bryce on 2/23/2020 at 10:56 AM
Last modified by on 1/1/0001 at 12:00 AM

STATUS

BUDGET REMAINING

PROJECT HEALTH

Schedule: Low

REQUESTER

PROJECT MANAGER

New

\$0.00

Budget: Low

Deliverables: Low

Risk: Low

[Begin Work](#)

Overview

Business Case

Deliverables

Cost Items

Project Users

Project Customers

Risks/Issues

Configuration Items

Meeting Minutes

Tasks

Journals

Change Request

Project ID

Priority (1 High - 5 Low)

Requester

Name

Description

Portfolio ID

Portfolio Manager

Location

Primary CI

Project Manager Team

Project Manager

Estimated Effort (Hours)

Actual Effort (Hours)

0.00

0.00

CapEx Budget	\$0.00
OpEx Budget	\$0.00
Total Cost	\$0.00
Budget Remaining	\$0.00

Schedule

Planned Start Date

Planned End Date

M/d/yyyy

M/d/yyyy

Actual Start Date

Actual End Date

M/d/yyyy

M/d/yyyy

[Take Ownership](#)
[Send a Project Health Update](#)
[Notify Task Owners to Update Tasks](#)
[View Impacted CI's](#)

For a list of items included in the mApp Solution, see [ITPT mApp Items](#).

Apply the mApp Solution

Follow these steps to download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. The contents of the .zip file include the following:
 - ITPTv1.5.mApp
 - calendar.ced
 - dashboard.ced
 - reports.ced
 - searches.ced
4. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.
5. On the How automatic should the merge process be? screen of the Apply mApp Wizard, choose either **Ask me about every decision** or **Make reasonable decisions, but ask me if unsure**.

After you apply the mApp Solution, you can use ITPT in the same way as other CSM processes. To access the Project form, select **File > New > New ITPT Project**, in the CSM Desktop Client; or to configure the Project Business Object, select **Create New Blueprint > ITPT Project > Edit Business Object**, in CSM Administrator.

Import Supplemental Files

After you install the mApp Solution, import the supplemental files included with the .zip file.

To import ITPT sample reports:

1. In CSM Administrator, create a new Blueprint.
2. Select **Managers > Reports**.
3. In the **Association** drop-down list, select **ITPT Project**.
4. Navigate to the **Global** folder.
5. Select **File > Import**.
6. Select the reports.ced file and select **Open**.
7. Select **Close**.
8. Publish the Blueprint.

To import the ITPT dashboard:

1. In CSM Administrator, create a new Blueprint.
2. Select **Managers > Dashboard Manager**.
3. Navigate to the **Global > Dashboards > Project Dashboards**.
4. Delete the existing Project Details dashboard (the Def is broken making it uneditable)
5. Select **File > Import**.
6. Select the dashboard.ced file and select **Open**.
7. Select **Close**.
8. Publish the Blueprint.

To import the ITPT calendar:

1. In CSM Administrator, create a new Blueprint.
2. Select **Managers > Calendar Manager**.
3. Navigate to the **Global** folder.
4. Select **File > Import**.
5. Select the calendar.ced file and select **Open**.
6. Select **Close**.
7. Publish the Blueprint.

To import the ITPT searches:

1. In CSM Administrator, create a new Blueprint.
2. Select **Managers > Searches**.
3. In the **Association** drop-down list, select **ITPT Project**.
4. Navigate to the **Global** folder.
5. Select **File > Import**.
6. Select the searches.ced file and select **Open**.
7. Select **Close**.
8. Publish the Blueprint.

Related Information

- For additional information, see [About mApp Solutions](#).
- For additional information, see the free Video Learning Library course [Demonstrating IT Project Tracking within Cherwell](#).

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	5.0.0	5.0.0	OOTB content earlier than 4.6.0a requires the Avatar Functionality mApp Solution.
1.0.2	Tested on 5.0.0 - 9.6.x.	Tested on 5.0.0 - 9.6.x (Configurations may be required for the Task Business Object with content versions 9.5.x and 9.6.x).	OOTB content earlier than 4.6.0a requires the Avatar Functionality mApp Solution.
1.1	Tested on 9.6.3 and 9.7.0 (mApp Solution cannot be applied to a platform version older than 9.6.3).	Tested on 5.0.0 - 9.7.0 (9.5.x and 9.6.x may require changes to Task to work properly).	OOTB content earlier than 4.6.0a requires the Avatar Functionality mApp Solution.
1.5	Tested on 10.0.0 — 10.2.0.	Tested on 10.0.0 — 10.2.0; this mApp Solution may or may not be compatible on content versions earlier than 10.0.0, but as with all mApp Solutions, be sure to test it on your customized system.	None.

Related concepts

[About One-Step Actions](#)
[Expressions](#)
[About Saved Searches](#)
[About Widgets](#)
[Dashboards](#)

Create an IT Project

Use the Project form to create a project, assign a project manager, and track the project through the lifecycle.



Note: This functionality is only available after you apply the mApp Solution.

To create an IT Project:

1. Select **File > New > New ITPT Project**.

PROJECT Created by Henri Bryce on 2/25/2020 at 10:58 AM
Last modified by on 1/1/2001 at 12:00 AM

STATUS: New BUDGET REMAINING: \$0.00 PROJECT HEALTH: Budget: Low Deliverables: Low Schedule: Low Risk: Low REQUESTER: PROJECT MANAGER: [Begin Work](#)

Overview Business Case Deliverables Cost Items Project Users Project Customers Risks/Issues Configuration Items Meeting Minutes Tasks Journals Change Request

Project ID: Priority (1 High - 5 Low):

Requester:

Name:

Description:

Portfolio ID: Portfolio Manager:

Location:

Primary CI:

Project Manager Team:

Project Manager:

Effort/Cost

Estimated Effort (Hours): Actual Effort (Hours):

CapEx Budget	\$0.00
OpEx Budget	\$0.00
Total Cost	\$0.00
Budget Remaining	\$0.00

Schedule

Planned Start Date: Planned End Date:

Actual Start Date: Actual End Date:

Actions

[Take Ownership](#)
[Send a Project Health Update](#)
[Notify Task Owners to Update Tasks](#)
[View Impacted CI's](#)

2. Complete the following fields:

Field	Description
Project ID	Enter a unique identification for the project.
Priority	Select the number 1-5 that corresponds with the priority of the project. The priority is used to establish timescales and effort to respond to and complete the project.
Requester	Select the Project Requester.

Field	Description
Name	Enter a unique name for the project.
Description	Enter a short description of the project.
Portfolio ID	Select the Portfolio ID from the drop-down list. Information about the Portfolio is displayed in the Portfolio tab of the form arrangement.
Location	Enter the project location.
Primary CI	Select the primary Configuration Item.
Project Manager Team	Select the Project Manager Team from the drop-down list.
Project Manager	Select the Project Manager from the drop-down list.
Estimated Effort	Enter the projected number of hours the project will require.
Actual Effort	Once the project is complete, enter the number of hours spent on the project.
Planned Start Date	Select the date the project should start.
Planned End Date	Select the date the project should end.
Actual Start Date	Once the project has started, enter the date the project started.
Actual End Date	Once the project has ended, enter the date the project ended.

Related concepts

[IT Project Tracking \(ITPT\) mApp Solution 1.5](#)

Define a Project Business Case

Use the **Business Case** tab to articulate your reason for initiating the project.



Note: This functionality is only available after you apply the mApp Solution.

1. On the **Business Case** tab in the form arrangement, select **New ITPT Business Case**.
2. Add the following information:
 - a. Business Reasons: A reason for initiating the project (example: The current Dell Switch in the Colorado Springs, CO office is antiquated and needs to be replaced).
 - b. Resource Details: Resource information for the project (example: Clair Wu has been identified as the person who will install and configure the switch).
 - c. Cost Details: Cost information for the project (example: The cost of one 5000 Gigabit Switch is \$8,450.00 USD).

The Business Case form automatically saves.

Define Project Deliverables

Use the **Deliverables** tab to define and track individual products or services that you will provide for the customer.



Note: This functionality is only available after you apply the mApp Solution.

To define deliverables:

1. On the **Deliverables** tab in the form arrangement, select **New ITPT Deliverable**.
2. Add the following information:
 - a. Deliverable ID: An identification code for the deliverable (example: 1A).
 - b. Name, description, and any necessary requirements.
 - c. Select the **Customer Accepted** check box after the customer approves the deliverable.
 - d. Start Date and End Date: Select the dates you plan to begin and complete working on the deliverable.

The Deliverables form automatically saves.

Define Project Cost Items

Use the **Cost Items** tab to define individual project costs based on type.



Note: This functionality is only available after you apply the mApp Solution.

To define Cost Items:

1. Add labor costs:
 - a. On the **Cost Item** tab in the form arrangement, select **New > New - Cost Item - Labor**.
 - b. In the **Resource Name** drop-down list, select a user.
 - c. Select a Cost Type option:
 - **CapEx**: Capital expense.
 - **OpEx**: Operations expense.
 - d. Provide the Budget Cost (allocated budget).
The defined amount is automatically added to either the CapEx Budget or OpEx Budget form in the **Effort/Cost Info** section of the **Overview** tab.
 - e. In the **Total Cost** section, provide the hours and rate (hourly). The Total Cost automatically calculates (hours multiplied by rate).
The Cost Item form automatically saves.

2. Add other miscellaneous costs:



Note: Other costs are expenses that do not align with Labor, Provisioning, or Tool cost categories.

- a. In the **Cost Item** tab in the form arrangement, select **New > New - Cost Item - Other**.
 - b. Provide Details and select a Cost Type option.
 - c. Provide the Budget Cost (allocated budget).
The defined amount is automatically added to either the CapEx Budget or OpEx Budget form in the **Effort/Cost Info** section of the **Overview** tab.
 - d. Provide the Total Cost.
The Cost Item form automatically saves.
3. Add provisioning costs:
 - a. In the **Cost Item** tab, select **New > New - Cost Item - Provisioning**.
 - b. Select a Status option and provide Details.
 - c. Select a Cost Type option.
 - d. Select a Category and Frequency from the drop-down lists.
 - e. Provide a Budget Cost (allocated budget) and Total Cost.
The defined amount is automatically added to either the CapEx Budget or OpEx Budget form in the **Effort/Cost Info** section of the **Overview** tab.

The Cost Item form automatically saves.
4. Define tool costs.
 - a. In the **Cost Item** tab, select **New > New - Cost Item - Tool**.

- b. Provide an Item Description and Budget Cost.
The defined amount is automatically added to either the CapEx Budget or OpEx Budget form in the **Effort/Cost Info** section of the **Overview** tab.
- c. In the **Total Cost** section, provide the hours and rate (hourly). The Total Cost automatically calculates (hours multiplied by rate).
The Cost Item form automatically saves.

Define Project Users and Customers

Use the **Project Users** and **Project Customers** tabs to add users and customers to the project and specify details about them.

Note: This functionality is only available after you apply the mApp Solution.



An ITPT Project User is a licensed CSM user that requires CSM to perform their role in the project.

To define Project Users:

1. Select the **Project Users** tab in the form arrangement.
2. Select **New ITPT Project User**.
3. Complete the Project User form:
 - a. Select the **Project Notification E-mail** check box to indicate that the user should receive project updates via email.

Notification emails are also used for the Project Approval Process, so all members of the Project Approval Team must have the check box selected to receive approval notification emails.
 - b. Select the **Approver** check box to indicate that the user is a member of the Project Approval Team.
 - c. Select the name from the drop-down list or select the **Select User** link.
 - d. Select the role from the drop-down list.
 - e. Provide the email, phone number, and any notes for the user.

To define Project Customers:

1. Select the **Project Customers** tab in the form arrangement.
2. Select **New ITPT Project Customer**.
3. Complete the Project Customer form:
 - a. Select the **Project Notification E-mail** check box to indicate that the customer should receive project updates via email.
 - b. Select the name from the drop-down list or select the **Select User** link.
 - c. Select the role from the drop-down list.
 - d. Provide the email, phone number, and any notes for the customer.

The Project Customer form automatically saves.

Define Project Risks and Issues

Use the **Risks/Issues** tab to define risks or issues that might affect the outcome of the project.



Note: This functionality is only available after you apply the mApp Solution.

Risks include complications that exist before the project is initiated, and issues include complications that occur while the project is being implemented.

To add a risk:

1. On the **Risks/Issues** tab in the form arrangement, select **New ITPT Risk Issue**.
2. Complete the Risks/Issues form:
 - a. Select **Risk** from the **Category** drop-down list.
 - b. Provide a description and effect (outcomes of the risk).
 - c. Select an **Impact** and **Status** from the drop-down lists.

The **Impact** drop-down list affects the Risk indicator in the default form area.

To add an issue:

1. On the **Risks/Issues** tab in the form arrangement, select **New ITPT Risk Issue**.
2. Complete the Risks/Issues form:
 - a. Select **Issue** from the **Category** drop-down list .
3. Follow steps b and c above to complete the form.

The Risks/Issues form automatically saves.

Define a Configuration Item

Use the **Configuration** tab to add an item to the project and descriptions for the Configuration Item (CI).



Note: This functionality is only available after you apply the mApp Solution.

To add a Configuration Item:

1. Select the **Configuration Items** tab. The list of CIs associated with the project opens.
2. Select a CI from the **New** drop-down list. The **New Config** dialog box opens.
3. Complete the fields to describe the CI.

Related concepts

[Creating Configuration Item \(CI\) Records](#)

Define Meeting Minutes

Use the **Meeting Minutes** tab in to define and track important activities and decisions made during the progress of the project.



Note: This functionality is only available after you apply the mApp Solution.

To define meeting minutes:

1. On the **Meeting Minutes** tab in the form arrangement, select **New ITPT Meeting Minutes**.
2. Complete the meeting minute details:
 - a. Meeting Minute ID: Provide an identification code for the meeting minute (example: 1A).
 - b. Add a title, category, and description.
 - c. Type an explanation of the meeting minute (example: Assess status of deliverables).
 - d. Select a status and due date.
 - e. Select a name from the **Ball in Court** drop-down list or select the **Select User** link. This is the person that owns the meeting minute.
 - f. The **Ball in Court E-Mail** field is auto-populated based on the customer record of the user (Ball in Court).
 - g. Select the **Send an Email** link to define and send a notification email to the user (Ball in Court).The meeting minute form automatically saves.

Define a Task

Use the **Tasks** tab to add and describe a task for the project.



Note: This functionality is only available after you apply the mApp Solution.

To create a task:

1. Select the **Tasks** tab.
The list of tasks associated with the project opens.
2. Select **New Work Item**.
3. Complete the task fields.

Related concepts

[Work Item Task](#)

Define a Journal

Use the **Journals** tab to add a note or comment to the project.



Note: This functionality is only available after you apply the mApp Solution.

The **Journals** tab lists Journal - Notes. Journal - Notes are used to track notes and comments. For example, a user might chronicle troubleshooting progress.

To create a Journal:

1. Select the **Journals** tab.
The list of Journals associated with the project opens.
2. Select **New Journal - Note**.
3. Complete the Journal - Note fields:
 - Select the **Mark as Unread** check box to make the Journal appear unread.
 - Select the **Visible in Customer Portal** check box if you want the Journal to appear in the CSM Portal.
 - Select a Quick Entry from the drop-down list to add pre-defined content to the details field.
 - Select the priority and enter any details.

Define a Change Request

Use the **Change Request** tab to document and provide details for a change for the project.



Note: This functionality is only available after you apply the mApp Solution.

To define a Change Request:

1. Select the **Change Request** tab.
The list of Change Requests associated with the project opens.
2. Select **New Change Request**.
3. Complete the Change Request form.

Related concepts

[Change Management mApp Solution Change Form](#)

IT Project Tracking (ITPT) mApp Solution Items

The items tables provides a list of items included when applying the mApp® Solution and the typical merge action.

Item Category	Item	Typical Merge Action
Automation Process Definition	ITPT Project Approval Process	Import
Business Objects	Cost Item, Cost Item Category, Department, Incident, Task, Work Item	Don't Change
	Cost Item - Provisioning	Overwrite
	Change Request	Merge
	ITPT Business Case, ITPT Deliverable, ITPT Meeting Minutes, ITPT Meeting Minutes Category, ITPT Meeting Minutes Status, ITPT Member Role, ITPT Portfolio, ITPT Project, ITPT Project Customer, ITPT Project Manager, ITPT Project Team, ITPT Project User, ITPT Risk Issue, ITPT Status, ITPTLinksCI, Phase Set, Phase Set Object	Import
Dashboard	Project Details	Import

CSM mApp Solutions

Forms	CostItemProvisioning	Overwrite
	CostItemCategory, Departments	Don't Change
	ITPTBusinesCase, ITPTDeliverables, ITPTMeetingMinutes, ITPTMeetingMinutesCategory, ITPTMeetingMinutesStatus, ITPTMemberRole, ITPTPortfolio, ITPTPortfolio Summary, ITPTProject, ITPTProject Overview, ITPTProject Summary, ITPTProjectMemberCustomer 1, ITPTProjectManager, ITPTProjectManager Summary, ITPTProjectMemberUser, ITPTRisksIssues, ITPTStatus, PhaseSet, PhaseSetObject	Import
Form Arrangement	ITPTProject	Import
Grids	CostItemProvisioning	Overwrite
	CostItemCategory, Departments	Don't Change
	ITPTBusinesCase, ITPTDeliverables, ITPTMeetingMinutes, ITPTMeetingMinutesCategory, ITPTMeetingMinutesStatus, ITPTMemberRole, ITPTPortfolio, ITPTProject, ITPTProjectMemberCustomer 1, ITPTProjectManager, ITPTProjectMember, ITPTProjectMemberUser, ITPTRisksIssues, ITPTStatus, PhaseSet, PhaseSetObject	Import

Indexes	PK_CostItem	Overwrite
	Department_DepartmentName, PK_Departments	Don't Change
	ITPTBusinesCase_ BusinesCaseID, PK_ITPTBusinesCase, ITPTDeliverables_DeliverablesID, PK_ITPTDeliverables, ITPTMeetingMinutes_ MeetingMinuteID, PK_ITPTMeetingMinutes, ITPTMeetingMinutesCategory_ Category, PK_ITPTMeetingMinutesCategory, ITPTMeetingMinutesStatus_Status, PK_ITPTMeetingMinutesStatus, ITPTMemberRole_MemberRoleID, PK_ITPTMemberRole, ITPTPortfolio_PortfolioID, PK_ITPTPortfolio, ITPTProject_ITPTProjectID, PK_ITPTProject, PK_RecID, ITPTRisksIssues_RisksIssuesID, PK_ITPTRisksIssues, ITPTStatus_StatusID, PK_ITPTStatus, ITPTLinksCI_RecID, PK_ITPTLinksCI, ObjectType, PK_PhaseSet, PK_PhaseSetObject	Import
Mergeable Areas	ITPT Project Actions, ITPT Project Approvals	Overwrite
One-Step™ Actions	Close and Clear Dependencies	Overwrite
	Dial Customer Phone	Don't Change
	Alt Step 1 from Relationship, Alt Step 2 from Relationship, Approve Closing, Assign a Task from a Meeting Minute, Assign to a Project Manager, Assign to ANY Individual, Assign to PM, Assign to Team, Await ApprovalCreate, Change, E-mail Customer, Execute Project, Impacted CI's Button Actions, Next Step from Relationship, Notify Task Owners to Update Tasks, Project Approved, Reopen Project, Request Approval, Request Project Task Updates, Request Project Updates, Resume Work, Select a Project Manager (Deprecated), Send a new Meeting Minute notification E-Mail, Send Project Health Update, Take Ownership	Import

Relationships	Change Links to Project (ITPT), Business Case Owned By Project, Deliverables Owned By Project, Meeting Minutes Owned by Project, Project Links Change, Project Links Configuration Items, Project Links Customer, Project Links Phase Set, Project Links to Portfolio, Project Links to Status, Project Links to UserInfo, Project Owns Approvals, Project Owns Business Case, Project Owns Cost Items, Project Owns Deliverables, Project Owns Group Project Member, Project owns ITPT Customer, Project owns ITPT Project Users, Project Owns Journals - Note, Project Owns Meeting Minutes, Project Owns Project Manager, Project Owns Risks / Issues, Project Owns Tasks, Risks / Issues Owned By Project, Task Owned By Project	Import
Search	My Open Projects	Import
Stored Expressions	Max Phases	Overwrite
	System State E-mail	Don't Change
	# High Impact Open Risks/Issues, # of Not Accepted Deliverables, # of Open Issues, # of Open Tasks, # of Project Approvers, # of Project Notification Email Recipients, Actual Start Date, All Open Projects, Approval Phase, Budget Health, Budget Remaining, CapEx Budget Closing Phase Deliverable(s) Health, Deliverables Text for Approve Closing, Display # of Open Issues, Execute Phase, High Impact Open Risks/Issues Trigger, Initiation Phase, IT Project Total Budget, IT Project Total Cost, No Actual Effort Entered for Approve Closing, No Actual Effort Entered Text, No Actual End Date Entered for Approve Closing, No Actual End Date Entered Text, Not Accepted Deliverable Text, Not Accepted Deliverables Text > 1, Open Issue Text, Open Issue(s) Text for Approve Closing, Open Issues Text > 1, Open Task(s) Text for Approve Closing, Open Tasks Text Open Tasks Text > 1, OpEx Budget, Project Actual Start Date, Project Check for Closing, Project Health Journal Update, Project Health Update Time Stamp, Project ID, Project Manager Validation, Project Name, Project Planned End Date, Project Status, Risk Health, Schedule Health, Total Budget, Total Cost, Total Customer Accepted Deliverables, Total Deliverables	Import
Themes	Default Dark, Professional Grey	Don't Change
Visualization	Configuration Items	Don't Change
Widgets	CD-Budget Health, CD-Deliverables Health, CD-My Active Projects, CD-My Assigned Projects, CD-My Open Projects, CD-My Projects Awaiting Approval, CD-Risk Health, CD-Schedule Health, Open Projects	Overwrite

- Import: Add new item.
- Overwrite: Replace target item.
- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

Managed Service Provider mApp Solution 1.0

Cherwell Managed Service Provider (MSP) mApp® Solution provides a solution for an MSP organization to extend the service management and business processes supported within the CSM platform to multiple contracted companies.

A Managed Service Provider (MSP) is a third-party company that delivers services (example: Application, infrastructure, and security) through ongoing, regular support and active administration on customers' premises, in their MSP's data center (hosting), or on a third-party data center.

The MSP mApp Solution enables people from multiple companies to be included as self-service customers, organized within their companies, and receive services based on the service contracts with the MSP.

Platform version requirements: Tested on CSM 9.7.0 — 10.2.0.

Content version requirements: Tested on CSM 9.7.0 — 10.2.0; this mApp Solution may or may not be compatible on content versions earlier than 9.7.x, but as with all mApp Solutions, be sure to test it on your customized system.

Prerequisites: None.

Apply the mApp Solution

Follow these steps to download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Good to Know

- In certain areas, functionality is not guaranteed unless you use the CSM Desktop Client.
- In OOTB content versions 10.0.x, 10.1.x, and 10.2.0, the Related Item Navigation feature is enabled for the Incident and Problem Business Objects. If your MSP mApp Solution was created on a content version earlier than 10.0.0, and it overwrites or merges with Incident or Problem, review the Related Item Navigation within these Business Objects before you publish the mApp Solution Blueprint. Verify that you need all items within the Related Item Navigation and remove any tabs that are not for reference purposes. Thoroughly test functionality, especially in the CSM Browser Client.

Revision History

mApp Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	Tested on 9.7.0 — 10.2.0.	Tested on 9.7.0 — 10.2.0; this mApp Solution may or may not be compatible on content versions earlier than 9.7.x, but as with all mApp Solutions, be sure to test it on your customized system.	None.

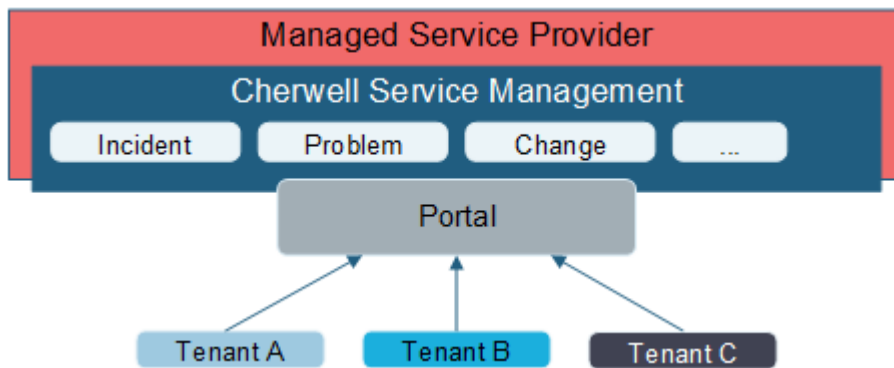
MSP Deployment and Configuration Options

A Managed Service Provider can configure Cherwell® Service Management for simple access deployment or by using segregated tenants. The choices depend on the level of access and customization required by the tenants weighed against the cost of configuring and maintaining the system.

Simple Access Deployment

Tenants who do not require technician access can be hosted in a single instance of Cherwell Service Management. A simple access deployment is the simplest to configure and allows the MSP to rapidly add more tenants with very little overhead. If desired, individual CSM Portal sites can be configured to give tenants a branded view to make their experience feel customized.

Configuring this deployment requires adding a common field to all Business Objects (example: CompanyID) and auto-populating that field from the tenant entering a ticket. MSP technicians can set up dashboards and queries to filter on specific tenants or view tickets across all tenants.



Simple access deployment has the following advantages:

- Simple security configuration. The simpler the security configuration, the less likely mistakes will occur. In this model, all tenants to use the same Security Group although this is not required.
- Single CSM database. This requires less overhead for maintenance and backups.
- Management of a single content set. In this model, Business Objects are shared across all tenants, meaning there is less work to maintain, enhance, and test the content.

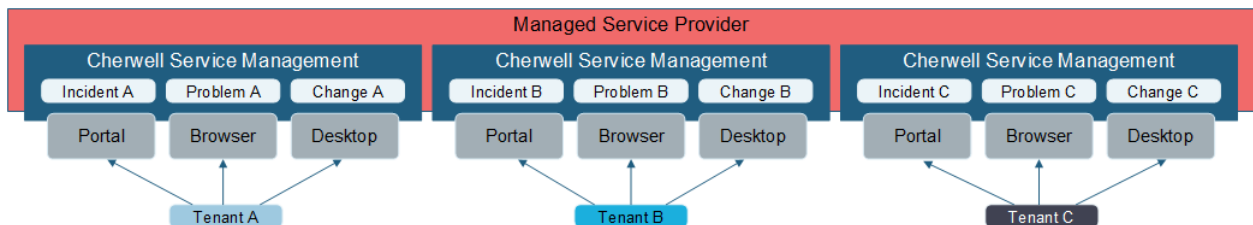
This deployment option has the following disadvantages:

- Portal-only access for tenants. Access to the Technician clients isn't possible, because that would expose the data from all tenants in this model.
- Similar tenant experience. Since this is a single content set, the experience across tenants will be almost identical. Some customization can be achieved through individual Portals and Themes.
- Single configured SSO provider. The use of multiple SSO providers can be achieved through a Federated provider.

Segregated Tenants

Tenants requiring the highest level of security and data segregation need the MSP to deploy a separate CSM instance for each tenant. Implementation of this deployment requires an integration from each tenant instance into the primary MSP instance for management of tickets between the systems. This can be achieved using one of the following options:

- Linked Objects, if the content between instances is similar
- Cherwell® REST API calls
- Jitterbit, if advanced integration logic is necessary



Configuring segregated tenants has the following advantages:

- Tenant experience can be completely customized. Since each tenant will reside in their own database, the content can be customized as much or as little as needed.
- Technician and Portal access. Tenants can access the Desktop Client and Browser Client in addition to the CSM Portal.
- Administrator access. In this model, customers can be provided access to CSM Administrator to manage their own users, security, and potentially even their own content.
- No potential for data exposure. Nothing from one tenant can be exposed to another.
- Per-tenant SSO provider.

This configuration has the following disadvantages:

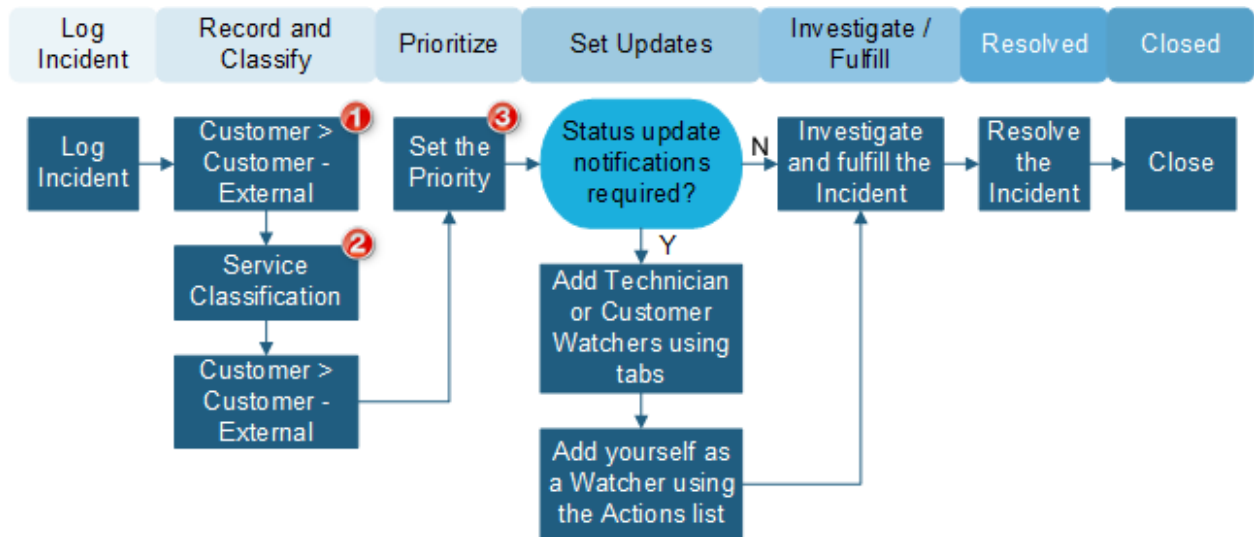
- Multiple content sets. Must manage multiple content sets that could diverge over time, making changes and testing more difficult. This also might require setting up integrations to a common MSP system to manage tickets flowing between a tenant and the MSP.
- Multiple CSM databases. Each tenant is required to have its own database for segregation, requiring more overhead and maintenance.
- Increased hardware costs. Each tenant would require its own instance of the CSM Web Applications and services.

MSP mApp Solution Workflows

The Managed Service Provider mApp® Solution uses the same forms as CSM. However, the workflows are sometimes different.

MSP Incident Workflow

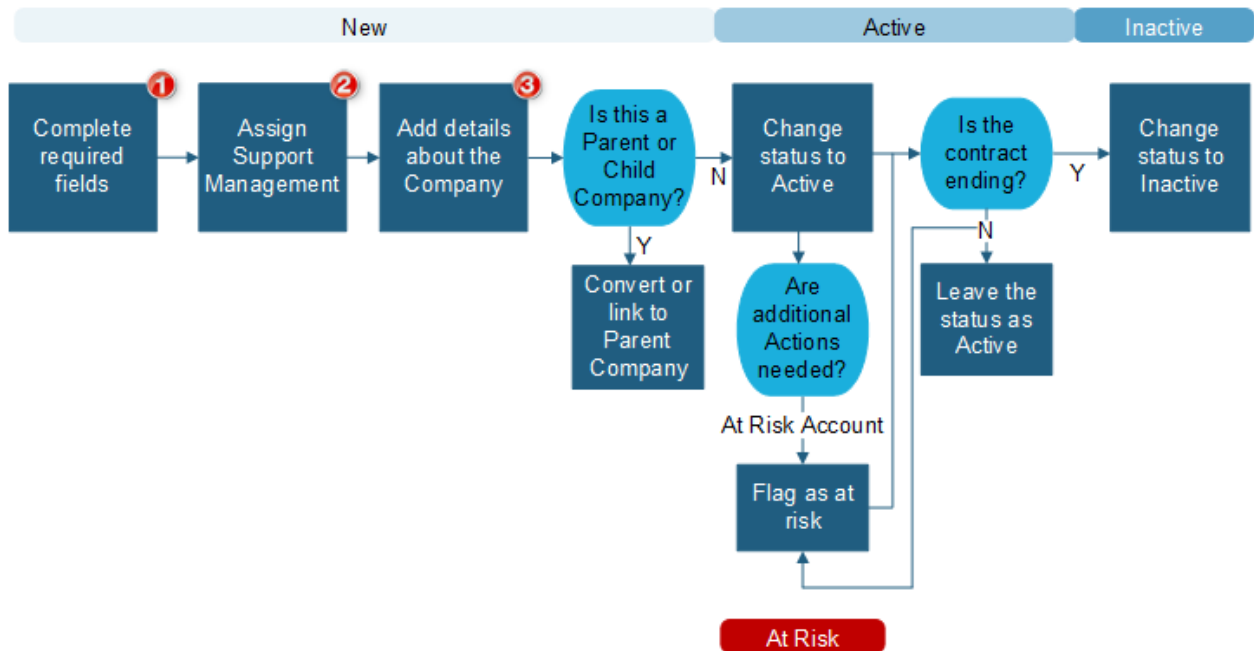
The following figure describes a high-level Incident workflow for the MSP mApp Solution.



1	The Classification is limited to only the Services assigned to the Customer - External's Company of record.
2	The Assigned Team is automatically populated from the Customer External's Company of record.
3	The SLA is automatically populated based on the Customer - External record.

MSP Company Workflow

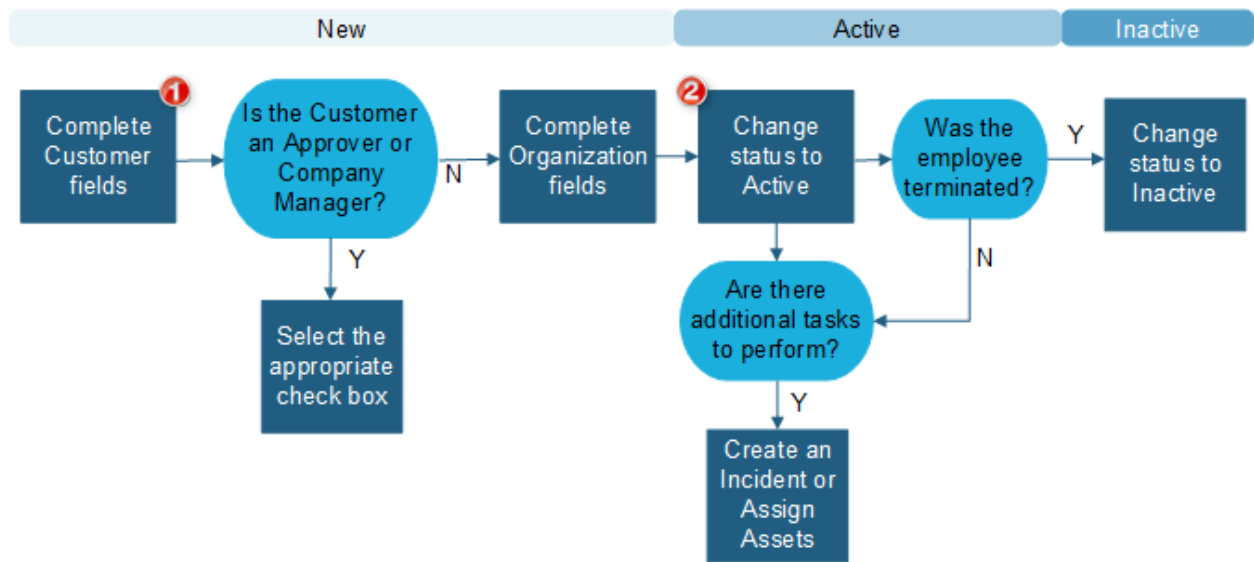
The following figure describes a high-level Company workflow for the MSP mApp Solution.




1	The required fields are Company name, Company ID, and Primary Contact Name.
2	This includes the Default Support Team and an Account Manager on that team.
3	<p>Add, upload, or link the following details:</p> <ul style="list-style-type: none"> • Company CIs • Company site and building locations • Services • Support users • Assigned SLAs

MSP Customer - External Workflow

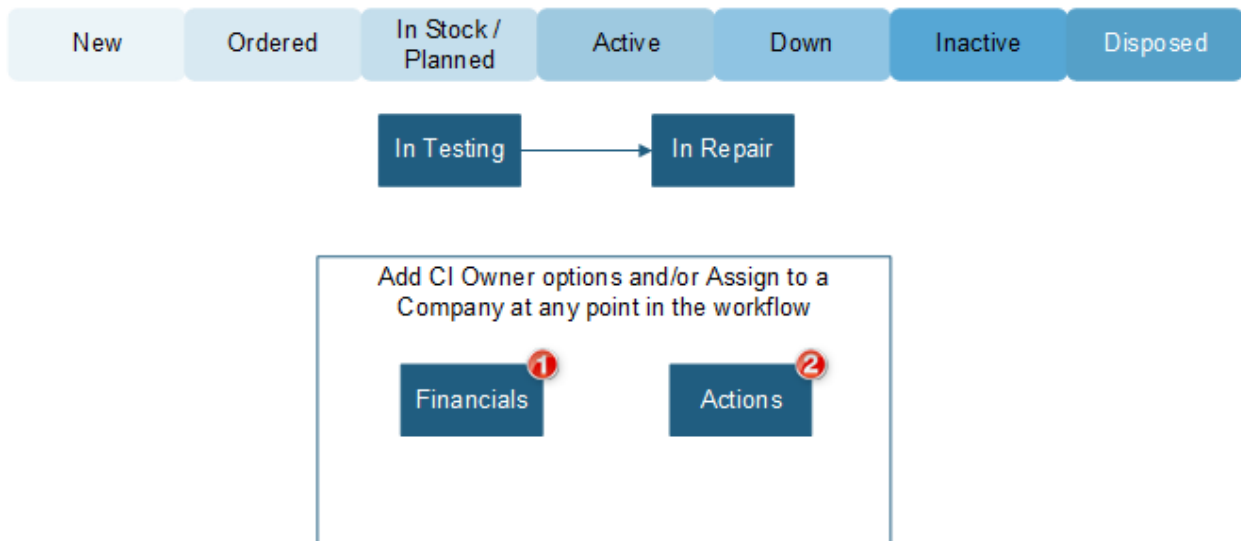
The Customer - External form was created to assist with MSP work and to establish separation between the internal customers and external customers. The following figure describes a high-level Customer - External workflow for the MSP mApp Solution.



1	<p>Customer fields include First Name and Last Name fields, which are required, and the following fields that are not required:</p> <ul style="list-style-type: none"> • Title • Primary Phone • Email
2	<p>Organization fields include Company. The Site and Building fields are automatically filtered according to the Company selected.</p> <p> Note: SLA Subscription is automatically populated based on the Company selected.</p>

MSP Configuration Item Workflow

The following figure describes a high-level Configuration Item (CI) workflow for the MSP mApp Solution.



1	Choose a CI Owner. This can be any of the following options: <ul style="list-style-type: none">• Employee owned• Company owned• MSP owned
2	Assign the Configuration Item to a Company.

Company Form

The Managed Service Provider mApp® Solution introduces a Company Business Object that is used to manage records for Individual Companies, Parent Companies, and Child Companies.

Use the Company form to record and manage information about a company. The following sections make up the Company form:

1. Default form: Displays important at-a-glance information, such as Company name, Company status, primary contact, support team, and account manager.
2. Pages tabs: Dynamically displays a tabbed collection of related forms and records.
3. Form area: Displays the main form fields.
4. Actions list: Dynamically displays a list of actions that are available for the Company.

Unlimited Produce Created by Henri Bryce on 9/25/2019 at 11:48 AM
Last modified by Henri Bryce on 9/25/2019 at 12:07 PM

STATUS	CONTACT	SUPPORT	ACCOUNT MANAGER
Active Next: Inactive	Suzy Day sday@unlimitedproduce.com	1st Level Support	Henri Bryce henri.bryce@RiverTCorp.com

Overview Journals Tasks (0) Related Cls (0) Site MSP Services (0) MSP Support Assigned SLAs

Details

Company Name *

Company ID *

Primary Contact Name *

Primary Contact Phone

Primary Contact Email

Default SLA Subscription

Company Phone

Company Website

Company Site

Support Management

Default Support Team
1st Level Support

Account Manager
Henri Bryce

[Cancel](#) [Save](#)

Actions

- [Assign to Me](#)
- [Create New Contact](#)
- [Remove a Service](#)
- [Remove All Services](#)
- [Convert to Parent Company](#)
- [Link to Parent Company](#)
- [Flag as At Risk](#)

The following table describes the fields and other elements that make up the Company form:

Field	Description
Default Form	Displays important at-a-glance information, such as Company name, Company status, primary contact, support team, and account manager.
Company Name	Populated from the Company Name field on the Overview form.

Field	Description
Company Status	<p>Statuses include:</p> <ul style="list-style-type: none"> • New • Active • At risk • Inactive
Primary Contact	Populated from the Primary Contact Name field and Primary Contact Email field
Support	Populated from the Default Support Team drop-down list
Account Manager	The internal Customer responsible for managing the Company's account within MSP. Populated from the Account Manager related item picker.
Pages Tabs	Dynamically displays a tabbed collection of related forms and records.
Overview	Form entry view to enter company basics and use Action Menu .
Journals	Journal details and tracking.
Tasks	Company-specific tasks.
Related CIs	Any configuration items that are assigned to this company.
Site	Locations specified to this company.
MSP Services	The Service Catalog areas that the MSP has contracted with this company to support.
MSP Support	The technicians (users) that are assigned to support this company from the Service Desk
Assigned SLAs	The SLAs associated with this company that the MSP has agreed to.
Form Area	Displays the main form fields.
Company Name	Name of the Company.
Company ID	ID of the Company. Used in filtering several areas, such as MSP Services.
Primary Contact Name	Name of the primary contact at the Company. The related item picker will use the Customer - External record to complete the information fields for the primary contact.
Primary Contact Phone	Populated from the related item picker for the Company's Primary Contact.
Primary Contact Email	Populated from the related item picker for the Company's Primary Contact.
Default SLA Subscription	Drop-down list is populated from the options available on the Assigned SLAs tab.
Company Phone	Company phone number.
Company Website	Company website.
Company Site	Company's location based on the Site Business Object related item picker. Address, City, State/Province, and Postal Code are populated from the Site record.

Field	Description
Default Support Team	This team acts as the 'triage' for all incoming tickets from this Company. Tickets are auto-routed to this team from the CSM Portal submissions.
Account Manager	The Customer-Internal person who is responsible for managing this Company's account with the MSP organization (example, who handles their contract, customer success, and so on.)
Action List	Dynamically displays a list of actions that are available for the Company.
Assign to Me	Assigns the company Account Manager as the current User.
Create New Contact	Creates a new Customer - External record.
Remove a Service	Allows the user to individually remove assigned Service Catalog items.
Remove All Services	Allows the user to remove all assigned Service Catalog items.
Convert to Parent Company	Changes the current record to a Parent company and adds a new tab to the pages for Children Companies.
Link to Parent Company	Changes the current record to a Child company and adds a new tab to the pages for Parent Company.
Flag as At Risk	Changes the current company record to the Status of At Risk and allows for entry of an At Risk Reason.

Customer - External Form

The MSP mApp® Solution introduces the Customer - External form to store pertinent information about Customers at companies that are served by an MSP.


Use the Customer - External form to record information about an external customer. The Customer - External form includes the following areas:

1. Default form: Displays important at-a-glance information, such as customer name, employee status, Company associated with the customer, and customer contact information.
2. Pages tabs: Dynamically displays a tabbed collection of related forms and records.
3. Form area: Displays the main form fields.
4. Actions list: Dynamically displays a list of actions that are available for the external Customer.

The screenshot displays the 'Customer - External Form' interface. At the top, a header bar shows the user profile for 'EMPLOYEE Cheryl Baker' (1), including their status (Active), company (ACME Co), and contact information (571-205-1847, cbaker@acme.net). Below this is a navigation bar with tabs: Overview, Journals, Incidents, Assets, Company, and Customer SLA (2). The main form area (3) is divided into three sections: 'General' (First Name, Middle, Last Name, Title, checkboxes for Approver and Company Manager), 'Contact' (Primary and Secondary Phone numbers with types, E-Mail, and Secondary E-mail), and 'Organization' (Company Name, SLA Subscription, Notes, Site Name, Building, Location ID, Address, City, State/Province, and Postal Code). To the right of the form is an 'Action' panel (4) with a 'Create an Incident' link.

The following table describes the fields and other elements that make up the Customer - External form:

Field	Description
Default Form	Displays important at-a-glance information, such as Customer name, Employee status, the Company associated with the customer, and customer contact information.
Employee	Displays employee name.
Status	<p>Statuses include:</p> <ul style="list-style-type: none"> • New • Active • Terminated
Company	Company associated with the Customer – External record. Populated from the Company Name related item picker.
Contact	Customer information. Populated from the Primary Phone and E-mail fields.
Pages Tabs	Dynamically displays a tabbed collection of related forms and records.
Overview	Contact input form.
Journals	Records Journal information.
Incidents	Any Incidents associated with the external customer.
Assets	Any CIs that have the current external customer as the Primary User.
Company	Summary form of the Company to which the external customer record is linked. This comes from the Company Name field on the Overview page.
Customer SLA	The Summary form for the SLA that the Customer - External record. This comes from the SLA Subscription field on the Overview page.
Form Area	Displays the main form fields.
First Name	Customer's first name.
Middle	Customer's middle initial.
Last Name	Customer's last name.
Title	Customer's title (example: Owner, Technician).
Approver	Determines whether this person is allowed to approve service requests that need approval.
Company Manager	Determines whether this person is allowed to see all tickets logged across the Company through the Company Management Dashboard in the Portal.
Primary Phone and Type	Main phone for the customer and a drop-down menu to indicate what type of phone it is.
Secondary Phone and Type	Alternate phone for the customer and a drop-down menu to indicate what type of phone it is.
E-mail	Customer's email address.
Secondary E-mail	Customer's alternate email address.

Field	Description
Company Name	The Company record for the Company that employs this customer.
SLA Subscription	Customer's SLA. This is initially populated based on the associated Company record's default SLA Subscription. This can be changed at the individual level.
Notes	Text box for notes about the Customer.
Site Name	<p>Sites in this related item picker are restricted to those that are linked to the Company record.</p>  Note: Address, City, State/Province, and Postal Code fields are populated based on the Site and Building records.
Building	Buildings are restricted based on the Site chosen.
Location ID	Can be a specific workstation, office number, and so on.
Actions List	Dynamically displays a list of actions that are available for the external Customer.
Create an Incident	Creates an incident record with the current Customer - External record set as the Customer.

Configuring the MSP mApp Solution

Configure the CSM Managed Service Provider (MSP) mApp® Solution for better performance.

Use CSM Administrator and CSM Desktop Client/CSM Browser Client for the configurations.

- Add Service Catalog Items to a Company
- Add Service Level Agreements to a Company
- Add Support Technicians to a Company
- Configure the Security Groups and Roles for a Company

Add Service Catalog Items

Use the Company form to add Service Catalog items.

The Managed Service Provider (MSP) mApp® Solution allows technicians to log Incidents and Service Requests for External Customers. After the Service Catalog items are added to the Company, technicians using the Service Classification related item picker will have access to only the options for that External Customer.

To add Service Catalog items:

1. Select the **MSP Services** page.
2. Select the **Link records** button in the toolbar.
The Incident **SubCategory Selector** window opens to show the MSP's entire Service Catalog availability.
3. Highlight the Service Catalog items to be linked to the Company record.
4. Select **OK**.
The Service Catalog items are linked to the Company record.
5. Save the Company record.

Add Service Level Agreements

Use the Company form to add Service Level Agreements (SLAs).

The MSP organization will agree to certain SLAs with each Company with which they have a contract. Each Company can be assigned multiple SLAs. On the Overview page, you will assign a Default SLA as the starting point for each Company.

The Default SLA assigned at the Company level has several purposes:

- It is the starting point for all Incidents/Service Requests associated with this Company.
- When set at a Parent Company record, it auto-populates as the Default SLA on all Child Company records created.



Note: The Default SLA can be changed at each Child Company record, but it auto-populates as the Default as a starting point.

- The Default SLA set at the Company record also auto-populates as the Default SLA on all Customer - External records linked to the Company.



Note: The Default SLA can be changed at each Customer - External record, but it auto-populates as the Default as a starting point.

To add an SLA to the Company and set the default SLA:

Assign an SLA to the Company

1. Select the **Assigned SLAs** page.
2. Either select **New SLA** to create a new SLA, or select the **Link record** button to link an existing SLA.
If you select **Link**, the **SLA Selector** window opens.
3. Choose the SLAs to link to the Company record.
4. Select **OK**.
The Service Catalog items are linked to the Company record.
5. Save the Company record.

Select a default SLA

6. Select the **Overview** page.
7. Under **Details**, select an SLA from the **Default SLA Subscription** drop-down menu.

Add Support Technicians

Use the Company form to add Support Technicians to a Company's support team.

The MSP organization will assign a limited number of Support Technicians to each Company. This practice ensures security across records and does not allow Support Technicians to view or work on tickets for Companies they are not allowed to support.

To add Support Technicians to a Company's support team:

1. Select the **MSP Support** page.
2. Select the **Link records** button in the toolbar.
The **User Info Selector** window opens to show the MSP's entire list of Users.
3. Select the individuals to add to the Company's support team.
4. Select **OK**.
The Users are linked to the Company record.
5. Save the Company record.

Configure MSP Security Groups and Roles

The Managed Service Provider (MSP) mApp® Solution introduces Security Groups to control permissions for Service Desks.

The following Security Groups are now included with the MSP mApp Solution:

- Company Service Desk 1
- Company Service Desk Manager

Action	Company Service Desk 1	Company Service Desk Manager
Log and work on Incidents and Service Requests	ONLY companies they have been assigned to support	ONLY companies they have been assigned to support
Search for Incidents and Service Requests	Return results linked to the Companies that user supports	Return results linked to the Companies that user supports
Search for Company records	Return only results for Companies that the user has been linked to	Return only the results for Companies that the user has been linked to
Available Company record actions	View only (Cannot Add, Edit, or Delete)	View, Add, and Edit (Cannot Delete)
Search for Customer – External records	Return results linked to only the Companies that user supports	Return results linked to only the Companies that user supports
Available Customer – External record actions	View, Add, and Edit (Cannot Delete)	View, Add, and Edit (Cannot Delete)

There are certain roles associated with each of the new Security Groups. The following roles are associated with the Company Service Desk 1 Security Group:

- Company Service Desk 1
- IT Service Desk Manager

The following roles are associated with the Company Service Desk Manager Security Group:

- Company Service Desk Manager
- IT Service Desk Manager

Create a Security Group

If an existing Security Group has similar permissions to what is required for a new Security Group, create the new Security Group by duplicating the existing group and editing its configuration.

The Managed Service Provider (MSP) includes two Security Groups for administering services. There are situations where additional Security Groups can be beneficial. There may be a person on site at a Company who needs the ability to resolve open Incidents but does not need all the permissions granted to the Company Service Desk 1. For situations like this, CSM allows you to create a new Security Group by copying an existing Security Group, naming the new Group, and configuring the Group's permissions.

To create a Security Group:

1. Select **Edit security groups** on the **Security** page of CSM Administrator.
The **Security Groups** dialog box opens.
2. Select the existing Security Group from the **Group** drop-down list that is close to the one you are creating.
3. Select **File > Copy Security Group**.
4. Enter a name for the new Security Group.
The new Security Group appears as an exact copy of the original Security Group.
5. Edit the Security Group settings for the new Security Group.
6. Select **Save**.

Using the MSP mApp Solution

Use the Cherwell Managed Service Provider (MSP) mApp® Solution to manage tickets for external customers.

Work with a Ticket in the MSP mApp Solution

The Managed Service Provider (MSP) mApp® Solution allows technicians to manage tickets for their assigned Companies.

The following procedures describe how a technician would open an Incident and describe the Incident.

To open an Incident and add a description:

1. Select the **Customer** related item picker.
2. Under **Customer type to show**, select **Customer - External** from the drop-down menu.
The search is narrowed to only external customers.
3. Select the Customer - External record for the person calling.
4. Select **OK**.
When the Customer - External record is selected, the following actions are taken:
 - The **Assigned Team** field is auto-populated with the Default Support Team assigned at the Company record.
 - The SLA tied to that Customer - External record or Company record sets the starting point for the Respond/Resolve times.
5. Select the **Service Classification** related item picker to open the **Incident Subcategory Selector** window.
Only the Subcategory items that have been linked to the Company record with which this external customer is associated show in the options.
6. Choose the Subcategory.
7. Select **OK**.

Add Watchers to Incidents and Service Requests

A new link has been added above the Actions list to add yourself (the current logged-in User) as a Watcher on the current Incident/Service Request record. A Watcher receives all communications regarding the Incident/Service Request record that an external customer receives. This allows the Watcher to monitor the situation in case the Incident/Service Request record needs to be escalated. On the **Overview** page, the number of Watchers is reflected above the Actions list.

If there are several Internal Customers who want to keep watch on a particular Incident/Service Request, they can all be linked or unlinked from the **Technician Watch List** page. Likewise, if a Company Manager notices from the Company Management dashboard in the CSM Portal that an Incident has breached its SLA, they can add a comment on the Incident that they want to be added as a watcher to the ticket.

All changes to Technician and Customer Watch Lists are recorded in the Activity Pane along with copies of all external communications that have been sent to the external customer and Watchers.

Release Management mApp Solution 1.0.1

The Release Management mApp® Solution provides functionality that allows you to use Release features such as a default form, Automation Processes, One-Step Actions, Expressions, Saved Searches, Widgets, and a Dashboard.

Platform Version Requirements: Tested on CSM 6.0.0 - 9.6.x.

Out-of-the-Box Content Version Requirements: Tested on CSM 6.0.0 - 9.6.0. Warnings and workflow issues may occur with CSM 9.6.0 content.

Prerequisites: None

Overview

CSM Release Management is the process that ensures that builds are created, tested, and deployed without affecting the stability of existing Services. CSM integrates with Release Management so that you can incorporate the CSM Release Business Process into your system.

Release 10405

Status: **New**

Priority: **Urgent**

Open Tasks: **3**

Requestor: Gina Mehra
gina.mehra@rivertcorp.com
833-898-7381

Owned By/Release Manager: **Clair Wu**
3rd Level Support
833-898-4331
clair.wu@rivertcorp.com

I Want To:
☒ Take Ownership
☐ Show All Tabs
☐ E-Mail Release Team
☐ Show Related Tabs
[Notify Task Owners to Update Tasks](#)
[View Detailed Date/Time Information](#)

Quick Info Tile

Workflow Bar: Plan | Build | Test | Document | Approve | Deploy | Review

Main Pane: Release Title: Upgrade to SQL Server 2014 **Risk Analysis: High**

Release Details:

Title: Upgrade to SQL Server 2014

Due Date: 6/2/2014

Description: Upgrading the SQL Server from the 2012 version to 2014 version.

Scope: Affects all Enterprise Apps that use the SQL Server Database.

Justification for release and any associated risks: Development requires access to new SQL features.

Package Build:

Build Version	Short Description	Build Location	Destination
20140512-01	QL Server 2014	D:\Installers\SQLServer\SQL2014-x...	

Build Release Package:

Short Description: QL Server 2014

Build Version (must be unique): 20140512-01

Build Location: D:\Installers\SQLServer\SQL2014-x64.exe

Destination: \\appserver\program files\SQL Server

How the mApp Solution Works

CSM provides Release as a mApp Solution so that Users can easily unify all aspects of the Release process with their existing CSM system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp Solution wizard to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

After the mApp Solution is applied, Users can use Release in the same way as other CSM processes. Access the Release Form by clicking **File>New>New Release** in the CSM Desktop Client, or configure the Release Business Object by clicking **Create New Blueprint>Release>Edit Business Object** in CSM Administrator.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	Change Request, Configuration Item, Service Schedule	Merge
Business Object	Release, Release Build Disposition, Release Disposition, Release Embedded Form, Release Package Build, Release Priority, Release Role, Release Status, Release Team, Release Team Member Type, Release Test, ReleaseLinksCI	Import
Business Object	ChangeRequestLinksCI, Customer, Customer - Internal, Incident, ITPT Project, Phase Set, Service, Task	Don't Change
Automation Process	Notify Release Owner of Assignment, Notify Release Team of Build Test Results, Notify Release Team of New Build, Notify Release Team of Ownership	Import
Calendar	IT Calendar	Don't Change
Counter	Release#	Import
Custom View	Portal Default View of Customer - Internal	Don't Change
Dashboard	Release Summary	Import
Metric Value	Numerous	Import
One-Step Action	Numerous	Import
Stored Expression	Numerous	Varies
Stored Query	Numerous	Import
Theme	Professional Grey	Don't Change
Widget	Numerous	Varies

Item Category	Item	Typical Merge Action
<ul style="list-style-type: none">• Import: Add new item.• Overwrite: Replace target item.• Merge: Merge differences.• Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).		

Related Reading

- [About mApp Solutions](#)

Apply mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

How to Use the mApp Solution

When working with the Release Management mApp Solution, Users can:

- [Create a Release](#)

Using the Release Management mApp Solution

When working with the Release Management mApp Solution, Users can:

Create a Release

The following procedure walks you through the typical steps to create a Release, including tips, optional steps, and behind-the-scenes information. The different contributors are noted in the procedure.

To create a Release:

1. On the [CSM Desktop Client toolbar](#), click **New>New Release**.



Note: Since a Release can be the implementation of one or more Change Requests, a Release can also be created from a Change Request by clicking **File>New>New Release** from the CSM menu bar or by clicking the **Create New Release** link in the Change Request Actions section of the Task Pane. When submitted from a Change Request, the Release inherits details from its Parent Business Object.



A new Release Record is created with a unique ID and a status of New. The Release enters the Plan phase.

The screenshot displays the CSM Desktop Client interface for creating a new Release. The main window is titled 'Release 10405' and shows a 'New' status. The left sidebar contains a 'Quick Info' tile with fields for Requestor, Owned By/Release Manager, and I Want To. The main area is divided into sections for Release Details and Risk Analysis. The Release Details section includes fields for Title, Priority, Risk, Category, Type, Version, Primary CI, Planned Start, and Planned End. The Risk Analysis section includes fields for Due Date, Description, Scope, and Justification. The bottom of the screen shows a 'Journals' and 'Change Requests' section with a table of records.

Type	Created	By	Details
There are currently no records			

2. The creator records the initial details.
 - a. Requestor (in the Quick Info Tile): Provide the **name** of the person who initiated the Release (example: Gina), and then press **ENTER** or **TAB** to search for the User Record.

If an exact match is found, the Requestor fields are autopopulated with the User's name, avatar, e-mail, and phone. If multiple matches are found (ex: multiple Users named Gina), the UserInfo Selector opens so that you can select the appropriate User.

Tip: Wildcards (example: "%" or "**") can be used when searching. To browse for a User or add a new Customer Record, click the **User Selector** button  to launch the Contact Manager. To view the selected Requestor's detailed User Record, click the **Quick View** button .

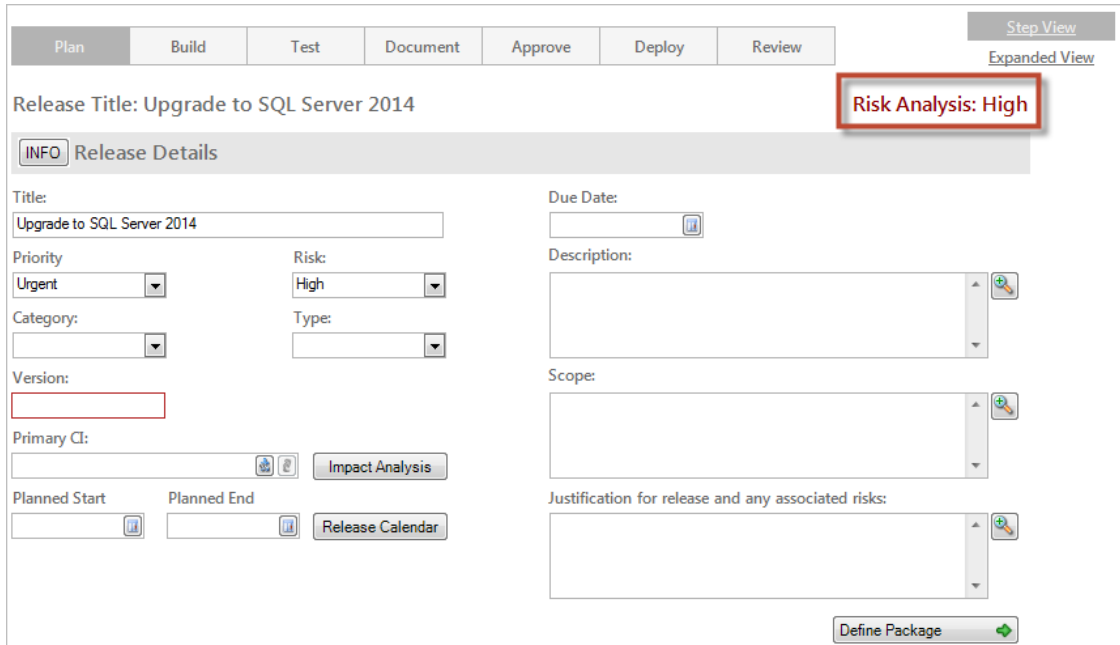
- b. Title: Provide a **title** (example: Upgrade to SQL Server 2014).
- c. Priority: Select a **priority** for the Release (example: Urgent).
 - i. Click the **Priority** drop-down to reveal the Priority Matrix, and then click a **priority number** (example: Urgent for a mission-critical, department-wide Release).

The priority is displayed in the Priority alert bar of the Quick Info Tile. The color (red/orange/green) indicates the level of priority.




- d. Risk: In the drop-down, select a **risk** (example: High).

After you select a risk level, Risk Analysis notification text appears above the Release Details banner of the Release Form.




The screenshot shows the Release Form interface. At the top, there are tabs: Plan, Build, Test, Document, Approve, Deploy, Review, and Step View. Below the tabs, the Release Title is "Upgrade to SQL Server 2014". A red box highlights the "Risk Analysis: High" notification. The Release Details section includes fields for Title, Priority (set to Urgent), Risk (set to High), Category, Type, Version, Primary CI, Planned Start, and Planned End. There are also buttons for Impact Analysis, Release Calendar, and Define Package. The Description, Scope, and Justification for release and any associated risks sections are also visible.

- e. Category: Select a **category** from the drop-down (example: Major).

- f. Type: Select a **type** of deployment:
 - Delta: Deploy an update for an existing software package.
 - Full: Deploy a complete software package.
 - Package: Deploy a set of full and delta Releases together.
 - g. Version: Provide the **version number** of the Release (example: 5.0).
 - h. Primary CI: Select an affected CI:
 - i. Click the **CI Selector** button  to launch the CMDB window to select a CI or create a new CI.
 - ii. Impact Analysis: Click this **button** to view a Configuration Map of CIs that are affected by the Release.
 - i. Planned Start: Click the **Date Selector** button to access the Calendar, and then select the **day** in which you plan to begin the Release process.
 - j. Planned End: Click the **Date Selector** button to access the Calendar, and then select the **day** in which you plan to deploy the Release.
 - k. Release Calendar: Click this **button** to open the Change/Release Calendar.
 - l. Due Date: Click the **Date Selector** button to access the Calendar, and then select the **day** in which the Release is due.
 - m. Description: Provide a **description** of the Release.
 - n. Scope: Provide a **scope** for the Release (example: Affects all Enterprise Apps that use the SQL Server Database).
 - o. Justification for Release and any associated risks: Provide a **justification** and any **risks** that may occur during the Release process (example: Development requires access to new SQL features).
3. Assign an Owner:
- a. Click one of the Ownership Links in the Quick Info Tile (Owned By/Release Manager section). Ownership is required:
 - Take Ownership: Click this **link** to make yourself the User owner.
 - Assign to: Click this **link** to select a User owner (Release Manager). The Team owner is populated by the User owner's default Team.
 - Select Owner (User): Click this **link** to first select a Team and then a User owner (Release Manager) (User is limited by Team).
 - Select Team: Click this **link** to first select a Team owner.

Owned By/Release Manager: [Assign To...](#)

 - select owner -
 - select team -
 - no phone on record -
 - no e-mail on record -

I Want To:

[Take Ownership](#) ☐ Show All Tabs
[E-Mail Release Team](#) ☒ Show Related Tabs
[Notify Task Owners to Update Tasks](#)
[View Detailed Date/Time Information](#)

CSM automatically sends an e-mail to the owners to notify them of Ownership.

4. Owner builds the Release Package.
 - a. Click the **Define Package** button on the Release Details form.

The Release Units form opens and the Release status changes to Planning.


Plan Build Test Document Approve Deploy Review [Step View](#)
[Expanded View](#)

Release Title: Upgrade SQL Server 2014 Risk Analysis: High


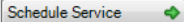
INFO Release Units

☐ Hardware ☐ Documentation
☐ Software ☐ Training

Please choose associated CI's on the Release CIs tab

 View Impacted CI's


Hyperlinks to Release Build Documentation (if applicable)

 Release Details  Schedule Service

- b. Select **Release Package Units** check boxes to select desired components of the package.
- c. Owner adds additional affected CIs (example: SQL Server License):
 - i. Click the **Release CIs** tab in the Form Arrangement to open the CI Grid.

- ii. Click the **Add a Configuration Item** button  to launch the CMDB window, where you can select a CI or create a new CI.

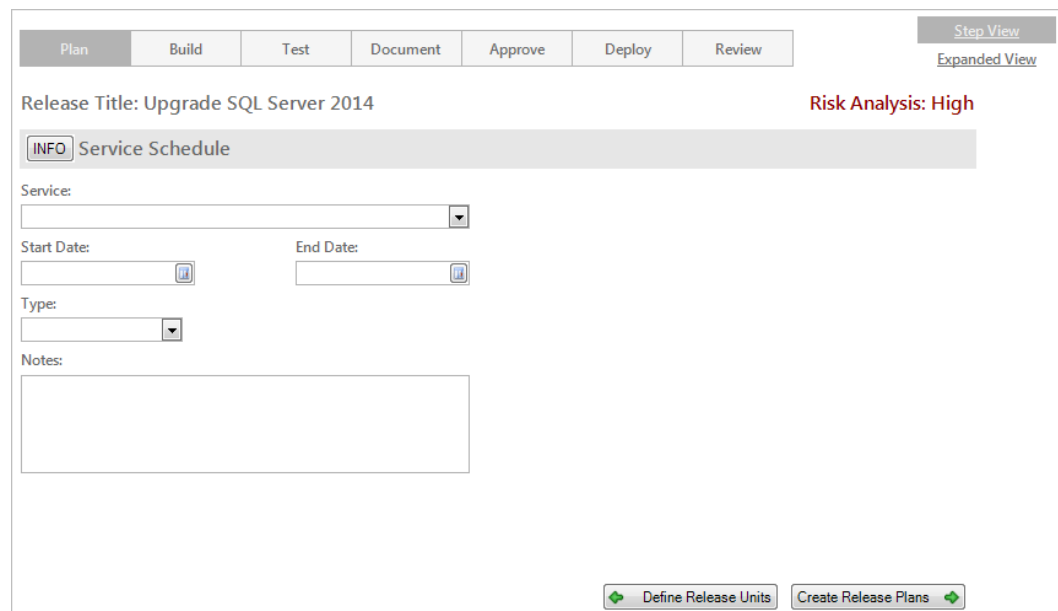
The selected CI record appears in the Configuration Items tab.

- iii. View Impacted CIs: Click the **Visualization** button  to view affected CIs.
- iv. Hyperlinks to Build Documentation: Insert a **hyperlink** to the documentation associated with the build, if applicable (ex: [http://msdn.microsoft.com/en-us/library/dn237258\(v=sql.120\).aspx](http://msdn.microsoft.com/en-us/library/dn237258(v=sql.120).aspx)).

- d. Owner adds the Release to the Service Schedule.

- i. Click the **Schedule Service** button on the Release Units form.

The Service Schedule form opens in the Main Pane.



Plan Build Test Document Approve Deploy Review

Step View
Expanded View

Release Title: Upgrade SQL Server 2014 Risk Analysis: High

INFO Service Schedule

Service:

Start Date: End Date:

Type:

Notes:

Define Release Units Create Release Plans

- ii. Service: In the drop-down, select the affected **Service** (example: Enterprise Apps).
 - iii. Start Date: Click the **Date Selector** button to access the Calendar, and then select the first **day** in which the Service will be affected.
 - iv. End Date: Click the **Date Selector** button to access the Calendar, and then select the last **day** in which the Service will be affected.
 - v. Type: Select the **type of disruption** the Release will have on the Service.
 - vi. Notes: Provide any **additional information** about the Service Schedule.
- e. Owner defines a Release Plan.
 - i. Click the **Create Release Plans** button on the Service Schedule form.

The Release Plans form opens in the Main Pane.

Plan Build Test Document Approve Deploy Review

Step View
Expanded View

Release Title: Upgrade SQL Server 2014 Risk Analysis: High

INFO Release Plans

Deployment Plan:

Backout Plan:

Schedule Service Assign Release Team

Notes: View additional form information and helpful tips by clicking the **INFO** button located on the title banner of the form. All fields on the Release Plans form are required.

- ii. Deployment Plan: Provide the **deployment plan** such as timelines or Tasks.
- iii. Backout Plan: Provide **backout plan** details in case the deployment is unsuccessful.
- f. Owner defines a Release Team.
 - i. Click the **Assign Release Team** button on the Release Plans form.

The Release Team form opens in the Main Pane and the Release Team tab appears in the Arrangement.

Release 10405

Status: **Planning**

Priority: **Urgent**

Open Tasks: **0**

Requestor: **Gina Mehra**
gina.mehra@rivercorp.com
833-898-7381

Owned By/Release Manager: **Clair Wu**
3rd Level Support
clair.wu@rivercorp.com

I Want To:
☐ Show All Tabs
☒ Show Related Tabs
[Take Ownership](#)
[E-Mail Release Team](#)
[Notify Task Owners to Update Tasks](#)
[View Detailed Date/Time Information](#)
[Cancel Release](#)

Release Title: Upgrade SQL Server 2014 **Risk Analysis: High**

INFO Release Team
Use the Release Team tab to assign members to the Release Team

[Create Release Plans](#) [Assign Tasks](#)

Release Team

Role	Full Name	Email
There are currently no records		

There is no current record

Note: View additional form information and helpful tips by clicking the **INFO** button located on the title banner of the form.

- ii. Click the **New Release Team** button in the Release Team tab of the Arrangement.



The Release Team Member form opens.

- iii. Send Notification E-mails: Select this **check box** to indicate that the User should receive Release updates via e-mail.

Note: Notification e-mails are used for Release updates. Updates are sent using links in the I Want To section of the Quick Info Tile. Click the **E-mail Release Team** link to define and send an e-mail to Release Team members, and click the **Notify Task Owners to Update Tasks** link to send a notification e-mail to Task owners.

- iv. Name: Provide the **name** of a User (example: Henri), and then press **ENTER** or **TAB** to search for the User Record.

If multiple matches are found (example: multiple Users named Henri), the Contact Manager opens so that you can select the appropriate User.

Tips: Wildcards (example: "%" or "**") can be used when searching. To browse for a User, click the **User Selector** button  to launch the Contact Manager. To view the selected User's detailed Record, click the **Quick View** button .

Note: After a User is selected, the e-mail address and phone number fields are auto-populated using information from the User's UserInfo Record.

- v. Role: In the drop-down, select the **role** of the User.
- Deployment Manager
 - Documentation Manager
 - Knowledge Manager
 - Stakeholder
 - Testing Manager
 - Training Manager
- vi. E-mail: Provide the **e-mail address** of the User.

Note: This field is auto-populated using the e-mail address in the User's Record.

vii. Phone Number: Provide the **phone number** of the User.

Note: This field is auto-populated using the phone number in the User's Record.

viii. Notes: Provide any **additional information** about the User.

g. Owner assigns Tasks to Release Team members.

Note: Use the Task Object to monitor the status of key elements of the deployment process. You can either assign all of the Tasks in your plans, or assign key Tasks as milestones to verify that all upstream or downstream Tasks have been completed.

i. Click the **Assign Tasks** button on the Release Team form.

The Assign Tasks/Set Milestones form opens in the Main Pane and the Tasks/Milestones tab opens in the Arrangement.

The screenshot displays the 'Release 10405' interface. On the left, a sidebar shows the release status as 'Planning' and 'Urgent', with 0 open tasks. It lists the requestor as Gina Mehra and the release manager as Clair Wu. The main pane shows the 'Assign Tasks/Set Milestones' form with a risk analysis of 'High'. Below this, there are buttons for 'Create Release Plans' and 'Build Package(s)'. At the bottom, the 'Tasks/Milestones' tab is active, showing a table with columns for Task ID, Title, Owned By, Status, and Description. The table is currently empty, displaying 'No records' and 'There are currently no records'.

ii. Click the **New Task** button in the Tasks/Milestones tab of the Arrangement.

The Task form opens in the Arrangement.

- iii. Complete a Task form for each Task.

The priority is displayed in the Priority alert bar of the Quick Info Tile. The color (red/orange) indicates whether or not there are open Tasks. If there are no open Tasks, the alert bar is green. If there are one to five open Tasks, the alert bar is orange. If there are more than five open Tasks, the alert bar is red.



5. Owner defines the Release Package build.



Note: You must define at least one Release Package build before entering the Test phase.

- a. Click the **Build Package(s)** button on the Assign Tasks/Set Milestones form.

The Build Package(s) form opens in the Main Pane, the Release status changes to Building, the Build Package tab appears in the Arrangement, and the Release enters the Build phase.

Release 10405

Status: **Building**

Priority: **Urgent**

Open Tasks: **3**

Requestor: Gina Mehra
gina.mehra@rivertcorp.com
833-898-7381

Owned By/Release Manager: Assign To...
Clair Wu
3rd Level Support
833-898-4331
clair.wu@rivertcorp.com

I Want To:
☐ Show All Tabs
☒ Show Related Tabs
[E-Mail Release Team](#)
[Notify Task Owners to Update Tasks](#)
[View Detailed Date/Time Information](#)
[Cancel Release](#)

Release Title: Upgrade SQL Server 2014 Risk Analysis: High

INFO Build Package(s)
Use the Build Package tab to define the Build(s) of the Release to deploy

[Define Package Build\(s\)](#) [Create / Run Test Plans](#)

Journals Change Requests Release CIs Service Schedule Release Team Tasks/Milestones **Build Package**

New Release Package Build [No records](#) [View](#)

Build Version	Short Description	Build Location	Destination
There are currently no records			

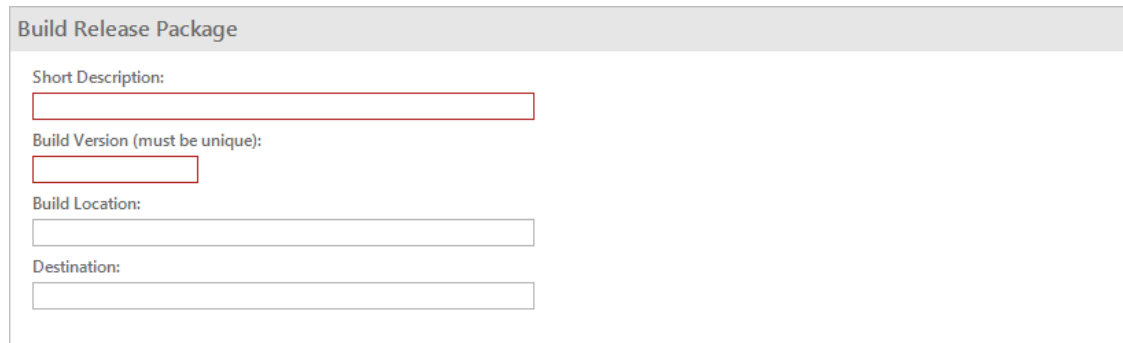
There is no current record

Note: View additional form information and helpful tips by clicking the **INFO** button located on the title banner of the form.

CSM automatically sends an e-mail to Release Team members to notify them of the new Release Package build.

- b. Click the **New Release Package Build** button in the Build Package tab of the Arrangement.

The Build Release Package form opens in the Arrangement.



Build Release Package

Short Description:

Build Version (must be unique):

Build Location:

Destination:

- c. Short Description: Provide a **brief description** of the build (example: SQL Server 2014).
 - d. Build Version (must be unique): Provide the **version** of the build (example: 20140512-01).
 - e. Build Location: Provide the **location** of the build (example: D:\Installers\SQLServer\SQL2014-x64.exe).
 - f. Destination: Provide the **location** where the build will be stored (example: \appServer\Program Files\SQL Server).
6. Testing Manager tests the deployment of the build.
- a. Click the **Create/Run Test Plans** button on the Build Package(s) form.

The Test Script(s) form opens in the Main Pane, the Release Test tab appears in the Arrangement, the Release status changes to Testing, and the Release enters the Test phase.

Release 10405

Status: **Testing**

Priority: **Urgent**

Open Tasks: **3**

Requestor: Gina Mehra
gina.mehra@rivertcorp.com
833-898-7381

Owned By/Release Manager: Clair Wu
3rd Level Support
833-898-4331
clair.wu@rivertcorp.com

I Want To:
☐ Take Ownership
☐ Show All Tabs
☒ E-Mail Release Team
☐ Show Related Tabs

Plan Build **Test** Document Approve Deploy Review

Release Title: Upgrade SQL Server 2014 Risk Analysis: High

INFO Test Script(s)

Testing Status

- 0 Test Events
- 0 Passed
- 0 Failed
- 0 Not Run

Release Package Builds need to be tested before deployment
 Use the Release Tests tab to create and execute tests on the Release Package(s)

Journals Change Requests Release Cls Service Schedule Release Team Tasks/Milestones Build Package Release Test

New Release Test No records View

Test Title	Test Start Date Time	Build Version	Owned By
There are currently no records			

There is no current record

Note: View additional form information and helpful tips by clicking the **INFO** button located on the title banner of the form.

- b. Click the **New Release Test** button in the Release Test tab of the Arrangement.

The Release Test form opens in the Arrangement.

- c. Test Title: Provide a **title** for the test (example: SQL Test).
- d. Build Version: In the drop-down, select a **build version** (ex: 20140512-01).

Notes: The Build Version field is populated using data from the Build Version field of the Build Release Package form. The record must be saved for the build version to be available.



- e. Release Location: Provide the **location** of the test Release (example: Test Server).
- f. Test Script: Provide the **test script** (example: Test SQL installation).

Tip: Use the Test Script field to organize your test information, which might include a high-level overview of the test or detailed step-by-step instructions.

- g. Expected Results: Provide the **expected result** of the test (example: Install the new SQL Server without issue).
- h. Tester: Provide the **name** of the tester (ex: Henri), and then press **ENTER** or **TAB** to search for the User Record.

Note: This field is auto-populated with name and contact information of the current User, but can be changed if necessary.

If multiple matches are found (example: multiple Users named Henri), the Contact Manager opens so that you can select the appropriate User.


Tips: Wildcards (example: "%" or "**") can be used when searching. To browse for a User, click the **User Selector** button  to launch the Contact Manager. To view the selected User's detailed Record, click the **Quick View** button .

- i. Test Status: Select the **status** of the test (example: Completed).


Note: The test status reflects the lifecycle of the test, and is set to Pending by default. When the test is initiated, the tester selects the Started test status, which auto-populates the Test

Start Date Time field with the current date and time. When the test is completed, the tester selects the Completed or Cancelled test status, which auto-populates the Test End Date Time field with the current date and time.

Tip: Build testing varies by organization. Use the Test Status field to track the specific testing process of your organization.

- j. Test Start Date Time: Click the **Date Selector** button  to access the Calendar, and then select the **day** in which you begin the test.

Note: The time is automatically set to 12:00 AM. Use the Test Start Date Time field to manually define the appropriate time.

- k. Test End Date Time: Click the **Date Selector** button  to access the Calendar, and then select the **day** in which you end the test.

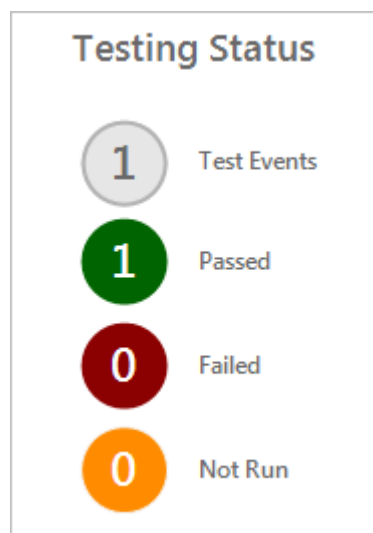
Note: The time is automatically set to 12:00 AM. Use the Test Start Date Time field to manually define the appropriate time.

- l. Test Disposition: Select the **disposition** (outcome) of the test (example: Passed).

CSM automatically sends an e-mail to Release Team members to notify them of the test outcome.

- m. Actual Results: Provide the **result** of the test (example: Installed the new SQL Server without issue).

The Testing Status icons indicate the number of Test Events and their status (Passed, Failed, Not Run).



Note: If the build fails testing, click the **Create New Build** link in the Quick Info Tile to return to the Build phase, or click the **Cancel Release** link to move to the Review phase.

7. Documentation Manager creates Release Notes.
 - a. Click the **Create Release Notes** button on the Test Script(s) form.



The Release Notes form opens in the Main Pane, the Release status changes to Documenting, and the Release enters the Document phase.

The screenshot shows the 'Release Notes' form in the CSM mApp Solutions interface. The top navigation bar includes tabs for Plan, Build, Test, Document (selected), Approve, Deploy, and Review. A 'Step View' button is also present. The form title is 'Release Title: Upgrade SQL Server 2014' with a 'Risk Analysis: High' status. Below the title is an 'INFO' button and a 'Release Notes' section. The 'Author' field is empty, and the 'Release Notes' text area is also empty. At the bottom, there are two buttons: 'Create / Run Test Plans' and 'Obtain Approval'.

Note: View additional form information and helpful tips by clicking the **INFO** button located on the title banner of the form.

- b. Author: Provide the **name** of the tester (example: Henri), and then press **ENTER** or **TAB** to search for the User Record.

If multiple matches are found (example: multiple Users named Henri), the Contact Manager opens so that you can select the appropriate User.

Tips: Wildcards (example: "%" or "*") can be used when searching. To browse for a User, click the **User Selector** button  to launch the Contact Manager. To view the selected User's detailed Record, click the **Quick View** button .

- c. Release Notes: Provide the **Release Notes**.

Tip: You can also Insert a hyperlink (Rich Text) or type a system path to the associated Release Notes.

8. Owner requests approval for the Release.
 - a. Click the **Obtain Approval** button on the Release Notes form.

The Release Approval form opens in the Main Pane, the Approvals tab appears in the Arrangement, and the Release enters the Approve phase.

Release 10405

Status: **Approving**

Priority: **Urgent**

Open Tasks: **3**

Requestor: Gina Mehra
gina.mehra@rivertcorp.com
833-898-7381

Owned By/Release Manager: Assign To...
Clair Wu
3rd Level Support
833-898-4331
clair.wu@rivertcorp.com

I Want To:
Take Ownership ☐ Show All Tabs
E-Mail Release Team ☒ Show Related Tabs
Notify Task Owners to Update Tasks
View Detailed Date/Time Information
Cancel Release

Release Title: Upgrade SQL Server 2014 Risk Analysis: High

INFO Release Approval

Approval Status

- 1 Pending
- 0 Approved
- 0 Denied
- 0 Abstained

Approval for deployment is required before proceeding

Create Release Notes Deploy Package(s)

ID	Status	Deadline	Approver	Details
11128	Waiting		Gina Mehra	Upgrade SQL Server 2014

Approval 11128 Status: Waiting

Approver Name: Gina Mehra Approval Team:

Approve Deny Abstain

Deadline:

Details: Upgrade SQL Server 2014

Comments:

9. Approver approves the Release.
 - a. In the Approval grid, click an **Approval Record**.

The Approval form opens. The Approver Name and Details fields are auto-populated per the defined Approval Process rules.

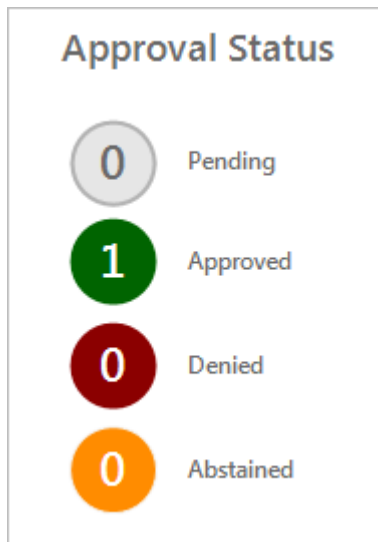
- b. (Optional) In the Comments field, provide your **feedback**.
- c. Click **Approve**.

Release Approval Process Notes:

- The Release requires all approvers to provide approval.

- If an approver denies the Release (clicks the **Deny** button), the Release remains in the Approval phase with a status of Approving.
- If an approver abstains (clicks the **Abstain** button), the Release remains in the Approval phase with a status of Approving.
- The Release requires approval to enter the Deploy phase.

The Approval Status icons indicate the number of pending Approvals and their status (Approved, Denied, or Abstained).



10. Deployment Manager deploys the Release.
 - a. Click the **Deploy Package(s)** button on the Release Approval form.

The Deployment(s) form opens in the Main Pane, the Deploy Release Package tab opens in the Arrangement, and the Release enters the Deploy phase.

Release 10405

Status: **Deploying**

Priority: **Urgent**

Open Tasks: **3**

Requestor: **Gina Mehra**
gina.mehra@rivertcorp.com
833-898-7381

Owned By/Release Manager: **Clair Wu**
3rd Level Support
833-898-4331
clair.wu@rivertcorp.com

I Want To:
☐ Take Ownership
☐ Show All Tabs
☒ E-Mail Release Team
☐ Show Related Tabs
[Notify Task Owners to Update Tasks](#)
[View Detailed Date/Time Information](#)
[Create New Build](#)

Plan Build Test Document Approve Deploy Review

Release Title: Upgrade SQL Server 2014

Risk Analysis: High

INFO Deployment(s)

Deployment Status

1 Pending
0 Succeeded
0 Failed
0 Cancelled

Use the Deployment tab to manage deployment of Release Package Builds

Build Package(s) Review Release

Journals Change Requests Release CIs Service Schedule Release Team Tasks/Milestones Build Package Release Test Approvals Deploy Package

New Release Package Build Record 1 of 1 View

Build Version	Short Description	Build Location	Destination
20140512-01	SQL Server 2014	D:\Installers\SQLServer\SQL2...	\\appServer\Program Files\SQL...

Deploy Release Package

Short Description: SQL Server 2014

Build Version: 20140512-01

Deployment Status: Pending

Deployment Started: [Date Selector]

Deployment Finished: [Date Selector]



Disposition: [Dropdown]

Details: [Text Area]

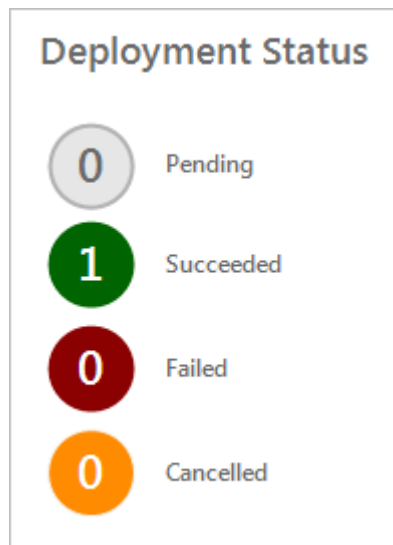
Note: View additional form information and helpful tips by clicking the **INFO** button located on the title banner of the form.

- In the Deploy Package grid, click a **Release Package** record. The Build Version and Short Description fields are autopopulated based on the selected Build version.
- Deployment Status: Select a **deployment status**.

Note: When the deployment is initiated, the Deployment Manager selects the Started status, which auto-populates the Deployment Started field with the current date and time. When the deployment is completed, the Deployment Manager selects the Completed status, which auto-populates the Deployment Finished field with the current date and time.

- Deployment Started: Click the **Date Selector** button  to access the Calendar, and then select the **day** in which you start the deployment before updating the time.
- Deployment Finished: Click the **Date Selector** button  to access the Calendar, and then select the **day** in which you end the deployment before updating the time.
- Disposition: Select the **disposition** (outcome) of the deployment (ex: Succeeded).

The Deployment Status icons indicate the number of pending deployments and their status (succeeded, failed, cancelled).



- g. Details: Provide any **additional information** about the deployment.

Note: If the deployment fails, click the **Create New Build** link in the Quick Info Tile to return to the Build phase, or click the **Cancel Release** link to move to the Review phase.

11. Owner completes the final details reviews the Release.
 a. Click the **Review Release** button on the Deployment(s) form.

The Release Details form opens in the Main Pane and the Release enters the Review phase.

Plan Build Test Document Approve Deploy **Review** Step View
Expanded View

Release Title: Upgrade SQL Server 2014 Risk Analysis: High



INFO Release Details

Planned Start Date: 5/31/2014	Planned End Date: 6/1/2014	Final Disposition: .
Actual Start Date:	Actual End Date:	
Review Notes/Lessons Learned:		

Duration Planned (days): 1 Actual (days): 0 Completed: 0 days early	Build Packages: 1 Deployed: 1 Failed: 0 Cancelled: 0
Config Items: 3 Service: Enterprise Apps Blackout: 24 hours	Test Events: 1 Passed: 1 Failed: 0 Not Run: 0

Note: View additional form information and helpful tips by clicking the **INFO** button located on the title banner of the form.

Note: The Planned Start Date and Planned End Date fields are auto-populated. using the dates defined on the Release Details form in the Plan phase.

- b. Actual Start Date: Click the **Date Selector** button  to access the Calendar, and then select the **date and time** in which you actually started the Release process.
 - c. Click the **Date Selector** button  to access the Calendar, and then select the **date and time** in which you actually ended the Release process.
 - d. Final Disposition: Select the **disposition** (outcome) of the Release (ex: Succeeded).
 - e. Review Notes/Lessons Learned: Provide any **additional information** about the Release.
12. Owner closes the Release.
- a. Click the **Close Release** button on the Release Details form.

The Release status changes to Closed.

Resource Management mApp Solution 1.0

Use the Resource Management mApp® Solution to identify and manage dedicated resources within CSM.

Platform version requirements: Tested on CSM 10.1.0.

Content version requirements: Tested on CSM 10.1.0. This mApp Solution may also be compatible on content versions that are older than CSM 10.1.0, but as with all mApp Solutions, be sure to test them on your customized system.

Prerequisites: None.

Available languages:

- German
- English
- Spanish
- French
- Portuguese



Important: This mApp Solution should NOT be installed if you already have the PPM mApp Solution installed, or if you intend to install the PPM mApp Solution 1.6 or earlier. The Business Objects in this mApp Solution have been extracted and enhanced from PPM mApp Solution 1.6. We will release a new version of the PPM mApp Solution that will work seamlessly with the Resource Management mApp Solution; however, they are not compatible together at this time.

Overview

The Resource Management mApp Solution provides the ability to identify dedicated resources for role, rates, and skills assignment; as well as Task assignment with availability, softbooking, and capacity information. Resources can report time against their Tasks with an associated rate based on their role. From the Time and Cost dashboard, your organization can assess overall Resource ROI and create invoices for billing, if needed.

Apply the mApp Solution

To download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

For a list of items included in this mApp Solution, see [Resource Management mApp Solution Items](#).

This functionality is only available after you apply the mApp Solution.

Revision History

mApp Solution Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	10.1.0	10.1.0	None

Related concepts

[About mApp Solutions](#)

Use and Create Roles for Resources

Use roles for high-level resource planning.

Each resource is assigned a role and the role helps provide key availability information for managers. Some roles are included in the Resource Management mApp® Solution. You can modify, delete, or add new roles as needed.

The following roles are included:

- Architect - Infrastructure
- Asset Manager
- Business Engagement Manager
- DBA - SQL
- DBA - Unix
- Developer
- Facilities
- HR
- Legal
- Network Administrator
- Process Engineer
- Procurement
- Project Manager
- Security Analyst
- Sr. Developer
- Technical Writer
- Tester/UAT
- Trainer - Content Developer
- Trainer - Delivery
- UI/UX Designer
- Web Specialist

To create a new role:

1. In the CSM Desktop Client or CSM Browser Client, select **Tools > Table Management**.
2. Select **Role** from the **Type** drop-down list, then select the **New** button.
3. Provide the role name and select a status.
4. (Optional) Select the area(s) the role may be associated with (example: The Security Analyst role would be associated with the Security area).
The default list of areas is included with the mApp Solution and cannot be modified.

The Resource Management mApp Solution uses the role and area information when looking for resource and role availability, and when assigning Tasks.

Form Arrangement:

The **Primary Resources** and **Resources** tabs display information based on how you set up the resources. The **Skills** tab displays information based on the skills that have been set up.

Related tasks

[Create Resources to Assign to Tasks](#)

Link Skills to Incident Categories, Users, Teams, and Roles

Create skills and link them to users to assist with identification of qualified technicians. Use the skills assignment to link skills to for dedicated resources.

Use the included All Skills saved search to open the skills list. You can use a pre-loaded skill, or create a new skill. Use the form arrangement to link the skill.

View or Create New Skills

To view or create a skill:

1. Open the Search Manager.
2. From the **Association** drop-down list, select **Skills**.
The All Skills saved search displays.
3. Run the **All Skills** saved search.
Search results are listed. There are 87 pre-loaded skills included in the mApp Solution.
4. To view a skill record, double-click the skill.
You can also edit the skill by making changes, and then saving the record.
5. To create new skills, select **New** from the menu bar. This can only be done from the CSM Desktop Client.
 - Provide the skill name and description.

Link a Skill to an Incident Category

To assign a skill to an Incident Category:

1. Select the **Incident Categories** tab, and then select the **link** button.
The **Incident Category Selector** window opens.
2. Select **OK**.
3. To view the Incident Category form, select the category from the list in the **Incident Categories** tab, and then select the **Goto Incident Category** button.

Link a Skill to a User

To assign a skill to a user:

1. Select the **Users** tab, and then select the **link** button.



Note: In the Browser Client, if you don't see the form arrangement tabs at the bottom of the form, find the splitter and drag it up to reveal the tabs.

2. Select a user, and then select **OK**.

Link a Team to a Skill

To assign all users from a specific team to a Skill:

1. Select the **Teams** tab, and then select the **link** button.
The **Team Info Selector** window opens.
2. Select a team, and then select **OK**.
After you save the skill record, the users within the linked team automatically link to the skill and are visible on the **Users** tab. You may need to refresh to see the changes.

Link a Role to a Skill

To link a role to a skill:

1. Select the **Roles** tab, and then select the **link** button.
The **Role Selector** window opens.
2. Select a role, and then select **OK**.
3. Save the record.

View Resources Linked to a Skill

If there are resources linked to the skill, they will be displayed in the **Resources** tab. To view the resource, select the **Goto Resource** button.

Add Rates to Use for Roles

Add rates to use when you assign roles in a resource. Resources use the associated rate (based on their role) to report time against their Tasks.

Use rates to evaluate the associated cost of using specific resources and compare total cost to billable cost. You can also use rates to create an invoice of the completed work for billing. Rates are only required if you want to track cost against time recorded on Tasks. If you are not interested in tracking costs or ROI for resources, you don't need to use rates.



Note: You must add rates to the rate table before they are available to choose from when assigning roles in a resource.

1. In the CSM Desktop Client or CSM Browser Client, select **Tools > Table Management**.
2. Select **Rate** from the **Type** drop-down list, then select the **New** button.
3. Select the role and provide a rate name.
You can only add one rate per role.
4. Enter the rate amount, and then save the record.

Related tasks

[Create Resources to Assign to Tasks](#)

Create Resources to Assign to Tasks

Resource is a major Business Object that tracks resources (employees) available to be assigned to Tasks.

A resource's associated information provides availability and allocated time views for managers. A resource record is required for each person who will be assigned Tasks. The Resource Management mApp® Solution uses a One-Step™ Action to replace the Track Time One-Step Action on Incident (or other Business Objects) to use resource. You do not have to use resources on Tasks that are linked to another Business Object (Incident, Problem, Change).

For example, if an IT manager needs to assign an employee to a specific project that requires full time employment status and hardware skill, they can review the resource records to determine which employees meet those requirements.

All resources must be in your User Info Table, but not all users have to be a resource. The Name field within resource is validated to the Full Name field in User Info.



Tip: Before you create resources, we recommend that you set up roles, skills, and rates (in that order). Since resources use roles, skills, and rates, it will save time to set them up first.

To create an individual resource:

1. From the CSM Desktop Client or CSM Browser Client menu bar, select **New > New Resource**.
2. Select the resource name and employment type.
Department autopopulates based on the resource name, but you can choose a different option.
3. Select primary role and enter work week hours.
The **Primary Role** field will be unavailable until you assign roles in the **Role Assignment** tab of the form arrangement.
4. **Operational Percent:** Enter a number from 0 to 100 to indicate the percent of work week hours spent on day-to-day operational and administrative (non-project) tasks. The **Available Project Hours** field automatically calculates using the **Operational Percent** and **Work Week Hours** values. For example, with 40 Work Week Hours and an Operational Percent of 10, the resource will have 36 Available Project Hours.

Work Week Hours and Operational Percent plus PTO numbers are used during the creation of Resource Time records.

5. Select **Save**, and then select the **Create Resource Time Records** link (under **Actions**). This creates a time record for each day of the rest of the calendar year and the following year, which will be used to determine availability at the role and resource level.
Use the **Update Resource Time Records** link to update the time records.
Use the **Delete Resources** link to delete the record.

Use the form arrangement for the remaining steps:

6. Assign roles and skills using the **Role Assignment** and **Skill Assignments** tabs.
7. Use the **Tasks** tab to create Work Items.
You can create costs using the Cost Item - Labor Business Object.

- a. From the menu bar, select **Tools > Table Management**.
 - b. Select **Cost Item - Labor** from the **Type** drop-down list, then select the **New** button.
 - c. Select the resource name.
The **Role** and **Rate Name** fields autopopulate based on the resource name, but you can choose a different option.
 - d. Select the **Billable** check box, if applicable.
 - e. Select the date, start time, end time, and hours.
The rate autopopulates and after the hours are filled in, the total cost is calculated.
8. Add or view scheduled PTO and resource times using the **Scheduled PTO** and **Resource Times** tabs.
Use the **Additional Resource Time Entries** Automation Process to create resource times.
The record must be in an active status before the **Resource Times** tab is updated.

You can change the status of the resource by selecting the **Change Status** link in the default form, but the **Primary Role** field must be completed first.

Related concepts

[Link Skills to Incident Categories, Users, Teams, and Roles](#)

[Automation Process Editor](#)

Related tasks

[Use and Create Roles for Resources](#)

Softbooking

Softbooking places a resource's time on hold for proposed Tasks.

Softbooking accurately represents a resource's available time, so a manager can reserve an employee's time for future Tasks.

When a resource is assigned a Work Item with a status of New, the resource is softbooked. Once the status moves beyond New, the resource is no longer softbooked; it has allocated hours.

A Resource Manager can use the Resource Availability by Individual and Resource Availability by Role dashboards to see available hours per resource or individual (allocated, softbooked, and PTO hours). They can use that information to schedule Tasks for the month based on who has available hours and when. Available hours versus allocated hours show if a resource is overallocated or has availability for other Tasks. Resource Managers can make adjustments to any softbooked hours, and plan ahead to manage a resource's utilization and adjust their time as needed.



Note: When you create a new Work Item, the following fields must be completed before the information is displayed on a dashboard: **Assigned To**, **Scheduled Start Date**, **Due Date**, and **Effort** (this is what consumes time). You must save the Work Item, and then open it directly to see the **Effort** field (in the **Resource Fields** tab).

Related concepts

[Resource Management Dashboards](#)

[Work Item Task](#)

Resource Management Dashboards

Use the Resource Management dashboards to view at-a-glance information on resources, Work Items, and availability.

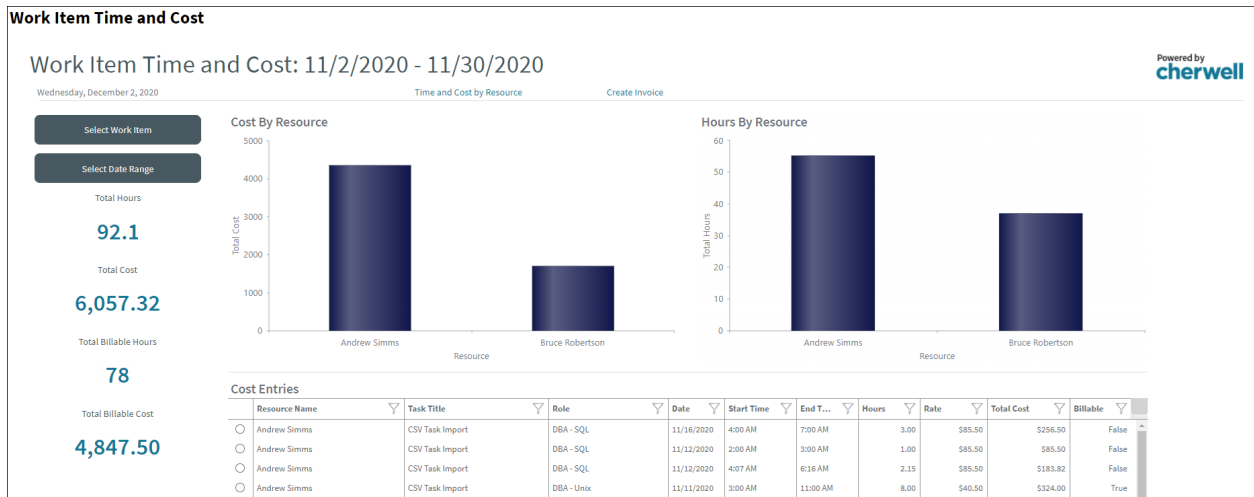
Resource Time and Cost

Use the Resource Time and Cost dashboard to understand how much of your resource's time has gone toward Task work and the associated cost to your organization. At the resource level you'll see a high-level roll up of total hours and cost compared to billable hours and cost, as well as the individual Tasks/cost breakdown.

Resource Time and Cost										
Resource Time and Cost: 11/2/2020 - 11/30/2020										
Wednesday, December 2, 2020 Time and Cost by Work Item										
<div>Select Resource</div> <div>Select Date Range</div> <div>Andrew Simms</div> <div>Total Hours</div> <div>117</div> <div>Andrew Simms</div> <div>Total Cost</div> <div>9,563.70</div> <div>Andrew Simms</div> <div>Total Billable Hours</div> <div>52</div> <div>Andrew Simms</div> <div>Total Billable Cost</div> <div>4,067.50</div>	Resource Cost Entries									
	Resource Name	Task Title	Role	Date	Start Time	End T...	Ho...	Rate	Total Cost	€
<input type="radio"/>	Andrew Simms	Hours	DBA - Unix	11/20/2020	2:00 AM	5:00 AM	3.00	\$80.00	\$240.00	
<input type="radio"/>	Andrew Simms	Create AD account 2	DBA - SQL	11/25/2020	2:00 AM	6:00 AM	4.00	\$85.00	\$340.00	
<input type="radio"/>	Andrew Simms	Install Windows update	DBA - SQL	11/10/2020	1:00 AM	2:00 AM	1.00	\$85.50	\$85.50	
<input type="radio"/>	Andrew Simms	Install Windows update	DBA - SQL	11/18/2020	1:00 AM	3:00 AM	2.00	\$85.50	\$171.00	
<input type="radio"/>	Andrew Simms	Install Windows update	DBA - SQL	11/9/2020	2:00 AM	5:00 AM	3.00	\$85.50	\$256.50	
<input type="radio"/>	Andrew Simms	Install Windows update	DBA - SQL	11/16/2020	1:00 AM	4:00 AM	3.00	\$85.50	\$256.50	
<input type="radio"/>	Andrew Simms	Install Windows update	DBA - SQL	11/20/2020	2:00 AM	9:00 PM	19.00	\$85.50	\$1,624.50	
<input type="radio"/>	Andrew Simms	Install Windows update	DBA - SQL	11/19/2020	8:00 AM	10:00 AM	2.00	\$85.50	\$171.00	
<input type="radio"/>	Andrew Simms	Install Windows update	DBA - SQL	11/19/2020	6:00 PM	8:00 PM	2.00	\$85.50	\$171.00	
<input type="radio"/>	Andrew Simms	Detail Design Validated and Approved	DBA - SQL	11/18/2020	8:00 AM	5:00 PM	9.00	\$85.50	\$769.50	
<input type="radio"/>	Andrew Simms	Test	DBA - SQL	11/16/2020	3:00 AM	1:08 AM	-1.87	\$85.50	\$159.88	
<input type="radio"/>	Andrew Simms	test2	DBA - SQL	11/16/2020	4:00 AM	7:00 AM	3.00	\$85.50	\$256.50	
<input type="radio"/>	Andrew Simms	CSV Task Import	DBA - SQL	11/16/2020	4:00 AM	7:00 AM	3.00	\$85.50	\$256.50	
<input type="radio"/>	Andrew Simms	CSV Task Import	DBA - SQL	11/12/2020	2:00 AM	3:00 AM	1.00	\$85.50	\$85.50	
<input type="radio"/>	Andrew Simms	CSV Task Import	DBA - SQL	11/12/2020	4:07 AM	6:16 AM	2.15	\$85.50	\$183.82	
<input type="radio"/>	Andrew Simms	CSV Task Import	DBA - Unix	11/11/2020	3:00 AM	11:00 AM	8.00	\$40.50	\$324.00	
<input type="radio"/>	Andrew Simms	CSV Task Import	DBA - SQL	11/6/2020	4:00 AM	5:00 AM	1.00	\$85.50	\$85.50	
<input type="radio"/>	Andrew Simms	CSV Task Import	DBA - SQL	11/9/2020	1:00 AM	8:00 AM	7.00	\$85.50	\$598.50	

Work Item Time and Cost

From the Resource Time and Cost dashboard you can select the **Time and Cost by Resource** link to pull all Cost Item records against a single Work Item. Once you select the appropriate Work Item, you'll see a high-level view of total hours and cost versus billable hours and cost. From here, you can create an invoice of the work completed and send to the appropriate organization or department for payment.



Resource Availability by Role

View each role's availability using the Resource Availability by Role dashboard. After you select a role and a specific time frame, you'll see a bar chart depicting the available hours, softbooked hours, allocated hours, and PTO hours for all resources assigned to the role. Easily determine from this high-level view if a particular role is under or over booked based on capacity. Toggle between the weekly and daily view as needed.

Resource Availability by Role - DBA - Unix

Wednesday, December 2, 2020

Select/Change Role

Filter: 11/20/2020 - 12/25/2020

Change To Daily View

Refresh Dashboard

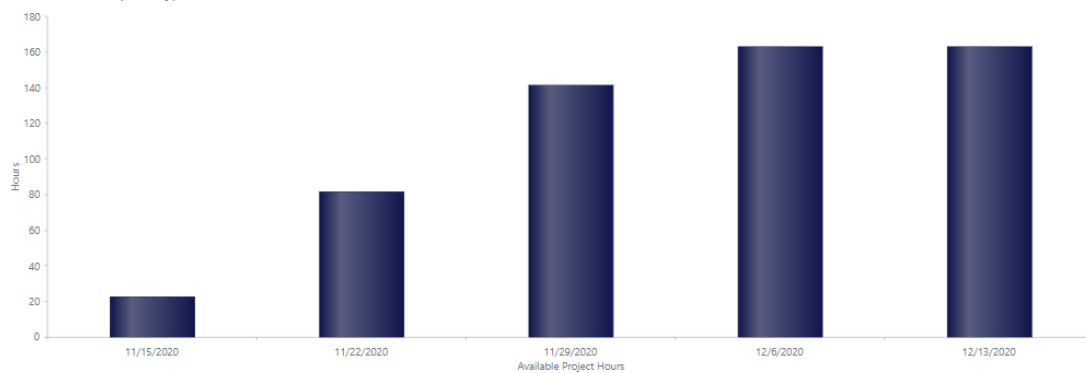
Total DBA - Unix Resources

5

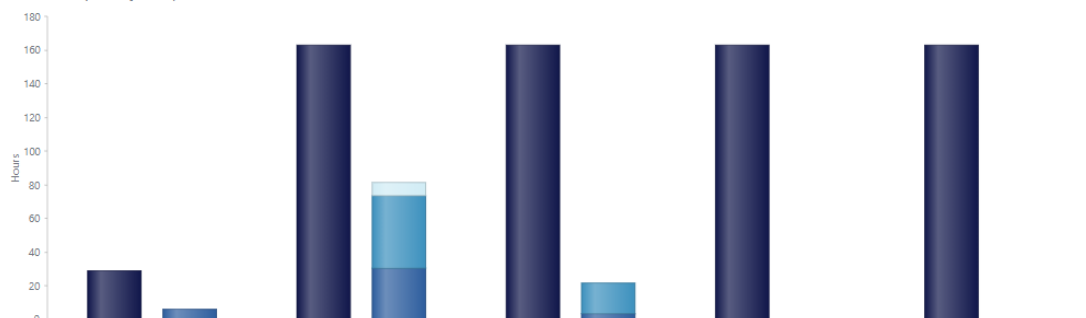
DBA - Unix

Resource	Primary Role	Skill(s)
<input type="radio"/> Andrew Simms	DBA - SQL	Azure, Big Data, AutoCAD, Adobe CC, Big Data, AutoCAD, AWS, A
<input type="radio"/> Bruce Robertson	DBA - Unix	Big Data, AutoCAD, Architecture, Big Data, C++, Adobe CC,
<input type="radio"/> Clair Wu	DBA - SQL	Big Data, AutoCAD, Adobe CC, Big Data, AutoCAD, AWS, Big Data
<input type="radio"/> Josh Wilson	DBA - Unix	Big Data, AutoCAD, Big Data,
<input type="radio"/> Sherri Williams	Developer	Azure, Big Data, AutoCAD,

Available Hours (Weekly)



Utilization (Weekly View)



Resource Availability by Individual

View each resource's availability using the Resource Availability by Individual dashboard. After you select a resource and a specific time frame, you'll see a bar chart depicting the available hours, softbooked hours, allocated hours, and PTO hours. This dashboard allows you to determine if an individual resource is able to take on additional Task work or if they have been over booked. The resource's work week hours and operational percent information determine the hours available in the graph. Toggle between the weekly and daily view as needed.

Resource Availability by Individual - Andrew Simms

Wednesday, December 2, 2020

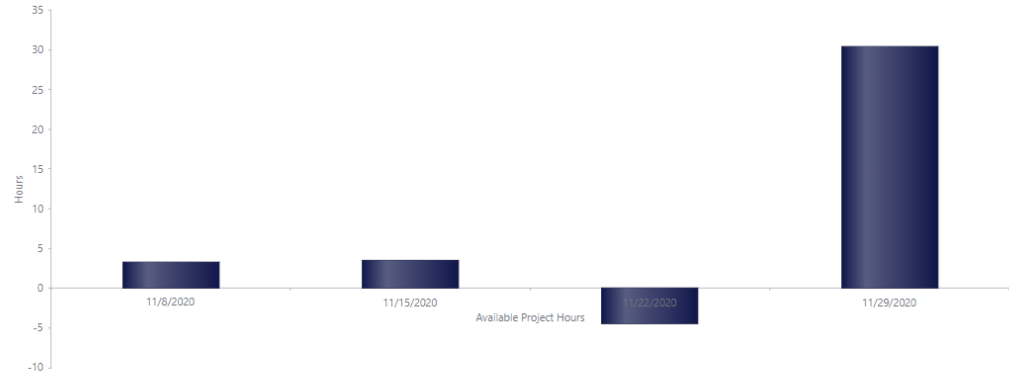
Select/Change Individual

Filter: 11/13/2020 - 12/11/2020

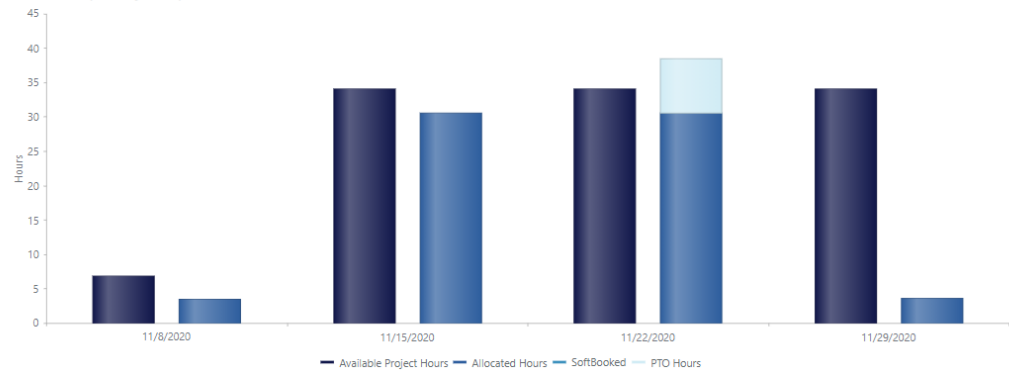
Change To Daily View

Refresh Dashboard

Available Hours (Weekly View)



Utilization (Weekly View)



My Work - Alt IT

This solution also provides an Alternate My Work dashboard that includes impromptu project-related Task assignments. You can also use it to replace the My Work dashboard from Cherwell's OOTB czar.

My Work

Wednesday, December 2, 2020

My VIP Requests

1

My Priority 1 Requests

1

All My Requests

3

My VIP Incidents

1

My Priority 1 Incidents

1

All My Incidents

4

My Operational Tasks

1

My Project Tasks

1

My Operational Tasks

Hours, Status New

Last Modified 12:07 PM

Assigned To: Henri Bryce

2nd Level Support

My Teams Operational Tasks

Check Email Server, Status New

Last Modified October 11 @ 9:35 PM

Assigned To: Henri Bryce

3rd Level Support

Bounce Exchange Server, Status Acknowledged

Last Modified November 18 @ 4:49 PM

Assigned To: Andrew Simms

2nd Level Support

My Incidents and Requests

	^ I...	Customer	Status	Prior...	Category	Assigned To
<input type="radio"/>	102026	Steve Fischer	Pending	1	Misc. Software	Henri Bryce
<input type="radio"/>	102027	Jacalyn Medina	Pending	3	Computer	Henri Bryce
<input type="radio"/>	102085	Klein Gusev	In Progress	3	Report Outage or Error	Henri Bryce
<input type="radio"/>	102195	Eric Lambert	In Progress	1	Computer	Henri Bryce
<input type="radio"/>	102232	Jamie Young	In Progress	3	Misc. Software	Henri Bryce
<input type="radio"/>	102237	Susan Malachuk	Pending	3	Report Outage or Error	Henri Bryce

My Teams Incidents

	^ I...	Customer	Status	Prior...	Category	Assigned To
<input type="radio"/>	100957	Molly Isaacs	Reopened	3	Network	Sawyer Watson
<input type="radio"/>	100958	Eric Lambert	Reopened	3	Anti-Virus	Josh Wilson
<input type="radio"/>	100967	Molly Isaacs	Pending	3	Request Help	Josh Wilson
<input type="radio"/>	101322	Molly Isaacs	In Progress	1	Computer	Sawyer Watson
<input type="radio"/>	101325	Montell Maalouf	Pending	2	Network	Sherri Williams
<input type="radio"/>	101326	John Allard	Pending	3	Desktop Client	Sawyer Watson

My Project Tasks

	Task ID	Title	Assigned To	Status	Description
<input type="radio"/>	10371	Project task	Henri Bryce	New	

Resource Management mApp Solution Items

The Items table provides a list of items included when applying the mApp® Solution and the typical merge action.

These are the items included in this mApp Solution:

Item Category	Item	Typical Merge Action
Automation Process Definitions	Additional Resource Time Entries, Create Resource Time Entries, Delete Resource	Import
Business Objects	Cost Item, Cost Item - Labor, Cost Item - Other, Cost Item - Provisioning, Cost Item - Tool, Cost Item Category, Cost Item Provisioning Frequency	Overwrite
	Employment Type, Rate, Resource, Resource Status, Resource Time, Role, Role Assignment, Role Status, RolesLinkSkillsJoinTable, Scheduled PTO, Skill Assignment, Skill Level, SkillLinksUsers, Skills	Import
	Incident, Incident Category, Team Info, User Info, Work Item	Merge
	Task	Don't Change
Cargo Definition	Copy of Create Task Invoice	Import
Color Palette	Resource Dashboards	Import
Counter	Resource Search Group Number	Import
Dashboards	My Work - Alt IT, Resource Management - Individual, Resource Management - Role, Resource Time and Cost, Skills Management, User Skills, Work Item Time and Cost	Import

Item Category	Item	Typical Merge Action
Fields	Allocated Hours Per Day, Asset Management, Assigned to, Assigned to RecID, Available Hours, Available Project Hours, Billable, ChildID, ChildJoinReason, ChildType, Cost, Create New Records, Created By, Created By ID, Created by RecID, Created Culture, Created Date Time, Daily Hours, Date, Delete Resource, Department, Description, Description_de-DE, Description_en-US, Description_es-ES, Description_fr-FR, Description_pt-BR, Duration, Effort, Edit Via Browser, Employment Type, Employment Type_de-DE, Employment Type_en-US, Employment Type_es-ES, Employment Type_fr-FR, Employment Type_pt-BR, End Date, End Time, Facilities, Hours Per Day, HR, IT, JoinReason, Last Mod Time Stamp, Last Modified By, Last Modified by RecID, Last Modified Date Time, Locked, Manager, Operational Hours, Operational Hours per Day, Operational Hours per Week, Operational Percent, ParentID, ParentType, Primary Rate, Primary Role, Project, PTO Hours, Rate, Rate Name, Rate Name_de-DE, Rate Name_en-US, Rate Name_es-ES, Rate Name_fr-FR, Rate Name_pt-BR, RecID, Remaining Project Hours, Required Skill, Resource, Resource RecID, Role, Role_de-DE, Role_en-US, Role_es-ES, Role_fr-FR, Role_pt-BR, Roles, Search Group Number, Security, Skill, Skill_de-DE, Skill_en-US, Skill_es-ES, Skill_fr-FR, Skill_pt-BR, Skill ID, Skill Level, Skill Level_de-DE, Skill Level_en-US, Skill Level_es-ES, Skill Level_fr-FR, Skill Level_pt-BR, Skill(s), Skills ID, Softbooked Hours Per Day, Start Date, Start Time, Status, Status_de-DE, Status_en-US, Status_es-ES, Status_fr-FR, Status_pt-BR, Submitted, Submitted Via Browser, Task RecID, Task Title, Total Assignments, Total Resources, Total Roles, Total Teams, Total Users, TotalSkills, User Full Name, User Info RecID, Valid, Weekly Hours, Work Week Hours	Import
	Budget Cost, Category, Category_de-DE, Category_en-US, Category_es-ES, Category_fr-FR, Category_pt-BR, Cost, Cost Item Type ID, Cost Item Type Name, Cost Item Type RecID, Cost Type, Created By, Created By ID, Created by RecID, Created Culture, Created Date Time, Details, Frequency, Frequency_de-DE, Frequency_en-US, Frequency_es-ES, Frequency_fr-FR, Frequency_pt-BR, Hours, Item Description, ITPT Project ID, Last Mod Time Stamp, Last Modified By, Last Modified By ID, Last Modified Date Time, Parent RecID, Quantity, Rate, RecID, Resource Name, Status, Time Spent, Total Cost, Unit Price	Overwrite
Forms	CostItemCategory, CostItemFrequency, CostItemProvisioning, Labor Cost Item, OtherCostItem, ToolCost	Overwrite
	EmploymentType, Rate, Rate Localization, Resource, Resource Fields, Resource Overview, ResourceStatus, Resource Time, Role, Role Assignment, Role Localization, Role Status, Role Status Localization, Scheduled PTO, Skill Assignment, Skill Level, Skill Level Localization, Skills, SkillsManagement, Skills Localization	Import
Form Arrangements	PPMResourceTime, Rate, Resource, Role, RoleStatus, SkillAssignment, SkillLevel, Skills	Import

Item Category	Item	Typical Merge Action
Grids	CostItem, CostItemCategory, CostItemFrequency CostItemProvisioning, Labor Cost Item, OtherCostItem, ToolCost	Overwrite
	Dashboard, Employment Type, Rate, Resource, Resource Status, Resource Time, Role, Role Assignment, Role Assignment Dashboard Grid, Role Assignment Form Arrangement, Role Status, Scheduled PTO, Skill Assignment, Skill Assignment Dashboard Grid, Skill Level, SkillLinksUsers 1, Skills, Skills Top 10 Grid	Import
Image Definitions	resource_16, resource_20, resource_24, resource_time_16, resource_time_20, resource_time_24, role_16, role_20, role_24, scheduled_PTO_16, scheduled_PTO_20, scheduled_PTO_24	Import
Indexes	PK_CostItem, CostItemCategory_Category, PK_CostItemCategory, PK_CostItemFrequency	Overwrite
	IncidentCategory_IncidentCategory, PK_EmploymentType, PK_IncidentCategory, PK_PPMResourceTime, PK_Rate, PK_Resource, PK_ResourceStatus, PK_Role, PK_RoleAssignment, PK_RolesLinkSkillsJoinTable, PK_RoleStatus, PK_ScheduledPTO, PK_SkillAssignment, PK_SkillLevel, PK_SkillLinksUsers, PK_Skills, PK_Task, PK_TeamInfo, Resource_FullName, Role_Role, RoleIdx0, TeamInfoName, Task_ParentID, Task_ParentTypeID, TaskStatus, Task_Subject, Task_TaskID, Task_TaskType	Import
Mergeable Areas	PPM Resource Actions, PPM Resource Time Actions, Skills Actions, Task Actions	Overwrite
One-Step™ Action	Change Status, Delete Resource, Edit PTO, Flag for Delete, Get Role and Rate, Manual -Update Resource Time Bookings, Recommended Assignee, Refresh Counts, Refresh Individual Dashboard, Refresh Resource Dashboard, Refresh Role Dashboard, Resource Daily Time Entries, Resource Management Individual and Date Selector, Resource Management Individual Selector, Resource Management Individual Set View - Per Day, Resource Management Individual Set View - Per Week, Resource Management Individual Update Dates, Resource Management Role Selector, Resource Management Update End Date, Resource Management Update Start Date, Resource Time Cleanup, Select Department, Select Different Role/Rate, Select Employment Type, Select Resource, Select Resource Manager, Select Role, Select Work Item, Set Flag To Create New Records, Set Skills and Roles, Set View - Per Day, Set View - Per Week, Skills by Resource - Update Resource, Skills by Role - Update Role, Skills by User - Update User, Submit PTO, Team Skills, Track Time - Resource, Track Time and Cost, Update Dashboard, Update Effort, Update Resource, Update Resource Time Bookings, Update Resource Time Entries, Update Resource Times Dashboard, Update Start/End Dates, Update Start/End Dates Time and Cost, Update Total Counts	Import
	Update Hours Worked	Overwrite
Prompt	Select A Resource	Import

Item Category	Item	Typical Merge Action
Relationships	Resource Links Role, Resource Links Skills, Resource Owns Resource Times, Resource Owns Role Assignments, Resource Owns Scheduled PTOs, Resource Owns Skill Assignments, Resource Owns Tasks, Resource Time Links Scheduled PTO, Resource Time Links Tasks - Softbooked, Resource Time Links Work Item - Allocated, Resource Time Owned By Resource, Role Links Resource, Role Links Skills, Role Links to Resources, Scheduled PTO Links Resource Times, Scheduled PTO Owned By Resource, Skills links Incident, Skills links Incident Category, Skills Links Resources, Skills Links Roles, Skills Links Team, Skills links Users, Task Links Resource Times, Tasks Owned By Resource, Team links Skills, Team links Users, Userinfo Links Skills	Import
	Cost Item - Labor Links To Resource, Incidents links skills, Task Links Resource Times, Tasks Owned By Resource, Work Item Owns Cost Labor	Overwrite
Report	Create Task Invoice	Import
Scheduled Item Definitions	Update Resource Time Bookings, Update Team Skill Count	Import
Searches	All Skills, Create Invoice, My Operational Tasks, My Resources, My Teams Operational Tasks, Resource Entries Greater Than Today, Resource Time Aged Two Weeks, Resource Time Dashboard - Individual, Resource Time Dashboard - Role, Resource Time Records, Resources, Resources by Primary Role, Resources by Selected Role, Resources by Selected Skill	Import
Stored Expressions	Cost, Date is Valid, Duration, Hours Per Day, Hours Per Day, Hours Worked - Resource, Next End of Year, Prompt for Role, Prompt for Skill, Resource Role, Total Time, Two Weeks Ago, Update Allocated Hours, Update PTO Hours, Update Remaining Project Hours, Update Softbooked Hours	Import
	Compute Total, TaskDurationInHours	Overwrite
Stored Values	Resource Dashboard - Chart View, Resource Dashboard End Date, Resource Dashboard Individual, Resource Dashboard Role Name, Resource Dashboard RoleID, Resource Dashboard Start Date, Resource RecID, Resource Time Date, Scheduled PTO End Date, Scheduled PTO Start Date, Search Group Number, Skill User, Skills by Individual Or Role, Skills Dashboard Search Type, Skills RecID, Work Item Task	Import

Item Category	Item	Typical Merge Action
Widgets	All Skills, Available Project Hours - Daily, Available Project Hours - Weekly, Available Project Hours By Individual (Daily), Available Project Hours By Individual (Weekly), Cost By Resource, Cost Labor Search List, Dashboard Resources, Hours By Resource, Incidents and Requests Owned by Me, My Incident Tickets, My Operational Tasks, My Operational Tasks - Detail, My Priority 1 Incident Tickets, My Priority 1 Service Requests, My Project Task Details, My Project Tasks, My Team's Open Incidents and Request, My Team's Operational Tasks, My Total Service Requests, My VIP Incident Tickets, My VIP Service Requests, Number of Resources, Resource Bar - Daily (Individual), Resource Bar - Daily (Role), Resource Bar - Weekly (Individual), Resource Bar - Weekly (Role), Resource Time Total Billable Hours, Resource Time Total Hours, Resource Total Billable Cost, Resource Total Cost, Skills by Resource All Skills Grid, Skills by Resource Total Skills, Skills by User All Skills Grid, Skills by User Total Skills, Task Cost Labor Search List, Task Total Cost, Task Total Cost Billable, Task Total Hours, Task Total Hours Billable, Top Skill Assignments, Total Skills, Unassociated Skills	Import
	CD - Date Filter - 30 day default	Overwrite
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Plugin mApp Solutions

A Plugin mApp® Solution is an add-on to CSM that enhances features and capabilities. The add-ons can include additional tracking, modules, and metrics.

ITIL 4 Dashboards mApp Solution 1.0

Use the ITIL 4 Dashboards mApp Solution to apply the ITIL 4 Dashboards to CSM.

Cherwell Version Requirements: 10.0.x

Out-of-the-Box Content Version Requirements: 10.0.0

Prerequisites: None

This mApp Solution is available in the following languages:

- German
- English
- Spanish
- French
- Portuguese



Note: This mApp Solution includes some new fields for Incident, Problem, and Change Business Objects. Some Widgets may not show data after the mApp Solution is applied because existing records do not include values for these new fields.

Overview

The ITIL 4 Dashboards mApp Solution enables your IT organization to apply Dashboards that use metrics aligned with the ITIL 4 principles to your CSM system .

The ITIL 4 Dashboards show metrics that focus on outcomes and value over tracking queues and human efficiency metrics. Users can understand how well they are co-creating value for their customers to be more ITIL focused. The four Dashboards included with this mApp Solution are:

- Executive/Continuous Service Improvement (CSI) Manager Dashboard
- Incident Manager Dashboard
- Problem Manager Dashboard
- Service Desk (1st-3rd Level Support) Technician Dashboard

How the mApp Solution Works

CSM provides ITIL 4 Dashboards as a mApp Solution so that users can easily incorporate the ITIL 4 Dashboards into their existing system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp Solution wizard generates a Blueprint, which can then be viewed and published to a test or live system to commit the changes.

For a list of items included in the mApp Solution, see [ITIL 4 Dashboards mApp Solution Items](#).

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.0	10.0.x	10.0.0	None

Related concepts

[About mApp Solutions](#)

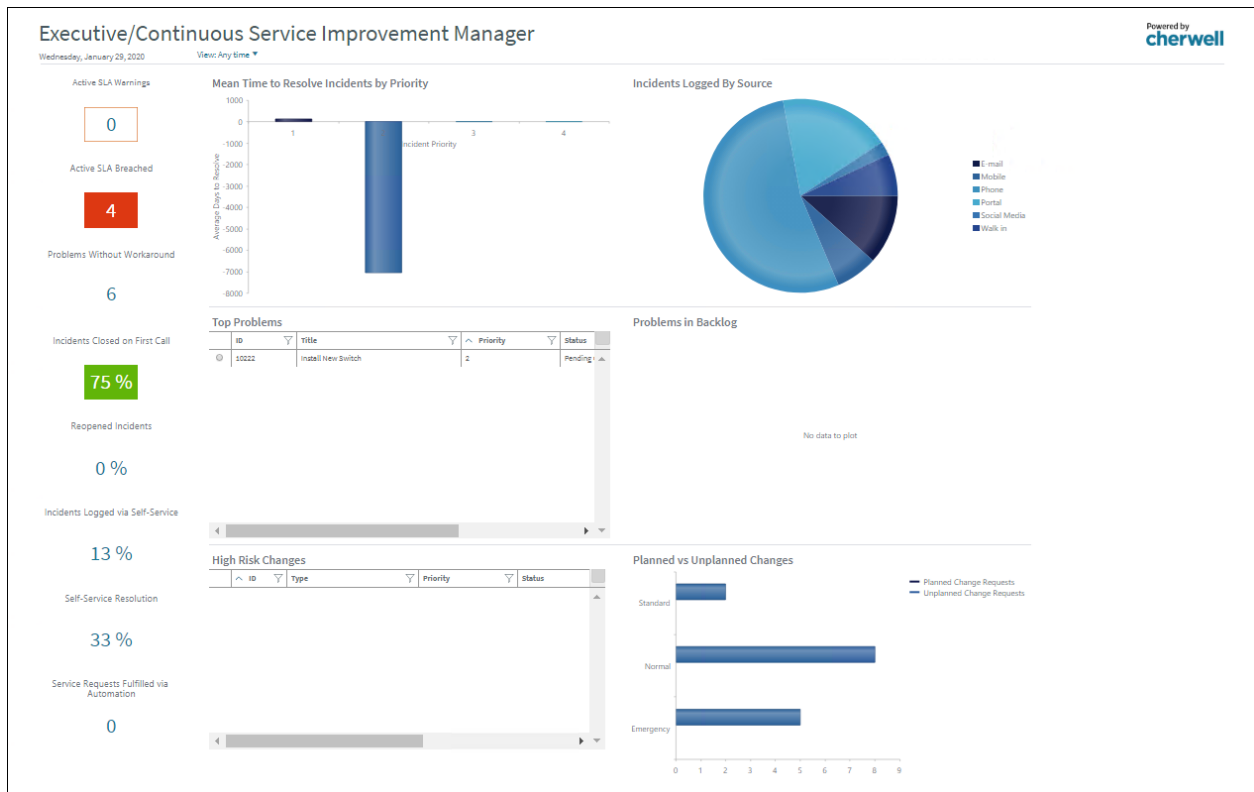
ITIL 4 Dashboards

The ITIL 4 Dashboards mApp Solution provides four ITIL Dashboards to apply to CSM.



Note: This functionality is only available after applying the ITIL 4 Dashboards mApp Solution.

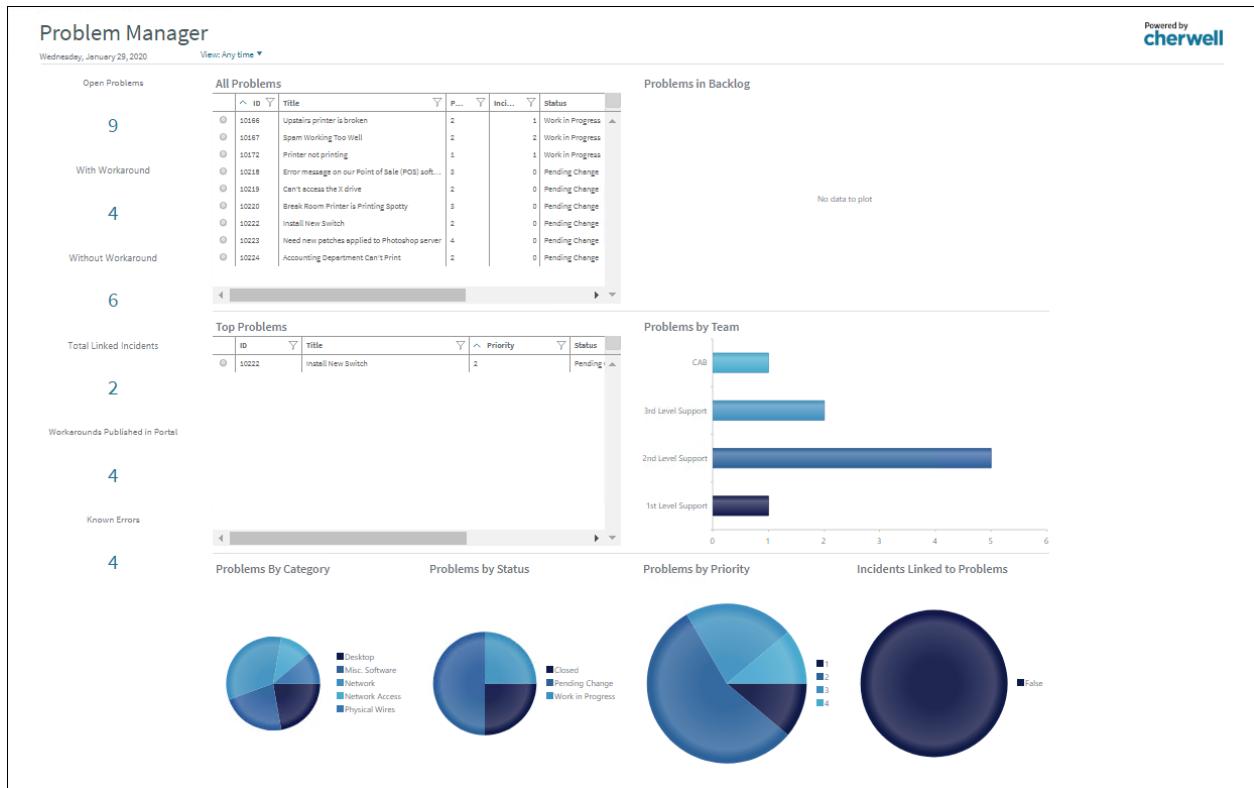
Executive/Continuous Service Improvement Manager: Primarily built for members of the IT Leadership team. The Dashboard provides insights into IT operations and continual improvement efforts.



Incident Manager: Primarily built for Service Desk Managers and/or Incident Managers. The Dashboard provides KPIs, charts, and metrics to enable IT organizations to proactively monitor and manage their Incident Management operations.



Problem Manager: Primarily built for Problem Managers. The Dashboard provides KPIs, charts, and metrics to enable IT organizations to proactively monitor and manage their IT Problems across the board.



Service Desk (1st-3rd Level Support) Technician: Primarily built for Service Desk Technicians and other members of the IT Service Desk department. The Dashboard displays KPIs, charts, and metrics to enable Service Desk teams to proactively monitor and manage all incoming Incidents, Service Requests, Problems, Change Requests, and Tasks.

ITIL 4 Dashboards mApp Solution Items

The Items table provides a list of items included when applying the mApp Solution and the typical merge action.

These are the items included in this mApp Solution:

Item Category	Item	Typical Merge Action
Business Objects	Change Request, Incident	Merge
	Configuration Item, Knowledge - IT, Problem, Task, Work Item	Don't Change
Dashboards	Executive/CSI Manager, Incident Manager, Problem Manager, Service Desk Technician	Import
Fields	Planned Change, Customer Department, Linked to Problem, Reopened, Status Order	Import
Grids	ITIL4 Change Dashboard, ITIL4 Incident Dashboard, ITIL4 Dashboard, ITIL4 Problem Dashboard, ITIL4 Task Dashboard	Import
Indexes	Change_ChangeID, ChangeCreatedDT, ChangeOwnedBy, ChangeStatus, PK_Change, Incident_CustomerID, Incident_IncidentType, Incident_OwnedByID, Incident_RecID, IncidentCreatedDT, IncidentID, IncidentIdx_ServiceCartRecID, IncidentIdx_ServiceCatalogTemplateRecID, IncidentService, IncidentStatus	Overwrite
Metric Values	ITIL4 - All Incidents, ITIL4 - All Resolved + Self-Service, Resolution, ITIL4 - Closed on First Call, ITIL4 - KB Portal Usage Total, ITIL4 - Open via Portal/All Incidents, ITIL4 - Reopened, ITIL4 - Reopened Incidents	Import
One-Step™ Action	Submit Feedback	Import

Searches	All Incident Type = Incident, All Incidents, All New Problems, All Open Incidents, All Open Incidents, Overdue Resolution (Breach), All Open Incidents, Resolution Warning, All Open Service Requests, All Open Work Items, All Resolved/Closed Incidents within Resolution SLA, Articles with Usage Count, CIs Currently Down, High Risk Changes, My Open Incidents and Requests	Don't Change
	All OpenTasks, All Problems, All Resolved/Closed Incidents, Incidents Linked to Problem, Known Error, My Teams Open Change Requests, My Teams Open Problems, No Workaround, Open Incidents and Requests, Open Problems, SLA Resolve Breach, Top Issues, Workaround Exists	Overwrite
	ITIL4 - Fulfilled via Automation, ITIL4 - New Issues, ITIL4 - Open P1 Issues, ITIL4 - Planned Changes, ITIL4 - Reopened Incidents, ITIL4 - Teams Open Tasks, ITIL4 - Unassigned Issues, ITIL4 - Unplanned Changes, Workaround Published in Portal	Import
Stored Expressions	2 Days Old, 5 Days Old	Import
	7 Days Old	Overwrite

Widgets	ITIL4 - Active SLA Breached, ITIL4 - Active SLA Warnings, ITIL4 - All Open Issues, ITIL4 - All Problems Grid, ITIL4 - Breached SLAs, ITIL4 - Down CIs, ITIL4 - High Risk Changes, ITIL4 - Incident Filter, ITIL4 - Incident Resolved With SLA, ITIL4 - Incidents By Source, ITIL4 - Incidents by Status/Days Open, ITIL4 - Incidents Closed on First Call, ITIL4 - Incidents Closed on First Contact, ITIL4 - Incidents Linked to Problems, ITIL4 - Incidents Logged via Portal, ITIL4 - Incidents Reopened After Close, ITIL4 - Incidents Resolved Within SLA, ITIL4 - Issues Assigned to Me, ITIL4 - Issues In Backlog, ITIL4 - Known Errors, ITIL4 - Mean Time to Resolve Incidents by Priority, ITIL4 - Open Incidents, ITIL4 - Open Incidents By Team Member, ITIL4 - Open Issues by Service, ITIL4 - Open Issues by Status, ITIL4 - Open Issues Submitted by Department, ITIL4 - Open P1 Issues, ITIL4 - Open Problems, ITIL4 - Open Service Requests, ITIL4 - Open Tasks, ITIL4 - Planned vs Unplanned Changes, ITIL4 - Problems By Category, ITIL4 - Problems by Priority, ITIL4 - Problems by Status, ITIL4 - Problems by Team, ITIL4 - Problems in Backlog, ITIL4 - Problems With Workaround, ITIL4 - Problems Without Workaround, ITIL4 - Reopened Incidents, ITIL4 - Requests Fulfilled via Automation, ITIL4 - Self Service Resolution, ITIL4 - Teams Open Changes, ITIL4 - Teams Open Problems, ITIL4 - Teams Open Tasks, ITIL4 - Top Problems Grid, ITIL4 - Total Linked Incidents, ITIL4 - Unassigned Issues, ITIL4 - Workarounds Published in Portal, ITIL4 - All Open Issues Grid	Import
	Problems Filter	Overwrite
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

License Usage mApp Solution 1.5

CSM License Usage is a mApp® Solution that allows you to track CSM license data related to the number of total licenses, used licenses, and remaining licenses.

Platform version requirements: Tested on CSM 9.6.x — 10.2.0.

Content version requirements: Tested on CSM 9.5.x — 10.0.0; this mApp Solution may or may not be compatible with content versions earlier than CSM 9.5.x, but as with all mApp Solutions, be sure to test it on your customized system.

Prerequisites: None.

Overview

The CSM License Usage mApp Solution also allows you to track usage counts for features that do not require a license, such as the Dashboard Viewer.

The mApp Solution includes multiple Business Objects:

- **Major**
 - CSM License Usage
- **Supporting**
 - CSM License Usage Count
- **Lookup tables**
 - CSM License Usage Duration
 - CSM License Usage Status
 - CSM License Usage Type
 - CSM License Usage Type Category

The CSM License Usage form allows users to view, manage, and track usage data.


CSM License Usage

Status
Not Tracking

Total Licenses
10





Used Licenses
1

Remaining Licenses
9

Started By:

Henri Bryce
 3rd Level Support
 833-898-8787
 henri.bryce@RiverTCorp.com

I Want To:
[Get License Count](#)
[Go to CSM License Usage Dashboard](#)

Usage Tracking Configuration

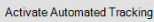
Start Date: 5/5/2019 12:00 AM 
End Date: 6/29/2019 12:00 AM 
Frequency: 1 
Duration: Hours 

Modules

License Count:
☒ Total
☒ Used
☒ Remaining
☐ Users

Licensed Client:
☒ Desktop
☒ Outlook
☒ Browser
☐ Portal
☐ Mobile
☐ Reserved

Non-Licensed Client:
☒ Dashboard Viewer
☐ Portal Login
☒ Report Viewer
☐ Web Service



[License Usage Summary](#)
[CSM License Usage Count](#)

License Count

Total Licenses:	Desktop Client:	Dashboard Viewer:
10	1	0
Used Licenses:	Outlook Client:	Report Viewer:
1	0	0
Remaining Licenses:	Browser Client:	Portal Login
9	0	Not Tracking
User Count:	Portal:	Web Services:

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	CSM License Usage, CSM License Usage Count, CSM License Usage Duration, CSM License Usage Status, CSM License Usage Type, CSM License Usage Type Category	Import
	Incident (Business hours definitions)	Don't Change
Automation Process	License Usage Tracking in Hours, License Usage Tracking in Minutes	Import
Forms	CSM License Usage, CSM License Usage Summary	Import
Dashboard	CSM Hourly License Usage Dashboard, CSM License Usage, Drill Down Licenses, License Usage Dashboard	Import
One-Step™ Action	Activate Tracking, Completed Tracking, CSM License Usage Duration Search, Deactivate Tracking, Go to Dashboard, License Usage Count, Manual License Count	Import
Expression	Numerous	Varies
Stored Query	Numerous	Import

Store Value	License Usage Hour Duration, License Usage Minute Duration	Import
Widget	Daily Application Usage, Donut of Used Licenses, Filter, License Usage Detail, Minimum Users, Non License Logins, Non License Users by Hour, Remaining Licenses, Search License Usage, Second Layout Chart, Total Available Licenses, Total Users, Users by the Hour, Users Logged per Hour	Import
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related Reading

<ul style="list-style-type: none"> • License Consumption 	<ul style="list-style-type: none"> • About Dashboards
<ul style="list-style-type: none"> • About Business Objects 	<ul style="list-style-type: none"> • About mApp Solutions

Apply the mApp Solution

Follow these steps to download and apply the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

Follow these steps to configure the mApp Solution:

1. [Define security rights for CSM License Usage Business Objects](#).
2. [Edit the CSM License Usage Automation Process](#).

Use the mApp Solution

The following tasks and functions are available with the mApp Solution:

- [Create a CSM License Usage record](#)
- [CSM License Usage Dashboards](#)
- [CSM License Usage Automation Processes](#)
- [CSM License Usage Saved Searches](#)
- [CSM License Usage Form](#)

Configuring the CSM License Usage mApp Solution

Complete the following procedure to configure the CSM License Usage mApp Solution. The configuration procedure is completed in CSM Administrator.

1. [Define security rights for CSM License Usage Business Objects.](#)
2. [Edit the CSM License Usage Automation Process.](#)

Define Security Rights for CSM License Usage Business Objects

Use CSM Administrator to define security rights for associated Business Objects. Business Objects associated with this mApp Solution support all rights (example: View, add, edit, delete) by default. We recommend granting security rights only to Users who require access to CSM licensing information (example: System administrators, License Managers, Software Asset Managers, and IT Service Desk Managers).



Note: This functionality is only available if you have applied the [CSM License Usage mApp Solution](#).

To define security rights:

1. [Define Business Object Rights \(Access to Data\)](#) for the following Business Objects:

- **Major**
 - CSM License Usage
- **Supporting**
 - CSM License Usage Count
- **Lookup tables**
 - CSM License Usage Duration
 - CSM License Usage Status
 - CSM License Usage Type
 - CSM License Usage Type Category

Edit the CSM License Usage Automation Process

By default, the CSM License Usage Automation Process runs during business hours. You can use the Automation Process Editor to define different business hours or configure the Automation Process to run continually.

1. In CSM Administrator, click the **Automation Processes** category.
2. Select **Create a new Automation Process Blueprint**.
The Edit Automation Processes dialog opens.
3. Select **License Usage Tracking in Minutes** and click the **Edit** (pencil) button.
The Visual Workflow Process Designer opens.
4. Click **Work Hours**.
5. Click the **ellipses** button to define new working hours, or select **24 x 7** to make the automation process run continually.



Note: Refer to [Create Business Hours](#) for details about creating new working hours using the Business Hours Manager.

6. Click **OK** to close the Visual Workflow Process Designer, then click the **Save** button in the Edit Automation Processes dialog to save the Blueprint.
7. Publish the Blueprint.

Using the CSM License Usage mApp Solution

The following tasks and functions are available with the mApp Solution:

- [Create a CSM License Usage record](#)
- [CSM License Usage Dashboards](#)
- [CSM License Usage Automation Processes](#)
- [CSM License Usage Saved Searches](#)
- [CSM License Usage Form](#)

CSM License Usage mApp Solution Good to Know

- Press **TAB** to move to the next field on the form.
- The **Started By** section is populated with the name of the creator.
- A time stamp is recorded when the record is created.
- View high-level license counts in **CSM License Usage Form Arrangement > CSM License Usage Summary** tab.
- View detailed license counts in **CSM License Usage Form Arrangement > CSM License Usage Count** tab.
- Quickly access the License Usage Metrics Dashboard by selecting **I Want To > Go to CSM License Dashboard**.
- Obtain a real-time license count by selecting **I Want To > Go to License Count**.

Create a CSM License Usage Record



Use the CSM Desktop Client to access the CSM License Usage record to track Cherwell Service Management® license data related to the number of total licenses, used licenses, and remaining licenses.

To create a CSM License Usage record:

1. On the CSM Desktop Client toolbar, select **New > New CSM License Usage**.

A new CSM License Usage record is created with a status of Not Tracking. The creator is automatically assigned as the Started By User.

2. Complete the following Usage Tracking Configuration fields (* for required):

- a. ***Start Date:** Click the **Calendar Date Selector** button  to select a start date and time for the license tracking.
- b. ***End Date:** Click the **Calendar Date Selector** button  to select an end date and time for the license tracking.
- c. ***Frequency:** Click the **Up** and **Down** buttons to select the frequency of the license tracking.
- d. ***Duration:** Click the **drop-down**, and then select a **duration** for the license tracking (hours or minutes).
- e. **License Count:** Select the **type of data** that you want to track.
- f. **Licensed Client:** Select one or more **clients** for which you want to track license usage.
- g. **Non-Licensed Client:** Select one or more **features** for which you want to track usage counts.

3. Click the **Activate Automated Tracking** button.

The CSM License Usage **Status** changes to **Tracking**. When the first instance of license tracking is recorded, and the number of Available Licenses, Used Licenses, and Remaining Licenses display in the Quick Info Tile alert bars. When 50% of the licenses are in use, the Used Licenses alert bar turns orange. When 80% of the licenses are in use, the Used Licenses alert bar turns red.

A summary of the tracked information is displayed in the License Usage Summary tab in the Form Arrangement.

Tip: For a real-time license count, click the **Get License Count** link in the I Want To section of the Quick Info Tile. A record of the current license data displays in the Quick Info Tile alert bars and in the CSM License Usage tab of the Form Arrangement.

4. Click the **Deactivate Automated Tracking** button to end tracking.

CSM License Usage Features

CSM provides the following tools to help manage CSM License Usage records:

- Form
- Dashboard
- Saved Searches
- Automation Processes

CSM License Usage Form

Use the CSM License Usage Form to log, edit, and track CSM License Usage records. The form is made up of the following main areas:

1. Quick Info Tile: Displays important at-a-glance information, including Status bar (current and next status), Total Licenses bar, Used Licenses bar, Remaining Licenses bar, Started By (record ownership), and other common operations (I Want To section).
2. Main Pane: Displays the main form fields, which allow you to define the data you want to track.
3. Arrangement: Dynamically displays linked records (Child Records) that are in a relationship with the parent CSM License Usage record.

CSM License Usage

Status: Not Tracking

Total Licenses: 10

Used Licenses: 1

Remaining Licenses: 9

Started By:
Henri Bryce
 3rd Level Support
 833-898-8787
 henri.bryce@RiverTCorp.com

I Want To:
[Get License Count](#)
[Go to CSM License Usage Dashboard](#)

Usage Tracking Configuration

Start Date: 5/5/2019 12:00 AM End Date: 6/29/2019 12:00 AM Frequency: 1 Duration: Hours

Modules

License Count:
☒ Total
☒ Used
☒ Remaining
☐ Users

Licensed Client:
☒ Desktop
☒ Outlook
☒ Browser
☐ Portal
☐ Mobile
☐ Reserved

Non-Licensed Client:
☒ Dashboard Viewer
☐ Portal Login
☒ Report Viewer
☐ Web Service

[Activate Automated Tracking](#)

License Count

Total Licenses:	Desktop Client:	Dashboard Viewer:
10	1	0
Used Licenses:	Outlook Client:	Report Viewer:
1	0	0
Remaining Licenses:	Browser Client:	Portal Login:
9	0	Not Tracking
User Count:	Portal:	Web Services:

The following table describes the fields on the form.

Field	Description	Comments
Quick Info Tile	Important at-a-glance information, including Status bar (current and next status), Available Licenses bar, Used Licenses bar, Remaining Licenses bar, record ownership, and common operations (I Want To section).	

Field	Description	Comments
CSM License Usage	Record type.	
Status Alert Bar	Current and next status of the CSM License Usage record.	
Available Licenses Alert Bar	Displays the total number of CSM licenses available to your organization.	
Used Licenses Alert Bar	Displays the number of CSM licenses currently being used.	
Remaining Licenses Alert Bar	Displays the number of CSM licenses that are currently available.	
Owned By		
User Owner -select owner-	Record owner.	
Time stamp	The date and time in which the record was created.	
I Want To		
Get License Count	Click the link to access real-time license data based on the defined criteria.	License Usage Count One-Step Action: Steps through a count of each CSM License type (ex: Available licenses) and then saves the record.
Go to CSM License Usage Dashboard	Click the link to open the License Usage Metrics Dashboard where you can view and track license data.	Go to Dashboard One-Step Action: Opens the License Usage Metrics Dashboard in the Main Pane.

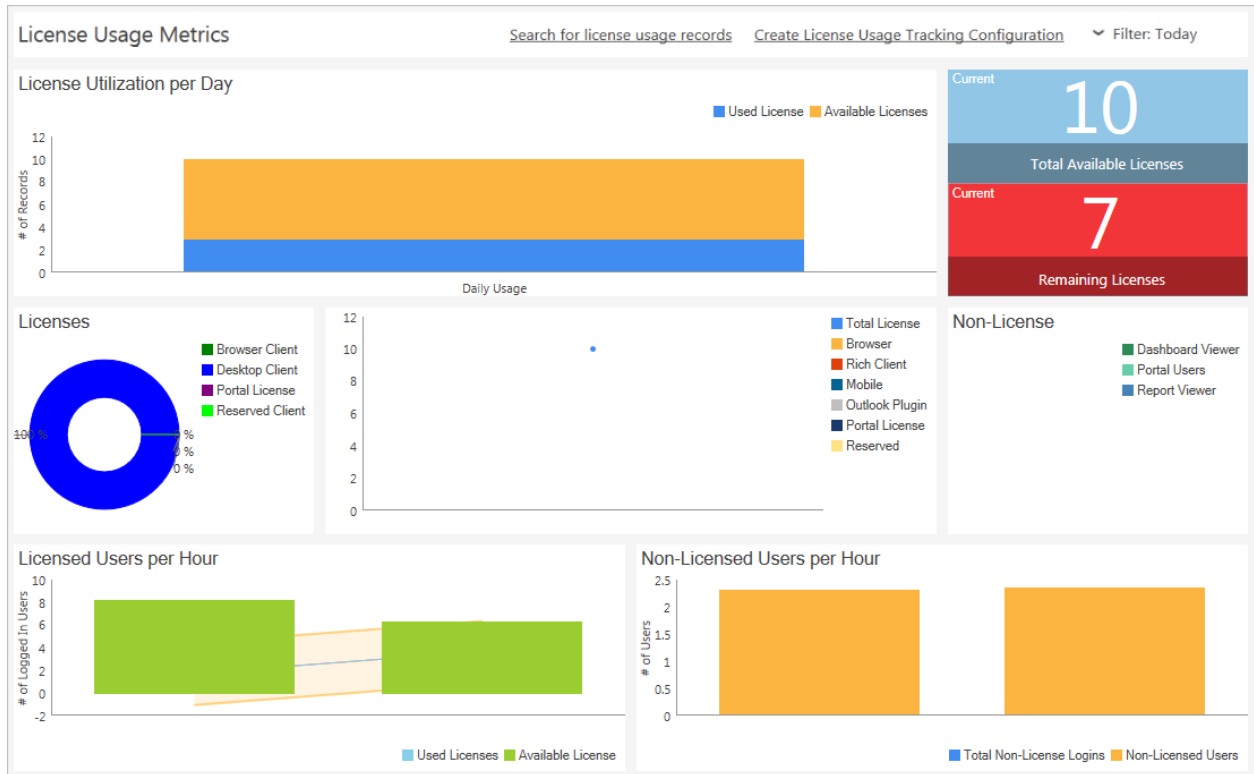
CSM License Usage Dashboards

CSM License Usage mApp Solution provides the following Dashboards:

- CSM License Usage Dashboard
- License Usage Metrics Dashboard

CSM License Usage Dashboard

The CSM License Usage Metrics Dashboard intuitively organizes your critical license metrics into a single control panel.



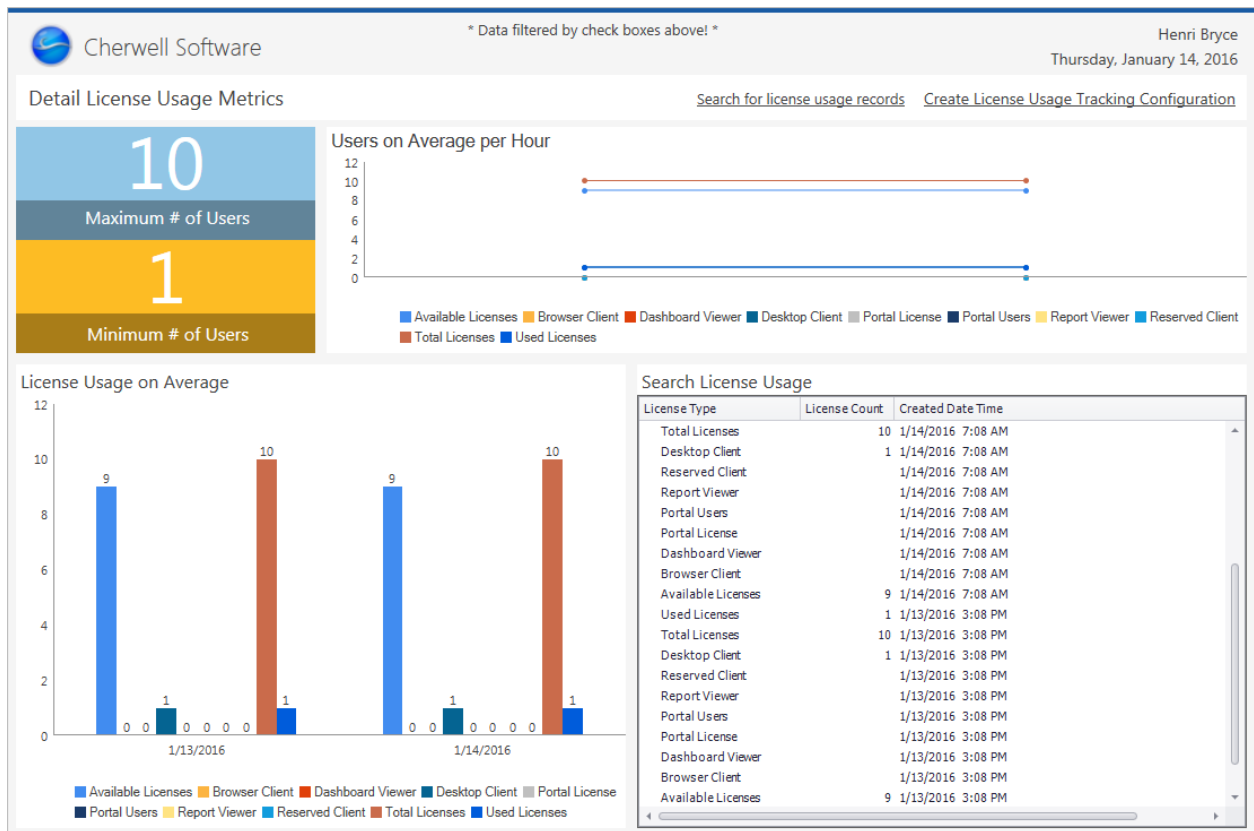
License Usage Metrics Dashboard Widgets

Item	Description	Widget Type	Widget Name	Widget Uses:
License Utilization per Day	Number of used CSM licenses and available licenses per day.	Chart	Second Layout Chart	Used Licenses Saved Search, Available Licenses Saved Search
Total Available Licenses	Total number of CSM licenses available to the organization.	Text Gauge	Total Available Licenses	Total Licenses Saved Search
Remaining Licenses	Number of CSM licenses currently available to the organization.	Text Gauge	Available Licenses	Available Licenses Saved Search
Licenses	Percentage of each CSM license type being used.	Chart	License Used	License Used Saved Search

Item	Description	Widget Type	Widget Name	Widget Uses:
Daily Application Usage	Number of each type of CSM license being used per day.	Chart	Daily Application Usage	Multiple Saved Searches (Total License, Browser Client, Rich Client, Mobile Client, Outlook Plugin, Portal License, Reserved License)
Non-License	Number of each type of non-licensed CSM features being used	Doughnut	Non License Logins	Non License Logins Saved Search
Licensed Users per Hour	Number of used and available CSM licenses per hour.	Chart	Users Logged per Hour	Used Licenses Saved Search, Available License Saved Search
Non-Licensed Users per Hour	Number of users logged into non-licensed CSM features per hour.	Chart	Non License Users by Hour	Total Non-License Login Saved Search, Non-Licensed Users Saved Search

Detail License Usage Metrics Dashboard

The CSM Detail License Usage Metrics Dashboard dynamically displays data for a specific licensed client or non-licensed feature (ex: Desktop Client). Access the Dashboard by double-clicking a Widget segment.



Detail License Usage Metrics Dashboard Widgets

Item	Description	Widget Type	Widget Name	Widget Uses:
License Utilization per Day	Number of used CSM licenses and available licenses per day.	Chart	Second Layout Chart	Used Licenses Saved Search, Available Licenses Saved Search
Maximum # of Users	Highest number of licenses used within an hour at any point during the last quarter.	Text Gauge	Total Users	Created Date Time field, License Count field
Minimum # of Users	Lowest number of licenses used within an hour at any point during the last quarter.	Text Gauge	Minimum Users	Created Date Time field, License Count field

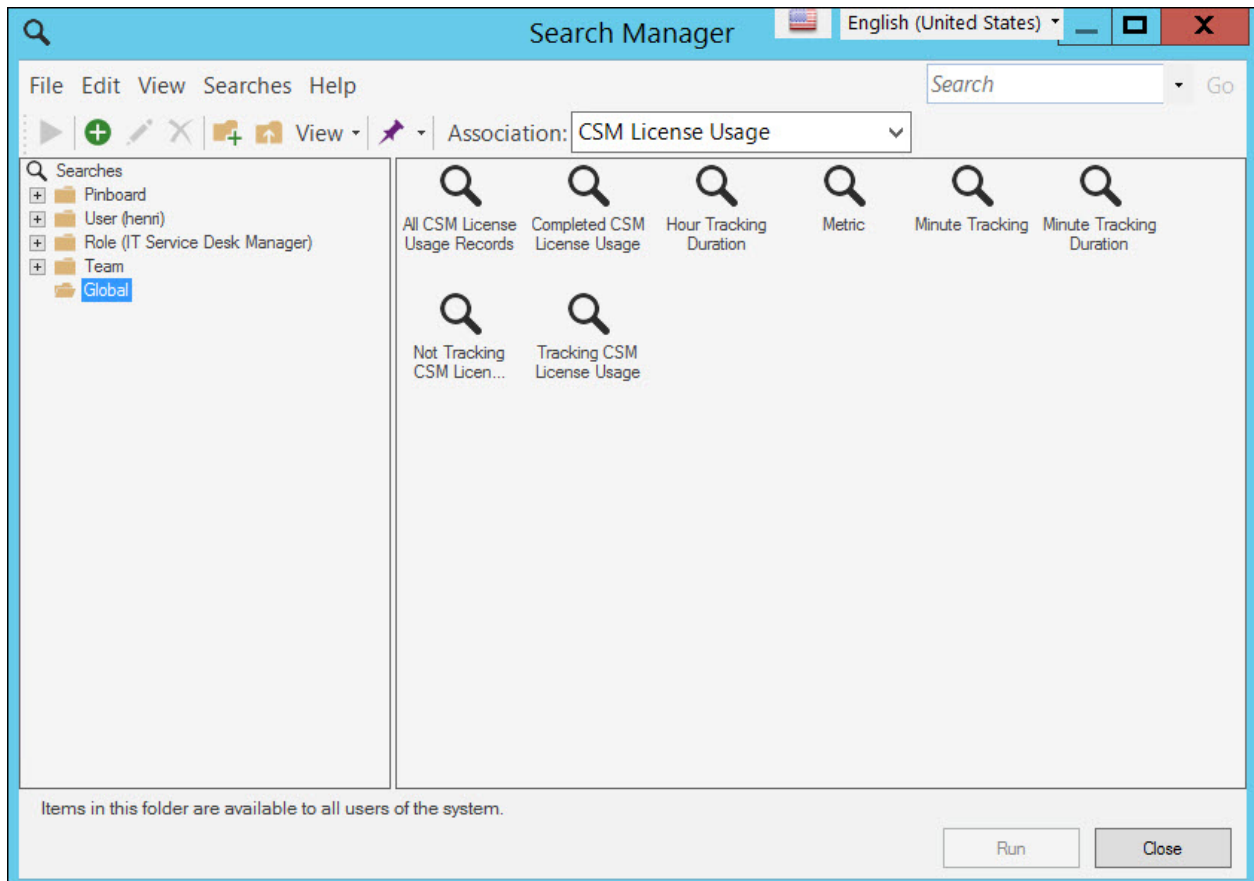
Item	Description	Widget Type	Widget Name	Widget Uses:
Users on Average per Hour	Average number of licenses used each hour.	Chart	Users by the Hour	Created Date Time field, License Count field
License Usage on Average	Average number of licenses used each day.	Chart	Usage Detail	Created Date Time field, License Count field
Search License Usage	All license usage counts organized by the Created Date Time field.	Search Results List	Search License Usage	CSM License Usage Count Business Object

CSM License Usage Saved Searches

CSM License Usage and **CSM License Usage Count** include numerous Saved Searches that can be executed from the Search Manager, Metrics, One-Step Actions, or Widgets. Some of them can additionally be executed from Metrics or One-Step Actions.

Saved Searches for CSM License Usage

Numerous Saved Searches for **CSM License Usage** can be executed from the Search Manager, Metrics, or One-Step Actions.



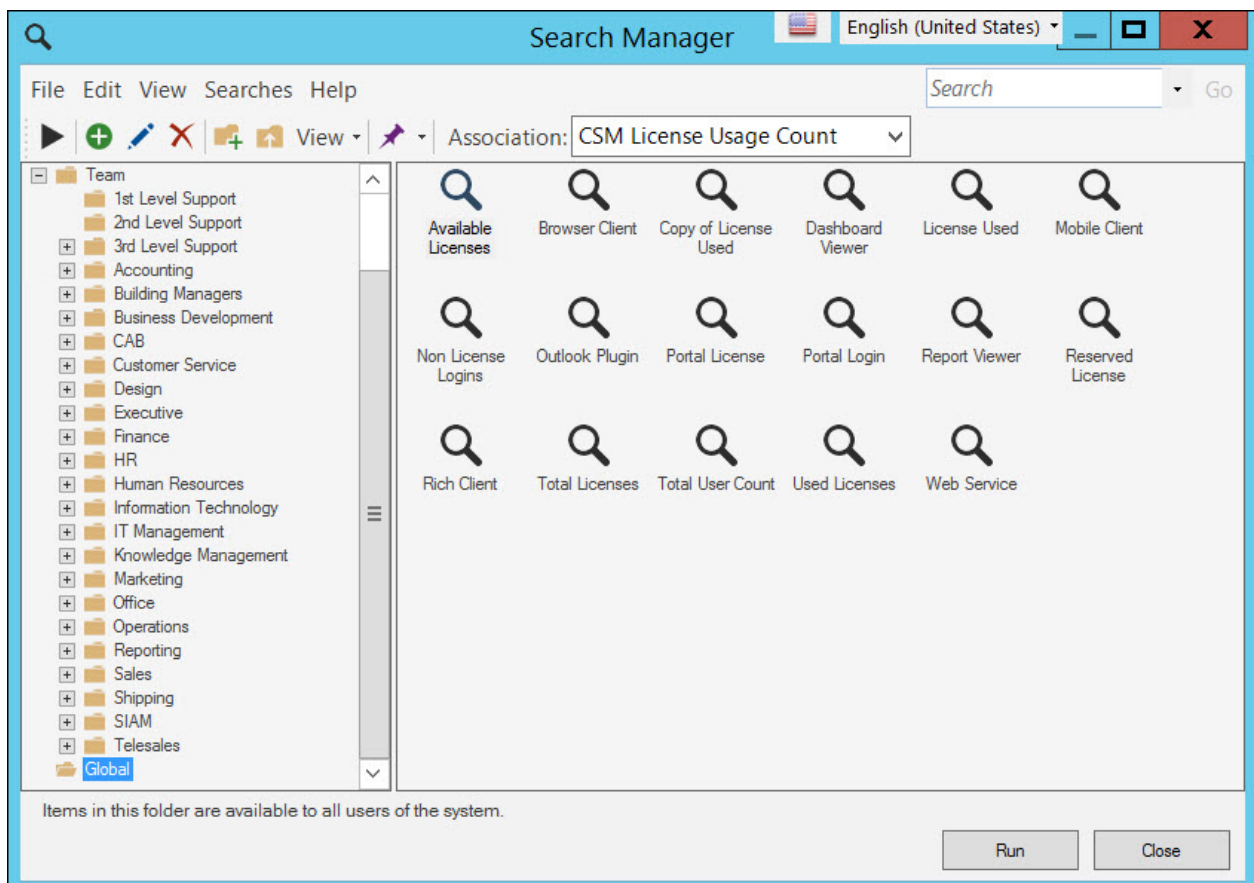
Saved Search	Returns	Executed From
All CSM License Usage Records	All CSM License Usage records. CSM License Usage.RecID Not Empty.	Search Manager

Saved Search	Returns	Executed From
Completed CSM License Usage	CSM License Usage records with a status of Complete. CSM License Usage.Status equals Completed.	Search Manager
Hour Tracking Duration	CSM License Usage record with a duration in hours and a status of Tracking. All items in group must be met. CSM License Usage.Duration equals Hours. <i>And</i> CSM License Usage.Status equals Tracking.	Search Manager, Metrics, One-Step Actions
Metric	CSM License Usage with a duration in minutes. CSM License Usage.Duration equals Minutes.	Search Manager
Minute Tracking	CSM License Usage records with a duration in minutes. CSM License Usage.Duration equals Minutes.	Search Manager
Minute Tracking Duration	CSM License Usage records with duration in minutes. All items in group must be met. CSM License Usage.Duration equals Minutes. <i>And</i> CSM License Usage.Status equals Tracking.	Search Manager
Not Tracking CSM License Usage	CSM License Usage records with a status of Not Tracking. CSM License Usage.Status equals Not Tracking.	Search Manager

Saved Search	Returns	Executed From
Tracking CSM License Usage	CSM License Usage records with a status of Tracking. CSM License Usage.Status equals Tracking.	Search Manager

Saved Searches for CSM License Usage Count

Numerous Saved Searches for **CSM License Usage Count** can be executed from the Search Manager or Widgets.



Saved Search	Returns	Executed From
Available Licenses	All available licenses for CSM License Usage Count. CSM License Usage Count.License Type equals Available Licenses.	Search Manager, Widgets

Saved Search	Returns	Executed From
Browser Client	CSM License Usage Count for the Browser Client. CSM License Usage Count.License Type equals Browser Client.	Search Manager, Widgets
Copy of License Used	CSM License Usage Count for a group of items. At lease one of the items in the group must be true. CSM License Usage Count.License Type equals Browser Client. OR CSM License Usage Count.License Type equals Mobile Client. OR CSM License Usage Count.License Type equals Outlook Plugin. OR CSM License Usage Count.License Type equals Portal License. OR CSM License Usage Count.License Type equals Reserved License. OR CSM License Usage Count.License Type equals Rich Client.	Search Manager, Widgets
Dashboard Viewer	CSM License Usage Count for the Dashboard Viewer. CSM License Usage Count.License Type equals Dashboard Viewer.	Search Manager, Widgets
License Used	CSM License Usage Count for Consumers License. CSM License Usage Type.Category equals Consumers License.	Search Manager, Widgets
Mobile Client	CSM License Usage Count for Mobile Clients. CSM License Usage Count.License Type equals Mobile Client.	Search Manager, Widgets
Non License Logins	CSM License Usage Count for features that do not require a license. CSM License Usage Type.Category equals Non-License.	Search Manager, Widgets

Saved Search	Returns	Executed From
Outlook Plugin	CSM License Usage Count for Outlook Plugin. CSM License Usage Count.License Type equals Outlook Plugin.	Search Manager, Widgets
Portal License	CSM License Usage Count for the Portal. CSM License Usage Count.License Type equals Portal Licenses.	Search Manager, Widgets
Portal Login	CSM License Usage Count for Portal Login. CSM License Usage Count.License Type equals Available Licenses.	Search Manager, Widgets
Report Viewer	CSM License Usage Count for Report Viewer. CSM License Usage Count.License Type equals Available Licenses.	Search Manager, Widgets
Reserved License	CSM License Usage Count for Reserved Licenses. CSM License Usage Count.License Type equals Available Licenses.	Search Manager, Widgets
Rich Client	CSM License Usage Count for the CSM Desktop Client. CSM License Usage Count.License Type equals Rich Client.	Search Manager, Widgets
Total Licenses	CSM License Usage Count for the Total Licenses. CSM License Usage Count.License Type equals Total Licenses.	Search Manager, Widgets
Total User Count	CSM License Usage Count for Total Users. CSM License Usage Count.License Type equals Total User Count.	Search Manager, Widgets
Used Licenses	CSM License Usage Count for Used Licenses. CSM License Usage Count.License Type equals Used Licenses.	Search Manager, Widgets
Web Service	CSM License Usage Count for the Web Service. CSM License Usage Count.License Type equals Web Service.	Search Manager, Widgets

CSM License Usage Automation Processes

CSM License Usage includes the following Automation Processes.

Name	Description
CSM License Usage Tracking in Hours	When the status of a CSM License Usage record is Tracking, the process waits until the defined frequency in hours is reached, and then initiates the License Usage Count One-Step Action.
CSM License Usage Tracking in Minutes	When the status of a CSM License Usage record is Tracking, the process waits until the defined frequency in minutes is reached, and then initiates the License Usage Count One-Step Action.

Enterprise CI Types mApp Solution 1.0

The Enterprise CI Types mApp® Solution provides three new Configuration Item Major Business Objects.

Platform version requirements: Tested on CSM 10.1.0.

Content version requirements: Tested on CSM 10.1.0. This mApp Solution may also be compatible on content versions that are older than CSM 10.1.0, but as with all mApp Solutions, be sure to test them on your customized system.

Prerequisites: None.

Available languages:

- English
- French
- German
- Portuguese
- Spanish

Overview

The Enterprise CI Types mApp Solution provides three additional Configuration Item objects:

- Config - Application
- Config - Database
- Config - Storage

Key Features

Key features include:

- Three new commonly-requested CI types.
- New and updated CI searches to include the new CI types.
- Updated CMDB dashboard to include the new CI types.

Apply the mApp Solution

Follow these steps to download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.

3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM. Do not select **Finish** yet.
4. Several items are overwritten when applying the Enterprise CI Types mApp Solution:
 - Dashboards
 - Global > Dashboards > Default Dashboards > CMDB
 - Global > Executive Dashboard Pack > Risk
 - Stored Queries
 - Configuration Item > Global > Hardware
 - Configuration Item > Global > Hardware with Manufacturer
 - Configuration Item > Global > Software
 - Visualizations
 - Global > Configuration Items
 - Widgets
 - Global > Default Dashboard Widgets > New CIs (name change to All CIs)
 - Global > Executive Dashboard Widgets > Events and CIs by Time

Choose which items to overwrite.

- a. At the **Amount of User Interaction** wizard screen select **Ask me about every decision**.
 - b. Select **Next** until you reach the **Dashboards and Widgets** screen. Select **Don't change** for any items you don't want to overwrite. Select **Next**.
 - c. Perform the same steps in the **Miscellaneous Objects** screen.
5. Still in the Apply mApp Wizard, when you reach the **Final Options** window, select **Open a Blueprint so that I can preview the changes**, and then select **Finish**.
 6. When the Blueprint opens, select **File > Blueprint changes**.
 7. Save and publish the Blueprint.

Revision History

mApp Solution Version	Platform Version Requirements	Content Version Requirements	Prerequisites	Version/Release Notes
1.0	10.1.0	10.1.0	None	

Configure Enterprise CI Types

Edit the summary forms and set view permissions for the enterprise CI types before deploying them on your system.

Edit Enterprise CI Summary Forms

After you apply the Enterprise CI Types mApp® Solution, edit the summary forms for the Business Objects that use the new CI types.

Edit the form arrangements for the following objects:

- Incident
- Problem
- Change
- Internal Customer
- Service
- Supplier
- Existing Configuration Items

In the form arrangement for each object, there is a **Configuration Items** tab or a **Related CIs** tab. Some Configuration Item objects also have tabs for **Upstream CIs**, **Downstream CIs**, and **Other CIs**.

To set the summary forms:

1. In CSM Administrator, create a new Blueprint after applying the mApp Solution. For each new CI object:
2. Edit the form arrangement.
3. Right-click on a CI tab (there can be more than one on some objects) and select **Properties**.
4. Select the **Tab Contents** page. In the **Default Form** field, select **Specific Form**.
5. Select the **ellipsis** button next to the **Default Form** field. Select the summary form for each of the new Configuration Item objects.

Set View Permissions for Enterprise CI Types

Set view permissions for each of the enterprise Configuration Item objects for your CSM Portal security groups (typically Portal Customer and Portal Workgroup Manager).

To set view permissions:

1. In CSM Administrator, select **Security > Edit security groups**.
2. Select the appropriate security group.
3. Select the **Business Objects** tab.
4. Select the Config - Application object and select the **View** check box under **General**.
5. Select **New Field** under the object and select **View**.
6. Repeat steps 4—5 for the Config - Database and Config - Storage objects and save.
7. Repeat steps 2—6 for any other CSM Portal security groups you want to update.

Enterprise CI Types mApp Solution Items

This table provides a list of Business Objects and associated items that are included when you apply the Enterprise CI Types mApp Solution.

Table 1. mApp Solution Items

Item Category	Item	Typical Merge Action
Major Business Objects	Configuration Item, Configuration - Database, Configuration - Storage, Configuration - Application	Merge
Lookup Tables	CI Environment, CI Instance Type	Merge
	CI Asset Type, CI Status, CI Status List, Configuration Item Type	Import data
Dashboards	CMDB, Risk	Overwrite
Widgets	All CIs, Events and CIS by Time	Overwrite
	Applications in CMDB, Databases in CMDB, Storage Devices in CMDB, New CMDB-Applications in CMDB, New CMDB-Databases in CMDB, New CMDB-Storage Devices in CMDB	Import
Stored Queries	All Config - Applications, All Config - Database, All Config - Storage	Import
	Hardware, Hardware with Manufacturer, Software	Overwrite
Visualizations	Configuration Items	Overwrite

Machine Learning mApp Solution 1.0

The Machine Learning mApp Solution contains a machine learning demonstration scenario. It uses a machine learning model to predict an Incident's Service Classification based on its description.

Platform Version Requirements: Tested on CSM 10.2.0.

Out-of-the-Box Content Version Requirements: Tested on CSM 10.2.0.

How the mApp Solution Works

The Machine Learning mApp Solution contains a demonstration of a machine learning model. The demonstration uses a machine learning model to predict the Service Classification of an Incident based on the Incident description.

Users (often first-level service technicians) enter an Incident description and let the machine learning model predict the Service Classification. Machine learning subject matter experts (SMEs) use the included Machine Learning dashboard to review the predications to verify their accuracy, providing a new Service Classification if necessary. This information is used to continuously train the machine learning model.

Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp Wizard to apply the mApp Solution to your CSM system. The Apply mApp Wizard generates a Blueprint, which can then be viewed and published to a test or live system to commit the changes.

For a list of items included in the Machine Learning mApp Solution, see [Machine Learning mApp Solution Items](#).

Apply the mApp Solution

Download file: machine-learning.mApp. If you want a reference system to see how everything works, we have provided a data .mApp file that will replace all Incident, category, subcategory, and service data with demo data, which can be used to train a demo system.

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.0	10.2.0	10.2.0. This mApp Solution may not be compatible on Content versions older than 10.2.0, but as with all mApp Solutions, it should be tested on your customized system.	

How the Machine Learning mApp Solution Works

The Machine Learning mApp Solution contains a machine learning model along with supporting expressions, fields, and a scheduled item designed to predict an Incident's Service Classification based on its description.

This mApp Solution covers this primary use case:

- Allow organizations to begin automating Incident workflows by having a Service Classification (Service, Category, and Subcategory) automatically assigned based on keywords entered into the Incident's description field.

When users or customers enter an Incident description, the machine learning model analyzes the entry and predicts a service, category, and subcategory, which gives the Service Classification. The prediction is assigned a confidence level. Machine learning subject matter experts (SMEs) can review the Service Classification predictions and verify the prediction or provide an updated classification. After a SME confirms or reclassifies, the prediction confidence is set to 100%. The machine learning model will train on all Service Classifications with a confidence of 95% or higher.

You may prefer to adjust how the machine learning model trains. Some ideas to consider:

- Exclude Service Classifications that have not been verified.
- Adjust the confidence threshold for training.

This mApp Solution includes:

- A machine learning model.
- A scheduled item that will run at certain intervals to perform the training.
- A supplemental Incident form containing fields for use in the main Incident form.
- One-Step™ Actions associated with the form fields.
- A dashboard the machine learning SMEs will use to verify the Service Classification predictions.

A separate .mApp file with training data is also available (machine-learning-data.mApp). Apply the data .mApp file after the main Machine Learning mApp Solution. Only install the data .mApp file on a separate demonstration environment, not your production system. Use your own data to train your production system.

For a list of items included in the Machine Learning mApp Solution, see [Machine Learning mApp Solution Items](#).

Configure the Machine Learning Service Classification Prediction

The Machine Learning mApp® Solution contains a machine learning model, supplemental Incident form, expressions, scheduled item, and associated One-Step™ Actions.

To configure the Machine Learning mApp Solution:

1. Determine who in your organization will act as machine learning subject matter experts (SMEs) for reviewing the service classification predictions. This could be higher-level service technicians or managers.
2. Place the **Verify Incident Confidence**, **Reclassify Incident for Confidence**, and **Re-Predict Classification** links on your Incident Overview form. These fields are available in the Machine Learning Supplemental form included with the mApp Solution file.
3. Set view and execute permissions for the **Verify Incident Confidence** and **Reclassify Incident for Confidence** links on the Incident form.
4. Set view permissions for the Machine Learning dashboard.
5. Publish the .mApp Blueprint.

Create a Scheduled Item to run the machine learning model.

6. Set up the Scheduled Item. For detailed instructions on Scheduled Items, see [Create a Scheduled Item](#).
 - a. Provide general and schedule information for the Scheduled Item.
 - b. On the **Action** page, select **Train Machine Learning** from the **Action** menu.
 - c. Select the ellipsis button by the **Machine Learning Training Configuration** field to open the Machine Learning Manager.
 - d. In the **Association** field, select **Incident**.
 - e. Double-click the **Incident Subcategory** machine learning model.
 - f. For the **Training Query**, select **Total Incidents and Requests with High Confidence (Global > Machine Learning)**.



Note: Before you run the first training scenario, review outstanding tickets to classify them as high confidence or add a condition to the search to include any items you want in the training group.

The configuration details autopopulate.

7. Allow the included Scheduled Item to run.



Note: Let the Scheduled Item run as scheduled; running it by using the **Test** button in the Scheduled Item Manager won't work.

Use the Machine Learning Service Classification Prediction

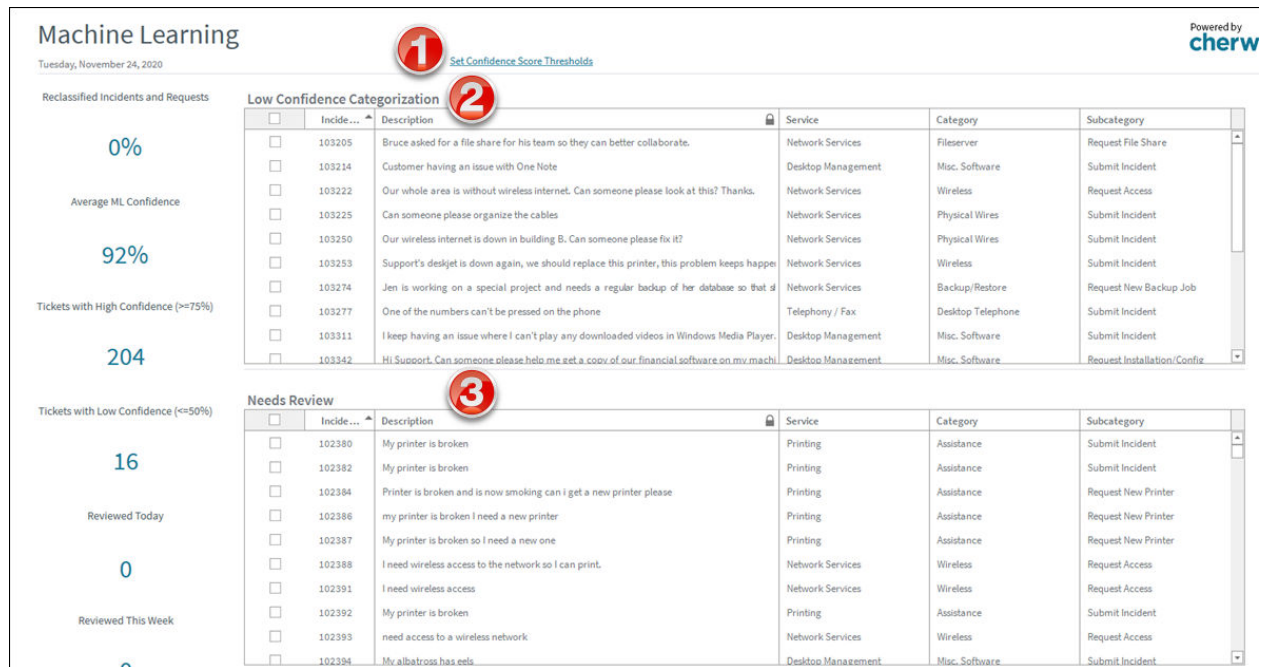
The Service Classification machine learning model uses the first entry in the Description field to predict a service, category, and subcategory for the Incident.

1. When you create an Incident record, don't select a service category and subcategory. Instead, enter a concise description in the **Description** field and press **tab**.
2. The machine learning model included with this mApp® Solution will generate its best guess at a Service Classification. If the Service Classification makes sense, move on to the rest of the Incident record. If it isn't correct, you can:
 - Change the **Service Classification** if it's incorrect. You can manually change the Service Classification or SMEs can use the **Reclassify Incident for Confidence** link.
 - Enter more details in the **Description** field, then select **Re-Predict Classification** to trigger the machine learning model to run again.

Machine Learning Dashboard

The Machine Learning dashboard provides an area for machine learning subject matter experts (SMEs) to verify predictions, as well as other metrics related to the machine learning model.

The Machine Learning dashboard has an area for tickets with a low confidence categorization and tickets needing review to help you review predictions.



1. Select **Set Confidence Score Thresholds** to adjust Tickets with High Confidence and Tickets with Low Confidence widgets. The values should be between 0 and 1.
2. The low confidence threshold determines which Incidents appear in the Low Confidence Categorization grid.
3. The Incidents in the Needs Review grid have not had their Service Classification verified.

Verify the Machine Learning Service Classification Prediction

SMEs can review the Machine Learning dashboard to verify and update the machine learning model's Service Classification predictions. This verification process increases the model's future accuracy.

To verify the Service Classification prediction:

1. Access the Machine Learning dashboard.
2. Review the accuracy of the Service Classification for each Incident.
 - If the Service Classification is correct, right-click the Incident and select **Actions > Verify Incident Confidence**.
 - If the Service Classification is incorrect, select the Incident to open the Incident record. Choose an new Service Classification.

You can also review Service Classification predictions by accessing each Incident record.

When a SME manually sets the Service Classification, the confidence for that particular Incident is set to 100%. The machine learning model continues to train itself based on these corrections, along with any other Incidents with a confidence rating of 95% or higher.

Machine Learning mApp Solution Items

These are the items included in this Machine Learning mApp Solution.

Item Category	Item	Typical Merge Action
Business Object	Incident	Merge
Fields	Incident.Subcategory	Overwrite
	Incident.Subcategory ID	
	Incident.Service	
	Incident.Category	
	(new) Incident.Confidence	
	(new) Incident.Reclassified ML	
	(new) Incident.Confidence Level Verified	
	(new) Incident.Priority Matrix Element RecID	
	(new) Incident.Original Confidence	
	ML Review Datetime	Import
Expressions	(Incident) Global > Machine Learning - ML Confidence	Overwrite
	(Incident) Global > Machine Learning - ML Prediction	
	(None) Global > Machine Learning - Average Incidents and Request Confidence Level	
	(None) Global > Machine Learning - Percent of Reclassified Incidents and Requests	
One-Step™ Actions	Verify Incident Classification	Overwrite
	Reclassify for Confidence	
	Re-Predict Classification	
Forms	Supplemental Machine Learning	Overwrite
Dashboards	Machine Learning	Overwrite

Metrics	Reviewed ML Confidence Average	Overwrite
	Unreviewed ML Confidence Average	
	Total Incidents and Requests Categorized by ML	
	Total Incidents and Requests Reclassified	
	Total Incidents and Requests Reviewed This Week	
	Total Incidents and Requests Reviewed Today	
	Total Incidents and Requests with High Confidence	
	Total Incidents and Requests with Low Confidence	
Widgets	Incidents and Service Requests with Low Confidence	Overwrite
	Needs Review	
	Reclassified Categories	
Machine Learning Model	Incident Subcategory (feel free to rename)	Overwrite
Searches	Total Incidents and Requests Categorized by ML	Overwrite
	Total Incidents and Requests Needing ML Review	
	Total Incidents and Requests Reclassified	
	Total Incidents and Requests Reviewed	
	Total Incidents and Requests Reviewed This Week	
	Total Incidents and Requests Reviewed Today	
	Total Incidents and Requests with High Confidence	
	Total Incidents and Requests with Low Confidence	
Actions	Incident - Context Menu - Verify Classification (Set Confidence to 1 one-step)	
	Incident - Context Menu - Reclassify for Confidence (Reclassify for Confidence)	
Grids	Machine Learning	Overwrite

- Import: Add new item.
- Overwrite: Replace target item.
- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

Survey mApp Solution 3.1

Use the Survey mApp® Solution to create customer surveys for an Incident.

Platform version requirements: Tested on CSM 9.5.2 and 10.2.0.

Content version requirements: Tested on CSM 9.5.2 and 10.0.0; this mApp Solution may or may not be compatible on content versions earlier than 9.5.2, but as with all mApp Solutions, be sure to test it on your customized system.

Prerequisites: None.

Overview

The surveys consist of five scored questions and two short answer questions. The survey originates after an Incident is closed. The Incident customer (the survey taker) completes the survey in the CSM Portal.

Results
1 of 10
Tier 1 Support Queue
Locked by you
Save
Attach (1)
Cancel
Delete
Refresh
Knowledge

Customer Satisfaction Survey

This survey is related to Incident 12405

Incident Request Date
1 April 2019

Incident Resolution Date
2 April 2019

Assigned Technician
Andrew Simms

Short Description
My VM is out of storage space. When I try to save a blueprint I get a storage error. Please increase the storage.

Please evaluate the following statements:

The technician was courteous and helpful.

☐ 1 - Strongly Disagree ☐ 2 - Disagree ☐ 3 - Neutral ☐ 4 - Agree ☐ 5 - Strongly Agree

The service was handled promptly.

☐ 1 - Strongly Disagree ☐ 2 - Disagree ☐ 3 - Neutral ☐ 4 - Agree ☐ 5 - Strongly Agree

The service delivered was accurate.

☐ 1 - Strongly Disagree ☐ 2 - Disagree ☐ 3 - Neutral ☐ 4 - Agree ☐ 5 - Strongly Agree

Requesting the service was simple.

☐ 1 - Strongly Disagree ☐ 2 - Disagree ☐ 3 - Neutral ☐ 4 - Agree ☐ 5 - Strongly Agree

I was satisfied with the overall quality of my service.

☐ 1 - Strongly Disagree ☐ 2 - Disagree ☐ 3 - Neutral ☐ 4 - Agree ☐ 5 - Strongly Agree

Please describe any issues you may have experience

Do you have any additional comments?

Cancel
Submit

Apply the mApp Solution

Follow these steps to download and apply the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

For a list of items included in the mApp Solution, see [Survey mApp Solution Items](#).

Configure the mApp Solution

Follow these steps to configure the mApp Solution:

1. If you are using a version of In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM. prior to In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM. 10.2.1, update foreign keys.
2. Set up and configure email accounts.
3. Configure URLs for the Cherwell Browser applications.

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
2.0	5.0.0 or later.	None.	None.
3.0	9.5.2 and 9.6.x.	Tested on 9.5.2 and 9.6.1. This mApp Solution may not be compatible on Content versions earlier than 9.2.0, but as with all mApp Solutions, it should be tested on your customized system.	None.
3.1	Tested on 9.5.2 and 10.2.0.	Tested on 9.5.2 and 10.0.0; this mApp Solution may or may not be compatible on content versions earlier than 9.5.2, but as with all mApp Solutions, be sure to test it on your customized system.	None.

Related concepts

[About Forms](#)

[About mApp Solutions](#)

[Update Foreign Keys](#)

[Set Up and Configure Email Accounts](#)

[Create a Customer Survey](#)

[Take a Customer Survey](#)

Update Foreign Keys

In CSM OOTB version 9.6.0, foreign keys do not automatically update when you publish a Blueprint. After applying the Survey mApp Solution, you will need to update foreign keys.

To update foreign keys:

1. Create a new Blueprint.
2. Save the Blueprint and note where you saved it because you will need to reference the file path when running the command-line argument.
3. Use the command-window to publish the Blueprint, adding in the command option to update foreign keys (see example below).

Example:

```
Trebuchet.CommandLineConfigure.exe /publish  
/blueprint="C\..." /connection="[Common]Cherwell Browser"  
/connectionuserid=User ID /connectionpassword=password /scanblueprint=false  
/createrollback=false /updateforeignkeys=true
```

Related concepts

[Publish a Blueprint](#)

[Command-Line Configuration \(CLC\) Options](#)

Related tasks

[Create a Blueprint](#)

Set Up and Configure Email Accounts

In CSM OOTB version 9.5.2 – 9.5.3, the email templates do not work properly with the default User account. After applying the mApp Solution, you will need to complete the following configurations: set up and configure the email accounts, configure the URLs for the Cherwell Browser applications, and edit the One-Step Actions.

Set Up and Configure Email Accounts

To set up and configure the email accounts:

1. Set up a global or personal email account. This email will be used when editing the One-Step Actions below.
2. Configure the test receiver and sender email accounts. This must be done for all languages.

Configure URLs for Cherwell Browser Applications

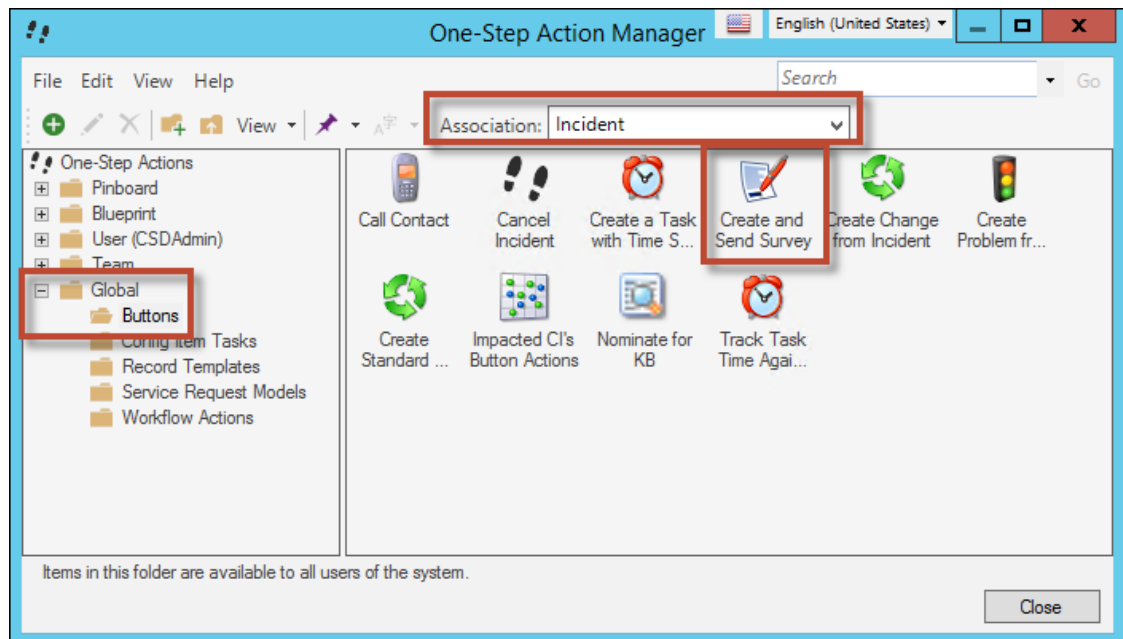
To configure the URLs for the Browser applications:

- Set the URLs for the Browser applications (Portal for Customers; Browser Client for Users).

Edit One-Step Actions

To edit the One-Step Actions:

1. Use the [Form Editor](#) (accessed from within a Blueprint in CSM Administrator) to edit the Incident Form.
2. [Open the One-Step Actions Manager](#).
 - a. From the **Association** drop-down list, select **Incident**.
 - b. From the Manager tree, expand the Global folder and select the **Buttons** folder.
 - c. Right-click **Create and Send Survey** and select **Edit**.



The One-Step Editor opens.

- d. Select the **Send Survey Email** Action.
- e. From the **Send via** drop-down list, select the global or personal email that was set up.
- f. Select **OK** to save the One-Step Action.
3. From the **Association** drop-down list, select **Survey Template**
 - a. Right-click **Satisfactory Threshold Notification** and select **Edit**. The One-Step Editor opens.
 - b. Select the **Send an e-mail** Action.
 - c. From the **Send via** drop-down list, select the global or personal email that was set up.
 - d. Select **OK** to save the One-Step Action.
 - e. Right-click **Unsatisfactory Threshold Notification** and select **Edit**.
 - f. Follow steps b — d above.
4. Select **Close**.
5. Save and [publish the Blueprint](#).

Related concepts

[Configure a Personal Email Account](#)
[Configure Test and Production Accounts](#)
[Open the Object Manager](#)
[Save a Blueprint](#)

Related tasks

[Configure a Global Email Account](#)

Create a Customer Survey

Use the Survey Template Form to create a Customer Survey.

Create a Customer Survey

To create a Customer Survey:

1. On the [CSM Desktop Client toolbar](#), select **New > New Survey Template**.

Survey Template 3 Created by Cherwell Admin on 8/2/2019 at 2:24 PM

STATUS	AVERAGE SCORE	ASSIGNED TO
New	0	Cherwell Admin

[Next: Begin Planning](#)

Survey Overview | Surveys (0)

Design (External)

Survey Title *

Survey Instructions

Scaled Questions

The survey taker will evaluate the following statements on a scale of 1-5 where 1 is Strong Disagreement and 5 is Strong Agreement

Question 1

Question 2

Classification (Internal)

Survey Type

Description

Satisfactory Threshold

Unsatisfactory Threshold

☐ Warn owner when average score falls below threshold

☐ Warn owner when average score falls below threshold

Actions

[Assign to me](#)

[Lock Template](#)

[Set as the Default Satisfaction Survey](#)

2. Complete the Design (External) section of the Survey Form:
 - a. Survey Title: Provide a title (example: Customer Satisfaction Survey).
 - b. Survey Instructions: Provide instructions.
 - c. **Scaled Questions:**
 - Questions 1 — 5: Provide a scaled question (example: Rate the overall timeliness of the technician).
 - d. **Short Answer Questions:**
 - Questions 1 — 2: Provide an open-ended question (example: How can we improve our services?).
3. Complete the Classification (Internal) section of the Survey Form:
 - a. Survey Type: Select a **Survey Type** from the drop-down list.



Note: Customer Satisfaction is the only available survey option. Use Table Management (CSM>Tools>Table Management) to add additional survey types to the drop-down list.

- b. Description: Provide a description for the Survey Template (example: This survey is intended to determine technician performance and overall Customer satisfaction).
 - c. Satisfactory Threshold: Provide a number value that indicates a satisfactory rating (example: On a scale of 1 to 5 with a score of 5 being the highest, a satisfactory score might be a 4).
 - d. Warn owner when average score falls below threshold: Select this check box to send an email notification to the Survey owner if a survey score is less than the defined satisfactory threshold.
 - e. Unsatisfactory Threshold: Provide a number value that indicates an unsatisfactory rating (example: On a scale of 1 to 5 with a score of 5 being the highest, an unsatisfactory score might be a 2.5).
 - f. Warn owner when average score falls below threshold: Select this check box to send an email notification to the Survey owner if a survey score is less than the defined unsatisfactory threshold.
- 4. Select the **Set as the Default Satisfaction Survey** link in the Actions section to make the current survey the default survey. This must be done for all languages.
 - 5. Select **Close**.
 - 6. Select the **Next: Begin Planning** to move the status to publish.
 - 7. Select the **Next: Publish** to publish the Form.
 - 8. Select **Save**.

Take a Customer Survey

The survey consists of five scored questions and two short answer questions. The survey originates after an Incident is closed. The Incident Customer (the survey taker) completes the survey in the Customer Portal.

To take a Customer Survey:

1. Select the **Take Survey** link (the link will be sent via email).



Tip: If you receive an error after selecting the survey link, sign in to the Customer Portal first and then select the survey link.

2. Answer the questions.
3. Select **Submit**.

Survey mApp Solution Items

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Automated Processes	Satisfactory Threshold Notification, Send Survey, Unsatisfactory Threshold, Update Survey Template Average Score	Import
Business Objects	Survey, Survey (group member of Survey Element), Survey (Portal Default view), Survey Answer, Survey Element, Survey Template, Survey Template Status, Survey Type	Import
	Customer, Customer - Internal, Incident	Merge
Counter	Survey Template ID	Import
Custom View	Portal Default	Don't Change
Dashboard	Surveys	Import

	Questions	Import/ Overwrite
Fields	<p>Allow Anonymous, Alt 1 Command, Alt 1 Command Name, Alt 1 Status, Alt 1 Status Text, Alt 1 Status Text_de-DE, Alt 1 Status Text_en-US, Alt 1 Status Text_es-ES, Alt 1 Status Text_fr-FR, Alt 1 Status Text_pt-BR, Alt 2 Command, Alt 2 Command Name, Alt 2 Status, Alt 2 Status Text, Alt 2 Status Text_de-DE, Alt 2 Status Text_en-US, Alt 2 Status Text_es-ES, Alt 2 Status Text_fr-FR, Alt 2 Status Text_pt-BR, Anonymous, Answer, Answer_de-DE, Answer_en-US, Answer_es-ES, Answer Five, Answer Four, Answer_fr-FR, Answer One, Answer_pt-BR, Answer Seven, Answer Six, Answer Three, Answer Two, Average Score, Company Code, Company ID, Company Name, Completed Date Time, Completion Action Command, Created By, Created By ID, Created Culture, Created Date Time, Date Time Completed, Description, Design Display, Last Completed Survey Date, Last Modified By, Last Modified By ID, Last Modified Date Time, LastModTimeStamp, Last Survey Date, Last Survey Score, Next Status, Next Status Command, Next Status Command Name, Next Status Text, Next Status Text_de-DE, Next Status Text_en-US, Next Status Text_es-ES, Next Status Text_fr-FR, Next Status Text_pt-BR, Number of Scored Questions, Owned By, Owned By Email, Owned By ID, Owned By Team, Parent RecID, Parent TypeID, Question Five, Question Five Score, Question Four, Question Four Score, Question One, Question One Score, Question Seven, Question Six, Question Three, Question Three Score, Question Two, Question Two Score, RecID, Review Mode, Satisfactory Threshold, Satisfactory Threshold Notified, Satisfactory Warning, Score, Status, Status ID, Status order, Status_de-DE, Status_en-US, Status_es-ES, Status_fr-FR, Status_pt-BR, Survey ID, Survey Instructions, Survey Taker, Survey Taker ID, Survey Taker Type ID, Survey Template ID, Survey Title, SurveyElement Type ID, SurveyElement Type Name, Survey Title, Survey Type, Survey Type_de-DE, Survey Type_en-US, Survey Type_es-ES, Survey Type_fr-FR, Survey Type_pt-BR Technician, Technician Avatar, Technician Email, Technician ID, Technician Phone, Technician Team, Technician Team ID, temp_status_set, Template Locked, Unsatisfactory Threshold, Unsatisfactory Threshold Notified, Unsatisfactory Warning, Welcome Text</p>	Import
Form Arrangement	Survey Template	Import
Forms	Survey, Survey Answer, Survey Overview, Survey Summary, Survey Template, Survey Template Status, Survey Template Summary, Survey Type	Import
Grids	Survey, Survey Answer, Survey Element, Survey Template, Survey Template Status, Survey Type	Import
Image	editor_24_blue_form	Don't Change

Index	Customer_Department, Customer_Email, Customer_Full, Customer_Phone, Customer_TypeID_SAMAccountName, Customer_VIP, Incident_IncidentType, Incident_IncidentType, Incident_OwnedByID, Incident_RecID, IncidentCreatedDT, IncidentID, IncidentIdx_ServiceCartRecID, IncidentIdx_ServiceCatalogTemplateRecID, IncidentService, IncidentStatus, PK_Customer	Overwrite
	PK_SurveyAnswer, PK_SurveyElement, PK_SurveyTemplateStatus, PK_SurveyType, Survey_SurveyTitle, SurveyElementIdx0, SurveyElementIdx1, SurveyElementIdx2, SurveyTemplate_SurveyTitle, SurveyTemplateIdx0, SurveyTemplateIdx1, SurveyTemplateStatusIdx0	Import
Lookup Tables	Survey Template Status, Survey Answer, Survey Type	Import
Mergeable Area	Survey Actions	Overwrite
Metric Values	Completed Surveys, Completed Surveys Percentage, Total Surveys	Import
One-Step Actions	Assign to Individual, Assign to Team, Create and Send Survey, Delete Survey, Follow up with Customer, Follow up with Technician, Go To Incident, Go To Survey, Next Status, Publish, Retire, Satisfactory Threshold Notification, Set Default, Set Lock, Submit, Take Ownership, Unsatisfactory Threshold Notification, Update Survey Template Score	Import
Relationships	Customer Owns Surveys, Incident Owns Surveys, Survey Owned By Customer, Survey Owned By Incident, Survey Owned By Survey Template, Survey Template Links to Status, Survey Template Links UserInfo, Survey Template Owns Survey	Import
	Customer Group Links Customer Status, Customer is on CAB, Customer links SLA, Customer Owns Password Reset Form, Customers Have History, Customers use CIs, Customers Have Incidents	Don't Change
Searches	All Surveys, Current Satisfaction Surveys, Customer Satisfaction Surveys, Unsatisfactory Customer Satisfaction Surveys	Import
Stored Expressions	Average Score, Hyperlink to CSM Browser Client, Hyperlink to CSM Desktop Client, Last 30 Days, Last 7 Days, Number of Scored Questions, Question Five Visibility, Question Four Visibility, Question One Visibility, Question Seven Visibility, Question Six Visibility, Question Three Visibility, Question Two Visibility, Score, Scored Questions, Survey Taker, Survey Taker ID, Survey Template ID, Technician ID, Technician Team	Import
Stored Value	Default Survey Template ID	Import
Survey Actions	Automatic Actions>Save Actions	Import/Overwrite
Theme	Prussian Blue	Don't Change

Widgets	Completed Surveys, Percent Complete, Satisfactory Survey, Survey Avg Score-Difficulty, Survey Avg Score-Overall Service, Survey Avg Score-Recommend, Survey Avg Score - Skill Knowledge, Survey Avg Score-Timeliness, Survey Date Filter, Unsatisfactory Survey, WB-Average Survey Score	Import
<ul style="list-style-type: none">• Import: Add new item.• Overwrite: Replace target item.• Merge: Merge differences.• Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).		

Walk-Up Support mApp Solution 1.0

Use the Walk-Up Support mApp® Solution to offer customers another venue for getting technical assistance.

Cherwell Version Requirements:10.0.0

Out-of-the-Box Content Version Requirements: Tested on 10.0.0. This mApp Solution may not be compatible on Content versions older than 10.0.0, but as with all mApp Solutions, it should be tested on your customized system.

Prerequisites: None

Overview

The Walk-Up Support mApp Solution enables your IT organization to handle customer requests directly from a physical walk-up support location. Customers can approach your walk-up support locations and instantly obtain support for basic issues.

Walk-up support is a concierge-style of technical support where a customer can walk up to a desk or kiosk to get in-person, real-time support. Customers can check in and provide a short description of their issue. They enter a queue and are called on as support specialists become available. The support specialist resolves the problem, provides the customer with information on how to resolve, or escalates the ticket.

How the mApp Solution Works

CSM provides Walk-Up Support as a mApp Solution so that users can easily incorporate real-time remote support sessions into their existing system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp Solution wizard generates a Blueprint, which can then be viewed and published to a test or live system to commit the changes.

For a list of items included in the mApp Solution, see [Walk-Up Support mApp Solution Items](#).

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

After applying the mApp Solution, perform the following high-level steps to configure the mApp Solution:

1. Configure Security Groups.
2. Enable a Portal site for Walk-Up Support.
3. Create a Walk-Up Support location.

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.0	10.0.0	Tested on 10.0.0. This mApp Solution may not be compatible on Content versions older than 10.0.0, but as with all mApp Solutions, it should be tested on your customized system.	None

Configure the Walk-Up Support

Configure the Walk-Up Support mApp Solution using CSM Desktop Client or CSM Browser Client.



Note: This functionality is only available after applying the Walk-Up Support mApp Solution.

1. In the **Business Objects** tab of the Security Groups Manager, ensure the Portal Workgroup Manager Security Group allows edit rights on the Incident Business Object for the following fields:
 - Customer Display Name
 - Customer ID
 - Call Source
 - Status
2. In the **Rights** tab of the Security Groups Manager, select **Anonymous Browser** from the **Group** drop-down menu for the following groups:
 - Anonymous Browser
 - Portal Customer
 - Portal Workgroup Manager
3. Choose **Sites** from the **Category** drop-down menu.
4. For the WalkUpSupport Site, ensure the **View** check box is selected and the **Use default** check box is cleared.
5. Repeat Steps 2—4 for the Portal Customer and Portal Workgroup Manager Groups.
6. Ensure you have a default team defined for all users.

Enable a Walk-Up Support Portal Site

Customize a Walk-Up Support Portal site your customers will use to interact with your Walk-Up Support locations.



Note: This functionality is only available after applying the Walk-Up Support mApp Solution.

The Walk-Up Support mApp Solution includes two Walk-Up Support sites that you can customize, or you can create your own.

To enable a site for Walk-Up Support:

1. Select the **Enable Walk-Up Support** check box on a Site record.
2. Save the Site record.
3. Select the **Add New Walk-Up Support Location** link under Actions.



Note: You can also create a new Walk-Up Support location by selecting **New > New Walk-Up Support Location**.

4. Provide a Walk-Up Support Location name and site name.
5. You can associate the Walk-Up Support Location with a Building, add a description, and assign it to a team and/or individual.
6. In the Status Area, select **Next: Active** to activate the Walk-Up Support Location.
7. Set up the device (a workstation or tablet) you will use for the Walk-Up location:
 - a. Log into the IT portal.
 - b. Switch the Site to Walk-Up Support or Walk-Up Support 1 via the Sites menu.

Use a Walk-Up Support Portal Site

Customers enter support requests at Walk-Up Support locations, and users manage the tickets using Dashboards.



Note: This functionality is only available after applying the Walk-Up Support mApp Solution.

To create an Incident on a Walk-Up Support site:

1. Log into the Portal and select **Walk-Up Support** from the Site Selector.
The Walk-Up Support site displays. A Widget shows the current support queue.
2. Customers who need Walk-Up Support assistance select the **Start Here** button.
A dialog with issue types appears.
3. The customer selects an issue type from the pop-up dialog.
4. The customer selects their name from the drop-down menu.
An Incident is opened for the customer. A pop-up window appears telling the customer their queue position and average wait time (automatically calculated by the mApp Solution).

Users can manage tickets through the Walk-Up Support Dashboard.

Walk-Up Support mApp Solution Items

The Items table provides a list of items included when applying the mApp Solution and the typical merge action.

These are the items included in this mApp Solution:

Item Category	Item	Typical Merge Action
Business Object	Building, Incident, Site	Merge
	Walk-Up Support Hours of Operation, Walk-Up Support Location, Walk-Up Support Location Away Reason, Walk-Up Support Location Days, Walk-Up Support Location Status	Overwrite
Custom View	Walk-Up Support	Don't Change
Dashboard	Home, Walk-Up Queue, Walk-Up Support, Welcome	Overwrite
Field	Picked Up Date/Time, Wait Time, Walk-Up Support Location, Enable Walk Up Support, Close Time, Created By, Created By ID, Created Culture, Created Date Time, Day, Last Modified By, Last Modified By ID, Last Modified Date Time, OpenTime, Order Day, RecID, Walk-Up Location ID, Away, Away Reason, Building ID, Building Name, Created By, Created By ID, Created Culture, Created Date Time, Description, Last Modified By, Last Modified By ID, Last Modified Date Time, LastModTimeStamp, Name, Owned By, Owned By ID, Owned By Team, Owned By Team ID, RecID, Site ID, Site Name, Status, Status ID, Away Reason, Created By, Created By ID, Created Culture, Created Date Time, Last Modified By, Last Modified By ID, Last Modified Date Time, Order Reason, RecID, Created By, Created By ID, Created Culture, Created Date Time, Day, Last Modified By, Last Modified By ID, Last Modified Date Time, Order Day, RecID, Alt 1 Command, Alt 1 Command Name, Alt 1 Status, Alt 1 Status Text, Alt 2 Command, Alt 2 Command Name, Alt 2 Status, Alt 2 Status Text, Created By, Created By ID, Created Culture, Created Date Time, Description, Last Modified By, Last Modified By ID, Last Modified Date Time, Next Status, Next Status Command, Next Status Command Name, Next Status Text, RecID, Status, Picked Up Date/Time, Priority, Smart Classify Search String, Wait Time, Walk-Up Support Location	Overwrite
Form	Site Overview New, WalkUpLocationHoursOfOperation, Walk Up Location Overview, WalkUpLocation Summary, WalkUpSupport, WalkUpSupportAwayReason, WalkUpLocationDays, WalkUpLocationStatus, Walk Up Support,	Import
	Walk Up Support Fields	Don't Change

Form Arrangement	FacilitiesBuilding, Site, WalkUpLocation	Overwrite
Grid	WalkUpLocationHoursOfOperation, WalkUpSupport, WalkUpSupportAwayReason, WalkUpLocationDays, WalkUpLocationStatus,	Overwrite
	Walk-Up Support	Don't change
Image Definition	blue-purple-gradient-button, Gradient-Blue-Button, Happy-Girl, Orange-BG, Purple-gradient-upper-right, walk-up-support-art,	Overwrite
Index	BuildingStatus, FacilitiesBuilding_RegionCode, PK_FacilitiesBuilding, Incident_CustomerID, Incident_IncidentType, Incident_OwnedByID, Incident_RecID, IncidentCreatedDT, IncidentID, IncidentIdx_ServiceCartRecID, IncidentIdx_ServiceCatalogTemplateRecID, IncidentService, IncidentStatus, PK_Site, Site_Name, Site_SiteID, SiteStatus, Incident_CustomerID, Incident_IncidentType, Incident_OwnedByID, Incident_RecID, IncidentCreatedDT, IncidentID, IncidentIdx_ServiceCartRecID, IncidentIdx_ServiceCatalogTemplateRecID, IncidentService, IncidentStatus	Import
	PK_WalkUpLocationHoursOfOperation, WalkUpLocationHoursOfOperationIdx0, PK_WalkUpSupport, WalkUpSupportLocationIdx0, PK_WalkUpSupportAwayReason, PK_WalkUpLocationDays, PK_WalkUpLocationStatus	Overwrite
Meetric Value	Available Walk-Up Support	Overwrite
One-Step Action	Alt 1 Status from Relationship, Assign to Individual, Assign to Me, Assign to Team, Create New Walk-Up Support Location, Next Step from Relationship, Submit Walk Up Issue, Take Ownership, Walk Up Issue Abandoned	Overwrite
Relationship	Building Links Walk-Up Support Location, Incident Links In Progress Walk Up Issues, Incident Links Opened Walk Up Issues, Site Links Walk-Up Support Location, WalkUp Location Hours of Operation Owned By Walk-Up Location, Walk-Up Location Owns Walk-Up Location Hours of Operations, Walk-Up Support Location Links Building, Walk-Up Support Location Links Owned By, Walk-Up Support Location Links Site, Walk-Up Support Location Links Status	Overwrite
Search	All Open Walk Up Support Cases, All Walk-Up Support Locations	Overwrite
Site	Walk-Up Support, Walk-Up Support 1	Overwrite

Tab	Walk-Up Support Location (0), Buildings (0), Building, Overview, Site	Overwrite
	Overview, Site	Don't Change
Theme	Walk-Up Support	Overwrite
Widget	Available Walk-Up Support Cases, Average Wait Time (Minutes), Average Walk-Up Support Resolution Time (Minutes), Closed Walk-Up Support Cases by Site (Last 30 days), Closed Walk-Up Support Cases Today, Open Walk-Up Support Cases, Open Walk-Up Support Cases by Site, Total Cases by Walk-Up Support Location, Walk-Up Support by Location, Walk-Up Support Cases Closed in the Last 30 Days, Walk-Up Support Queue	Overwrite
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Cherwell Labs mApp Solutions

A Cherwell Labs mApp® Solution is intended to showcase experimental or beta-level content features in CSM. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for these mApp Solutions, so install them at your own risk on a test environment before installing on a production system.

Automatic Incident Escalation mApp Solution 1.0

The Automatic Incident Escalation mApp® Solution provides functionality that allows you to automatically assign an Incident to a Team (based on Service Categorization) and to quickly escalate an Incident to another Team, if necessary.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 5.0.0.

Out-of-the-Box Content Version Requirements: Tested on CSM 5.0.0.

Prerequisite Requirements: None

Overview

CSM integrates with Automatic Incident Escalation so that you can incorporate additional automation into your system. The mApp Solution uses fields from the Incident Subcategory Lookup Table (Default Team, Level 2 Escalation Team, Level 3 Escalation Team) to determine which Team the Incident should be assigned to by default and which Team the Incident should be assigned to if escalated. If the Service has an OLA, the mApp Solution automatically assigns the OLA Team to the third-level escalation team. After the mApp Solution is configured, the Team field in the Ownership section populates when the Service, Category, and Subcategory fields are populated. Users can then escalate the Incident by clicking a button in the Task Pane, and then notifying the new Team using a Task. For more information, see [Service Categorization](#).

This mApp Solution includes multiple features, including **One-Step Actions** (example: Escalation to Level 2 and 3) and **Fields** (Level 2 Escalation Complete, Level 3 Escalation Team, etc.).

How the mApp Solution Works

CSM provides Automatic Incident Escalation functionality as a mApp Solution so that Users can easily incorporate automation into their existing CSM system. Download the mApp Solution from the [Cherwell mApp Exchange](#). Use the [Apply mApp wizard](#) to apply the mApp Solution to your CSM system. The Apply mApp Solution wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	Incident, Incident SubCategory	Merge
	Service, Task	Don't Change
One-Step Action	Escalation to Level 2 and 3	Import
Field	Default team, Level 2 Escalation Complete, Level 2 Escalation team, Level 3 Escalation Complete, Level 3 Escalation Team	Import
	Owned By Team	Overwrite

Relationship	Incident Links Incident Subcategory	Overwrite
	Incident Owns Tasks	Don't Change
Index	IncidentSubcategory_Subcategory, IncidentSubCategoryId, PK_IncidentSubCategory	Overwrite
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related Reading

- [About Incidents and Service Requests](#)
- [About mApp Solutions](#)

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

1. [Define escalation Teams](#).

How to Use the mApp Solution in the Desktop Client

- [Escalate an Incident](#).

Configuring the Automatic Incident Escalation mApp Solution

Complete the following procedure to configure the Automatic Incident Escalation mApp Solution. The configuration procedure is completed in the CSM Desktop Client.

1. [Define escalation Teams.](#)

Define Escalation Teams

Use Table Management in the CSM Desktop Client to define escalation Teams.




Note: This functionality is only available if you have applied the [Automatic Incident Escalation mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define escalation Teams:

1. In the CSM Desktop Client, click **Tools>Table Management**.
2. In the Type drop-down, select **Incident Subcategory**.

The Incident Subcategory Grid opens.

3. Click a **Service Categorization**.

4. Click the **Show Current Record** button  (example: Desktop Management, Computer, Submit Incident).

The Subcategory Form opens.

The screenshot shows the 'Subcategory' form with the following fields and options:

- Service:** Desktop Management (dropdown)
- Incident Type:** Incident (selected), Service Request (radio button)
- Category:** Computer (dropdown)
- Subcategory:** Submit Incident (text input)
- Visible in Customer Portal:** ☒
- Service Catalog Action to Run:** (text input)
- Default Team:** (dropdown)
- Level 2 Escalation Team:** (dropdown)
- Level 3 Escalation Team:** (dropdown)
- Note:** The Level 3 team defaults to the Service's OLA team.

- a. Complete the Form:

Note: You must complete the Subcategory Form for each Service Categorization.

- i. Default Team: Select the **default Team** for the Incident.
- ii. Level 2 Escalation Team: Select the **second-level escalation Team**.

iii. Level 3 Escalation Team: Select the **third-level escalation Team**.

Note: If the Default OLA Team is defined for the Service, the Level 3 Escalation Team field will autopopulate with the Team name when the Service is selected on the Incident Subcategory Form.

5. Click **Save** .

Using the Automatic Incident Escalation mApp Solution

When working with the Automatic Incident Escalation mApp Solution, Users can:

- [Escalate an Incident.](#)

Escalate an Incident

Use the Incident Form in the CSM Desktop Client to escalate an Incident.



Note: This functionality is only available if you have applied the [Automatic Incident Escalation mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To escalate an Incident:

1. In the CSM Desktop Client, log a new Incident (**New>Incident**).

A new Incident record is created.

2. Record the basic details:

- a. In the Requestor field, type the **name** of the Customer who initiated the contact, and then press **ENTER** or **TAB** to search for the Customer Record.

Note: If an exact match is found, the Requestor fields are auto-populated with the Customer's name, avatar, e-mail, and phone. If multiple matches are found (ex: Multiple Customers named Steve), the Contact Manager opens so that you can select the appropriate Customer.

- b. Short Description: Type a **concise description** of the Incident.
- c. Description: Type a **detailed description** for the Incident.
- d. Call Source: Select a **source** for the initiation.

After all required fields are completed, the Incident automatically enters the Classify phase.

3. Classify the Incident:

- a. Service: Select the affected **Service**.
- b. Category: Select the affected Service **category**.
- c. Subcategory: Select the affected Service **subcategory**.

The Ownership Team field auto-populates based on the defined Default Team.

Incident 102174

Status: **In Progress** Next: Resolve

Priority: **High**

Requestor: Steve Fischer Alternate Contact Info
 Steve.Fischer@RiverCorp.com
 (719) 386-7000 VIP!

Owned By: **1st Level Support** Assign To...

SLA: **Platinum** More Info...
 (Customer SLA)
 Respond By: (choose a priority)
 Resolve By: (choose a priority)

Step 1: Record the Details Last Edited by

Short Description: Docking station won't charge computer.

Description: Bruce stated that his computer is docked, but not charging.

Call Source: Phone

Step 2: Classify [Clear Classifications]

Service: Desktop Management View Related KB Articles

Category: Computer


Subcategory: **Submit Incident**

Priority: **High** ☐ Major Incident Impact: Urgency

Primary CI: [CI Selector]

Step 3: Investigate the Incident

Additional Details:

- d. Priority: Click the **Priority** drop-down to reveal the Priority Matrix (determined by invoked SLA), and then click a **priority number**.
 - e. Major Incident: Select this check box if the Incident/Request is causing serious interruptions of business activities, and requires shorter timescales and greater urgency to resolve.
 - f. Primary CI: Click the **CI Selector** button  to launch the CMDB window, and then select a **CI**.
4. (Optional) Escalate the Incident to the second-level Team.



Note: All required fields must be complete before you can escalate the Incident.

- a. Click the **Escalate to Level 2 and 3** button in the Incident Actions section of the Quick Info Tile.

A window opens prompting you to define a reason for escalating the Incident.

Prompt

Please enter the reason you are escalating to Second Level

OK Cancel

- b. Type the **reason** for escalating the Incident.
- c. Select **OK**.

A Task Form opens in the Form Arrangement.

The screenshot shows a 'Task' form with the ID '10184'. The form is divided into several sections:

- Status:** New. Below this are links: [Next: Acknowledge](#), [Decline this Task](#), and [Reassign this Task](#).
- Owned By:** Owned By Team: 2nd Level Support. Below this are links: [Owned by: - not yet assigned -](#) and [Take Ownership](#).
- I want to:** [Add to my Outlook calendar](#), [Link to upstream Task](#), and [Add downstream Task](#).
- Title:** Level 2 Escalation
- Type:** Escalation (dropdown menu)
- Description:** This is an escalation to Level 2 because: Replaced the docking station; computer still will not charge.
- Task is for a future date/time:** ☐ (checkbox)
- Track time spent:** ☐ (checkbox) 0.00 hours
- Close Code:** (dropdown menu)
- Completion Details:** (text area)

Note: The Title, Type, Description, and Owned By Team fields are auto-populated based on the Incident Subcategory Form.


- d. Complete the Task Form.
5. (Optional) Escalate the Incident to the third-level Team.
 - a. Click the **Escalate to Level 2 and 3** button in the Incident Actions section of the Quick Info Tile.

A window opens prompting you to define a reason for escalating the Incident.

The screenshot shows a 'Prompt' dialog box with a question mark icon. The text inside says: 'Please enter the reason you are escalating to Third Level'. Below the text is a text input field. At the bottom right are 'OK' and 'Cancel' buttons.

- b. Type the **reason** for escalating the Incident.
- c. Select **OK**.

A Task Form opens in the Form Arrangement.

 Task 10185		Status: New Next: Acknowledge Decline this Task Reassign this Task		Owned By: Owned By Team: 3rd Level Support Owned by: - not yet assigned - Take Ownership		I want to: Add to my Outlook calendar Link to upstream Task Add downstream Task	
Title: <input type="text" value="Level 3 Escalation"/>		Type: <input type="text" value="Escalation"/>		<input type="checkbox"/> Task is for a future date/time <input type="text" value=""/>		<input type="checkbox"/> Track time spent <input type="text" value="0.00"/> hours	
Description: <input type="text" value="This is an escalation to Level 3 because: Unable to fix the issue."/>				Close Code: <input type="text" value=""/>		Completion Details: <input type="text" value=""/>	

- d. Complete the Task Form.
- 6. Complete the [Incident logging process](#).

Enhanced Password Reset mApp Solution 1.0a

The Enhanced Password Reset mApp® Solution provides functionality that builds upon the current Password Reset functionality to strengthen security in the CSM Portal.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 5.0.0 - 9.1.x

Out-of-the-Box Content Requirements: Tested on CSM 9.1.x

Prerequisites: None

Overview

The existing Password Reset feature allows Users to reset their password based on security questions and randomly generated codes that can be sent (via text) to their phone. It also allows Users to combine security questions and codes for even greater security. The Enhanced Password Reset mApp Solution offers additional functionality, which creates a randomly generated security code that can be e-mailed to an alternate e-mail address. The additional strength can be used to assign the characters in the password a strength value based on the character type, length of password, and combination of characters. As the User types a desired password, a colored meter shows the strength of the password. CSM integrates with Enhanced Password Reset so that you can strengthen your password security system. For more information, see [About Customer Portals](#).

How the mApp Solution Works

CSM provides the Enhanced Password Reset V1.0a functionality as a mApp Solution so that Users can easily incorporate password strength automation into their existing CSM system. Download the mApp Solution from the Cherwell [mApp Exchange](#). Use the [Apply mApp wizard](#) to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	Customer	Merge
	Incident	Don't Change
	Mobile Carrier, Password Reset Form, Secret Question	Overwrite
Field, Form, Grid, Index	Numerous	Varies
Automation Process	Self-Service Password Reset	Overwrite

One-Step Action	Password Requirements	Import
	Password Reset Failure, Password Reset Process, Password Reset Successful, Send Code	Overwrite
Expression	Numerous	Varies
Stored Value	Current System, Current System DEV E-Mail Recipient, Current System DEV E-Mail Sender, Current System Production E-Mail Sender	Don't Change
Theme	Professional Grey	Don't Change
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related Reading

- [About CSM Customer Portals](#)
- [About mApp Solutions](#)

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

HR Case Management 3.0

Cherwell HR Case Management is a business solution enabling human resources teams to deliver employee services quickly and efficiently.

Cherwell HR Case Management includes case management functions as well as employee administration tools.

This version of HR Case Management combines the proven functionality of HR Case Management version 2 solution as well as the extended functionality of HR Employee Administration solution. The overall solution is globalized and localized in English and Spanish and is foundationally ready to be localized in other languages as well.

Cherwell HR Case Management Overview

Cherwell HR Case Management allows fulfillment teams to streamline and automate common HR requests and provide focused knowledge to help solve issues before cases need to be created. The application can be an independent solution or part of a larger enterprise service management strategy, which drives fulfillment of IT, Facilities, Marketing, Legal and other service requests.

Employee Administration Functions

The Employee Administration functions included in Cherwell HR Case Management facilitate the automation and structure for onboarding, employee transfer, and offboarding activities. For many organizations, these employee administration functions are disjointed and span IT and HR teams with no central coordination or ownership. When detailed tasks to fulfill these functions are not standardized, the responsibility falls on the hiring manager to coordinate and direct the fulfillment activities. Additionally, the activities for fulfillment items that take significant time are generally started too late (example: a few days before the new hire employee is expected to start).

Note: If you have the Facilities Service Management mApp Solution installed, you can take advantage of having Work Orders automatically generated as part of specific workflows.

Pre-Installation Considerations

Platform Version Requirements: Tested on Cherwell HR Case Management 9.2.x and 9.3.x

Out-of-the-Box Content Version Requirements: 9.2.0 for a clean scan - however, as noted below, Cherwell HR Case Management can be installed with other content versions. Service Catalog Templates are used in this solution, so minimally the content version needs to be 7.x. Additionally, a little extra care and tweaking will be needed for non-Globalized systems.

There will be a modification available for the create IT Task functionality for content version 9.4. The Task Business Object will have a different structure, so modifications will be needed to this mApp Solution for compatibility with CSM 9.4.

If you have already installed HR Case Management (version 2) - loading this new solution could impact form and workflow modifications you have made locally. If you want to add the HR Employee Administration functionality to your implementation, there are two options:

1. Install the HR Employee Administration solution - it is not currently localized, so if this is a requirement, you will need to localize the object.
2. If you have made little to no changes to your HR Case Management (version 2) implementation, you can load this new solution, review the resulting build, and move your modifications back in.

No data is lost when applying the mApp files, only configuration modifications.

Prerequisites: None.

Cherwell HR Case Management Client Localization

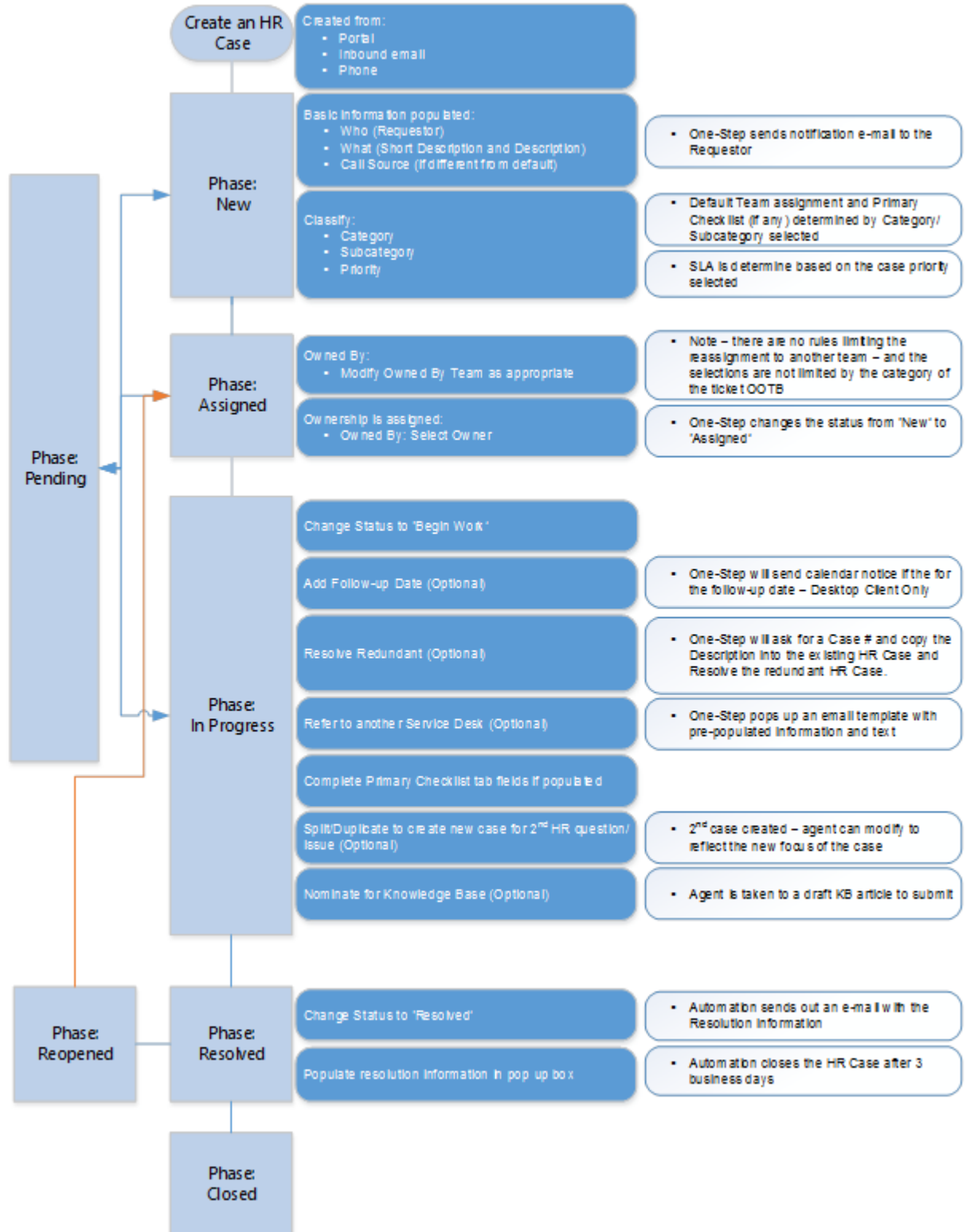
Cherwell HR Case Management is localized in English and Spanish. This includes all supporting tables, forms, and Dashboards.

About Cherwell HR Case Management

Process

Some key features of Cherwell HR Case Management include:

- Integrated Portal design that allows end users to see the status of their requests across all departments (separate mApp Solution).
- Custom Dashboards for HR teams based on Role.
- HR Checklists for detailed tracking of work for different types of complex HR Requests.
- Delivery of important HR documents (e.g., How-To Instructions and links to other core HR applications) to employees via the Portal.
- A clean and uncluttered theme throughout.
- HR-specific SLAs to track and proactively notify for Response and Resolution targets.
- Localized in English and Spanish (Dashboards, Portal pages, HR Case, etc.)
- Catalog structure that allows specific country-based subcategories and associated default assignment groups, checklists, specific forms, etc.

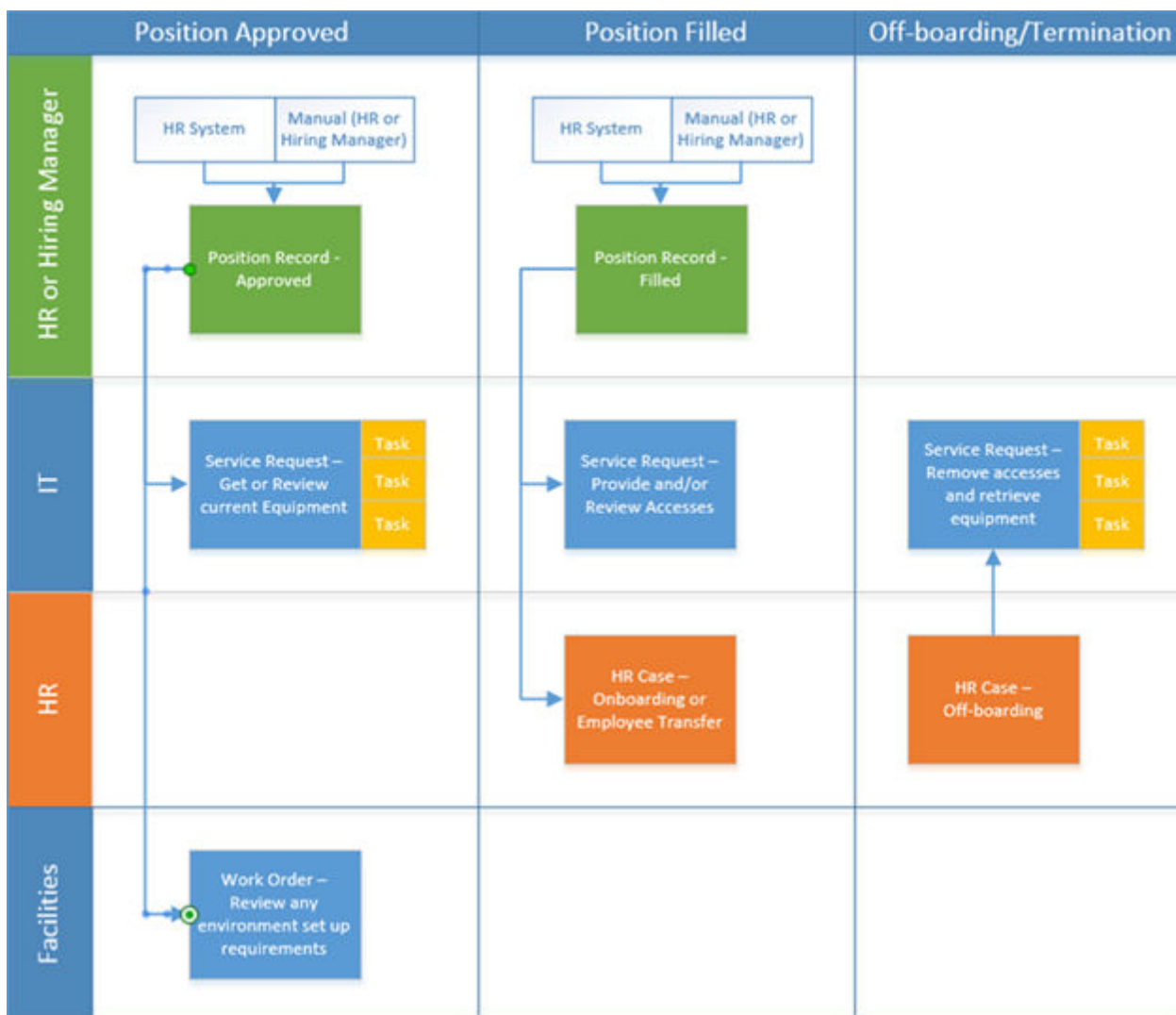


Employee Administration

Key features of Cherwell's HR Employee Administration functions include:

- **Position:** A new Business Object to interface between external HR systems and internal Cherwell activities. As a position moves through the Approved and Filled phases, activities for IT and HR teams are initiated. IT Service Requests and HR Cases are created based on the HR Position record status and detailed information about the jobs and candidates.
- **ESM Application:** New major object that stores applications and associated information.
- **HR Position Role Service Catalog Template:** A new supporting business object that ties together Roles and Service Catalog Templates to create Service Requests with the correct pre-determined Work Units (Tasks).
- **Role-based fulfillment activities:** A new Lookup table stores Roles that are used to determine workflow. The existing functionality of Service Catalog Templates is used with Role to create appropriate Service Requests for:
 - Equipment Review/Request
 - Access Request (example: Active Directory (AD), e-mail, application specific, etc.)
- **Reuseable Work Units:** This feature is part of the Service Catalog Template functionality. Work Units can be created and used across multiple templates.
- **Just-in-time initiation of fulfillment activities:** Because Service Requests are initiated at multiple points in the overall Position/Hire process, areas that may require extra time to fulfill are scheduled accordingly. Equipment requests do not need specific new hire information, so those can be initiated and worked even before a candidate has been selected. Activities requiring specific people information are initiated once those details are available.
 - Job/Position approved - Equipment review or procure request created
 - Candidate hired - Access request created
- **Track accesses and equipment for each Customer:** Customer records can be updated with access information as well as linked to equipment items. This information is used during the Employee Transfer and Termination processes to automate task creation.

This view provides a 'by persona' perspective of the interactions with the processes (IT, HR, Facilities).



Cherwell HR Case Management mApp File Attributes

The Cherwell HR Case Management mApp file contains the following items:

Major BO	BO - Item (Form,Grid,etc)	BO Item Name	Action	Settings	Notes
HR Case	Entire BO	HR Case	Overwrite	High Importance	
HR Position	Entire BO	HR Position	Overwrite	High Importance	
Discussion	Form	Discussions	Overwrite	Low Importance	Standard form with addition of new fields for classification and expiration
Discussion	Field	Expiration Date, FM Announcement, HR Announcement, IT Announcement	Merge	Low Importance	
Knowledge Article	One-Step	Issue Not Resolved via Portal - Log Incident Issue resolved via Portal - show usage	Overwrite	Low Importance	Added case statement for special handling of Human Resources Knowledge Articles when customers indicate Use of the article in resolving their issue. Redirects back to HR Home Portal.

Supporting BO	BO - Item (Form,Grid,etc)	BO Item Name	Action	Settings	Notes
Checklist Item	Entire BO	Checklist Item		Medium Importance	
HR Additional Details	Entire BO	HR Additional Details		Medium Importance	
HR Benefit Change	Entire BO	HR Benefit Change		Medium Importance	
HR Contact Info Change	Entire BO	HR Contact Info Change		Medium Importance	

HR Off Board	Entire BO	HR Off Board		Medium Importance	
HR Onboard	Entire BO	HR Onboard		Medium Importance	
HR Transfer	Entire BO	HR Transfer		Medium Importance	
SLA Target Time	Field	Parent Type	Overwrite	Low Importance	Added a Parent Type value of "HR Case" to valid values

<u>Lookup Tables BO</u>	<u>BO - Item (Form,Grid,etc)</u>	<u>BO Item Name</u>	<u>Settings</u>	<u>Notes</u>
Case Category	Entire BO	Case Category	Medium Importance	Include data
Case Priority	Entire BO	Case Priority	Medium Importance	Include data
Case Subcategory	Entire BO	Case Subcategory	Medium Importance	Include data
Case Type	Entire BO	Case Type	Medium Importance	Include data
Checklist	Entire BO	Checklist	Medium Importance	Include data
HR Case Resolution Code	Entire BO	HR Case Resolution Code	Medium Importance	Include data
HR Case Status	Entire BO	HR Case Status	Medium Importance	Include data

<u>Managers</u>	<u>Item Location (Association)</u>	<u>BO Item Name</u>	<u>Action</u>	<u>Notes</u>
Automation process definition	Association - HR Case	HR Case - Confirmation Email on Create	Import	
Automation process definition	Association - HR Case	HR Case - Resolve to Closed Process	Import	
Automation process definition	Association - HR Case	Resolve By Breached - HR Case Created	Import	
Automation process definition	Association - HR Case	Respond By Breached - HR Case Created	Import	
Counter	Global	HRCaselD	Import	
Dashboard	Global > HR Case	HR Case Catalog	Import	Portal Only
Dashboard	Global > HR Case	HR Case Home	Import	Portal Only
Dashboard	Global > HR Case	HR Case Management Oversight Dashboard	Import	
Dashboard	Global > HR Case	HR Case My Items	Import	Portal Only

Dashboard	Global > HR Case	HR Case Team Manager Dashboard	Import	
Dashboard	Global > HR Case	HR Case Worker Dashboard	Import	
Widget	Global > HR Case	All Cases by Category	Import	
Widget	Global > HR Case	All Open HR Cases	Import	
Widget	Global > HR Case	All SLA Resolve Breaches	Import	
Widget	Global > HR Case	All SLA Resolve Warnings	Import	
Widget	Global > HR Case	All SLA Response Breaches	Import	
Widget	Global > HR Case	All SLA Response Warnings	Import	
Widget	Global > HR Case	All Unassigned HR Cases	Import	
Widget	Global > HR Case	All VIP HR Cases	Import	
Widget	Global > HR Case	HR Case Date Range Filter	Import	
Widget	Global > HR Case	HR Case Searches	Import	
Widget	Global > HR Case	HR Case Team Workload	Import	
Widget	Global > HR Case	HR Case Workload by SubCategory	Import	
Widget	Global > HR Case	HR Case Workload by Team	Import	
Widget	Global > HR Case	HR Case Workload by Team Member	Import	
Widget	Global > HR Case	HR Cases Owned by Me	Import	
Widget	Global > HR Case	HR Cases Owned by My Teams	Import	
Widget	Global > HR Case	HR Cases Recently Closed Opened by Me	Import	
Widget	Global > HR Case	HR Catalog - Other	Import	
Widget	Global > HR Case	HR Discussions	Import	
Widget	Global > HR Case	HR Full Catalog	Import	
Widget	Global > HR Case	HR Knowledge Articles with Like Counts	Import	
Widget	Global > HR Case	HR Knowledge Search	Import	
Widget	Global > HR Case	My Follow Ups	Import	
Widget	Global > HR Case	My SLA Resolve Breaches	Import	
Widget	Global > HR Case	My SLA Resolve Warnings	Import	
Widget	Global > HR Case	My SLA Response Breaches	Import	
Widget	Global > HR Case	My SLA Response Warnings	Import	

Widget	Global > HR Case	My Team Follow Ups	Import	
Widget	Global > HR Case	My Team SLA Resolve Breaches	Import	
Widget	Global > HR Case	My Team SLA Resolve Warnings	Import	
Widget	Global > HR Case	My Team SLA Response Breaches	Import	
Widget	Global > HR Case	My Team SLA Response Warnings	Import	
Widget	Global > HR Case	My Teams Unassigned HR Case Count	Import	
Widget	Global > HR Case	My Teams Unassigned HR Cases	Import	
Widget	Global > HR Case	Unread Email Journals for My Teams HR Cases	Import	
One-Step	Association - Case Subcategory Global	Create HR Case and Set Categorization	Import	
One-Step	Association - Checklist Item Blueprint	Item 01 Done, Item 02 Done, Item 03 Done, Item 04 Done, Item 05 Done, Item 06 Done, Item 07 Done, Item 08 Done, Item 09 Done, Item 10 Done, Item 11 Done, Item 12 Done, Item 13 Done, Item 14 Done, Item 15 Done, Item 16 Done, Item 17 Done, Item 18 Done, Item 19 Done, Item 20 Done, Item 21 Done, Item 22 Done, Item 23 Done, Item 24 Done, Item 25 Done, Item 26 Done, Item 27 Done, Item 28 Done, Item 29 Done, Item 30 Done	Import	
One-Step	Association - Checklist Item Blueprint	Item 01 Skip, Item 02 Skip, Item 03 Skip, Item 04 Skip, Item 05 Skip, Item 06 Skip, Item 07 Skip, Item 08 Skip, Item 09 Skip, Item 10 Skip, Item 11 Skip, Item 12 Skip, Item 13 Skip, Item 14 Skip, Item 15 Skip, Item 16 Skip, Item 17 Skip, Item 18 Skip, Item 19 Skip, Item 20 Skip, Item 21 Skip, Item 22 Skip, Item 23 Skip, Item 24 Skip, Item 25 Skip, Item 26 Skip, Item 27 Skip, Item 28 Skip, Item 29 Skip, Item 30 Skip	Import	

One-Step	Association - HR Case Blueprint	Assign to ANY Individual	Import	
One-Step	Association - HR Case Blueprint	Assign to Individual	Import	
One-Step	Association - HR Case Blueprint	Assign to Team	Import	
One-Step	Association - HR Case Blueprint	Auto-Close Record	Import	
One-Step	Association - HR Case Blueprint	Clear Classification	Import	
One-Step	Association - HR Case Blueprint	Create Child Checklists	Import	
One-Step	Association - HR Case Blueprint	DateTime Stamps Popup	Import	
One-Step	Association - HR Case Blueprint	Dial Customer Phone	Import	
One-Step	Association - HR Case Blueprint	Follow-Up	Import	
One-Step	Association - HR Case Blueprint	HR Case Confirmation	Import	
One-Step	Association - HR Case Blueprint	HR Case Resolved Confirmation	Import	
One-Step	Association - HR Case Blueprint	Refer to Another Service Desk	Import	
One-Step	Association - HR Case Blueprint	Resolve By Breached	Import	
One-Step	Association - HR Case Blueprint	Resolve Redundant - HR Case	Import	
One-Step	Association - HR Case Blueprint	Respond By Breached	Import	
One-Step	Association - HR Case Blueprint	Set Already Saved	Import	
One-Step	Association - HR Case Blueprint	SLA Explanation	Import	
One-Step	Association - HR Case Blueprint > Status Actions	Alt 1 Step from Relationship	Import	
One-Step	Association - HR Case Blueprint > Status Actions	Alt 2 Step from Relationship	Import	

One-Step	Association - HR Case Blueprint > Status Actions	Close Case	Import	
One-Step	Association - HR Case Blueprint > Status Actions	Next Step from Relationship	Import	
One-Step	Association - HR Case Blueprint > Status Actions	Reopen Case	Import	
One-Step	Association - HR Case Blueprint > Status Actions	Resolve Case	Import	
One-Step	Association - HR Case Blueprint > Status Actions	Start In Progress	Import	
One-Step	Association - HR Case Global	Add Comment	Import	
One-Step	Association - HR Case Global	Follow-up E-mail	Import	
One-Step	Association - HR Case Global	Take Ownership	Import	
One-Step	Association - Knowledge Article Blueprint	Issue Not Resolved via Portal - Log Incident	Import	
One-Step	Association - Knowledge Article Blueprint	Issue resolved via Portal - Show Usage	Import	
One-Step	Association - None Global > HR Case	Benefits - Catalog	Import	
One-Step	Association - None Global > HR Case	Direct Deposit Authorization Link	Import	Example links to external URLs
One-Step	Association - None Global > HR Case	Documents External Link	Import	Example links to external URLs
One-Step	Association - None Global > HR Case	Employee-Changes-Catalog	Import	
One-Step	Association - None Global > HR Case	Fitness Center Waiver Link	Import	Example links to external URLs
One-Step	Association - None Global > HR Case	Holiday Paid Time Off Link	Import	Example links to external URLs
One-Step	Association - None Global > HR Case	HSA Application Link	Import	Example links to external URLs
One-Step	Association - None Global > HR Case	New Employee Contact Case	Import	

One-Step	Association - None Global > HR Case	New HR Case	Import	
One-Step	Association - None Global > HR Case	Other-Catalog	Import	
One-Step	Association - None Global > HR Case	Payroll External Link	Import	Example links to external URLs
One-Step	Association - None Global > HR Case	Payroll-Catalog	Import	
One-Step	Association - None Global > HR Case	Performance-Management-Catalog	Import	
One-Step	Association - None Global > HR Case	Training-Catalog	Import	
Stored expression	Association - Checklist Item Global	Due Date 01, Due Date 02, Due Date 03, Due Date 04, Due Date 05, Due Date 06, Due Date 07, Due Date 08, Due Date 09, Due Date 10, Due Date 11, Due Date 12, Due Date 13, Due Date 14, Due Date 15, Due Date 16, Due Date 17, Due Date 18, Due Date 19, Due Date 20, Due Date 21, Due Date 22, Due Date 23, Due Date 24, Due Date 25, Due Date 26, Due Date 27, Due Date 28, Due Date 29, Due Date 30	Import	
Stored expression	Association - Checklist Item Global	Prompt for Checklist Name	Import	
Stored expression	Association - HR Case Blueprint	Created During What Business Hours	Import	
Stored expression	Association - HR Case Blueprint	Default Call Source	Import	
Stored expression	Association - HR Case Blueprint	Email Customer	Import	
Stored expression	Association - HR Case Blueprint	Is Member of Team	Import	
Stored expression	Association - HR Case Blueprint	Priority Group	Import	
Stored expression	Association - HR Case Blueprint	Required for In Progress	Import	
Stored expression	Association - HR Case Blueprint	Responded Date Time	Import	
Stored expression	Association - HR Case Blueprint	System State E-mail	Import	

Stored expression	Association - HR Case Blueprint > Phase Set	wrkflowClassifyStatus	Import	
Stored expression	Association - HR Case Blueprint > Phase Set	wrkflowCloseStatus	Import	
Stored expression	Association - HR Case Blueprint > Phase Set	wrkflowInvestigateStatus	Import	
Stored expression	Association - HR Case Blueprint > Phase Set	wrkflowRecordStatus	Import	
Stored expression	Association - HR Case Blueprint > Phase Set	wrkflowResolveStatus	Import	
Stored expression	Association - HR Case Blueprint > SLA	Customer Default Resolution Date/Time	Import	
Stored expression	Association - HR Case Blueprint > SLA	Customer is shortest SLA	Import	
Stored expression	Association - HR Case Blueprint > SLA	Customer Resolution Date/Time	Import	
Stored expression	Association - HR Case Blueprint > SLA	Customer Target Time Present	Import	
Stored expression	Association - HR Case Blueprint > SLA	Missing SLA Target Time	Import	
Stored expression	Association - HR Case Blueprint > SLA	Resolve By Warning WITH STC	Import	
Stored expression	Association - HR Case Blueprint > SLA	Resolve By Warning WITHOUT STC	Import	
Stored expression	Association - HR Case Blueprint > SLA	Resolve By WITH STC	Import	
Stored expression	Association - HR Case Blueprint > SLA	Resolve By WITHOUT STC	Import	
Stored expression	Association - HR Case Blueprint > SLA	Respond By Warning WITH STC	Import	
Stored expression	Association - HR Case Blueprint > SLA	Respond By Warning WITHOUT STC	Import	
Stored expression	Association - HR Case Blueprint > SLA	Respond By WITH STC	Import	
Stored expression	Association - HR Case Blueprint > SLA	Respond By WITHOUT STC	Import	
Stored expression	Association - HR Case Blueprint > SLA	Service Default Resolution Date/Time	Import	
Stored expression	Association - HR Case Blueprint > SLA	Service is shortest SLA	Import	

Stored expression	Association - HR Case Blueprint > SLA	Service Resolution Date/Time	Import	
Stored expression	Association - HR Case Blueprint > SLA	Service Target Time Present	Import	
Stored expression	Association - HR Case Blueprint > SLA	SLA Resolve By	Import	
Stored expression	Association - HR Case Blueprint > SLA	SLA Resolve By Warning	Import	
Stored expression	Association - HR Case Blueprint > SLA	SLA Respond By	Import	
Stored expression	Association - HR Case Blueprint > SLA	SLA Respond By Warning	Import	
Stored expression	Association - HR Case Blueprint > SLA	SLA Selection	Import	
Stored expression	Association - HR Case Blueprint > SLA	SLA Selection - Hierarchy based	Import	
Stored expression	Association - HR Case Blueprint > SLA	SLA Selection - Time based	Import	
Stored expression	Association - HR Case Blueprint > SLA	SLA Target Time Match	Import	
Stored expression	Association - HR Case Global	HR Case Hyperlink to Customer Portal	Import	
Stored expression	Association - HR Case Global	HR Case System State Customer Email Recipient	Import	
Stored value	Global	FALSE	Import if Not Present	
Stored value	Global	HR Case Catalog Services	Import	
Stored value	Global	TRUE	Import if Not Present	
Stored value	Global	FALSE	Import if Not Present	
Team		HR Benefits	Import	
Team		HR Case Management	Import	
Team		HR Payroll	Import	
Team		HR Talent Development	Import	
Team		HRIS	Import	

Merge Action Key

- Import: Add new item
- Overwrite: Replace target item
- Merge: Merge differences
- Don't Change: Referenced by the mApp file, but not altered in any way. The mApp file includes the definition for informational purposes only (the definition is not imported into the target system).

Installing Cherwell HR Case Management

CSM provides Cherwell HR Case Management as a mergeable application (mApp) so that Users can easily incorporate HR Case functionality into their existing CSM system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp Wizard to apply the mApp Solution to your CSM system, where the mApp Solution can be viewed and published. After evaluating and testing the mApp Solution against the development system, apply it to your production environment.

The Cherwell HR Case Management download includes the following items:

- HR Case Management.mApp
- HR Case Management Category Data.mApp
- HR EE Admin Email Monitor.ced
- HRSM Corporate Portal. mApp
- HR Case Management Portal.mApp
- HRV2-Catalog-CSS.txt

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. Before applying the mApp Solution, decide if the Internal Customer form should be overwritten to display the Country Code, or if that modification will be made manually via a Blueprint. The Apply mApp Wizard will prompt with a choice.
4. Before applying the mApp Solution, decide if the Knowledge Article form should be overwritten to include optional configuration to allow the categorization of HR Knowledge Articles. Otherwise, if that functionality is desired the modifications will be made manually via a blueprint. The mApp wizard will prompt with a choice.
5. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.
6. In CSM versions 9.2 or greater, when publishing the mApp Solution Blueprint, be sure to check **Update validation foreign keys** in the Publish Options dialog.
7. Apply the HR Case Category Data.mApp in order to populate the Case Subcategory table with sample values.

Related concepts

[ESM and HR Portals](#)

[Add Custom CSS for HR Service Catalog](#)

Configure Cherwell HR Case Management

After applying the mApp® Solution, perform the following high-level steps:

1. Create HR Roles.
2. Create HR Security Groups.
3. Assign Users to Teams and Security Groups.
4. Update Customer - Internal records with valid Country Code.
5. Create Country Specific Catalog Records.
6. Create Country Specific Checklist Records.
7. Configure HR SLA and set default for HR Cases (advanced, optional).

For Employee Administration areas, perform the following high-level steps:

1. Access the HR Administration Dashboard.
2. Rename or replace the mApp Factory Application Business Object.
3. Import and configure the HR Employee Administrator E-mail Monitor.
4. (Optional) Apply additional configuration changes as needed.

HR Security Groups, Roles, and Teams

Security Groups are used in Cherwell HR Case Management (manually configured per the mApp instructions) to provide access security and workflow rights (example: HR Supervisor can create new Knowledge Articles).

- HR Case Agent
- HR Case Supervisor
- HR Management

Roles are utilized to provide default Dashboards at login. These cannot be included in the mApp but sample Roles are provided in the mApp documentation.

The following Teams were utilized during the build and testing activities of the mApp and are part of the HR Case Management mApp:

- HR Benefits Americas
- HR Benefits EMEA/APAC
- HR Case Management Americas
- HR Case Management EMEA/APAC
- HR Employee Relations Americas
- HR Employee Relations EMEA/APAC
- HR Payroll Americas
- HR Payroll EMEA/APAC
- HR TA Americas
- HR TA EMEA/APAC
- HRIS Americas
- HRIS EMEA/APAC

Create HR Roles

Cherwell HR Case Management uses Roles to define User Dashboards. There are three Roles to configure.

To create a Role, perform the following steps:

1. Open the Role Manager.
2. Click the **Create New** button.
3. Define general information for each of the roles listed below:
 - Name: HR Case Agent
 - Primary Object: HR Case
 - Dashboard: HR Case My Work
 - Name: HR Case Supervisor
 - Primary Object: HR Case
 - Dashboard: HR Case Team My Teams Work
 - Name HR Management
 - Primary Object: HR Case
 - Dashboard: HR Case Management Oversight

Create HR Security Groups

Use the Security Group Manager in CSM Administrator to create a Security Group. You will base it on an existing Security Group.

Note: This functionality is only available if you have applied the Cherwell HR Case Management mApp Solution.

To copy a Security Group, perform the following steps:

1. Open the Security Group Manager.
2. Select **IT Service Desk Level 2 & 3** in the Group drop-down.
3. Click **Select File** and click **Copy Security Group**.
4. Update the name for each new Security Group.
5. Update the description for each new Security Group.
6. Select the Roles tab.
7. Add the Roles associated with each HR Group (listed below):
 - HR Case Agent: Group associated Role - (HR Case Agent)
 - HR Case Supervisor: Group associated Role - (HR Case Supervisor)
 - HR Management: Group associated Role - (HR Management)
8. Click **Save**.

Assign Users to Teams and Security Groups

Use the User Manager under the Security Category in CSM Administrator to assign Users to desired Teams and Security Groups.

Note: This functionality is only available if you have applied the Cherwell HR Case Management mApp Solution.

To add users to HR Teams, perform the following steps:

1. In CSM Administrator, open the User Manager.
2. Select desired User. On the Users tab, choose the appropriate security group in the drop-down.
3. Select the Teams tab.
 - a. Click the **Add** button.
 - b. Click one or more Teams.
 - c. Click **OK**.
 - d. To set a default Team, select the Team and click the **Default Team** button.
4. Save Profile.

Update Customer - Internal Records with Valid Country Code

The country-specific Catalog and Checklists depend upon the country code assigned to the Customer. Use the CSM Desktop Client to set the customer Country Code.

If the option to replace the Customer - Internal form with a version that exposes the Country Code field was chosen, the Customer - Internal records can be manually updated with a country code.

To update the country code for an internal Customer, perform the following steps:

1. In the CSM Desktop Client, select **Customer > Contact Manager** from the menu bar.
2. Select an internal Customer to update.
3. Locate the **Country Code** field in the Personnel Information section and enter a valid Country Code.
4. Save the record.

Rename or Replace the ESM Application Business Object

The Business Object named ESM Application is intended as a table to store an organization's basic enterprise and desktop application information. It is given a unique name so the Apply mApp Wizard does not overwrite an organization's existing application Business Object. Prior to publishing the Blueprint (after applying the Cherwell HR Case Management), you can change this name if desired.

The functionality of this table may be redundant if another application table was created as either stand-alone or incorporated into the Configuration Item group Business Object. In this situation, we recommend that configuration changes be made in the following Business Objects and components to utilize the existing application data source:

- Customer Business Object - Relationships - Modify the Customer Links Application relationship to link to the child object containing the application information (i.e., Config - Applications).
- Customer - Internal Business Object - Form Arrangement - Update the Applications tab properties to use the correct default form and grid of the new application object used in the relationship.
- Modify the HR Position One-Step™ Action named **IT Access Request by Service Catalog Template**. Find the **Get Existing Employee Record** Step Through Children Action, then find the **Build List of Employee Applications** Action. Verify that the Actions within this portion of the One-Step Action use the proper fields for the application data source table.
- Modify the HR Case One-Step Action named **Initiate IT Offboarding Process**. Modify the **Step Through Customer Applications** Action to use the new application data source Business Object and field names.

Update Security Rights for Portal Customers

Use the Security Group Manager in CSM Administrator to update Security Groups.

Note: This functionality is only available if you have applied the Cherwell HR Case Management mApp Solution.

To define security rights for Portal Customers (and any additional Portal Security Groups), perform the following steps:

1. Open the Security Group Manager.
2. In the Security Group window, select **Portal Customer** in the Group drop-down.
3. Select the Business Object tab.
4. In the Business Object drop-down, select the **HR Case** Object. In the General and File Attachment sections, add the following options:

Object	Check
General	Add
File Attachments	View, Add, Delete
Bottom of form	Different rights based on requestor
Record Requestor	View, Edit

5. Select **New Field** in the Business Object pane, then check the following options:

Object	Check
Record Requestor	View, Edit

6. In the Business Object drop-down, select the **Checklist Item** Object. In the General and File Attachment sections, select the following options:

Object	Check
General	View, Add

7. Select **New Field** and check the following options:

Object	Check
General	View, Edit

8. In the Business Object drop-down, select the **HR Additional Details** Object. In the General and File Attachment sections, select the following options:

Object	Check
General	View, Add, Edit
File Attachments	View

9. Select **New Field** and check the following options:

Object	Check
General	View, Edit

10. Repeat steps 8 & 9 with the same options for the following Business Objects:

- HR Benefit Change
- HR Contact Info Change
- HR Off Board
- HR On Board
- HR Transfer

11. In the Business Object drop-down select the **Phase Set** Object. In the General and File Attachment sections, select the following options:

Object	Check
General	View

12. Select **New Field** and check the following options:

Object	Check
General	View

13. Repeat steps 11 & 12 with the same options for the following Business Objects:

- Case Type
- Case Category
- Case Subcategory

14. Click **Save**.

Import and Configure the HR Employee Administration E-mail Monitor

Cherwell HR Case Management includes configurable e-mail integration for external recruitment tools to initiate Employee Administration workflows in CSM.

An integration with external applications that support a REST API can also be configured, but is outside the scope of this mApp Solution.

The following steps should be used to import and configure the email integration.

1. In CSM Administrator, select the E-mail and Event Monitoring category.
2. Select the E-mail and Event Monitoring Manager option.
3. Select **File > Import...** from the taskbar menu and select the HR EE Admin Email Monitor.ced file that was included in the Cherwell HR Case Management download.
4. Right-click the HR Employee Admin Monitor icon and select **Edit**.
5. On the General tab, select the e-mail account to be monitored. This will be an e-mail account that was configured for this instance of CSM as part of initial deployment.
6. Do not modify the Identify Customer tab.
7. On the Monitors tab, modify the HR Position monitors as needed based on integration requirements.

This monitor is designed specifically for the HR Position integration for Cherwell HR Case Management. If the inbound message is not recognized, an HR Case is created.

If the CSM instance includes other features like Incident, Change, etc., and those modules will be sharing the same e-mail account with Cherwell HR Case Management, manually merge these monitor entries with the existing E-mail Monitor.

Optional Employee Administration Configuration

Edit IT Access Request One-Step™ Action

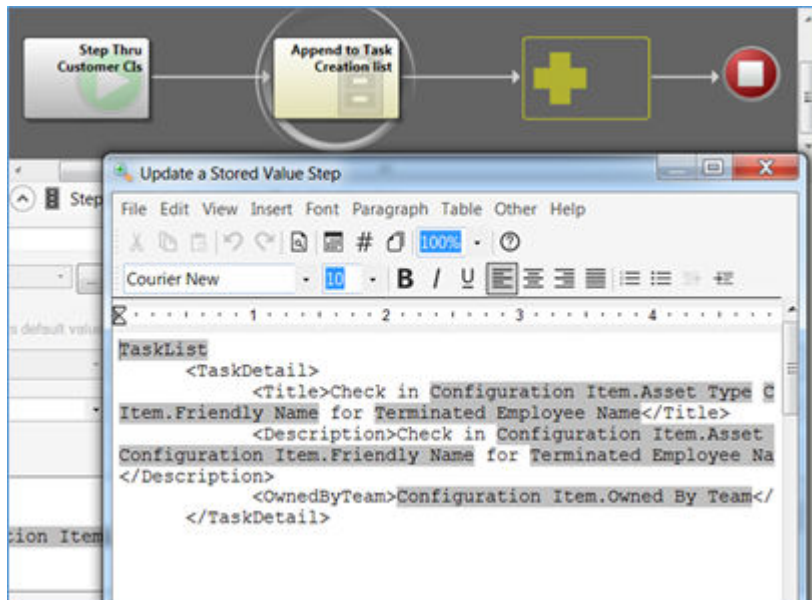
The HR Position One-Step Action named IT Access Request by Service Catalog Template generates a final task listing the transferring employee's existing application access. This list is generated from the items on the Applications tab on the Customer-Internal record.

To change this task's descriptive information, modify the Create Review Existing Employee Application task.

Edit Initiate IT Offboarding Process One-Step Action

The HR Case One-Step Action named Initiate IT Offboarding Process generates a list of tasks using a default Service Catalog Template to generate offboarding tasks appropriate for all employees. In addition to those tasks, a task for each assigned CI and each accessible Application is created.

Change the CI and Application task's descriptive information format by modifying the Step Thru Customer CIs and Step Thru Customer Applications tasks. These actions build an XML-formatted collection used to generate tasks in the Step through List of Tasks and Create action.



Configure HR SLAs and Set Default for HR Cases

The HR Case Business Object includes the capability to configure Service Level and Customer Level SLAs. This advanced feature requires additional configuration to enable.

To configure SLAs for HR Case records, perform the following steps:

1. Configure SLA Target Times. Refer to the CSM Help Topic named: *Define SLA Target Times for an Existing SLA*.
2. Set the HR Case default SLA using the Table Management utility (Tools > Table Management).
3. Select the type **Case Type**.
4. Select the Human Resources record.
5. Select the Primary SLA to be used for HR Cases.
6. Click **Save**.

ESM and HR Portals

An HR-specific Portal and ESM Portal are available for Users to quickly request service or report issues for HR-related areas. The two HR Portals are provided as a separate mApp Solution which are included in your Cherwell HR Case Management download.

The Portal delivers HR Case Management-specific requests and information for easy navigation. You can feature HR Announcements to alert employees about key areas of importance. The solution also provides access to frequently used selections, and a formatted, dynamic HR Catalog with work-specific forms auto-assigned to the HR fulfillment teams.

Organizations can also incorporate facilities and other services into an ESM Portal, making it convenient for Users to request services from a single corporate site to any line of business (e.g., IT, Facilities, Business Operations, Printing and Imaging, Marketing, Accounting).

The following Portal mApp Solutions are included with the Cherwell HR Case Management:

- HR Case Management Portal
- HR Case Management Corporate Portal

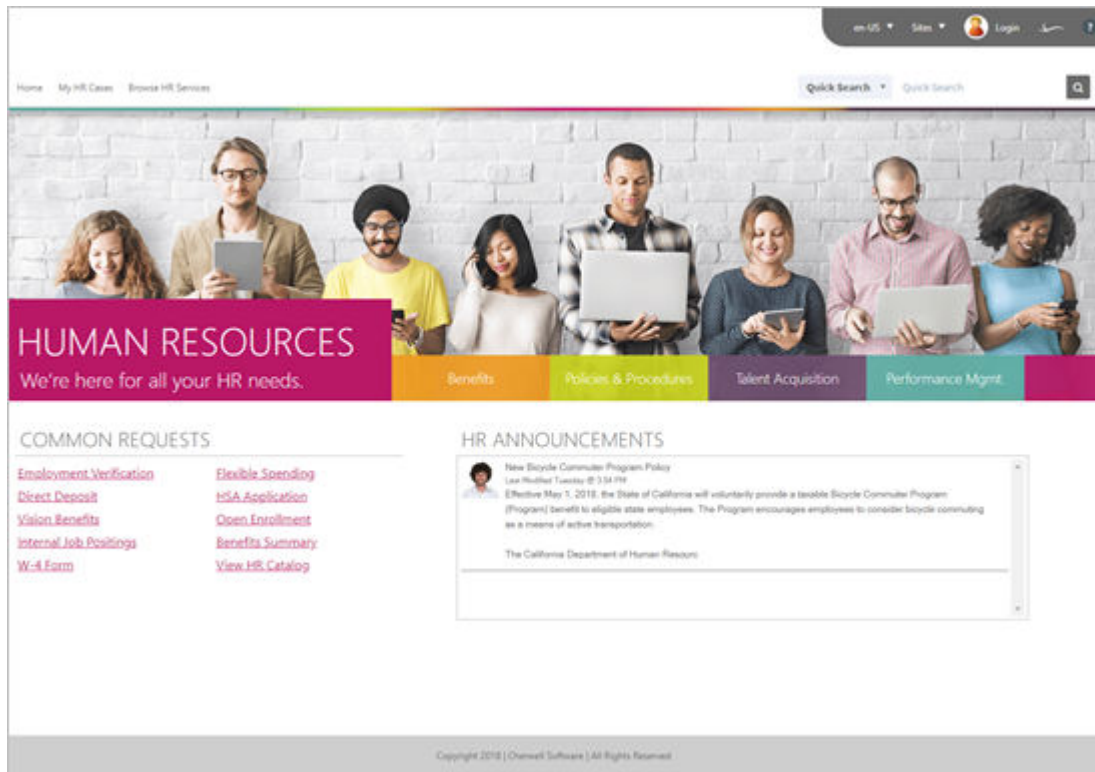
Install HR Case Management Portals

To install the Cherwell HR Case Management Portals, perform the following steps:

1. Save the HR Case Management_Portal.mApp file somewhere you can easily access it.
2. Create a backup of your database. Cherwell offers a way to do this from the Administrator side or you are welcome to back up your database however you prefer.
3. Once your backup is complete, Open the Cherwell Administrator and choose **mApps** on the right-hand side.
4. Click **Apply a mApp**.
5. Navigate to and open your saved mApp file.
6. Follow the instructions in the Apply mApp Wizard.
7. After the mApp has successfully installed and merge processes have run and a Blueprint is generated, open Cherwell Service Management (The Blue Client).
8. Click **Help > Reload Definitions**.
9. Once definitions are reloaded, click **Dashboards > Dashboard Manager**.
10. Your new Human Resources Dashboards are located here:
 - Global/Corporate Portal/Human-Resources-v3/HRV3-Enter
 - Global/Corporate Portal/Human-Resources-v3/HRV3-Home
 - Global/Corporate Portal/Human-Resources-v3/HRV3-Catalog

HR Case Management Portal

This HR Case Management Portal mApp® Solution is intended to be used with the Cherwell HR Case Management. The purpose of this mApp Solution is to simplify how end users interact with Human Resources organizations from the CSM Self Service Portal.



For a complete Enterprise Management Solution, you can also use the Corporate Portal mApp Solution which complements the look and feel of this portal and is intended to be a gateway for end users to access multiple departments across the enterprise.

The HR Case Management Portal is localized to English and Spanish. While Dashboards within this mApp Solution exist for German, French and Brazilian Portuguese, they have not been translated at this time and are currently in English.

How the mApp Solution Works

CSM provides this solution as a mergeable application (mApp) so that Users can easily incorporate this functionality into their existing CSM system. The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action	Localization

Dashboards	HRV3-Catalog HRv3-Home HRv3-Enter	Import	English & Spanish
Themes	HRV3-Portal-Default-Forms Corporate Portal Theme	Import	
Images	Employees-Brick-Background-tiny colorful-stripe1 Office-Work-Team-Graphic Green Button Orange Button Pink Button Purple Button Teal Button Collaboration-Background Conference-Background Busy-Office-Background Empty-Office-Background	Import	
Widgets	HR V3 Catalog HR V3 Catalog-Stored Value Discussions HR	Import	
One-Step Actions	Benefits Link Policies and Procedures Link Talent Acquisition Link Performance Mgmt Link HR V3 Catalog Link Employment Verification Link Direct Deposit Link Vision Benefits Link Internal Job Postings Link W4 Link Flexible Spending Link Health Savings Link Open Enrollment Link Benefits Summary Link Set-Customer-Country HR-Home-Link	Import	

Stored Values	Stored Value - HR Catalog Category Country Code HR Customer Country HR Supported Countries	Import	
Sites	Human Resources	Import	

Customize HR Portal Dashboards

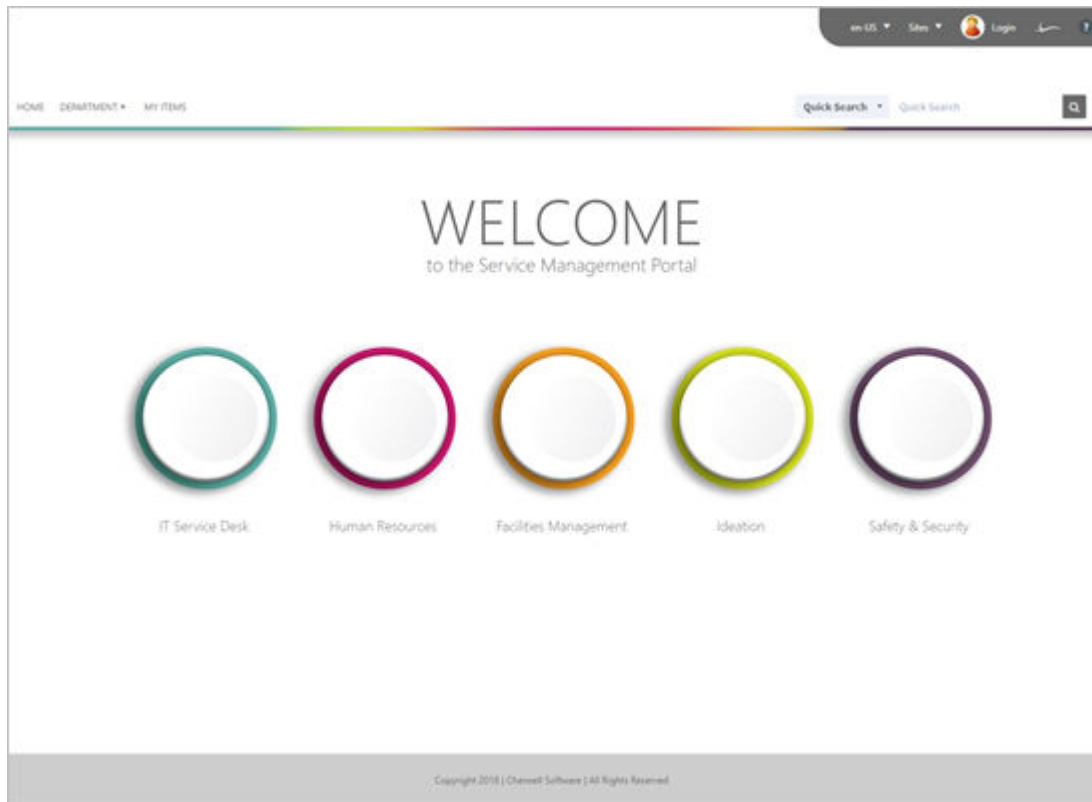
Because every Cherwell instance is different, you will need to set up the links to work with your specific One-Step™ Actions.

To set up the links, perform the following steps:

1. In the CSM Desktop Client, select **Dashboards > Dashboard Manager....** Navigate to the HR Dashboards: **Global/Corporate Portal/Human-Resources-v3/**.
2. Right-click on the Dashboard you wish to update and select **Edit**.
3. Most clients will want to add, remove, or update the Common Requests links on the HRV3-Home Dashboard. You can update the actions behind these links by right-clicking and selecting **Widget Properties...**
4. Adjust any text or photos you wish.
5. When you are finished adjusting the Dashboard, click **OK** to save your changes.

HR Case Management Corporate Portal

The HR Case Management Corporate Portal compliments the look and feel of the HR Case Management Portal and is intended to be used as a web portal allowing end users access to manage and submit service requests across multiple departments within the enterprise.



The HR Case Management Corporate Portal is localized to English and Spanish. While Dashboards within this mApp exist for German, French and Brazilian Portuguese, they have not been translated at this time and are currently in English.

How the mApp Solution Works

CSM provides the Corporate Portal as a mergeable application (mApp) so that Users can easily incorporate this functionality into their existing CSM system.

The mApp includes the following items:

Item Category	Item	Typical Merge Action	Localization
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Dashboards	Corporate-Portal-Home Corporate-Portal My Items Facilities-Management-Home- HRV3-Home HRV3-Catalog Ideation-Home IT-Service-Desk-Home IT-Service-Desk-Catalog IT-Service-Desk-KB Safety-and-Security-Home	Import	English & Spanish
Themes	Corporate Portal Theme HRV3-Portal-Default-Forms	Import	
Images	Employees-Brick-Background-tiny colorful-stripe1 Office-Work-Team-Graphic Green Button Orange Button Pink Button Purple Button Teal Button Collaboration-Background Conference-Background Busy-Office-Background Empty-Office-Background	Import	

Widgets	IT-Service-Desk-Catalog Knowledge Article Search My Open Requests Count My Open Incidents Count My Active Discussions Count My Devices Count Top Issues Count Problems with a Work Around Problems with no Work Around Discussions	Overwrite	
	Knowledge Articles with Like Counts HR V3 Catalog HR V3 Catalog-Stored Value Discussions HR Discussions FM	Import	
Sites	Corporate Portal	Import	

One-Step Actions	Benefits Link Policies and Procedures Link Talent Acquisition Link Performance Mgmt Link HR V3 Catalog Link Employment Verification Link Direct Deposit Link Vision Benefits Internal Job Postings Link W4 Link Flexible Spending Link Health Savings Link Open Enrollment Link Benefits Summary Link Set-Customer-Country Email Calendaring Link Install Configure Software Link Access Files Folders Drives Link Wireless Access Link Printing Issues Link Password Reset Link Desk Phone Link Mobile Device Issues Link Conference Room Equipment Link Fixing Issues Link HR-Home-Link	Import	
	New Incident New Service Request	Overwrite	
Stored Values	Stored Value - HR Catalog Category Country Code HR Customer Country HR Supported Countries	Import	

Customizing the Dashboard

To customize the Dashboard, perform the following steps:

1. In the CSM Desktop Client, select **Dashboards > Dashboard Manager...**
2. Right click on 2017 ESM Home (Dashboards>Global>HR Case>2017 Portal) and select **Edit**.
3. Over each of the buttons are transparent Link Layers. Right-click on each of the link layers and select **Widget Properties...** (If you don't see an option for Widget Properties when right-clicking, you are not selecting the correct layer).
4. Navigate to the appropriate Action that needs to initiate for that button and click **OK**.
 - a. If you've previously installed our 2017 Global HR Case Portal mApp Solution and you would like to link the Human Resources GO button to the HR Case Home Dashboard, it can be found here: **Global > HR Case > 2017-Portal > 2017 HR Case Home**.
5. If you would like to adjust the text shown on the Dashboard, you can easily do that by clicking on the text you would like to change and making your text edits in the upper left of your screen.
6. When you are finished adjusting the Dashboard, click **OK** in the lower right to save your changes.
7. You can edit the 2017 ESM My Items Dashboard just the same way you edited the 2017 ESM Home Dashboard.

Security Settings

To allow Portal customers and anonymous browser users to access the 2017 ESM Portal, you may need to update your security settings.

To update the security settings, follow these steps:

1. Log into CSM Administrator and select **Security**.
2. Select **Edit Security Groups**.
3. In the Security Groups dialogue, select **Anonymous Browser** from the Group drop-down.
4. Select the **Rights** tab and set the Category drop-down to **Sites**.
5. Select 2017ESMPortal in the Sites list. Select the **Use Default** and **View**.
6. Click **Save**.
7. Select **Portal Customer** in the Group drop-down.
8. Select the Rights tab and select **Sites** in the Category drop-down.
9. Select 2017ESMPortal in the Sites list and uncheck **Use Default** at and **Check View**.
10. Click **Save**.

Localization

This self-service Portal is available in English and Spanish.

While Dashboards within this mApp Solution exist for German, French, and Brazilian Portuguese, they have not been translated at this time and are currently in English.

Customize HR Case Management Corporate Portal Dashboards

Because every Cherwell instance is different, you will need to set up the links to work with your specific One-Step™ Actions.

To customize your HR Case Management Corporate Portal Dashboards, perform the following steps:

1. In the CSM Desktop Client, select **Dashboards > Dashboard Manager....** Navigate to the HR Dashboards: **Global/Corporate Portal**.
2. Right-click on the Dashboard you wish to update and select **Edit**.
3. Most clients will want to add, remove or update the Common Requests links on the Human Resources, Facilities, IT, and Security Dashboards. To update the link Actions, right-click and select **Widget Properties...**
4. Adjust any text or photos you wish.
5. When you are finished adjusting the Dashboard, click **OK**.

Add Custom CSS for HR Service Catalog

To create the custom CSS, use the CSM Definition Editor to import Action Catalogs.

Applying the Catalog CSS

You must apply a custom CSS for use with the two Service Catalog widgets included in the mApp® Solution:

- Global/HR Case/HR V3 Catalog
- Global/HR Case/HR V3 Catalog-Stored Value

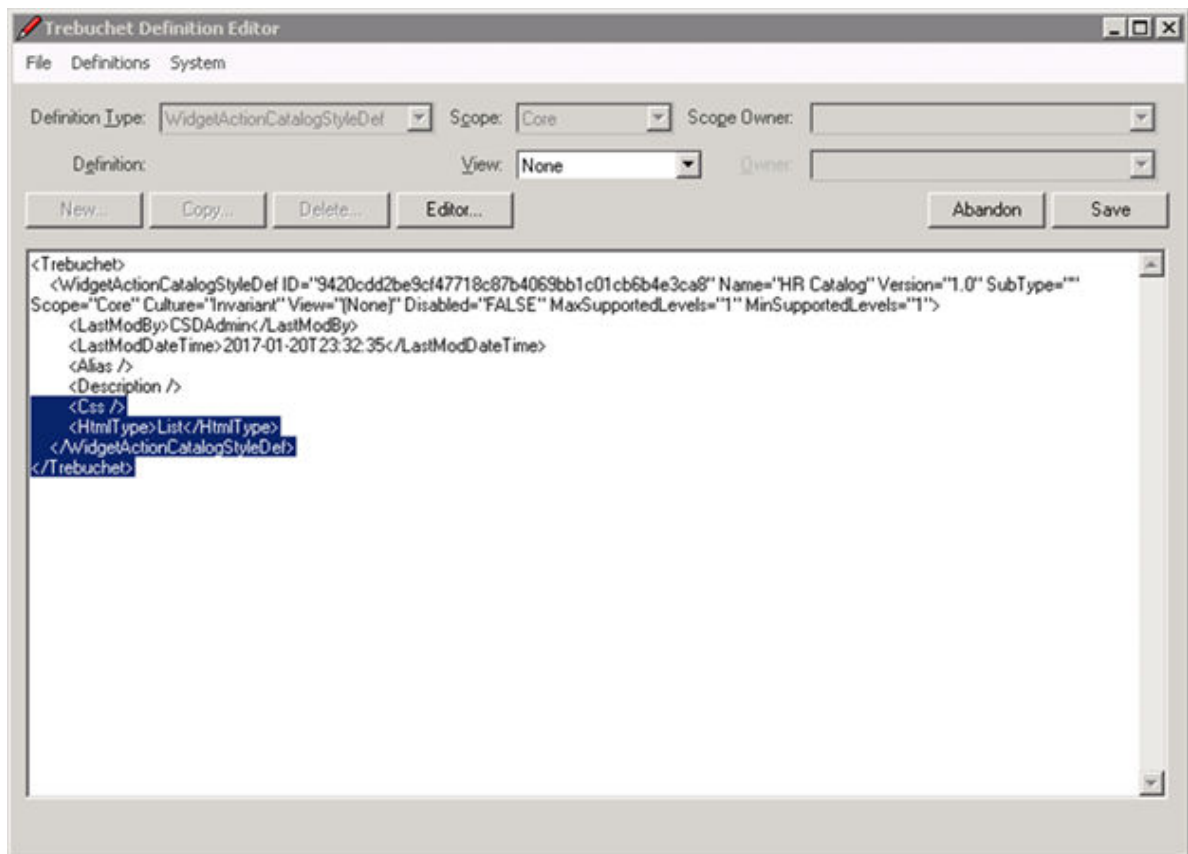


Note: You will need HRV3-Catalog-CSS.txt for this process. You can find it in the mApp® Solution download package.

The following steps are not supported in CSM versions after 9.4.0.

To import the Widget Action Catalogs Styles:

1. Open the CSM Definition Editor (**All Programs > Cherwell Service Management > Tools > Definition Editor**).
Administrative access is required.
2. In the **Trebuchet Definition Editor** window, select the Definition Type: **WidgetActionCatalogStyleDef**, and then select **New**.
3. In the **New Definition** window, type `HR Catalog`, and then select **OK**.
4. In the new definition, find the string `<Css />` and select that entire line and everything below that line. Delete everything from `<CSS />` down.



5. Open **HRV3-Catalog-CSS.txt**, then select and copy the entire contents of the file.
6. Return to the **Trebuchet Definition Editor** and paste the contents below the last line.

Set Up Portal Action Catalog Widgets with New Widget Styles

To set up Portal Action Catalog widgets with new widget styles:

1. In the CSM Desktop Client, select **Dashboards > Widget Manager**.
2. Navigate to **Global > Hr Case**.
3. Right-click **HR V3 Catalog**, and then select **Edit**.
4. In the **Widget Properties** window, select the **Display** option.
5. Select the **Style** drop-down list and choose **HR Catalog**. (If **HR Catalog** is not visible in the drop-down list, you may need to refresh the CSM Desktop Client. To refresh, close the **Widget Properties** window and **Widget Manager** dialog boxes, and then select **Help > Reload Definitions**.)
6. Select **OK**.
7. Repeat the steps above for the **HR V3 Catalog-Stored Value** widget.

Customizing the HR Case Management Catalog Dashboard

The HR Case Management Portal includes the following category/subcategory structure for the HR Case Service Catalog:

Category	Subcategory
Benefits	401k
Benefits	Benefits Changes
Benefits	Benefits Changes
Benefits	Dental
Benefits	FMLA
Benefits	FSA/WageWorks
Benefits	Holiday
Benefits	HSA/Payflex
Benefits	Leave of Absence
Benefits	Leave of Absence
Benefits	Life Insurance
Benefits	Life Insurance
Benefits	Medical
Benefits	Medical Insurance
Benefits	Name/Address Changes
Benefits	New Hire Benefits Enrollment
Benefits	Open Enrollment
Benefits	Other
Benefits	Other
Benefits	Pension Plan
Benefits	PTO
Benefits	Sick Pay
Benefits	STD & LTD
Benefits	Vision
Employee Changes	Contractor/Non-Employee Onboarding
Employee Changes	Off-Boarding Involuntary
Employee Changes	Off-Boarding Voluntary

Employee Changes	Onboarding
Employee Changes	Status change (i.e. PT to FT)
Employee Changes	Status change (i.e. PT to FT)
Employee Changes	Transfer/Promotion
Employee Relations	Other
Employee Relations	Share a Concern
HR System Access Request	ADP
HR System Access Request	ADP
HR System Access Request	Greenhouse
HR System Access Request	Greenhouse
Payroll	Direct Deposit
Payroll	Direct Deposit
Payroll	Other
Payroll	Other Payroll
Payroll	Verification of Employment
Payroll	Verification of Employment
Payroll	W4
Performance Mgmt	Development Plan
Performance Mgmt	OKRs
Performance Mgmt	OKRs
Performance Mgmt	Other
Performance Mgmt	Other
Performance Mgmt	Performance Evaluations
Performance Mgmt	Performance Review
Policies and Procedures	Compliance
Policies and Procedures	Forms
Policies and Procedures	Other
Policies and Procedures	Other
Policies and Procedures	Policy Question
Policies and Procedures	Quality and Safety
Talent Acquisition	Greenhouse
Talent Acquisition	Internal Job Posts
Talent Acquisition	Interviewing

Talent Acquisition	On-Boarding - Contractors/Non-Employees
Talent Acquisition	On-Boarding - Employees
Talent Acquisition	Open a New Job/Req
Talent Acquisition	Other
Talent Acquisition	Other
Talent Acquisition	Referral Bonus
Talent Acquisition	Requisition Request

HR Case Management Portals Security Settings

To allow Portal customers and anonymous browser users to access the Human Resources Portals, you may need to update your security settings.

To update security settings for HR Portals, follow these steps:

1. Log into CSM Administrator and select **Security**.
2. Under **Pick a Task...**, select **Edit Security Groups**
3. In the Security Groups dialog, select **Anonymous Browser** from the Group drop-down.
4. Select the **Rights** tab and select **Sites** from the Category drop-down.
5. Select **Human Resources** in the Sites list and uncheck **Use Default** and **Check View**.
6. Click **Save**.
7. Change the Group drop-down to select **Portal Customer**
8. Select the **Rights** tab and set the Category drop down to **Sites**
9. Select **Human Resources** in the Sites list and **Use Default** and **Check View**.
10. Click **Save**.

HR Case

An HR Case captures the information from Users that initiate from the Portal, inbound email, or on the phone. Cases are assigned to HR teams and HR case workers based on the type of HR question/request. There are several areas noted below that enhance the workflow and tracking activities.

HR Case 221

Status: **New**

Priority: **Important**

Requestor: **Eric Lambert**
Eric.Lambert@RiverCorp.com
+44 (0)1793 858181

Owned By: **You**
- select team -
harold@rivercorp.com

I Want To:

- [Take Ownership](#)
- [View Detailed Date/Time Information](#)
- [Resolve Redundant](#)
- [Split/Duplicate Case](#)
- [Create an IT Incident](#)
- [Refer to Another Service Desk](#)
- [Nominate for Knowledge Base](#)

Step 1: Record the Details *Last Edited 9/7/2017 by Harold Rose*

Short Description: **Benefits**

Description:

FMLA start

Call Source: **Phone**

[View Related KB Articles](#)

Step 2: Classify *(View classifications)*

Category: **Benefits**

Subcategory:

Priority: **Important**

Effective Date:

Follow-up Date:

[Click here to set a Follow-Up Date Reminder](#)

Step 3:

Additional Details:

1. Follow-up Date and Notification.
2. County Code: Determines the categorization options and the default assignment team.
3. I Want To: Actions:
 - Resolve Redundant: Allows user to merge and resolve a redundant ticket.
 - Refer to Another Service Desk: Provides an e-mail template that can be used to refer a ticket to another resolution team.
 - Split/Duplicate Case: Clones the current Case.
 - Create an IT Incident: Creates an Incident in CSM and provides a link between the two tickets so HR can review as needed. Security prevents IT from seeing the HR Case.
 - Nominate for Knowledge Base: Initiates the create of a new HR Knowledge Article

HR Checklists

HR Checklists is a new feature designed specifically for HR. HR organizations track many different action items and documents based on employee requests. Most HR organizations choose the lighter 'checklist' functionality over the OOTB Tasks. Checklists are associated with HR subcategories and track specific items required for each of these individual areas (example: FMLA requests).

Cherwell HR Case Management has several different example checklists.

Checklist Name	Valid Countries
30 Day Benefits Checklist	US, ES, GB
90 Day Benefits Checklist	US, ES, GB
Employee Change Form Request Checklist	US, ES, GB
Leave of Absence - FMLA Checklist	US
Leave of Absence - STD Checklist	US, ES, GB
Life Event Benefit Changes Checklist	US, ES, GB
LOA - USERRA/Military Checklist	US
Name Change Checklist	US, ES, GB
New Hire Checklist	US, ES, GB
Offboarding Checklist	US, ES, GB
Pre-Offer Checklist	US, ES, GB
Transfer Checklist	US, ES, GB
Working Interview Checklist	US, ES, GB

Checklist Name_en-US:	Leave of Absence - STD Checklist
Checklist Name_es-ES:	Licencia de ausencia - Lista de verificación de STD
Item 01_en-US:	LOA Request Form
Item 01_es-ES:	Formulario de Solicitud de LOA
Item 02_en-US:	HR Response (send paperwork)
Item 02_es-ES:	Respuesta de RH (enviar papeleo)
Item 03_en-US:	Send Request Form to Employee
Item 03_es-ES:	Envíe el formulario de solicitud al empleado
Item 04_en-US:	Complete & Send to MetLife (when leave begins)
Item 04_es-ES:	Completa y envía a MetLife (cuando empiece el permiso)
Item 05_en-US:	Return to Work Reminder (2 weeks prior)
Item 05_es-ES:	Regreso al recordatorio de trabajo (2 semanas antes)
Item 06_en-US:	Update HRMS with LOA Start Date & Expected Return
Item 06_es-ES:	Actualizar HRMS con LOA Fecha de inicio y retorno esperado
Item 07_en-US:	
Item 07_es-ES:	
Item 08_en-US:	

HR Discussion

You can use the HR Discussion function to display messages on the HR Portal. Multi-tenant modifications allow for different announcements and expiration dates so the discussion will not be displayed after the date has passed.

Discussion

Status: **Current**

Likes: **0**

Dislikes: **0**

Started By:

Cherwell Admin
12/29/2016 2:04 PM

Voting:

I Want To:

[Link to...](#)
[Create a New Incident](#)
[Archive this Discussion](#)

Details

Subject:
See Something Say Something

Comment:
Please be extra vigilant as you walk through our facilities. If something doesn't seem right - or if you have a concern about security, access, suspicious boxes, etc. please contact your manager open a ticket for the Facilities or Security teams. We count on you for our 'view'!

1 ☐ HR Announcement ☒ FM Announcement ☐ IT Announcement

2 Expiration Date: 2/24/2017 12:00 AM

1) Check the boxes for each Portal Page that you want this announcement to be displayed.
2) Enter Expiration Date/Time for automatic removal from all Portal Pages (OR) leave blank for permanent announcements.

1. Multi-tenant to allow for different announcements by organization.
2. Expiration date to allow discussions to 'timed out' of active displays.

HR Notifications

The following automation processes for e-mail notifications are part of Cherwell HR Case Management:

- HR Case Resolved Confirmation
- HR Case Confirmation

HR Knowledge Management

Knowledge Management has some new 'foundational' elements that customers can use to expand and formalize this area. Cherwell is careful not to interfere with existing implementations, and Knowledge Management is an area where most customers apply some level of customization.



Note: The Knowledge Management area of the mApp® Solution is a 'feature' so it can be bypassed and not included in your installation.

Cherwell HR Case Management provides the following:

1. Creating a New Knowledge article: If an Article Type of Human Resources is selected, the Service, Category, and Subcategory fields can be populated with values from the HR Case Category and Subcategory tables. Searches in HR Cases will search using the Human Resource type and the Category structure.
2. Nominating for Knowledge Base from an HR Case: The Category and Subcategory of the HR Case will be populated in the New article and the Article Type will be set to Human Resources.
3. The HR Portal searches the Knowledge Base based on the Article Type of Human Resources and if the 'Visible in Customer Portal' is checked.

The screenshot displays two overlapping windows from the Cherwell HR Case Management system.

HR Case 253 Window:

- Status:** Assigned
- Priority:** Standard
- Requester:** Eric Lambert (eric.lambert@rivercorp.com, +84 (0)1793 856181)
- Owned By:** You (HR Benefits EMEA/APAC, harold@rivercorp.com)
- Step 1: Record the Details** (Last Edited 10/23/2017 by Harold Rose)
 - Short Description: 401k information
 - Call Source: Portal
 - Description: ¿Puede usted por favor proporcionarame 401K information?
 - Link: View Related KB Articles
- Step 2: Classify** (Last Modified 10/23/2017)
 - Category: Benefits
 - Subcategory: Benefits Changes
 - Priority: Standard
 - Effective Date: 10/10/2017
 - Follow-up Date: (empty)
 - Link: Click here to set a Follow Up Date Reminder
- I Want To:**
 - Take Ownership
 - View Detailed Data/Time Information
 - Resolve Redundant
 - Solve Duplicate Case
 - Create an IT Incident
 - Refer to Another Service Desk
 - Transfer to Knowledge Base** (highlighted with a red box)
 - Add a Comment
 - Set to Pending

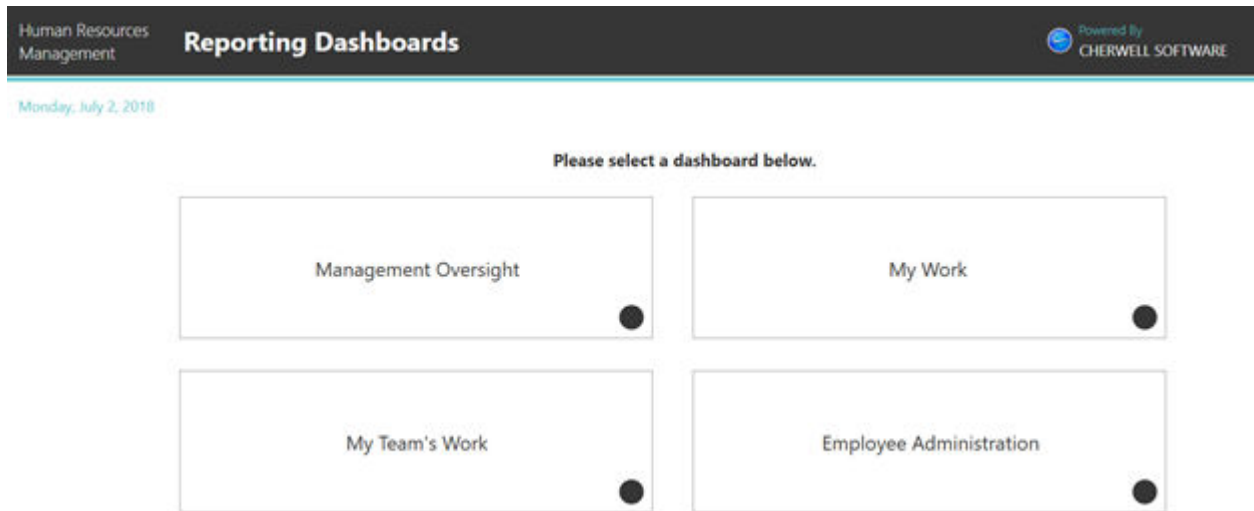
Knowledge Article 10383 Window:

- Status:** New
- Likes:** 0
- Dislikes:** 0
- Owned By:** select owner, select team
- Voting:**
 - Do you like this article? (Like/Dislike buttons)
- I Want To:**
 - Take Ownership
 - View Detailed Data/Time Information
- Request Approval** / **Publish this Article**
- Article Details:**
 - Title: 401k information
 - Keywords: (empty)
 - Solution or Workaround: Description from HR Case 253: ¿Puede usted por favor proporcionarame 401K information? Solution from HR Case 253:
 - Article Source: Cherwell Service Management
 - Article used 0, including 0 from the Customer Portal.
 - Last Imported: n/a
 - Visible in Customer Portal: ☐
- Additional Info:**
 - Service: Human Resources
 - Category: Benefits
 - Subcategory: Benefits Changes
 - Article Type: Human Resources

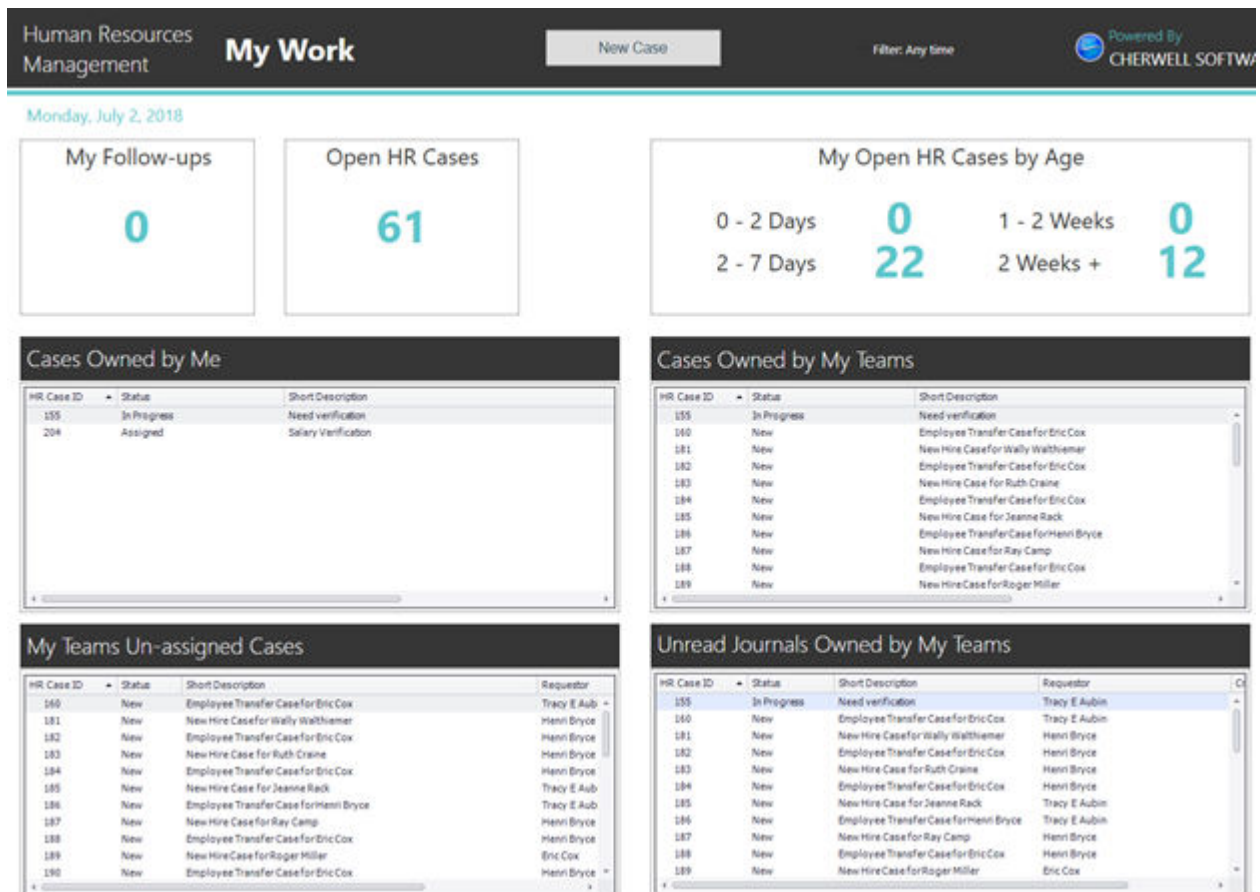
Cherwell HR Case Management does not introduce any new Knowledge Management workflow or approvals. Once you determine a process for HR Knowledge Article, you will need to set new approval and review teams.

Cherwell HR Case Management Dashboards and Reports

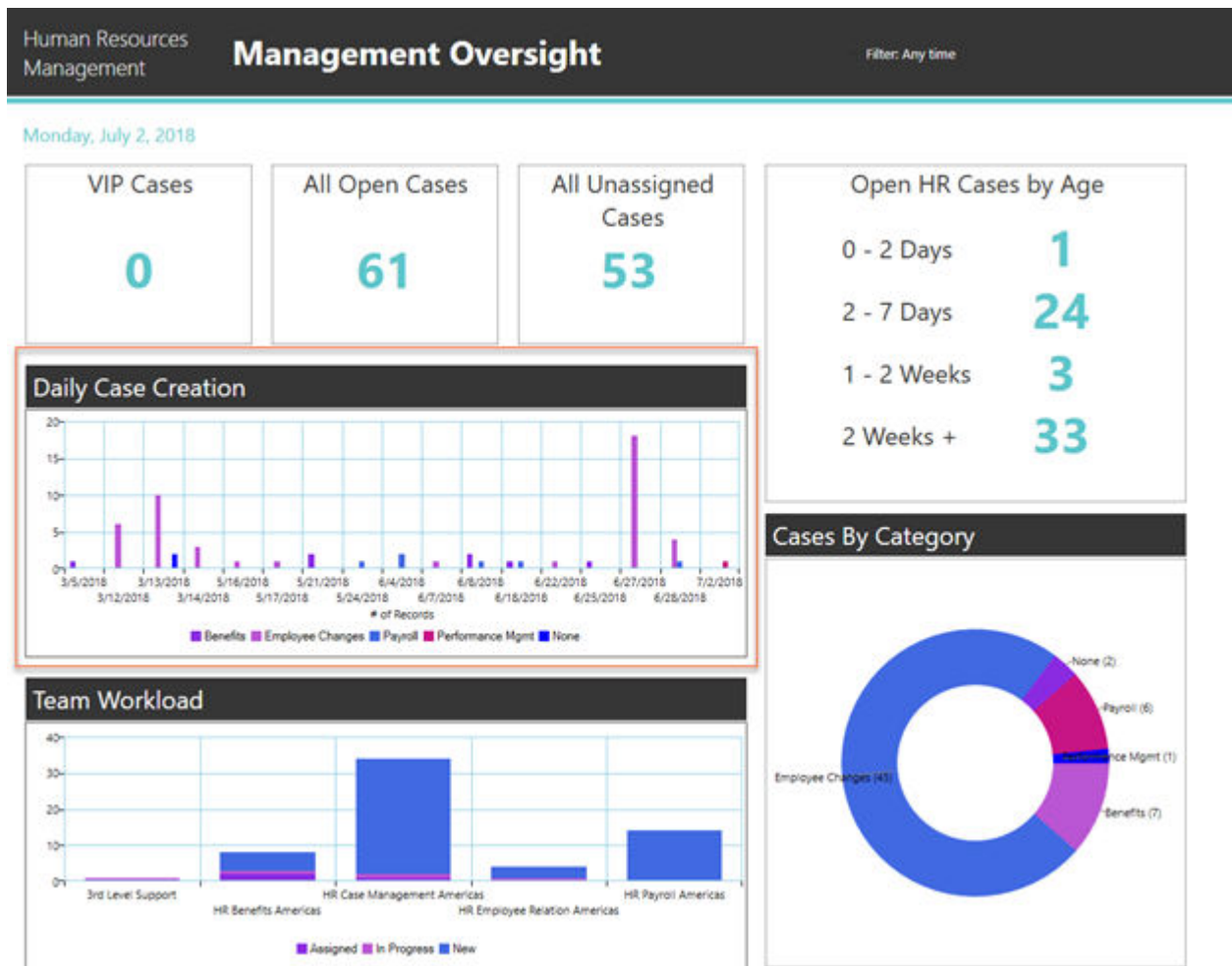
HR My Home Dashboard



HR My Work Dashboard



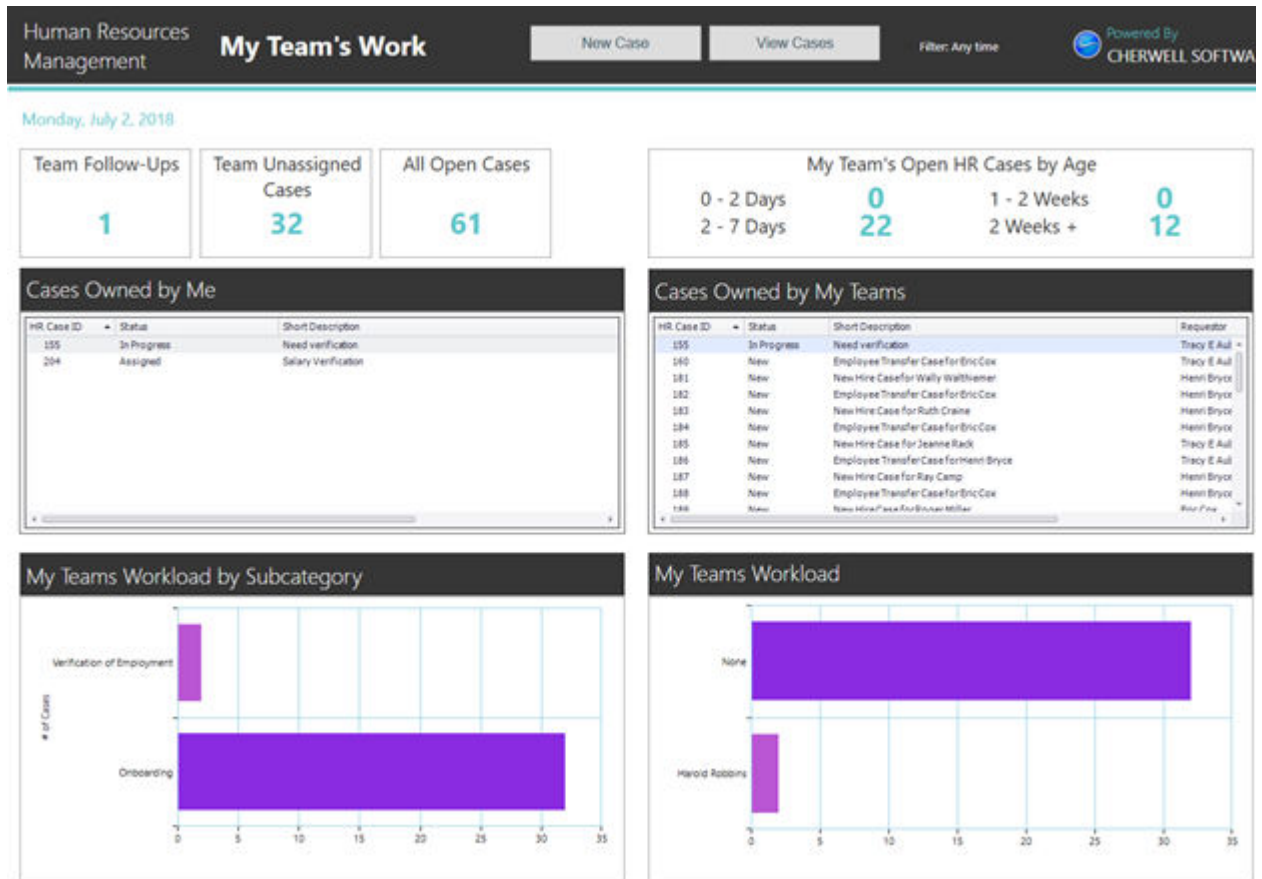
HR Management Oversight Dashboard



HR My Team's Work Dashboard

Team Unassigned Cases provide a count of the tickets that have no owners from the team. This can also be seen easily in the Cases Owned by My Teams grid and reviewing the column called Owned By. If it is blank, then an owner has not been assigned and the ticket is not being actively worked.

Team Follow-Ups provide a count of tickets where a case worker has selected a follow-up date and that date is equal to today or earlier.



Using Cherwell HR Case Management

The following procedure walks you through detailed step-by-step instructions for creating an HR case, including tips, optional steps, and behind-the-scenes information. The different contributors are noted in the procedure.

Good to know:

- HR Cases can be created in several ways: via the End User Portal, inbound e-mail, or created manually. All the Dashboards (except Management) have a button to create a new HR Case. You can also create a new HR Case in the CSM Desktop Client by clicking **File > New > New HR Case**.
- All new HR Cases default to the Owning Team in the Case Subcategory table.
- The main pane displays HR Case information (Requestor, HR Case, Title, Descriptions, Priority, Category, and Subcategory).

Create an HR Case (User)

1. Access the ESM or Human Resources Portal page (the URL will differ by customer) and log in. From here you can view your HR cases, click on links for forms and information, or select a quick box to be directed to other sites as appropriate.
2. Select **Search the HR Knowledge Base** for articles or **Ask HR** to be directed to the HR Service Catalog (there are no OOTB Knowledge articles in Cherwell HR Case Management).
3. After you select an HR Category and Subcategory, a blank case template will open. Enter the relevant information and click **Submit** to open a new HR Case.
As the HR Case gets processed, the Status bar will reflect the HR Case phase.

Create an HR Case (Case Worker or Team Manager)

1. Log into CSM through the Desktop Client or Browser Client. Access an HR Dashboard.
2. Click the **New Case** button and populate the fields associated with the request.

Populate the HR Case

1. Populate the Requestor field.
2. Complete Step 1: Record the Details. Both of the description fields are required. Call Source will default to Phone for manually opened tickets and Portal or Email if they are opened through inbound email integration or thru the User Portal.
3. Classify the ticket by selecting the **Category** and **Subcategory**.
4. The **Owned by Team** will pre-populate based on the Category and Subcategory selected.
5. Select a **Priority** for the ticket (ASAP, Important, Normal).
6. Review the requestor's Active and Resolved Cases in the Form Arrangement.
7. Click **Save**.

Working an HR Case

After an HR Case is created, the Team Manager will assign the case to a Case Worker. The Case Worker will complete the tasks associated with an HR Case.

Assigning a Case (Team Manager)

The Team Manager reviews the My Team's Work Dashboard to identify areas requiring actions.

To assign an HR Case, perform the following steps:

1. On the My Team's Work Dashboard, select an unassigned case.
2. Select an **Owner** for the ticket. This owner is a member of the manager's teams.
3. **Assign a Priority** will be blank if the case is created from the User Portal or e-mail.

Working an HR Case (Case Worker)

Case Workers should use the My Work Dashboard to track their cases. Select a ticket assigned by your team manager and begin work.

To work an HR Case, perform the following steps:

1. Status: Click on **Start Work** - this will set the new Status to **In Progress**.
2. Click on the e-mail address in the Requestor information area to initiate an outbound e-mail to the Requestor. A template will pop up and can be modified to enter specific information, additional recipients, add an attachment, etc. If the Requestor replies to this email, it will be added as a Journal entry along with the original email event.
3. Follow-up Date: Populate a date in this field if you want to be reminded to continue work on this case. In the CSM Desktop Client, you will also be given the option of receiving an Outlook calendar notice for this date.
4. I Want To actions:
 - a. Resolve Redundant: Click this link if the case is the same as an existing case ticket. This launches One-Step Action that allows you to append the description from this case the main case description and resolve the redundant case. Redundancy often occurs when Users send an e-mail that creates a new case rather than replying to the e-mail they received when they first opened the case. This One-Step Action allows you to select the main case - then appends the description from the redundant case into the main case description and resolves the redundant case.
 - b. Split/Duplicate: Clones the current HR Case.
 - c. Refer to Another Service Desk: This One-Step Action opens an e-mail template to refer to another team. You can put in the e-mail address of the IT Help Desk to create a new IT ticket, or any e-mail address to send the information over to another referral team. This does NOT resolve the current ticket - the ticket will remain In Progress until it is manually resolved.
 - d. Create an Incident Ticket: Creates an Incident ticket which will appear in the HR Case's Form Arrangement.
5. Checklist: Several Checklists are configured in Cherwell HR Case Management. These will apply to a case ticket based on the Category and Subcategory of the case. Additional Checklists can be applied manually in the Additional Checklists tab.

Using Employee Administration

The employee administration functions of Cherwell HR Case Management include position creation and approval, position fulfillment (including new hire and transfer processes), and offboarding. Inputs can be from an HR system (via inbound e-mail or an API integration), or manually by an HR specialist or hiring manager.

HR Position

HR Position is a major Business Object that provides the pivot point and key data storage for onboarding, offboarding, employee transfer, and termination processes.

The record has two main areas: Position Details and Employee Details.

Position 100013
Status: **Filled**
Hiring Manager: Tracy E Aubin
Owned By: Assign To...
I Want To: Take Ownership, View Detailed Date/Time Information, Cancel Position

Position Details
Title: Lawyer - New Business Focus (new position)
Details: Work with existing team to review NOAs, SOAs, and other sales related material. Negotiate RFP responses, etc.
Work Location: Chicago
Department: Administration
Job Role: Lawyer
Employee or Contractor: ☒ Employee ☐ Contractor
New or Existing: ☒ New ☐ Existing
Supervisor: [Empty]

Employee Details
Full Name: ☒ New Hire ☐ Existing Employee
Jeffrey Allen Kingsted
Prefix: First Name: Middle: Last Name: Suffix: Jeffrey Allen Kingsted
Address 1: 12232 Elm Street
Address 2: [Empty]
City: Chicago Province/State: IL Postal Code/Zip: 60631
Expected Start Date: 4/10/2017
Goes By Name: Jeff
Primary Phone: [Empty]
Email: jeffkingsted@gmail.com

IT Requests

Type	Owned By Team	Customer Name	Created Date Time	Status	Description
Service Request 2nd Level Support	100013	Tracy E Aubin	3/22/2017 9:59 AM	New	New Position Equipment Request for Lawyer - New Business Focus (new position) -> Location: Chicago -> De...
Service Request 2nd Level Support	100013	Tracy E Aubin	3/22/2017 10:10 AM	New	New Hire Access Request for Jeffrey Allen Kingsted -> Expected start date: 4/10/2017 -> Location: Chicag...

Work Orders

Work Order	Customer Display Name	Status	Title	Owned By	Owned By Team	Closed Date Time
10012	Tracy E Aubin	New	Work space configuration for New position Lawyer - New Business Focus (new position)	Facilities Dispatch		

HR Cases

HR Case ID	Status	Short Description	Requestor	Created Date Time
30	New	New Hire Case for Jeffrey Allen Kingsted	Tracy E Aubin	3/22/2017 10:10...

1. Position Details: The key fields driving workflow are 'New' or 'Existing' position and Job Role. The resulting Service Catalog Template applied are based on these values.
2. Employee Details: The key field driving workflow is the 'New Hire' or 'Existing Employee' selection.
3. IT Requests: A listing of IT Requests for Equipment and Access are associated with the HR Position record.
4. Work Orders: A listing of Work Orders for environment set up activities assigned to the Facilities organization.
5. HR Cases: The HR Position record tracks HR Cases generated for the position, the associated job, and candidates.

HR Position Role Service Template

The HR Position Role Service Template assigns the appropriate Service Catalog Template to the IT Service Request for fulfillment.


Equipment Request Templates: Templates that contain the Work Units for the equipment review or procurement activities based on the Position Record identification of 'new' or 'existing' position.


Access Request Templates: Templates that contain Work Units for required accesses (example: AD, E-mail, application[s]). Access request fulfillment Work Units are based on the Position Record identification of 'new' or 'existing' employee.

The screenshot displays a configuration interface for the 'HR Position Role Service Template'. It features a 'Role Name' dropdown menu set to 'Account Manager'. Below this, there are two main sections: 'Equipment Request Templates' and 'Access Request Templates', both highlighted with red boxes. The 'Equipment Request Templates' section includes a 'New Position' dropdown set to 'New Sales/Marketing Position Equipment Setup' and an 'Existing Position' dropdown set to 'Review equipment needs for existing open position'. The 'Access Request Templates' section includes a 'New Hire' dropdown set to 'Account Manager Access Request for New Employee' and an 'Existing Employee' dropdown set to 'Account Manager Access Request for Existing Employee'. Each dropdown menu has a small icon to its right.

Position 33

Status: **Filled**
Next: Complete

Hiring Manager*:  Hent Bryce
Hent.Bryce@RiverIT Corp.com
(779) 386.7000

Owned By:  - select owner -
HR Benefits EMEA/APAC

I Want To:

Position Details

Last Edited 5/16/2018 10:22 PM by Charwell Admin

Title*: Security Guard

Details: Front desk guard

Work Location: Tampa

Department: HR

Job Role*: **Office Staff**

☒ Employee or ☐ Contractor
☐ Full Time or ☒ Part Time
☒ New or ☐ Existing
☒ Supervisor

Employee Details

Full Name: ☒ New Hire ☐ Existing Employee
John Jacob Jinklehner Schmidt

Expected Start Date: 5/24/2018

Goes By Name: _____

Primary Phone: _____

Prefix: First Name: Middle: Last Name: Suffix:

Address 1:

Table Management

HR Role Service Template

Role Name: **Office Staff**

Equipment Request Templates

New Positions: **New Support/Admin Position Equipment Setup**

Existing Positions: **Review equipment needs for open position**

Access Request Templates

New Hire: **Office Staff Access Request for New Employ**

Existing Employees: **Office Staff Access Request for Existing E**

Journals | IT Requests | Work Orders | HR Cases

Record 1 of 2

Type	Owned By Team	ID	Description	Customer Name
Service Request	2nd Level Support	102417	New Position Equipment Request for Security Guard-->Location: Tampa-->Department: HR	Hent Bryce
Service Request	2nd Level Support	102418	New Hire Access Request for John Jacob Jinklehner Schmidt-->Expected start date: 5/24/2018	Hent Bryce

Service Catalog Templates

The Service Catalog Template Business Object (SCT) is a component of the OOTB CSM installation. This functionality is used throughout the Cherwell HR Case Management to provide deliverables for the fulfillment of position-related activities. The appropriate SCT is identified and applied based on values in the HR Position record.

SCTs are comprised of related Work Units. Customers access SCTs from the Service Catalog in the Customer Portal. When an SCT is selected, a Service Request is created and the associated Work Units transform into Tasks, which are required to close the Service Request. This allows you easily manage the Tasks required to fulfill common Service Requests.

The following examples highlight the differences between the SCTs based on different types of jobs and candidates.

Service Catalog Templates		
All SCTs		
Drag a column header here to group by that column		
ID	Title	Description
✓ 521	Acct Mgr Access Request for Existing Employee	Account Manager Access Request for Existing Employee
✓ 520	Acct Mgr Access Request for New Employee	Account Manager Access Request for New Employee
✓ 525	Admin Assist Access Request for Existing Employee	Administrative Assistant Access Request for Existing Employee
✓ 523	Admin Assist Access Request for New Employee	Administrative Assistant Access Request for New Employee
✓ 527	Developer Access Request for Existing Employee	Developer Access Request for Existing Employee
✓ 526	Developer Access Request for New Employee	Developer Access Request for New Employee
✓ 29	Drive Replacement	Drive Replacement
✓ 529	Exec Access Request for Existing Employee	Executive Access Request for Existing Employee
✓ 528	Exec Access Request for New Employee	Executive Access Request for New Employee
✓ 537	HR Specialist Access Request for Existing Employee	HR Specialist Access Request for Existing Employee
✓ 536	HR Specialist Access Request for New Employee	HR Specialist Access Request for New Employee
✓ 531	Lawyer Access Request for Existing Employee	Lawyer Access Request for Existing Employee
✓ 530	Lawyer Access Request for New Employee	Lawyer Access Request for New Employee
✓ 39	New Employee Setup	Create all necessary items for a new employee setup
✓ 500	New Manager Position Equipment Setup	New Manager Position Equipment Setup
✓ 503	New Professional Position Equipment Setup	New Professional Position Equipment Setup
✓ 504	New Sales/Marketing Position Equipment Setup	New Sales/Marketing Position Equipment Setup
✓ 501	New Support/Admin Position Equipment Setup	New Support/Administrative Position Equipment Setup
✓ 502	New Technical Position Equipment Setup	New Technical Position Equipment Setup
✓ 560	Off Board Employee - Default Template	Manage process of off boarding employees
✓ 533	Office Staff Access Request for Existing Employee	Office Staff Access Request for Existing Employee
✓ 532	Office Staff Access Request for New Employee	Office Staff Access Request for New Employee
✓ 15	Presentation Services	Presentation Services
✓ 34	Provide an Email Account	Request an email account be setup
✓ 505	Review equipment needs for open position	Review equipment needs for open position
✓ 535	SD Agent Access Request for Existing Employee	Service Desk Agent Access Request for Existing Employee
✓ 534	SD Agent Access Request for New Employee	Service Desk Agent Access Request for New Employee
✓ 18	Setup and Install Blade Server	Acquire a new server and set it up in our DC

SCT for Existing Position

In this example, a position was vacated.

Service Catalog Template 505

Status: **Active** (Next: Retired)

Cumulative Cost: **\$0.00**

Number of Work Units: **1**

Business Owner: Gina Mehra, Gina.Mehra@River1Corp.com, (719) 386.7000

IT Process Owner: Henri Bryce, henri.bryce@River1Corp.com, 813-898-8787

Title and Description:
 Title: Review equipment needs for open position
 Description: Review equipment needs for open position
 Portal Title: Review equipment needs
 Portal Description: Review equipment needs for existing open position

Classification:
 Service: HR Employee Administration
 Category:
 Position:
 Subcategory: Existing Position Equip Review
 Service Catalog Template Category: HR Process

Work Unit Functions:
 Order # 1: Review equipment needs

1. Title of the specific SCT: this example identifies this SCT as associated with the equipment requests.
2. Categorization carried into the Service Request: the structures are unique for this mApp and not part of the OOTB categorization.
3. Work Units - identifies tasks for this SCT.

SCT for New Position

In this example, a position is new to the organization, so equipment may be needed.

Service Catalog Template 504

Status: **Active** (Next: Retired)

Cumulative Cost: **\$945.89**

Number of Work Units: **3**

Business Owner: Gina Mehra, Gina.Mehra@River1Corp.com, (719) 386.7000

IT Process Owner: Henri Bryce

Title and Description:
 Title: New Sales/Marketing Position Equipment Setup
 Description: New Sales/Marketing Position Equipment Setup
 Portal Title: New Sales/Marketing Position E
 Portal Description: New Sales/Marketing Position Equipment Setup

Classification:
 Service: HR Employee Administration
 Category:
 Position:
 Subcategory: New Position Preparation
 Service Catalog Template Category: HR Process

Work Unit Functions:
 Order # 1: Acquire a Laptop
 Order # 2: Employee Space setup (access)
 Order # 3: Order Mobile Phone

1. Categorization.
2. Work Units for new equipment, space setup, and a mobile phone.

SCT for Existing Employee

This scenario requires a review of existing accesses and tasks for new accesses.

Service Catalog Template 521

Status: Active Next, Edit

Cumulative Cost: \$0.00

Number of Work Units: 4

Business Owner: Gina Mehra
Gina.Mehra@RiverITCorp.com
(719) 386.7000

IT Process Owner: Henri Bryce

Title and Description

Title: Acc Mgr Access Request for Existing Employee

Description: Account Manager Access Request for Existing Employee

Portal Title: Account Manager Access Request

Portal Description: Account Manager Access Request for Existing Employee

Classification

Service: HR Employee Administration 1

Category: Employee

Subcategory: Account Setup

Service Catalog Template Category: HR Process

Work Unit Order

Order #	Work Unit	Dependent Upon	Additional Notes
1	Badge Access Configuration		After access as necessary for new position.
2	SAP Access		After access as necessary for new position.
3	SAP Security Setup	SAP Access	After access as necessary for new position.
4	SalesForce Access Setup		

2

1. Categorization.
2. Work Units for a review of badge access and the addition of sales-specific applications (SAP and Salesforce).

A task requesting a review of existing accesses (Application tab in the Customer record) will automatically be added to the Service Request.

SCT for New Employee

This scenario initiates new access tasks.

Service Catalog Template 520

Status: **Active** Next, Refresh

Cumulative Cost: **\$17.00**

Number of Work Units: **9**

Business Owner: **Gina Mehra**
Gina.Mehra@River1Corp.com
(719) 386.7000

IT Process Owner: **Henri Bryce**

Title and Description

Title: **Account Manager Access Request for New Employee**

Description: **Account Manager Access Request for New Employee**

Portal Title: **Account Manager Access Request**

Portal Description: **Account Manager Access Request for New Employee**

Classification

Service: **HR Employee Administration** 1

Category: **Employee**

Subcategory: **Onboarding**

Service Catalog Template Category: **HR Process**

Work Unit Order Record 1 of 9

Order #	Work Unit	Dependent Upon	Additional Notes
1	Create AD account		
2	Provide Email Account	Create AD account	
3	Create Employee Badge		
4	Badge Access Configuration	Create Employee Badge	
5	Deliver Badge	Badge Access Configuration	
6	SAP Access	Create AD account	
7	SAP Security Setup	SAP Access	
8	Kronos Time Entry Access Setup	Create AD account	
9	SalesForce Access Setup	Create AD account	

2

1. Categorization.
2. Work Units for all accesses for a new employee based on role.

SCT for Off-boarding

This scenario initiates a default set of tasks. The initiation of this SCT is generated from a One-Step™ Action that creates an HR Case ticket as well. Additional tasks are created for each access in the Customer record (Application tab) and equipment (CIs tab).

Service Catalog Template 560

Status: **Active** Next, Refresh

Cumulative Cost: **\$0.00**

Number of Work Units: **2**

Business Owner: **Gina Mehra**
Gina.Mehra@River1Corp.com
(719) 386.7000

IT Process Owner: **Henri Bryce**

Title and Description

Title: **Off Board Employee - Default Template**

Description: **Manage process of off boarding employees**

Portal Title: **Off Board Employee**

Portal Description: **Manage process of off boarding employees**

Classification

Service: **HR Employee Administration** 1

Category: **Employee**

Subcategory: **Off Boarding**

Service Catalog Template Category: **HR Process**

Work Unit Order Record 1 of 2

Order #	Work Unit	Dependent Upon	Additional Notes
1	Disable AD Account		
2	Disable corporate email		

2

1. Categorization.
2. Work Units requesting that key accesses be disabled.

Service Request and Customer Record views: Additional tasks for each access and CI associated with the employee.

One-Step Actions Associated with Service Catalog Templates

Cherwell HR Case Management includes several One-Step™ Actions:

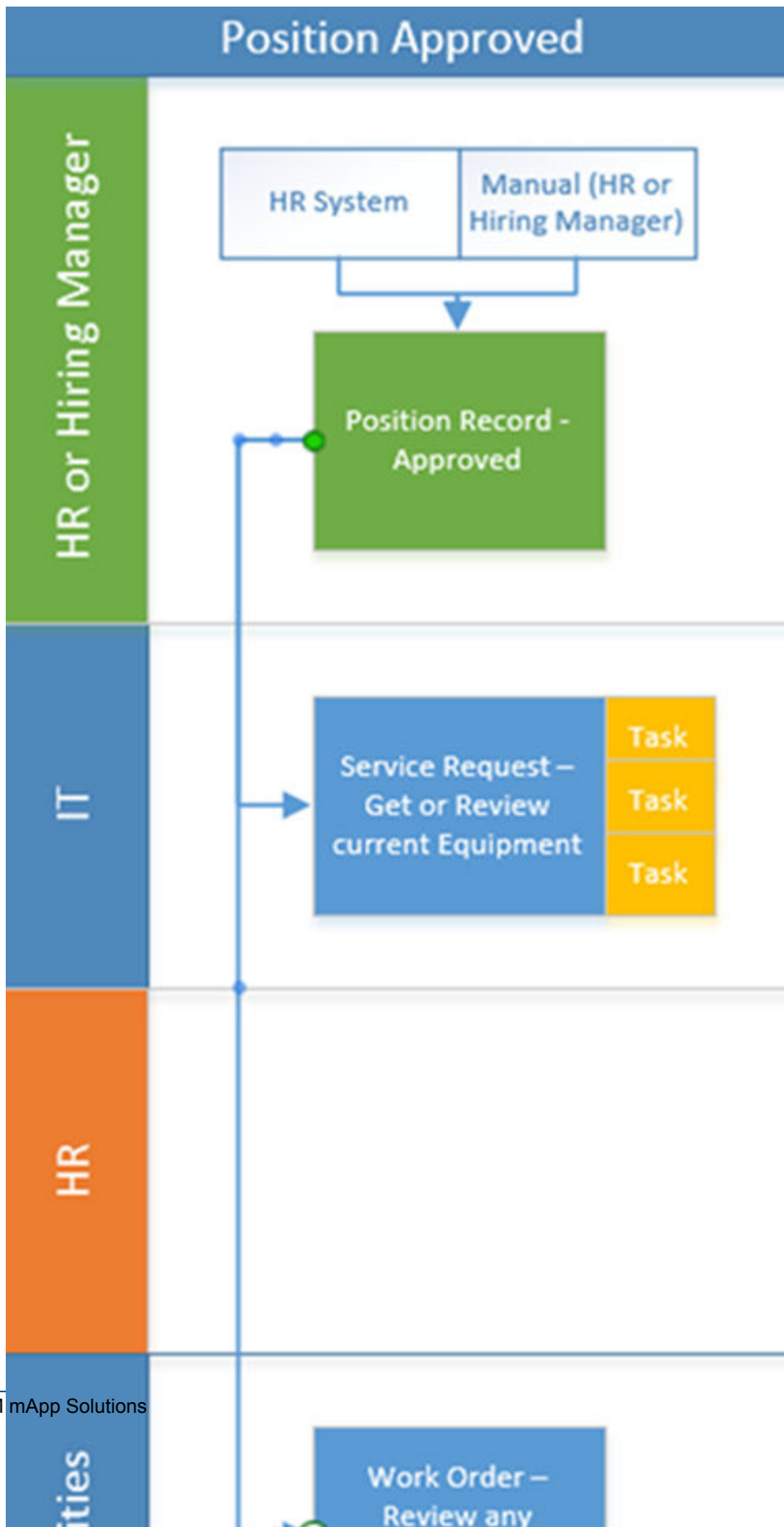
- IT Equipment Request by Service Catalog Template: Initiates the selection and execution of the appropriate equipment SCT (IT Service Request). This One-Step Action also initiates the creation of the Work Order ticket for facilities activities if this option is selected on the mApp Solution installation activities.
- IT Access Request by Service Catalog Template: Initiates the selection and execution of the appropriate access SCT (IT Service Request) plus additional functionality as identified below:
 - HR Position Filled - Existing Employee: Action within the One-Step Action to initiate an additional task in the Service Request with a description that includes a list of the current accesses (Application tab) on the Customer record.
- Initiate IT Offboarding Process (from within an HR Case): Initiates the appropriate SCT and then creates a task for each entry in the Customer record representing accesses and equipment (Application tab and CIs Tab).

HR Position Approved

Two key Status values trigger workflow - Approved and Filled. This example will follow the Position Approved process.

A Service Request is created with associated Tasks based on the disposition of the HR Position (new or existing). Optionally, a Work Order for facilities related activities would be created as well.

When a Position record is created, and given a status of Approved, a Service Request ticket is created to order new equipment or review existing equipment. A One-Step™ Action determines the appropriate Service Catalog Template for the Service Request. If the Facilities mApp Solution is also installed, a Work Order is also created.



HR Position Creation and "Approved" Status

Inbound E-mail Example

Inbound E-mail Example

Format:

#HiringManagerEmail# *Henri.Bryce@RiverTCorp.com* (valid customer record email)

#WorkLocation# *Corporate HQ* (free form)

#Department# *Sales and Marketing* (free form)

#EERole# *Account Manager* (from HR Role list)

#EmployeeOrContractor# *Employee* (or Contractor)

#NewOrExisting# *New* (or Existing)

#FullOrPartTime# *Full Time* (or Part Time)

#Supervisor# *True* (or False)

#JobDetails# *Generate and close sales opportunities for the Mid-Atlantic Region* (free form)

HR Position Record View

E-mail notifications (indicated in the Journals tab) are created and sent to the Hiring Manager and the HR system (if initiated automatically with an integration).

An IT Request is created for a New Position Equipment Request. **Note:** If *Existing* position type had been indicated instead of *New*, an Existing Position Equipment Request is generated, which focuses on review rather than acquisition of equipment. A Work Order is also created if the Facilities mApp has been installed.

The screenshot displays the 'Position 100014' record in a system. The status is 'Approved'. The hiring manager is Henri Bryce. The position details include: Title: Account Manager, Work Location: NYC Times Square office, Department: Sales and Marketing, Job Role: Account Manager, Employee type: Employee, Full/Part Time: Full Time, New/Existing: New, Supervisor: True. The job details are 'Generate and close sales opportunities for the mid-atlantic region.' Below the details, there are two tables. The first table, 'IT Requests', shows a record for 'Service Reque 2nd Level Support' with a description 'New Position Equipment Request for Account Manager'. The second table, 'Work Orders', shows a record for 'Work space configuration for New position Account Manager'.

Type	Owned By Team	Customer Name	Created Date Time	Status	Description
Service Reque 2nd Level Support	100014	Henri Bryce	3/22/2017 10:39 AM	New	New Position Equipment Request for Account Manager --> Location: NYC Times Square office --> Department: Sales and Marketing

Work Order ID	Customer Display Name	Status	Title	Owned By	Owned By Team	Closed Date Time
10013	Henri Bryce	New	Work space configuration for New position Account Manager	Facilities Dispatch		

IT Request is created: New Hire Access Request

Note: If 'Existing Employee' had been indicated instead of 'New Hire' for the candidate type, the Service Request generated would be different (Employee Access Request) and focused on a review as well as new accesses.

HR Case is created: New Hire Case

Note: If 'Existing Employee' has been indicated, the HR Case generated would be different (Employee Transfer Case) and the Checklist applied would be 'Transfer' Checklist instead of an Onboarding Checklist.

Work Order is created: Workplace configuration

The screenshot displays three panels from the CSM mApp interface, illustrating the workflow for a new hire case:

- IT Requests Panel:** Shows two records. The second record, ID 102321, is highlighted with a red box. Its description is "New Hire Access Request for Jeffrey Allen Kingsted-->Expected start date: 4/10/2017-->-->Location: Chicago".
- Work Orders Panel:** Shows one record, ID 1012, highlighted with a red box. Its description is "Workspace configuration for New position Lawyer - New Business Focus (new position)".
- HR Cases Panel:** Shows one record, ID 30, highlighted with a red box. Its description is "New Hire Case for Jeffrey Allen Kingsted".

Red arrows indicate the flow from the IT Request (102321) to the Work Order (1012), and then to the HR Case (30).

Confirmation E-mails

The screenshot displays three email confirmations generated by the system:

- Acknowledgement - New HR Position has been created:** HR Position ID: 100008. Position Title: Account Manager - mApp Documentation Example. Hiring Manager: Henri Bryce. Date and Time Created: 3/7/2017 12:51 PM. (CME: MCID083310). *Response to the sending system*
- New Position Account Manager - mApp Documentation Example has been Approved:** Position 100008. Dear Henri, A new Position record has been created. HR Position ID: 100008. Position Title: Account Manager - mApp Documentation Example. Hiring Manager: Henri Bryce. Date and Time Created: 3/7/2017 12:51 PM. You will receive additional notifications as necessary Service Requests and HR Cases are generated. *To Hiring Manager - notice of approved Position*
- Incident ID 102337 New Position Equipment Request for Account Manager - mApp Documentation Example:** Service Request 102337. Description: New Position Equipment Request for Account Manager - mApp Documentation Example. Location: Corporate HQ. Department: Sales and Marketing. Role: Account Manager. Position Type: Full Time Employee. Customer Name: Henri Bryce. Phone: (719) 386.7000. Email: Henri.Bryce@RiverTCorp.com. Resolution Deadline: 3/9/2017 10:53 AM. We are pleased to inform you that your request has been added to the Chervell system. Your record ID is **102337**. Please retain this number for reference purposes. One of our representatives will contact you before 3/7/2017 4:52 PM. Please do not hesitate to contact the Service Desk if you have any questions, or use our Customer Portal to view more details: [Service Request 102337](#). CSMHRDemo@outlook.com. (CME: MCID083312). *To Hiring Manager - notice of new Equipment Request Service Request*

Service Request Created (New Position)

When a Service Request is created for a New Position, the tasks included depend on whether the position is new or existing. The following information outlines the Service Request and associated Task information.

Categorization: The categorization within Cherwell HR Case Management is unique value set; it will not interfere with an existing implementation, and can be easily modified.

Requestor: Hiring Manager.

The screenshot shows the 'Service Request 102337' form. The status is 'New' with a 'Next: Begin Work' link. The priority is '3'. The requestor is 'Henri Bryce' with email 'Henri.Bryce@RiverTCorp.com' and phone '(719) 386 7000'. The owner is '2nd Level Support'. The SLA is 'Gold' with a 'Respond By' of '3/7/2017 4:52 PM' and a 'Resolve By' of '3/9/2017 10:53 AM'. The form is divided into three steps: Step 1: Record the Details, Step 2: Classify, and Step 3: Fulfill the Service Request. Step 1 includes fields for Short Description, Description, Call Source, and Location. Step 2 includes fields for Service, Category, Subcategory, Priority, Impact, and Urgency. Step 3 includes a button to 'Run' the 'New Manager Position Equipment' template.

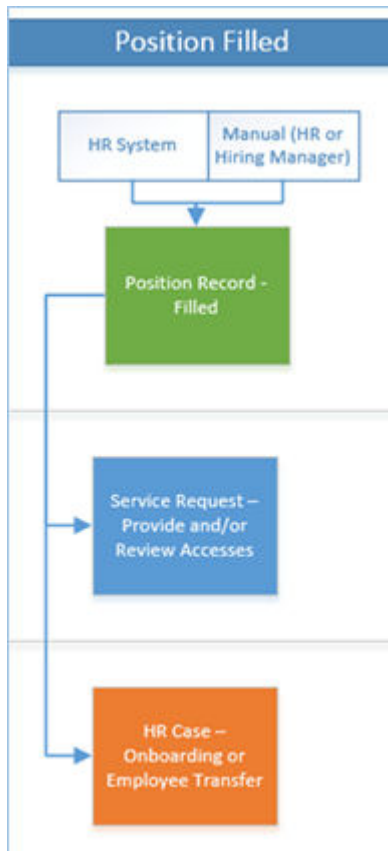
Tasks: Generated by the associated SCT applied by the One-Step Action initiated when the HR Position was approved. Additional Tasks can be easily added (as Work Units) in the SCTs for related activities.

The Service Request (and associated Tasks) is worked through completion as a normal IT request ticket.

The screenshot shows the 'Task 10477' list. The list has columns for Task ID, Title, Owned By, Status, and Description. The tasks are: 10477 - Order a Laptop, 10478 - Employee Space setup (access), and 10479 - Order Mobile Phone. The status for all tasks is 'New'. The description for 10477 is 'Order a new standard laptop', for 10478 is 'Employee Space setup (access)', and for 10479 is 'Order Mobile Phone'. The task is titled 'Task 10477' and has a status of 'New'.

HR Position Filled

A Position can be moved to a 'Filled' Status manually or by an HR system. A Service Request is created with the Tasks for the appropriate system and application access activities. An HR Case for Onboarding or Employee Transfer is also created.



HR Position Updated and "Filled" Status

Inbound E-mail Example

Format:

#FilledBy# New Hire (this would be 'Employee' if it existing employee)

#FullName# Karen Michelle Purnell

#Address1# 33202 Glendale Blvd.

#Address2#

#City# Silver Spring

#State# MD

#ZIP# 20720

#StartDate# 04/16/2017

#GoesBy# KP



#PrimaryPhone# 123-456-7890

#Email# KP@gmail.com

HR Position Record View

The fields are related at this point to the candidate that has been selected to fill the position.

E-mail notifications (indicated in the Journals tab) are created and sent to the Hiring Manager and the inbound e-mail initiating system (or other integration system).

Position 100013	
Status Filled <small>Next Complete</small>	Position Details <small>Last Edited: 3/22/2017 10:10 AM by Cheryl Admin</small>
Hiring Manager:  Tracy E. Aubin Tracy.Aubin@River1Corp.com (719) 386.7000	Title: Lawyer - New Business Focus (new position)
Owned By: <small>Assign To...</small>  - select owner - HR Talent Development	Details: Work with existing team to review NDAs, SOWs, and other sales related material. Negotiate RFP responses, etc.
I Want To: Take Ownership View Detailed Date/Time Information Cancel Position	Employee Details Full Name: <input checked="" type="radio"/> New Hire <input type="radio"/> Existing Employee Jeffrey Allen Kingsted Prefix: <input type="text"/> First Name: <input type="text"/> Middle: <input type="text"/> Last Name: <input type="text"/> Suffix: <input type="text"/> <input type="text"/> Jeffrey <input type="text"/> Allen <input type="text"/> Kingsted <input type="text"/> Address 1: 12232 Elm Street Address 2: <input type="text"/> City: <input type="text"/> Province/State: <input type="text"/> Postal Code/Zip: <input type="text"/> Chicago <input type="text"/> IL <input type="text"/> 23321
	Work Location: Chicago Department: Administration Job Role: Lawyer <input checked="" type="radio"/> Employee <input type="radio"/> Contractor <input checked="" type="radio"/> Full Time <input type="radio"/> Part Time <input checked="" type="radio"/> New <input type="radio"/> Existing <input type="checkbox"/> Supervisor
	Expected Start Date: 4/10/2017 Goes By Name: Jeff Primary Phone: <input type="text"/> Email: jeffkingsted@gmail.com

IT Request is created: New Hire Access Request

Note: If 'Existing Employee' had been indicated instead of 'New Hire' for the candidate type, the Service Request generated would be different (Employee Access Request) and focused on a review as well as new accesses.

HR Case is created: New Hire Case

Note: If 'Existing Employee' has been indicated, the HR Case generated would be different (Employee Transfer Case) and the Checklist applied would be 'Transfer' Checklist instead of an Onboarding Checklist.

Work Order is created: Workplace configuration

The screenshot displays three sequential views in the CSM mApp interface, connected by red arrows indicating a workflow:

- IT Requests View:** Shows a list of service requests. The selected record is:

Type	Owned By Team	ID	Description	Requestor
Service Request 2nd Level Support		102320	New Position Equipment Request for Lawyer - New Business Focus (new position) --> Location: Chicago --> De...	Tracy E.
Service Request 2nd Level Support		102321	New Hire Access Request for Jeffrey Allen Kingsted --> Expected start date: 4/10/2017 --> --> Location: Chicag...	Tracy E.
- Work Orders View:** Shows a single work order record:

Work Order ID	Customer Display Name	Status	Title	Owned By	Owned By Team
1012	Tracy E Aubin	New	Work space configuration for New position Lawyer - New Business Focus (new position)		Facilities Dispatch
- HR Cases View:** Shows a single HR case record:

HR Case ID	Status	Short Description	Requestor	Created Date T...
30	New	New Hire Case for Jeffrey Allen Kingsted	Tracy E Aubin	3/22/2017 10:0...

Confirmation E-mails

Incident ID 102338 New Hire Access Request for Karen Michelle Purnell has been created

Service Request 102338

Description:
New Hire Access Request for Karen Michelle Purnell
Expected start date: 4/16/2017

Location: Corporate HQ
Department: Sales and Marketing
Role: Account Manager
Supervisor?: Supervisor
Position Type: Full Time Employee

Customer Name: Henri Bryce
Phone: (719) 386.7000
Email: Henri.Bryce@RiverTCorp.com

Resolution Deadline: 3/9/2017 1:13 PM

We are pleased to inform you that your request record ID is **102338**. Please retain this number; representatives will contact you before 3/8/2017.

Please do not hesitate to contact the Service Team.

Hiring Manager notification of access Service Request

HR Case 100009 New Hire Case for Karen Michelle Purnell has been created

HR Case 100009

Description:

Customer Name: Henri Bryce
Phone: (719) 386.7000
Email: Henri.Bryce@RiverTCorp.com

Hiring Manager notification of the new HR Case for Onboarding

Position 100008

Dear Henri,

A Position has been filled.

Hiring Manager notification of the Position status set to 'Filled'.

HR Position ID: 100008

Position Title: Account Manager - mApp Documentation Example

Position Filled By: Karen Michelle Purnell

Date and Time Created: 3/7/2017 12:51 PM

You will receive additional notifications as necessary Service Requests and HR Cases are generated.

is been added to the Cherwell system. Your for reference purposes. One of our -07T15:12:39.

ask if you have any questions, or use our

[eries_GoToRecord?&PublicID=](#)

Service Request Created (New Hire)

When a Service Request is created for a New Hire, the tasks included depend on whether the hire is new or existing. This section outlines the Service Request and associated Task information. The tasks included in the Service Request are dependent on if the hired candidate is a new hire or an existing employee. Below is a set of screen shots outlining the Service Request and associated Task information.

Categorization: The categorization within this Cherwell HR Case Management is unique value set; it will not interfere with an existing implementation, and can be easily modified.

Requestor: Hiring Manager

Tasks: Generated by the associated SCT applied by the One-Step Action initiated when the HR Position was approved. Additional Tasks can be easily added (as Work Units) in the SCTs for related activities.

The Service Request (and associated Tasks) is worked through completion as a normal IT request ticket.

Service Request 102338

Status: **New** (Next: Begin Work)

Priority: **3**

Requestor: **Henri Bryce** (Henri.Bryce@hovers.com, 713.386.7000)

Owned By: **- select owner -** (2nd Level Support)

SLA: **Gold** (Customer SLA)
Respond By: 3/8/2017 10:13 AM
Resolve By: 3/9/2017 1:13 PM

I Want To:

Step 1: Record the Details (Last Edited 3/7/2017 3:12 PM by Cherwell Admin)

Short Description: **New Hire Access Request for Karen Michelle Purnell**

Description: **New Hire Access Request for Karen Michelle Purnell**
Expected start date: 4/16/2017
Location: Corporate HQ

Call Source: **Phone**

Step 2: Classify (Clear classifications)

Service: **HR Employee Administration** (View Related KB Articles)

Category: **Employee**

Subcategory: **Onboarding**

Priority: **3** Impact: **Urgency:**

Primary CL: **- select owner -**

The Following Service Catalog Template is Available:
Run Account Manager Access Request

Step 3: Fulfill the Service Request

☐ Confirmed Customer Record Created?

☐ Linked Applications to Customer Record?

Task List:

Task ID	Title	Owned By	Status	Description
10480	Create AD account		New	Create an AD account for the specified user
10481	Create Email Account		New	Create a new email account
10482	Create Employee Badge		New	Schedule employee for photo
10483	Badge Access Configuration		New	Badge Access Configuration
10484	Deliver Badge		New	Deliver permanent badge
10485	SAP Access		New	Grant SAP Access
10486	SAP Security Setup		New	Configure SAP Access to modules and additional...

Task 10480: **Create AD account** (Status: New, Title: Create an AD account for the specified user)

Step 3 functionality is initiated after the tasks are completed. The owner of the Service Request must check the two boxes to Resolve the overall Service Request.

The activities to auto-create a Customer record and link Applications to that record can be automated as part of the modification of the task activities or prompted One-Step Actions. This is not part of Cherwell

HR Case Management because it would need to be designed based on each customer's current CSM implementation.

New Customer Record

This record can be created manually or through automation. The Full Name and SAM Account Name are the critical fields to populate. These will enable the record to be recognized and updated by the AD integration.

Links to Applications and CIs can also be done manually or through automation. These links will be used during the offboarding processes to identify and create tasks for equipment and accesses that need to be review/removed and/or retrieved.

Service Request Created (Existing Employee)

When a Service Request is created for an existing employee, a different set of Tasks and details are generated. Access Tasks are created for general known role-based applications, and a review Task is created with information about existing application accesses for the Employee. A listing of the existing accesses is populated in the Task description field based on the linked access records from the Employee record.

Service Request 102342

Status: **New**
Priority: **3**

Requester: Tracy E. Aubin
Owned By: -select owner-
SLA: Corporate

Step 1: Record the Details
Short Description: Employee Access Request for Klean Gustav
Description: Employee Access Request for Klean Gustav
Expected start date: 4/1/2017
Location: Main Campus
Department: Sales and Marketing

Step 2: Classify
Service: HR Employee Administration
Category: Employee
Subcategory: Account Setup

Employee
Status: **Active**
Breach Incidents: **0**
Open Incidents: **1**

Personnel Identification
Full Name: Klean Gustav
First: Klean, Middle: , Last: Gustav
Employee ID: 000029
Department: Sales & Marketing

Application Name	Owned By Team	Application Type	US	Canada
BizWin	IT Management	3rd Level Support	False	False
Getpaid	3rd Level Support	3rd Level Support	False	False
Hyperson	3rd Level Support	3rd Level Support	False	False

Task List:

- 10498 - Badge Access Configuration
- 10499 - SAP Access
- 10500 - SAP Security Setup
- 10501 - Salesforce Access Setup
- 10502 - Monitor Employee's Internal Applications

Task Description:
Please review the following applications that may be in use by this employee. Create tasks to modify accesses as necessary.
BizWin
Getpaid
Hyperson

HR Case Created (New Hire)

A new HR Case is created. The HR Case functionality is part of Cherwell HR Case Management and detailed documentation is available the provides information on workflow, checklists, fields, Dashboards, etc. The Checklist included in Cherwell HR Case Management are dependent on if the hired candidate is a new hire or an existing employee. Below is a set of screen shots outlining the HR Case and associated information.

Categorization: The categorization within Cherwell HR Case Management is unique value set; it will not interfere with an existing implementation, and can be easily modified.

Requestor: Hiring Manager.

Checklist: Based on the categorization of the ticket.

The screenshot displays the Cherwell HR Case Management interface for a new HR case. The case title is "HR Case 100009" and the status is "New". The priority is set to "3". The requestor is "Karen Michelle Pineda" with the email "New.Hire.Case@River3Case.com" and phone "718.386.7000". The case is owned by "HR Case Management".

The main area shows two steps: "Step 1: Record the Details" and "Step 2: Classify". In Step 2, the category is "Employee Changes" and the subcategory is "Onboard". The priority is "Standard" and the follow-up date is "4/18/2017".

The checklist on the right is titled "New Hire Checklist" and contains 20 items. The items are listed in a table with columns for "Label Only?", "Item Description", "Due Date?", and "Due in # Days".

Label Only?	Item Description	Due Date?	Due in # Days
<input type="checkbox"/>	Onboarded to HRMS	<input type="checkbox"/>	3
<input type="checkbox"/>	Update Sage HRMS Email (remove personal email)	<input type="checkbox"/>	3
<input type="checkbox"/>	TimeStar Setup	<input type="checkbox"/>	3
<input type="checkbox"/>	AMG Setup	<input type="checkbox"/>	3
<input checked="" type="checkbox"/>	New Hire Paperwork Completed in HRMS	<input type="checkbox"/>	3
<input type="checkbox"/>	HR	<input checked="" type="checkbox"/>	3
<input type="checkbox"/>	W-4	<input checked="" type="checkbox"/>	3
<input type="checkbox"/>	Direct Deposit	<input checked="" type="checkbox"/>	3
<input type="checkbox"/>	Employee DC policy	<input type="checkbox"/>	3
<input type="checkbox"/>	LAL4	<input checked="" type="checkbox"/>	3
<input type="checkbox"/>		<input type="checkbox"/>	3
<input type="checkbox"/>		<input type="checkbox"/>	3
<input type="checkbox"/>	Move Employee File to HRMS Folder	<input type="checkbox"/>	3
<input checked="" type="checkbox"/>	Payroll	<input type="checkbox"/>	3
<input type="checkbox"/>	Set Active Payroll Status in HRMS	<input type="checkbox"/>	3
<input type="checkbox"/>	Set Active Status in TimeStar	<input type="checkbox"/>	3
<input checked="" type="checkbox"/>	Manager	<input type="checkbox"/>	3
<input type="checkbox"/>	Create Account in Cyber Recruit	<input type="checkbox"/>	3
<input type="checkbox"/>	Manager Settings in AMG	<input type="checkbox"/>	3
<input type="checkbox"/>	Assign Employees in HRMS	<input type="checkbox"/>	3
<input type="checkbox"/>	Assign Employees in TimeStar	<input type="checkbox"/>	3
<input checked="" type="checkbox"/>	Corporate Only Checklist	<input type="checkbox"/>	3
<input type="checkbox"/>	Operations: Send badge email	<input type="checkbox"/>	3
<input type="checkbox"/>	Corporate: Badge setup	<input checked="" type="checkbox"/>	3

Checklists can be easily modified to have the line items appropriate for customer specific processes. The HR Case is then worked by the HR team through completion.

HR Case Created (Existing Employee)

The HR Case created for an existing employee has a different classification and linked Checklist.

HR Case 100014

Record Classify Investigate Resolve Close

Status: **New** Next: Begin Work

Priority: **3**

Requestor: Tracy E. Aubin
Tracy.Aubin@River1Corp.com
(719) 386.7000

Owned By: **- select owner -**
HR Payroll

Step 1: Record the Details Last Edited 3/8/2017 by

Short Description: Employee Transfer Case for Klein Gusev

Call Source: Phone

Description:

Checklist Transfer Checklist

Checklist Name: Transfer Checklist

Label Only?	Item Description	Due Date?	Due in # Days
<input type="checkbox"/>	Onboarded to HRMS	<input type="checkbox"/>	0
<input type="checkbox"/>	IT Email (email address, email groups, system access, etc.)	<input type="checkbox"/>	0
<input type="checkbox"/>	Update Pay Group & PTO Accrual in TimeStar (as needed)	<input type="checkbox"/>	0
<input type="checkbox"/>	Update AMG	<input type="checkbox"/>	0
<input type="checkbox"/>	Update DENOPT (Diamond H&H/CH) only	<input type="checkbox"/>	0
<input type="checkbox"/>	Update ALROPT (Southlands/H&L, City Place/CP), South Potomac(AS) on	<input type="checkbox"/>	0
<input checked="" type="checkbox"/>	PT ->PT/PT	<input type="checkbox"/>	0
<input type="checkbox"/>	Send Newly Eligible Benefits Email	<input type="checkbox"/>	0
<input type="checkbox"/>	Kick Off 30-Day Ticket	<input type="checkbox"/>	0
<input type="checkbox"/>	Kick Off 30-Day Ticket	<input type="checkbox"/>	0
<input checked="" type="checkbox"/>	PT ->PT/PT	<input type="checkbox"/>	0
<input type="checkbox"/>	Cancel Benefits	<input type="checkbox"/>	0
<input type="checkbox"/>	Calculate Deduction Differences	<input type="checkbox"/>	0
<input type="checkbox"/>	Last Full Time Payroll with PTO Payout	<input type="checkbox"/>	0
<input type="checkbox"/>	Update Pay Group & PTO Accrual in TimeStar	<input type="checkbox"/>	0
<input type="checkbox"/>	Send COBRA	<input type="checkbox"/>	0
<input checked="" type="checkbox"/>	Pay Change	<input type="checkbox"/>	0
<input type="checkbox"/>	Change in LTD Provider System (full time only)	<input type="checkbox"/>	0
<input type="checkbox"/>	Credentiaing Ticket (as needed)	<input type="checkbox"/>	0
<input type="checkbox"/>	TimeStar Update	<input type="checkbox"/>	0

Step 2: Classify

Category: Employee Changes

Subcategory: Employee Transfer

Journals | Tracy's Active Cases | Tracy's Resolved Cases | Incidents | Position **Primary Checklist** | Add

Transfer Checklist

Item Description	Due Date
<input checked="" type="checkbox"/> Done <input checked="" type="checkbox"/> Skip Onboarded to HRMS	
<input checked="" type="checkbox"/> Done <input checked="" type="checkbox"/> Skip IT Email (email address, email groups, system access, etc.)	
<input checked="" type="checkbox"/> Done <input checked="" type="checkbox"/> Skip Update Pay Group & PTO Accrual in TimeStar (as needed)	
<input checked="" type="checkbox"/> Done <input checked="" type="checkbox"/> Skip Update AMG	
<input checked="" type="checkbox"/> Done <input checked="" type="checkbox"/> Skip Update DENOPT (Diamond H&H/CH) only	
<input checked="" type="checkbox"/> Done <input checked="" type="checkbox"/> Skip Update ALROPT (Southlands/H&L, City Place/CP), South Potomac(AS) on	



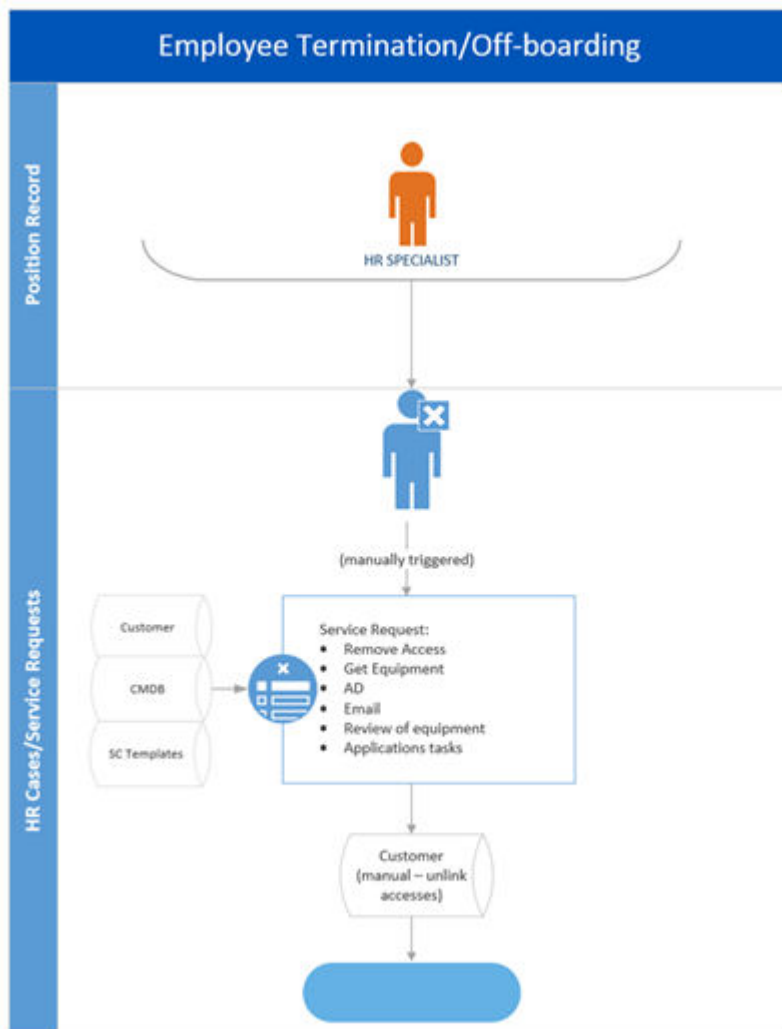
Note: A Work Order tab will be visible if the Facilities Service Management mApp Solution is installed.

Offboarding and Termination

Offboarding and termination processes are generally formally initiated through the HR organization. You could also configure steps to automatically initiate this as appropriate.

HR Case: Opened manually by an HR specialist.

Service Request (Employee Separation Request): Initiated from within the HR Case; this creates access- and equipment-related offboarding tasks.



Service Request (Employee Separation Request)

The Tasks included in the Employee Separation Service Request are based on standard offboarding tasks from a Service Catalog Template (SCT) as well as added tasks representing known equipment and accesses. This section outlines the Service Request and associated Task information.

Categorization: The categorization within Cherwell HR Case Management is unique value set; it will not interfere with an existing implementation, and can be easily modified.

Requestor: Hiring Manager.

Tasks: Generated by the associated SCT, which is applied by selecting the **Initiate IT Off-boarding One-Step™** Action.

The Service Request (and associated Tasks) is worked through completion as a normal IT request ticket.

Service Request 102345

Status: **New** (Next: Begin Work)

Priority: **1**

Requestor: Tracy E Aubin (Tracy.Aubin@RiverITCorp.com, (719) 386.7000)

Owned By: - select owner - (1st Level Support)

SLA: (More Info...)

Step 1: Record the Details

Short Description: Employee Separation Request for Tyrell Zweck

Description: Employee Separation Request for Tyrell Zweck
Employee Separation Date: 3/16/2017

Step 2: Classify

Service: HR Employee Administration (View Related KB Articles)

Category: Employee

Subcategory: Off Boarding

Tasks (8 Open)

Task ID	Title	Owned By	Status	Description
10507	Disable AD Account		New	Disable AD account
10508	Disable corporate email		New	Disable corporate email access
10509	Check in Workstation tyrell-desk for Ty...		New	Check in Workstation tyrell-desk for Tyrell
10510	Check in Cell Phone Tyrell's phone for...		New	Check in Cell Phone Tyrell's phone for Tyrell
10511	Disable Apex access for Tyrell Zweck		New	Disable Apex access for Tyrell Zweck
10512	Disable CSS access for Tyrell Zweck		New	Disable CSS access for Tyrell Zweck
10513	Disable Ariba access for Tyrell Zweck		New	Disable Ariba access for Tyrell Zweck
10514	Disable Bid2Win access for Tyrell Zweck		New	Disable Bid2Win access for Tyrell Zweck

Employee

Status: **Active** (Next: Terminated)

Breached Incidents: **0**

Personnel Identification

Full Name: Tyrell Zweck

Pre: () First: Tyrell Middle: ()

Employee ID: 000045

Application Name: Apex, Ariba, Bid2Win, CSS

Owned By Team: 2nd Level Support, HR Benefits, IT Management, HR

Application Type: Enterprise

IT Training mApp Solution 1.0

The IT Training mApp® Solution provides functionality that allows you to manage Training Course opportunities for customers.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 5.0.0.

Out-of-the-Box Content Version Requirements: Tested on CSM 5.x and 6.x. Not compatible with Content versions from CSM 9.3.x or later.

Prerequisite Requirements: None

Overview

Using the mApp Solution, Users (typically, IT Training Managers) define and manage Training Courses in the CSM Desktop Client, and then Customers view and interact with Training Tasks in the Customer Portal. The mApp Solution includes three types of courses, including:

- **Initial Training Course:** Training Course that occurs once and provides new employees with the knowledge and skills necessary to become effective members of an organization (example: IT Security Overview). This type of course is assigned to individual Users.
- **One-Time Training Course:** Training Course that occurs once and does not require subsequent related courses (example: ITIL Foundation Training). This type of course is assigned to individual Users or entire Departments.
- **Recurring Training Course:** Training Course that occurs multiple times based on a defined schedule and requires subsequent related courses (example: Data Center Procedures). This type of course is assigned to individual Users or entire Departments.

The screenshot displays the 'Course IT01' management interface. On the left, a sidebar shows the course's status as 'Initial' and 'Active', along with ownership by Gina Mehra. The main area is titled 'Course Details' and contains various fields for course configuration. The 'Title' is 'IT Security Overview', 'Course Number' is 'IT01', and 'Category' is 'IT'. The 'Type' is set to 'Initial' and 'Frequency' is 'Initial'. The 'Start Date' is '3/25/2015 8:00 AM' and the 'End Date' is also '3/25/2015 8:00 AM'. The 'Initial Training Period' is '14 days from hire/transfer date'. The 'Initial Notification' is '0 days before the due date' and the 'Reminder e-mail' is '5 days after the due date (if Training is incomplete)'. The 'Training Location' is 'Gina Mehra's Office'. The 'Description' states: 'The IT Security Overview provides new employees with an overview of IT security practices, which includes information regarding the employee's ID card, system PIN, network access, and safe e-mail practices.' The 'Instructions' field is empty. At the bottom right, there are buttons for 'Assign to Department' and 'Assign to Individual'.

Course IT01	
Type	Initial
Status	Active Next: Retire Course
Owned By:	Assign To...
Gina Mehra IT Management 833-898-7381 gina.mehra@RiverITCorp.com	
I Want To: Take Ownership View Detailed Date/Time Information Place On Hold Clone Course	

Course Details		Last Edited 3/12/2015 11:19 AM by Clair Wu
Title:	IT Security Overview	
Course Number:	IT01	Category: IT
Reference (if applicable):		
Type:	Initial	Frequency: Initial
Start Date:		End Date: 3/25/2015 8:00 AM
Initial Training Period:	14 days from hire/transfer date	
Initial Notification:	0 days before the due date	
Reminder e-mail:	5 days after the due date (if Training is incomplete)	
Training Location:	Gina Mehra's Office	
Description:	The IT Security Overview provides new employees with an overview of IT security practices, which includes information regarding the employee's ID card, system PIN, network access, and safe e-mail practices.	
Instructions:		
Assign to Department		Assign to Individual

The mApp Solution includes features such as new [Business Objects](#) (example: Training Courses and Training Tasks), [Automation Processes](#) (example: Send notification e-mails), and a [Dashboard](#) (example: View real-time training data).

How the mApp Solution Works

CSM provides IT Training as a mApp Solution so that Users can easily incorporate IT Training management functionality into their existing CSM system. Download the mApp Solution from the Cherwell [mApp Exchange](#). Use the [Apply mApp wizard](#) to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes a separate .csv file called *Sample Courses* that includes fourteen defined example Training Course records. It can be imported after the mApp Solution is applied by [running a one-time data import](#).

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	Customer Training, Training Course, Training Course Departments, Training Course Frequency, Training Course Status, Training Task, Training Task On Hold Reason, Training Task Status	Import
	Customer, Customer - Internal	Don't Change
One-Step Action	Numerous	Import
Automation Process	Auto Retire Course, Cancel Training Tasks, Create Training Task, Send Cancelled Email, Send Employee Training Reminder, Send Hold Review Email, Send On-Hold Email	Import
Counter	Training Task ID	Import
Custom View	Customer - Internal	Don't Change
	Customer Training, Training Course, Training Task, Training Task On Hold Reason, Training Task Status	Import
Dashboard	Portal Default	Don't Change
	Training Status	Import
Metric	Active Courses, Cancelled By Admin, Cancelled Customer Training, Employees Enrolled, My Current Training, On-Hold Courses, Training Tasks Cancelled, Training Tasks Complete, Training Tasks in Progress, Training Tasks not Acknowledged, Training Tasks On Hold, Training Tasks Past Due	Import
Expression	Numerous	Import

Stored Query	Active Courses, Active Courses by Department, Cancelled Customer Training, Inactive Courses, Inactive Courses, Initial Courses, My Active Courses, My Current Training Tasks, One-Time Courses, Recurring Courses, Training Tasks with Comments	Import
Widgets	Numerous	Import
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related Reading

• About Business Objects	• About Dashboards
• About Customer Portals	• About Widgets
• About Automation Processes	• About mApp Solutions

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

After applying the mApp Solution, perform the following high-level steps to configure the mApp Solution:

1. [Add Training Widgets to the Default Portal Dashboard](#).

How to Use the mApp Solution in the CSM Desktop Client

- [Create an IT Training record.](#)

How to Use the mApp Solution in the Customer Portal

- [Track and complete an IT Training Task.](#)

Configuring the IT Training mApp Solution

Complete the following procedure to configure the IT Training mApp Solution. The configuration procedure is completed in CSM Administrator.

Add Training Widgets to the Default Portal Dashboard

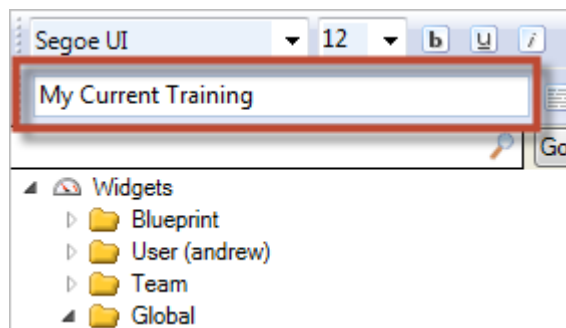
Use the Default Portal [Dashboard Editor](#) to add Widgets to the Dashboard.



Note: This functionality is only available if you have applied the [IT Training mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To add Widgets to the Dashboard:

1. Open the Portal Default Dashboard in the Dashboard Editor.
2. Add a My Current Training [Text Widget](#) to the Dashboard (under the My Items section):
 - a. From the Shapes, etc. Widget tree, click-and-drag a **Text Widget** to the Dashboard (under the My Items section).
 - b. In the Label Text field on the [Dashboard Editor toolbar](#), type **My Current Training**.



The text displays on the Dashboard.

Tip: Use the Dashboard Editor to define how the Text Widget looks and behaves on the Dashboard (example: Text properties (font, font size, font style, text wrap), size, color (background, foreground, and border), background style and gloss, alignment, anchoring, layering, and visibility).

3. Add the My Current Training Widget to the Dashboard:



Note: My Current Training is a Gauge Widget that allows Customers to access their Training Tasks via the Customer Portal.

- a. From the Training Widget tree, click-and-drag the **My Current Training Widget** onto the Dashboard (to the right of the Training Courses Assigned to Me Text Widget).

The Widget displays on the Dashboard.

<u>My Items</u>	
Open Service Requests	659
Open Incidents	659
Active Discussions	659
Devices Assigned to Me	659
My Current Training	66

Tip: Use the Dashboard Editor to define how the Text Widget looks and behaves on the Dashboard (example: Text properties (font, font size, font style, text wrap), size, color (background, foreground, and border), background style and gloss, alignment, anchoring, layering, and visibility).

4. Select **OK**.

Using the IT Training mApp Solution

When working with the IT Training mApp Solution, Users can:

Create an IT Training Record

Use the Course Form in the [CSM Desktop Client](#) to create an IT Training record.



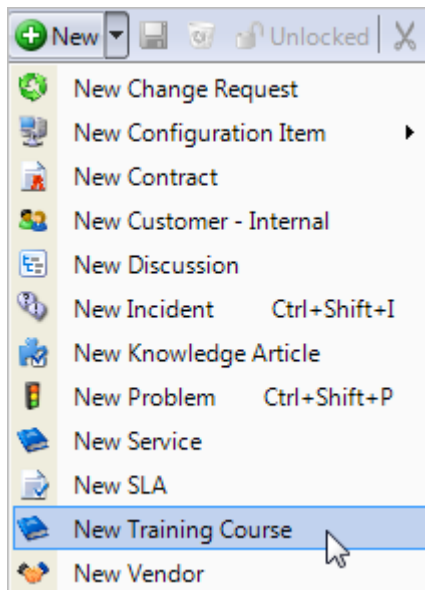
Note: This functionality is only available if you have applied the [IT Training mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To create an IT Training record:

Good to know:

- When a value is provided in the Category field and the record is saved, the new category is saved as an option in the drop-down for future Course records.
- Frequency and Type fields are populated based on Lookup Table values in Table Management. Add, edit, or delete field values by selecting the field, and then pressing **F3**.
- The Frequency field is only required for Recurring Courses.
- The Start Date field is only required for One-Time and Recurring Courses. The start date for Initial Courses is automatically recorded on the day that the Course is created.
- The Initial Training Period field is only required for Initial Courses, and calculates a deadline for the Course (number of days after the Course record is created in which the User must complete the Course).
- Assign Courses using:
 - Course record: In the Main Pane, click the Assign to Department button or the Assign to Individual button.
 - Customer record: In the Form Arrangement, click the Training Course tab, and then click the New Customer Training button.
- You can assign a One-Time or Recurring Course to either an individual User or an entire Department. You can assign an Initial Course only to an individual User.
- Use the I Want To section of the Quick Info Tile to:
 - Take Ownership: Click the link to make yourself the User owner.
 - View Detailed Date/Time Information: Click the link to open the Information window, where you can view current status, created date and time, creator name, and last edited date and time. Time Date/time format is MM/DD/YYYY HH:MM.
 - Place Course on Hold: Click the link to change the Courses status to On Hold.
 - Clone Course: Click the link to create a new Course record that includes field values from the original Course.
 - Retire a Course by clicking the Retire Course link in the Status bar when the Course has a status of Active.
- View real-time training data using the Training Status Dashboard (Dashboards>Dashboard Manager>Global folder>Dashboards>Training Dashboard>Training Status).

1. On the CSM Desktop Client toolbar, click **New>New Training Course**.



A new Course record is created with a status of New.

2. Record the Course details:

Course

Type

Status **New**
Next: Activate Course

Owned By: **Gina Mehra**
IT Management
833-898-7381
gina.mehra@RiverITCorp.com

I Want To:
[Take Ownership](#)
[View Detailed Date/Time Information](#)

Course Details Last Edited by:

Title:

Course Number: Category:

Reference (if applicable):

Training Location:

Description:

Instructions:



Type: Frequency:

Start Date: End Date:

Initial Training Period: days from hire/transfer date

Initial Notification: days before the due date

Reminder e-mail: days after the due date (if Training is incomplete)

- Title: Provide a **title** for the Course (example: IT Security Overview).
 - Course Number: Provide **letters and/or numbers** that uniquely identify the Course (example: IT01).
 - Category: Provide a **category** for the Course (example: IT).
 - Reference (if applicable): Provide a **reference** for the Course, such as a specific government regulation or company policy.
 - Type: From the drop-down, select the **type** of Course (example: Initial).
 - Frequency: From the drop-down, select the **frequency** of the Course.
 - Start Date: Click the **Date Selector** button  to select the day in which the Course begins.
 - End Date: Click the **Date Selector** button  to select the day in which the Course ends (example: 3/25/2015 8:00 AM).
- Note:** The Course status automatically changes to Retired when the Course reaches the defined End Date.
- Initial Training Period: [number] days from hire/transfer date: Specify the **number of days** from the start date that the Customer must complete the Course (example: 14).
 - Initial Notification: [number] days before the due date: Specify the **number of days** before the start date that the initial e-mail is sent.

- k. Reminder E-mail: [number] days after the due date (if Training is incomplete): Specify the **number of days** after the due that that a reminder e-mail is sent (example: 5).
 - l. Training Location: Provide a **location** for the Course (example: Gina Mehra's Office).
 - m. Description: Provide a **description** for the Course (example: The IT Security Overview provides new employees with an overview of IT security practices, which includes information regarding the employee's ID card, system PIN, network access, and safe e-mail practices).
 - n. Instructions: Provide **instructions** for the Customer, which will display in the initial e-mail.
3. Activate the Course:
- a. In the Status bar, click the **Activate** link.

Course IT01	
Type	Initial
Status	New
	Next: Activate Course
Owned By:	Assign To...
	Gina Mehra <u>IT Management</u> 833-898-7381 gina.mehra@RiverTCorp.com

The Course is active.

4. Assign the Course to either a User or entire Department:



Note: Assignment options vary based on the type of course. One-Time and Recurring Courses can be assigned to either an individual User or an entire Department. Initial Courses can be assigned only to an individual User.

The screenshot shows a web form for training management. It has three main sections: 'Training Location' with a text input field containing 'Gina Mehra's Office'; 'Description' with a text area containing 'The IT Security Overview provides new employees with an overview of IT security practices, which includes information regarding the employee's ID card, system PIN, network access, and safe e-mail practices'; and 'Instructions' with a larger text area. To the right of the Description and Instructions fields are icons for adding attachments. At the bottom, there are two buttons: 'Assign to Department' and 'Assign to Individual', which are highlighted with a red rectangular border.

a. Assign to Department:

- i. Click the **Assign to Department** button.

A prompt opens.

- ii. From the drop-down, select a **Department**.

- iii. Select **OK**.

A Training Course record displays in the Form Arrangement for each User in the Department, a notification e-mail is sent to Users in the Department and their manager, and a Training Task is created in the Customer Portal for each User in the Department.

b. Assign to Individual:

- i. Click the **Assign to Individual** button.

A prompt opens.

- ii. Click the **Ellipses** button  to open the Customer Selector.

The Customer Selector opens.

- iii. Select a **Customer** (example: Josh Wilson).

iv. Select **OK**.

A Training Course record displays in the Form Arrangement, a notification e-mail is sent to the User and his manager, and a Training Task is created in the Customer Portal for the User.

Track and Complete an IT Training Task

Use the CSM Portal to track and complete an IT Training Task.



Note: This functionality is only available if you have applied the [IT Training](#) . For more information, see the [mApp Solution Tech Notes](#) documentation.

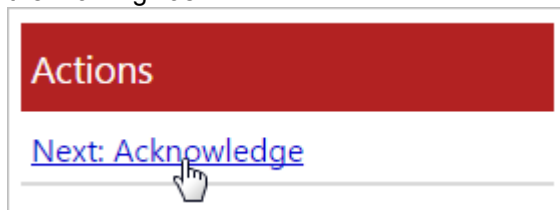
To track and complete an IT Training Task:

1. [Log into the Customer Portal](#).
2. In the **My Items** section, select the **My Current Training** link.

<u>My Items</u>	
Open Service Requests	1
Open Incidents	1
Active Discussions	1
Devices Assigned to Me	1
My Current Training	1

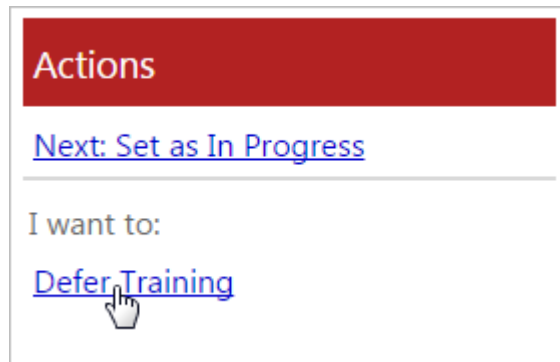
The **My Current Training** page opens.

3. Select the **Training Task** link.
The Training Task opens.
4. From the Portal Task toolbar, select the **Edit** button.
5. In the **Actions** section, select the **Next: Acknowledge** link to acknowledge that you are aware of the Training Task.



The status changes to Acknowledged.

6. (Optional) Defer the Training Task:
 - a. In the **I Want To** section of the **Actions** section, select the **Defer Training** link.



A prompt opens.

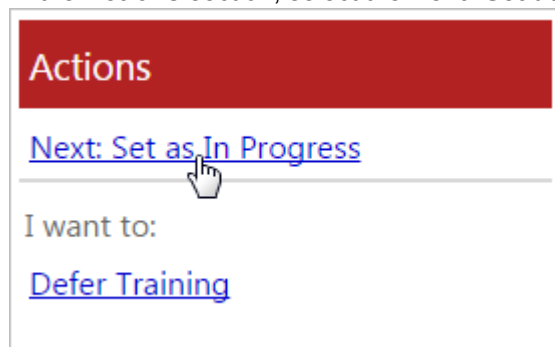
- b. From the **Reason for Deferring Training** drop-down list, select a **reason**.
- c. Select **OK**.



Note: The Customer's manager receives a notification email and the Training Course enters a status of On Hold. Reactivate the Training Course by selecting the **Next: Remove Hold Status** link in the **Actions** section.

7. Complete the Training Task:

- a. In the **Actions** section, select the **Next: Set as In Progress** link.

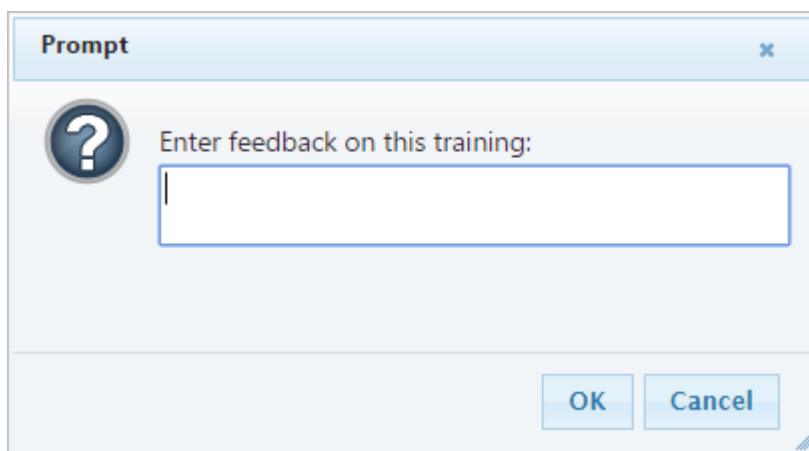


The status changes to In Progress.

- b. When the Training Task is complete, select the **Next: Certify Complete** link in the **Actions** section.



A prompt opens.



The image shows a 'Prompt' dialog box. It has a title bar with the word 'Prompt' and a close button (X). Inside the dialog, there is a circular icon with a question mark. To the right of the icon, the text 'Enter feedback on this training:' is displayed above a text input field. At the bottom right of the dialog, there are two buttons: 'OK' and 'Cancel'.

- c. Provide **feedback** about the Course.
 - d. Select **OK**. The Training Task status changes to Complete.
8. Log out of the CSM Portal.

JIRA mApp Solution 2.0

The JIRA mApp® Solution provides functionality that allows for JIRA bug tracking, issue tracking, and project management functions in CSM.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 9.6.x and 9.7.0

Out-of-the-Box Content Version Requirements: Tested on CSM 9.6.1 and 9.7.0. This mApp Solution may not be compatible on Content versions earlier than 9.6.1, but as with all mApp Solutions, it should be tested on your customized system.

Prerequisites: None

This mApp Solution is only available in English.

Overview

CSM integrates with JIRA so that Incidents and Problems logged in CSM can be tracked in JIRA as the applicable issue type and status changes in CSM are recorded in the corresponding JIRA Issue. This mApp Solution includes functionality to post to JIRA, add comments to JIRA, and update JIRA statuses via REST Web Service calls. The responses are updated in the CSM Object as applicable and are logged in the Journal - Integrations Audit log.

P3 SERVICE REQUEST 102241
Desktop Management > Misc. Software > Request Installation/Config

Created by Henri Bryce on 7/2/2019 at 9:50 AM
Last modified by Henri Bryce on 8/26/2019 at 1:30 PM

STATUS	RESPONSE BREACHED	RESOLUTION BREACHED	CUSTOMER	ASSIGNED TO
In Progress	(7/2/2019 9:50 AM)	(7/16/2019 9:50 AM)	Sucre Scapoli Sucres.Scapoli@RiverTCorp.com	Henri Bryce 1st Level Support

Next: Resolve

Overview Activity Journals Tasks (0) Similar Incidents (3) Related CIs (1)

Call Source

Phone

Customer *

Sucre Scapoli

Description *

Would like Adobe Illustrator

Service Classification *

Request Installation/Config

Desktop Management > Misc. Software > Request Installation/Config

Priority * Impact Urgency

3 = Whenever Possible + Standard

Primary Configuration Item

sucres-desk

Assigned Team

1st Level Support

Additional Questions

No additional information for this request.

Actions

[Assign to Me](#)

[Escalate to Level 3](#)

[Link to Existing Major Incident](#)

[Submit to Knowledge Base](#)

[Change to Major Incident](#)

[Create a Problem](#)

[Create Change Request](#)

[View Impacted CIs](#)

[Select Available SCT](#)

[Track Time](#)

[Set to Pending](#)

JIRA Issue

[JT-19](#)

JIRA Status

[To Do](#)

Post to JIRA

Post Comment to JIRA

Post Admin Comment to JIRA

Refresh JIRA Status

Change JIRA Status

Relating Issues in JIRA

As with CSM, Issues in JIRA can be related to other Issues. When an Incident that has a JIRA Issue Key is linked to a Major Incident or Problem that also has a JIRA Issue Key, the relationship is automatically updated on JIRA by means of an Automation Process.

Updating Statuses within JIRA

Entering status details from JIRA Project Workflows into the JIRA Status Table enables the ability to transition your JIRA Issue Statuses from within corresponding Incident and Problem records.

How the mApp Solution Works

CSM provides the JIRA V2.0 mApp Solution so Users can exchange data between JIRA and CSM using a web service. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or live system to commit the changes.

For a list of items included in the mApp Solution, see [JIRA mApp Solution Items](#).

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

After applying the mApp Solution, perform the following high-level steps to configure the mApp Solution:

1. [Configuring the JIRA mApp Solution](#).
2. [Finding JIRA Statuses and Transition Numbers](#).
3. [Define JIRA Options in CSM](#).

Using the JIRA mApp Solution

To use the mApp Solution, see: [Using the JIRA mApp Solution](#).

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.5	8.2.1	8.0.0	None
2.0	9.6.x and 9.7.0	9.6.x and 9.7.0	None

Related concepts

[About mApp Solutions](#)

[Go to the Cherwell Marketplace \(formerly the mApp Exchange\)](#)

[Apply a mApp Solution](#)

JIRA mApp Solution Items

Use the mApp Solution Items table to determine which choices to make when applying the mApp Solution.

The JIRA mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Automation process definition	JIRA Add Linked Incident	Import
Automation process definition	JIRA Link Major Incident	Import
Automation process definition	JIRA Link Problem	Import
Automation process definition	JIRA Update Problem Workaround	Import
Automation process definition	JIRA Update Problem Status	Import
Automation process definition	JIRA Update Status	Import
Business Object	JIRA Issue Type	Import
Business Object	JIRA Project	Import
Business Object	JIRA Status	Import
Business Object	Journal - Integrations Audit	Import
Business Object	Incident	Merge
Business Object	Problem	Merge
Grid	JiraIssueType	Import
Grid	JiraProject	Import
Grid	JIRAStatus	Import
Grid	JournalServices	Import
Grid	Incident	Overwrite
Grid	Problem	Overwrite
Image definition	Jira 64x64	Import
Mergeable Area	Incident Actions	Overwrite
Mergeable Area	Problem Actions	Overwrite
One-Step	Add Related Incident (Problem)	Import
One-Step	Add Related Incident (Incident)	Import
One-Step	Add Status Comment	Import
One-Step	Add Workaround as Comment	Import
One-Step	Change JIRA Status (Problem)	Import
One-Step	Change JIRA Status (Incident)	Import

Item Category	Item	Typical Merge Action
One-Step	Get JIRA Status (Problem)	Import
One-Step	Get JIRA Status (Incident)	Import
One-Step	Link Related Incidents	Import
One-Step	Link to Major Incident	Import
One-Step	Link to Problem	Import
One-Step	Open Incident in JIRA	Import
One-Step	Open Problem in JIRA	Import
One-Step	Post Admin Note to Jira	Import
One-Step	Post Admin Note to JIRA	Import
One-Step	Post Comment (Problem)	Import
One-Step	Post Comment (Incident)	Import
One-Step	Post to Jira	Import
One-Step	Post to JIRA	Import
One-Step	Set JIRA Server	Import
One-Step	Update Status	Import
Relationship	Incident Links Default JIRA Issue Type	Import
Relationship	Incident Links Specific JIRA Issue Type	Import
Relationship	Problem Links Default JIRA Issue Type	Import
Relationship	Problem Links Specific JIRA Issue Type	Import
Search	JIRA Closed Incidents	Import
Search	JIRA Closed Problems	Import
Search	JIRA Closed Service Requests	Import
Search	JIRA Open Incidents	Import
Search	JIRA Open Problems	Import
Search	JIRA Open Service Requests	Import
Stored expression	400	Import
Stored expression	401	Import
Stored expression	403	Import
Stored expression	404	Import

Item Category	Item	Typical Merge Action
Stored expression	405	Import
Stored expression	500	Import
Stored expression	503	Import
Stored expression	ErrorCode	Import
Stored expression	JIRA Issue Key Visibility	Import
Stored expression	JIRA Issue Type	Import
Stored expression	JIRA Issue URL (Problem)	Import
Stored expression	JIRA Issue URL (Incident)	Import
Stored expression	JIRA Key Visibility	Import
Stored expression	JIRA Type	Import
Stored expression	json	Import
Stored value	JIRA Integration Version	Import
Stored value	JIRA URL	Import
Stored value	JIRA Web Service	Import
Theme	Prussian Blue	Don't Change
Web service	JIRA	Import

- Import: Add new item.
- Overwrite: Replace target item.
- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

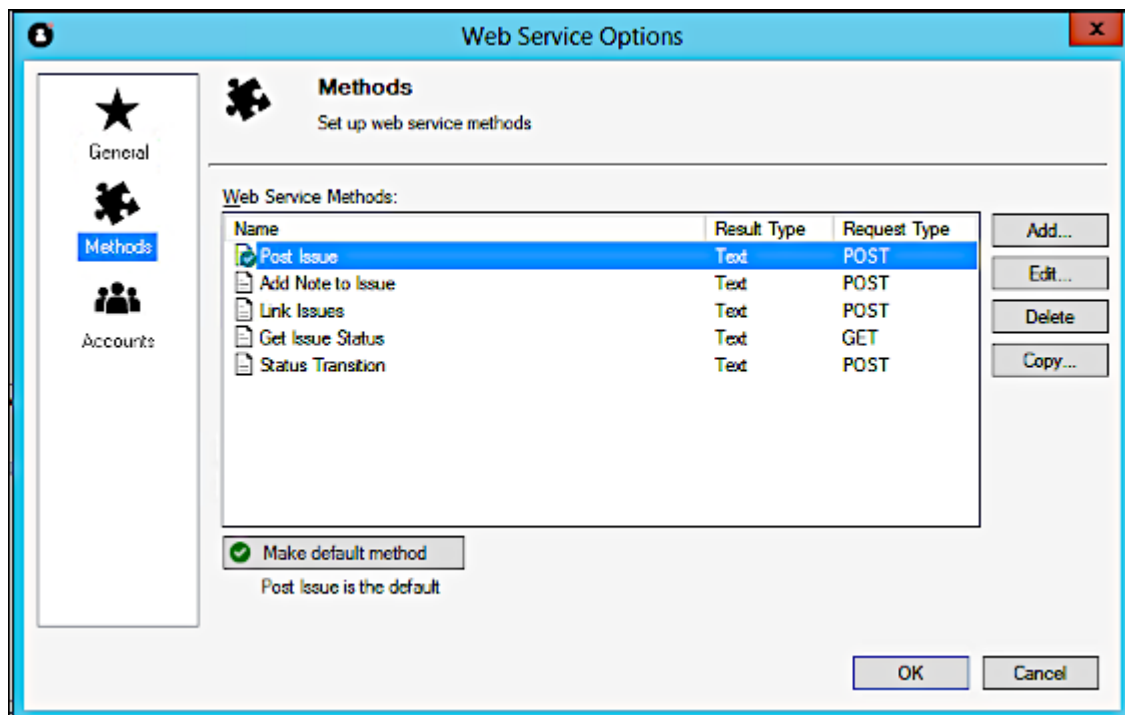
Configuring the JIRA mApp Solution

Configure the JIRA V2.0 mApp Solution using the CSM Desktop Client, CSM Administrator, and JIRA.

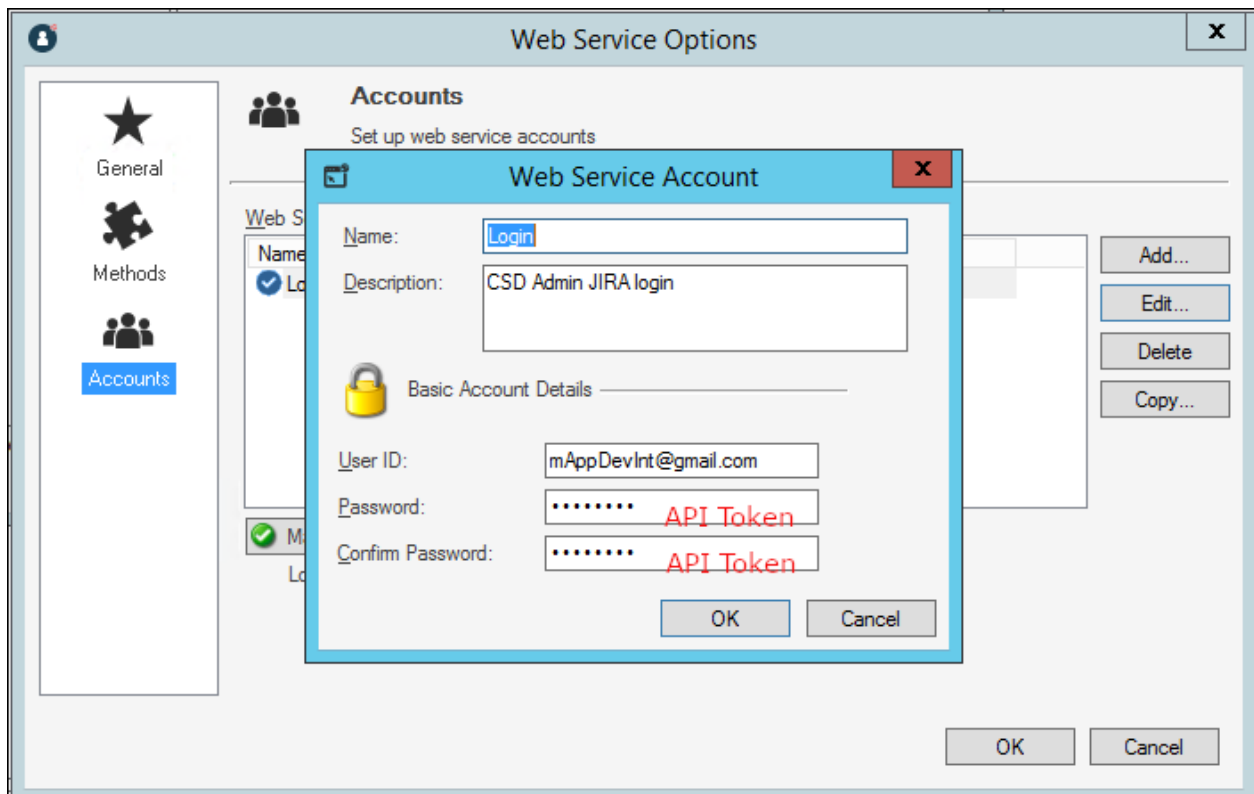
To configure the web service:

1. In the CSM Administrator, select **Browser and Mobile Settings** from **Categories** and then select **Web Service Manager**.
2. Right click on the **JIRA** Service and select **Edit**.
3. Select the **General** page and enter your JIRA URL.
4. Select the **Methods** page.

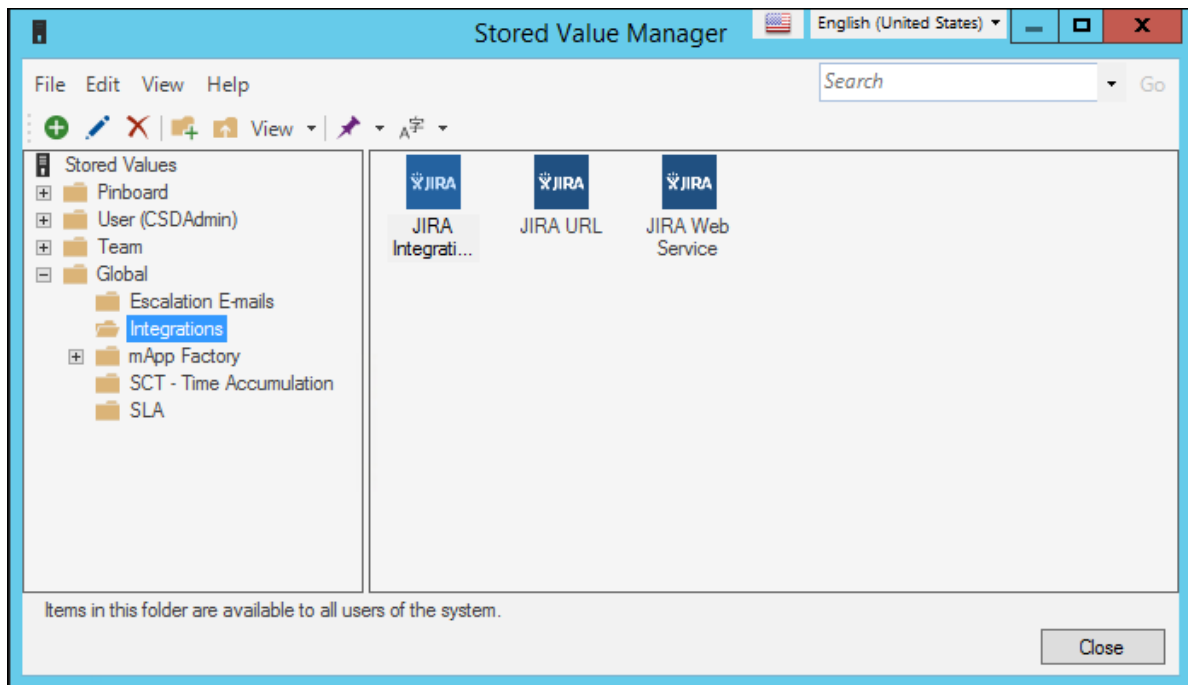
Methods should show for Post Issue, Add Note to Issue, Link Issues, Status Transition, and Get Issue Status. Additional methods can be added as required. For additional information, see the JIRA online API: <https://developer.atlassian.com/jiradev/jira-apis>.



5. Select the **Accounts** page and select **Login** and then **Edit**.
6. Enter a **User Name** for your JIRA account. Ensure the user account has the Administrator role at the Project level.
7. In the Password field, do NOT enter the password but enter the API token instead. See: <https://id.atlassian.com/manage/api-tokens>.

**To configure Stored Values:**

1. In the CSM Administrator, select **Settings** from **Categories** and then select **Open Stored Values Manager**.
2. Go to **Global > Integrations** in the left-hand pane.



3. To view the Stored Value properties, select the Stored Value and select **Edit**.
4. Do not edit the **JIRA Integration Version**.
5. Ensure that the **JIRA URL** matches the URL of the Web Service Object.
6. Ensure that the **JIRA Web Service** matches the name of the Web Service Object.

To enable Automation Processes:


1. In the CSM Administrator, select **Automation Processes**.
2. Select **Individual Automation Process Status**.
3. Enable all six of the JIRA Automation Processes.
 - a. JIRA Add Linked Incident
 - b. JIRA Link Major Incident
 - c. JIRA Link Problem
 - d. JIRA Update Problem Workaround
 - e. JIRA Update Problem Status
 - f. JIRA Update Status

To configure the Incident and Problem Forms:

1. In the CSM Administrator, open a Blueprint, then select **Edit Form....**
2. In the **Form** drop-down list (top left-hand side), select **Incident Issue JIRA Key**.

These forms have a range of optional Elements that you may or may not wish to use. There is a description of the function and visibility rules next to each Element.

Optional Form Elements



Copy and paste form elements to your Incident Overview form and position/style as appropriate.

<p>JIRA Issue</p> <p><u>Value</u></p>	<p>The JIRA issue link and label are only visible if there is a corresponding JIRA issue. Clicking on the JIRA issue link will open the issue in JIRA.</p>
<p>JIRA Status</p> <p><u>Value</u></p>	<p>The JIRA status link and label are only visible if there is a JIRA Status in the system for the corresponding JIRA issue. Clicking on the JIRA status link will refresh the JIRA status.</p>

JIRA Text Links

JIRA text links are always visible but selectively disabled or enabled based on existence of a JIRA issue key. Recommend placement under "Actions" on the Incident overview form.

- [Post to JIRA](#)
- [Add JIRA Comment](#)
- [Add Admin JIRA Comment](#)
- [Get JIRA Status](#)
- [Change JIRA Status](#)

JIRA Buttons

The JIRA buttons below are the same as the text links above, you may wish to use buttons instead of text links. The buttons have the same functions and visibility rules as the text links.

Post to JIRA	Posting to JIRA creates a new issue within JIRA. The type of issue created is specified in the JIRA Issue Type table for the object you are currently viewing.
Post Comment to JIRA	Posting a comment to JIRA will create a new comment that can be viewed by anyone within the system.
Post Admin Comment to JIRA	Posting an Admin comment to JIRA will create a new comment that only users with Administrative access in JIRA can view.
Get JIRA Status	Get/Refresh JIRA status will update to show the status assigned to the issue within JIRA.
Change JIRA Status	Change the status of the issue in JIRA. To use this feature the JIRA Status Table must include Statuses and Transition IDs for each status within your project workflows specific to your JIRA instance.

3. Select the Elements that you want to add to your Overview Form.
4. Copy the Elements.
5. In the **Form** drop-down list, select **Incident Overview**.
6. Select **Yes** when prompted to apply Incident Form changes back to the Blueprint.

7. Paste the JIRA Elements on to the Form.
8. Move your Elements to the desired location on the Overview Form. There are examples shown below of the JIRA Elements in use on both Incident and Problem Forms to give you some ideas for placement.

P3 SERVICE REQUEST 102241
Desktop Management > Misc. Software > Request Installation/Config

Created by Henri Bryce on 7/2/2019 at 9:50 AM
Last modified by Henri Bryce on 8/26/2019 at 1:30 PM

STATUS	RESPONSE BREACHED	RESOLUTION BREACHED	CUSTOMER	ASSIGNED TO
In Progress	(7/2/2019 9:50 AM)	(7/16/2019 9:50 AM)	Sucre Scapoli	Henri Bryce
Next: Resolve			Sucre.Scapoli@RiverTCorp.com	1st Level Support

Overview | Activity | Journals | Tasks (0) | Similar Incidents (3) | Related CIs (1)

Call Source

Phone

Customer *

Sucre Scapoli

Description *

Would like Adobe Illustrator

Service Classification *

Request Installation/Config

Desktop Management > Misc. Software > Request Installation/Config

Priority *

Impact: Whenever Possible + Urgency: Standard

Primary Configuration Item

sucre-desk

Assigned Team

1st Level Support

Additional Questions

No additional information for this request.

Actions

[Assign to Me](#)

[Escalate to Level 3](#)

[Link to Existing Major Incident](#)

[Submit to Knowledge Base](#)

[Change to Major Incident](#)

[Create a Problem](#)

[Create Change Request](#)

[View Impacted CIs](#)

[Select Available SCT](#)

[Track Time](#)

[Set to Pending](#)

JIRA Issue

JT-19

JIRA Status

To Do

Post to JIRA

Post Comment to JIRA

Post Admin Comment to JIRA

Refresh JIRA Status

Change JIRA Status

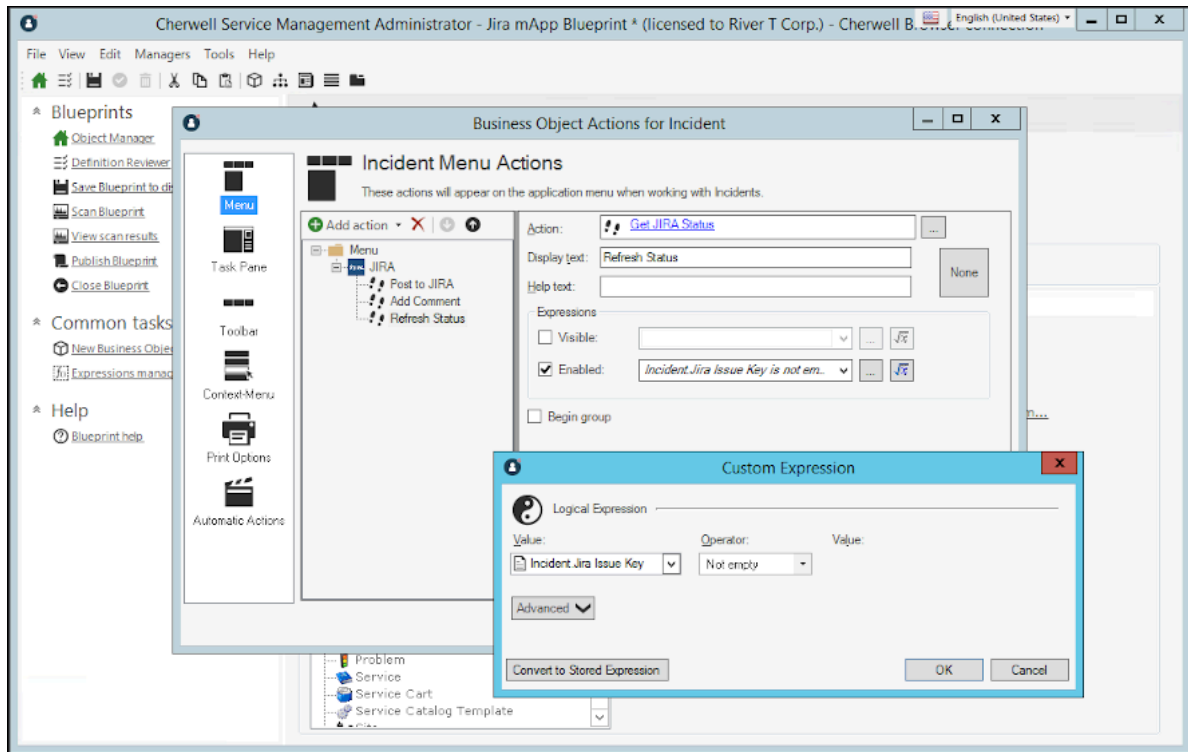
To configure Actions for Incidents and Problems:

1. In the same Blueprint, open **Edit Actions**.
2. Select **Menu**.
3. Create a new folder under Actions named **JIRA**.

If you would like to add the JIRA logo to the folder, it can be found here: Global/Integrations/Jira64X64.

4. Add the following One-Step Actions:

Location	Display Text	Expressions
Blueprint\JIRA\Post to JIRA	Post to JIRA	Enabled: Incident Jira Issue Key Empty
Blueprint\JIRA\Post Comment	Add Comment	Enabled: Incident Jira Issue Key not Empty
Blueprint\JIRA\Get JIRA Status	Refresh Status	Enabled: Incident Jira Issue Key not Empty



5. Select **Task Pane** on the left and repeat steps 2-4 for Task Pane.
6. Select **OK** to save.
7. Publish the Blueprint.

Related concepts

[Automation Processes](#)
[About mApp Solutions](#)

Define JIRA Options in the CSM Desktop Client

Define a JIRA Project, Statuses and Issue Types to complete implementation of the JIRAmApp Solution.

The following procedures are the second step in configuring the JIRA V2.0 mApp Solution



Note: This functionality is only available if you have applied the JIRA V2.0 mApp Solution.

Steps to Define JIRA Options in CSM

To configure Projects in the mApp Solution using the Desktop Client:

1. In the CSM Desktop Client, open the **Table Management** Interface (under **Tools** in the menu bar).
2. In the **Type** drop-down, select **JIRA Project**.
3. Select **New** next to the JIRA icon in the toolbar.

The screenshot shows the 'Cherwell Service Management (licensed to River T Corp.)' desktop client. The 'Table Management' window is open, displaying the 'JIRA Project' configuration form. The left sidebar contains a 'Task Pane' with sections for 'Quick Search', 'Common Tasks' (including Home, CMDB, Create Problem, and Bomgar Chat Request), and 'Queues'. The main area shows the 'JIRA Project' form with the following fields and options:

- JIRA Project Key ***: A text input field.
- Project is Active**: A checked checkbox.
- JIRA Project Name ***: A text input field.
- Buttons**: 'Cancel' and 'Save' buttons at the bottom right.

Below the form, there is a descriptive text: 'Contact your JIRA administrator for projects that involve the IT department. JIRA Project Keys are made up of characters from the Project Title (in contrast to the Project ID, which is a number. This application requires the Key.) The Project Title can be any combination of characters. This information can be found in your JIRA account/project settings.'

4. Create a new JIRA Project record for each project within JIRA that you want to post Cherwell Incidents and Projects to.



Note: Ask your JIRA administrator for the JIRA Project Names and Keys for each project you want to add to CSM.

To define JIRA Statuses:

1. In the CSM Desktop Client, open the **Table Management** Interface (under **Tools** in the menu bar).
2. In the **Type** drop-down list, select **JIRA Status**.

3. Select the **JIRA** icon in the toolbar and then select **Add a JIRA Status**.
4. Create a new JIRA status record for each status in your JIRA projects.
 - a. Select the Project Name.
 - b. Enter the JIRA Status.
 - c. Enter the JIRA Status Transition Number.



Note: For instructions on how to obtain JIRA Statuses and Transition Numbers, see [Finding JIRA Statuses and Transition Numbers](#).



Note: This mApp is configured to allow Users to choose any status within the workflow, but if your Project Workflow in JIRA has constraints on when Users can move from one status to another, you can use Expressions to limit the status options depending on the current status of your JIRA issues.

To modify the status options using Expressions:

1. In CSM Administrator, create a new Blueprint.
2. Select **Managers** from the menu bar and then select **One-Step**.

3. Set the Association to **Incident**.
4. Edit the **Change JIRA Status One-Step** found in the Blueprint/JIRA folder.
5. Select the second step **Validate Stored Values** and double-click on the Prompt.
6. In the **Constraints** sections, add additional Expressions to limit the statuses shown.
7. Repeat steps 3-6 for Problem.
8. Publish the Blueprint.



Note: If you have many complex workflows within your JIRA projects, using the feature to change the statuses from within CSM may not be possible. This feature is for simple workflows. If you feel your JIRA Project workflows are too complex or you just don't want to use this feature in CSM, you can simply disable it by following these instructions:

1. In CSM Administrator, create a new Blueprint.
2. Select the **Incident** Business Object and select **Edit Business Object**.
3. Select **JIRA Status** in the list of fields and then select **Field Properties**.
4. Select **Validation/Auto-populate** from the sidebar.
5. Clear the **Validate from JIRA Status Table** check box.
6. Clear the **Auto-populate** check box.
7. Select **OK** to save.
8. Locate the **JIRA Status ID** field.
9. Repeat steps 1-7.
10. Select the **Problem** Business Object.
11. Repeat steps 1-9 for the Problem Business Object.



Note: Ensure you do not add the **Change JIRA Status** buttons or links to your Problem and Incident Forms if you choose not to use this feature.

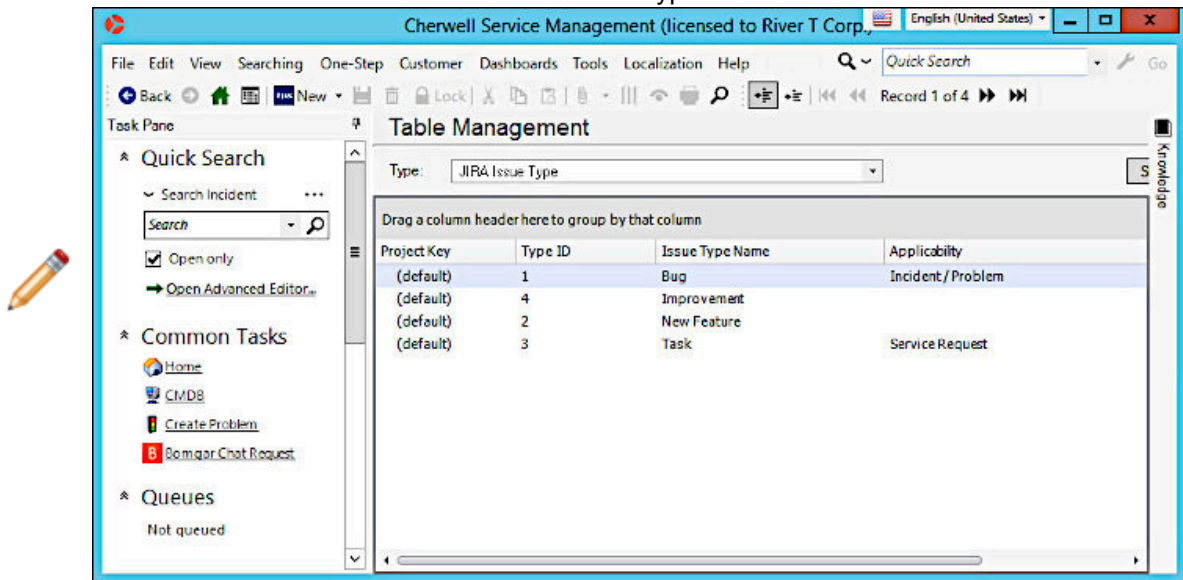
Configuring Issue Types

JIRA supports multiple Project types and allows for custom issue types on a per-Project basis. Coordinate with the JIRA administrator about the types of Issues associated with each Project. The most common issue types are preloaded as default issue types in the JIRA Issue Type lookup table. If a JIRA Project uses non-standard issue types, add the issue types to the lookup table.

To configure Issue Type:

1. In the CSM Desktop Client, open the **Table Management** Interface (under **Tools** in the menu bar).
2. In the **Type** drop-down list, select **JIRA Issue Type**.
A list of default issue types that are mapped to CSM objects shows.
3. Double-click an **issue type** to view the properties.

Note: Select the **JIRA** icon to add a new issue type.



Related concepts

[JIRA mApp Solution 2.0](#)

[Table Management Interface Behaviors](#)

Related tasks

[Finding JIRA Statuses and Transition Numbers](#)

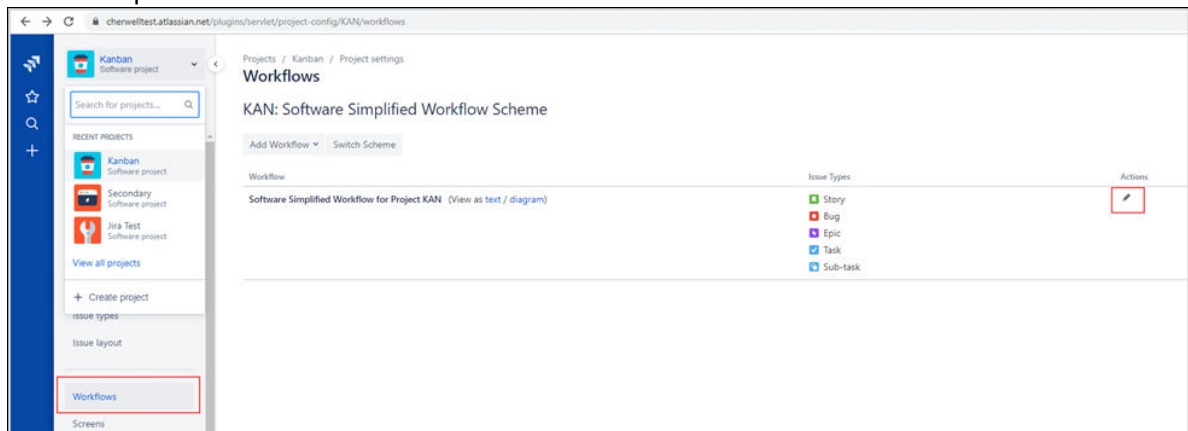
[Create an Expression](#)

Finding JIRA Statuses and Transition Numbers

To define JIRA Statuses in CSM, you need to know the JIRA Statuses and Transition Numbers.

To find JIRA Statuses and Transition Numbers from within your JIRA account:

1. Log in to your JIRA account.
2. Select the Project that you need status details for.
3. Select **Project Settings** in the sidebar.
4. Select **Workflows** in the sidebar.
5. Select the pencil icon under **Actions**.



6. Select **Text** for the view.
You see a listing of all available statuses within your project. The Transition IDs column has the Status Names and Transition IDs you need to enter into CSM.



Note: The ID numbers in the first column are not transition IDs, and will cause errors if used.

The screenshot shows the Jira Workflow Editor interface. The left sidebar contains navigation options: Jira, Jira settings, Issues, Issue types, Issue type schemes, Sub-tasks, Workflows, Workflow schemes, Screens, Screen schemes, Issue type screen schemes, Fields, Custom fields, and Field configurations. The main area displays the 'Software Simplified Workflow for Project KAN' in draft mode. The workflow is generated by JIRA Software version 1001.0.0-SNAPSHOT. The draft was last edited by 'you' at 21/Aug/19 9:02 AM. The workflow steps are: Backlog (11), Selected for Development (22), and Done (41). The transitions for each step are: Backlog (11) to Selected for Development (21), Selected for Development (21) to In Progress (31), In Progress (31) to Done (41), and Done (41) to Done (41). The 'Text' button in the top toolbar is highlighted.

Related concepts

Define JIRA Options in the CSM Desktop Client

Using the JIRA mApp Solution

The JIRA V2.0 mergeable application (mApp) Solution provides functionality that allows for JIRA bug tracking, issue tracking, and project management functions in CSM.

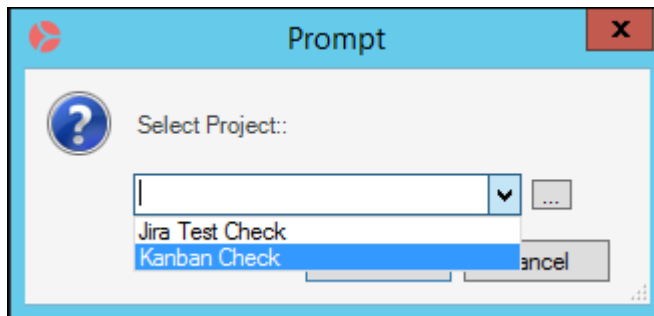
The following tasks and functions are available with the JIRA mApp Solution:

Posting an Issue to JIRA

Post issues to JIRA from CSM using the functionality of the JIRA v2.0 mApp Solution.

To post an issue to JIRA:

1. In the CSM Desktop Client, open an existing Incident or Problem or create a new one.
2. Select the **Post to JIRA** link or button.
3. Select the **JIRA Project** for that issue.



When the One-Step Action has finished running, if successful, you see a pop-up window showing your JIRA Issue Number. A Journal Note is created with details of the JIRA interaction, whether successful or not.

4. Look at your form where you now see a link showing the JIRA Issue Number.
5. Select the **JIRA Issue Number** to open the issue in JIRA.

Related concepts

[Using the JIRA mApp Solution](#)

[View Issues in JIRA](#)

Related tasks

[Post a Comment in JIRA](#)

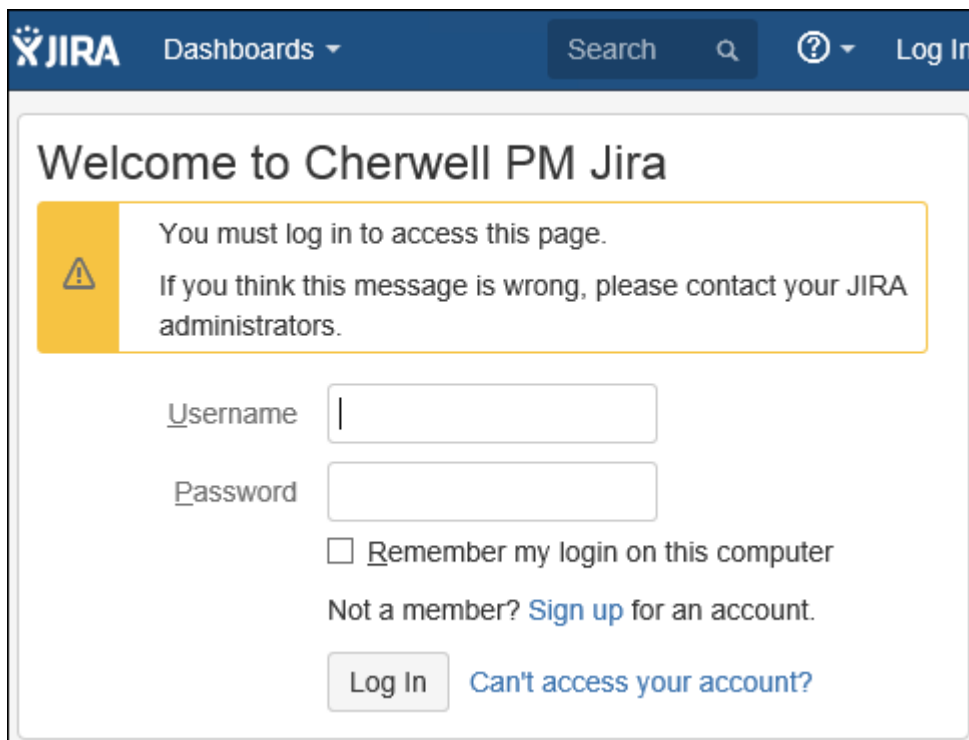
View Issues in JIRA

If you have applied the JIRA v2.0 mApp Solution, you can view issues from CSM in JIRA.

Any Incident or Problem in CSM that has been sent to JIRA has a hyperlink to JIRA.

To view the corresponding Issue in JIRA:

1. Select the **hyperlink** on the Incident or Problem Form.
2. Log in to JIRA by providing a **Username** and **Password**. The login page won't appear if you are already logged in.
The issue opens in JIRA.



The screenshot shows the JIRA login interface. At the top, there's a navigation bar with the JIRA logo, 'Dashboards', a search bar, and a 'Log In' button. Below this, a large heading reads 'Welcome to Cherwell PM Jira'. A yellow warning box contains the text: 'You must log in to access this page. If you think this message is wrong, please contact your JIRA administrators.' Below the warning box are two input fields: 'Username' and 'Password'. Under the 'Password' field is a checkbox labeled 'Remember my login on this computer'. At the bottom, there's a 'Log In' button and a link that says 'Can't access your account?'.



Note: Comments posted manually to JIRA from CSM can only be viewed by JIRA administrators.

Activity

All **Comments** Work Log History Activity Source Reviews

▼  added a comment - Just now -  Restricted to **Administrators**

Outlook is crashing when large attachments are sent.

Related concepts[Using the JIRA mApp Solution](#)**Related tasks**[Post a Comment in JIRA](#)[Get or Refresh JIRA Status](#)

Get or Refresh JIRA Status

You can get or refresh the status of JIRA issues when using the JIRA v2.0 mApp Solution.

To get or refresh JIRA Status:

1. In the CSM Desktop Client, select the **Get/Refresh JIRA Status** link or button.
On the form, you see a link displayed with the current status of the issue in JIRA.
2. Select the **JIRA Status** link to refresh the issue.
3. The option to **Change JIRA Status** is now available if this functionality is enabled.

Related concepts

[Using the JIRA mApp Solution](#)

[View Issues in JIRA](#)

Related tasks

[Post a Comment in JIRA](#)

Post a Comment in JIRA

Post comments in JIRA directly from CSM using the JIRA v2.0 mApp Solution.

To post a comment in JIRA:



Note: Only available for Incidents and Problems that are posted to JIRA.

1. In the CSM Desktop Client, select the **Post Comment** or **Post Admin Comment** link or button.

The image shows a Windows-style dialog box titled "Prompt". Inside the dialog, there is a question mark icon in a blue circle, followed by the text "Enter Comment for Jira". Below this text is a large, empty rectangular text input field. At the bottom right of the dialog, there are two buttons: "OK" and "Cancel". The dialog has a standard Windows title bar with a red close button in the top right corner.

2. Enter the comment in the pop-up window and select **OK**.
When the One-Step Action has finished running successfully, you see a confirmation message that your comment was posted. A Journal note is created with details of the JIRA interaction, successful or unsuccessful.
3. When you view the issue in JIRA, you see the comments in the Comment section of the issue. If you posted an Admin comment, only Administrators can see the comment and it is noted in JIRA that it is an Admin comment.

Related concepts

[Using the JIRA mApp Solution](#)

Related tasks

[Changing status in JIRA](#)

[Changing CSM status](#)

Changing status in JIRA

Using a One-Step Action in CSM, you can change the status of an Incident or Problem in JIRA.

To change the status of an Incident or Problem in JIRA:



Note: Only available if you are using the Change Status feature.

1. In the CSM Desktop Client, select the **Change JIRA Status** link or button. If this button is not available, select **Get JIRA Status** first.
2. Select the status you want to change the Incident or Problem to.
3. Select **OK**.

When the One-Step Action has finished running successfully, you see a confirmation message that the status in JIRA has been changed. A Journal note is created with details of the JIRA interaction, successful or unsuccessful. The Incident or Problem is updated to show the new JIRA status.

Related concepts

[Using the JIRA mApp Solution](#)

Related tasks

[Changing CSM status](#)

[Linking Incidents to Major Incidents](#)

Changing CSM status

If you have applied the JIRA v2.0 mApp Solution, you can change the status of an Incident or Problem in CSM.

To change the status of an Incident or Problem within CSM:



Note: Only available for Incidents and Problems previously posted to JIRA. To use this feature, Automation Processes must be enabled and configured.

1. In the CSM Desktop Client, open an Incident or Problem that has previously been posted to JIRA.
2. Advance the status of the Object.
An Automation Process runs and adds a comment to the JIRA issue indicating the CSM status change. This may take a few minutes.

Related concepts

[Using the JIRA mApp Solution](#)

Related tasks

[Linking Incidents to Major Incidents](#)

[Linking Problems and Incidents](#)

Linking Incidents to Major Incidents

Use the power of an Automated Process to link an Incident to a Major Incident in JIRA.

To link an Incident to a Major Incident:



Note: Only available if both the Incident and Major Incident have previously been posted to JIRA. To use this feature, Automation Processes must be enabled and configured.

1. In the CSM Desktop Client, open an Incident that has previously been posted to JIRA.
2. Select **Actions > Link to Major Incident**.
3. Select a Major Incident from the list that has previously been posted to JIRA.
An Automation Process runs and adds a comment to both JIRA issues indicating that the two Incidents are now linked. This may take a few minutes.

Related concepts

[Using the JIRA mApp Solution](#)

Related tasks

[Linking Problems and Incidents](#)

[Adding a Workaround to a Problem](#)

Linking Problems and Incidents

If you have applied the JIRA v2.0 mApp Solution, you can link a Problem to an Incident in JIRA.

To link a Problem to an Incident:



Note: Only available if both the Problem and Incident have previously been posted to JIRA. To use this feature, Automation Processes must be enabled and configured.

1. In the CSM Desktop Client, open a Problem that has previously been posted to JIRA.
2. Select the **Incidents** tab.
3. Select the **Link** icon in the Tab toolbar.
4. Select an Incident from the list that has been previously posted to JIRA.
An Automation Process runs and adds a comment to both JIRA issues indicating that the Problem and Incident are now linked. This may take a few minutes.

Related concepts

[Using the JIRA mApp Solution](#)

Related tasks

[Linking Incidents to Major Incidents](#)

[Adding a Workaround to a Problem](#)

Adding a Workaround to a Problem

Use the power of an Automated Process to add a workaround to a JIRA issue from CSM.

To add a workaround to a Problem:



Note: Only available if the Problem has previously been posted to JIRA. To use this feature, Automation Processes must be enabled and configured.

1. In the CSM Desktop Client, open a Problem that has previously been posted to JIRA.
2. Enter text in the **Workaround** field.
An Automation Process runs and adds a comment to the JIRA issue showing that the Problem has a workaround. The text from the Workaround field is added into JIRA. This may take a few minutes.

Related concepts

[Using the JIRA mApp Solution](#)

Related tasks

[Linking Problems and Incidents](#)

[Using Actions in CSM Desktop Client or Browser Client Menu](#)

Using Actions in CSM Desktop Client or Browser Client Menu

Use Incident or Problem Actions from within CSM to make changes to JIRA issues.

To use Actions in the Desktop Client or Browser Client menu:

1. Open an Incident.
2. Select **Incident Actions** in the menu bar.
You see a JIRA folder with available options.
3. Open a Problem.
4. Select **Problem Actions** in the menu bar.
You see a JIRA folder with available options.

Related concepts

[Using the JIRA mApp Solution](#)

Related tasks

[Using Actions in CSM Desktop Client Task Pane](#)

Using Actions in CSM Desktop Client Task Pane

The JIRA V2.0 mergeable application (mApp) Solution provides functionality that allows for JIRA bug tracking, issue tracking, and project management functions in CSM.

To use Actions in the Desktop Client Task pane:

1. Open an Incident and look for the **Incident Actions** in the Task pane.
You see a JIRA folder with available options.
2. Open a Problem and look for the **Problem Actions** in the Task pane.
You see a JIRA folder with available options.

Related concepts

[Using the JIRA mApp Solution](#)

Related tasks

[Using Actions in CSM Desktop Client or Browser Client Menu](#)

Microsoft® Skype for Business® mApp Solution

1.0

The Microsoft® Skype for Business® mApp® Solution provides functionality that allows you to facilitate real-time online collaboration through conversations (text, voice, video, and presence information), desktop sharing, and online meetings.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 5.0.0 - 9.4.0a

Out-of-the-Box Content Version Requirements: Tested on CSM 5.0.0 - 9.4.0a

Prerequisite Requirements: None

Overview

When Skype for Business is incorporated into CSM, Users can initiate Skype conversations with Customers, employees, or teams in their Skype network directly from a CSM record. When CSM is integrated with Skype, a **Start Skype Conference** Action displays in the Task Pane. Click the Action to initiate a conversation with an individual (Customer or User) or a team related to the Business Object.



Notes: Conferences are only available for contacts in your Skype network. Conferences cannot be saved in CSM, but can be saved in Skype, if configured.

How the mApp Solution Works

CSM provides the Skype functionality as a mApp Solution so that Users can easily incorporate Skype conversations into their existing CSM system. Download the mApp Solution from the Cherwell [mApp Exchange](#). Use the [Apply mApp wizard](#) to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	Change Request, Configuration Item, Customer, Incident, ITPT Project, Release, Task	Don't Change
	Variable Validation	Overwrite
Image	Skype 16x16, Skype 32x32, Skype 498x48	Overwrite
One-Step Action	Start Skype Conference	Overwrite

Item Category	Item	Typical Merge Action
	<ul style="list-style-type: none">• Import: Add new item.• Overwrite: Replace target item.• Merge: Merge differences.• Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).	

Related Reading

- [Configuring mApp Solutions](#)
- [About mApp Solutions](#)

Apply mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

On Call mApp Solution 1.0

The On Call mApp® Solution provides functionality that allows you to automatically notify defined users when an urgent Incident (P1, P2, or VIP) is created outside of normal Business Hours.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 9.0.x.

Out-of-the-Box Content Version Requirements: Tested on CSM 9.1.x.


Prerequisite Requirements: None

Overview

Configure the mApp Solution by defining On Call Groups (Users who are responsible for the Incident), On Call Service Groups (On Call Groups assigned to each Service), and On Call Shifts (timeframe of the On Call instance).

After the mApp Solution is configured, Users create an On Call record, which schedules an On Call Service Group (example: Weekend Crew) to an On Call Shift (example: Weekend – First). If an urgent Incident is created during the selected On Call Shift timeframe, the On Call Group assigned to the selected Service is displayed in the Form Arrangement and a notification e-mail is sent to the first User in the On Call Group. If the first User does not take ownership within the defined timeframe, a notification e-mail is sent to the first and second Users in the group. If the first and second Users do not take ownership of the Incident within the defined timeframe, a notification e-mail is sent to all Users in the group. If no one responds within the defined timeframe, a notification e-mail is all Users in the group until one of the individuals takes ownership.

On Call

Created By:


Clair Wu
 3rd Level Support
 833-898-4331
 clair.wu@RiverTCorp.com

I Want To:
[E-Mail Schedule to Distribution List](#)

1. Choose Shift:

Start Date:

Shift:

Start Time:
End Time:

[Show Recurrence Options](#)

2. Assign Groups to Covered Services:

Group Assignment Profile:

Account Management:

Conferencing/Presentation:

Desktop Management:

E-Mail / Calendar:

Employee Support:

Enterprise Apps:

IT Service Desk:

Network Services:

Printing:

Telephony / Fax:

Web Services:

☐ E-Mail to groups?

This mApp Solution includes features such as new [Business Objects](#) (example: On Call, On Call Groups, etc.), [Automation Processes](#) (example: On Call Notification), [Calendars](#) (example: On Call, My On Call Calendar), and [Widgets](#) (example: On Call Tier 1 Incidents).

How the mApp Solution Works

CSM provides On Call as a mApp Solution so that Users can easily incorporate on call scheduling and automation to their existing system. Download the mApp Solution from the Cherwell [mApp Exchange](#). Use the [Apply mApp wizard](#) to apply the mApp Solution to your CSM system. The Apply mApp Solution wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	On Call, On Call Groups, On Call Service Profile, On Call Shifts	Import
	Incident	Merge
	UserInfo	Don't Change
Automation Process	E-Mail On Call Individuals, On Call Notification	Import

One-Step Action	Delete Current Calendar Even, Delete On Call Record, Delete Recurrence, E-Mail On Call Individuals, Escalate to On Call Individual, Find E-Mail, Get Distribution List, Make Delete Button Visible, Raise Alert Level, Recur Daily, Recur Daily Loop, Schedule Notification, Set Group Stored Values, Set Recurrence to False, Set Recurrence to True, Set Schedule, Set Schedule Type	Import
	Take Ownership	Overwrite
Calendar	My On Call Calendar, On Call	Import
Custom View	Portal Default	Don't Change
Stored Expression	Concatenate Date Time, Current Date Time, Current Date Minus 2 Weeks, Current Date Plus One Week, Current Date Plus Two Months, Escalate E-Mail, Escalate Name, Escalate Wait Time, is Like Current User Name	Import
	System State E-Mail	Don't Change
Stored Query	All On Calls, Calendar View, Current On Call, Find All Associated Recurrences, My Calendar View, On Call	
Stored Value	Numerous	Import
Theme	Professional Grey	Don't Change
Widget	On Call Escalation Comparison, On Call Tier 1 Incidents, On Call Tier 2 Incidents, On Call Tier 3 Incidents	
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related Reading

- [About Services](#)
- [Table Management](#)
- [Log an Incident](#)
- [About mApp Solutions](#)

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

1. [Define On Call groups](#).
2. [Define On Call Service profiles](#).
3. [Define On Call shifts](#).
4. (Optional) [Define e-mail settings](#).

How to Use the mApp Solution

- [Create an On Call record](#).

Configuring the On Call mApp Solution

Complete the following procedure to configure the On Call mApp Solution. Configuration procedures are completed in the CSM Desktop Client and in CSM Administrator.

Define On Call Groups

Use [Table Management](#) in the [CSM Desktop Client](#) to define On Call groups for the On Call mApp Solution.



Note: This functionality is only available if you have applied the [On Call mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

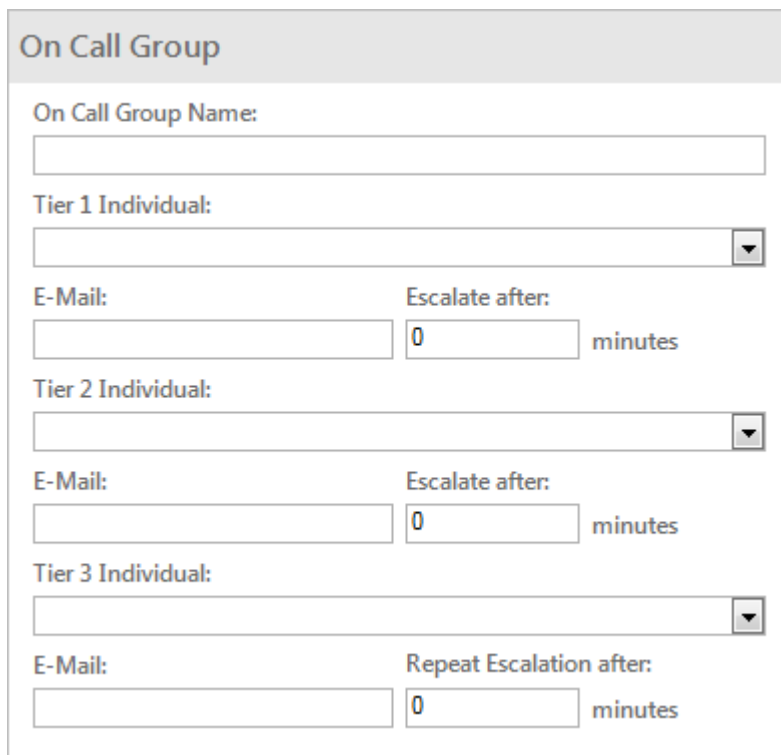
To define On Call groups:

1. Open the Table Management interface.
2. In the Type drop-down, select **On Call Groups**.

The On Call Groups Grid opens.

3. On the [CSM Desktop Client toolbar](#), click the **New** button .


A new On Call Group Form opens.



The form is titled "On Call Group" and contains the following fields:

- On Call Group Name:** A text input field.
- Tier 1 Individual:** A dropdown menu.
- E-Mail:** A text input field.
- Escalate after:** A numeric input field with "0" and the unit "minutes".
- Tier 2 Individual:** A dropdown menu.
- E-Mail:** A text input field.
- Escalate after:** A numeric input field with "0" and the unit "minutes".
- Tier 3 Individual:** A dropdown menu.
- E-Mail:** A text input field.
- Repeat Escalation after:** A numeric input field with "0" and the unit "minutes".

4. Complete the Form:
 - a. On Call Group Name: Provide a **name** for the group (example: Rotation A)

- b. Tier 1 Individual: Select a **User** from the drop-down (example: Andrew). This User receives the first notification e-mail when an Incident is created.
 - c. E-Mail: Auto-populates based on the Tier 1 Individual's User record (example: andrew.simms@rivertcorp.com).
 - d. Escalate After [number] minutes: Specify the **number of minutes** that pass before the Incident is escalated to the Tier 2 Individual (example: 30).
 - e. Tier 2 Individual: Select a **User** from the drop-down (example: Henri). This User receives a notification e-mail if the Tier 1 Individual does not respond within the defined timeframe.
 - f. E-Mail: Auto-populates based on the Tier 2 Individual's User record (example: henri.bryce@rivertcorp.com).
 - g. Escalate After [number] minutes: Specify the **number of minutes** that pass before the Incident is escalated to the Tier 3 Individual (example: 45).
 - h. Tier 3 Individual: Select a **User** from the drop-down (example: Sherri). This User receives a notification e-mail if the Tier 2 Individual does not respond within the defined timeframe.
 - i. E-Mail: Autopopulates based on the Tier 3 Individual's User record (example: sherri.williams@rivertcorp.com).
 - j. Repeat Escalation after [number] minutes: Specify the **number of minutes** that pass before the Incident escalation repeats (example: 15).
5. Click **Save** .

Define On Call Service Profiles

Use [Table Management](#) in the [CSM Desktop Client](#) to define On Call Service Profiles for the On Call mApp Solution.



Note: This functionality is only available if you have applied the [On Call mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define On Call Service Profiles:

1. Open the Table Management interface.
2. In the Type drop-down, select **On Call Service Profile**.

The On Call Service Profile Grid opens.

3. On the [CSM Desktop Client toolbar](#), click the **New** button .

A new On Call Service Profile Form opens.

On Call Service Profile

Service Profile Name:

Account Management:

Conferencing/Presentation:

Desktop Management:

E-Mail / Calendaring:

Employee Support:

Enterprise Apps:

IT Service Desk:


Network Service:

Printing:

Telephony / Fax:

Web Services:

4. Complete the Form:
- Service Profile Name: Provide a **name** for the profile (example: Weekend Crew).
 - Account Management: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Account Management.
 - Conferencing/Presentation: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Conferencing/Presentation.

- d. Desktop Management: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Desktop Management.
 - e. E-Mail/Calendaring: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to E-Mail/Calendaring.
 - f. Employee Support: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Employee Support.
 - g. Enterprise Apps: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Enterprise Applications.
 - h. IT Service Desk: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to IT Service Desk.
 - i. Network Service: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Network Services.
 - j. Printing: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Printing.
 - k. Telephony/Fax: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Telephony/Fax.
 - l. Web Services: Select an **On Call Group** from the drop-down (example: Rotation A). When the profile is used, this group is responsible for all Incidents related to Web Services.
5. Click **Save** .

Define On Call Shifts

Use [Table Management](#) in the [CSM Desktop Client](#) to define On Call shifts.



Note: This functionality is only available if you have applied the [On Call mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define On Call shifts:


1. Open the Table Management interface.
2. In the Type drop-down, select **On Call Shifts**.

The On Call Shifts Grid opens.

3. On the [CSM Desktop Client toolbar](#), click the **New** button .

A new On Call Shifts Form opens.



4. Complete the Form:
 - a. Shift Name: Provide a **name** for the shift (example: Weekend – First).
 - b. Start Time: Use the **Up and Down** arrows to select the time in which the shift begins.
 - c. Shift Length (hrs): Specify the **length** (number of hours) of the shift.
 - d. Calculated End Time: Autopopulates by adding the Shift Length to the Start Time.
5. Click **Save** .

(Optional) Define E-mail Settings

Use the [Stored Values](#) Manager in CSM Administrator to define e-mail settings.



Note: This functionality is only available if you have applied the [On Call mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define e-mail settings:

1. Open the Stored Value Manager.
2. In the Manager tree, click the **Global** scope, and then click the **On Call** subfolder.

The On Call stored values display in the Main Pane.

3. Right-click the **Auto-Assign Ownership** stored value, and then select **Edit**.

The stored value window opens.

The screenshot shows a 'Stored Value' dialog box with the following fields and options:

- Name:** Auto-Assign Ownership
- Description:** This Stored Value is used to determine the whether the On Call Notification Automation Process can be cancelled using an E-Mail Monitor. By default it is set to FALSE. User can enable functionality by changing it to TRUE.
- Type:** Text (dropdown menu)
- Value:** FALSE
- ☐ Value is user-specific
 - ☐ Remember the user specific values between sessions
- Buttons: Options..., OK, Cancel

4. Provide a value:
 - False: Provided by default in the Value field. When False is provided, Users receive an e-mail that includes instructions to log into CSM and click the Take Ownership link in the I Want To section of the Quick Info Tile.
 - True: Type **True** in the Value field to allow Users to take ownership by responding to the e-mail. When the User responds to the e-mail, notification e-mails are no longer sent Users in the On Call Group.

Note: To use this e-mail option, Users must [create an E-Mail Monitor](#) to handle the e-mail response.

5. Select **OK**.

Using the On Call mApp Solution

When working with the On Call mApp Solution, Users can:

- [Create an On Call record.](#)

Create an On Call Record

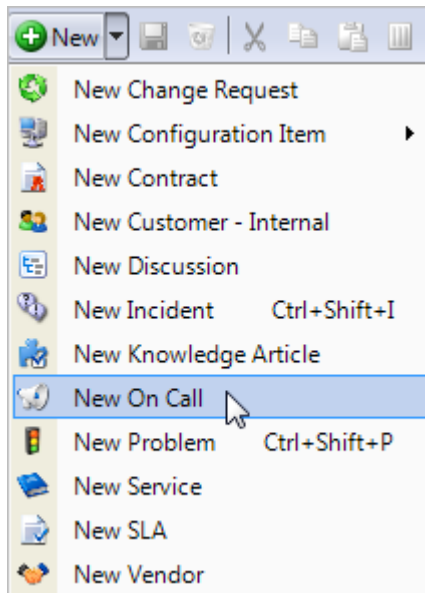
Use the On Call Form in the [CSM Desktop Client](#) to create an On Call record.



Note: This functionality is only available if you have applied the [On Call mApp Solution](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To create an On Call record:

1. On the [CSM Desktop Client toolbar](#), click **New>New On Call**.



A new On Call record opens.

On Call

Created By:

Clair Wu
3rd Level Support
833-898-4331
clair.wu@RiverTCorp.com

I Want To:

E-Mail Schedule to Distribution List

1. Choose Shift:

Start Date: [View Calendar](#)

Shift: Start Time: End Time:

[Show Recurrence Options](#)

2. Assign Groups to Covered Services:

Group Assignment Profile:

Account Management:

Conferencing/Presentation:

Desktop Management:

E-Mail / Calendaring:

Employee Support:

Enterprise Apps:

IT Service Desk:

Network Services:

Printing:

Telephony / Fax:

Web Services:

2. Choose a shift:

- Start Date:** Click the **Date Selector** button to access the Calendar and select the date in which the On Call schedule begins (example: 3/28/2015).

Note: To view the Calendar, you must leave the On Call record.

- View Calendar:** Click this **button** to view the On Call schedule on the Calendar.
- Shift:** Select a defined **shift** from the drop-down (example: Weekend – First).

Note: When a shift is selected, the Add Shift to Calendar button and E-Mail to groups? check box display in the Assign Groups to Covered Services section of the Form.

- Start Time:** Autopopulates based on the Start Time of the selected shift.
- End Time:** Autopopulates based on the End Time of the selected shift.
- (Optional) **Show Recurrence Options:** Click this **link** to define a recurring On Call schedule.


3. Assign each On Call Group to a Service:

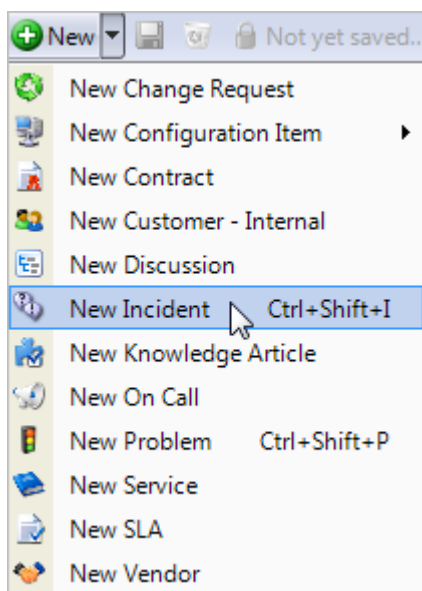
- Select an **On Call Service Profile** from the Group Assignment Profile drop-down (ex: Weekend Crew).

The Service fields autopopulate with the defined On Call Groups from the On Call Service Profile.

Note: Change an On Call Group assignment by selecting a different **On Call Group** (example: Rotation B) from a Service drop-down (example: Account Management). This does not affect the On Call Service Profile Lookup Object in Table Management.

Tip: Click the **E-Mail Schedule to Distribution List** link in the I Want To section of the Quick Info Tile to send a notification e-mail to each On Call Group member.

4. Finalize the On Call record:
 - a. (Optional) Select the **E-Mail to groups?** check box to send a notification e-mail to each On Call Group member.
 - b. Click the **Add Shift to Calendar** button to add the On Call schedule to the Calendar and save the On Call record.
5. Click the **Home** button .
6. On the [CSM Desktop Client toolbar](#), click **New>New Incident**.

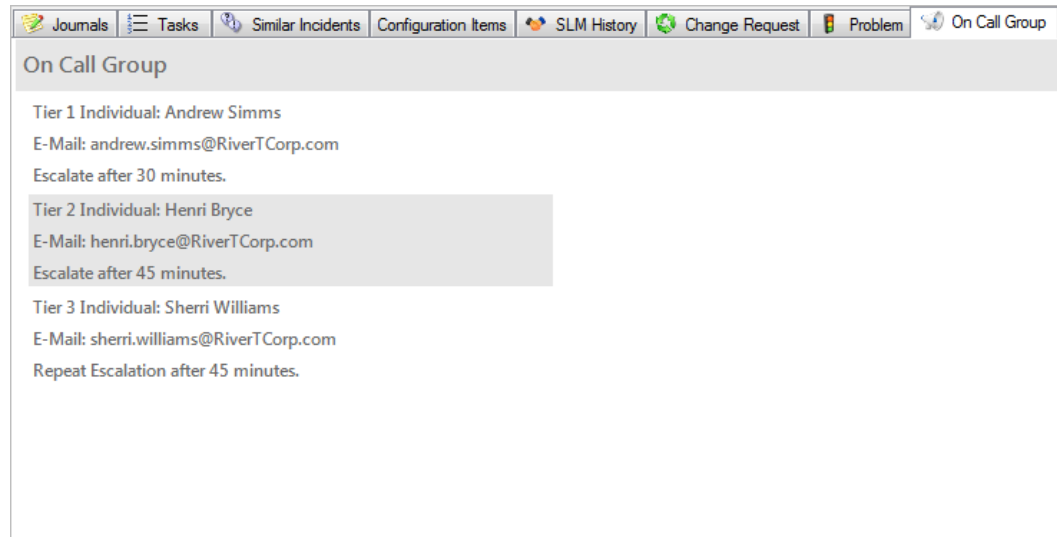


A new Incident Record is created.

7. Record the basic details (Who, What, How):
 - a. Requestor (in the Quick Info Tile): Provide the **name** of the Customer who initiated the contact, and then press **ENTER** or **TAB** to search for the Customer Record.
 - b. Short Description: Provide a **concise description** of the Incident.
 - c. Description: Provide a **detailed description** for the Incident.
 - d. Call Source: Select a **source** for the initiation.
8. Classify the Incident:
 - a. Service: Select the affected **Service**.
 - b. Category: Select the affected Service **category**.
 - c. Subcategory: Select the affected Service **subcategory**.
 - d. Priority: Incident priority:

- i. Click the **Priority** drop-down to reveal the Priority Matrix (determined by invoked SLA), and then click a **priority number**.

The On Call Group tab displays in the Form Arrangement.



The screenshot shows the 'On Call Group' tab selected in the top navigation bar. The main content area displays the following information:

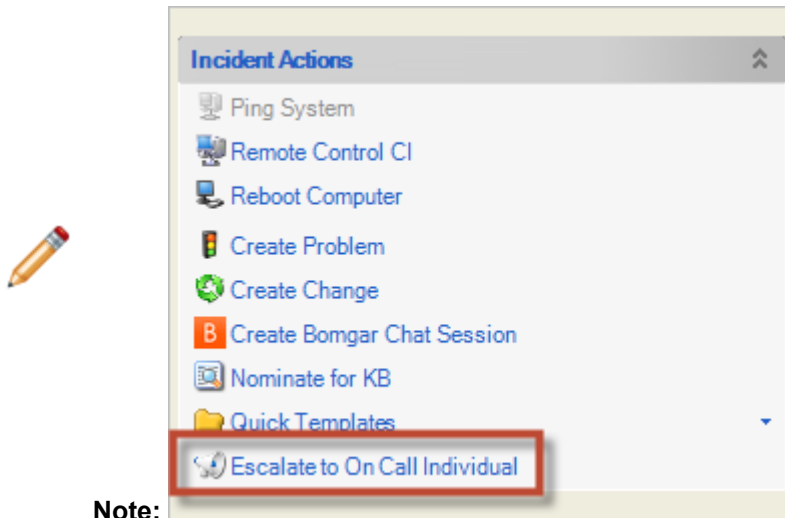
- Tier 1 Individual: Andrew Simms
E-Mail: andrew.simms@RiverTCorp.com
Escalate after 30 minutes.
- Tier 2 Individual: Henri Bryce
E-Mail: henri.bryce@RiverTCorp.com
Escalate after 45 minutes.
- Tier 3 Individual: Sherri Williams
E-Mail: sherri.williams@RiverTCorp.com
Repeat Escalation after 45 minutes.

9. Click **Save** .


A notification e-mail is sent to the Tier 1 Individual (example: Andrew Simms).



Note: The On Call process can also be initiated (notification e-mail is sent to the Tier 1 Individual) by clicking the Escalate to On Call Individual button in the Incident Actions section of the [CSM Desktop Client Task Pane](#).



Note:

10. Tier 1 Individual (example: Andrew Simms) takes ownership:
 - a. In the I Want To section of the Quick Info Tile, click **Take Ownership**.
 - b. Click **Save** .

A notification e-mail is sent to the Tier 1 Individual.

Note: If the first User does not take ownership within the defined timeframe on the On Call Group Form (example: 30 minutes), a notification e-mail is sent to the first and second Users in the group (example: Andrew and Henri). If the first and second Users do not take ownership of the Incident within the defined timeframe (example: 45 minutes), a notification e-mail is sent to all Users in the group (example: Andrew, Henri, and Sherri). If no one responds within the defined timeframe (example: 45 minutes), a notification e-mail is all Users in the group until one of the individuals takes ownership.

11. Complete the [Incident logging process](#).

Orchestration Packs

A Cherwell Orchestration Pack is a group of software runbooks that are packaged and delivered through a mApp® Solution to allow users to perform functions on another vendor's software from within CSM. Each Orchestration Pack focuses on a specific third-party system and contains multiple runbooks that automate the execution of commands and activities on that system and report the results back to CSM.

Orchestration Pack for Cisco CloudCenter™ 1.0

Understand the requirements and high-level configuration steps for the Cisco CloudCenter™ mApp® Solution. Use the mApp Solution to deploy CloudCenter applications and data to a configured data center or cloud environment using the CSM Service Request process.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 9.3.0

Cisco CloudCenter™ Version Requirements: Tested on Cisco CloudCenter 4.8.X

Out-of-the-Box Content Version Requirements: Tested on CSM 9.3.0

Other Requirements: Verify that your organization has an active instance of Cisco CloudCenter.

Overview

Cisco CloudCenter is a cloud management solution that leverages application-centric technology to provision infrastructure resources and deploy applications to data center, private cloud, and public cloud environments. The Cisco CloudCenter Integration mApp Solution allows Users to deploy application profiles and related components and data to a configured data center or cloud environment using the Service Request process. Customers can easily request a new application deployment from the Service Catalog. After the request is submitted, a User fulfills it using the Specifics Form on the Service Request Form.

How the mApp Solution Works

Item Category	Item	Typical Merge Action
Automation Process Definitions	Check Request Status, Request VM	Import
Business Objects	Application Manager, Config - CC Application, Specifics-VM, VM Blueprint, VM Cloud, VM CPU, VM Default Size, VM Request, VM Size, VM Virtual Memory, VM Volume	Import
	Change Request, CI VM Status, Config - Computer, Configuration Item, Customer, Customer - Internal, Installed Software, Journal, Specifics, User Info	Don't change
	Incident, Incident SubCategory	Merge

Item Category	Item	Typical Merge Action
One-Steps	Add Blueprints, Add New Size, Assign to ANY Individual, Assign to Individual, Assign to Team, CloudCenter Request and Submit, Create CI, Date Time Info Popup, Delete All Records, Focus App Tab, Focus CI Tab, Focus Cloud Tab, Get App IDs, Get Available Apps, Get Cloud Options, Get New Asset Tag, Get Tier Details, Get VM Details, Import CIs, Populate Records with Apps, Ready to Provision, Request Status Update, Run Action, Set Application Manager ID, Take Ownership, Update All, Update Application Status, Update CIs, Update Clouds, Update Sizes, Update VM Blueprints	Import
	Create an Incident, Email Current Customer, Get New Asset Tag	Overwrite
	Dial Customer Phone	Don't Change
Stored Expressions	Action Text, Asset Tag, Config Type Constraint, Constraint Message Max, Constraint Message Min, Requirements for Approval, Storage Constraint, Storage Constraint Background Color, Team Entitlement, User Entitlement, User Entitlements, User Entitlements on Behalf Of	Import
	Disabled Specifics Color, Disabled Specifics Color - Border	Overwrite
	CMDB Permanent Fields Locked, Count Open Incidents, Disable Specifics	Don't Change
Stored Queries	All VR Requests, CloudCenter Manager	Import
Stored Values	CloudCenter URL, Debug, Password, Username, Variable, VM App IDs	Import
	Lock CMDB Permanent Fields	Overwrite
Web Services	CloudCenter	Import

Merge Action Key:

- Import: Add new item.
- Overwrite: Replace target item.
- Merge: Merge differences.

- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

Steps to Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Steps to Configure the mApp Solution in CSM Administrator

1. [Configure Security Rights for the Cisco CloudCenter™ Specifics Form](#)
2. [Add the Cisco CloudCenter™ Form Control to the Incident Subcategory Form](#)
3. [Define Search Results Image Properties for CloudCenter™ Applications](#)
4. [Add Account Credentials to the CloudCenter™ Web Service](#)
5. [Configure Approvals for Cisco CloudCenter™ Application Service Requests](#)

Steps to Configure the mApp Solution in the CSM Browser Client

1. [Create a Category and Subcategory for Cloud Applications](#)
2. [Create a CloudCenter™ Manager Record](#)
3. [Import Cisco CloudCenter™ Data](#)
4. [Add VM Size Options for CloudCenter™ Applications](#)
5. [Activate Imported CloudCenter™ Applications](#)
6. [Create a Cloud Record for an Application](#)
7. [Import Active Deployments as Configuration Items](#)

How to Use the mApp Solution

1. [Request a Cisco CloudCenter™ Application in the Customer Portal](#)
2. [Approve a Service Request for an Application](#)
3. [Check the Status of a Build](#)
4. [Run an Action Against a Deployment](#)

Configuring the Orchestration Pack for the Cisco CloudCenter™ mApp Solution in CSM Administrator

After you apply the mApp® Solution to your system, you must perform a series of actions to configure it in CSM Administrator.



Important: Before moving on to the configuration actions, we recommend that you first publish the Blueprint that includes the mApp Solution. Then, create a new Blueprint to perform the configuration actions in CSM Administrator.

Configure Security Rights for the Cisco CloudCenter™ Specifics Form

Provide Customers with permission to see and edit the Cisco CloudCenter™ Specifics Form that is created with the application of the Cisco CloudCenter mApp® Solution.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint.

1. From the home page in CSM Administrator, click **Security > Edit Security Groups**.
2. From the Group drop-down list, select the **Portal Workgroup Manager** Security Group.



Note: The Portal Workgroup Manager Security Group is provided as an Out-of-the-Box Security Group. Your system may be customized with different Security Groups. Refer to [OOTB Security Design](#) for details about the out-of-the box (OOTB) Security Groups. You can compare your Security Group settings to the OOTB Security Groups to determine which group(s) require security rights for the Cisco CloudCenter Specifics Form.

3. Click the **Business Objects** tab.
4. From the Business Object drop-down, select **Config - CC Application**.
5. Under General settings, check the boxes for **View**, **Add**, and **Edit**.
6. In the Field tree, select **New Field**.
7. Under General settings, check the boxes for **View** and **Edit**, then click **Save**.
8. From the Business Object drop-down, select **Specifics - VM**.
9. Under General settings, check the boxes for **View**, **Add**, and **Edit**.
10. In the Field tree, select **New Field**.
11. Under General settings, check the boxes for **View** and **Edit**, then click **Save**.
12. From the Business Object drop-down, select **VM Size**.
13. Under General settings, check the boxes for **View**, **Add**, and **Edit**.
14. In the Field tree, select **New Field**.
15. Under General settings, check the boxes for **View** and **Edit**, then click **Save**.
16. From the Group drop-down, select the **Portal Customer Group**.



Note: The Portal Customer Security Group is provided as an Out-of-the-Box Security Group. Your system may be customized with different Security Groups.


17. Repeat steps 4-15 for the Portal Customer Group.
18. For all Security groups, from the Business Object drop-down, select **Application Manager**, and verify that **Delete** is unchecked.
This prevents a User from inadvertently deleting the CloudCenter Manager record.

Add the Cisco CloudCenter™ Form Control to the Incident Subcategory Form

Use the Form Editor to add a Cisco CloudCenter™ Form Control to the Incident SubCategory Form. The Form Control allows Users to define which Incident classifications require approval.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint.

Complete the steps to [Configure Security Rights for the Cisco CloudCenter™ Specifics Form](#).

1. Open a new Blueprint.
2. In the Lookup Tables Business Object tree, click **Incident Subcategory**.
3. Click the **Form** button .



Tip: You can also click **View>View Form** (from the Object Manager menu bar) or click the **Edit Form** link (under the Appearance area).


4. Under Incident SubCategory Fields, select the **Approval Required** Form Control and drag it to a location that fits your Form design.
5. Save the Blueprint, then perform additional configuration actions in the same Blueprint.

Define Search Results Image Properties for CloudCenter™ Applications

Add a cloud image to the search results image properties for Configuration Items of the virtual machine asset type so that Users can quickly distinguish virtual machine records from other Configuration Item records.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint.

Complete the steps to [Add the Cisco CloudCenter™ Form Control to the Incident Subcategory Form](#).

1. Open the Blueprint you created to perform configuration actions.
2. From the Major Business Object tree, click **Configuration Item > Edit Group > Bus Ob Properties**.
The Business Object properties dialog opens.
3. Click **Search Results**.
4. In the Show Result Images section, check the box for **Show Result Image**, then click the **Custom Expression** button .
The Custom Expression dialog opens.

Complete the following steps in the **If condition is** section:

5. In the Value drop-down, expand **Configuration Item Fields**, then select **Asset Type**.
6. In the Operator drop-down, select **equals**.
7. In the Value drop-down, select **virtual machine**.

Complete the following steps in the **Then assign this** section:


8. In the Value drop-down, expand **Image**, then select **Browse**.
The Image Manager opens.
9. Navigate to **Global > Integrations > CloudCenter**, then select the **Cloud Logo**.
10. Click **OK** in the Image Manager, then click **OK** in the Custom Expression dialog, then click **OK** in the Business Object Properties dialog.
The search result image property is set for CloudCenter™ applications.

Add Account Credentials to the CloudCenter™ Web Service

Save your Cisco CloudCenter™ account credentials in the CloudCenter Web Service using the CSM Web Services Manager so that CSM can access your instance of CloudCenter.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint.

Complete the steps to [Define Search Results Image Properties for CloudCenter™ Applications](#).

1. Open the Blueprint you created to perform configuration actions.
2. Click **Managers > Web Services**
The Web Services Manager opens.
3. Expand the Blueprint folder, then open the CloudCenter folder. Select the **CloudCenter** Web Service.
4. Click the Edit button 
The Web Service Options dialog opens.
5. Click **Accounts**, and verify that the administrator account is selected.
6. Click **Edit**.
The Web Service Account dialog opens.
7. Enter the user ID and password for your instance of Cisco CloudCenter™.
8. Click **OK** on the Web Service Account dialog, then click **OK** on the Web Service Options dialog, then click **Close** on the Web Services Manager.
9. Save the Blueprint, then perform additional configuration actions in the same Blueprint.

Configure Approvals for Cisco CloudCenter™ Application Service Requests

Configure Approvals in the Default and Portal Default Views so that provisioning a requested CloudCenter application requires approval by the appropriate party.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint.

Complete the steps to [Add Account Credentials to the CloudCenter™ Web Service](#).

1. Open the Blueprint you created to perform configuration actions.
2. From the Major Business Object tree, click **Incident > Edit Approvals**.
The Edit Incident Approvals dialog opens.
3. Click **Add**.
The Edit Approval Block dialog opens.
4. Verify that **Trigger Conditions** is selected, then click **Advanced**.
The advanced options appear.
5. In the name field, type **Specifics Approval Client**.
6. Under the pre-populated Group Expression, add the following trigger conditions:
 - Incident.Approval Required equals True
 - Specifics.Approval Required equals True
 - Incident SubCategory.Approval Required equals True
7. Select the group expression, then choose the option **At least one of the items in the group must be true**.
8. Select **Approvers**.
The Approvers options page appears.
9. Follow the steps to add appropriate approvers for Cisco CloudCenter™ Application Service Requests. Refer to [Define Approver Properties](#) for details.
10. Select **Actions**.
The Actions options page appears.
11. In the **Action to take when approval: Approved** section:
 - Uncheck the box for **Executing the action completes the approval process**
 - Check the box for **Set a field** and select **Ready to Provision** from the drop-down. Type **True** in the value field.
 - Check the box for **Run a One-Step**, then click the **Ellipses** button to open the One-Step Action Manager, and select **Global > CloudCenter > Ready to Provision**.
12. Click **OK**, then repeat steps 2-11 for the **Portal Default** View, giving the Approval Block a different name, such as **Specifics Approval Portal**.
13. Click **OK** in the Edit Incident Approvals dialog, then save and publish the Blueprint.

Configuring the Orchestration Pack for the Cisco CloudCenter™ mApp Solution in the CSM Browser Client

After you apply the mApp® Solution to your system, you must perform a series of actions to configure it in the CSM Browser Client.



Important: Before moving on to the configuration actions, we recommend that you first publish the Blueprint that includes the mApp Solution. Then, create a Blueprint to perform the configuration actions in CSM Administrator. Finally, perform the configuration actions in the CSM Browser Client.

Create a Category and Subcategory for Cloud Applications

Create a category and subcategory for virtual machines so that Users can specify the type of support required when Customers make Service Requests for cloud applications.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint, then complete the required configuration procedures in CSM Administrator.

1. From the CSM Browser Client, click the Quick Search control, then select **Service**.
2. Leave the search box empty, then click the search button.
A list of services appears.
3. Select **Cloud Services**.
The Service Form opens.
4. In the Form Arrangement, select the **Categories** tab.
5. Click **New Incident Category**.
6. Complete the Category fields:
 - For Incident Category, type **Cloud Applications**.
 - For Specifics Name, type **Specifics - VM**.
 - Verify that the **Visible in Portal** checkbox is checked.
 - For Image, click **Choose Image > Global > Integrations > CloudCenter**, then select the **Cloud Service Catalog** image.
7. In the Form Arrangement, select the **Subcategories** tab.
8. Click **New Incident Subcategory**.
9. Complete the Subcategory fields:
 - For Service, verify that **Cloud Services** is selected.
 - For Category, select **Cloud Applications**.
 - For Subcategory, type **Request an Application**.
 - Optionally provide a description.
 - For Specifics Name, select **Specifics - VM**.
 - Verify that the **Visible in Portal** checkbox is checked.
 - Optionally, check the box for **Approval Required**.



Remember: You can add the Approval Required checkbox during configuration in CSM Administrator. Refer to [Add the Cisco CloudCenter™ Form Control to the Incident Subcategory Form](#) for details.

10. Click **Save**.



Warning: If you plan to use a translated version of the mApp Solution, translate the Category and Subcategory to the target language before using the mApp Solution in that language. Refer to [Translating Service Catalog Strings](#) for details.

Create a CloudCenter™ Manager Record

Use the CloudCenter™ Manager record to track and manage your Cisco CloudCenter applications and clouds within CSM.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint, then complete the required configuration procedures in CSM Administrator.

1. Open the CSM Browser Client.
2. Click **Searching > Search Manager**.
3. In the Search Manager dialog, change the **Association** to **Application Manager**.
4. Select **CloudCenter Manager**, and then click **Run**.
The system generates a CloudCenter Manager record. Use this record for all subsequent actions related to Cisco CloudCenter.

Import Cisco CloudCenter™ Data

Migrate your existing CloudCenter™ data into CSM so that you can provision new requests using existing data.


Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint, then complete the required configuration procedures in CSM Administrator.

1. Open your CloudCenter™ Manager record.
2. Click **Import Applications**.
The imported applications are visible in the CloudCenter Applications tab. The applications are not selectable because they have not been activated.
3. Click **Update/Import Clouds**.
The imported clouds are visible in the Clouds tab.

Create a Cloud Record for an Application

Specify the environment for a CloudCenter™ application by associating it with a cloud record.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint, then complete the required configuration procedures in CSM Administrator.

1. Open your CloudCenter Manager record.
2. Select the Clouds tab, then do one of the following:
 - Select a cloud record, then click the **Go To** button  to view the record details.
 - Click **Create Cloud Record**.
3. Click **Get Cloud Options**.
4. In the **Select an Available Cloud** dialog, click the cloud name, then click **OK**.
The Resource ID field is populated.
5. In the **VM Application Name** drop-down, select the application to associate with the cloud record.



Note: Each application must have its own cloud record.

6. Click **Save**.

Add VM Size Options for CloudCenter™ Applications


Add size options to the VM Size Lookup Object so that Customers can select from a list of sizes when completing a Service Request for a cloud application.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint, then complete the required configuration procedures in CSM Administrator.

If you do not know the CloudCenter size options for the application, complete the following steps in your instance of Cisco CloudCenter to see a list of possible sizes:

1. Select **App Profiles**, then select the application for which you are adding VM sizes.
2. Complete the required fields, then click **Next**.
3. In the Tier Settings section, you can view a list of possible sizes for the application. Note the size ID that you plan to add (example: T2.Micro). If the application is two-tier, note the details for the database layer.
4. Cancel the deployment.

When you know the size ID to add, complete the following steps in the CSM Browser Client:

5. Click **Tools > Table Management**.
6. In the type drop-down, select **VM Size**.
The VM Size table opens.
7. Click the **Create New** button .
An empty VM Size record opens.
8. Complete the required fields:


Field	Description
Application Name	Select an active application from the drop-down.
Size Order	Give the record an identifier to indicate the order in which it should be displayed (example: 1).
Size Name	Give the record a friendly name (example: X-Small).
Size ID	Provide the CloudCenter™ size ID (example: T2.Micro)

9. **Optional:** If the application is two-tier, you must also specify the size of the database layer. Check the box to **Show Database Details**.
Fields appear for Volume Size and Volume Type.
10. **Optional:** Complete the database fields with information from Cisco CloudCenter (see steps 1-3).
11. Click **Save**.

Activate Imported CloudCenter™ Applications

Activate CloudCenter™ applications so that Customers can request them through the Service Catalog.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint, then complete the required configuration procedures in CSM Administrator.

1. Open your CloudCenter Manager Record.
2. Select an application, then click the **Go To** button .
The VM Application record opens.
3. Select a Default Cloud from the drop-down.
4. Provide a description for the application.
5. Specify which groups can request the application.
For example, write **IT, HR, Operations**.
6. Click **Add New VM Size**.
The VM Size Lookup Object opens. Follow the steps to [Add VM Size Options for CloudCenter™ Applications](#).
7. Check the box for **Application Active**.
8. Click **Save**.
The application is now active and selectable from the CloudCenter Manager Record.

Import Active Deployments as Configuration Items



Migrate your active application deployments from Cisco CloudCenter™ so that you can manage them as Configuration Items in CSM.

Apply the Cisco CloudCenter™ mApp® Solution using the Apply mApp Solution wizard and publish the resulting Blueprint, then complete the required configuration procedures in CSM Administrator.

1. Open your CloudCenter Manager record.
2. Click **Import Deployments as CIs**.
CSM imports all active deployments from your instance of Cisco CloudCenter as Configuration Items.



Remember: Only deployments in the active status are imported.

3. The Configuration Item records for imported deployments appear in the **Deployments** tab. Imported records appear orange, indicating that they are not assigned to Customers.
4. Select an orange Configuration Item record, then click the **Quick View** button .
The Quick View dialog opens for the selected record.
5. Under **Primary User**, click the **Customer Selector** button .
The Contact Manager opens.
6. Select the Customer to assign, then click **OK**.
7. Add or edit information about the Configuration Item.
8. Click **Save**.
The Configuration Item record appears black in the Deployments tab, indicating that it is assigned to a Customer.

Using the Orchestration Pack for the Cisco CloudCenter™ mApp Solution

Use the Cisco CloudCenter™ mApp® Solution to deploy application profiles and related components and data to a configured data center or cloud environment using the CSM Service Request process.

Request a Cisco CloudCenter™ Application in the Customer Portal

Use the Service Catalog to submit a Service Request for a Cisco CloudCenter™ application.

1. Open the Customer Portal.
2. Click **Service Catalog > Cloud Services > Applications > Request an Application**
The Request an Application page opens.
3. Select the application type.



Remember: Customers can only request applications that are available to their groups. Specify which groups can request an application in the application record.

4. Select the cloud.
5. Select the instance size.
6. Provide justification for the request.
7. Click **Add to Cart**.
The My Service Cart page opens.
8. Click **Continue Shopping** to add additional services to your cart; otherwise, click **Submit Order**.

Approve a Service Request for an Application

Approve Service Requests for Cisco CloudCenter™ applications, and trigger automatic actions in CSM to provide access instructions to Customers.

1. Within the Service Request record, check the box for **Deployment Request Ready**, then click **Save**.
2. If you set up additional Approvals, their statuses appear in the Form Arrangement under the **Approvals** tab. Obtain the necessary Approvals to provision the application.

The following steps happen automatically:

3. CSM sends the job request to Cisco CloudCenter™.
4. CloudCenter deploys the application, and CSM creates a new Configuration Item in the Configuration Management Database (CMDB).
You can open the Configuration Item record to view its details or perform additional actions against the record.
5. Creating the Configuration Item triggers an e-mail from CSM to the assigned customer with access instructions for the application.



Tip: You can also manually send the e-mail with access instructions. Within the Service Request record, click **E-mail Access Instructions**.


Check the Status of a Build

View the status of a Cisco CloudCenter™ build to verify whether it is pending or complete.

1. Open the Search Manager.
2. Change the Association to **VM Request**.
The VM Request searches appear.
3. Select **All VR Requests**, then click **Run**.
CSM returns all VR Request records.
4. Double-click on a VR Request record.
The VR Request record opens and shows the status of the build. CSM updates the build status every three minutes.

Run an Action Against a Deployment

Run actions against a Cisco CloudCenter™ deployment to change its status.

1. Select a deployment from the CloudCenter Manager record, then click the Quick View button . The Quick View dialog opens for the selected record.
2. In the details section, click the **Available Actions** drop down.
3. Select from the following actions:

Action	Description	Notes
Resume	Use this action to resume access to a deployment that is suspended.	This action is only available for deployments that are suspended.
Suspend	Use this action to suspend access to a deployment that is active.	This action is only available for deployments that are active.
Terminate	Use this action to terminate a deployment.	This action is available to both suspended and active deployments.

4. Click **Save**.

Orchestration Pack for Microsoft Active Directory

1.0

The Orchestration Pack for Microsoft Active Directory mApp® Solution allows users to execute activities and commands in external systems that are typically done manually.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 8.0.0

Out-of-the-Box Content Version Requirements: Tested on CSM 8.0.0

Prerequisite Requirements: None

Overview

The Orchestration Pack for Microsoft Active Directory is only available for the CSM Desktop Client. This mApp Solution includes multiple features such as automation processes, and One-Step Actions that support the following commands: Get Account Info, Reset Password, Enable Account, Unlock Account, Clear Expiration, Set Expiration, Add Account to Group, List Group Members, Set Home Directory, Get Computer Info, Disable Computer Account, and Enable Computer Account.

Functionality requires initial configuration. The mApp Solution has two lookup tables for configuring the application:

- Orchestration Pack AD Group: Populated with common Active Directory group names, which can be modified by the User through table management. This table is used to populate prompts for Add Account to Groups functionality.
- Orchestration Pack Prompt: Two rows, specifying either 1 or 0 for Prompt for Credentials or Do Not Prompt for Credentials. This table is not populated through Table Management.

A series of Stored Values are used to pass parameters between Object-associated One-Step Actions and generic master One-Step Actions that contain PowerShell scripts. The One-Step Actions write the PowerShell scripts to temporary files, execute the files, and store the results in Stored Values for display and logging in the Journal – Integrations Audit file.



Note: For SaaS Customers, the provided One-Step Actions do not work with the Automation Process Service unless the Automation Process Service is installed locally.

The table below shows:

- Runbook: The name of the runbook. This is what the Users see in the menu bar or Task Pane.
- Business Object Associations: These are the CSM Business Objects that the runbooks can be initiated from.
- Description: What the runbook does.

Runbook	Business Object Associations	Description
Get Account Info	Customer, Incident	Displays summary of Active Directory Account settings.
Reset Password	Customer, Incident	Prompt user for new password, set password in account, set account to change password on next login.
Disable Account	Customer, Incident	Disables an AD user account
Enable Account	Customer, Incident	Enables an AD user account
Unlock Account	Customer, Incident	Unlocks an AD user account
Clear Expiration	Customer, Incident	Clears the expiration date set on an AD account
Set Expiration	Customer, Incident	Sets the expiration date of the account
Add Account to Group	Customer, Incident	Adds the current account to an AD group
List Group Members	Customer, Incident	Presents a list of all accounts that are members of the group
Get Computer Info	CI, Incident	Displays summary of AD Computer account settings
Disable Computer Account	CI, Incident	Disables the Computer account
Enable Computer Account	CI, Incident	Enables the Computer account



Note: These runbooks can only be run via the CSM Desktop Client. The commands cannot be run from the Browser Client.

How the mApp Solution Works

CSM provides the Orchestration Pack for Microsoft Active Directory as a mApp Solution so that Users can easily incorporate Active Directory runbooks into their existing CSM system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	Orchestration Pack AD Group, Orchestration Pack Credential Prompt, Journal - Integrations Audit	Import
	Config - Computer, Config - Server, Customer, Incident, Journal, Customer, Customer-Internal	Don't Change

Item Category	Item	Typical Merge Action
Image Definitions	Windows 128x128, Windows 32x32, Windows 64x64	Import
One-Step Action	Check Prereq, CI-Disable Computer Account, CI-Enable Computer Account, CI-Get Computer Info, CI-Server Disable Server Account, CI-Server Enable Server Account, CI-Server Get Server Info, Customer-Add Account to Group, Customer-Clear Account Expiration, Customer-Disable Account, Customer-Enable Account, Customer-Get Account Info, Customer-List Group Members, Customer-Reset Password, Customer-Set Account Expiration, Customer-Set Home directory, Customer Unlock Account, Incident-Clear Account Expiration, Incident-Disable Account, Incident-Disable Computer Account, Incident-Enable Account, Incident-Enable Computer Account, Incident-Get Account Info, Incident-Get Computer Info, Incident-List Group Members, Incident, Reset Password, Incident-Set Account Expiration, Incident-Set Home Directory, Incident-Unlock Account, Master-Add Account to Group, Master-Clear Account Expiration, Master-Disable Account, Master-Disable Computer Account, Master-Enable Account, Master-Enable Computer Account, Master-Get Account Info, Master-Get Account Info-Short, Master-Get Computer Info, Master-List Group Members, Master-Reset Password, Master-Set Account Expiration, Master-Set Home Directory, Master-Unlock Account, Set Credential Prompt	Import
Stored Values	OP Active Directory Credentials, OP Active Directory Parameter, OP Active Directory Parameter Options, OP Active Directory Prereq Check, OP Active Directory Result Details, OP Active Directory Run Results, OP Active Directory Version	Import
Themes	Professional Grey	Don't Change

Merge Actions

- Import: Add new item.
- Overwrite: Replace target item.
- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

Related Reading

- [About Directory Services](#)
- [About mApp Solutions](#)
- [Microsoft Active Directory Integration](#)

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

1. [Configure the Orchestration Pack for Microsoft Active Directory](#).

How to Use the mApp Solution

- [Using the Active Directory Runbooks in CSM](#).

Configuring the Orchestration Pack for Microsoft Active Directory

Complete the following procedure to configure the Customer Satisfaction Indicator mApp Solution.



Note: The Orchestration Pack for Microsoft Active Directory is only available for the CSM Desktop Client.

1. [Set the Stored Value.](#)
2. [Configure PowerShell.](#)



Note: PowerShell Version 3 or later is required for the mApp Solution functionality to work.

3. [Configure Active Directory Groups.](#)

When the configuring steps are complete, refer to Use the [Active Directory runbooks](#).

Set the Credential Prompt Stored Value

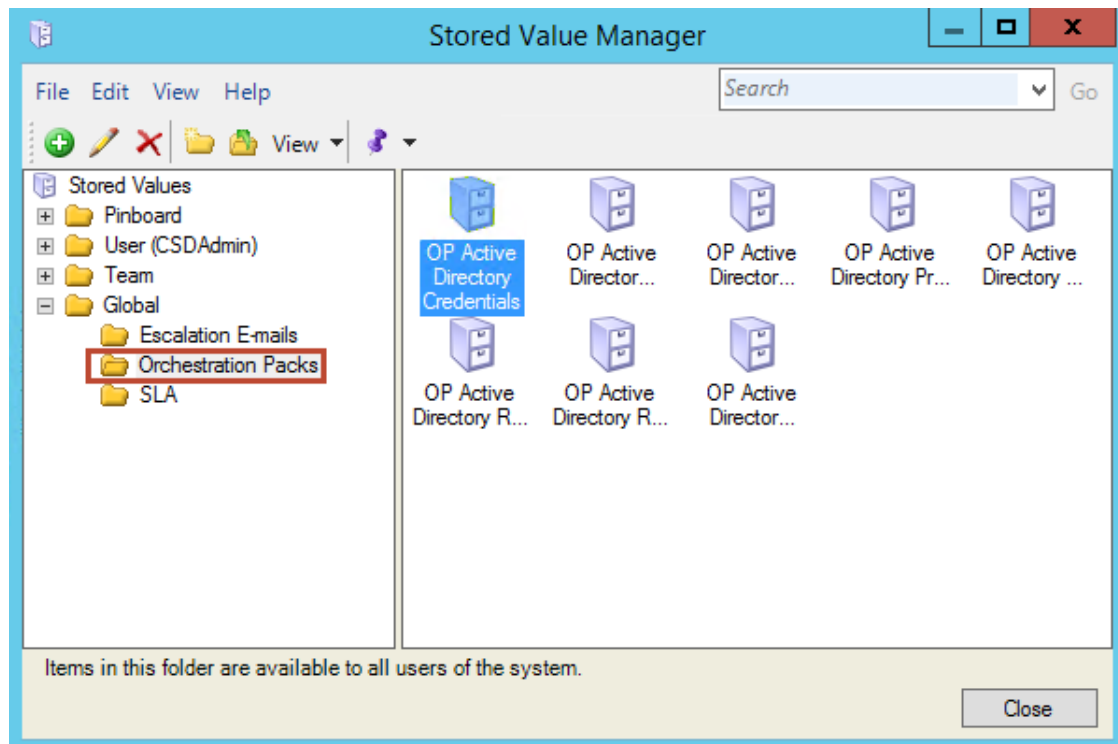
The below procedures are the first steps in configuring the Orchestration Pack for Microsoft Active Directory. The Credential Prompt stored value determines whether a User is prompted for Active Directory credentials when a runbook is executed. If it is set to prompt, the User must enter credentials for each runbook execution. The credentials are used for that execution only and are never stored in CSM. If the stored value is set to not prompt, then the current User's session credentials are used to execute the runbook.



Note: This functionality is only available if you have applied the Orchestration Pack for Microsoft Active Directory mApp Solution. For more information, see [Orchestration Pack for Microsoft Active Directory](#).

To set the credential prompt stored value:

1. In CSM Administrator, click the **Settings** category, and then click the **Open Stored Value Manager** task.
 - a. In the folder tree, select **Global>Orchestration Packs**.
 - b. Select **OP Active Directory Credentials**.



- c. Click the **Edit** icon.

The Stored Value window opens.

- d. In the Default Value field:
 - i. Set value to 1: Require Users to log in with their Active Directory credentials every time an Active Directory runbook is initiated.
 - ii. Set value to 0: Do NOT require Users to login before initiating an Active Directory runbook.

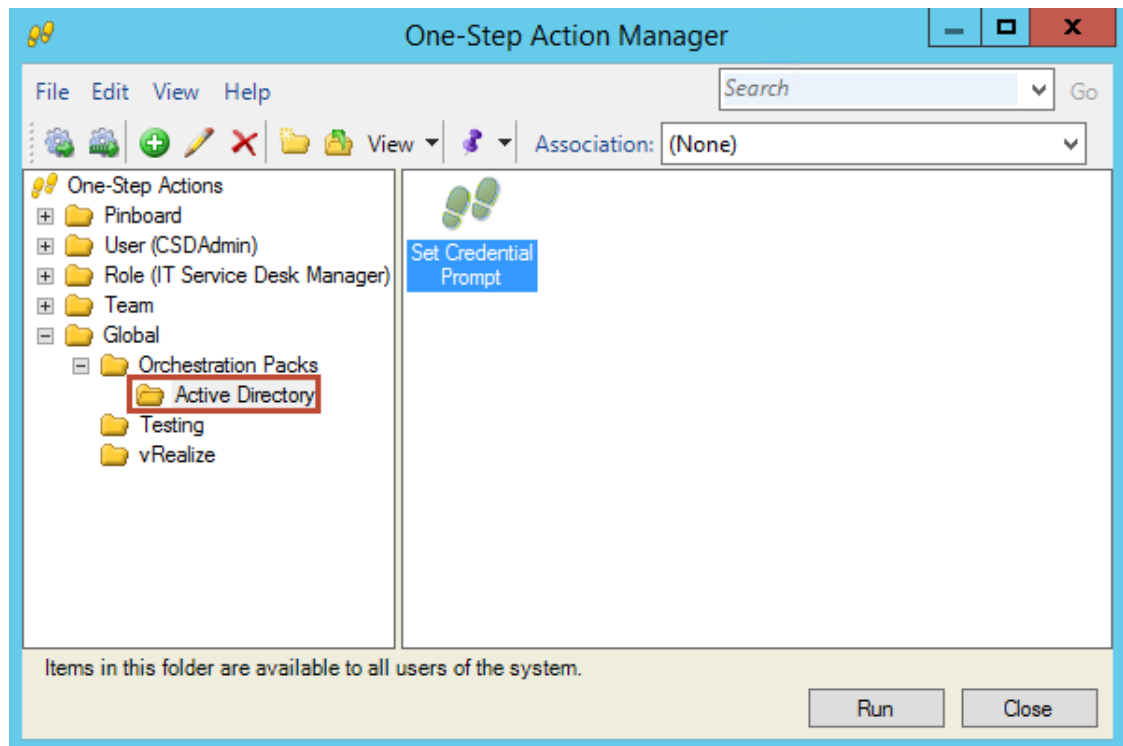
The screenshot shows a 'Stored Value' dialog box with the following fields and options:

- Name:** OP Active Directory Credentials
- Description:** 0 for no prompt (pass current user) 1 for prompt for credentials
- Type:** Number
- Default Value:** 1.000 (highlighted with a red rectangle)
- ☒ Value is user-specific
- ☒ Remember the user specific values between sessions
- Buttons: Options..., OK, Cancel

2. In the CSM Desktop Client, open the One-Step Manager.

To open the One-Step Manager:

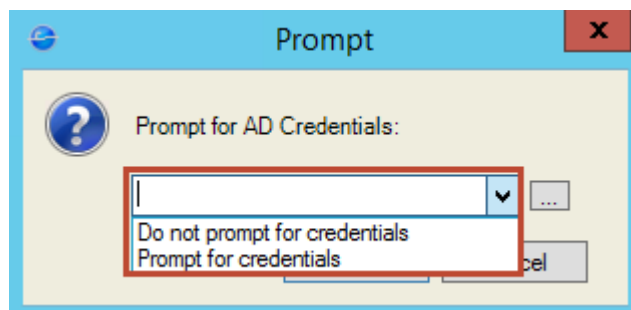
- a. The One-Step Manager can be opened several ways:
 - From the CSM Desktop Client menu bar, click **One-Step>One-Step Manager**.
 - From the Browser Client menu bar, click **One-Step>One-Step Manager**.
 - From the Blueprint Editor menu bar in CSM Administrator, click **Managers>One-Step Manager**.
 - From One-Step Action selectors throughout CSM (ex: When adding One-Step Actions to various areas within CSM).
- a. In the Association drop-down, select **None**.
- b. Select **Global>Orchestration Packs > Active Directory**.
- c. Select **Set Credential Prompt**.



- d. Click **Run**.
- e. Use the drop-down to select **Do not prompt for credentials** or **Prompt for credentials** in the Prompt window.

A Credential Values window opens to confirm the selection.

Note: Additional values can be used in the drop-down. Add the options by clicking the **ellipsis** button and adding them in the Orchestration Pack Credential Prompt Selector window.



Configure PowerShell for Active Directory Orchestration Pack

The below procedure is the second step in configuring the Active Directory Orchestration Pack.



Note: This functionality is only available if you have applied the Active Directory Orchestration Pack mApp Solution. For more information, refer to the [Active Directory Orchestration Pack](#) documentation.



Note: PowerShell version 3 or later is required for the mApp Solution functionality to work.

Executing the Active Directory runbooks requires the Active Directory PowerShell cmdlets be present on the system. To install the cmdlets, the Microsoft Remote Server Administration Tools must be installed. Download links for Windows desktop operating systems are provided below. For Windows Server follow the instructions in the next section.

- Windows 7: <http://www.microsoft.com/en-us/download/details.aspx?id=7887>
- Windows 8: <http://www.microsoft.com/en-us/download/details.aspx?id=28972>
- Windows 8.1: <http://www.microsoft.com/en-us/download/details.aspx?id=39296>
- Windows 10: <https://www.microsoft.com/en-us/download/details.aspx?id=45520>

To install the Active Directory PowerShell cmdlets on Windows Server:

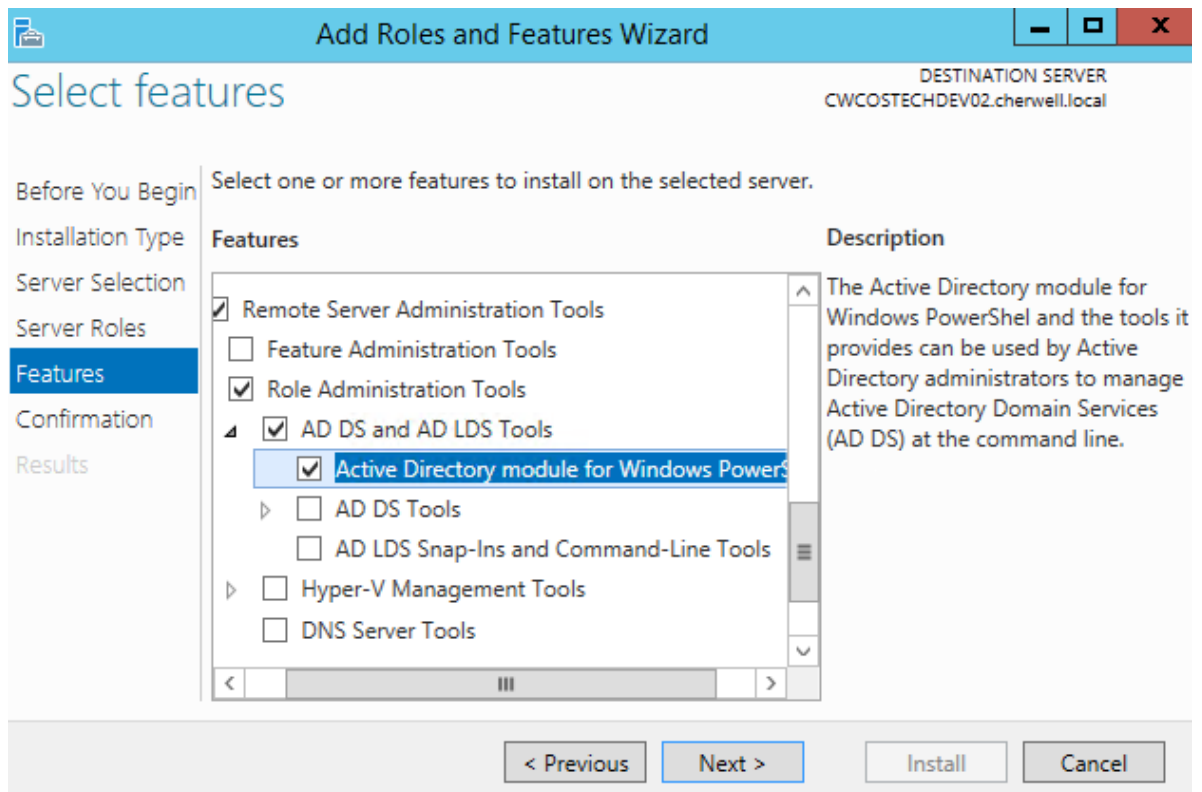


Note: If the required PowerShell cmdlet library is not installed, the first time a runbook runs a dialog opens containing links to Microsoft to download the applicable PowerShell library.

1. Open the Server Manager.
2. Click **Add roles and features**.

The Add Roles and Features Wizard opens.

3. Click **Next** until the Features option is highlighted in the left pane.
4. In the features window, go to **Remote Server Administration Tools > Roles Administration Tools > AD DS and AD LDS Tools**.
5. Select the **Active Directory module for Windows PowerShell** checkbox.



6. Select **Next**.

Confirmation is highlighted in the left pane.

7. Click **Install**.

8. Select **OK**.

Configuring Active Directory Groups

The below procedure is the final step in configuring the Orchestration Pack for Microsoft Active Directory.



Note: This functionality is only available if you have applied the Orchestration Pack for Microsoft Active Directory mApp Solution. For more information, see [Orchestration Pack for Microsoft Active Directory](#).

To view Active Directory Groups:

1. In CSM Desktop, click the **Tool** menu option, then select **Table Management**.
2. In the Type drop-down, select **Orchestration Pack AD Groups**.

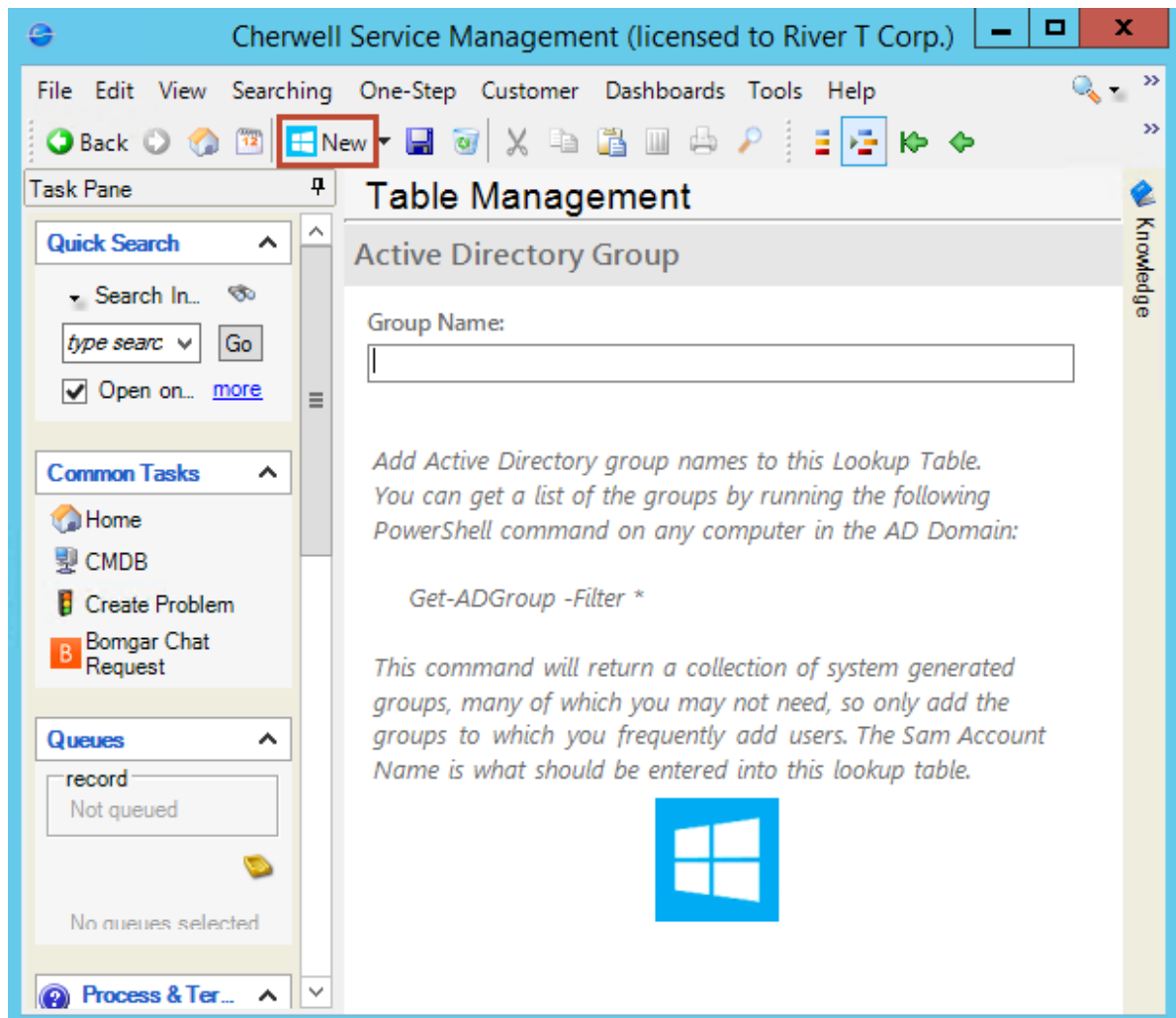
Some of the most common groups are pre-loaded.

The screenshot shows the CSM desktop application with the 'Table Management' window open. The 'Type' dropdown menu is set to 'Orchestration Pack AD Groups'. The table displays the following data:

Group Name	Created Date Time
Administrators	8/25/2015 10:08 AM
Domain Users	8/25/2015 10:11 AM
Guests	8/25/2015 10:08 AM
Remote Desktop Users	8/25/2015 10:10 AM
Users	8/25/2015 10:08 AM

To add Active Directory Groups:

1. Click **New** in the toolbar.
2. Provide the **Group Name**.
3. Click **Save**.



Using the Active Directory Runbooks in CSM

When the configuration is complete, the below procedure shows how to use the Orchestration Pack for Microsoft Active Directory in the CSM Desktop Client. The Active Directory runbooks are accessed from the Task Pane or from an Action menu bar. Runbooks for User Accounts have a User icon. Runbooks for computers or servers have a computer icon.



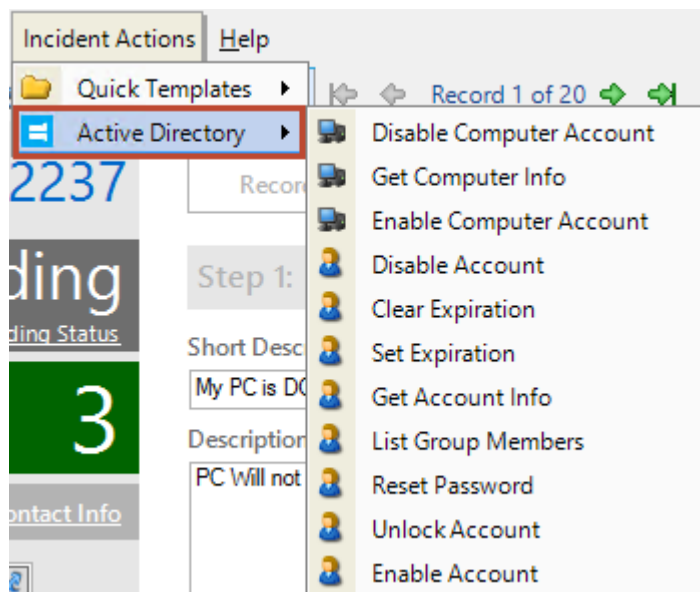
Note: The runbooks in an Incident/Service request associated with CI-Computer are disabled when there is not an associated computer in the Incident.



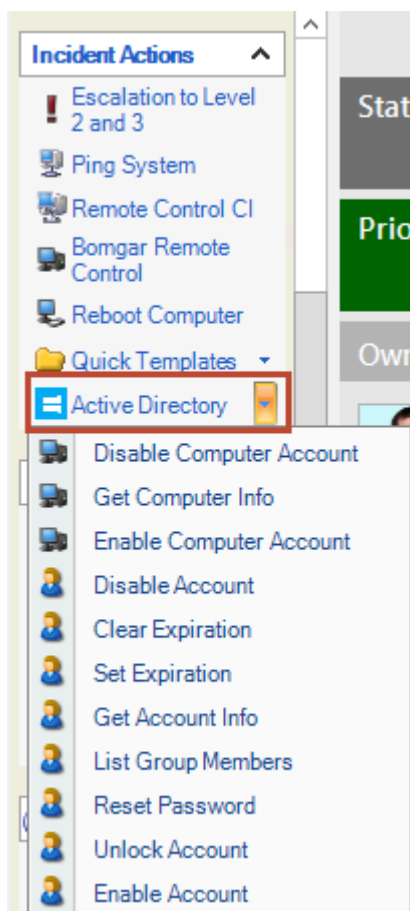
Note: This functionality is only available if you have applied the Orchestration Pack for Microsoft Active Directory mApp Solution. For more information, see [Orchestration Pack for Microsoft Active Directory](#).

To use the Active Directory Runbooks in the Desktop Client:

1. Open an Incident.
2. View the available runbooks:
 - a. In the menu bar, click **Incident Actions**. Select **Active Directory**.



- b. In the Task Pane, click the **Active Directory** drop-down.



Orchestration Pack for Microsoft® Azure® 1.0

The Orchestration Pack for Microsoft® Azure® mApp® Solution allows technicians to easily fulfill requests for Azure® virtual machines (VMs) using the Service Request Model.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 8.2.1

Out-of-the-Box Version Requirements: Tested on CSM 8.1.0

Prerequisites: None

Overview


Microsoft® Azure® is a collection of integrated services that are accessible from the cloud. When the mApp Solution is applied, Customers can easily request a new Azure® VM from the Service Catalog and then initiate second day actions for the VM (example: Restart, power off, deallocate, etc.) directly from the Customer Portal. After the request is submitted, a technician can reference it using the Service Request record.

Service Request 102263

Status **In Progress**
Next: Resolve


Priority **2**

Requestor: Alternate Contact Info




Christine Day
Christine.Day@RiverTCorp.com
(719) 386.7000

Owned By: Assign To...



Gina Mehra
IT Management
833-898-7381
gina.mehra@RiverTCorp.com

SLA: More Info...



Silver
(Customer SLA)
Respond By: 2/24/2016 10:00 AM
Resolve By: 2/26/2016 8:00 AM

I Want To:

[Take Ownership](#)
[Escalate to Level 2](#)
[View Detailed Date/Time Information](#)
[Link to Existing Major Incident](#)
[Submit to Knowledge Base](#)
[Track Time](#)

[Set to Pending](#)

Record | Classify | **Fulfill** | Resolve | Close


Step 1: Record the Details Last Edited 2/23/2016 5:30 PM by Henri Bryce

Short Description:
Request for VM for Testing Purposes

Call Source:
Phone

Description:
Christine requires a VM to test new site designs.

Step 2: Classify (clear classifications)

Service:
Cloud Services 

Category:
Virtual Machines (VM)

Subcategory:
Request Azure VM

Priority:
2

Impact: Must Have
Urgency: Standard

Primary CI:

Step 3: Fulfill the Service Request

Request Virtual Machine

Virtual Machine Template:
Standard VM

Size:
Medium

OS Name:
Windows Server 2008-R2 SP1

CPU Cores:
2

Memory:
3.5 GB

Disks:
4

Max Disk Size:
135 GB

Max NICs:
2

Max IOPS:
2000

Template Description:
Standard Virtual Machine template accommodating 1-16 CPU cores, 1-16 NICs, 798 MB to 112 GB of memory and up to 16 data disks (1023 GB each)

Justification / Rationale:
To be used for testing new site designs.

☒ VM Request Ready
(VM cannot be provisioned until checked)

When a VM is requested, an Automation Process initiates a One-Step™ Action to send a request to Azure® using the Customer's credentials and specifications. If the request is successful, the One-Step Action e-mails the Customer, updates the Service Request record by creating a Journal entry, and creates a new Virtual Machine CI for the VM. If the request to Azure® is unsuccessful, the One-Step sends an e-mail to the Customer and updates the Service Request record by creating a Journal entry that includes an error message.



Note: To use Microsoft® Azure® virtual machine functionality, you must create an Azure® account and purchase a virtual machine. Before applying the mApp Solution, have the following information available for reference: client ID, key, resource group, subscription ID, and tenant ID. Refer to the Microsoft® Azure® website for more details (<https://azure.microsoft.com/en-us/>).

How the mApp Solution Works

CSM provides Microsoft® Azure® as a mApp Solution so that Users can fulfill requests for Azure® virtual machines (VMs) using the Service Request Model.

Download the mApp Solution from the [mApp Exchange](#).

Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	CI VM Status, Config - Virtual Machine, Journal - Integrations Audit, Specifics - Azure VM, VM Action, VM Default Size, VM OS, VM Request, VM Size, VM Template	Import
	CI Asset Type, Configuration Item, Incident Category, Incident SubCategory, Journal, Specifics	Don't Change
Automation Process	getAzure Status, Request VM	Import
Counter	VM Counter	Import
Dashboard	My Devices, My Service Cart, My Service Orders	Don't Change
Image	Windows 32x32	Import
One-Step Action	Assign to ANY Individual, Assign to Individual, Assign to Team, Create Change Request for Action, Create CI, Create VM Request, Date Time Info Popup, Deallocate Virtual Machine, Master Get Bearer Token, Request Status Update, Reset Access Virtual Machine, Restart Virtual Machine, Run VM Action, Select Action Type, Shutdown Virtual Machine, Start Virtual Machine, Take Ownership	Import
Expression	400, 401, 403, 404, 405, 409, 500, 503, Action Text, Asset Tag, CMDB Permanent Fields Locked, json, Request VM Criteria, Team Entitlement, VM User Threshold	Import
Stored Query	ALL Requests, Requests Failed, Requests Pending, Requests Succeeded	Import
Stored Value	API Version, Azure Integration Version, Bearer Token, Client ID, Content Type, Key, Resource Group, Subscription ID, Tenant ID	Import
Theme	Professional Grey	Don't Change
Web Service	Azure Login, Azure Management	Import
Widget	Devices Assigned to Me, My Open Service Orders, My Service Cart Total, My Service Order History, Service Availability, Service Cart Item Grid, Service Order Status	Don't Change

Merge Action Key:

- Import: Add new item.
- Overwrite: Replace target item.

- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

Related Reading

- [About mApps](#)
- [About Customer Portals](#)
- [Logging Incidents](#)
- [Create a Group Map](#)

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:



Note: Before applying the mApp, have the following information available for reference: client ID, key, resource group, subscription ID, and tenant ID. You will provide this information using the Apply mApp wizard.

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

After applying the mApp Solution, perform the following high-level steps to configure the mApp Solution:

1. [Define Security Rights for Azure®](#)
2. [Define Subcategory Classification for Azure®](#)
3. [Define the Virtual Machine template for Azure®](#)



Note: If you are using the 8.1.0 out-of-the-box (OOTB) content, you must define the new Specifics Form validation for the Customer Portal before publishing the Blueprint. In the Portal default view, right-click the Specifics TypeID and select Edit Business Object. Click the Specifics TypeID and then click the Field Properties button. On the Validation/Auto-populate page, deselect the Populate Using Map field. On the Properties page, select the Calculated Value check box, click the arrow button, and then select the ellipses button next to the Expression field. In the Expression Manager, select the Blueprint folder and then

select the Specifics Picker Expression. After the Expression is selected, update the Blueprint.

How to Use the mApp Solution

There are multiple ways to use the mApp Solution functionality, including:

- [Request an Azure® virtual machine using the Service Catalog in the Customer Portal](#)
- [Request an Azure® virtual machine using the Service Request form in the CSM Desktop Client](#)

Configuring the Orchestration Pack for Microsoft® Azure®

Complete the following procedures to configure the Orchestration Pack for Microsoft® Azure®. Configuration procedures are completed in CSM Administrator and in the CSM Desktop Client.

1. [Define Security Rights for Azure®](#)
2. [Define Subcategory Classification for Azure®](#)
3. [Define the Virtual Machine template for Azure®](#)

Define Security for Azure®

Use the Business Object Editor and Security Group Manager in CSM Administrator define security for Azure®. When you define security, you:

- Enable Field encryption for the Admin Password field on the Virtual Machine Configuration Item Form.
- Define Business Object Security Rights for the Portal Customer Security Group and Portal Workgroup Manager Security Group. Business Objects associated with this mApp Solution do not support any rights by default.



Note: This functionality is only available if you have applied the [Orchestration Pack for Microsoft® Azure®](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

Enable Field Encryption

To enable Field encryption for the Admin Password field on the Virtual Machine Configuration Item Form:

1. In the Object Manager, click **Config - Virtual Machine** in the Object tree, and then click the **Edit Business Object** task in the Structure area.
The Business Object Editor opens.
2. Click the **Admin Password** field, and then click the **Field Properties** button.
3. Click the **Advanced** page.
4. Select the **Enable Field Encryption** check box.
5. In the drop-down, select an encryption key (encryption keys are managed using the Server Manager).
6. Click **OK**.

Define Security Rights

To define Business Object security rights for the Portal Customer Security Group and Portal Workgroup Manager Security Group:

1. In the CSM Administrator main window, click the **Security** category, and then click the **Edit Security Groups** task.
2. Define the following Business Object rights for the Portal Customer Security Group:
 - Config - Virtual Machine: Select rights to View, Add, and Edit.
 - New Field: Select rights to View and Edit.
 - Journal - History: Select the right to Add.
 - New Field: Select rights to View and Edit.
 - Journal - Integrations Audit: Select rights to Add and Edit.
 - New Field: Select rights to View and Edit.

- Specifics - Azure VM: Select rights to View, Add, and Edit.
 - New Field: Select rights to View and Edit.
3. Define the following Business Object rights for the Portal Workgroup Manager Security Group:
- Config - Virtual Machine: Select rights to View, Add, and Edit.
 - New Field: Select rights to View and Edit.
 - Journal - History: Select the right to Add.
 - New Field: Select rights to View and Edit.
 - Journal - Integrations Audit: Select rights to Add and Edit.
 - New Field: Select rights to View and Edit.
 - Specifics - Azure VM: Select rights to View, Add, and Edit.
 - New Field: Select rights to View and Edit.
4. (Optional) Define Business Object rights for the following Business Objects:
- CI VM Status
 - VM Action
 - VM Default Size
 - VM OS
 - VM Request
 - VM Size
 - VM Template
5. Select **OK**.

Define Subcategory Classification for Azure®

If you are using CSM 8.1.0 or greater, use [Table Management](#) in the [CSM Desktop Client](#) to define the Azure® SubCategory classification. When you define the classification, you select the VM Specifics Form so that the appropriate form displays when the classification is selected. You can also select a default Team and the option of using an Approval , if necessary.



Note: If you are using a version of CSM earlier than 8.1.0, use the Group Map Editor to point the Request Azure VM SubCategory to the Azure VM Specifics Form.



Note: This functionality is only available if you have applied the Orchestration Pack for Microsoft® Azure®. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define the SubCategory classification:

1. Open the Table Management interface.
2. In the Type drop-down, select **Incident SubCategory**.
3. In the Grid, select the **Cloud Services/Virtual Machines (VM)/Request Azure VM** classification.

The Subcategory form opens.

- a. In the Specifics Name field, select **Specifics - Azure VM**.
 - b. (Optional) In the Default Team field, select the **Team** that should be assigned the Incident by default when the classification is used.
 - c. (Optional) Select the **Approval Required** check box to initiate the defined Approval process when the classification is used.
4. Click **Save**.
 5. Close the Table Management interface.

Define the Virtual Machine Template for Azure®

Use [Table Management](#) in the [CSM Desktop Client](#) to define the Azure® virtual machine template, if necessary. The template is used to communicate parameters and their corresponding values between CSM and Azure®. CSM provides a standard demo template, but you can use an alternative template, if necessary. Additional templates are available on GitHub (<https://github.com/Azure/azure-quickstart-templates>).

When you create a Service Request for a virtual machine (either in the CSM Desktop Client or via the Customer Portal) and select the VM Request Ready check box, an Automation Process is initiated; the Automation process includes a One-Step that replaces the parameters with values specific to the Service Request and then initiates the virtual machine build process.



Note: This functionality is only available if you have applied the [Orchestration Pack for Microsoft® Azure®](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define the Azure® virtual machine template:

1. In the CSM Desktop Client, open the Table Management interface (**Tools>Table Management**).
2. In the Type drop-down, select **VM Template**.
3. In the Grid, double-click **Standard VM**.

The Virtual Machine Template form opens.

Virtual Machine Template

Template Name: Available on Portal: ☒ Yes ☐ No

Template Description:

Template JSON:

```
{
  "properties": {
    "template": {
      "schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#",
      "contentVersion": "1.0.0.0",
      "parameters": {
        "adminUsername": {
          "type": "string",
          "metadata": {
            "description": "Username for the Virtual Machine."
          }
        },
        "adminPassword": {
          "type": "securestring",
          "metadata": {
            "description": "Password for the Virtual Machine."
          }
        }
      }
    }
  }
}
```

- a. Define the basic details:
 - i. Template Name: Do not edit.

- ii. Available on Portal: Select whether or not the Standard VM option is available on the Portal.



Note: At least one template must be available on the Customer Portal. Customers will not be able to submit the request for a virtual machine if the template is not selected.

- iii. Template Description: Edit the template description by adding additional details.
- b. Define the template JSON, if necessary:
 - i. Download a **template**. Templates are available on GitHub (<https://github.com/Azure/azure-quickstart-templates>).
 - ii. In the Template JSON field, paste the **JSON**.
 - iii. In the Parameters block of the Template JSON field, replace the new parameters with the generic parameters from the standard demo template.



Note: The generic parameters are required for the Create VM Request One-Step™ Action to function properly. If the alternative template uses additional options, the corresponding parameter values must be added to the One-Step Action (Incident association>Blueprint>Create VM Request).

- 4. Close the Table Management interface.

Using the Orchestration Pack for Microsoft® Azure®

When using the Orchestration Pack for Microsoft® Azure®, Users can:

- [Request an Azure® virtual machine using the Service Catalog in the Customer Portal.](#)
- [Request an Azure® virtual machine using the Service Request form in the CSM Desktop Client.](#)

Request an Azure® Virtual Machine in the Customer Portal

Use the [Customer Portal](#) to request an Azure® virtual machine.



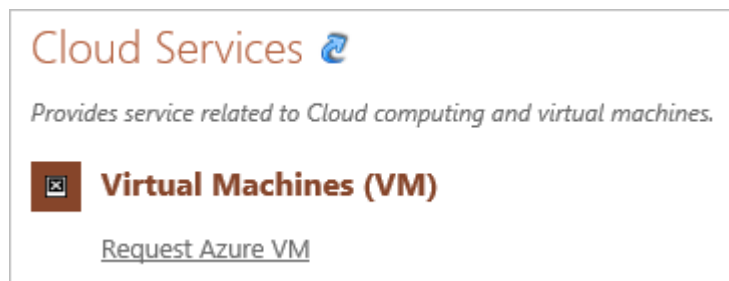
Note: This functionality is only available if you have applied the [Orchestration Pack for Microsoft® Azure®](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To request a virtual machine in the Customer Portal:


1. Navigate to **http://server/CherwellPortal** where *server* is the location where the CSM Browser applications are installed.
2. Log in to the Portal:
 - a. Click the **Click to login** link to log in to the Portal Site.
 - b. Provide **login credentials** (User Name and Password) for a User who has rights to access the Customer Portal.
 - c. Click **Sign-in**.
3. In the Customer Service Portal toolbar, click **Service Catalog**.

The Service Catalog page opens.

- a. In the Cloud Services>Virtual Machines (VM) section, click the **Request Azure VM** Service.



The Request VM form opens.



Request Azure VM

Please fill out the following information: Add to Cart

Select Virtual Machine Type:

Description:

Storage:	# of Disks	Memory:	CPU Cores:
<div style="border: 1px solid #ccc; height: 20px; width: 100%;"></div>	<div style="border: 1px solid #ccc; text-align: center; width: 100%;">0</div>	<div style="border: 1px solid #ccc; height: 20px; width: 100%;"></div>	<div style="border: 1px solid #ccc; text-align: center; width: 100%;">0</div>
NICs:	Max IOPS :		
<div style="border: 1px solid #ccc; text-align: center; width: 100%;">0</div>	<div style="border: 1px solid #ccc; text-align: center; width: 100%;">0</div>		

Select Virtual Machine Size:

☐ Extra-Small
 ☐ Small
 ☐ Medium
 ☐ Large
 ☐ Extra-Large

Select Operating System:

Justification / Rationale:

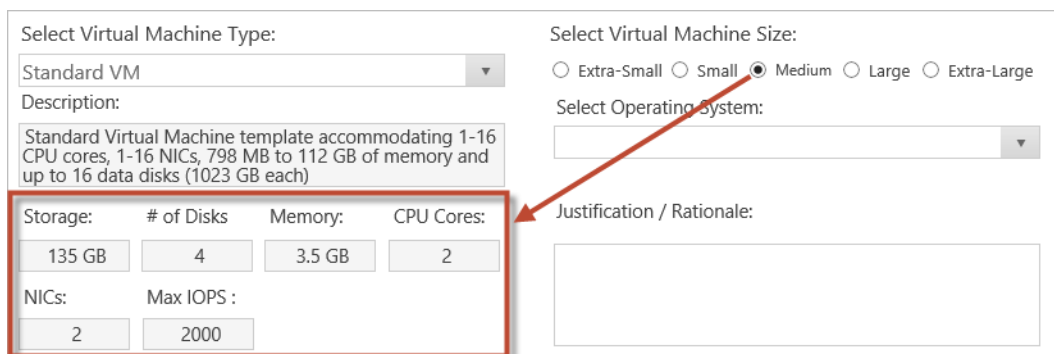
b. Complete the **Request Azure VM** Specifics Form:

- i. Select Virtual Machine Type: Select a predefined **template** from the drop-down. This field is required.

The description (read-only) field is auto-populated when the virtual machine type is selected.

- ii. Select Virtual Machine Size: Select a **size** for the virtual machine.

The following read-only fields are auto-populated when the size is selected: Storage, # of Disks, Memory, CPU Cores, NICs, and Max IOPS.



Select Virtual Machine Type: Standard VM

Description: Standard Virtual Machine template accommodating 1-16 CPU cores, 1-16 NICs, 798 MB to 112 GB of memory and up to 16 data disks (1023 GB each)

Select Virtual Machine Size: ☐ Extra-Small ☐ Small ☒ Medium ☐ Large ☐ Extra-Large

Select Operating System:

Justification / Rationale:

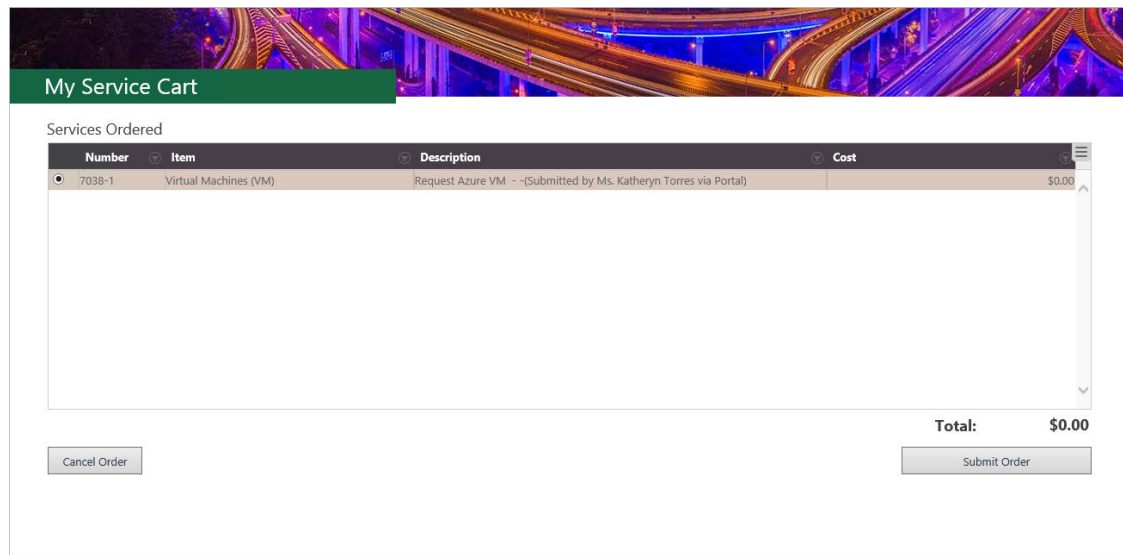
Storage:	# of Disks	Memory:	CPU Cores:
135 GB	4	3.5 GB	2
NICs:	Max IOPS :		
2	2000		



Note: The size field is populated using the VM Size Lookup Table in Table Management.

- iii. Select Operating System: Select the **name** of the Customer's operating system from the drop-down.
- iv. Justification/Rationale: Provide **additional details** about the VM request.
- c. Click the **Add to Cart** button.

The Service Request displays on the My Service Orders page in the Services Ordered section.



The screenshot shows the 'My Service Cart' interface. At the top, there's a header 'My Service Cart' with a green background. Below it, a section titled 'Services Ordered' contains a table with the following data:

Number	Item	Description	Cost
7038-1	Virtual Machines (VM)	Request Azure VM --(Submitted by Ms. Kathryn Torres via Portal)	\$0.00

At the bottom right of the table, it says 'Total: \$0.00'. There are two buttons at the bottom: 'Cancel Order' on the left and 'Submit Order' on the right.

- d. Click the **Submit Order** button.
- e. Click **OK** to confirm the order.

After the order is confirmed, the Service Request is fulfilled using the CSM Desktop Client. When the virtual machine is provisioned, an Automation Process initiates a One-Step Action to send a request to Azure® using the Customer's credentials and specifications. If the request is successful, the One-Step Action e-mails the Customer, updates the Service Request record by creating a Journal entry, creates a new Virtual Machine CI for the VM, and changes the Service Request status to Resolved. If the request to Azure® is unsuccessful, the One-Step Action sends an e-mail to the Customer and updates the Service Request record by creating a Journal entry that includes an error message.

- 4. View the status of the request:
 - a. In the Customer Service toolbar, click the **number** next to My Requests (example: 1).



- b. Click the **Service Request** that you want to view.



Note: When the virtual machine is provisioned, a new Virtual Machine CI Record is created and an e-mail notification is sent to the requestor.

5. After the VM request is fulfilled, request a second day action:
 - a. On the Customer Portal home page, click the **View My Devices** link.

The My Devices page opens.

- b. Click the **title** of the Virtual Machine.

The Virtual Machine page opens.

- c. Select a second day action from the **Request Action for this VM** drop-down:
 - Power Off
 - Deallocate VM
 - Restart VM
 - Start VM
 - Reset Access

Request Action for this VM:

▼

Select an Action

- d. Click the **Run Action** button.

Request an Azure® Virtual Machine in the CSM Desktop

Use the [Incident Form](#) to request an Azure® virtual machine in the CSM Desktop Client.



Note: This functionality is only available if you have applied the [Orchestration Pack for Microsoft® Azure®](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To log an Azure® in the CSM Desktop Client:

1. Log into CSM.
2. In the CSM Desktop Client toolbar, click **New>New Incident**.

A new Incident record opens.

3. Record the basic details (Who, What, How):
 - a. Requestor (in the Quick Info Tile): Provide the **name** of the Customer who initiated the contact, and then press **ENTER** or **TAB** to search for the Customer Record.
 - b. Title: Provide a **title** for the Incident.
 - c. Description: Provide a **detailed description** for the Incident.
 - d. Call Source: Select a **source** for the initiation.

The screenshot shows the 'Step 1: Record the Details' form in the CSM Desktop Client. The form has a title bar with 'Step 1: Record the Details' on the left and 'Last Edited by' on the right. Below the title bar, there are three main input areas: 'Short Description:' with a text box containing 'Marketing VM Request', 'Call Source:' with a dropdown menu showing 'Email', and 'Description:' with a larger text box containing 'Katie requested a VM for design testing.' and a small icon with a plus sign and a magnifying glass.

4. Classify the Incident:
 - a. Service: Select **Cloud Services** from the drop-down.
 - b. Category: Select **Virtual Machines (VM)** from the drop-down.
 - c. Subcategory: Select **Request Azure VM** from the drop-down.

Step 2: Classify

Service: Cloud Services [View Related KB Articles](#)

Category: Virtual Machines (VM)

Subcategory: Request Azure VM

The Request Virtual Machine Specifics form displays in the Fulfill the Service Request section.

- d. Priority: Click the **Priority** drop-down to reveal the Priority Matrix (determined by invoked SLA), and then click a **priority number**.
5. Complete the **Request Virtual Machine** Specifics Form:



Note: The Virtual Machine drop-down values are based on the Standard VM specifications (Tools>Table Management>VM Template>Standard VM).

Step 3: Fulfill the Service Request

Request Virtual Machine

Virtual Machine Template:

Size: OS Name:

CPU Cores: Memory: Disks: Max Disk Size:

Max NICs: Max IOPS:

Template Description:

Justification / Rationale:

☐ VM Request Ready
(VM cannot be provisioned until checked)

- a. Virtual Machine Template: Select a predefined **template** from the drop-down. This field is required.
- b. Size: Select a **size** for the virtual machine.

The following read-only fields are auto-populated when the size is selected: CPU Cores, Memory, Disks, Max Disk Size, Max NICs (network interface card), Max IOPS (input/output operations per second), and Template Description.

Size:		OS Name:	
Standard_A5			
CPU Cores:	Memory:	Disks:	Max Disk Size:
2	14 GB	4	135 GB
Max NICs:	Max IOPS:		
1	2000		
Template Description:			
Standard Virtual Machine template accommodating 1-16 CPU cores, 1-16 NICs, 798 MB to 112 GB of memory and up to 16 data disks (1023 GB each)			

- c. OS Name: Select the **name** of the Customer's operating system from the drop-down.
 - d. Justification/Rationale: Provide **additional details** about the VM request.
 - e. VM Request Ready: Select the **check box** when the virtual machine is ready to be provisioned.
6. Complete the [Incident logging process](#)

When the virtual machine is provisioned, an Automation Process initiates a c to senOne-Step Action a request to Azure® using the Customer's credentials and specifications. If the request is successful, the One-Step Action e-mails the Customer, updates the Service Request record by creating a Journal entry, creates a new Virtual Machine CI for the VM, and changes the Service Request status to Resolved. If the request to Azure® is unsuccessful, the One-Step Action sends an e-mail to the Customer and updates the Service Request record by creating a Journal entry that includes an error message.

7. After the VM request is fulfilled, request a second day action:
 - a. In the I Want To section, select a second day action from the **Request Action for this VM** drop-down:
 - Power Off
 - Deallocate VM
 - Restart VM
 - Start VM
 - Reset Access

I Want To:

[Take Ownership](#)
[View Detailed Date/Time Information](#)
Request Action for this VM:

▼

Select an Action

- b. Click the **Run Action** button.

Orchestration Pack for Microsoft Exchange 1.0

The Orchestration Pack for Microsoft Exchange mApp® Solution provides functionality that allows users and automation processes in CSM to execute activities and commands in external systems that are typically done manually.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 8.0.0

Out-of-the-Box Content Version Requirements: Tested on CSM 8.0.0

Prerequisites: None

Overview

This mApp Solution includes multiple features including One-Step Actions that support the following commands: Get Mailbox Info, Get Mailbox Statistics, Get Mail User, Disable Mailbox, Disable Mail User, and Enable Mail User.



Note: For SaaS Customers, the provided One-Step Actions do not work with the Automation Process Service unless the Automation Process Service is installed locally.

The table below shows:

- **Runbook:** The name of the runbook. This is what the Users see in the Menu Bar or Task Pane.
- **Business Object Associates:** These are the CSM Business Objects that the runbooks can be initiated from.

Runbook	Business Object Associations
Get Mail User	Customer, Incident
Get Mailbox Info	Customer, Incident
Get Mailbox Statistics	Customer, Incident
Disable Mailbox	Customer, Incident
Disable Mailbox	Customer, Incident
Enable Mailbox	Customer, Incident
Disable Mail User	Customer, Incident
Enable Mail User	Customer, Incident



Note: Due to the power and potentially damaging results of running some of these PowerShell runbooks, these runbooks can only be run via the CSM Desktop Client. The commands cannot be

run from the Browser Client because of security restrictions with browser access to the file system and server scripts.

How the mApp Solution Works

CSM provides the Active Directory Orchestration Pack as a mApp Solution so that Users can easily incorporate Active Directory runbooks into their existing CSM system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	Journal - Integrations Audit	Import
	Customer, Customer - Internal, Incident	Don't Change
Image Definitions	Windows 128x128, Windows 32x32, Windows 64x64	Import
One-Step Action	Customer-Disable Mail User, Customer-Disable Mailbox, Customer-Enable Mail User, Customer-Enable Mailbox, Customer-Get Mail User, Customer - Get Mailbox Info, Customer - Get Mailbox Statistics, Incident-Disable Mailbox, Incident-Disable MailUser, Incident-Enable Mailbox, Incident-Enable MailUser, Incident-Get Mailbox Info, Incident-Get Mailbox Statistics, Incident-Get User, Master-Disable Mailbox, Master - Disable MailUser, Master-Enable Mailbox, Master-Enable MailUser, Master-Get Mailbox Info, Master-Get Mailbox Statistics, Master-Get User, Set MailServer	Import
Stored Values	OP Exchange Mailserver, OP Exchange Parameter, OP Exchange Parameter Options, OP Exchange Result Details, OP Exchange Run Results, OP Exchange Version	Import
Stored Expressions	EX Ran Successfully	Import

Merge Actions

- Import: Add new item.

- Overwrite: Replace target item.
- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

Related Reading

- [About Directory Services](#)
- [About mApp Solutions](#)

Steps to Configure the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.
4. Configure the Exchange Accelerator Pack.

How to Apply the mApp Solution

- [Using the Exchange Runbooks in CSM](#).

Configuring the Exchange Orchestration Pack

Complete the following procedure to configure the Customer Satisfaction Indicator mApp Solution.



Note: The Exchange Orchestration Pack is only available for the CSM Desktop Client.

1. [Set the Exchange Stored Value.](#)
2. [Configure PowerShell for Exchange Orchestration Pack](#)

When the configuring steps are complete, refer to [Use the Exchange Runbooks in CSM.](#)

Set the Exchange Stored Values

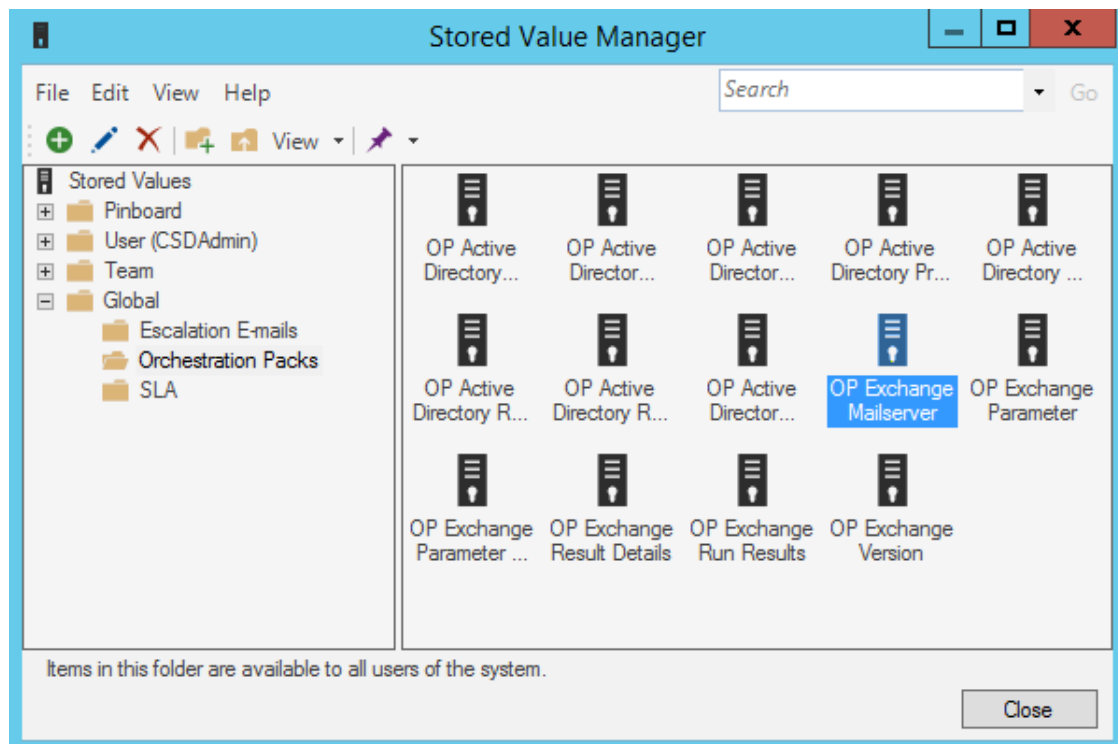
The below procedures are the first steps in configuring the Exchange Orchestration Pack. The stored value determines whether a User is prompted for credentials when a runbook is executed. If it is set to prompt, the User must enter credentials for each runbook execution. The credentials are used for that execution only and are never stored in CSM. If the stored value is set to not prompt, then the current User's session credentials are used to execute the runbook.



Note: This functionality is only available if you have applied the Exchange Orchestration Pack mApp Solution. For more information, refer to the Exchange Orchestration Pack documentation.

To set the credential prompt stored value:

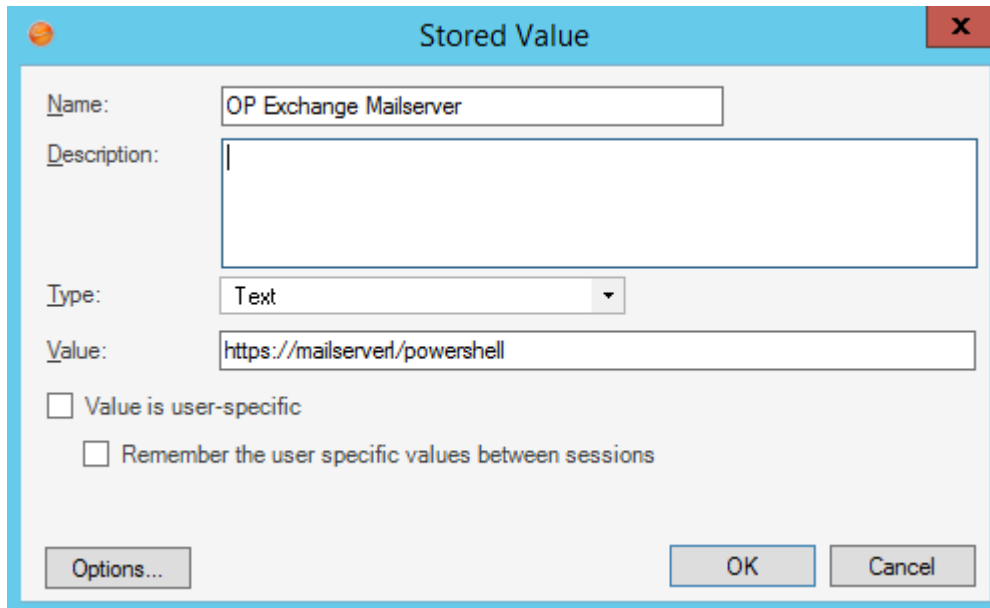
1. In CSM Administrator, click the **Settings** category, and then click the **Open Stored Value Manager** task.
 - a. In the folder tree, select **Global>Orchestration Packs**.
 - b. Select **OP Exchange Mailserver**.



- c. Click the **Edit** icon.

The Stored Value window opens.

- d. In the Value field provide the URL for the **mail server**.



Stored Value

Name: OP Exchange Mailserver

Description:

Type: Text

Value: https://mailserver1/powershell

☐ Value is user-specific

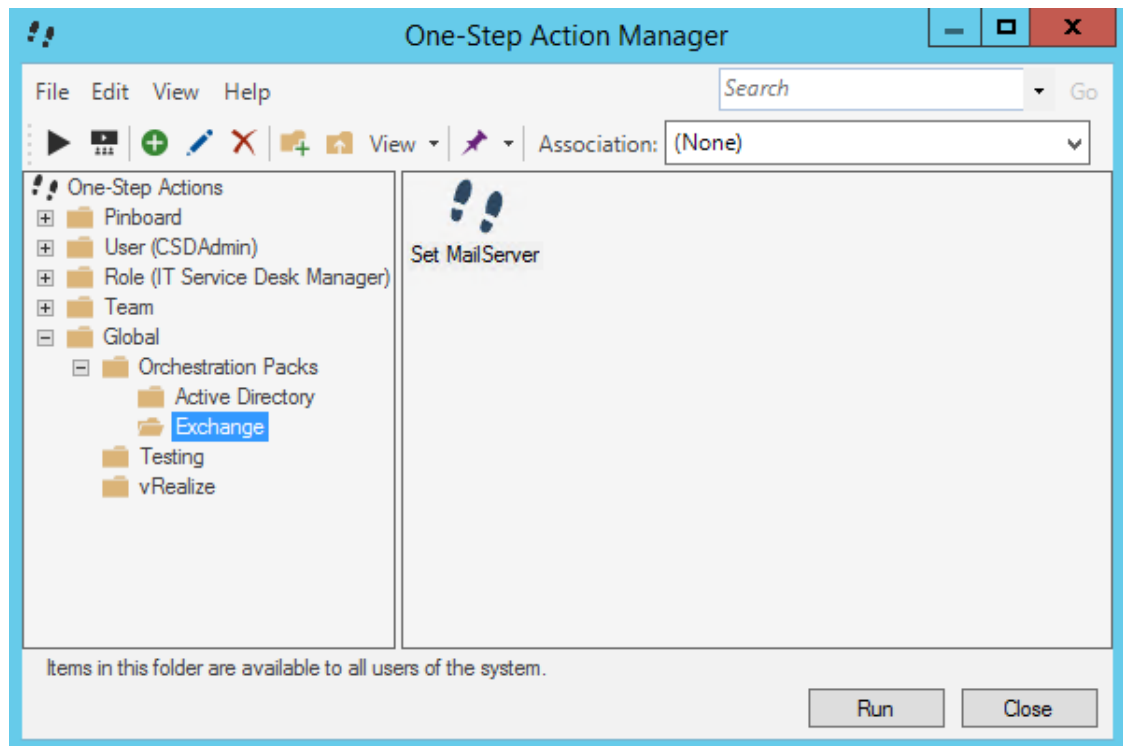
☐ Remember the user specific values between sessions

Options... OK Cancel

2. In the CSM Desktop Client, open the One-Step Manager.

To open the One-Step Action Manager:

- a. The One-Step Action Manager can be opened several ways:
 - From the CSM Desktop Client menu bar, click **One-Step>One-Step Manager**.
 - From the Browser Client menu bar, click **One-Step>One-Step Manager**.
 - From the Blueprint Editor menu bar in CSM Administrator, click **Managers>One-Step Manager**.
 - From One-Step Action selectors throughout CSM (ex: When adding One-Step Actions to various areas within CSM).
- a. In the Association drop-down, select **None**.
- b. Select **Global>Orchestration Packs > Exchange**.
- c. Select **Set Mail Server**.

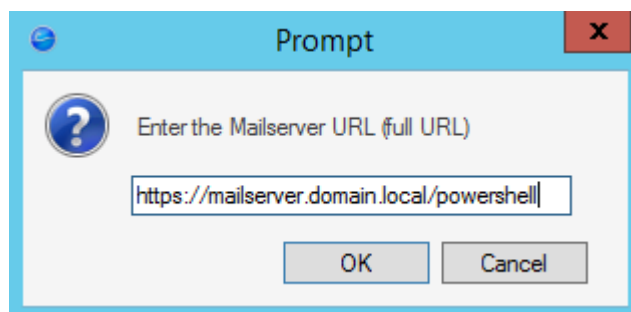


- d. Click **Run**.

A Mail Server Update Confirmation window opens to confirm changing the Mailserver. This is the same URL provided in CSM Administrator.

- e. Click **OK**

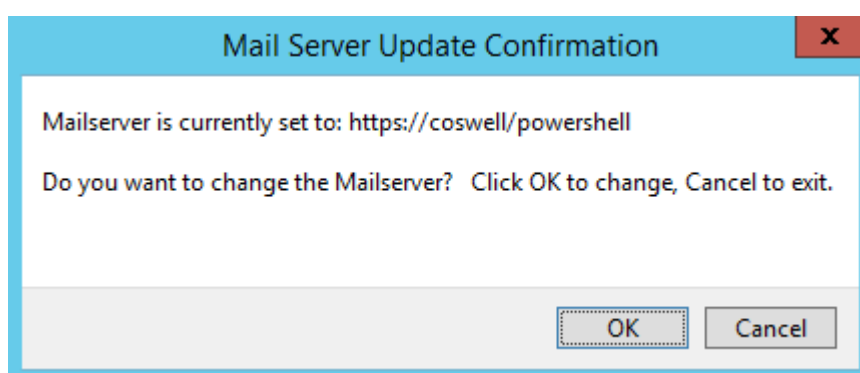
A Prompt window opens to provide the Mailserver URL. The field is auto-populated with the URL in the previous window.



3. Click **OK** to change or Cancel to quit.

The Mail Server Updated window opens showing the Mailserver has been updated with the address.

4. Click **Close**.



Configure PowerShell for Exchange Orchestration Pack

The below procedure is the second step in configuring the Exchange Orchestration Pack. PowerShell version 3 or later is required for the mApp Solution functionality to work. Executing the Exchange runbooks requires the following PowerShell cmdlets.



Note: These cmdlets are only available in on-premises Exchange Server 2016.

- **Enable-MailUser cmdlet:** This command mail-enables existing users by adding the email attributes that are required by Exchange. Mail users have email addresses and accounts in the Exchange organization, but they don't have Exchange mailboxes. Email messages sent to mail users are delivered to the specified external email address.
- **Disable-MailUser cmdlet:** This command mail-disables existing mail users by removing the email attributes that are required by Exchange. Mail users have email addresses and accounts in the Exchange organization, but they don't have Exchange mailboxes. Disabling a mail user removes the ability of Exchange to deliver messages to the specified external mail address.

To install the cmdlets, the Microsoft Remote Server Administration Tools must be installed. Download links for Windows desktop operating systems are provided below. For Windows Server follow the instructions in the next section.

- Windows 7: <http://www.microsoft.com/en-us/download/details.aspx?id=7887>
- Windows 8: <http://www.microsoft.com/en-us/download/details.aspx?id=28972>
- Windows 8.1: <http://www.microsoft.com/en-us/download/details.aspx?id=39296>
- Windows 10: <https://www.microsoft.com/en-us/download/details.aspx?id=45520>

To install the Active Directory PowerShell cmdlets on Windows Server:

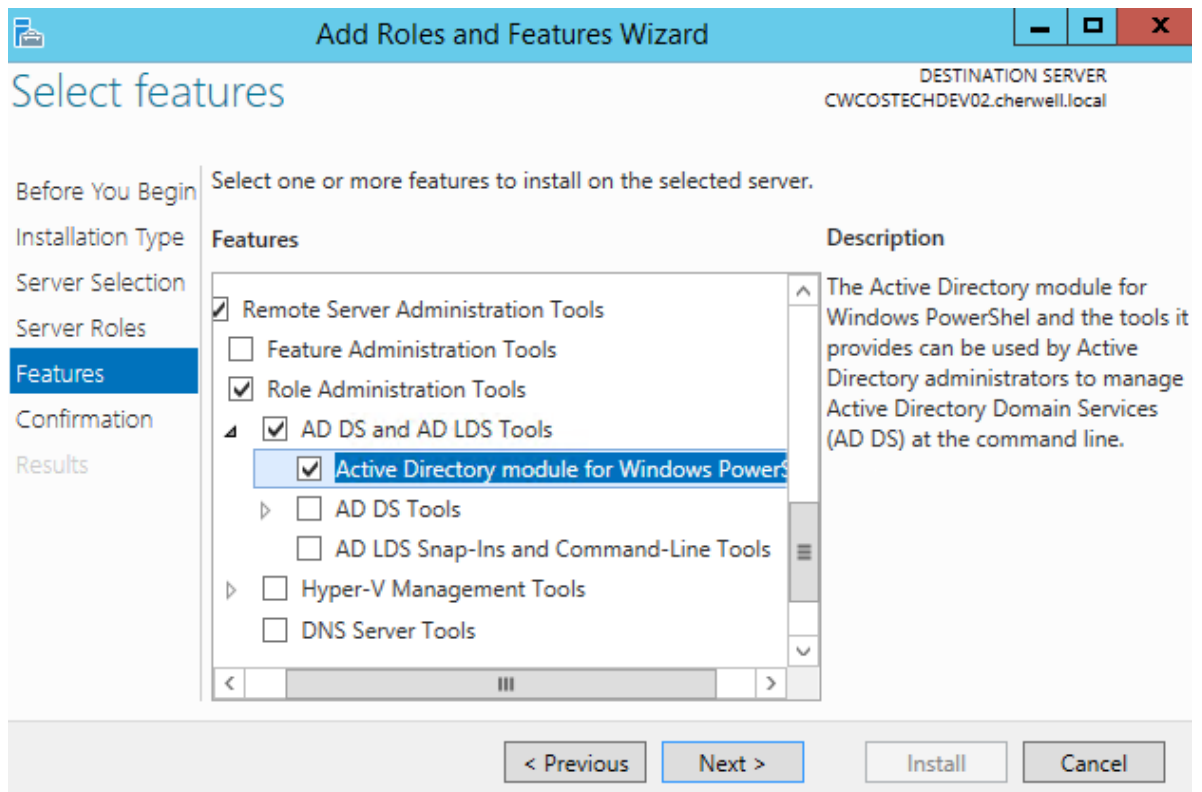


Note: If the required PowerShell cmdlet library is not installed, the first time a runbook runs a dialog opens containing links to Microsoft to download the applicable PowerShell library.

1. Open the **Server Manager**.
2. Click **Add roles and features**.

The Add Roles and Features Wizard opens.

3. Click **Next** until the Features option is highlighted in the left pane.
4. In the features window, go to **Remote Server Administration Tools > Roles Administration Tools > AD DS and AD LDS Tools**.
5. Select the **Active Directory module for Windows PowerShell** checkbox.



6. Select **Next**.

Confirmation is highlighted in the left pane.

7. Click **Install**.

8. Select **OK**.

Using the Exchange Runbooks in CSM

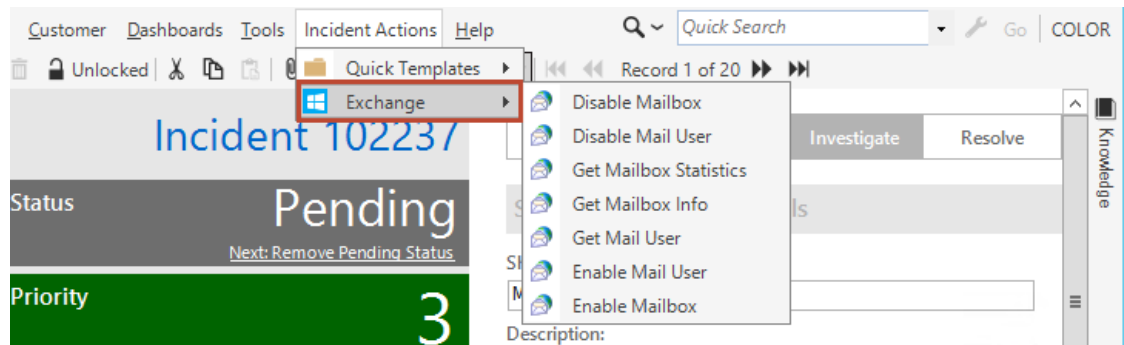
When the configuration is complete, the below procedure shows how to use the Exchange Orchestration Pack in the CSM Desktop Client. The Exchange runbooks are accessed from the Task Pane or from an Action menu bar. Runbooks for User Accounts have a User icon. Runbooks for computers or servers have a computer icon.



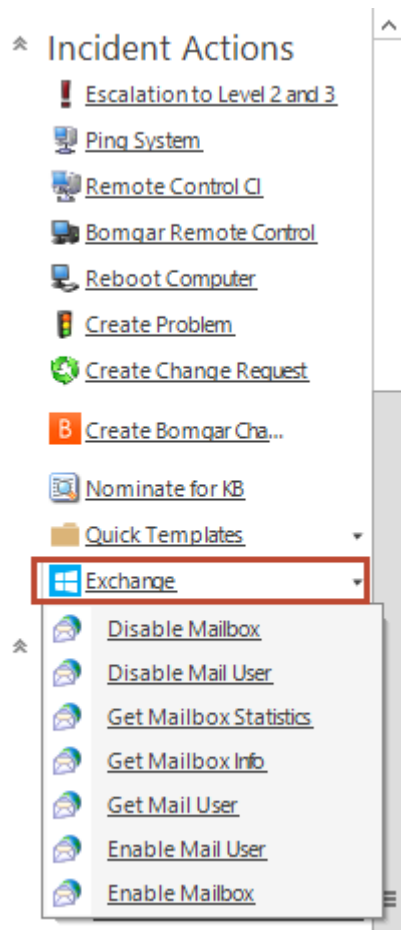
Note: This functionality is only available if you have applied the Exchange Orchestration Pack mApp Solution. For more information, refer to the Exchange Orchestration Pack documentation.

To use the Exchange Runbooks in the Desktop Client

1. Open an Incident.
2. View the available runbooks by:
 - a. In the menu bar, click **Incident Actions**. Select **Exchange**.



- b. In the Task Pane, click the **Exchange** drop-down.



Orchestration Pack for VMWare vRealize® Automation™ 1.0

The Orchestration Pack for VMWare vRealize® Automation™ mApp® Solution allows users to fulfill requests for virtual machines (VMs) using the Service Request process.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 8.1.0

Out-of-the-Box Content Version Requirements: Tested on CSM 8.1.0

Prerequisite Requirements: The Orchestration Pack for VMWare vRealize® Automation™ V1.0 mApp is for demonstration and proof-of-concept purposes only and is specifically designed and tested with vRealize® V7.0. The mApp is not intended to fully support an enterprise-level integration, including all of the possible business uses. Consult Cherwell Professional Services (PSO) or a certified Implementation Partner if you intend to deploy this solution within your production environment.

Overview

VMWare vRealize® Automation™ is a cloud-based solution that accelerates the delivery of IT services. When the mApp Solution is applied and configured, Customers can easily request a new VM from the Service Catalog and then initiate second day actions for the VM directly from the Customer Portal. After the request is submitted, a User fulfills it using a Specifics Form on the Service Request form.

Service Request 102272

Service Cart Item #7039-1

Status

Resolved


Next: Reopen Incident

Priority

3

Requestor:


Alternate Contact Info



Melanie Daniels
Melanie.Daniels@RiverTCorp.com
(719) 386.7000

Owned By:


Assign To...



Gina Mehra
IT Management
833-898-7381
gina.mehra@RiverTCorp.com

SLA:

More Info...



Gold
(Customer SLA)
Respond By: 3/10/2016 1:44 PM
Resolve By: 3/11/2016 4:45 PM

I Want To:

[Take Ownership](#)
[Escalate to Level 3](#)
[View Detailed Date/Time Information](#)
[Link to Existing Major Incident](#)
[Submit to Knowledge Base](#)
[Track Time](#)
[Close this Incident](#)

Record

Classify

Fulfill

Resolve

Close

Step 1: Record the Details

Last Edited 3/10/2016 9:52 AM by Cherwell Admin

Short Description:
Virtual Machines (VM)

Call Source:
Portal

Description:
Request VM - (Submitted by Melanie Daniels via Portal)

Step 2: Classify

[clear classifications]

Service:
Cloud Services

View Related KB Articles

Category:
Virtual Machines (VM)

Subcategory:
Request VM

Priority:
3

Impact:
Urgency:

Primary CI:

Step 3: Fulfill the Service Request

Request Virtual Machine

Virtual Machine Type:
Dev Standard Windows 2012 R2

Justification / Rationale:

Select Virtual Machine Size:
Small Medium Large Custom

Storage (GB):
3

Memory (MB):
3072

of CPUs:
3

Blueprint Description:

☒ VM Request Ready
(VM cannot be provisioned until checked)



Note: To use VMWare vRealize® Automation™ virtual machine functionality, you must create an account and purchase a licensing option. Before applying the mApp Solution, have the following VMWare customer information available for reference: username, password, host ID, and tenant ID. Refer to the VMWare vRealize® website for more details (www.vmware.com/products/vrealize-suite/).

How the mApp Solution Works

CSM provides the Orchestration Pack for VMWare vRealize® Automation™ as a mApp Solution so that Users can easily access and incorporate vRealize® Automation™ functionality into their existing CSM system. Download the mApp Solution from the Cherwell mApp SolutionExchange. Use the Apply mApp Solution wizard to apply the mApp Solution to your CSM system. The Apply mApp Solution wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action

Business Object	CI VM Status, Config-Virtual Machine, Configuration Item, Specifics - VM, Specifics - VM Action, VM Action, VM Blueprint, VM Business Group ID, VM CPU, VM Default Size, VM Request, VM Virtual Memory	Import
	Incident, Incident SubCategory, Installed Software	Merge
	Configuration Item, Incident Category, Journal, Journal - Integrations Audit, Service, Specifics	Don't Change
Automation Process	Check Request Status, Notify IT Manager, Request VM, Run VM Request Action	Import
Portal View	Config - Virtual Machine, Specifics - VM, Specifics - VM Action	Import
	Configuration Item	Merge
	Incident	Don't Change
Dashboard	VM Detail, vRealize	Import
Group Map	Specifics	Overwrite
Image	Cloud, vRealize Logo, vRealize Logo 32x32	Import
One-Step Action	Add Department, Approval One-Step to Run, Assign to ANY Individual, Assign to Individual, Assign to Team, Clear One-Step, Create Change Request for Action, Create CI, Create Service Request for Action, Date Time Info Popup, E-mail IT Management VM Requests, Get New Asset Tag, Lock Fields, Ready to Provision, Request a Virtual Machine, Request Action, Request Action - Get Template, Request Action - Submit Request, Request Action - Update JSON, Request Status Update, Run VM Action, Select Action Type, Show Template, Take Ownership, Update Status On vRA Resource, Update vRA Resource Status, vRA - Get Token, vRA - Import Catalog, vRA - Set Debug, vRA - Setup, vRA Request Submit	Import
Expression	Action Text, Asset Tag, CMDB Permanent Fields Locked, Config Type Constraint, Constraint Message Max, Constraint Message Min, Request VM Criteria, Requirements for Approval, Storage Constraint, Storage Constraint Background Color, Team Entitlement, User Entitlement, User Entitlements, User Entitlements On Behalf Of, vRA Token Expiration Window, vRA Token is Expired	Import
Stored Query	All CIs with Resource ID Populated, ALL Requests, All VM CIs, CI VM Active, CI VM Failed, Cloud Service VM Request, Requests Failed, Requests Pending, Requests Succeeded, vRA Awaiting Approvals	Import
Stored Value	Admin Password, Admin Username, CSMPassword, CSMURL, CSMUser, Identity Endpoint, Tenant Name, vRAActionID, vRAActionName, vRABusinessGroup, vRACatalogItemID, vRACPU, vRADebug, vRAHost, vRAJSON, vRANewJSON, vRAPassword, vRARequestID, vRAResourceID, vRAResourceStatus, vRAResultCode, vRAresultDetails, vRASuccess, vRATenant, vRAToken, vRATokenExpiration, vRAUser, vRealize Version, vRealize Template	Import
Web Service	vRealize	Import

Widget	Actions Over Time, Active VM CIs, CD - Date Filter - 30 Day Default, CPUs, Host Name, Open Incidents, Open Request for VM Action, OS Distribution, Request for VM, Request Waiting Action, Resource, Total VMs, Virtual Machine Type, VM CI Failed, VM Costs, VM Critical Machine, VM Host Device, VM Memory, VM Primary Use, VM Service Requests, VM Storage, VM Total Waiting Approval, VM Waiting Approval, VMs	Import
	CD - Date Filter - 30 Day Default, Supply Search	Overwrite

Merge Action Key:

- Import: Add new item.
- Overwrite: Replace target item.
- Merge: Merge differences.
- Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system).

Related Reading

- [About mApps](#)
- [About Customer Portals](#)
- [About Incidents and Service Requests](#)

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution in CSM Administrator

To configure the mApp Solution in CSM Administrator:

1. [Add the vRealize® Form Control to the Incident Subcategory Form](#)
2. [Define Approval Process for vRealize®](#)
3. [Define the Web Service URL for vRealize®](#)
4. [Define Security Rights for vRealize®](#)

Steps to Configure the mApp Solution in the CSM Desktop Client

To configure the mApp Solution in the CSM Desktop Client:

1. [Run Setup One-Steps for vRealize®](#)
2. [Define vRealize® Blueprints and Actions](#)
3. [Define vRealize® SubCategory Classification](#)

How to Use the mApp Solution

There are multiple ways to use the mApp Solution functionality, including:

- [Request a vRealize® Virtual Machine in the CSM Desktop Client](#)
- [Request a vRealize® Virtual Machine in the Customer Portal](#)

Configuring Orchestration Pack for VMWare vRealize® Automation™ mApp Solution

Complete the following procedures to configure the Orchestration Pack for VMWare vRealize® Automation™ mApp Solution. Configuration procedures are completed in CSM Administrator and the CSM Desktop Client.

To configure the mApp in CSM Administrator:

1. [Add vRealize® Form Control to the Incident SubCategory Form](#)
2. [Define Approval Process for vRealize®](#)
3. [Define Web Service URL for vRealize®](#)
4. [Define Security Rights for vRealize®](#)

To configure the mApp in the CSM Desktop Client:

1. [Run Setup One-Step Actions for vRealize®](#)
2. [Define vRealize® Blueprints and Actions](#)
3. [Define vRealize® SubCategory Classification](#)

Add the vRealize® Form Control to the Incident Subcategory Form

Use the [Form Editor](#) to add a vRealize® Form Control to the Incident SubCategory Form. The Form Control allows Users to define which Incident classifications (Service, Category, Subcategory) require Approval.



Note: This functionality is only available if you have applied the [Orchestration Pack for VMWare vRealize® Automation™](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

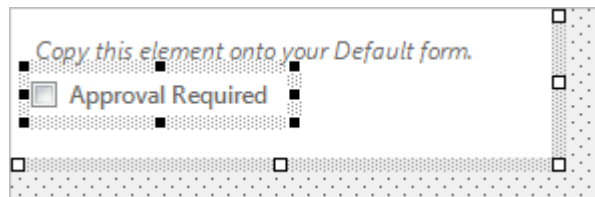
To add the Form Control to the Incident SubCategory Form:

1. In the Lookup Tables Business Object tree, click **Incident Subcategory**.

2. Click the **Form** button .

Tip: You can also click **View>View Form** (from the Object Manager menu bar) or click the **Edit Form** link (under the Appearance area).

3. In the Form drop-down, select the **vRA Integration mApp Form Elements** form.
 - a. Select the Form Control.



- b. From the menu bar, click **Edit>Copy**.
4. From the Form drop-down, select **Default Form**.
 - a. From the menu bar, click **Edit>Paste**.

The Form Control displays on the Form.

Subcategory

Service:

Incident Type: ☒ Incident ☐ Service Request

Category:

Subcategory:

Specifics Name:

Service Catalog Action to Run:

Default Team:

Level 2 Escalation Team:

Level 3 Escalation Team:

Note: The Level 3 team defaults to the Service's OLA team.

☐ Visible in Customer Portal

☐ Approval Required

Note: The vRealize® Form Control pastes in a defined location for the default Incident SubCategory Form. If you have a custom Form, move the Form Control to a location that fits your form design.

5. Click the **Update Blueprint** button  , and then click the **Home** button .

Define Approval Process for vRealize®

Use the [Approval Block Editor](#) in CSM Administrator to define the Approval process for vRealize®. The Approval process is initiated when a User selects the Approval Required check box on the Incident Subcategory form. When used with the Request VM Subcategory, the request must be approved before the request is sent to VMWare.



Note: This functionality is only available if you have applied the Orchestration Pack for VMWare vRealize® Automation™. For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define the Approval Block:




1. In the Object Manager, click **Incident**.



Note: The Approval process must be defined in both the Incident Default view and Portal view.

2. In the Task section, select **Edit approvals**.
3. In the [Approval Block Editor](#), click the **Add** button.
4. Provide a **display name** in the Name field.
5. Define a trigger condition:
 - a. Click the **Trigger Condition** page.
 - b. In the Trigger Condition section, create the following comparison clauses:
 - Incident.Approval Required equals True
 - Incident SubCategory.Approval Required equals True
 - Specifics.Approval Required equals True
 - c. In the Trigger Condition section, create the following group clause:
 - At least one of the following must be true

Name: Incident SubCategory Approval

 Trigger Condition
 Approvers
 Actions

Trigger Condition

Specify under what condition the approvals are required.

+ New X | << >>

Grouping

☐ All of the items in the group must be true
☒ At least one of the items in the group must be true

Simple ^

Items where at least one of the following is true:

Incident.Approval Required equals True
or Incident SubCategory.Approval Required equals True
or Specifics.Approval Required equals True

Behavior when condition is no longer true

☒ Clear approvals from block
☐ Leave approvals
☐ Leave approvals IF condition was changed by block action

OK Cancel

6. Define approvers.

7. Define an Approval action:

- Click the **Action** page.
- In the Action to take when approval: Approved section, select the **Run a One-Step** check box.
- Click the **ellipses** button to open the One-Step Manager.
- In the One-Step Action tree, click **Blueprint>Approval One-Step to Run**.

Name: Incident SubCategory Approval

Actions
Specify what to do when the approval has taken place.

Action to take when approval: Approved

- ☐ Set a field: [dropdown] Value: [dropdown]
- ☐ Put on a queue: [dropdown] ...
- ☒ Run a One-step: Approval One-Step to Run ...
- ☒ Executing the action completes the approval process

Action to take when approval: Denied

- ☐ Set a field: [dropdown] Value: [dropdown]
- ☐ Put on a queue: [dropdown] ...
- ☐ Run a One-step: [dropdown] ...
- ☒ Executing the action completes the approval process

Action to take when approval: Time runs out

- ☐ Set a field: [dropdown] Value: [dropdown]
- ☐ Put on a queue: [dropdown] ...
- ☐ Run a One-step: [dropdown] ...
- ☒ Executing the action completes the approval process

OK Cancel

8. Select **OK**.

Define the Web Service URL for vRealize®

Use the Web Service Manager in [CSM Administrator](#) to define the vRealize Web Service URL.

To define the vRealize Web Service URL:



Note: This functionality is only available if you have applied the [Orchestration Pack for VMware vRealize® Automation™](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

1. [Open the Web Service Manager](#).
2. Right-click the **vRealize** Web Service, and then select **Edit**.

The Web Service Options window opens.

3. In the URL field, provide the URL for your vRealize® environment:

The screenshot shows the 'Web Service Options' dialog box with the 'General' tab selected. The 'Name' field contains 'vRealize', the 'Description' field contains 'Web Services for vRealize Automation functions, using the vRealize REST API.', and the 'URL' field contains 'https://YourServerHere'. The 'Service Type' is set to 'REST' and the 'Security Type' is set to 'None'. There are two checkboxes: 'Always call web service from Cherwell Server' (unchecked) and 'Log calls to this web service (depending on system settings, might happen anyway)' (checked). The 'OK' and 'Cancel' buttons are located at the bottom right of the dialog box.

4. Select **OK**.
5. Click **Close**.

Define Security Rights for vRealize®

Use CSM Administrator to define security rights for vRealize® Business Objects.

Business Objects associated with this mApp Solution do not support any rights by default. We recommend granting security rights to members of the Portal Customer and Portal Workgroup Manager teams.



Note: This functionality is only available if you have applied the [Orchestration Pack for VMWare vRealize® Automation™](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define security rights:

1. Define the following Business Object rights for the Portal Customer Security Group:
 - Config - Virtual Machine: Select rights to View, Add, and Edit.
 - Specifics - VM: Select rights to View and Edit.
 - Specifics - VM Action: Selects rights to View and Edit.
2. Define the following Business Object rights for the Portal Workgroup Manager Security Group:
 - Config - Virtual Machine: Select rights to View, Add, and Edit.
 - Specifics - VM: Select rights to View and Edit.
 - Specifics - VM Action: Selects rights to View and Edit.
3. Select **OK**.

Run Setup One-Step Actions for vRealize®

Use the One-Step Action Manager in the CSM Desktop Client to run the following One-Step Actions.

- **vRA Setup:** Prompts the User for vRealize® credentials (host ID, tenant ID, username, and password) and CSM credentials (URL, username, and password)
- **vRA Import Catalog:** Uses vRealize® and CSM credentials to import catalog items (blueprints) and actions from vRealize®.



Note: This functionality is only available if you have applied the [Orchestration Pack for VMWare vRealize® Automation™](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To run the One-Step Actions:

1. In the CSM Desktop Client, open the One-Step Manager.
2. In the Association drop-down, select **(None)**.
3. In the One-Step Actions tree, click **Global>vRealize**.
4. Click the **vRA Setup** One-Step Action and then click **Run**

A window opens displaying the current settings.

5. Select **OK**.
6. Provide the prompted vRealize® and CSM information.
A window opens displaying the defined settings.



Note: The information provided in the prompts is held in Stored Values. Edit them using the Stored Value Manager (Global>vRealize).

7. Click the **vRA Import Catalog** One-Step Action and then click **Run**.



Note: The information obtained from vRealize® is stored in Lookup Tables. Catalog items (blueprints) are located in the VM Blueprint Lookup Table and actions are located in the VM Action Lookup Table in Table Management.

Define vRealize® Blueprints and Actions

Use [Table Management](#) in the [CSM Desktop Client](#) to define imported vRealize® blueprints and actions. When you define the blueprint, you provide midpoint values and have the option to provide a description. When you define the actions, you must select the Request Action One-Step for each VM Action record; the One-Step Action determines the appropriate second day action by using JSON to send the action ID to vRealize® and then interpreting and executing the JSON when it returns from vRealize®.



Note: This functionality is only available if you have applied the [Orchestration Pack for VMware vRealize® Automation™](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To define mApp Solution blueprints and actions:

1. Open the Table Management interface.
2. In the Type drop-down, select **VM Blueprint**.
3. In the Grid, select a **blueprint**.

A VM Purpose form opens. The following information is auto-populated based on the imported vRealize® blueprint: VM Blueprint, Blueprint available to the following Departments, Minimum size specifications, Mid size specifications, and Maximum size specifications.

VM Purpose

VM Blueprint:

Dev Standard Windows 2012 R2

Blueprint available to the following Departments:

Operations, IT

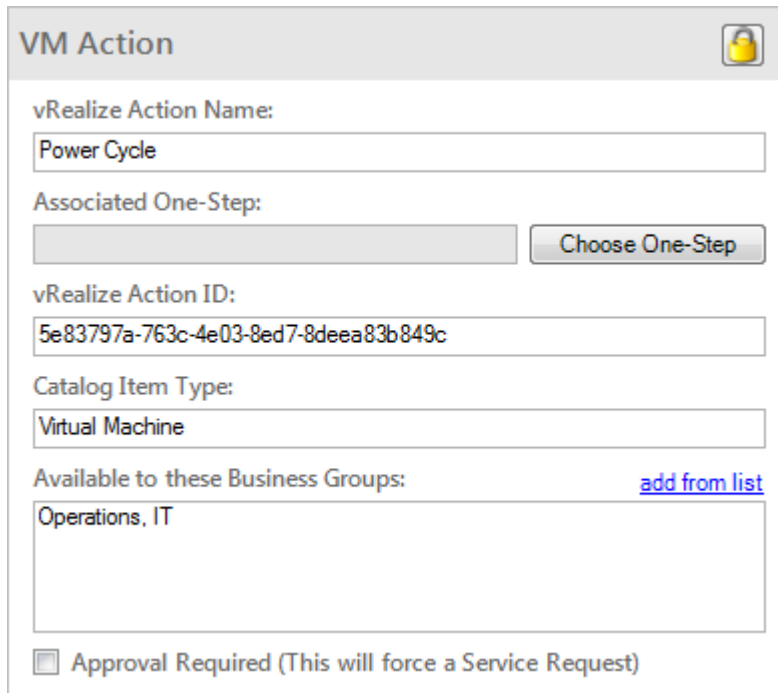
	Minimum	Mid	Maximum
CPU:	1	2	3
Memory (MB):	1024	2048	3072
Storage Capacity (GB):	1	2	3

Blueprint Description:

- a. Provide midpoint values (CPUs, Memory, Storage Capacity).
- b. (Optional) Provide a blueprint description.
- c. Click **Save**.

4. In the Type drop-down, select **VM Action**.
5. In the Grid, select an **action**.

A VM Action form opens.



VM Action

vRealize Action Name:
Power Cycle

Associated One-Step:
Choose One-Step

vRealize Action ID:
5e83797a-763c-4e03-8ed7-8deea83b849c

Catalog Item Type:
Virtual Machine

Available to these Business Groups: [add from list](#)
Operations, IT

☐ Approval Required (This will force a Service Request)

- a. Click the **Choose One-Step** button.
- b. In the One-Step Action Actions tree, click **Global>vRealize**.
- c. Click the **Request Action** One-Step Action.
- d. Click **Save**.



Note: The Request Action One-Step Action must be selected for each VM Action record.

6. Close the Table Management interface.

Define vRealize® Subcategory Classification

If you are using CSM 8.1.0 or greater, use [Table Management](#) in the [CSM Desktop Client](#) to define the vRealize® SubCategory classification. When you define the classification, you select the VM Specifics Form so that the appropriate form displays when the classification is selected. You can also select a default Team and the option of using an Approval , if necessary.



Note: If you are using a version of CSM earlier than 8.1.0, use the Group Map Editor to point the Request VM SubCategory to the VM Specifics Form and VM Action Request SubCategory to the VM Action Specifics Form.



Note: This functionality is only available if you have applied the [Orchestration Pack for VMWare vRealize® Automation™](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

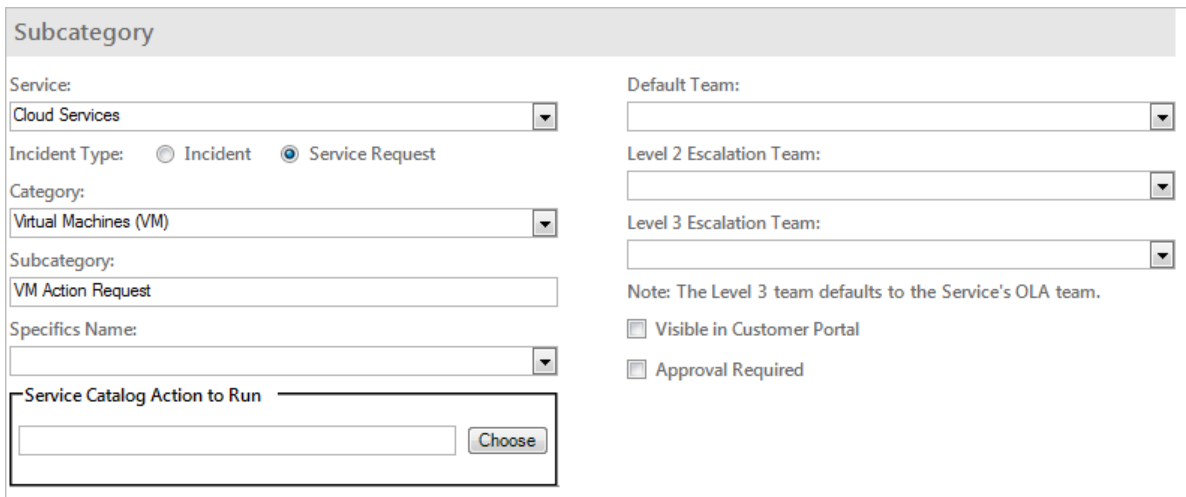
To define the SubCategory classification:

1. Open the Table Management interface.
2. In the Type drop-down, select **Incident SubCategory**.
3. In the Grid, select the **Cloud Services/Virtual Machines (VM)/Request VM** classification.

The Subcategory form opens.

- a. In the Specifics Name field, select **Specifics - VM**.
 - b. (Optional) In the Default Team field, select the **Team** that should be assigned the Incident by default when the classification is used.
 - c. (Optional) Select the **Approval Required** check box to initiate the defined Approval process when the classification is used.
4. In the Grid, select the **Cloud Services/Virtual Machines (VM)/Request VM** classification.

The Subcategory form opens.



- In the Specifics Name field, select **Specifics - VM Action**.
- (Optional) In the Default Team field, select the **Team** that should be assigned the Incident by default when the classification is used.
- (Optional) Select the **Approval Required** check box to initiate the defined Approval process when the classification is used.



Note: For more information, see [Add vRealize® Form Control to the Incident Subcategory Form](#) and [Define Approval Process for vRealize®](#).

- Close the Table Management interface.

Using the Orchestration Pack for VMWare vRealize® Automation™ mApp Solution

When using the Orchestration Pack for VMWare vRealize® Automation™ mApp Solution, Users can:

- [Request a vRealize® Virtual Machine in the CSM Desktop Client](#)
- [Request a vRealize® Virtual Machine in the Customer Portal](#)

Request a vRealize® Virtual Machine in the CSM Desktop Client

Use the [Incident Form](#) to request a vRealize® virtual machine in the CSM Desktop Client.



Note: This functionality is only available if you have applied the [Orchestration Pack for VMWare vRealize® Automation™](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

To log an External Customer Service Incident in the CSM Desktop Client:

1. Log into CSM.
2. In the CSM Desktop Client toolbar, click **New>New Incident**.

A new Incident record opens.

3. Record the basic details (Who, What, How):
 - a. Requestor (in the Quick Info Tile): Provide the **name** of the Customer who initiated the contact, and then press **ENTER** or **TAB** to search for the Customer Record.
 - b. Title: Provide a **title** for the Incident (ex: .
 - c. Description: Provide a **detailed description** for the Incident.
 - d. Call Source: Select a **source** for the initiation.

4. Classify the Incident:
 - a. Service: Select **Cloud Services** from the drop-down.
 - b. Category: Select **Virtual Machines (VM)** from the drop-down.
 - c. Subcategory: Select **Request VM** from the drop-down.

Step 2: Classify

Service:
 Cloud Services [View Related KB Articles](#)

Category:
 Virtual Machines (VM)

Subcategory:
 Request VM

- d. Priority: Click the **Priority** drop-down to reveal the Priority Matrix (determined by invoked SLA), and then click a **priority number**.
5. Complete the **Request Virtual Machine** Specifics Form.



Note: The VM Machine Type drop-down values are based on the Security settings on the VM Purpose form (Blueprint available to the following Departments field). The default values are automatically imported from vRealize®, but can be manually edited if necessary.

Request Virtual Machine

Virtual Machine Type:

Justification / Rationale:

Select Virtual Machine Size:
☐ Small ☐ Medium ☐ Large ☐ Custom

Storage (GB): Memory (MB): # of CPUs:

Blueprint Description:

☐ VM Request Ready
 (VM cannot be provisioned until checked)



Note: If an Approval is defined, saving the record after completing the Specifics Form initiates the process. For more information, see [Add vRealize® Form Control to the Incident Subcategory Form](#) and [Define Approval Process for vRealize®](#).

6. Complete the [Incident logging process](#).
7. After the VM request is fulfilled, request a second day action:
 - a. In the I Want To section, select a second day action from the **Request Action for this VM** drop-down.
 - b. Click the **Run Action** button.

Request a vRealize® Virtual Machine in the Customer Portal

Use the Customer Portal to request a vRealize® virtual machine.



Note: This functionality is only available if you have applied the [Orchestration Pack for VMWare vRealize® Automation™](#). For more information, refer to the [mApp Solution Tech Notes](#) documentation.

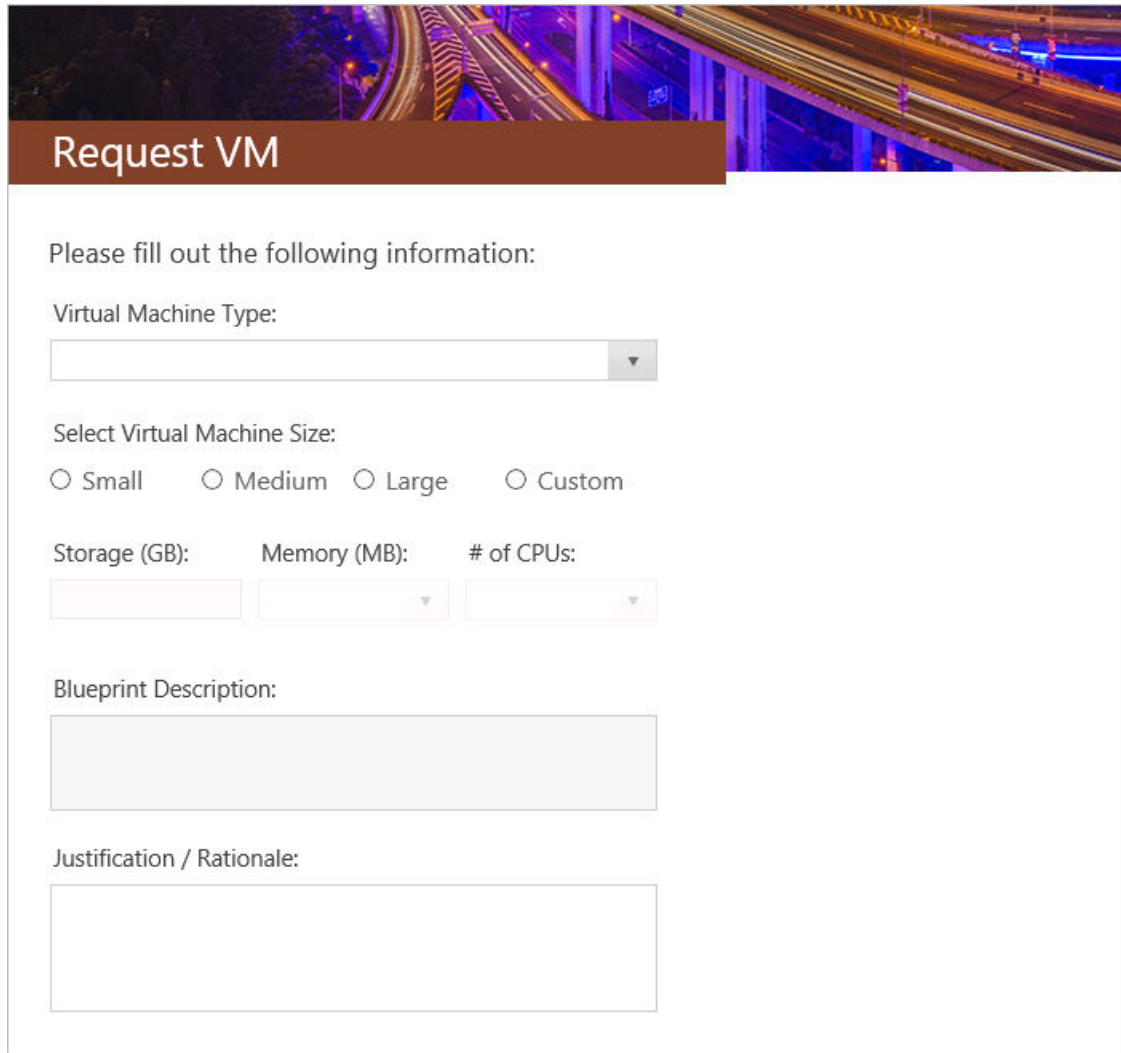
To request a virtual machine in the Customer Portal:

1. Navigate to **http://server/CherwellPortal** where *server* is the location where the CSM Browser applications are installed.
2. Log in to the Portal:
 - a. Click the **Click to login** link to log in to the Portal Site.
 - b. Provide **login credentials** (User Name and Password) for a User who has rights to access the Customer Portal.
 - c. Click **Sign-in**.
3. In the Customer Service Portal toolbar, click **Service Catalog**.

The Service Catalog page opens.

- a. In the Cloud Services>Virtual Machines (VM) section, click the **Request VM** Service.

The Request VM form opens.



The form is titled "Request VM" and is set against a background image of a highway at night. It contains several input fields and a radio button group for configuring a virtual machine request.

Request VM

Please fill out the following information:

Virtual Machine Type:

Select Virtual Machine Size:
☐ Small ☐ Medium ☐ Large ☐ Custom

Storage (GB): Memory (MB): # of CPUs:

Blueprint Description:

Justification / Rationale:

- b. Complete the **Request VM** Specifics Form.
- c. Click the **Add to Cart** button.

The Service Request displays on the My Service Orders page in the Services Ordered section.

My Service Cart

Services Ordered

Number	Item	Description	Cost
7040-1	Virtual Machines (VM)	Request VM --(Submitted by Melanie Daniels via Portal)	

Total: \$0.00

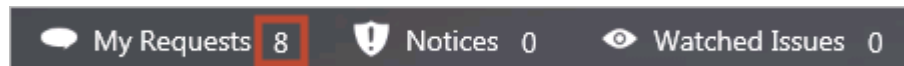
Cancel Order Submit Order

- d. Click the **Submit Order** button.
- e. Click **OK** to confirm the order.



Note: After the order is confirmed, the Service Request is assigned to the default Team (if defined) and fulfilled using the CSM Desktop Client.

4. View the status of the request:
 - a. In the Customer Service toolbar, click the **number** next to My Requests (example: 8).



- b. Click the **Service Request** that you want to view.
5. After the VM request is fulfilled, request a second day action:
 - a. On the Customer Portal home page, click the **View My Devices** link.

The Virtual Machine page opens.

- b. Select a second day action from the **Request Action for this VM** drop-down.
 - c. Click the **Run Action** button.

Planview Task Integration mApp Solution 1.0

Use the Planview Task Integration mApp® Solution to integrate Tasks into CSM.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform version requirements: Tested on CSM 10.1.0

Content version requirements: Tested on CSM 10.1.0. This mApp Solution may also be compatible on content versions that are older than CSM 10.1.0, but as with all mApp Solutions, be sure to test them on your customized system.

Prerequisites: Planview PPM Pro

Available languages: English

Overview

The Planview Task Integration mApp Solution uses the Planview API to integrate Tasks into CSM. The mApp Solution contains recommended best practice for syncing data between CSM and Planview. Technicians can see and work on all IT Tasks alongside any Project-related Tasks.

Apply the mApp Solution

To download, apply, and configure the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM. Do not select **Finish** yet.
4. Review the Merge Actions to ensure customizations to your CSM instance will not be overwritten.
5. When prompted, enter your Planview URL to use for the API connection.
6. Still in the Apply mApp Wizard, when you reach the **Final Options** window, select **Open a Blueprint so that I can preview the changes**, and then select **Finish**.
7. When the Blueprint opens, select **Managers > Stored Values**. The **Stored Value Manager** opens.
8. Double-click the **Planview** folder.
 - a. Right-click the **Planview Username** stored value, and then select **Edit**.
 - b. In the **Value** field, enter your Plainview username to be used with your API account, and then select **Save**.
 - c. Right-click the **Planview Password** stored value, and then select **Edit**.

- d. In the **Value** field, enter your Plainview password to be used with your API account, and then select **Save**.

9. Publish the Blueprint.

For a list of items included in this mApp Solution, see [Planview Task Integration mApp Solution Items](#).

Revision History

mApp Solution Version	Platform Version Requirements	Content Version Requirements	Prerequisites
1.0	10.1.0	10.1.0	None

Related concepts

[Publish a Blueprint](#)

Create the Planview Filters

To ensure only relevant data is imported into CSM, you need to create filters in your Planview PPM Pro account.

To create Planview filters:

1. Login to your Planview Pro account.
2. On the menu bar, select **Home**, and then on the left, select **Filters**.
3. On the **Filter** page, select **New**, and then select **New Filter**.
4. For the title, enter `All Projects`.
5. Under **Criteria**, from the **Show** drop-down list, select **Projects**.
6. In the **any of the following are true** drop-down list, scroll down to **Filterable Fields**, and then select the **Show all (185) fields**.
7. Scroll down the list of fields and select **Project: ID**.
8. In the next drop-down list, select **is greater than**.
9. In the next field, enter `0`, and then select **Save**.
10. Select **New**, and then select **New Filter**.
11. For the title, enter `Tasks Assigned to Resources`.
12. Under **Criteria**, from the **Show** drop-down list, select **Tasks**.
13. In the **any of the following are true** drop-down list, scroll down to **Filterable Fields**, and then select the **Show all (354) fields**.
14. Scroll down the list of fields and select **Task: Scheduled Hours**.
15. In the next drop-down list, select **is greater than**.
16. In the next field, enter `0`, and then select **Save**.



Note: Only Tasks that have been assigned to resources and the resources have scheduled hours to the Task will be imported into CSM. It is important that the names of these filters are exactly as shown because the API uses these names.

Assign Task Owner in Planview

Planview can have multiple resources assigned to each Task, while only one resource can be assigned to a Task in CSM. To ensure the correct resources are assigned to Tasks within CSM the Planview Task Integration mApp® Solution uses the Task Owner field in Planview to set the assigned resource in CSM.

Ensure the Task Owner field is enabled on your Task form in Planview (if the field is already visible on the Task form, the following steps are not required).

To assign Task owner in Planview:

1. Login to your Planview Pro account.
2. On the menu bar, select **Admin**, and then in the left column, select **Setup > All Entities**.
3. On the **Entities** page, select **Tasks**.
The **Task Details** page displays.
4. In the **Available Fields** list select **Owner**, and then select the **right arrow** to move it to the **Details** column.
Use the up and down arrows to move the field to where you want it displayed on the Task form.
 - Set the **Show On New** field to **Yes**, and then set the **Show on Edit** field to **Yes - Editable**.Consider entering a description for this field that explains to users that the resource assigned as the owner will be the assigned resource in CSM.
5. On the menu bar, select **Home**, and then select **Yes** to save the changes.



Note: Only Tasks that meet the following criteria will be imported into CSM:

- Tasks that have an owner assigned.
- Task owner's with a User Info record in CSM.
- Tasks that have time scheduled to resources in Planview.

Set Up Scheduled Project and Task Imports

The Planview Task Integration mApp® Solution uses two scheduled processes to import project and Task data from your Planview account daily.

This functionality is only available after you apply the mApp Solution.

To set up scheduled Project and Task imports:

1. In CSM Administrator, select **Scheduling > Edit Schedule**.
The **Scheduled Items** window opens.

2. Select **Add**.

A **Schedule Item** window opens.

3. On the **General** page, enter `Planview Projects` for the name.
4. On the **Schedule** page, select the **Recurring** option, and then enter a start time.
5. In the **Recurrence** section, select the **Daily** and **Every 1 Day** options
6. In the **Range of recurrence** section enter a start date, and then select the **No end date** option.
7. On the **Action** page, select **One-Step** from the **Action** drop-down list.
 - a. Next to the **One-Step** drop-down list, select the **ellipsis**.
The **One-Step Action Manager** opens.
 - b. In the **Association** drop-down list, select **None**, and then select the **Global** folder on the left.
 - c. Double-click the **Planview** folder, and then double-click the **Scheduled Import Projects** One-Step Action.
 - d. Select **Save**.
8. From the **Scheduled Items** window, select **Add**.
9. On the **General** page, enter `Planview Tasks` for the name.
10. Repeat steps 4-6.



Important: Select a scheduled time that is after the Projects import scheduled time. The Projects import must run before the Task import.

11. On the **Action** page, select **One-Step** from the **Action** drop-down list.
 - a. Next to the **One-Step** drop-down list, select the **ellipsis**.
The One-Step Action Manager opens.
 - b. In the **Association** drop-down list, select **None**, and then select the **Global** folder on the left.
 - c. Double-click the **Planview** folder, and then double-click the **Scheduled Import Tasks** One-Step Action.
 - d. Select **Save**.
12. On the **Scheduled Items** window, select **Exit**.



Note: The Planview filters that are set up will ensure that only Projects and Tasks that are new or have had changes made to them in the last 24 hours, and meet the Plainview filter criteria, will be imported.

Related concepts

[About the Scheduler](#)

Initial Planview Import

Use One-Step™ Actions to import all Projects and Tasks from Planview. This initial import will add Project and Task data from your Planview account to CSM, but will not affect the scheduled imports.

This functionality is only available after you apply the mApp Solution.



Remember: Only Tasks that meet the following criteria will be imported into CSM:

- Tasks that have an owner assigned.
- Task owner's with a User Info record in CSM.
- Tasks that have time scheduled to resources in Planview.

For best results, import Projects before Tasks.

To use One-Step Actions to import all Projects and Tasks:

1. From the CSM Desktop Client menu bar, select **One-Step > One-Step Manager**.
 - a. In the **Association** drop-down list, select **None**, and then double-click the **Planview** folder.
 - b. Select the **Import Project** One-Step Action, and then select **Run**.
 - c. When the **Prompt** displays, select the earliest date for importing Projects from Planview. If you want to include all Projects in your Planview account, select a date prior to the create date on your Projects.
The One-Step Action will run, and it may take a few minutes to complete.

2. To view all Projects imported, from the menu bar, select **Searching > Search Manager**.
 - a. In the **Association** drop-down list, select **Planview Projects**, and then double-click the **Planview** folder.
 - b. Select the **All Planview Projects** saved search, and then select **Run**.

A list of all imported Projects will display. If the list is empty, you may need to wait a few minutes and run the search again.

3. Follow steps 1 - 1a.
 - a. Select the **Import Tasks** One-Step Action, and then select **Run**.
 - b. When the **Prompt** displays, select the earliest date for importing Tasks from Planview. If you want to include all Task in your Planview account, select a date prior to the create date on your Tasks.
The One-Step Action will run, and it may take a few minutes to complete.

4. To view all Tasks imported, from the menu bar, select **Searching > Search Manager**.
 - a. In the **Association** drop-down list, select **Work Item**, and then double-click the **Planview** folder.
 - b. Select the **All Project Tasks** saved search, and then select **Run**.

A list of all imported Tasks will display. If the list is empty, you may need to wait a few minutes and run the search again.

Any changes you make to a Task will be exported via the API to Planview after saving.

Note:

- If you assign the Task to a user who is not part of the Project team for the Task, the Task owner will not update in Planview.
- Any special characters in the title or description will cause the sync to fail between Planview and CSM.

Related concepts[About One-Step Actions](#)

Update Work Items with Planview Fields

The Work Item form in CSM has fields associated with Planview that are not currently displayed on the form. You can manually add these fields to the form.

This functionality is only available after you apply the mApp Solution.

To add fields associated with Planview to the Work Item form:

1. From CSM Administrator, create a Blueprint.
2. Under **Show object types**, select the **Supporting** option.
3. Select the **Work Item** Business Object, and then under **Appearance**, select **Edit form**.
4. Under **Work Item forms**, double-click **Planview Fields**.
The Planview Fields form displays and shows all the fields you can add to your Work Item form.
5. Copy and paste any fields you want to add to your Work Item form onto the Task form.
6. Add a Link Label Control to the Work Item form, under **Actions**.
This link will allow you to check for updates in Planview.
 - a. Right-click the **Link Label Control**, and then select **Control Properties**.
 - b. In the **Choose Action** window, under **Action**, select the ellipses.
 - c. In the next **Choose Action** window, on the left, select the **One-Step Actions** page.
 - d. In the **Association** drop-down list, select None, and then select the **Global** folder on the left.
 - e. Double-click the **Planview** folder, and then double-click the **Import Tasks** One-Step Action.
 - f. Select **OK**, and then select **OK** again.
7. Publish the Blueprint.

Related concepts

[Work Item Task](#)

[Publish a Blueprint](#)

Related tasks

[Create a Blueprint](#)

[Add a Field Form Control to a Form](#)

[Add a Link Label Control to a Form](#)

Planview Task Integration mApp Solution Items

The items table provides a list of items included when applying the mApp® Solution and the typical merge action.

Item Category	Item	Typical Merge Action
Action Block	Login	Import
Automation Process Definitions	Project Create or Update, Task Create or Update, Update Planview	Import
Business Objects	Planview Import, Planview Projects	Import
	Task	Don't Change
	Work Item	Merge
Dashboard	My Work with Project Tasks	Import
Fields	Created By, Created By ID, Created Culture, Created Date Time, Description, End Date, Last Modified By, Last Modified By ID, Last Modified Date Time, Number, Outline, Planview Project ID, Planview Task ID, Predecessors Tasks, Project, Project Description, Project End Date, Project Import, Project Start Date, Project Status, ReclID, Start Date, Status, Successors Tasks, Task, Task Description, Task Duration, Task End Date, Task Import, Task Owner, Task Start Date, Task Status, Title	Import
	Close Code, Hold Reason	Overwrite
Form arrangements	PlanviewImport, PlanviewProjects	Import
Forms	Planview, PlanviewProjects, PlanviewTaskImport	Import
Grids	PlanviewProjects, PlanviewTaskImport, Project-Task-Grid	Import
Indexes	PK_PlanviewProjects, PK_PlanviewTaskImport	Import
	PK_Task, Task_ParentID, Task_ParentTypeID, Task_Subject, Task_TaskID, Task_TaskType, TaskStatus, Scheduled Import Tasks, Update Planview Task	Overwrite

Item Category	Item	Typical Merge Action
One-Step™ Actions	Close and Clear Dependencies	Overwrite
	Create or Update Project, Create or Update Task, Import Projects, Import Tasks, Scheduled Import Projects,	Import
Relationships	Planview Import links Planview Projects, Planview Import Links Users, Planview Import Links Work Item, Planview Projects links Work Item	Import
Searches	All Open Project Tasks, All Planview Projects, All Planview Task Imports, All Project Tasks, Closed Project Tasks, My Open Project Tasks, My Project Tasks, My Teams Open Project Tasks, My Teams Project Tasks	Import
Stored expression	Yesterdays Date	Overwrite
Stored values	Planview Password, Planview URL, Planview Username, Text	Import
Web service	Planview	Import
Widgets	CD - Date Filter - 30 day default, CD-All P1 Issues, CD-My Incidents and Requests, CD-My Open Incidents, CD-My Open Tasks, CD-My Open Tasks Count, CD-My Open Tickets, CD-My Teams Open Change Requests, CD-My Teams Open Tasks, CD-My Teams Problems, CD-My VIP Issues	Overwrite
	My Open Project Tasks, My Open Project Tasks - Count, My Teams Open Project Tasks	Import
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Risk for Change mApp Solution 1.0

The Risk for Change mApp® Solution provides functionality that allows you to evaluate the risk level of a Change Request using a Risk Assessment with defined thresholds.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 5.0.0

Out-of-the-Box Content Version Requirements: Tested on CSM 5.0.0; localized content not supported.

Prerequisite Requirements: None


Overview

In CSM, Risk Assessment is a Supporting Object. The Risk Assessment Form has two sections, including Risk Questionnaire and Risk Chart.

Users evaluate a Change Request using the Risk Questionnaire by answering questions related to Service Delivery Risks and Service Disruption Risks. As the User progresses through the questionnaire, Risk Weight definitions calculate the risk level, and then auto-populate the Risk Chart using low, medium, high, and extreme risk levels.

Risk Weight is a Lookup Object that allows Users to define Risk Assessment properties (including categories, subcategories, point allocation, etc.) using Table Management.

Risk Chart

Total Risk Level: Medium 

This section shows the risk level in each category. Change values using the Risk Questionnaire below.

Primary Risks

Time of Day

Application S...

Service Outage

Medium

High

High

Secondary Risks

Back Out Plan

User Type

Installation ...

Testing

Medium

Low

Medium

Medium

Risk Questionnaire

Fill out the questionnaire to determine the risk level.

Time of Day

Does the time of day increase the risk? (Impact Range: Maintenance Window -> Peak Business Hours)

What is the impact if there is an issue related to this Risk?

☐ Insignificant
 ☒ Minor
 ☐ Moderate
 ☐ Major
 ☐ Severe

What is the likelihood this Risk will be an issue?

☐ Rare
 ☒ Unlikely
 ☐ Possible
 ☐ Likely
 ☐ Certain

Risk mitigation plan (if applicable):

Exit Questionnaire

Save and Next >

How the mApp Solution Works

CSM provides Risk for Change as a mApp Solution so that Users can easily incorporate risk assessment functionality into their existing CSM system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	BusObID, Risk Assessment, Risk Weight	Import
	Change Request	Merge
One-Step Action	Advanced Decrement, Advanced Increment, Clear Temp Fields, Create Risk Assessment, Edit Questionnaire, Exit Questionnaire, Go to Risk Assessment, Lock Assessment, Set Change Fields, Set Temp Fields	Import
Expression	Numerous	Import

Custom View	Portal Default	Don't Change
Widget	Change Risk Levels	Import
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related Reading

- [About Change Requests](#)
- [About mApp Solutions](#)

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

After applying the mApp Solution, perform the following high-level steps to configure the mApp Solution:

1. [Add Form Controls to Change Request Forms](#).
2. (Optional) [Edit existing Risk Assessment properties](#).

Steps to Use the mApp Solution in the Desktop Client

To use the mApp Solution in the Desktop Client, perform the following steps:

1. [Create a Risk Assessment for a Change Request](#).

Configuring the Risk for Change mApp Solution

Complete the following procedures to configure the Risk for Change mApp Solution. The configuration procedures are completed in the CSM Desktop Client and CSM Administrator.

1. [Add Form Controls to Change Request Forms.](#)
2. [\(Optional\) Edit existing Risk Assessment properties](#)

Add Form Controls to Change Request Forms

Use the Form Editor in CSM Administrator to add Form Controls to Change Request Forms.



Note: This functionality is only available if you have applied the [Risk for Change mApp Solution](#). For more information, refer to the mApp Solution Tech Notes documentation.

To add Forms Controls to Change Request Forms:

1. Open the Form Editor
2. Add the *Create Risk Assessment* link to Change Request Forms:
 - a. In the Form drop-down (upper-left), select **Risk for Change Form Elements**.

The Risk for Change Form Elements Form opens.

We recommend placing this link in your I Want To section and on your Risk Assessment page.
[Create Risk Assessment](#)

We recommend placing this link in your I Want To section and on your Risk Assessment page.
This element has visibility applied so that it only appears after a Risk Assessment has been performed.
[Go To Last Risk Assessment](#)

This element can replace all instances your current Risk Analysis text. It uses expression-driven colors based on the Risk Level.
 Risk Analysis:

- b. Click the **Create Risk Assessment** Link Label Control.
- c. In the CSM Desktop Client menu bar, click **Edit>Copy**.
- d. In the Form drop-down, click **Default Form**.

The Default Form opens.

- i. In the CSM Desktop Client menu bar, click **Edit>Paste**.

The Link Label Control displays on the Form.

- ii. Drag-and-drop the **Link Label Control** to the *I Want To* section.

- iii. Click the **Update Blueprint** button .

- e. In the Form drop-down, select **Assess Normal**.

The Assess/Approve Form opens.

- i. In the CSM Desktop Client menu bar, click **Edit>Paste**.

The Link Label Control displays on the Form.

- ii. Drag-and-drop the **Link Label Control** to a location on the Form (based on your Form design).

- iii. Click the **Update Blueprint** button .

- f. In the Form drop-down, select **Assess Emergency**.

The Assess Form opens.

- i. In the CSM Desktop Client menu bar, click **Edit>Paste**.

The Link Label Control displays on the Form.

- ii. Drag-and-drop the **Link Label Control** to a location on the Form (based on your Form design).

- iii. Click the **Update Blueprint** button .

- 3. Add the Go to Last Risk Assessment link to Change Request Forms:

- a. In the Form drop-down (upper-left), select **Risk for Change Form Elements**.

The Risk for Change Form Elements Form opens.

- b. Click the **Go to Last Risk Assessment** Link Label Control.
- c. In the CSM Desktop Client menu bar, click **Edit>Copy**.
- d. In the Form drop-down, click **Default Form**.

The Default Form opens.

- i. In the CSM Desktop Client menu bar, click **Edit>Paste**.

The Link Label Control displays on the Form.

- ii. Drag-and-drop the **Link Label Control** to the I Want To section.

- iii. Click the **Update Blueprint** button .

- e. In the Form drop-down, select **Assess Normal**.

The Assess Form opens.

- i. In the CSM Desktop Client menu bar, click **Edit>Paste**.

The Link Label Control displays on the Form.

- ii. Drag-and-drop the **Link Label Control** to a location on the Form (based on your Form design).

iii. Click the **Update Blueprint** button .

f. In the Form drop-down, select **Assess Emergency**.

The Assess Form opens.

i. In the CSM Desktop Client menu bar, click **Edit>Paste**.

The Link Label Control displays on the Form.

ii. Drag-and-drop the **Link Label Control** to a location on the Form (based on your Form design).

iii. Click the **Update Blueprint** button .

4. Replace *Risk Analysis* text on all applicable Change Request Forms:

a. In the Form drop-down (upper-left), select **Risk for Change Form Elements**.

The Risk for Change Form Elements Form opens.

b. Click the **Create Risk Assessment** Link Label Control.

c. In the CSM Desktop Client menu bar, click **Edit>Copy**.

d. In the Form drop-down, select **[Change Form]**.

The [Change Form] Form opens.

i. Select the exiting **Risk Analysis** Text Label Control, and then click **Edit>Delete Selected Controls**.

ii. In the CSM Desktop Client menu bar, click **Edit>Paste**.

The Text Label Control displays on the Form.

iii. Drag-and-drop the **Text Label Control** to a location on the Form (based on your Form design).

iv. Click the **Update Blueprint** button .

5. Click the **Home** button .

6. Publish the Blueprint to commit the changes (File>Publish Blueprint).

(Optional) Edit Existing Risk Assessment Properties

Use Table Management in the CSM Desktop Client to edit existing Risk Assessment properties.



Note: This functionality is only available if you have applied the [Risk for Change mApp Solution](#). For more information, refer to the mApp Solution Tech Notes documentation.


To edit existing Risk Assessment properties:

1. Open the Table Management interface
2. In the Type drop-down, select **Risk Weight**.

Risk Weight values display in the Grid.

3. In the Table Management Grid, right-click a **value**, and then select **Go to Record**.

The Risk Weight Lookup Object opens.

4. Use the Impact/Likelihood matrix to associate Risk Levels with Risk Scores for a Change Request or Incident template.
5. Use the Category and Points fields to assign a weight for each category. Weight allotments must total 100.
6. Use the Subcategory and Points fields to assign a weight for each category. Weight allotments must total 100.
7. Click **Save** .

Using the Risk for Change mApp Solution

When working with the Risk for Change mApp Solution, Users can:

- [Create a Risk Assessment for a Change Request.](#)

Create a Risk Assessment for a Change Request

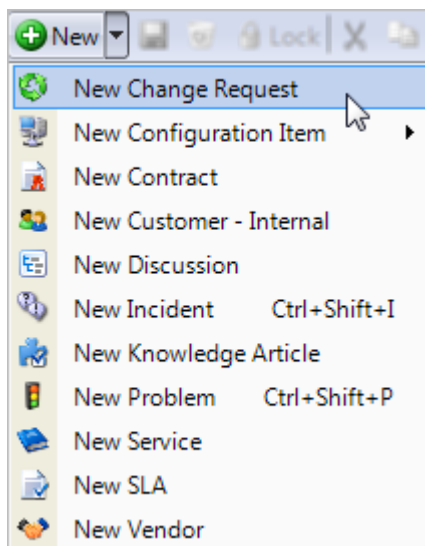
Use the Change Form in the CSM Desktop Client to create a Risk Assessment for a Change Request.



Note: This functionality is only available if you have applied the [Risk for Change mApp Solution](#). For more information, refer to the mApp Solution Tech Notes documentation.

To create a Risk Assessment:

1. On the CSM toolbar, click **New>New Change Request**.



A new Normal Change record is created with a unique Change ID and a status of New.

2. Creator selects a **Requestor** (if different from the creator):
 - a. Requestor: Specify the **name** of the person who initiated the Change, and then press **ENTER** or **TAB** to search for the Customer Record.

If an exact match is found, the Requestor fields are auto-populated with the Customer's name, avatar, e-mail, and phone number. If multiple matches are found, the Contact Manager opens so that you can select the appropriate Customer.

3. In the I Want To section of the Quick Info Tile, click the **Create a Risk Assessment** link.



Note: Alternatively, you can access the Risk Assessment by clicking the Create a Risk Assessment link on an applicable Change Request Form.

I Want To:

[Take Ownership](#) ☒ Show Related Tabs

[E-Mail Change Review](#) ☐ Show All Tabs

[Create New Task](#)

[Approve by Show of Hands](#)

[Nominate for Standard Change](#)

[Create Risk Assessment](#)

The Risk Chart and Risk Questionnaire sections display in the CSM Desktop Client main pane.

Risk Chart

This section shows the risk level in each category. Change values using the Risk Questionnaire below.

Primary Risks

Time of Day Application S... Service Outage

Secondary Risks

Back Out Plan User Type Installation ... Testing

Risk Questionnaire

Fill out the questionnaire to determine the risk level.

Time of Day

Does the time of day increase the risk? (Impact Range: Maintenance Window -> Peak Business Hours)

What is the impact if there is an issue related to this Risk?

☐ Insignificant ☐ Minor ☐ Moderate ☐ Major ☐ Severe

What is the likelihood this Risk will be an issue?

☐ Rare ☐ Unlikely ☐ Possible ☐ Likely ☐ Certain

Risk mitigation plan (if applicable):

4. Complete the Risk Questionnaire:



Note: As you complete the questionnaire, the Risk Chart fields auto-populate with a risk level (Low, Medium, High, Extreme).


- a. Define the risk of the Change based on the time of day that it is scheduled to take place:
 - i. What is the impact if there is an issue related to this Risk: Select a **radio button** that corresponds with the potential impact to the Change:
 - Insignificant
 - Minor
 - Moderate
 - Major
 - Severe
 - ii. What is the likelihood that the Risk will be an issue: Select a **radio button** that corresponds with the likelihood that the risk will take place:
 - Rare
 - Unlikely
 - Possible
 - Likely
 - Certain
 - iii. Risk mitigation plan (if applicable): Provide a **mitigation plan** to follow if the risk occurs. Depending on the defined risk, a mitigation plan might be required.
 - iv. Click the **Save and Next** button.
- b. Define the risk of the Change based on the affected Service:
 - i. What is the impact if there is an issue related to this Risk: Select a **radio button** that corresponds with the potential impact to the Change:
 - Insignificant
 - Minor
 - Moderate
 - Major
 - Severe
 - ii. What is the likelihood that the Risk will be an issue: Select a **radio button** that corresponds with the likelihood that the risk will take place:
 - Rare
 - Unlikely
 - Possible
 - Likely
 - Certain
 - iii. Risk mitigation plan (if applicable): Provide a **mitigation plan** to follow if the risk occurs. Depending on the defined risk, a mitigation plan might be required.

- iv. Click the **Save and Next** button.
- c. Define the risk of the Change based on the number of affected Users:
 - i. What is the impact if there is an issue related to this Risk: Select a **radio button** that corresponds with the potential impact to the Change:
 - Insignificant
 - Minor
 - Moderate
 - Major
 - Severe
 - ii. What is the likelihood that the Risk will be an issue: Select a **radio button** that corresponds with the likelihood that the risk will take place:
 - Rare
 - Unlikely
 - Possible
 - Likely
 - Certain
 - iii. Risk mitigation plan (if applicable): Provide a **mitigation plan** to follow if the risk occurs. Depending on the defined risk, a mitigation plan might be required.
 - iv. Click the **Save and Next** button.
- d. Define the risk of the Change based on the complexity of the back out plan:
 - i. What is the impact if there is an issue related to this Risk: Select a **radio button** that corresponds with the potential impact to the Change:
 - Insignificant
 - Minor
 - Moderate
 - Major
 - Severe
 - ii. What is the likelihood that the Risk will be an issue: Select a **radio button** that corresponds with the likelihood that the risk will take place:
 - Rare
 - Unlikely
 - Possible
 - Likely
 - Certain
 - iii. Risk mitigation plan (if applicable): Provide a **mitigation plan** to follow if the risk occurs. Depending on the defined risk, a mitigation plan might be required.
 - iv. Click the **Save and Next** button.
- e. Define the risk of the Change based on the Users who are involved:

- i. What is the impact if there is an issue related to this Risk: Select a **radio button** that corresponds with the potential impact to the Change:
 - Insignificant
 - Minor
 - Moderate
 - Major
 - Severe
 - ii. What is the likelihood that the Risk will be an issue: Select a **radio button** that corresponds with the likelihood that the risk will take place:
 - Rare
 - Unlikely
 - Possible
 - Likely
 - Certain
 - iii. Risk mitigation plan (if applicable): Provide a **mitigation plan** to follow if the risk occurs. Depending on the defined risk, a mitigation plan might be required.
 - iv. Click the **Save and Next** button.
- f. Define the risk of the Change based on the Users who are involved:
- i. What is the impact if there is an issue related to this Risk: Select a **radio button** that corresponds with the potential impact to the Change:
 - Insignificant
 - Minor
 - Moderate
 - Major
 - Severe
 - ii. What is the likelihood that the Risk will be an issue: Select a **radio button** that corresponds with the likelihood that the risk will take place:
 - Rare
 - Unlikely
 - Possible
 - Likely
 - Certain
 - iii. Risk mitigation plan (if applicable): Provide a **mitigation plan** to follow if the risk occurs. Depending on the defined risk, a mitigation plan might be required.
 - iv. Click the **Save and Next** button.
- g. Define the risk of the Change based on the amount of required testing:
- i. What is the impact if there is an issue related to this Risk: Select a **radio button** that corresponds with the potential impact to the Change:
 - Insignificant

- Minor
 - Moderate
 - Major
 - Severe
- ii. What is the likelihood that the Risk will be an issue: Select a **radio button** that corresponds with the likelihood that the risk will take place:
- Rare
 - Unlikely
 - Possible
 - Likely
 - Certain
- iii. Risk mitigation plan (if applicable): Provide a **mitigation plan** to follow if the risk occurs. Depending on the defined risk, a mitigation plan might be required.
- iv. Select **Finish**.

Based on questionnaire answers, the Risk Chart displays risk levels (Low, Medium, High, Extreme) for each type of risk.

Risk Chart				Total Risk Level: Medium 
<i>This section shows the risk level in each category. Change values using the Risk Questionnaire below.</i>				
Primary Risks				
Time of Day	Application S...	Service Outage		
Medium	High	High		
Secondary Risks				
Back Out Plan	User Type	Installation ...	Testing	
Medium	Low	Medium	Medium	

Note: Before the Risk Assessment is saved, it can be edited by clicking the Edit Questionnaire button in the Risk Questionnaire section. After the Risk Assessment is saved, it cannot be edited.

h. Click **Save** .

5. In the Risk Assessment's Form Arrangement, click the **Go To Record** button to return to the Change Request record.

Skills Management mApp Solution 1.0

Use the Skills Management mApp® Solution to create skills and link them to users.

Platform Version Requirements: Tested on CSM 10.0.0

Content Version Requirements: Tested on CSM 10.0.0

Prerequisites: None

This mApp Solution is available in the following languages:

- German
- English
- Spanish
- French
- Portuguese

Overview

The Skills Management mApp Solution allows administrators or managers to create skills and link them to users. Use the Skills module to easily identify skills across an organization to assist with the automatic identification of qualified technicians for Incidents and Service Requests. Some benefits of using this mApp Solution include decreased assignment time for new tickets, cross-departmental collaboration, auto assignment of tickets based on skills, enhanced visibility of Subject Matter Experts (SMEs), and assistance with internal recruitment processes.

Examples of skills included are:

- Application Development
- Contract Management
- Desktop Support
- Foreign Languages
- Information Security

Apply the mApp Solution

To apply the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Note: For 10.2.0 content versions and later, *before* you publish the Blueprint, delete the following index:



- Index IncidentService on Service

See [Define Database Properties for a Business Object](#).

For a list of items included in the mApp Solution, see [Skills Management mApp Solution Items](#).

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.0	10.0.0	10.0.0	None

Related concepts

[Go to the Cherwell Marketplace \(formerly the mApp Exchange\)](#)

[Apply a mApp Solution](#)

[About mApp Solutions](#)

Add Skills Management Elements to the Incident Form

Use the Form Editor (accessed from within a Blueprint in CSM Administrator) to add mApp Solution elements to the Incident Form.



Note: This functionality is only available if you have applied the Skills Management mApp Solution.

To add the Skills Management Elements to the Incident Form:

1. From the **Current view** drop-down list, select **Default**.
2. Under **Show object types**, select the **Major** option.
3. In the Business Object tree, select **Incident**.
4. Under **Appearance**, select the **Edit form** link.
5. From the **Incident forms** list, double-click **SkillsManagement**.
The Skills Management Controls Form opens.
6. Select and copy the button or link from the Skills Management Controls. Depending on your preference, you can copy both controls.
7. From the **Incident forms** list, double-click **Incident Overview**.
The Incident Overview Form opens.
8. Paste the button or link on the Form.
9. Set the coordinates to position the button or link for each Adaptive Layout. With the button or link selected, right-click and select **Position and Size**.
The recommended coordinates are as follows:

	Base Layout	Tablet Form	Mobile Default Form
Button	Left: 440 Top: 815	Left: 365 Top: 596	Left: 365 Top: 720
Link	Left: 1058 Top: 453	Left: 43 Top: 1243	Left: 43 Top: 2277

10. Select **OK**.
11. Repeat steps 6-10 for each Adaptive Layout.
12. To copy the location to other languages for each Adaptive Layout, select the button or link and right-click **Localization Options > Copy between cultures**.
13. Select the **Copy values to the following cultures** option and select all cultures that apply.
14. Select **Apply**.
15. Repeat steps 12-14 for each Adaptive Layout.

16. Save the Blueprint.

Related concepts

[Form Editor](#)

[Skills Management mApp Solution 1.0](#)

[Save a Blueprint](#)

Add Skills Management Elements to Incident Category Form

Use the Form Editor (accessed from within a Blueprint in CSM Administrator) to add mApp Solution elements to the Incident Category Form.



Note: This functionality is only available if you have applied the Skills Management mApp Solution.

To add the Skills Management Elements to the Incident Category Form:

1. From the **Current view** drop-down list, select **Default**.
2. Under **Show object types**, select the **Lookup tables** option.
3. In the Business Object tree, select **Incident Category**.
4. Under **Appearance**, select the **Edit form** link.
5. From the **Incident Category forms** list, double-click **Incident Category**.
The Incident Category Form opens.
6. Under the **Incident Category Fields** list, drag the **Required Skill** field onto the Form. Depending on your preference, you can copy both controls.
7. To set the coordinates (and size) to position the label and field, select the label or field, right-click and select **Position and Size**.
The recommended coordinates and size are as follows:

	Base Layout
Label	Left: 528 Top: 118
Field	Left: 530 Top: 150 Width: 400 Height: 30

8. Select **OK**.
9. To copy the location to other languages, select the label or field and right-click **Localization Options > Copy between cultures**.
10. Select the **Copy values to the following cultures** option and select all cultures that apply.
11. Select **Apply**.
12. Publish the Blueprint.

Related concepts

[Form Editor](#)

Skills Management mApp Solution 1.0

Publish a Blueprint

Add Skills and Link to Users

Add skills and link to Users from the mApp® Solution from the CSM Desktop Client or Browser Client.



Note: This functionality is only available if you have applied the Skills Management mApp Solution.

1. Open the Search Manager.
2. From the **Association** drop-down list, select **Skills**.
The All Skills Saved Search displays.
3. Run the **All Skills** Saved Search.
Search results are listed. There are 87 pre-loaded skills included in the mApp Solution.
4. To create new skills, select **New** from the menu bar. This can only be done from the CSM Desktop Client.
5. To view a skill record, select the **skill**.
6. To assign a skill to a User, from the Form Arrangement, select the **Users** tab, and then select the **link** button.



Note: In the Browser Client, if you do not see the Form Arrangement tabs at the bottom of the Form, find the Form Splitter Separator and drag it up to reveal the tabs.

The **User Info Selector** window opens.

7. Select a **User** and then select **OK**.
8. To assign all Users from a specific team to a skill, from the Form Arrangement, select the **Teams** tab, and then select the **link** button.
The **Team Info Selector** window opens.
9. Select a **Team** and then select **OK**.
After saving the skill record, the Users within the linked team will automatically be linked to the skill and will be visible on the Users tab. A refresh may be required to see the changes.
10. To assign a required skill to an Incident Category, from the Form Arrangement, select the **Incident Categories** tab, and then select the **link** button.
The **Incident Category Selector** window opens.
11. Select an **Incident Category** and then select **OK**.
Categories can only have one skill as its Required Skill.
12. To view the Incident Category Form, select the **Category** from the list in the **Incident Categories** tab, and then select the **Goto Incident Category** button.
The **Required Skill** on the Incident Category Form is populated with the skill you linked.
13. Save the record.

Related concepts

[Open the Search Manager](#)

[Run a Saved Search](#)

[Resize Forms Using Splitters](#)

Test the Skills Management Functionality

Test the functionality of the Skills Management mApp® Solution from the CSM Desktop Client or Browser Client.

- When assigning Incidents that have a Service Classification within an Incident Category that has a Required Skill, the **Recommended Assignee** button or link should be visible on the Incident Form.
- When selecting the **Recommended Assignee** button or link, you should see a list of all Users who are linked to the Required Skill for the Incident Category, along with their default team and Open Incident count.

Selecting a User from the list will update the Assigned To and Assigned Team on the Incident Form.

Skills Management Dashboard

Use the Skills Management Dashboard to view at-a-glance information on all skills and links to teams and Users.



Note: This functionality is only available if you have applied the Skills Management mApp Solution.

1. Open the Dashboard Manager.
2. To open the Skills Management Dashboard, expand the **Global** folder and then expand the **Dashboards** folder.
3. Select **Default Dashboards** and then double-click **Skills Management**.

The Skills Management Dashboard opens displaying the following information:

- Total number of skills records in the system.
- How many skills are unassociated (do not have Users associated to them).
- A bar graph that shows skills linked to teams and Users.
- An All Skills Grid with a quick view of each skill and the number of Users and teams associated with each. Double-click on a skill to go directly to the skill record.



Note: The Team Skills Widget uses calculated values, so it won't display a value until you force it to calculate. You will need to either run the scheduled job that is in the mApp Solution or open any TeamInfo record that has been attached to a Skill.

Related concepts

[Open the Dashboard Manager](#)

Skills Management mApp Solution Items

The Items table provides a list of items included when applying the mApp Solution and the typical merge action.

Item Category	Item	Typical Merge Action
Business Objects	Incident, Incident Category, Team Info, UserInfo	Merge
	SkillLinksUsers, Skills	Overwrite
Color Palette	Cherwell Dashboards	Overwrite
Dashboard	Skills Management	Overwrite
Fields	ChildID, ChildJoinReason, ChildType, Created By, Created By ID, Created Culture, Created Date Time, Description, Description_de-DE, Description_en-US, Description_es-ES, Description_fr-FR, Description_pt-BR, JoinReason, Last Modified By, Last Modified By ID, Last Modified Date Time, ParentID, ParentType, ReclID, Required Skill, Skill, Skill ID, Skill_de-DE, Skill_en-US, Skill_es-ES, Skill_fr-FR, Skill_pt-BR, Skills ID, TotalSkills, TotalTeams, TotalUsers, User Full Name	Overwrite
Forms	SkillsManagement, Skills	Overwrite
Form Arrangement	Skills	Overwrite
Grids	Dashboard, Skills	Overwrite
Image Definitions	add_16_blue_form, add_20_blue_form, add_24_blue_form, Add_Image_64, approval_abstained_20_blue, approval_approved_20_blue, approval_denied_20_blue, approval_pending_20_blue, attach_16_blue_form, attach_20_blue_form, attach_24_blue_form, behalf_16, behalf_20, behalf_24, calendar_16_blue_form, calendar_20_blue_form, chart_16_blue_form, chart_20_blue_form, chart_24_blue_form, clock_20_blue, clock_24_blue, delete_16_blue_form, delete_20_blue_form, delete_24_blue_form, duplicate_16_blue_form, duplicate_20_blue_form, duplicate_24_blue_form, edit_16_blue_form, edit_20_blue_form, edit_24_blue_form, editor_16_blue_form, editor_20_blue_form, editor_24_blue_form, email_20, error_13_status_header, itempicker_16_blue_form, jumpto_16_blue_form, jumpto_20_blue_form, jumpto_24_blue_form, paragraph_16_blue_form, paragraph_20_blue_form, paragraph_24_blue_form, picker_20_blue_form, picker_24_blue_form, reply_16_blue_form, reply_20_blue_form, reply_24_blue_form, thumbs_down_20, thumbs_up_20, user_16_blue_form, user_20_blue_form, user_24_blue_form, Warning_24_red	Overwrite

Indexes	Incident_CustomerID, Incident_IncidentType, Incident_OwnedByID, Incident_RecID, IncidentCategory_IncidentCategory, IncidentCreatedDT, IncidentID, IncidentIdx_ServiceCartRecID, IncidentIdx_ServiceCatalogTemplateRecID, IncidentService, IncidentStatus, PK_IncidentCategory, PK_SkillLinksUsers, PK_Skills, PK_TeamInfo, PK_UserInfo, System_LDAPPathIdx, TeamInfoName, UserInfo_FullName	Overwrite
Mergeable Area	Skills Action	Overwrite
One-Step™ Actions	Recommended Assignee, refreshcounts, Skills from Team, TeamSkills, Update Skills, Update user and team counts, UpdateSkillsCount	Overwrite
Relationships	Incidents links skills, Skills links Incident, Skills links Incident Category, Skills Links Team, Skills links Users, Team links Skills, Team links Users, Userinfo Links Skills, Users links Incidents	Overwrite
Scheduled Item Definition	Update Team Skill Count	Overwrite
Searches	All Skills, All Teams	Overwrite
Stored Values	Skill User, Skills RecID	Overwrite
Widgets	All Skills, CD - Date Filter - 30 day default, Team Skills, Total Skills, Unassociated, Skills, User Skill Number	Overwrite
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Submit On Behalf Of mApp Solution 2.1

Use the Submit On Behalf Of mApp® Solution to submit an Incident or Service Request on behalf of another user.

This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 9.6.x and 9.7.0

Out-of-the-Box Content Version Requirements: Tested on CSM 9.6.x and 9.7.0

Prerequisites: None

This mApp Solution is available in the following languages:

- German
- English
- Spanish
- French
- Portuguese

Overview

The Submit On Behalf Of mApp Solution allows Users to submit an Incident or Service Request on behalf of another User using the Desktop Client, Browser Client, or Customer Portal. The mApp Solution includes features such as graphics, email notifications, Search Groups, and Portal Widgets.

The screenshot displays the CSM mApp Solution interface for incident 102370. The top bar includes standard actions like Save, Cancel, Refresh, Delete, and Attach. The incident details show a status of 'New' and a requester 'John Allard' (highlighted with a red box). A modal titled 'Requested By:' is open, showing a list of employees with columns for Full Name, Last Name, First Name, Employee ID, Department, and Title. The modal also includes a search bar and a 'CHANGED' dropdown.

FULL NAME	LAST NAME	FIRST NAME	EMPLOYEE ID	DEPARTMENT	TITLE
John Allard	Allard	John	000019	Operations	Production Manager
Tracy E Aubin	Aubin	Tracy	000044	Operations	Shipping Specialist
Henri Bryce	Bryce	Henri	000024	IT	
Emma Carson	Carson	Emma	000047	IT	

This mApp Solution includes multiple features, including Expressions (example: Submit on Behalf Of E-Mail Recipient) and Widgets (example: My Open Incidents and Requests [Portal Dashboard], My Recently Closed Incidents and Requests [Portal Dashboard]).

How the mApp Solution Works

CSM provides Submit On Behalf Of functionality as a mApp Solution so Users can easily incorporate on behalf of submissions into their existing CSM system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or live system to commit the changes.



Note: Apply the mApp Solution and select the **Open a Blueprint so that I can preview the changes** option. *Before* publishing the Blueprint, configure the mApp Solution.

For a list of items included in the mApp Solution, see [Submit On Behalf Of mApp Solution Items](#).

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

After applying the mApp Solution, perform the following high-level steps to configure the mApp Solution:

1. [Add mApp Solution Elements to the Default Incident Form.](#)
2. [Add mApp Solution Elements to Portal Incident Forms.](#)

How to Use the mApp Solution

There are three ways to use the mApp Solution functionality, including:

1. [Test the Submit On Behalf Of Functionality.](#)
2. [Submit an Incident on Behalf of Another User in the CSM Desktop Client or CSM Browser Client.](#)
3. [Submit an Incident on Behalf of Another User in the Customer Portal.](#)

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.0	8.0.0 or later	None	None
2.1	9.6.0 or later	None	None

Related concepts

[Go to the Cherwell Marketplace \(formerly the mApp Exchange\)](#)

[Apply a mApp Solution](#)

[About Incidents and Service Requests](#)

[About mApp Solutions](#)

Add mApp Solution Elements to the Default Incident Form

Use the Form Editor (accessed from within a Blueprint in CSM Administrator) to add mApp Solution elements to the Default Incident Form.



Note: This functionality is only available if you have applied the Submit on Behalf Of mApp Solution.

1. From the **Current view** drop-down list, select **Default**.
2. In the Business Object tree, select **Incident**.
3. Under **Appearance**, select the **Edit form** link.

There are two options for adding elements of this mApp Solution to the Incident Form:

- Replace the existing Default Incident Form with the pre-configured Form from the mApp Solution.

This option is ideal for Customers that have not customized their Default Incident Form and who are using the CSM 9.6.0 OOTB Form redesign.

- Add elements to the existing Default Incident Form manually.

This option is ideal for Customers that have customized their Default Incident Form or are using the CSM 9.5.0 OOTB or earlier Form design.

Replace Existing Incident Form with Pre-Configured Form

To replace the existing Default Incident Form with the pre-configured Form from the mApp Solution:

1. From the **Form** drop-down list, select **Default Form**.
2. From the menu bar, select **Form > Form properties**. Rename the Form to something that will label it as the old Form (example: Old Default Form).
3. Select **OK**.
4. From the **Form** drop-down list, select **On-Behalf-Of-Header**.
5. Select **Yes** when prompted to apply Incident Form changes back to the Blueprint.
6. From the menu bar, select **Form > Make this the default standard form**.
7. Select **Yes**.

Add Submit On Behalf Of Selector to Default Incident Form

To add the Submit On Behalf Of Selector to the Default Incident Form:

1. From the **Form** drop-down list, select **Submit On Behalf Of Selector**.



2. Select and copy the **Requester** button (under the text below the Request Button heading).
3. From the **Form** drop-down list, select **Incident Overview**.
4. Select **Yes** when prompted to apply Incident Form changes back to the Blueprint.
5. Paste the button on the Form.
6. Drag the button to the right of the Customer field for each Adaptive Layout. You can also set the coordinates to position the button. With the button still selected, right-click and select **Position**. The recommended coordinates are as follows:

Adaptive Layout	Left	Top
Base Layout - 1340	440	139
Tablet Form - 104	365	36
Mobile Default Form - 414	365	36

7. Select **OK**.
8. Repeat steps 2-7 for each Adaptive Layout.
9. Select the button and right-click **Localization Options > Copy between cultures**.
10. Select the **Copy values to the following cultures** option and select all cultures that apply.
11. Select **Apply**.
12. Repeat steps 8-11 for each Adaptive Layout.

Note: If you prefer using a text link instead of the Requester button, you can copy and paste the Add Requester link from the Submit On Behalf Of Selector Form (under the text below the Requester Text Link heading). The recommended coordinates are as follows:



Adaptive Layout	Left	Top
Base Layout - 1340	1058	424
Tablet Form - 104	47	1219
Mobile Default Form - 414	43	2250

Manually Add Elements to Existing Incident Form

To manually add elements to the existing Default Incident Form from the mApp Solution:

1. From the **Form** drop-down list, select **Submit On Behalf Of Selector**.
2. Copy any appropriate Fields, buttons, and text links from the Form.
3. From the **Form** drop-down list, select **Incident Overview** (or the Default Form that you are using).

4. Paste the Fields, buttons, and text links on the Form.
Modify the settings (location, font, color, size, and borders) to ensure the newly added elements match your existing layout and styles.
5. Select each element and right-click **Localization Options > Copy between cultures**.
6. Select the **Copy values to the following cultures** option and select all cultures that apply.
7. Select **Apply**.
8. Repeat steps 5-7 for each Adaptive Layout.



Note: The items on the left side on the Submit On Behalf Of Selector Form are intended to be used on the Default Incident Form (or the technician-facing Forms). Items on the right side are intended for the Default Portal version of the Incident Form and should only be used in the Customer Portal.

9. Save the Blueprint.



Remember: If you make changes to the Forms (add or move elements), be sure to apply the changes to the languages you will be using.

Related concepts

[Form Editor](#)

[Submit On Behalf Of mApp Solution 2.1](#)

[Save a Blueprint](#)

Add mApp Solution Elements to Portal Incident Forms

Use the Form Editor (accessed from within a Blueprint in CSM Administrator) to add mApp Solution elements to the Portal Incident Form.



Note: This functionality is only available if you have applied the Submit on Behalf Of mApp Solution.

1. From the **Current view** drop-down list, select **Portal Default**.
2. In the Business Object tree, select **Incident**.
3. Under **Appearance**, select the **Edit form** link.

There are two options for adding elements of this mApp Solution to the Default Portal Form:

- Replace the existing Default Portal Form with the pre-configured Form from the mApp Solution.

This option is ideal for Customers that have not customized their Default Portal Form.

- Add elements to the existing Default Portal Form manually.

This option is ideal for Customers that have customized their Default Portal Form.

Replace Existing Portal Form with Pre-Configured Form

To replace the existing Default Portal Form with the pre-configured Form from the mApp Solution:

1. From the **Form** drop-down list, select **Default Form**.



Note: If there are two Default Form options, select the Default Form with the Portal design.

2. From the menu bar, select **Form > Form properties**. Rename the Form to something that will label it as the old Form (example: Old Portal Default Form).
3. Select **OK**.
4. From the **Form** drop-down list, select **Submit-On-Behalf-Portal**.
5. Select **Yes** when prompted to apply Incident Form changes back to the Blueprint.
6. From the menu bar, select **Form > Make this the default standard form**.
7. Select **Yes**.

Add Submit On Behalf Of Text Link to View-Only Portal Form

To add the Submit On Behalf Of text link to the Default Portal Form:

1. From the **Form** drop-down list, select **Submit On Behalf Of Selector**.
2. Select and copy the **Submitted by on behalf of** text link (under the text below the View Only/Edit Existing Portal Forms heading).
3. Select **Home** to open the Object Manager.
4. Select **Yes** when prompted to apply Incident Form changes back to the Blueprint.
5. Under **Appearance**, select the **Edit view-only form** link.
6. Paste the text link on the Form.
7. With the text link still selected, right-click and select **Position**.
The recommended coordinates are as follows:

Adaptive Layout	Left	Top
Base Layout - 919	46	442
Small - 414	17	412

8. Select **OK**.
9. Repeat steps 2-8 for each Adaptive Layout.
10. Select the text link and right-click **Localization Options > Copy between cultures**.
11. Select the **Copy values to the following cultures** option and select all cultures that apply.
12. Select **Apply**.
13. Repeat steps 9-12 for each Adaptive Layout.
14. Save the Blueprint.

Add Submit On Behalf Of Text Link to Edit Existing Portal Form

To add the Submit On Behalf Of text link to the Edit Existing Portal Form:

1. Select **Home** to open the Object Manager.
2. Under **Appearance**, select the **Edit "edit existing" form** link.
3. Repeat steps 2-8 in the section above for each Adaptive Layout.
The recommended coordinates are as follows:

Adaptive Layout	Left	Top
Base Layout - 936	46	442
Small - 414	17	412

4. Select the text link and right-click **Localization Options > Copy between cultures**.
5. Select the **Copy values to the following cultures** option and select all cultures that apply.
6. Select **Apply**.
7. Repeat steps 4-6 for each Adaptive Layout.

8. Publish the Blueprint.

Manually Add Elements to Existing Portal Form

To manually add elements to the existing Default Portal Form from the mApp Solution:

1. Follow the steps in **Manually Add Elements to Existing Incident Form** in [Add mApp Solution Elements to the Default Incident Form](#).
2. Publish the Blueprint.



Remember: If you make changes to the Forms (add or move elements), be sure to apply the changes to the languages you will be using.

Related concepts

[Form Editor](#)

[Submit On Behalf Of mApp Solution 2.1](#)

[Save a Blueprint](#)

[Add mApp Solution Elements to the Default Incident Form](#)

[Publish a Blueprint](#)

Test the Submit On Behalf Of Functionality

Test the functionality of the Submit On Behalf Of mApp® Solution from the CSM Portal, CSM Desktop Client, or Browser Client.

From the CSM Portal

To test the Submit On Behalf Of functionality from the Customer Portal:

1. Log in to the Customer Portal.
2. Create a new Incident or Service Request.
3. The **Submit on behalf of another user** check box should be visible on the Form.
 - a. If you select the **Submit on behalf of another user** check box, the text for this Field changes to *Submitted on behalf of*. The following Fields become visible and both Fields are required to save the Incident:
 - i. Submit on behalf of (Customer)
 - ii. Email Notifications
 - b. When the Submit on behalf of (Customer) Field is populated, the text for the check box changes to: Submitted on behalf of *Customer Name* (the Customer's name automatically populates in the text).
4. Fill in the remaining required Fields and submit the Incident or Service Request.
5. The Requester and Customer should now see the following text string (below the Detailed Description) when viewing or editing the Incident or Service Request:
Submitted by *Requester Name* on behalf of *Customer Name*.

From the CSM Desktop Client or Browser Client

To test the Submit On Behalf Of functionality from the CSM Desktop Client or Browser Client:

1. Log in to the CSM Desktop Client or Browser Client.
2. View the Incident or Service Request you just submitted through the Customer Portal.
3. If you set the Email Notifications to Requester or Customer and Requester, you should see the requester name and email in the Default Form (this is true if you used the Default Form within the mApp Solution).
 - a. Select the Requester name to remove or change the requester.
 - b. Select the Requester email to open a follow-up email to the requester.
4. If you added the Requester Field to your Form manually, you should see the requester in the Field.
5. If you added a text link to the Form, the link should read *Remove/Change Requester*.
6. If you added a Submit On Behalf Of button, it should be visible at all times on the Form.
7. If you added a text link in addition to the button, selecting the button or the text link adds a requester (or removes/changes the requester).
 - a. If a requester is already set for the Incident, the text link reads *Remove/Change Requester*.

- When selecting the button or text link, you should see a dialog box asking if you would like to remove or change the requester.
 - Selecting **Change Requester** allows you to select a new requester and new email notification settings.
 - Selecting **Remove Requester** removes the requester from the Incident.
 - b. If a requester is not set for the Incident, the text link will read *Add Requester*.
 - Selecting the button or text link allows you to select a requester and set email notification settings.
8. If Email Notification are enabled, the settings will determine who will receive emails about the Incident. The email notification options are:
- Customer
 - Customer and Requester
 - Requester



Note: This is true for the OOTB email notifications for New Incident Confirmation and Resolved Incident notification.

Related concepts

[Create an Incident](#)

Related tasks

[Log a CSM Portal Incident](#)

Submit an Incident on Behalf of Another User in the CSM Desktop Client or Browser Client

Use the Incident Form in the CSM Desktop Client or Browser Client to submit an Incident on behalf of another User.



Note: This functionality is only available if you have applied the Submit on Behalf Of mApp Solution.

To submit an Incident on behalf of another individual in the CSM Desktop Client or Browser Client:

1. Create a new Incident (New>Incident).
2. Select the Customer using the Related Item Picker.



3. Select the **Submit On Behalf Of** button (to the right of the Customer Field). You can select this option again to change or remove the requester.



Note: If there is an **Add Requester** link under the **Actions** list, you can also select the link to submit on behalf of another User.

- a. Select the name of the person you are submitting the Incident on behalf of.
- b. Use the drop-down list or the **ellipses** to select who should receive email notifications:
 - Customer
 - Customer and Requester
 - Requester
- c. Select **OK**.

The requester's name and email display on the Default Form. A Journal - Note is created when a requester is added, removed, or changed.

The requester's information only displays if email notifications were set to Customer and Requester or Requester.



Tip: You can select the requester's name to change or remove the requester. You can select the requester's email to initiate a requester follow-up email message.

4. Complete the process to finish creating a new Incident.

Related concepts

[Submit On Behalf Of mApp Solution 2.1](#)

[Create an Incident](#)

Submit an Incident on Behalf of Another User in the Customer Portal

Use the Incident Form in the Customer Portal to submit an Incident on behalf of another User.



Note: This functionality is only available if you have applied the Submit on Behalf Of mApp Solution.

To submit an Incident on behalf of another User in the Customer Portal:

1. Log in to the Portal.
2. In the Service Catalog, select **Submit Incident** or **Request** in the appropriate tile.
3. Select the **Submit on behalf of another user** check box.
 - a. From the **Submit on behalf of (Customer)** Field, use the Related Item Picker to select the name of the person you are submitting the Incident or Request on behalf of.
 - b. From the **Email Notifications** drop-down list, select from the following options:
 - Customer
 - Customer and Requester
 - Requester

Save Cancel Refresh Delete Attach (0) Record 1 of 1

Submit Service Request

IT Service Desk > Request Help > Submit Service Request

☒ Submitted on behalf of John Allard

Submit on behalf of (Customer) * Email Notifications *

John Allard Customer

Cancel Add to Cart

DETAILED DESCRIPTION

4. Complete the process to finish creating a new Incident.

Related concepts

[Submit On Behalf Of mApp Solution 2.1](#)

Related tasks

[Log a CSM Portal Incident](#)

Submit On Behalf Of mApp Solution Items

The Items table provides a list of items included when applying the mApp Solution and the typical merge action.

Item Category	Item	Typical Merge Action
Business Objects	Customer, Customer - Internal, Incident (Portal Secondary)	Don't Change
	Incident	Merge
	Incident Email Notifications	Import
Color Palette	Cherwell Dashboards	Overwrite
Custom Views	Portal Default Incident View, Portal Secondary	Don't Change
Fields	Created By, Created By ID, Created Date Time, Enable Email Notifications, Enable Email Notifications_de-DE, Enable Email Notifications_en-US, Enable Email Notifications_es-ES, Enable Email Notifications_fr-FR, Enable Email Notifications_pt-BR, Last Modified By, Last Modified By ID, Last Modified Date Time, Requester, Requester Email, Requester ID, Requester SLA ID, Submit On Behalf Of Enable Email Notifications, Submit On Behalf Of	Import
	Customer Display Name, Customer ID	Overwrite
Forms	Incident Overview	Don't Change
	Incident Email Notifications, On-Behalf-Of-Header, Submit On Behalf Of Selector, Submit-On-Behalf-Portal	Import
Form Arrangement	Incident	Overwrite
Grid	IncidentEmailNotifications	Import
Image Definition	behalf_24	Import
Indexes	Incident_CustomerID, Incident_IncidentType, Incident_OwnedByID, Incident_RecID, IncidentCreatedDT, IncidentID, IncidentIdx_ServiceCartRecID, IncidentIdx_ServiceCatalogTemplateRecID, IncidentService, IncidentStatus	Overwrite
	PK_IncidentEmailNotifications	Import
Mergeable Area	Incident Approvals	Overwrite
One-Step™ Actions	Remove or Change Requester, Requester-Follow-up E-mail, Set or Clear Requester, Submit On Behalf Of	Import
	Add to Cart, Follow-up E-mail, Incident Confirmation, Resolved Confirmation, Submit	Overwrite
	New Submit or Add to Cart	Don't Change

Relationships	Incident Links Portal Requester	Import
	Customer Group Links Customer Status, Customer is on CAB, Customer links SLA, Customer Owns Password Reset Form, Customers have History, Customers use CIs, CustomersHaveIncidents	Don't Change
Searches	My Open Portal Incidents, My Open Portal Incidents and Service Requests, Open Service Requests	Overwrite
Stored Expressions	Submit On Behalf Of E-Mail Recipient	Import
	Hyperlink to Customer Portal, Hyperlink to Respond via Email	Don't Change
Tabs	Additional Information, Comments, Problem, Related Device, Resolution Details	Don't Change
Theme	Prussian Blue	Overwrite
Widgets	My Open Incidents and Requests, My Open Incidents Count, My Open Requests	Don't Change
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Survey Monkey mApp Solution 1.0

Use this mApp® Solution to track results from surveys you create using Survey Monkey.

Platform Version Requirements: Tested on CSM 10.2.0.

Out-of-the-Box Content Version Requirements: Tested on CSM 10.2.0.

How the mApp Solution Works

Use the Survey Monkey mApp Solution to track results from Survey Monkey surveys. The included dashboard makes it easy to view results from active surveys.

Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp Wizard to apply the mApp Solution to your CSM system. The Apply mApp Wizard generates a Blueprint, which can then be viewed and published to a test or live system to commit the changes.

For a list of items included in the Survey Monkey mApp Solution, see [Survey Monkey mApp Solution Items](#).

Create a Survey Monkey App

Before applying mApp Solution, set up an account and app with Survey Monkey.

To set up a Survey Monkey app:

1. Create an account on <http://www.surveymonkey.com>.
2. Go to <https://developer.surveymonkey.com/apps> and create a new app. It can be public or private.
3. On the **Settings** tab, under the **Scopes** section, select at a minimum:
 - View Surveys
 - View Responses
 - View Response Details

Select **Update Scopes**.

4. Under the **Credentials** section, find and copy the **Access Token** value.

Apply the mApp Solution

Download file: SurveyMonkey.mApp.

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

4. On the **Specify Value for the Survey Monkey Bearer Token** screen, enter the Access Token value you copied from the Survey Monkey website.

Revision History

mApp Version	Platform Version Requirements	Out-of-the-Box Version Requirements	Prerequisites
1.0	10.2.0	10.2.0. This mApp Solution may not be compatible on Content versions older than 10.2.0, but as with all mApp Solutions, it should be tested on your customized system.	

Use the Survey Monkey mApp Solution

Use this mApp® Solution to track Survey Monkey results.

To track Survey Monkey results:

1. In the CSM Desktop Client, select New Survey Monkey Results.
2. Under the Actions section, select **Select a Survey** to see the list of surveys in your Survey Monkey app.
The survey questions and results populate the Survey Monkey Results record.
3. You can paste the survey URL in the Survey Monkey record for reference.
4. Select **Update Totals** to pull in the most recent survey results.
This is a manual process, but you can set up a Scheduled Item to automate the results retrieval.

Use the included Survey Results dashboard to track Survey Monkey surveys and results.

Survey Monkey mApp Solution Items

These are the items included in this Survey Monkey mApp® Solution.

Item Category	Item	Typical Merge Action
Business Object	Survey Monkey Results	Import
Counter	Survey Monkey ID	Import

Fields	Assigned Team	Import
	Assigned Team RecID	
	Assigned to	
	Assigned to RecID	
	Created by	
	Created by RecID	
	Created Culture	
	Created Date Time	
	Current Question ID	
	Current Question Number	
	Last Modified by	
	Last Modified by RecID	
	Last Modified Date Time	
	LastModTimeStamp	
	Previous Question ID	
	Question 1	
	Question 1 - Answer A	
	Question 1 - Answer A Total	
	Question 1 - Answer B	
	Question 1 - Answer B Total	
	Question 1 - Answered	
	Question 1 ID	
	Question 2	
	Question 2 - Answer A	
	Question 2 - Answer A Total	
	Question 2 - Answer B	
	Question 2 - Answer B Total	
	Question 2 - Answered	
	Question 2 - ID	
	RecID	
	Response Count	
	Survey ID	
	Survey Monkey Results ID	
	Survey Name	
	Survey URL	
CSM mApp Solutions	Total Last Updated Date Time	1060

Forms	Survey Monkey Results Overview	Import
Grid	Survey Monkey Results	Import
Dashboards	Results	Import
Index	PK_SurveyMonkeyResults	Import
	SurveyMonkeyResults_ SurveyMonkeyResultsID	
Relationship	Survey Result Links Existing Survey	Import
One-Step™ Actions	Get all Question Choices	Import
	Get Question 1 Choices	
	Get Question 2 Choices	
	Get Questions	
	Get Totals	
	Select a Survey	
	Set Question IDs	
	Step Through Questions	
	Update Totals	
Widgets	All Survey Results	Import
	Survey Monkey Name Filter	
	Survey Results Record	
Search	All Survey Results	Import
Stored Value	Data Array	Import
	Questions Array	
	Survey Monkey Bearer Token	
	Survey Results Record	

Tenable.io Integration mApp Solution

Use the Tenable.io Integration mApp® Solution for a bi-directional integration between Tenable and CSM.

Platform version requirements: CSM 10.2.x

Content version requirements: Tested on CSM 10.2.0

Available languages: English

Overview

Use the Tenable.io Integration mApp Solution to import vulnerabilities discovered in Tenable into CSM, where you can create Security Events mapped to your Configuration Items (CIs). Track, ignore, or plan a remediation chain of events for the Security Event. After the vulnerabilities are addressed and CIs are rescanned, the updated status is sent back to CSM to close the loop. This integration helps increase coordination between IT and Security teams to ensure organizations have clear visibility regarding security threats. While Tenable.io will scan and discover vulnerabilities (open ports, insecure configurations, malware), using this integration with CSM can help enforce the process and policies around the handling of Security Events through Incident or Change Management.

How the mApp Solution Works

CSM provides Tenable.io Integration as a mApp Solution so you can easily integrate Tenable.io into your existing system. Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp Solution wizard generates a Blueprint, which can then be viewed and published to a test or live system to commit the changes.

For a list of items included in the mApp Solution, see [Tenable.io Integration mApp Solution Items](#).

Apply the mApp Solution

Before you apply the mApp Solution, have your Tenable.io API Access and Secret Keys available.

Note: This mApp Solution changes the properties for Host Name and MAC Address for the following Business Objects, making these fields required:



- Config - Computer
- Config - Server
- Config - Network Devices

Follow these steps to download and apply the mApp Solution:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.

3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM. Do not select **Finish** yet.
4. On the **Final Options** screen, select **Open a Blueprint so that I can preview the changes**, and then select **Finish**.
5. When the Apply mApp Wizard closes, select the **Publish Blueprint** link.
6. Select the appropriate publish options, and then select **Publish**.
7. When the publish finishes, a One-Step™ Action runs automatically and you are prompted for your Tenable.io API Access Key and Secret Keys. Enter that information into the prompts. For more information, see the Tenable.io documentation at <https://docs.tenable.com/TenableIO.htm>.

Revision History

mApp Version	Platform Version Requirements	Version Requirements	Prerequisites
1.0	10.2.x	Tested on CSM 10.2.0	None

Related concepts

[About mApp Solutions](#)

Create Cherwell Tag Category and Rules in Tenable.io

The following new CIs sync with your Tenable.io account: Config - Computer, Config - Server, and Config - Network Devices. During the sync, CSM uses a source attribute that contains the CI type, and Tenable engages rules to automatically assign the assets with the Cherwell tag.

Create New Cherwell Tag Category and Rules

To create the new Cherwell tag category and rules:

1. Log in to your Tenable.io account, and from the menu select **Settings**.
2. On the **Settings** page select **Tagging**, and then select the **+ Create Tag** button (upper right corner).
3. From the **Category** drop-down list, type `Cherwell` in the **Add New Category** option.
Enter a description, if desired.
4. In the **Value** field, type `Computer`.
Enter a description, if desired.
5. Switch the **Rules** option on, and set the **Match** option to **Match All**.
6. From the **Category** drop-down list, select **Source**.
7. From the **Operator** drop-down list, select **Contains**.
8. In the last field, type `Config - Computer`, and then select **Save**.

Add to the Cherwell Tag Category and Rules

To add to the Cherwell tag category and rules:

1. Select the **Cherwell** tag from the list to open it again.
2. In the upper right corner, select the **+ Add Value** button.
The **Category** drop-down list autopopulates with **Cherwell**.
3. In the **Create Value** field, type `Server`.
Enter a description, if desired.
4. Repeat steps 5 - 8 above.
5. In the last field, type `Config - Server`, and then select **Save**.
6. Repeat steps 10 -13 above, but in the **Create Value** field, type `Network Device`.
7. In the last field, type `Config - Network Device`, and select **Save**.

Sync Cherwell Configuration Items with Assets in Tenable.io

CSM uses Automation Processes to ensure that new Configuration Items (CIs) sync with your Tenable.io account. These Automation Processes are included with the Tenable.io Integration mApp® Solution. Ensure your system is configured for Automation Processes to run.




Note: This mApp Solution makes API calls via One-Step™ Actions that use HTTP requests, so ensure you update security permissions to allow this.

The following new CIs sync with your Tenable.io account: Config - Computer, Config - Server, and Config - Network Devices.

When it's time to bring vulnerability data into CSM, Tenable uses the *Cherwell* tag filter to limit the data imported. Only vulnerability data for assets with the *Cherwell* tag is imported into CSM.

To sync Cherwell CIs with assets in Tenable.io:

1. In the CSM Desktop Client, open the Search Manager.
2. From the **Association** drop-down list, select **Config - Computer**.
3. Select the **Global** folder, select **All Computers**, and then select **Run**.
4. If the results are not in grid view, from the menu bar, select **View > Result in Grid**.
5. To select the Config - Computers you wish to sync with your Tenable.io account select the check box next to each row. If you wish to sync all Config - Computer records with Tenable, select the check box in the header row.
6. Open the One-Step Action Manager, and from the **Association** drop-down list, select **Configuration Item**.
7. Select the **Global** folder, and then select the **Tenable** folder.
8. Select **Import Asset to Tenable**, and then select **Run**.
The processing time varies depending on how many Config - Computers you are syncing.
9. When the sync process is complete, the fields for **Tenable Import ID** and **Tenable UUID** are autofilled for each record. These field are not visible on the form. To view them, open the record, and from the menu bar, select **Help > System Analyzer**.
10. From the System Analyzer toolbar, select the **Show Values** button  to show values of the field in the current business object.
The **Current Object Values** window opens.
11. In the list of fields, select the **Tenable** folder to expand and view the **Tenable Import ID** and **Tenable UUID** fields.
12. Complete steps 2-11 for the **Config - Server** and **Config - Network Devices** you want to sync with assets in Tenable.

After the sync process completes, the assets in Tenable are tagged with the *Cherwell* tag and the Server, Computer, and Network Device values.

When new Config - Computer, Config - Server, and Config - Network Devices records are created in CSM, an Automation Process will automatically sync and tag the new records with assets in Tenable.

Related concepts

[Open the Search Manager](#)

[Open the One-Step Action Manager](#)

Configure the Tenable Vulnerability Export Settings

You can adjust the default settings of the Vulnerability Export Scheduled Item.

Table 1. Default Settings

Filter	Description	Default Setting	Options
API Keys	API Keys from your Tenable.io instance. Keys are encrypted after they are updated.		
Chunk Size	Specifies the number of assets used to chunk the vulnerabilities during the export process.	50	50 minimum; 5000 maximum
Tagging	Returns vulnerabilities on assets with the specified asset tags. The filter is defined as "tag", a period (.), and the tag category name. The value of the filter is an array of tag values.	"tag.Cherwell": ["Computer", "NetworkDevice", "Server"]	
Start Date	The start date (in Unix time) for the range of data you want to export. After the initial export, the start date is set to the date and time of the last export.	01/01/2021 12:00 AM	
Severity	The severity of the vulnerabilities to include in the export.	"high", "critical"	Info Low Medium High Critical

To adjust any of the setting:

1. In the CSM Desktop Client, open the One-Step Action Manager.
2. From the **Association** drop-down list, select **None**.
3. Select the **Global** folder, and then select **Update Tenable Settings**.
4. Select **Run**, and then select the option for the filter you want to update.

Configure the Tenable Vulnerability Export Schedule

The Vulnerability Export process is set to run on a weekly basis through a Scheduled Item. By default, the Scheduled Item is set to run at 12:00 AM Eastern Time every Saturday.

Adjust the Scheduled Item

To adjust the Scheduled Item settings:

1. On CSM Administrator home page, select **Scheduling > Edit Schedule**.
The **Scheduled Items** window opens.
2. Select the **Tenable Export** task, and then select **Edit**.
3. On the **Schedule** page, edit the settings to meet your needs.
4. Select **Save**.

Related concepts

[Use the Scheduler](#)

Run a Tenable Vulnerability Export Outside the Scheduled Item

Use a One-Step™ Action to run an impromptu export.

To run an export outside the Scheduled Item:

1. In the CSM Desktop Client, open the One-Step Action Manager.
2. From the **Association** drop-down list, select **None**.
3. Select the **Global** folder, and then select the **Tenable** folder.
4. Select **Export Vulnerabilities**, and select **Run**.
The processing time varies depending on how many vulnerabilities are being exported.
5. To view details of the export, from the menu bar select **Tools > Table Management**
 - a. From the **Type** drop-down list, select **Tenable Export**.
6. Open the Tenable export record.
The **Export UUID** and **Request UUID** fields are for information purposes and are read-only.
7. The status updates every five minutes after the Tenable export record is created. You may need to refresh the record to see updates. If you want to bypass the five-minute wait time, select the **Update Export** link (under **Actions**) to update the record status.
When the record updates, the **Status**, **Total Chunks** and **Chunks Processed** fields refresh.
8. When the status record updates to *Finished*, an Automation Process runs and begins importing the vulnerability records in chunks. As chunks are imported, the **Chunks Processed** field updates until it shows all chunks are complete. For example, if the total number of chunks is 25, the **Chunks Processed** starts at 0 of 25 and continues to update until it displays 25 of 25. The vulnerabilities are initially imported as records within a table called **Asset Vulnerability**.

After all chunks have been imported, a set of Automation Processes begin for each Asset Vulnerability record. Security Events are automatically created or updated. A Security Event is created for each unique Plugin ID. Configuration Items are linked to the Security Events if the Plugin ID is associated with the synched asset in Tenable. A join table record (Security Event Joins Configuration Items) is also created which will allow technicians to view the status of the vulnerability on each CI from the Security Event record via the **Configuration Item** tab. It may take several minutes to hours for all the vulnerability records to be processed. After all Asset Vulnerability records have been processed, they are deleted from the system.

Related concepts

[Open the One-Step Action Manager](#)

View Vulnerabilities from the CSM Desktop Client or CSM Browser Client

After you run the Tenable Vulnerability Export, view the vulnerabilities for more information.



Note: In rare cases, there may be instances where a vulnerability or Plugin is present on a single Configuration Item (CI) more than once at the same time via different ports or protocol.

This mApp® Solution limits the relationship between CIs and vulnerabilities based on unique Plugin ID; therefore, in an instance where a CI has the same vulnerability multiple times, CSM only reports on one of these instances. As a result, the reporting may show different counts in CSM versus Tenable.io for vulnerabilities per CI or Asset.

To view vulnerabilities in the Desktop Client or Browser Client:

1. Open the Search Manager.
2. From the **Association** drop-down list, select **Event - Security**.
3. Select **Open Security Events**, and then select **Run**.
4. Open any records associated with a vulnerability and you will notice the following:
 - The **Source** field on the **Overview** tab is set to **Tenable**.
 - The **Vulnerability Name** is also the **Event Name**.
 - The **Details** and **Response Notes** fields are details from Tenable regarding the vulnerability.
 - The **External Source ID** field is the same as **Plugin ID** in Tenable.
 - The **Event Type** field is set to **Common Vulnerabilities and Exposures**.
 - The **Event Severity** field is the same as the **Vulnerability Severity** in Tenable.
 - The **Priority** field is set to **Low**.
 - The **Vulnerability** tab is visible and contains all details from Tenable regarding the vulnerability. All fields on this tab are read-only.
 - The **Configuration Item** tab shows the **Security Event Joins Configuration Item** join table details including the status of the vulnerability on each CI.
 - Selecting the **Jump** button takes you to the join record where you can enter resolution details and mark the vulnerabilities resolved on the CI.
 - The links under **Actions** allow you to jump to the Configuration Item record or back to the Security Event.
 - On the Security Event record, you can create Incidents, Change Request, or Problems.
 - On the Configuration Item records, the Security Events can be found on the **Event** tab.

Related concepts

[Open the Search Manager](#)

Tenable.io Integration mApp Solution Items

The items table provides a list of items included when you apply the mApp® Solution and the typical merge action.

Item Category	Item	Typical Merge Action
Action Block	Set Encryption Key	Overwrite
Automation Process definitions	Create or Update Security Events, Delete Record, Import Asset Vulnerabilities, Import Asset Vulnerability Chunks, Tenable Asset UUID, Update Export Status	Overwrite
Business Objects	Asset Vulnerability, Security Event Joins Configuration Items, Tenable Export	Overwrite
	Config - Computer, Config - Network Device, Config - Server, Configuration Item, Event - Security	Merge
	Change Request, Config - Computer, Config - Mobile Device, Config - Network Device, Config - Other CI, Config - Printer, Config - Server, Config - Software License, Config - System, Config - Telephony Equipment, Configuration Item, Event	Don't Change
Fields	Child Join Reason, Chunks Processed, Created Culture , Created Date Time, CVSS Score, Description, Event - Security RecID, Event - Security Type, Event Type, Exploit Available, Exploit by Malware, Exploitable Ease, Export Request Date Time, Export UUID, First Seen Date Time, Has Patch, Hostname, IP Address, Join Exists Join Reason, Join RecID, Last Modified by, Last Modified by RecID, Last Modified Date Time, Last Seen Date Time, MAC Address, Mark as Resolved, MS Bulletin, MS Bulletin IDs, Output, Patch Publish Date, Patch Publish Date Time, Plugin Family, Plugin Family ID, Plugin ID, Plugin Name, RecID, Request UUID, Resolution Details, Security Event RecID, Severity, Solution, Status, Synopsis, Tenable Asset UUID, Tenable Import ID, Tenable Output, Tenable UUID, VPR Score, Vulnerability Publish DateTime, Vulnerability Type	Overwrite
Form arrangement	EventSecurity	Overwrite
Forms	Asset Vulnerability, Security Event Joins Configuration Items, Tenable Export, Vulnerability Details	Overwrite
Grids	Asset Vulnerability, Security Event Joins Configuration Items, Tenable Export	Overwrite

Item Category	Item	Typical Merge Action
Indexes	CIEventIdx0, ConfigurationItem_AssetTag, ConfigurationItem_FriendlyName, ConfigSoftwareLicense_SoftwareID, Event_CIEventNumber, InstalledSoftware_Product, Latitude, Longitude, PK_CIEvent, PK_ConfigurationItem, PK_SecurityVulnerability, PK_Security_Event_Joins_Configuration_Items, PK_TenableScan	Overwrite
Mergeable areas	Asset Vulnerability Actions, Computer Actions, Config - Network Device Actions, Config - Server Actions, Configuration Item Actions	Overwrite
One-Step™ Actions	Create Update Security Event, Create Update Security Event and CI Join Record, Delete Record, Export Vulnerabilities, Import Asset to Tenable, Import Vulnerabilities, Link CI to Security Event, Process Asset Vulnerabilities, Update Export Status, Update Tenable Asset ID, View Configuration Item, View Security Event	Overwrite
	Tenable API Key Encryption, Update Tenable Settings	Don't Change
Prompts	Chunk Size, Severity, Start Date, Tags	Overwrite
Relationships	Asset Vulnerability Links Join Table, Asset Vulnerability Owned By CI, Asset Vulnerability Owned By Security Event, Configuration Item links Asset Vulnerabilities, Configuration Item links Security Event, Security Event Links Asset Vulnerabilities, Security Event links CI Join Table, Security Event links Configuration Items	Overwrite
	Event Links Change Request, Event Links Configuration Items, Event Links Customer, Event Links Incident, Event Links Similar Event, Event Links Status, Event Links User Info, Event Owns Journal, Event Owns Work Items	Don't Change
Scheduled Item definition	Tenable Export	Overwrite
Searches	All Open Project Tasks, All Planview Projects, All Planview Task Imports, All Project Tasks, Closed Project Tasks, My Open Project Tasks, My Project Tasks, My Teams Open Project Tasks, My Teams Project Tasks	Import
Stored expressions	Unix Timestamp Conversion - Duration in Days, Unix Timestamp Conversion - Number	Overwrite
Stored values	API Key String, Chunk Size, Export Chunks, Hostname, Last Export Timestamp, New Start Date, Plugin ID, Security Event RecID, Severity, Tags, Tenable Nonce	Overwrite

Item Category	Item	Typical Merge Action
Tabs	Configuration Item (0), Configuration Items (0), Vulnerability Details	Overwrite
	Affected Users (0), Change Request, Incident, Journals, Network Events (0), Overview, Similar Events (0), Work Items (0)	Don't Change
Widgets	CD - Date Filter - 30 day default, CD-All P1 Issues, CD-My Incidents and Requests, CD-My Open Incidents, CD-My Open Tasks, CD-My Open Tasks Count, CD-My Open Tickets, CD-My Teams Open Change Requests, CD-My Teams Open Tasks, CD-My Teams Problems, CD-My VIP Issues	Overwrite
	My Open Project Tasks, My Open Project Tasks - Count, My Teams Open Project Tasks	Import
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Track the Number of Incidents Caused by a Change Request mApp Solution 1.0

Use the Track the Number of Incidents Caused by a Change Request mApp® Solution to identify and track the number of Incidents caused by Change Requests.

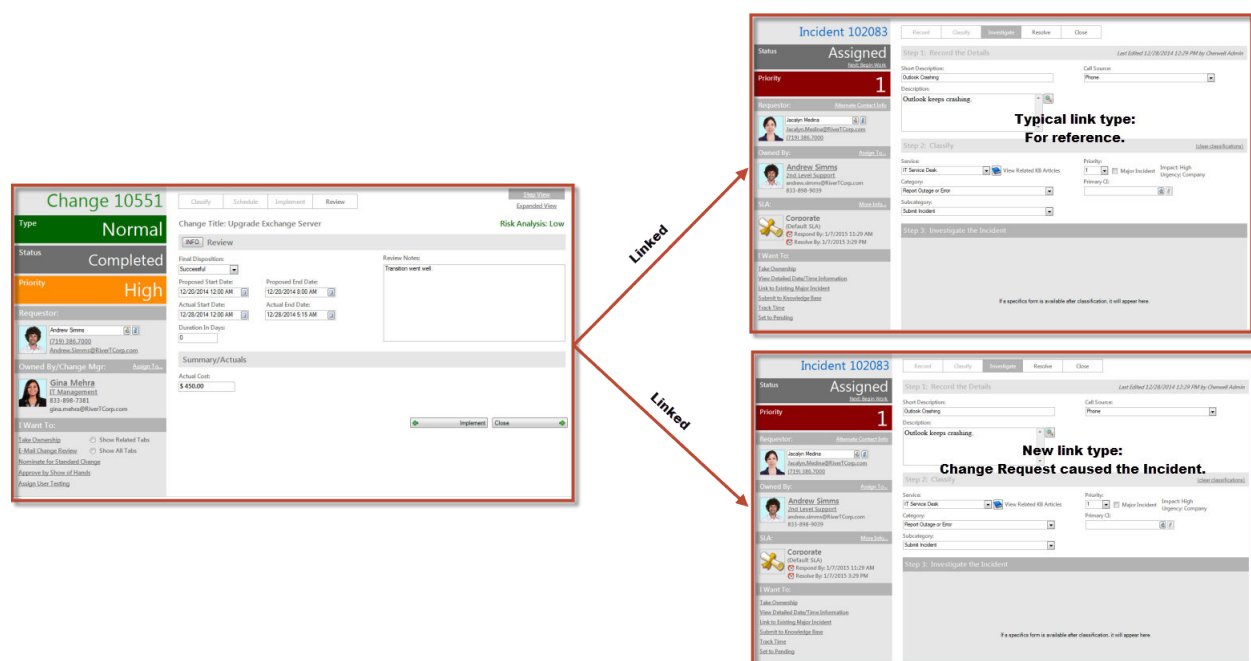
This is a Cherwell Labs mApp Solution. Functionality, testing, and documentation are limited or incomplete. Cherwell support is not provided for this mApp Solution, so install it at your own risk on a test environment before installing it on a production system.

Platform Version Requirements: Tested on CSM 5.0.0.

Out-of-the-Box Content Version Requirements: Tested on CSM 5.x and 6.x

Prerequisite Requirements: None

Overview



This mApp Solution includes features such as a new Business Object (Incident Caused By Change Request Reason) and new One-Step Actions (example: Caused By Change Request Reason, Caused By Linked Change Request, etc.), Saved Searches (example: All Incidents Caused By A Change Request, All Resolved/Closed Incidents Caused By Change, etc.), and Widgets (example: Total Open Incidents Caused By Change Requests).

How the mApp Solution Works

Download the mApp Solution from the Cherwell mApp Exchange. Use the Apply mApp wizard to apply the mApp Solution to your CSM system. The Apply mApp wizard generates a Blueprint, which can then be viewed and published to a test or Live system to commit the changes.

The mApp Solution includes the following items:

Item Category	Item	Typical Merge Action
Business Object	Change Request, Incident	Merge
	Incident Caused by Change Request Reason	Import
One-Step Action	Caused By Change Request ID, Caused By Change Request Logical Field, Caused By Change Request Reason, Caused By Linked Change Request, Clear Change Request ID, Delete Caused By Fields, Incident Caused By A Change Request	Import
	Never Fixed Incident, Recurring Incident	Overwrite
Stored Query	All Incidents Caused By A Change Request, All Open Incidents Caused By A Change Request, All Open Service Requests Caused By Change, All Resolved/Closed Incidents Caused By Change, All Resolved/Closed Service Requests Caused By Change	Import
Widget	Total Open Incidents Caused By Change Requests, Total Open Service Requests Caused By Change Requests	Import
<ul style="list-style-type: none"> • Import: Add new item. • Overwrite: Replace target item. • Merge: Merge differences. • Don't Change: Referenced by the mApp Solution, but not altered in any way. The mApp Solution includes the definition for informational purposes only (the definition is not imported into the target system). 		

Related Reading

- About Incidents and Service Requests
- About Change Requests
- About mApp Solutions

Apply the mApp Solution

To apply the mApp Solution, perform the following high-level steps:

1. Review the recommendations and considerations for applying mApp Solutions. For more information, see [Considerations for Applying mApp Solutions](#).
2. Extract the mApp Solution .zip file to a location that can be accessed by CSM.
3. In CSM Administrator, use the Apply mApp Wizard to apply the mApp Solution. For more information, see [Apply a mApp Solution](#). Select the topic that matches your version of CSM.

Configure the mApp Solution

After applying the mApp Solution, perform the following high-level steps to configure the mApp Solution:

1. (Optional) Add the new Widgets to a Dashboard of your choice.

How to Use the mApp Solution in the Desktop Client

There are two ways to use the mApp Solution functionality, including:

- [Track the number of Incidents caused by a Change from an open Incident.](#)
- [Track the number of Incidents caused by a Change Request from a closed Incident.](#)

Configuring the Track the Number of Incidents Caused by a Change Request mApp Solution

Complete the following procedure to configure the Track the Number of Incidents Caused by a Change Request mApp Solution. The configuration procedure is completed in CSM Administrator.

1. (Optional) Add the new Widgets to a Dashboard of your choice.



Note: Access mApp Solution Widgets by opening the Widget Manager and selecting **Global scope>Track the Number of Incidents Caused By Change Requests**.

To open the Widget Manager:

- a. The Widget Manager can be opened several ways:
 - From the CSM Desktop menu bar, click **Dashboards>Widget Manager**.
 - From the Widget Tree in the Dashboard Editor, **right-click>Widget Manager**.
 - From the Blueprint Editor menu bar in CSM Administrator, click **Managers>Dashboards>Widget Manager**.
 - From within the Site Manager in CSM Administrator.

Using the Track the Number of Incidents Caused by a Change Request mApp Solution

When working with the Track the Number of Incidents Caused by a Change Request mApp Solution, Users can:


- [Track the number of Incidents caused by a Change from an open Incident.](#)
- [Track the number of Incidents caused by a Change Request from a closed Incident.](#)

Track the Number of Incidents Caused by a Change from an Open Incident

Use the Incident Form in the CSM Desktop Client to track the number of Incidents that are caused by a Change.

To track the number of Incidents caused by a Change from an open Incident:

1. Link a Change Request to the Incident:
 - a. In the Form Arrangement, click the **Change Request** tab.

- b. On the Change Request tab toolbar, click the **Link** button .

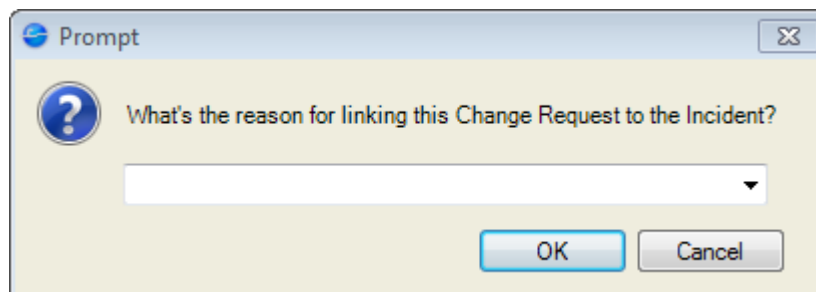
The Change Request Selector opens.

- i. Click a **Change Request**.
 - ii. Select **OK**.

The Change Request displays in the Form Arrangement.

- c. Click **Save** .

A prompt opens.



- i. From the drop-down, select **Change Request Caused This Incident**.

Note: Use the For Reference option to link Change Requests that are not the cause of the Incident, but are related in another way (example: If the Change Request applies a patch to the server, which fixes the Incident). The distinction is used to differentiate the relationships for Saved Search data.

- ii. Select **OK**.

The Change Request record opens in the Form Arrangement in a new Change Request Caused This Incident tab.

Tip: Run a Saved Search to view data related to Incidents and Service Requests caused by Change Requests (Searching>Search Manager>Global>Track the Number of Incidents Caused by a Change Request).

Track the Number of Incidents Caused by a Change Request from a Closed Incident

Use the Incident Form in the CSM Desktop Client to track the number of Incidents that are caused by a Change.

To track the number of Incidents caused by a Change from a closed Incident:

1. Do one of the following:
 - In the Status bar, click the **Mark as "Recurring"** link.
 - In the I Want To section of the Quick Info Tile, click the **Mark as "Never Fixed"** link.

A prompt opens asking if the Incident was caused by a Change Request.

2. From the drop-down, select **Yes**.

The Which Change Request caused this Incident? window opens.

- a. Click a **Change Request**.
- b. Select **OK**.

The Change Request record opens in the Arrangement in a new Change Request Caused This Incident tab.

Note: When a User is working with a closed Incident that has a linked Change Request that is for reference and click either Mark as "Recurring" or Mark as "Never Fixed", a clone of the Incident is created and links the Change Request in the Change Request Caused This Incident tab.

Tip: Run a Saved Search to view data related to Incidents and Service Requests caused by Change Requests (Searching>Search Manager>Global>Track the Number of Incidents Caused by a Change Request).