ivanti

Pulse Client for Desktop 9.1R14 Supported Platforms Guide

9.1R14

Build 13525

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Revision History

The following table lists the revision history for this document.

Revision	Document	Date	Description
9.1R13	1.20	October 2021	For macOS 12 support, updated "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R13	1.19	October 2021	For windows 11 support, updated "Platform and Browser Compatibility " on page 9, "Pulse Desktop Client Qualified Platforms" on page 9, and "Platform and Browser Compatibility " on page 9.
9.1R12	1.18	August 2021	Updated "Platform and Browser Compatibility " on page 9, "Pulse Desktop Client Qualified Platforms" on page 9, and "Platform and Browser Compatibility " on page 9.
9.1R11.5	1.17	June 2021	Updated Windows, operating system support in "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R11	1.16	May 2021	Updated Windows, macOS operating system support in "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R11	1.15	February 2021	Updated Windows, macOS operating system and web browsers support in "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R10	1.14	December 2021	Updated Windows, macOS operating system and web browsers support in "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R9	1.13	October 2020	Updated Windows operating system support in "Platform and Browser Compatibility " on page 9. Updated Windows, macOS operating system and web browsers support in "Pulse Desktop Client Qualified Platforms" on page 9.

Revision	Document	Date	Description
9.1R8.2	1.12	September 2020	Updated Windows operating system support in "Platform and Browser Compatibility " on page 9. Updated Windows, macOS operating system and web browsers support in "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R8	1.11	July 2020	Updated "Platform and Browser Compatibility " on page 9, "Pulse Desktop Client Qualified Platforms" on page 9, and "Platform and Browser Compatibility " on page 9.
9.1R7	1.10	June 2020	Added Mac OS version to table "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R6	1.9	May 2020	Added Windows OS version 2004 to table "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R5	1.8	April 2020	Updated section "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R4.1	1.7	February 2020	Updated macOS operating support in "Pulse Desktop Client Qualified Platforms" on page 9
9.1R4	1.6	January 2020	Removed Cent OS 6.x, 64 bit and 32 bit from "Pulse Desktop Client Qualified Platforms" on page 9. Added macOS 10.15.2, 64 bit in "Pulse Desktop Client Qualified Platforms" on page 9. Updated "Platform and Browser Compatibility " on page 9 for Windows and macOS support. Updated "Smart Card and Soft Token Compatibility " on page 13 for Yubikey support. Updated .
9.1R3.1	1.5	November 2019	Updated Windows operating system support in "Platform and Browser Compatibility " on page 9. Updated Windows, macOS operating system and web browsers support in "Pulse Desktop Client Qualified Platforms" on page 9.

Revision	Document	Date	Description
9.1R3	1.4	October 2019	Added Windows 10 and web browsers support in "Platform and Browser Compatibility " on page 9. Removed NC, OAC, and WSAM from "Client Interoperability" on page 21.
9.1R2	1.3	September 2019	Added Safari 13.x and 12.x in "Platform and Browser Compatibility " on page 9.
9.1R2	1.2	July 2019	Added Windows 10 Version 1903 (OS build 10.0.18362.207) Enterprise, 64 bit and Windows 10 Version 1903 (OS build 10.0.18362.207) Professional, 64 bit in "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R1	1.1	June 2019	Added Windows 10 Version 1903 (OS build 10.0.18362.175) Enterprise, 64 bit and Windows 10 Version 1903 (OS build 10.0.18362.175) Professional, 64 bit in "Pulse Desktop Client Qualified Platforms" on page 9.
9.1R1	1.0	May 2019	Added Windows 10 Redstone 5 Version 1809 (OS build 17763.437), Enterprise, 64 bit in "Platform and Browser Compatibility " on page 9. Added macOS 10.14.4 (64 bit), macOS 10.14.3 (64 bit), macOS 13 (64 bit), macOS 12 (32 bit and 64 bit) in "Platform and Browser Compatibility " on page 9. Added macOS 10.11 (32 bit and 64 bit) in "Pulse Desktop Client Qualified Platforms" on page 9.

Overview

Pulse Client is a dynamic, integrated and easy-to-use network client that delivers anytime/anywhere secure connectivity. The Pulse Desktop Client Supported Platforms Guide describes which operating environments are supported by Pulse Desktop Clients for Windows, macOS and Linux.

The Pulse client testing environment provides the following types of software qualifications:

Qualified Platform: The platforms listed as qualified have been systematically tested by the Ivanti Quality Assurance department as part of this release.

Compatible Platform: The platforms listed as compatible have not been systematically tested by our QA department in this release; however, Ivanti expects that the Pulse functionality will work based on testing of previous releases and knowledge of the platform.

The Pulse client on Windows, macOS and Linux are different clients with different feature sets. For more information, see the Ivanti documentation.

Supported Platforms

Hardware Requirements

The following table lists the minimum hardware configuration required to support the Pulse Desktop Clients.

Pulse Desktop Client Hardware Requirements

Hardware Component	Requirement
CPU	Intel / AMD, 1.8GHz, 32-bit (x86) or 64-bit (x64) processor
System Memory	2 GB RAM
Disk Space	Install: 33 MB Logging: 50 MB

From 9.1R14 release, Pulse Desktop Client is available on Windows 10 and Windows 11 systems with ARM64 processors. For detailed list of features, see PDC Feature List for ARM 64 Processor .

Server Platform Compatibility

The following table lists the server platforms that were tested with this release of the Pulse Desktop Clients for Windows, macOS and Linux.

Product	Qualified	Compatible
Ivanti Connect Secure (formerly Pulse Connect secure, Secure Access Service, or SA)	9.1Rx	9.0Rx
Ivanti Policy Secure (formerly Pulse Policy secure, Access Control Service, or Unified Access Control/UAC)	9.1Rx	9.0Rx

ℹ Previous versions of the Pulse client can be used with the latest release of Ivanti server software, but new features that were added after the release of that client will not be available.

Platform and Browser Compatibility

Unless otherwise noted, a major and minor version number (for example, 10.9), means that all revisions (10.9.x) with that major/minor version are supported. When major, minor, and revision version number are specified (for example, 10.7.3), only that revision and later revisions of that major/minor version are supported. For example, 10.7.3 means that 10.7.3 through 10.7.x are supported, where x is the latest revision available.

Pulse Desktop Client Qualified Platforms

Platform	Operating System	Web Browser
Windows	• Windows 11 Version 21H2(OS Build 22000.348) Enterprise, 64 bit • Windows 10 Version 21H1 (OS build 10.0.19043.1266) Enterprise, 32 and 64 bit • Windows 10 Version 20H2 (OS build 10.0.19042.1110) Enterprise, 64 bit • Windows 8.1 Enterprise, 64 bit	• Microsoft Edge Browser 91.0.864.71 (64-Bit) • Internet Explorer 21H1 • Chrome 92.0.4515.107 • Firefox ESR 68.9.0esr • Chromium-based Edge Browser 86.0.622.48 (Official build) (64-bit)
macOS	• macOS Monterey 12.0.1 • macOS Big Sur 11.4 • macOS Big Sur 11.1 • Apple Silicon 11.1 • macOS Catalina 10.15.6	Safari 14.x and 13.x

Platform	Operating System	Web Browser
Linux (earlier to 9.1R9)	• Ubuntu 19.10, 64 bit • Ubuntu 18.04, 64 bit • Ubuntu 16.04.04, 64 bit and 32 bit • Debian 10, 64 bit • Debian 9.4, 64 bit and 32 bit • Cent OS 7.4, 64 bit • RHEL 7.4, 64 bit • Fedora 32, 64 bit • Fedora 30, 64 bit ⓘ The Linux Pulse Desktop Client is qualified in the above supported operating systems with the kernel that is installed by default during fresh installation.	NA
Linux (Unified Client 9.1R9 onwards)	• Ubuntu 20.04.1 • Fedora 32 • Debian 10.6 • RHEL 7 • RHEL 8 • CentOS 8.2.2004	NA

ⓘ The Pulse Client installer for RHEL 7/Centos 7 is not available by default in Ivanti Connect secure server. The RHEL 7/CentOS 7 installer is available for download at www.ivanti.com.

Pulse Desktop Client Compatible Platforms

Platform	Operating System	Web Browser
Windows	• Windows 10 Version 2004 (OS build 10.0.19041.1081) Enterprise, 32 and 64 bit • Windows 10 Version 21H2 (OS build 10.0.19044.1266) Professional, 32 and 64 bit • Windows 10 Version 1903 (OS build 10.0.18362.476) Professional, 64 bit • Windows 10 Version 1903 10.0.18362.449 • Windows 10 Redstone 5 Version 1809 (OS build 17763.437), Enterprise, 64 bit • Windows 10 Redstone 4 Version 1803 (OS build 17134.228) • Windows 10 Version 1909 10.0.18363.535 • Windows 10 Enterprise, 32 bit • Windows 10 non-Enterprise, 32 and 64 bit • Windows 10 Redstone • Windows 10 Enterprise, 32 and 64 bit • Windows 8.1 non-Enterprise, 32 and 64 bit • Windows 2019	• Edge browser 90.0.818.62 (Official build) (64-bit) • Internet Explorer Version 21H1 (OS Build 19043.985) • Google Chrome 90.0.4430.212

Platform	Operating System	Web Browser
	• Windows 2016 • Windows 2012 There is limited feature support available on Win Server operating systems, limited only to L3 VPN, Host checker and PSAM functionalities.	
macOS	• macOS Big Sur 11.6 • macOS Big Sur 11.5 • macOS Big Sur 11.3.1 • macOS Big Sur 11.2 • Apple Silicon 11.2 • macOS 10.15.3, 64 bit • macOS 10.15.2, 64 bit • macOS 10.13, 64 bit	Safari 14.X
Linux (earlier to 9.1R9)	• Ubuntu 17.x, 64 bit • Ubuntu 16.x, 64 bit and 32 bit • Debian 9.x, 64 bit and 32 bit • Cent OS 7.x, 64 bit • RHEL 7.x, 64 bit	NA
Linux (Unified Client 9.1R9 onwards)	• Ubuntu 18.04 LTS • Fedora 30 • Debian 10.X • RHEL 8.X • CentOS 8.X	NA

- Google Chrome is compatible rather than qualified because of Google's policy to support a "rapid release cycle" rather than an Extended Support Release (ESR) model.

- To install Pulse 9.1R8 or later clients on Pre Windows 10 platforms, it is a prerequisite to install the Microsoft update KB2999226. For more information, refer KB44575.

Smart Card and Soft Token Compatibility

The smart cards are compatible on the following platforms (all 64-bit):

- Windows 10 Version 21H1

- Windows 10 Version 20H2

- Windows 10 Version 2004 Enterprise

- Windows 10 version 1909

- Windows 10 version 1903

- Windows 10 Enterprise

- Windows 8.1 Enterprise

- macOS Big Sur 11.1

- macOS 10.15, 64 bit

- macOS 10.14

- macOS 10.13

- Windows 10 Redstone

- Windows 10 Redstone2

- Windows 10 Redstone3

- Windows 10 Redstone4

- Windows 10 Redstone5

Cards	Software Version
Yubikey	Driver Version 10.0.18362.1

Cards	Software Version
	Yubikey supports Windows and macOS with below authentication modes under certificates: Digital Signature Card Authentication
Aladdin eToken	PKI client version 5.1 and drivers version of 5.1
Safenet iKey 2032	PKI client version 7.0.8.0022, driver version v4.0.0.20
Gemalto .Net cards	Driver version 2.1.3.210

The following table lists compatible soft tokens.

Soft Tokens	Software Version
RSA	Application version 5.0.0.292
Server	RSA Authentication Manager 8.2
Client	RSA SecurID Software Token

Language Support

User-interface, message and online-help text in the Pulse Desktop Clients for Windows and macOS have been localized in the following languages:

- DE – German

- EN – English

- ES – Spanish

- FR – French

- IT – Italian

- JA – Japanese

- KO – Korean

- PL – Polish

- ZH-CN – Chinese (Simplified)

- ZH – Chinese (Traditional)

For the Pulse Desktop Client to use a language listed above, the corresponding locale must be set on the local operating system.

Adaptive Delivery

Pulse clients (both Windows/macOS desktop clients, Host Checker, Windows Terminal Services, and Secure Meeting clients) feature "Adaptive Delivery", which is a mechanism for installing and launching Pulse clients from a web browser. The exact mechanism used for Adaptive Delivery depends on many factors, including:

1. The Pulse client being launched/installed

2. The client operating system type and version

3. The web browser type and version

4. The security settings of the client operating system and browser

To leverage Adaptive Delivery for a client/OS/browser combination, you may need to enable the appropriate technology on the endpoint device. For example, to launch the Pulse Desktop Client from Internet Explorer on Windows, you will need to ensure that ActiveX is enabled in Internet Explorer on the end user's endpoint device.

> PSAL leverages "URL handler" functionality by invoking a custom URL in a manner that instructs the web browser to execute a program that launches/installs the appropriate Pulse client. PSAL was created to address both the restrictions placed on Java on macOS and the depreciation of Java (and ActiveX) plug-ins in Google Chrome version 45 and the Microsoft Edge browser. You can read more about the PSAL in article KB40102.

The following table shows the Adaptive Delivery mechanism for client/OS/browser combinations.

Operating System	Pulse client	Web Browser	Pulse Client Adaptive Delivery Mechanism
Windows	All Pulse clients	Internet Explorer	ActiveX
Windows	All Pulse clients	Firefox Google Chrome Edge Browser	Ivanti Application Launcher

Operating System	Pulse client	Web Browser	Pulse Client Adaptive Delivery Mechanism
macOS	Pulse Desktop Client Host Checker (HC)	Safari	Ivanti Application Launcher
macOS	JSAM	Safari	Ivanti Application Launcher

- Chrome is compatible rather than fully qualified on Windows.

- Edge browser support for launching Ivanti Desktop Clients was introduced in PCS 8.2r1 & PPS 5.3r1. Edge browser support for other Ivanti gateway functions (admin console, other clients, etc.) was added in PCS 8.2r3 and PPS 5.3r3. For details about Ivanti gateway support for the Edge browser, please see the relevant Ivanti gateway documentation.

- Chrome and Firefox on macOS are not supported (only Safari is supported on macOS), but PSAL will be invoked if an attempt is made to use either Chrome or Firefox on macOS for the Pulse Desktop Client or Host Checker

Access Methods

The Pulse Desktop Client supports the following kinds of connections to Ivanti gateways:

- Layer 3 VPN connections to Ivanti Connect Secure

- Layer 2 (802.1x) and Layer 3 connections to Ivanti Secure

- Per-application VPN tunneling to Ivanti Connect Secure (Windows Secure Access Manager)

There are a vast number of possible combinations of connections and configurations. For example, both Layer 2 (wired and wireless) and Layer 3 connections can be configured either with or without enforcement (Host Checker enforcement of system health and policy compliance). Although an endpoint can have only one active VPN connection to Ivanti Connect Secure, an endpoint can have multiple simultaneous Ivanti Policy Secure connections with or without a VPN connection. Also, Ivanti Policy Secure IPsec enforcement in Ivanti Connect Secure (TLS) tunnels is supported.

The following table lists the configurations that are qualified and compatible. Any combination not mentioned in the table is not supported.

Access Method Configuration	Description	Level of Support
Layer 3 IPsec tunnel inside VPN outer tunnel	Outer tunnel: TLS or ESP VPN tunnel to Ivanti Connect Secure gateway Inner tunnel: Layer 3 IPsec tunnel authenticated through Ivanti Policy Secure to ScreenOS or SRX firewall	Qualified
Layer 2 Ivanti Policy Secure + Multiple Layer 3 Ivanti Policy Secure	One Ivanti Policy Secure Layer 2 connection running in parallel to multiple Ivanti Policy Secure Layer 3 connections	Qualified

The following table lists the supported nested tunnel (tunnel-in-tunnel) configurations. The configurations are for a Ivanti Connect Secure v9.1 outer tunnel, a Ivanti Policy Secure v9.1 inner tunnel, and the Pulse Desktop Client v9.1.

Ivanti Connect Secure (Outer Tunnel Config)				Ivanti Policy Secure (Inner Tunnel Support)				
Split-Tunneling Mode	Route Precedence	Route Monitor	Traffic Enforcement	IPsec (with VA)	IPsec (without VA)	Dynamic IPsec	Source IP	Dynamic Source IP
Disabled	Tunnel Routes[1]	Disabled	Disabled	Supported	Supported	Supported	Supported	Supported
Disabled	Tunnel Routes[1]	Disabled	IPv4 Disabled and IPv6 Enabled	Supported	Supported	Supported	Supported	Supported
Disabled	Tunnel Routes[1]	Disabled	IPv4 Enabled and IPv6 Disabled	Not Supported	Supported	Supported	Supported	Supported
Disabled	Tunnel Routes	Enabled	Enabled or Disabled	Not Supported	Supported	Supported	Supported	Supported
Enabled	Tunnel Routes[1]	Disabled	Enabled or Disabled	Supported[2]	Supported[3]	Supported	Supported	Supported
Enabled	Tunnel Routes[1]	Enabled	Enabled or Disabled	Supported[2]	Supported[3]	Supported	Supported	Supported
Enabled or Disabled	Endpoint routes	Enabled or Disabled	Enabled or Disabled	Supported[2]	Supported[3]	Supported	Supported	Supported

1. Tunnel Routes and Tunnel Routes with Local Subnet Access behave the same way.

2. Ivanti Policy Secure IP address, IE IP address, and Ivanti Policy Secure VA pool IP addresses should be added to the Pulse split-tunnelling network policy.

3. Ivanti Policy Secure IP address, IE IP address, and protected resources should be added to a Pulse split-tunnelling network policy, and Ivanti Connect Secure should have a route to the Ivanti Policy Secure protected resource.

ℹ️ Pulse WSAM does not inter-operate with Ivanti Policy Secure.

Client Interoperability

Ivanti offers different clients and there are third parties that offer clients that attempt to manipulate traffic in a manner like that of the Pulse clients. Runtime Coexistence means that both products can be installed and run at the same time. Install Coexistence means that both products can be installed on the same machine at the same time; however, only one product can be active (running) at a time. This describes Pulse client interoperability.

The below table describes the consequences of having multiple clients on the same machine.

Product	Version	Coexistence	Nested Tunnel Operation
Pulse Collaboration	Any	Runtime	Supported

PDC Feature List for ARM 64 Processor

From 9.1R14, Pulse Desktop Client is available on Windows 10 and Windows 11 systems with ARM 64 processors.

Supported features

In this release, the following PDC features are supported on systems with ARM 64 processors:

- Web Proxy (Proxy server in front of ICS)

- Web Proxy (Proxy server behind ICS)

- Split Tunneling (IP-based)

- Split Tunneling (FQDN-based) Layer 3

- Traffic Enforcement

- Tunneling Route Monitor

- Tunneling enable local subnet routes

- Configurable DNS search order

- Launch from Browser

- Location Awareness

- Always-On VPN

- SSL VPN

- ESP VPN

- SSL VPN over IPv6

- ESP VPN over IPv6

- ESP VPN Mixed Mode (IPv4-in-IPv6 and IPv6-in-IPv4)

- Run script on connect/disconnect

- FIPS Compliance

- Embedded Browser

- SAML Support

- SAML Single Logout

- Smart Card

- Yubikey Smart Card

- RSA Token Code

- RSA Soft-token Integration/Automation

- Time-based One-Time Password (ICS Only)

- Certificate Authentication

- Certificate Authentication with IKE and ESP

- Automatic Client Certificate Selection

- EKU/OID based Filtering for Client Certificate Selection

- Machine Authentication

- Stealth Mode Tunnels

- Secondary Authentication (not to IPS)

- Bio-metric authentication (touch-id / face id)

- Single Sign On to Device and to ICS/IPS (not Cloud Secure)

- Full Host Checker Support

- Periodic Host Checker Support

- Minimal/OS check Support

- OS Version Support

- Device Health Check

- Antivirus Check

- Firewall Check

- Security patch requirement check

- Allow/Deny OS versions

- File Support

- Process Support

- Ports Support

- Registry

Unsupported Features

In this release, the following PDC features are not supported on systems with ARM 64 processors:

- PPS features / connectivity

- Zero Trust Access

- PSAL (64-Bit), HOB & JSAM

- Terminal Services Clients (WTS & Citrix)

- Multiple Concurrent Tunnels

- Configure VPN through MDM

- L3 and L4 Coexistence

- SAM Support

- SAM IPv6

- Credential Provider Support

Technical Support

When you need additional information or assistance, you can contact "Ivanti Global Support Center:

- https://www.ivanti.com/support/contact

- https://www.ivanti.com/support/contact

Call us at 1- 844-751-7629 (toll-free USA)

For more technical support resources, browse the support website https://www.ivanti.com/support/contact.