



Pulse Connect Secure

Client-Side Changes Guide

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Published Date	October 2019
Document Version	2.0

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- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.



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Revision History

Version	Description
2.0	Removed the Network Connect and WSAM sections for 9.1R3 release.
1.0	Updated Network Connect section for 9.0R3 release

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About This Guide



Overview

This document lists files that are installed and registry keys that are modified on a client machine as the result of accessing web-based Pulse Connect Secure services (e.g., Host Checker, Pulse Collaboration, WSAM, JSAM, Terminal Services Client, Citrix Services Client).

Document Conventions

Table 1 defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.

Obtaining Documentation

To obtain the most current version of all Pulse Secure technical documentation, see the products documentation page at <https://www.pulsesecure.net/techpubs>.

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can provide feedback by using one of the following methods:

- Document name
- Page number
- Software release version

Requesting Technical Support

Technical product support is available through the Pulse Secure Global Support Center (PSGSC). If you have a support contract, then file a ticket with PSGSC.

- Product warranties—For product warranty information, visit <https://www.pulsesecure.net/>.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Pulse Secure, LLC has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <https://www.pulsesecure.net/support>
- Search for known bugs: <http://www.pulsesecure.net/support>
- Find product documentation: <https://www.pulsesecure.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base:

<http://www.pulsesecure.net/support>

- Download the latest versions of software and review release notes:
<http://www.pulsesecure.net/support>
- Search technical bulletins for relevant hardware and software notifications:
<http://www.pulsesecure.net/support>
- Join and participate in the Pulse Secure, LLC Community Forum:
<http://www.pulsesecure.net/support>
- Open a case online in the CSC Case Management tool: <http://www.pulsesecure.net/support>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool:

<http://www.pulsesecure.net/support>

Opening a Case with PSGSC

You can open a case with PSGSC on the Web or by telephone.

- Use the Case Management tool in the PSGSC at <http://www.pulsesecure.net/support>.
- Call Phone: 1-844 751 7629 (Toll Free, US).

For international or direct-dial options in countries without toll-free numbers, see

<http://www.pulsesecure.net/support>

PART 1

Client-Side Changes

- **Environment Variables**
- **Installers and Setup Programs**

Chapter 1

Environment Variables

- **Environment Variable Definitions**

Environment Variable Definitions

The environment variable definitions used in this topic are as follows.

For Windows 7 and Windows 8:

- %USERPROFILE% =%SystemDrive%\Users\%USERNAME%
- %APPDATA% =%USERPROFILE%\AppData\Roaming

For medium and high integrity processes:

- %TEMP% =%USERPROFILE%\AppData\Local\Temp

For low integrity processes:

- %TEMP% =%USERPROFILE%\AppData\Local\Temp\low

Related Documentation

- **Pulse Secure Installer Service**

Chapter 2

Installers and Setup Programs

- **Pulse Secure Installer Service**
- **Pulse Secure Setup**

Pulse Secure Installer Service

When installing a Windows-based Pulse Connect Secure gateway client application on a user's Windows system, the Pulse Secure Installer Service deploys two files on the client machine:

- PulseSetupClient.ocx and PulseSetupClient64.ocx
- AccessServiceComponent.exe (The device auto-starts this service when installing, and, then stops and removes it when uninstalling.)

If you plan to use the Pulse Secure Installer MSI package, you will need administrator rights to install onto your client systems. If you plan to use the EXE version, administrator rights is not needed as long as a previous version of the access service component (deployed through, for example, PIS, Pulse, and so forth) is already present.

Additional Package Files and File Locations

The Pulse Secure Service installs the following files in C:\Windows\Downloaded Program Files for Windows 7 and Windows 8.

- JuniperSetup.inf
- JuniperSetup.ocx
- PulseExt64.exe
- PulseSetupClient64.inf
- PulseSetupClient64.ocx
- PulseSetupClientCtrlUninstaller64.exe
- install.log
- PulseExt.exe
- PulseSetup.inf
- PulseSetupClient.inf
- PulseSetupClient.ocx
- PulseSetupClientCtrlUninstaller.exe
- string_de.properties
- string_en.properties
- string_es.properties
- string_fr.properties
- string_ja.properties
- string_ko.properties
- string_zh.properties

- string_zh_cn.properties

The Pulse Secure Installer Service also installs the following files in C:\Program Files (x86)\Pulse Secure\Installer Service:

- AccessServiceComponent.x86.exe
- PulseSetupClientOCX.exe
- PulseSetupOCX.exe
- x86_Microsoft.VC80.CRTP_8.0.50727.762.exe
- x86_Microsoft.VC80.CRTR_8.0.50727.762.exe

The Pulse Secure Installer Service also creates the following files:

- C:\ProgramData\Pulse Secure\Logging\debuglog.log
- C:\Users\admin\AppData\Local\Pulse Secure\Logging\debuglog.log
- C:\Users\All Users\Pulse Secure\Logging\debuglog.log
- C:\Users\Public\Pulse Secure\Logging\debuglog.log (Windows 7/Windows 8)
- C:\Users\admin\AppData\Roaming\Pulse Secure\Logging\debuglog.log (Windows 7/Windows 8)

AccessServiceComponent extracts the following files:

- AccessMethodPS.dll
- accessRecovery.ini
- dsInstallerServicePS.dll
- dsIpc.dll
- dsLogService.dll
- MessageCatalogCommon_IT.txt
- MessageCatalogCommon_PL.txt
- NetMonitor.dll
- PulseSecureService.exe
- PulseSecureServicePS.dll
- PulseSecureServicePS64.dll
- versionInfo.ini
- access.ini
- dsAccessService.exe
- dsInstallerService.dll
- dsLogService.dll
- MessageCatalogCommon_DE.txt
- MessageCatalogCommon_EN.txt
- MessageCatalogCommon_ES.txt
- MessageCatalogCommon_FR.txt

- MessageCatalogCommon_JA.txt
- MessageCatalogCommon_KO.txt
- MessageCatalogCommon_ZH-CN.txt
- MessageCatalogCommon_ZH.txt

Files Remaining After Uninstall

When the ActiveX control is deleted from within Internet Explorer, it leaves the following files behind:

- C:\Documents and Settings\\Application Data\Pulse Secure\Setup\PulseSetupCtl.log
- C:\Program Files (x86)\Pulse Secure\Installer Service\NeoterisSetupService.log

Registry Modifications

The installer package creates a registry key under HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\PulseSecureService and HKEY_LOCAL_MACHINE\SOFTWARE\Pulse Secure.

Log File Location

The Pulse Secure Installer Service installs the log files in the following location: C:\Program Files (x86)\Pulse Secure\Installer Service.

Related Documentation

- [Pulse Secure Setup](#)
- [Required Rights to Run and Install Applications](#)

Pulse Secure Setup

When a Windows user signs in to the Pulse Connect Secure gateway, the device attempts to install an ActiveX control (Pulse Secure Setup) on the user's system. If the device successfully installs Pulse Secure Setup, then the Pulse Secure Setup manages the installation of Windows-based client applications.

Installer Package Files

The Pulse Connect Secure gateway loads the following installer file.

- PulseSetupClient.cab

Additional Package Files and File Locations

The Pulse Secure Setup installs the following additional files under C:\Windows\Downloaded Program Files (Windows 7 and Windows 8):

- install.log
- PulseExt.exe
- PulseSetup.inf
- PulseSetup.ocx
- PulseSetupClient.inf
- PulseSetupClient.ocx
- PulseSetupClientCtrlUninstaller.exe
- string_de.properties
- string_en.properties

- string_es.properties
- string_fr.properties
- string_ja.properties
- string_ko.properties
- string_zh.properties
- string_zh_cn.properties

In addition, the following folder is created.

C:\Documents and Settings\username\Application Data\Pulse Secure

If the administrator configures a list of PCS services that the client can trust, this list of PCS services is stored in the following files:

- %ProgramFiles%\Pulse Secure\Whitelist.txt (Windows)
- /usr/local/pulse/whitelist.txt (Mac OSX and Linux)

In addition, users can themselves make the decision to trust a Pulse Connect Secure gateway. When the user makes a decision to trust a Pulse Connect Secure gateway, the Pulse Connect Secure gateway is added to the user whitelist. User whitelist files are located in:

- %AppData%\Pulse Secure\Whitelist.txt (Windows)
- /~/Library/Application Support/Pulse Secure/whitelist.txt (Mac OSX)
- /~/.pulse_Secure/whitelist.txt (Linux)

Registry Modifications

For Windows 7 and Windows 8, the following registry keys are created:

- HKEY_CURRENT_USER\Software\Microsoft\Internet Explorer\InternetRegistry\REGISTRY\USER\S-1-5-21-68661237-3255334891-3485583729-1000\SOFTWARE\Pulse Secure
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\AppID\{CFE2313F-F5C4-45DCA667-42C339E859FF}
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\AppID\PulseSetupClient.ocx
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\CLSID\{107AD0CA-8339-40C5-B554-AE361FB31090}\InProcServer32
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\CLSID\{F27237D7-93C8-44C2-AC6E-D6057B9A918F}
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\dsATLSetupCtrl. PulseSetupClientCont.1
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\dsATLSetupCtrl. PulseSetupClientContro
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\Interface\{107AD0CA-8339-40C5-B554-AE361FB31090}
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\TypeLib\{1FEB5880-8108-4CA6-9FF0-BA5191352FCC}\1.0
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\TypeLib\{1FEB5880-8108-4CA6-9FF0-BA5191352FCC}\1.0\win32
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Code Store Database\Distribution Units\{F27237D7-93C8-44C2-AC6E-D6057B9A918F}\Contains\Files
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Code Store Database\Distribution Units\{F27237D7-

93C8-44C2-AC6ED6057B9A918F}\ Contains\FilesFlags\PulseExt.exe

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Code Store Database\Distribution Units\{F27237D7-93C8-44C2-AC6ED6057B9A918F}\ Contains\FilesFlags\PulseSetupClient.ocx
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Internet Explorer\Low Rights\ElevationPolicy\{3EEDF1D3-9D79-4b3e-B8EB-84DB35D7F282}
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Internet Explorer\Low Rights\ElevationPolicy\{3FB35533-A034-42dc-B051-95F1819F6A9A}
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\ModuleUsage\C:/Windows/Downloaded Program Files/PulseExt.exe
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\ModuleUsage\C:/Windows/Downloaded Program Files/PulseSetupClient.ocx
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\ SharedDLLs
- HKEY_USERS\S-1-5-21-68661237-3255334891-3485583729- 1000\Software\Microsoft\Internet Explorer\InternetRegistry\REGISTRY\USER\S- 1-5-21-68661237-3255334891-3485583729-1000\SOFTWARE\Pulse Secure

Log File Location

The Pulse Secure Setup installs the log files in the following locations.

For Windows 7 and Windows 8:

- C:\Users\username\AppData\Roaming\Pulse Secure\Logging\debuglog.log
- C:\Users\username\AppData\Local\Temp\Low\PulseSetupClientControl.log (for ActiveX logs)

For low-integrity processes, such as Internet Explorer 7, the ActiveX installer installs the following log files in C:\Users\username\AppData\Local\Temp\Low:

- PulseSetupClientCtrl.log
- PulseSetupDll.log

Related Documentation

- [Pulse Secure Setup](#)
- [Required Rights to Run and Install Applications](#)

PART 2

Applications

- **Host Checker**
- **Pulse Secure Collaboration**
- **Java Secure Application Manager (JSAM)**
- **Terminal Services Client**
- **Citrix Services Client**



NOTE: Beginning 9.1R3 release, Network Connect and WSAM are not supported.

Chapter 3

Host Checker

- **Host Checker Windows Client**
- **Host Checker Mac OSX Clients**
- **Host Checker Linux Clients**
- **Cache Cleaner**

Host Checker Windows Client

To run Host Checker, the dsHostCheckerSetup.exe.cab package is downloaded to the user's client. This package is responsible for downloading additional files to the user's system in order to run Host Checker. Host Checker deletes the dsHostCheckerSetup.exe.cab package after installation is complete.

Installer Package Files and File Location

Host Checker installs the following CAB file: %TEMP%\dsHostCheckerSetup.exe.cab

Additional Installer Package Files and File Locations for Windows OS: 7, 8, 8.1, 10

Host Checker installs the following additional files on the client in C:\Users\

- AdvancedIMC.dll
- dsOpenSSL.dll
- libeay32.dll
- SoHIMC.dll
- salib_OSSL.dll
- ssleay32.dll
- CertAuthIMC.dll
- dsHostChecker.exe
- dsHostCheckerProxy.exe
- dsHostCheckerResource_de.dll
- dsHostCheckerResource_en.dll
- dsHostCheckerResource_es.dll
- dsHostCheckerResource_fr.dll
- dsHostCheckerResource_ja.dll
- dsHostCheckerResource_ko.dll
- dsHostCheckerResource_zh.dll
- dsHostCheckerResource_zh_cn.dll
- dsInstallerClient.dll
- dsnsisdll.dll
- dsWinClient.dll
- dsWinClientResource_DE.dll
- dsWinClientResource_EN.dll

- dsWinClientResource_ES.dll
- dsWinClientResource_FR.dll
- dsWinClientResource_JA.dll
- dsWinClientResource_KO.dll
- dsWinClientResource_ZH.dll
- dsWinClientResource_ZH_CN.dll
- EPCheck.dll
- hcimc.dll
- install.log
- hcUtils.dll
- OpswatIMC.dll
- JSystemIMC.dll
- Microsoft.VC80.CRT/Microsoft.VC80.CRT.manifest
- Microsoft.VC80.CRT/msvcp80.dll
- Microsoft.VC80.CRT/msvcr80.dll
- msvcp60.dll
- Pluginclnt.dll
- restore_win2k.txt
- restore_win98.txt
- tnc_config
- uninstall.exe
- versionInfo.ini

OPSWAT, temp, <ESAP_Version>

(For V3 SDK)

- 64bitProxy.exe
- AVManagerUnified.dll
- CoreUtils.dll
- doSilent.txt
- efc.dat
- FWManager.dll
- Impl_AntivirusLib.dll
- Impl_FirewallLib.dll
- Impl_HdEncLib.dll
- Impl_PatchManagementLib.dll
- Impl_SoftwareProductLib.dll
- OESISCore.dll

- pinfo.dat
- scpt.dat
- tables.dat
- UnifiedSDK.ini
- vmap.dat

(For V4 SDK)

- doSilent.txt
- libwaaddon.dll
- libwaapi.dll
- libwaapi_v3.dll
- libwaheap.dll
- libwalocal.dll
- libwaresource.dll
- libwautils.dll
- libwavmodapi.dll
- UnifiedSDK.ini
- vmod.dat
- wa_3rd_party_host_32.exe
- wa_3rd_par

In addition, if you implement policies that download or check for third-party software, Host Checker may install additional DLLs in subdirectories of: C:\Documents and Settings\username\Application Data\Pulse Secure\Host Checker.

Log File Locations

You can enable or disable client-side logs through the System > Log/Monitoring > Client Logs > Settings tab of the Web console.

When you enable logging, Host Checker adds log files to the following locations:

- C:\Users\\AppData\Local\Pulse Secure\Logging\debuglog.log (Windows 7, Windows 8 and Windows 10)
- C:\ProgramData\Pulse Secure\Logging\debuglog.log (Windows 7, Windows 8, and Windows 10)

Registry Modifications

- HKEY_CURRENT_USER\Software\Pulse Secure\Device Id
- HKEY_CURRENT_USER\Software\Pulse Secure\Device Id\SA
- HKEY_CURRENT_USER\Software\Pulse Secure\Host Checker
- HKEY_CURRENT_USER\Software\Pulse Secure\Host Checker\InstallPath
- HKEY_CURRENT_USER\Software\Pulse Secure\Host Checker\Language
- HKEY_CURRENT_USER\Software\Pulse Secure\Host Checker\Debug\dsHostChecker
- HKEY_CURRENT_USER\Software\Pulse Secure\Host Checker\Debug\dsHostChecker\level

- HKEY_CURRENT_USER\Software\Pulse Secure\Host Checker\Debug\dsHostChecker\LogFile
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\DisplayName
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\UninstallString
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\QuietUninstallString
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\StartupApp
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\StopApp
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\DisplayVersion
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\DisplayIcon
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\Publisher
- HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\PulseSecure_Host_Checker\URLInfoAbout

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Host Checker Mac OSX Clients](#)
- [Host Checker Linux Clients](#)
- [Cache Cleaner](#)
- [Required Rights to Run and Install Applications](#)

Host Checker Mac OSX Clients

The following information applies to Mac OSX clients only.

Application and Additional Files Installed by Host Checker

Host Checker downloads the HostCheckerInstaller.osx installer file from the server which installs the following files on the Mac OSX client under ~/Library/Application Support/Pulse Secure/HostChecker.app

- Contents/
- Contents/CodeResources
- Contents/Info.plist
- Contents/MacOS/
 - HCIMC.dylib
 - HCIMC.dylib
 - HostChecker

- HostCheckerServicePS.dylib
- MessageCatalogTncc_DE.txt
- MessageCatalogTncc_EN.txt
- MessageCatalogTncc_ES.txt
- MessageCatalogTncc_FR.txt
- MessageCatalogTncc_IT.txt
- MessageCatalogTncc_JA.txt
- MessageCatalogTncc_KO.txt
- MessageCatalogTncc_PL.txt
- MessageCatalogTncc_ZH-CN.txt
- MessageCatalogTncc_ZH.txt
- OPSWAT, temp, <ESAP_Version>

(For V3 SDK)

- doSilent.txt
- libCoreUtils.dylib
- libImplAntivirus.dylib
- libImplFirewall.dylib
- libImplHDEncryption.dylib
- libImplSoftwareProduct.dylib
- libOesisCore.dylib
- scpt.dat
- tables.dat
- UnifiedSDK.ini

(For V4 SDK)

- doSilent.txt
- libwaapi.dylib
- libwaapi_v3.dylib
- libwalocal.dylib
- libwaresource.dylib
- libwautils.dylib
- UnifiedSDK.ini

- UnifiedSDK.ini
- doSilent.txt
- libCoreUtils.dylib
- libImplAntivirus.dylib
- libImplFirewall.dylib

- libImplSoftwareProduct.dylib
- libOesisCore.dylib
- tables.dat
- temp/
 - OpswatIMC.dylib
 - hostChecker.dylib
 - libdsWinClientDylib.dylib
 - libhcUtils.dylib
 - tnc_config
- Contents/PkgInfo
- Contents/Resources/
 - AppleScriptCommandDescriptor.sdef
 - DSPACSupport.js
 - English.lproj/
 - InfoPlist.strings
 - MainMenu.nib
- Contents/_CodeSignature/
 - CodeResources
- Contents/versionInfo.ini

Files Remaining After Uninstall

There is no Host Checker uninstall on the Mac OSX client.

Log files Installed by Host Checker

Host Checker stores the log files in the following location on the Mac OSX client:

- ~/Library/Logs/Pulse Secure
- /private/var/log/Pulse Secure/Logging/debuglog.log

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Host Checker Windows Client](#)
- [Host Checker Linux Clients](#)
- [Cache Cleaner](#)
- [Required Rights to Run and Install Applications](#)

Host Checker Linux Clients

The following information applies to Linux clients only.

Application and Additional Files Installed by Host Checker

Host Checker installs \$HOME/.pulse_secure/tnc.jar and \$HOME/.pulse_secure/tnc_config on the Linux client.

Files Remaining After Uninstall

The following files remain on the Linux client after uninstall:

- \$HOME/.pulse_secure/dsHCLauncher_linux1.log
- \$HOME/.pulse_secure/dsHostChecker_linux1.log

Log Files Installed by Host Checker

Host Checker installs the following log files on Linux systems:

- \$HOME/.pulse_secure/dsHCLauncher_linux1.log
- \$HOME/.pulse_secure/dsHostChecker_linux1.log

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Host Checker Windows Client](#)
- [Host Checker Mac OSX Clients](#)
- [Cache Cleaner](#)
- [Required Rights to Run and Install Applications](#)

Cache Cleaner

Cache Cleaner is installed as part of Host Checker. Host Checker downloads the binary files dsCacheCleaner.dll and dsCCProc.exe.

Files Remaining After Uninstall

None.

Registry Modifications

Cache Cleaner sets the following string registry values in HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\Pulse_Secure_Cache_Cleaner version number.

String	Set to
DisplayName	"Pulse Secure Cache Cleaner version"
DisplayVersion	the current software version
Publisher	"Pulse Secure"
QuietUninstallString	"%APPDATA%\Pulse Secure\Cache Cleaner version \uninstall.exe /S"
StartupApp	"%APPDATA%\Pulse Secure\Cache Cleaner version\dsCacheCleaner.exe"
StopApp	"%APPDATA%\Pulse Secure\Cache Cleaner version\dsCacheCleaner.exe" -action stop -nodelete 1"
UninstallString	"%APPDATA%\Pulse Secure\Cache Cleaner version\uninstall.exe"
URLInfoAbout	"http://www.pulsesecure.net"

Log File Location

You can enable or disable client-side logs by clicking System > Log/Monitoring > Client Logs > Settings in the Web console.

For Windows 7 and Windows 8, Cache Cleaner adds log files to %APPDATA%\Pulse Secure\Logging\debuglog.log

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Host Checker Windows Client](#)

- **Host Checker Linux Clients**
- **Required Rights to Run and Install Applications**

Chapter 4

Pulse Secure Collaboration

- [Pulse Secure Collaboration Windows Client](#)
- [Pulse Secure Collaboration Mac OSX Clients](#)
- [Pulse Secure Collaboration Linux Client](#)
- [Pulse Secure Collaboration Plug-In](#)

Pulse Secure Collaboration Windows Client

To execute the Windows version of Pulse Secure Collaboration, Pulse Connect Secure gateway downloads the neoCBoxSetup.exe package to the user's computer.

Installer Package File and File Location

Pulse Secure Collaboration installs the neoCBoxSetup.exe file on the Windows client in C:\Documents and Settings\username\Local Settings\Temp\neoCBoxSetup.exe

Additional Files Installed by Package and File Locations

- With an Active-X based install, Pulse Secure Collaboration installs additional files in:
- (Windows 7 and Windows 8) C:\Users\username\AppData\Roaming\Pulse Secure\Pulse Collaboration version_number

The Pulse Secure Collaboration installer also contains the Access Services installer when run on a Windows 7 or Windows 8 system.

See the Pulse Secure Collaboration directory for a complete list of files.

Files Remaining After Uninstall

After Pulse Secure Collaboration uninstalls, the cbox_cnfg.ini and cbox_cfg.txt files (for the Java client) and the installer logs remain on the client.

Registry Modifications

Pulse Secure Collaboration sets the following registry values:

String	Set to
Language	HKEY_CURRENT_USER\Software\Pulse Secure\Pulse Collaboration version
level	HKLM\Software\Pulse Secure\Logging\Level

Log File Locations

You can enable or disable client-side logs by clicking System > Log/Monitoring > Client Logs > Settings in the Web console.

 NOTE: The maximum file size for each of the Pulse Secure Collaboration log files is 10 MB.

When you enable logging, Pulse Secure Collaboration adds log files to the following locations for Windows 7 and Windows 8:

- C:\Users\Public\Pulse Secure\Logging\debuglog.log
- C:\Users\username\AppData\Roaming\Pulse Secure\Logging\debuglog.log

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Pulse Secure Collaboration Mac OSX Clients](#)
- [Pulse Secure Collaboration Linux Client](#)
- [Pulse Secure Collaboration Plug-In](#)
- [Required Rights to Run and Install Applications](#)

Pulse Secure Collaboration Mac OSX Clients

The following information applies to Mac OSX clients only.

Application and Additional Files Installed by Pulse Secure Collaboration

Pulse Secure Collaboration installs the following files on the Mac OSX client:

- ~/Library/Application Support/Pulse Secure/meetingAppMac.jar
- ~/Library/Application Support/Pulse Secure/cbox_cnfg.txt
- ~/Library/Application Support/Pulse Secure/meeting.icns

Files Remaining After Uninstall

There is no Pulse Secure Collaboration uninstall on the Mac OSX client.

Log Files Installed by Pulse Secure Collaboration

Pulse Secure Collaboration installs log files in the following locations on the Mac OSX client:

- ~/Library/Logs/Pulse Secure/dsCboxLauncher_macx.log, where x is 0 or 1.
- ~/Library/Logs/Pulse Secure/dsCboxUI_macx.log, where x is 0 or 1.
- ~/Library/Logs/Pulse Secure/dsCboxUISummary_macx.log, where x is 0 or 1.
- ~/Library/Logs/Pulse Secure/MacPresenter.log.

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Pulse Secure Collaboration Windows Client](#)
- [Pulse Secure Collaboration Linux Client](#)
- [Pulse Secure Collaboration Plug-In](#)
- [Required Rights to Run and Install Applications](#)

Pulse Secure Collaboration Linux Client

The following information applies to Linux clients only.

Application and Additional Files Installed by Pulse Secure Collaboration

Pulse Secure Collaboration installs the following files on the Linux client:

- ~/.pulse_secure/meetingAppSun.jar
- ~/.pulse_secure/libSMJNIXWinLinux.so

Log Files Installed by Pulse Secure Collaboration

Pulse Secure Collaboration installs log files in the following locations on the Linux client:

- ~/.pulse_secure/LinuxPresenterx.log where x is 0 or 1.
- ~/.pulse_secure/dsCboxUISummary_linuxx.log where x is 0 or 1.
- ~/.pulse_secure/dsCboxUI_linuxx.log where x is 0 or 1.
- ~/.pulse_secure/dsCboxLauncher_linuxx.log where x is 0 or 1.

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Pulse Secure Collaboration Windows Client](#)
- [Pulse Secure Collaboration Mac OSX Clients](#)
- [Pulse Secure Collaboration Plug-In](#)

Pulse Secure Collaboration Plug-In

To run the Pulse Secure Collaboration plug-in, the Pulse Connect Secure gateway downloads the Pulse Secure Collaboration plug-in to the user's client.

File Location

The Pulse Secure Collaboration plug-in is installed on the Windows client in \Documents and

Settings\user\Application Data\Pulse Secure\Pulse Secure Collaboration Plugin

Files Remaining After Uninstall

After the Pulse Secure Collaboration plug-in is uninstalled, the SecureMeetingOutlook.log file remains on the client.

Registry Modifications

String	Set to
Language	HKEY_CURRENT_USER\Software\Pulse Secure\Junos Pulse Collaboration for Outlook Plugin

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Pulse Secure Collaboration Windows Client](#)
- [Pulse Secure Collaboration Mac OSX Clients](#)
- [Pulse Secure Collaboration Linux Client](#)
- [Required Rights to Run and Install Applications](#)

Chapter 5

Java Secure Application Manager (JSAM)

- **Java Secure Application Manager (JSAM)**
- **JSAM Windows Client**
- **JSAM Mac OSX Clients**
- **JSAM Linux Client**

Java Secure Application Manager (JSAM)

To run JSAM, the Pulse Connect Secure gateway launches an applet on the user's client. This applet handles downloading additional files to the user's system in order to run JSAM.

In addition, JSAM modifies the hosts file if you choose Automatic host-mapping under Users > User Roles > Role > SAM > Options > Java SAM Options.

Related Documentation

- **Pulse Secure Installer Service**
- **Pulse Secure Setup**
- **JSAM Windows Client**
- **JSAM Mac OSX Clients**
- **JSAM Linux Client**
- **Required Rights to Run and Install Applications**

JSAM Windows Client

The following information applies to Windows clients only.

Additional Files Installed by Package and File Locations

For Windows 7 and Windows 8:

- If PPS is disabled, JSAM installs C:\Users\username\AppData\Roaming\Pulse Secure\jsamtool.exe.
- If PPS is enabled, JSAM installs C:\Users\username\AppData\Local\Temp\Low\Pulse Secure\Java Secure Application Manager\jsamtool.exe.

Files Remaining After Uninstall

For Windows 7 and Windows 8, after JSAM uninstalls, files in C:\Users\username\AppData\Local\Temp\Low\Pulse Secure\Java Secure Application Manager remain.

Registry Modifications

JSAM sets the following registry values:

- If you configure a standard NetBIOS application through JSAM, or you configure a custom application on port 137, 138, or 139, JSAM makes the following registry key modification on machines (Administrator privileges required): SMBDeviceEnabled=dword:00000000 is set in the registry location: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\NetBT\Parameters
- If you enable Outlook 5.5, 2000, or 2002 (Administrator privileges required), JSAM adds HKEY_LOCAL_MACHINE\Software\Microsoft\Exchange\Exchange Provider\Rpc_Binding_Order to the registry. (The second entry for this registry key is changed to ncalcn_http.)

The original value of this setting is: ncalrpc,ncacn_ip_tcp,ncacn_spx,ncacn_np,netbios,ncacn_vns_spp

After JSAM is initially used, the value of this setting is:

ncalrpc,ncacn_http,ncacn_ip_tcp,ncacn_spx,ncacn_np,netbios,ncacn_vns_spp

- If you disable the Skip Web Proxy Registry Check option under Users > User Roles > Role > SAM >

Options > Java SAM Options (User read access required), JSAM reads:
 HKEY_CURRENT_USER\SOFTWARE\Microsoft\Windows\CurrentVersion\Internet
 Settings\ProxyEnable

Log File Locations

You can enable or disable client-side logs by clicking System > Log/Monitoring > Client Logs > Settings in the Web console.

For Windows 7 and Windows 8, when you enable logging, JSAM adds C:\Users\username\AppData\Local\Temp\Low\Pulse Secure\Java Secure Application Manager\jsamtool.log and dsJSAM_win1.log.

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [JSAM Mac OSX Clients](#)
- [JSAM Linux Client](#)
- [Required Rights to Run and Install Applications](#)

JSAM Mac OSX Clients

The following information applies to Mac OSX clients only.

Application and Additional Files Installed by JSAM

JSAM installs the following files on the Mac OSX client:

- ~/Library/Application Support/Pulse Secure/NeoterisMac.jar
- ~/Library/Java/Extensions/libJNPRAuthKit.jnilib
- ~/Library/Application Support/Pulse Secure/jsam.icns
- ~/Library/Application Support/Pulse Secure/logo.gif

Files Remaining After Uninstall

The following file remains on the Mac OSX client after uninstall: ~/Library/Logs/Pulse Secure/Java Secure Application Manager

Log Files Installed by JSAM

JSAM installs log files in the following location on the Mac OSX client: ~/Library/Logs/Pulse Secure/Java Secure Application Manager

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [JSAM Windows Client](#)
- [JSAM Linux Client](#)
- [Required Rights to Run and Install Applications](#)

JSAM Linux Client

The following information applies to Linux clients only.

Application and Additional Files Installed by JSAM

JSAM does not install any application files on the Linux client.

Files Remaining After Uninstall

The only files that remain on the Linux client after uninstall are the log files.

Log Files Installed by JSAM

JSAM adds log files to the ~/.pulse_secure directory.

Related Documentation

- **[Pulse Secure Installer Service](#)**
- **[Pulse Secure Setup](#)**
- **[JSAM Windows Client](#)**
- **[JSAM Mac OSX Clients](#)**
- **[Required Rights to Run and Install Applications](#)**

Chapter 6

Terminal Services Client

- **Pulse Secure Terminal Services Client**

Pulse Secure Terminal Services Client

To run Pulse Secure Terminal Services Client, the Pulse Connect Secure gateway downloads the Neotermsservsetup.exe file to the user's client. This package is responsible for downloading additional files to the user's system in order to execute Terminal Services.

Installer Package Files and File Locations

The Pulse Connect Secure gateway downloads Neotermsservsetup.exe to the user's %Temp% directory and deletes it once the installation is complete.

Additional Files Installed by Package and File Locations

The Pulse Secure Terminal Services Client installs additional Pulse proxy files in %APPDATA%\Pulse Secure\Pulse Secure Terminal Services Client on the client:

The Pulse Secure Terminal Services Client installs the following Pulse proxy files on the client:

- dsTermServ.exe
- dsTermServDt.dll
- dsTermServProxy.dll
- dsTermServResource_DE.dll
- dsTermServResource_en.dll
- dsTermServResource_ES.dll
- dsTermServResource_FR.dll
- dsTermServResource_JA.dll
- dsTermServResource_KO.dll
- dsTermServResource_ZH.dll
- dsTermServResource_ZH_CN.dll
- dsWinClient.dll
- dsWinClientResource_DE.dll
- dsWinClientResource_EN.dll
- dsWinClientResource_ES.dll
- dsWinClientResource_FR.dll
- dsWinClientResource_JA.dll
- dsWinClientResource_KO.dll
- dsWinClientResource_ZH.dll
- dsWinClientResource_ZH_CN.dll
- uninstall.exe
- versionInfo.ini

The Pulse Secure Terminal Services Client installs the following files in %APPDATA%\Pulse Secure\Pulse Secure Terminal Services Client\Microsoft.VC80.CRT:

- Microsoft.VC80.CRT.manifest
- msvcp80.dll
- msucr80.dll

Files Remaining After Uninstall

None

Registry Modifications

The Pulse Secure Terminal Services Client adds the following registry values under the registry key, HKEY_CURRENT_USER\Software\Pulse Secure\Pulse Secure Terminal Services Client.

Type	Name	Value
REG_SZ	InstallPath	%APPDATA%\Pulse Secure\Pulse Secure Terminal Services Client
REG_SZ	Language	user_locale. The default is en.

Pulse Secure Terminal Services Client sets the following string registry values in HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Uninstall\Pulse_Term_Services.

Type	Name	Value
String	DisplayName	"Pulse Secure Terminal Services Client"
String	DisplayVersion	Set to the current software version
String	Publisher	"Pulse Secure"
String	QuietUninstallString	"%APPDATA%\Pulse Secure\Pulse Secure Terminal Services Client\uninstall.exe" /S
String	StartupApp	"%APPDATA%\Pulse Secure\Pulse Secure Terminal Services Client\dsTermServ.exe"
String	StopApp	"%APPDATA%\Pulse Secure\Pulse Secure Terminal Services Client\dsTermServ.exe" - stop
String	UninstallString	"%APPDATA%\Pulse Secure\Pulse Secure Terminal Services Client\uninstall.exe"
String	URLInfoAbout	http://www.pulsesecure.net

Log File Location

You can enable or disable client-side logs by clicking System > Log/Monitoring > Client Logs > Settings in the Web console.

When you enable logging, the Pulse Secure Terminal Services Client adds the debuglog.log file to the following locations:

For Windows 7 and Windows 8: %APPDATA%\Pulse Secure\Pulse Secure Terminal Services Client

Related Documentation

- **Pulse Secure Installer Service**
- **Pulse Secure Setup**
- **Required Rights to Run and Install Applications**

Chapter 7

Citrix Services Client

• **Pulse Secure Citrix Services Client**

Pulse Secure Citrix Services Client

To execute the Pulse Secure Citrix Services Client, the Pulse Connect Secure gateway downloads neoCitrixServSetup.exe to the user's client. This executable downloads additional files to the user's system.

Installer Package Files and File Locations

The Pulse Connect Secure gateway downloads Neocitrixsrvsetup.exe to the user's %Temp% directory and deletes it once the installation is complete.

Additional Files Installed by Package and File Locations

The Pulse Secure Citrix Services Client installs the following Pulse proxy files on the client in %APPDATA%\Pulse Secure\Pulse Secure Citrix Services Client.

For administrators, Citrix client files are also installed to %ProgramFiles%\Citrix where %ProgramFiles% = %SystemDrive%\Program Files.

- dsCitrixConnector.dll
- dsCitrixProxy.exe
- dsCitrixProxyResource_DE.dll
- dsCitrixProxyResource_en.dll
- dsCitrixProxyResource_ES.dll
- dsCitrixProxyResource_FR.dll
- dsCitrixProxyResource_JA.dll
- dsCitrixProxyResource_KO.dll
- dsCitrixProxyResource_ZH.dll
- dsCitrixProxyResource_ZH_CN.dll
- dsWinClient.dll
- dsWinClientResource_DE.dll
- dsWinClientResource_EN.dll
- dsWinClientResource_ES.dll
- dsWinClientResource_FR.dll
- dsWinClientResource_JA.dll
- dsWinClientResource_KO.dll
- dsWinClientResource_ZH.dll
- dsWinClientResource_ZH_CN.dll
- uninstall.exe
- versionInfo.ini

Pulse Secure Citrix Services Client also installs the following files in %APPDATA%\Pulse Secure\Pulse Secure Citrix Services Client \Microsoft.VC80.CRT:

- Microsoft.VC80.CRT.manifest
- msvcp80.dll
- msucr80.dll

Files Remaining After Uninstall

None

Registry Modifications

The Pulse Secure Citrix Services client adds the following registry value under HKEY_CURRENT_USER\Software\Pulse Secure\Pulse Secure Citrix Services Client

Type	Name	Value
REG_SZ	Language	user locale. The default is en.

The Pulse Secure Citrix Services client adds the following registry value under HKEY_CURRENT_USER\Software\Pulse Secure\Pulse Secure Citrix Services Client

Type	Name	Value
String	DisplayName	"Pulse Secure Citrix Services Client"
String	DisplayVersion	Set to the current software version
String	Publisher	"Pulse Secure"
String	QuietUninstallString	"%APPDATA%\Pulse Secure\Pulse Secure Citrix Services Client\uninstall.exe" /S
String	StartupApp	"%APPDATA%\Pulse Secure\Pulse Secure Citrix Services Client\dsCitrixProxy.exe"
String	StopApp	"%APPDATA%\Pulse Secure\Pulse Secure Citrix Services Client\dsCitrixProxy.exe" - stop
String	UninstallString	"%APPDATA%\Pulse Secure\Pulse Secure Citrix Services Client\uninstall.exe"
String	URLInfoAbout	http://www.pulsesecure.net

Log File Location

You can enable or disable client-side logs by clicking System > Log/Monitoring > Client Logs > Settings in the Web console. When you enable logging, the Pulse Secure Citrix Services Client adds the dsCitrixServ.log file to the following location:

For Windows 7 and Windows 8:

\Users\username\AppData\Roaming\Pulse Secure\Pulse Secure Citrix Services Client

Related Documentation

- [Pulse Secure Installer Service](#)
- [Pulse Secure Setup](#)
- [Required Rights to Run and Install Applications](#)

PART 3

Appendices

- **Required Permissions**

Appendix A

Required Permissions

• Required Rights to Run and Install Applications

Required Rights to Run and Install Applications

The following tables outline the rights that are required to install and run the following Pulse Connect Secure gateway client-side components using the Pulse Connect Secure gateway's ActiveX, ActiveX installer service, and Java mechanisms.

Where applicable, the tables contain links to topics that describe in further detail the components that the Pulse Connect Secure gateway uses to install and run its client-side applications.

Table 2: Windows Secure Application Manager (WSAM)

Client/Action	ActiveX Windows	ActiveX: Installer Service Windows	Java Windows	Java Mac/Linux	More Information
Install	Admin	Restricted, Power User, or Admin	Admin	Not Applicable	"Windows Secure Application Manager (WSAM)"
Run	Standard User	Standard User	Standard User	Not Applicable	"Windows Secure Application Manager (WSAM)"

NOTE:

- Restricted users can perform the initial installation of WSAM with the installer service only if they start the installation by clicking the WSAM link in the user's portal page.
- The ActiveX installer requires users to reboot their systems after an installation or upgrade (Windows Mobile only).

Users must have ActiveX components or Java enabled through their browsers to use the WSAM installers.

Table 3: Java Secure Application Manager (JSAM)

Client/Action	ActiveX Windows	ActiveX: Installer Service Windows	Java Windows	Java Mac/Linux	More Information
JSAM					
Run	Not Applicable	Not Applicable	Restricted, Power User, or Admin	User	"Java Secure Application Manager (JSAM)"
JSAM with Host File Modification					
Run	Not Applicable	Not Applicable	Admin	Admin/Root	"Java Secure Application Manager (JSAM)"
				NOTE: Client system asks for the administrator password when JSAM launches.	

NOTE:

- JSAM Windows 7 and Windows 8:
 - Automatic host mapping: you must have the rights to install jsamtool.exe on the system and run it.
 - Outlook and NetBIOS applications: you must have the rights to install jsamtool.exe on the system and run it.
- JSAM Mac OS X:
 - Automatic host mapping: you must provide the administrator password when JSAM prompts for it at launch.
 - Any applications that listen on ports below 1024: you must provide the administrator password when JSAM prompts for it at launch.
- JSAM Linux:
 - Automatic host mapping: you must be the root user.
 - Any applications that listen on ports below 1024: you must be the root user.

Table 4: Network Connect

Client/Action	ActiveX Windows	ActiveX: Installer Service Windows	Java Windows	Java Mac/Linux	More Information
Install	Admin	Restricted, Power User, or Admin	Admin	Admin*	“Network Connect Mac OSX Clients” “Network Connect Linux Client” “Network Connect and GINA Windows Client”
Run	Standard User	Standard User	Standard User	Standard User	“Network Connect Mac OSX Clients” “Network Connect Linux Client” “Network Connect and GINA Windows Client”

NOTE:

- Restricted users can perform the initial installation of Network Connect with the installer service only if they start the installation by clicking the Network Connect link in the user's portal page.
- (Mac only) When Network Connect is first installed (before ncinstallhelper exists on the system), you must provide the administrator password when prompted during the installation. On subsequent launches no special privileges are required.
- When the installer service is running, uninstalling Network Connect as a restricted user should be done from the user browser's preference page.

* Linux also requires Admin rights to upgrade or downgrade Network Connect. Mac OSX does not have this restriction.

Table 5: Terminal Services Component

Client/Action	ActiveX Windows	ActiveX: Installer Service Windows	Java Windows	Java Mac/Linux	More Information
Install	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Not Applicable	“Pulse Secure Terminal Services Client”
Run	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Not Applicable	“Pulse Secure Terminal Services Client”

Table 6: Citrix Terminal Services Component

Client/Action	ActiveX Windows	ActiveX: Installer Service Windows	Java Windows	Java Mac/Linux	More Information
Install	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Not Applicable	“Pulse Secure Citrix Services Client”
Run	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Not Applicable	“Pulse Secure Citrix Services Client”

Table 7: Host Checker (includes Secure Virtual Workspace)

Client/Action	ActiveX Windows	ActiveX: Installer Service Windows	Java Windows	Java Mac/Linux	More Information
Install	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Not Applicable	“Host Checker Linux Clients” “Host Checker Mac OSX Clients” “Host Checker Windows Client”
Run	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Not Applicable	“Host Checker Linux Clients” “Host Checker Mac OSX Clients” “Host Checker Windows Client”

NOTE: If you implement SVW through Host Checker, note that restricted users, power users, and admins all have adequate rights to install and run SVW.

Table 8: Cache Cleaner

Client/Action	ActiveX Windows	ActiveX: Installer Service Windows	Java Windows	Java Mac/Linux	More Information
Install	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Not Applicable	"Cache Cleaner"
Run	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Restricted, Power User, or Admin	Not Applicable	"Cache Cleaner"

Table 9: Pulse Secure Collaboration

Client/Action	ActiveX Windows	ActiveX: Installer Service	Java Windows	Java Mac/Linux	More Information
Pulse Secure Collaboration: Win32					
Install	Restricted, Power User, or Admin	Not Applicable	Restricted, Power User, or Admin	Not Applicable	"Pulse Secure Collaboration Windows Client"
Run	Restricted, Power User, or Admin	Not Applicable	Restricted, Power User, or Admin	Not Applicable	"Pulse Secure Collaboration Windows Client"
Pulse Secure Collaboration: Java					
Install (see Note below)	Restricted, Power User, or Admin	Not Applicable	Restricted, Power User, or Admin	User	"Pulse Secure Collaboration Windows Client" "Pulse Secure Collaboration Linux Client" "Pulse Secure Collaboration Mac OSX Clients"
Run	Restricted, Power User, or Admin	Not Applicable	Restricted, Power User, or Admin	User	"Pulse Secure Collaboration Windows Client" "Pulse Secure Collaboration Linux Client" "Pulse Secure Collaboration Mac OSX Clients"
Junos Pulse Collaboration: Outlook Plug-in					
Install	Power User, or Admin	Not Applicable	Power User, or Admin	Not Applicable	"Pulse Secure Collaboration Plug-In"
Run	Restricted, Power User, or Admin	Not Applicable	Restricted, Power User, or Admin	Not Applicable	"Pulse Secure Collaboration Plug-In"

NOTE: On Windows 7 and Windows 8, if Pulse Secure Collaboration is installed with restricted user privilege, remote control of high privilege processes (such as regedit and so forth) is not available.

Pulse Secure Collaboration requires the end-user to have admin privileges in order to install the client software on and later operating systems. If PIS is installed on the end-user's system, PIS installs the Pulse Secure Collaboration client and user admin privilege is not required. If PIS is not installed and the user does not have admin privilege, the client software is installed with limited features.

PART 4

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