

# Release Notes for Cisco AnyConnect Secure Mobility Client, Release 4.6

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## Release Notes for AnyConnect Secure Mobility Client, Release 4.6

These release notes provide information for AnyConnect Secure Mobility on Windows, Mac OS X and Linux platforms.



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**Note** AnyConnect release 4.6.x will become the maintenance path for any 4.x bugs. AnyConnect 4.0, 4.1, 4.2, 4.3, 4.4, and 4.5 customers must upgrade to AnyConnect 4.6.x to benefit from future defect fixes. Any defects found in AnyConnect 4.0.x, 4.1.x, 4.2.x, 4.3.x, 4.4.x, and 4.5.x will be fixed in the AnyConnect 4.6.x maintenance releases only.

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## Download the Latest Version of AnyConnect

### Before you begin

To download the latest version of AnyConnect, you must be a registered user of Cisco.com.

### Procedure

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- Step 1** Follow this link to the Cisco AnyConnect Secure Mobility Client product support page:  
[http://www.cisco.com/en/US/products/ps10884/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/ps10884/tsd_products_support_series_home.html).
- Step 2** Log in to Cisco.com.
- Step 3** Click **Download Software**.
- Step 4** Expand the **Latest Releases** folder and click the latest release, if it is not already selected.
- Step 5** Download AnyConnect Packages using one of these methods:
- To download a single package, find the package you want to download and click **Download**.
  - To download multiple packages, click **Add to cart** in the package row and then click **Download Cart** at the top of the Download Software page.
- Step 6** Read and accept the Cisco license agreement when prompted.
- Step 7** Select a local directory in which to save the downloads and click **Save**.
- Step 8** See the [Cisco AnyConnect Secure Mobility Client Administrator Guide, Release 4.x](#).
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## AnyConnect Package Filenames for Web-Deployment

OS	AnyConnect Web-Deploy Package Names
Windows	anyconnect-win- <i>version</i> -webdeploy-k9.pkg
macOS	anyconnect-macos- <i>version</i> -webdeploy-k9.pkg
Linux (64-bit)	anyconnect-linux64- <i>version</i> -webdeploy-k9.pkg

## AnyConnect Package Filenames for Pre-deployment

OS	AnyConnect Pre-Deploy Package Name
Windows	anyconnect-win- <i>version</i> -predeploy-k9.zip
macOS	anyconnect-macos- <i>version</i> -predeploy-k9.dmg
Linux (64-bit)	anyconnect-linux64- <i>version</i> -predeploy-k9.tar.gz

Other files, which help you add additional features to AnyConnect, can also be downloaded.

## AnyConnect HostScan Engine Update 4.6.03051 New Features

AnyConnect HostScan 4.6.03051 is a maintenance release that includes updates to only the HostScan module. The AnyConnect software itself has not been updated as part of this release. Refer to [HostScan 4.6.03051, on page 27](#) for a list of what caveats were fixed, related to HostScan, for this release.

## AnyConnect 4.6.03049 New Features

This is a maintenance release that includes the following enhancements and limitations, and that resolves the defects described in [AnyConnect 4.6.03049, on page 28](#).

- In AnyConnect release 4.6, we added the manual download option and set it as the default. In release 4.6.03049, we have further disabled additional browsers. Automatic weblaunch will be supported only on Windows Internet Explorer (via ActiveX control or Java) and Safari 11 or earlier (via Java).
- Support for macOS Mojave 10.14; however, if you are using AnyConnect 4.1 or 4.2 and upgrade to macOS 10.14, you will need to remove the AMP profile and restart.

## AnyConnect 4.6.02074 New Features

This is a maintenance release that includes the following enhancements, and that resolves the defects described in [AnyConnect 4.6.02074, on page 29](#).

- **MACsec 256 Support.** See [Support for eEdge Integration with MACsec 256, on page 13](#) for additional information.

- **Fixed Hyper-V Behavior Showing Multiple Notifications.** To accommodate a Hyper-V behavior change on Windows 10 (Redstone 3 or later), tunnel security reinforcement has been optimized while using tunnel-all or split-exclude configurations. When a new interface address is detected, Hyper-V is properly enforced without causing the appearance of multiple reconnects. (CSCvj71152)

## AnyConnect 4.6.01103 New Features

This patch release addresses a vulnerability described in this [PSIRT advisory](#).

## AnyConnect 4.6.01098 New Features

This is a maintenance release that includes the following enhancements, and that resolves the defects described in [AnyConnect 4.6.01098, on page 31](#).

## AnyConnect 4.6.00362 New Features

This is a major release that includes the following features and enhancements, and that resolves the defects described in [AnyConnect 4.6.00362, on page 33](#):

- **Enhanced Dynamic Split Exclude Tunneling (Windows and macOS only)**—When tunnel-all or split exclude tunneling is configured with both dynamic split exclude and dynamic split include domains, traffic is dynamically excluded from the VPN tunnel if it matches at least one dynamic split exclude domain and none of the dynamic split include domains.
- **Dynamic Split Include Tunneling (Windows and macOS only)**—When split include tunneling is configured with dynamic split include domains, traffic is dynamically included into the VPN tunnel if it matches at least one dynamic split include domain.
- **Enhanced Dynamic Split Include Tunneling (Windows and macOS only)**—When split include tunneling is configured with both dynamic split include and dynamic split exclude domains, traffic is dynamically included into the VPN tunnel if it matches at least one dynamic split include domain and none of the dynamic split exclude domains.
- **AnyConnect WebLaunch**—As an alternative to our traditional web launch which relied too heavily on browser support (and Java and ActiveX requirements), we improved the flow of auto web deploy, which is presented at initial download and upon launch from a clientless page.



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**Note** You should have the webdeploy package file on the ASA before migrating to AnyConnect 4.6.

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- Full support for macOS 64-bit. With this migration, the AnyConnect 4.6 ISE Posture module is not compatible with older OPSWAT V3 compliance modules.
- ISE Posture Upgrades:




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**Note** These features require ISE 2.4.

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- **Grace Period for Noncompliant Devices**—When an endpoint becomes non-compliant but was compliant in a previous posture status, you can configure a grace time for those devices that become noncompliant. When the grace period expires, AnyConnect performs the posture check again, this time with no remediation and determines the endpoint state based on the results of the check.
- **Posture Rescan**—AnyConnect users now have the option to manually restart posture at any point of time.
- **AnyConnect Stealth Mode Notifications**—The end user can still get notification messages when AnyConnect stealth mode is in noncompliant state, has limited network access, has an unreachable server, and so on.
- **Disabling UAC Prompt**—You can decide whether the Windows User Account Control (UAC) popup appears during policy validation.

### Important Notes

An enhanced version of SAML integration with an embedded browser has replaced the native (external) browser integration from previous releases. The new version with the embedded browser requires you to upgrade to AnyConnect 4.6 (or later) and ASA 9.7.1.24 (or later), 9.8.2.28 (or later), or 9.9.2.1 (or later). Refer to [VPN Authentication Using SAML](#) in the *AnyConnect Secure Mobility Client Administrator Guide, Release 4.6* for additional information.

## System Requirements

This section identifies the management and endpoint requirements for this release. For endpoint OS support and license requirements for each feature, see [AnyConnect Secure Mobility Client Features, Licenses, and OSs](#).

Cisco cannot guarantee compatibility with other VPN third-party clients.

## Changes to the AnyConnect Profile Editor

You must install Java, version 6 or higher, before installing the profile editor.

## ISE Requirements for AnyConnect

### ISE Release Requirements

- ISE 2.0 is the minimum release capable of deploying AnyConnect software to an endpoint and posturing that endpoint using the new ISE Posture module in AnyConnect 4.0 and later.
- ISE 2.0 can only deploy AnyConnect release 4.0 and later. Older releases of AnyConnect must be web-deployed from an ASA, pre-deployed with an SMS, or manually deployed.

### ISE Licensing Requirements

To deploy AnyConnect from an ISE headend and use the ISE Posture module, a Cisco ISE Apex License is required on the ISE Administration node. For detailed ISE license information, see the *Cisco ISE Licenses* chapter of the [Cisco Identity Services Engine Admin Guide](#).

## ASA Requirements for AnyConnect

### Minimum ASA/ASDM Release Requirements for Specified Features

- You must upgrade to ASDM 7.5.1 to use NVM.
- You must upgrade to ASDM 7.4.2 to use AMP Enabler.
- You must upgrade to ASA 9.3(2) to use TLS 1.2.
- You must upgrade to ASA 9.2(1) if you want to use the following features:
  - ISE Posture over VPN
  - ISE Deployment of AnyConnect 4.x
  - Change of Authorization (CoA) on ASA is supported from this version onwards
- You must upgrade to ASA 9.0 if you want to use the following features:
  - IPv6 support
  - Cisco Next Generation Encryption “Suite-B” security
  - Dynamic Split Tunneling(Custom Attributes)
  - AnyConnect client deferred upgrades
- You must use ASA 8.4(1) or later if you want to do the following:
  - Use IKEv2.
  - Use the ASDM to edit non-VPN client profiles (such as Network Access Manager, Web Security, or Telemetry).
  - Use the services supported by a Cisco IronPort Web Security Appliance. These services let you enforce acceptable use policies and protect endpoints from websites found to be unsafe, by granting or denying all HTTP and HTTPS requests.
  - Deploy firewall rules. If you deploy always-on VPN, you might want to enable split tunneling and configure firewall rules to restrict network access to local printing and tethered mobile devices.
  - Configure dynamic access policies or group policies to exempt qualified VPN users from an always-on VPN deployment.
  - Configure dynamic access policies to display a message on the AnyConnect GUI when an AnyConnect session is in quarantine.
- To perform the HostScan migration from 4.3x to 4.6.x, ASDM 7.9.2 or later is required.

## ASA Memory Requirements



### Caution

The minimum flash memory recommended for all ASA 5500 models using AnyConnect 4.0 or later is 512MB. This will allow hosting of multiple endpoint operating systems, and logging and debugging to be enabled on the ASA.

Due to flash size limitations on the ASA 5505 (maximum of 128 MB), not all permutations of the AnyConnect package will be able to be loaded onto this model. To successfully load AnyConnect, you will need to reduce the size of your packages (i.e. fewer OSs, no HostScan, etc.) until they fit on the available flash.

Check for the available space before proceeding with the AnyConnect install or upgrade. You can use one of the following methods to do so:

- CLI—Enter the **show memory** command.

```
asa3# show memory
Free memory:      304701712 bytes (57%)
Used memory:      232169200 bytes (43%)
-----
Total memory:     536870912 bytes (100%)
```

- ASDM—Choose Tools > File Management. The File Management window displays flash space.

If your ASA has only the default internal flash memory size or the default DRAM size (for cache memory), you could have problems storing and loading multiple AnyConnect client packages on the ASA. Even if you have enough space on the flash to hold the package files, the ASA could run out of cache memory when it unzips and loads the client images. For additional information about the ASA memory requirements and upgrading ASA memory, see the [latest release notes for the Cisco ASA 5500 series](#).

## VPN Posture and HostScan Interoperability

The VPN Posture (HostScan) Module provides the Cisco AnyConnect Secure Mobility Client the ability to identify the operating system, antimalware, and firewall software installed on the host to the ASA.

The VPN Posture (HostScan) Module requires HostScan to gather this information. HostScan, available as its own software package, is periodically updated with new operating system, antimalware, and firewall software information. The usual recommendation is to run the most recent version of HostScan (which is the same as the version of AnyConnect).

AnyConnect 4.6.x is incompatible with HostScan releases prior to HostScan 4.3.05050. AnyConnect 4.6.x is however backwards compatible with HostScan 4.3.05050, and you must use HostScan 4.3.05050 (or later HostScan 4.3.x releases) as the HostScan image in ASDM (Configuration > Remote Access VPN > Secure Desktop Manager > HostScan image).

AnyConnect 4.6.x is compatible with HostScan 4.6.x. along with the migration support from HostScan 4.3.05050 to HostScan 4.6.x.



### Note

In HostScan 4.6, endpoint data (endpoint attributes) for antivirus, antispyware, and firewall have changed. Antispyware (*endpoint.as*) and antivirus (*endpoint.av*) are both categorized as antimalware (*endpoint.am*). Firewall (*endpoint.pw*) is categorized as firewall (*endpoint.pfw*). Refer to the [AnyConnect HostScan Migration 4.3.x to 4.6.x Guide](#) for the specifics of this configuration.

The [List of Antimalware and Firewall Applications](#) is available on cisco.com.



**Note** AnyConnect will not establish a VPN connection when used with an incompatible version of HostScan. Also, Cisco does not recommend the combined use of HostScan and ISE posture. Unexpected results occur when the two different posture agents are run.

## Advanced Notice of End Date for AnyConnect 4.3 HostScan Updates

HostScan updates for AnyConnect 4.3 and earlier will stop on December 31, 2018. All HostScan updates will be provided by the HostScan 4.6 (and later) module, which is compatible with AnyConnect 4.4.x (and later) and ASDM 7.9.2 (and later). HostScan migration information is detailed in this [migration guide](#).

## ISE Posture Compliance Module

The ISE Posture compliance module contains the list of supported antimalware and firewall for ISE posture. While the HostScan list organized by vendor, the ISE posture list organizes by product type. When the version number on the headend (ISE or ASA) is greater than the version on the endpoint, the OPSWAT gets updated. These upgrades are mandatory and happen automatically without end user intervention.

The individual files within the library (a zip file) are digitally signed by OPSWAT, Inc., and the library itself is packaged as a single, self-extracting executable which is code signed by a Cisco certificate. Refer to the [ISE compliance modules](#) for details.

## IOS Support of AnyConnect

Cisco supports AnyConnect VPN access to IOS Release 15.1(2)T functioning as the secure gateway; however, IOS Release 15.1(2)T does not currently support the following AnyConnect features:

- Post Log-in Always-on VPN
- Connect Failure Policy
- Client Firewall providing Local Printer and Tethered Device access
- Optimal Gateway Selection
- Quarantine
- AnyConnect Profile Editor

For additional limitations of IOS support for AnyConnect VPN, please see [Features Not Supported on the Cisco IOS SSL VPN](#).

Refer to <http://www.cisco.com/go/fn> for additional IOS feature support information.

## AnyConnect Supported Operating Systems

Cisco AnyConnect Secure Mobility Client supports the following operating systems for its contained modules:

Supported Operating Systems	VPN Client	Network Access Manager	Cloud Web Security	VPN Posture (HGA)	ISE Posture	DAFT	Customer Experience Feedback	Network Visibility Module	AMP Enabler	Umbrella Roaming Security
Windows 7, 8, 8.1, and current Microsoft supported versions of Windows 10 x86(32-bit) and x64(64-bit)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
macOS 10.11, 10.12, 10.13, and 10.14	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Linux Red Hat 6, 7 & Ubuntu 14.04 (LTS) , 16.04 (LTS), and 18.04 (LTS) (64-bit only)	Yes	No	No	Yes	No	Yes	Yes	Yes	No	No

## AnyConnect Support for Microsoft Windows

### Windows Requirements

- Pentium class processor or greater.
- 100 MB hard disk space.
- Microsoft Installer, version 3.1.
- Upgrading to Windows 8.1 from any previous Windows release requires you to uninstall AnyConnect, and reinstall it after your Windows upgrade is complete.
- Upgrading from Windows XP to any later Windows release requires a clean install since the Cisco AnyConnect Virtual Adapter is not preserved during the upgrade. Manually uninstall AnyConnect, upgrade Windows, then reinstall AnyConnect manually or via WebLaunch.
- To start AnyConnect with WebLaunch, you must use the 32-bit version of Firefox 3.0+ and enable ActiveX or install Sun JRE 1.4+.
- ASDM version 7.02 or higher is required when using Windows 8 or 8.1.

### Windows Limitations

- AnyConnect is not supported on Windows RT. There are no APIs provided in the operating system to implement this functionality. Cisco has an open request with Microsoft on this topic. Those who want this functionality should contact Microsoft to express their interest.
- Other third-party product's incompatibility with Windows 8 prevent AnyConnect from establishing a VPN connection over wireless networks. Here are two examples of this problem:
  - WinPcap service "Remote Packet Capture Protocol v.0 (experimental)" distributed with Wireshark [does not support Windows 8](#).

To work around this problem, uninstall Wireshark or disable the WinPcap service, reboot your Windows 8 computer, and attempt the AnyConnect connection again.



- Outdated wireless cards or wireless card drivers that do not support Windows 8 prevent AnyConnect from establishing a VPN connection.

To work around this problem, make sure you have the latest wireless network cards or drivers that support Windows 8 installed on your Windows 8 computer.

- AnyConnect is not integrated with the new UI framework, known as the Metro design language, that is deployed on Windows 8; however, AnyConnect does run on Windows 8 in desktop mode.
- HP Protect tools do not work with AnyConnect on Windows 8.x.
- Windows 2008 is not supported; however, we do not prevent the installation of AnyConnect on this OS. Also, Windows Server 2008 R2 requires the optional SysWow64 component
- If you are using Network Access Manager on a system that supports standby, Cisco recommends that the default Windows 8.x association timer value (5 seconds) is used. If you find the Scanlist in Windows appears shorter than expected, increase the association timer so that the driver can complete a network scan and populate the scanlist.

### Windows Guidelines

- Verify that the driver on the client system is supported by Windows 7 or 8. Drivers that are not supported may have intermittent connection problems.
- For Network Access Manager, machine authentication using machine password will not work on Windows 8 or 10 / Server 2012 unless a registry fix described in Microsoft KB 2743127 is applied to the client desktop. This fix includes adding a DWORD value LsaAllowReturningUnencryptedSecrets to the HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Control\Lsa registry key and setting this value to 1. This change permits Local Security Authority (LSA) to provide clients like Cisco Network Access Manager with the Machine password. It is related to the increased default security settings in Windows 8 or 10 / Server 2012. Machine authentication using Machine certificate does not require this change and will work the same as it worked with pre-Windows 8 operating systems.



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**Note** Machine authentication allows a client desktop to be authenticated to the network before the user logs in. During this time the administrator can perform scheduled administrative tasks for this client machine. Machine authentication is also required for the EAP Chaining feature where a RADIUS server can authenticate both the User and Machine for a particular client. This will result in identifying company assets and applying appropriate access policies. For example, if this is a personal asset (PC/laptop/tablet), and a corporate credentials are used, the endpoint will fail Machine authentication, but succeed User authentication and the proper network access restrictions are applied to the user's network connection.

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- On Windows 8, the Export Stats button on the Preferences > VPN > Statistics tab saves the file on the desktop. In other versions of Windows, the user is asked where to save the file.
- AnyConnect VPN is compatible with 3G data cards which interface with Windows 7 or later via a WWAN adapter.

## AnyConnect Support for Linux

### Linux Requirements

- x86 instruction set.
- 64-bit processor.
- 32 MB RAM.
- 20 MB hard disk space.
- Dependency on network-manager and libnm library to support NVM.  
Superuser privileges are required for installation.
- network-manager
- libnm (libnm.so or libnm-glib.so)
- libstdc++ users must have libstdc++.so.6(GLIBCXX\_3.4) or higher, but below version 4.
- Java 5 (1.5) or later. The only version that works for web installation is Sun Java. You must install Sun Java and configure your browser to use that instead of the default package.
- zlib - to support SSL deflate compression
- xterm - only required if you're doing initial deployment of AnyConnect via Weblaunch from ASA clientless portal.
- gtk 2.0.0.
- gdk 2.0.0.
- libpango 1.0.
- iptables 1.2.7a or later.
- tun module supplied with kernel 2.4.21 or 2.6.

## AnyConnect Support for Mac

### Mac Requirements

- AnyConnect requires 50MB of hard disk space.
- To operate correctly with Mac, AnyConnect requires a minimum display resolution of 1024 by 640 pixels.

### Mac Guidelines

- Mac OS X 10.8 introduces a new feature called Gatekeeper that restricts which applications are allowed to run on the system. You can choose to permit applications downloaded from:
  - Mac App Store
  - Mac App Store and identified developers

- Anywhere

The default setting is Mac App Store and identified developers (signed applications). AnyConnect is a signed application, but it is not signed using an Apple certificate. This means that you must either select the Anywhere setting or use Control-click to bypass the selected setting to install and run AnyConnect from a pre-deploy installation. Users who web deploy or who already have AnyConnect installed are not impacted. For further information, refer to Apple documentation.



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**Note** Web launch or OS upgrades (for example 10.7 to 10.8) install as expected. Only the pre-deploy installation requires additional configuration as a result of Gatekeeper.

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## AnyConnect Licensing

For the latest end-user license agreement, see [Cisco End User License Agreement, AnyConnect Secure Mobility Client, Release 4.x](#).

For our open source licensing acknowledgments, see [Open Source Software Used in AnyConnect Secure Mobility Client](#).

To deploy AnyConnect from an ISE headend and use the ISE Posture module, a Cisco ISE Apex License is required on the ISE Administration node. For detailed ISE license information, see the *Cisco ISE Licenses* chapter of the [Cisco Identity Services Engine](#).

To deploy AnyConnect from an ASA headend and use the VPN and VPN Posture (HostScan) modules, an AnyConnect 4.X Plus or Apex license is required, trial licenses are available, see the [Cisco AnyConnect Ordering Guide](#).

For an overview of the AnyConnect 4.X Plus and Apex licenses and a description of which license the features use, see [AnyConnect Secure Mobility Client Features, Licenses, and OSs](#).

## AnyConnect Installation Overview

Deploying AnyConnect refers to installing, configuring, and upgrading the AnyConnect client and its related files. The Cisco AnyConnect Secure Mobility Client can be deployed to remote users by the following methods:

- Pre-Deploy—New installations and upgrades are done either by the end user, or by using an enterprise software management system (SMS).
- Web-Deploy—The AnyConnect package is loaded on the headend, which is either an ASA or ISE server. When the user connects to an ASA or to ISE, AnyConnect is deployed to the client.
  - For new installations, the user connects to a headend to download the AnyConnect client. The client is either installed manually, or automatically (web-launch).
  - Updates are done by AnyConnect running on a system where AnyConnect is already installed, or by directing the user to the ASA clientless portal.
- Cloud Update—After the Umbrella Roaming Security module is deployed, you can update any AnyConnect modules using one of the above methods, as well as Cloud Update. With Cloud Update,

the software upgrades are obtained automatically from the Umbrella cloud infrastructure, and the update track is dependent upon that and not any action of the administrator. By default, automatic updates from Cloud Update are disabled.

When you deploy AnyConnect, you can include the optional modules that enable extra features, and client profiles that configure the VPN and other features. Keep in mind the following:

- All AnyConnect modules and profiles can be pre-deployed. When pre-deploying, you must pay special attention to the module installation sequence and other details.
- The Customer Experience Feedback module and the Hostscan package, used by the VPN Posture module, cannot be web-deployed from the ISE.
- The Compliance Module, used by the ISE Posture module, cannot be web-deployed from the ASA.




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**Note** Make sure to update the localization MST files with the latest release from CCO whenever you upgrade to a new AnyConnect package.

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## Web-based Installation May Fail on 64-bit Windows

This issue applies to Internet Explorer versions 10 and 11, on Windows versions 7 and 8.

When the Windows registry entry HKEY\_CURRENT\_USER\Software\Microsoft\Internet Explorer\Main\TabProcGrowth is set to 0, Active X has problems during AnyConnect web deployment.

See <http://support.microsoft.com/kb/2716529> for more information.

The solution to is to:

- Run a 32-bit version of Internet Explorer.
- Edit the registry entry to a non-zero value, or remove that value from the registry.




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**Note** On Windows 8, starting Internet Explorer from the Windows start screen runs the 64-bit version. Starting from the desktop runs the 32-bit version.

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## AnyConnect Support Policy

Cisco only provides fixes and enhancements based on the most recent 4.x release. TAC support is available to any customer with an active AnyConnect 4.x term/contract running a released version of AnyConnect 4.x. If you experience a problem with an out-of-date software version, you may be asked to validate whether the current maintenance release resolves your issue.

Software Center access is limited to AnyConnect 4.x versions with current fixes. We recommend that you download all images for your deployment, as we cannot guarantee that the version you are looking to deploy will still be available for download at a future date.

## Guidelines and Limitations

### DHE Incompatibility

With the introduction of DHE cipher support in AnyConnect release 4.6, incompatibility issues result in ASA versions before ASA 9.2. If you are using DHE ciphers with ASA releases earlier than 9.2, you should disable DHE ciphers on those ASA versions.

### Support for eEdge Integration with MACsec 256

The Media Access Control Security (MACsec) standard is the IEEE 802.1AE standard for authenticating and encrypting packets between two MACsec-capable devices. The AnyConnect Network Access Manager now supports MACsec 256 on select IOS versions with the enterprise edge (eEdge) integration.

#### Restrictions for eEdge Integration with MACsec

- You must enable MACsec 256 in the AnyConnect Network Access Manager Profile Editor to match the setting for the MACsec 256 on the switch side. By enabling the MACsec 256 encryption standard, 802.1AE encryption with MACsec Key Agreement (MKA) is supported on downlink ports for encryption between a MACsec-capable device and host devices.
- The MACsec standard is only supported in single host and multihost modes and is not supported in multi-authentication mode.
- Only supported on Windows 7, Windows 8, and current Microsoft supported versions of Windows 10 x86 (32-bit) and x64 (64-bit)

For further information about eEdge integration and how to configure for Cisco IOS, see <https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ibns/configuration/xe-3e/ibns-xe-3e-book/ibns-macsec.pdf>.

#### Configure Network Access Manager Profile Editor for MACsec 256

In the Network Access Manager of the Profile Editor, choose **Networks**. In the Security Level portion of the Networks window, choose **MKA** and then **AES GCM 256**.

### Changes with Certificate Store Database (NSS Library Updates) on Firefox58

*(Only Impacting RedHat and Ubuntu users prior to 18.04)* Because NSS certificate store DB format changed starting with Firefox 58, an environment variable change is required for AnyConnect to comply with this change and to prevent needing an operating system upgrade. Set `NSS_DEFAULT_DB_TYPE="sql"` as a workaround to use the new SQL DB format. Once NSS is updated to version 3.35 or later, this environment variable is no longer required, and it will default to use SQL DB.

### Conflict with Network Access Manager and Group Policy

If your wired or wireless network settings or specific SSIDs are pushed from a Windows group policy, they can conflict with the proper operation of the Network Access Manager. With the Network Access Manager installed, a group policy for wireless settings is not supported.

## No Hidden Network Scanlist on Network Access Manager with Windows 10 Version 1703 (CSCvg04014)

Windows 10 version 1703 changed their WLAN behavior, which caused disruptions when the Network Access Manager scans for wireless network SSIDs. Because of a bug with the Windows code that Microsoft is investigating, the Network Access Manager's attempt to access hidden networks is impacted. To provide the best user experience, we have disabled Microsoft's new functionality by setting two registry keys during Network Access Manager installation and removing them during an uninstall.

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## AnyConnect macOS 10.13 (High Sierra) Compatibility

The recommended version of AnyConnect for macOS 10.13 (High Sierra) is AnyConnect 4.5.02XXX and above.

AnyConnect 4.5.02XXX and above has additional functionality and warnings to guide users through the steps needed to leverage AnyConnect's complete capabilities, by enabling the AnyConnect software extension in their macOS Preferences -> Security & Privacy pane. The requirement to manually enable the software extension is a new operating system requirement in macOS 10.13 (High Sierra). Additionally, if AnyConnect is upgraded to 4.5.02XXX and above before a user's system is upgraded to macOS 10.13 or later, the user will automatically have the AnyConnect software extension enabled.

Users running macOS 10.13 (High Sierra) with a version of AnyConnect earlier than 4.5.02XXX must enable the AnyConnect software extension in their macOS Preferences -> Security & Privacy pane. Although AnyConnect 4.4.04030 and 4.5.01044 have been tested to work with macOS 10.13 (High Sierra), those users will not have the additional functionality and warning guidance added to AnyConnect 4.5.02XXX. You may need to manually reboot after enabling the extension prior to AnyConnect 4.5.02xxx.

As described in <https://support.apple.com/en-gb/HT208019>, macOS system administrators potentially have additional capabilities to disable User Approved Kernel Extension Loading, which would be effective with any currently supported version of AnyConnect.

## Impact on Posture When a Power Event or Network Interruption Occurs

If a network change or power event occurs, a posture process that is interrupted will not complete successfully. The network or power change results in an AnyConnect downloader error that must be acknowledged by the user before continuing the process.

## Network Access Manager Does Not Automatically Fallback to WWAN/3G/4G

All connections to WWAN/3G/4G must be manually triggered by the user. Network Access Manager does NOT automatically connect to these networks if no wired or wireless connection is available

## Web Deploy of NAM, DART, ISE Posture, and/or Posture Fails with Signature/File Integrity Verification Error

This "timestamp signature and/or certificate could not be verified or is malformed" error only occurs on Windows during web deploy of AnyConnect 4.4MR2 (or later) from ASA or ISE. Only the NAM, DART, ISE Posture, and Posture modules that are deployed as MSI files are affected. Because of the use of SHA-2 timestamping certificate service, the most up-to-date trusted root certificates are required to properly validate the timestamp certificate chain. You will not have this issue with predeploy or an out-of-the-box Windows

system configured to automatically update root certificates. However, if the automatic root certificate update setting has been disabled (not the default), refer to [https://technet.microsoft.com/en-us/library/dn265983\(v=ws.11\).aspx](https://technet.microsoft.com/en-us/library/dn265983(v=ws.11).aspx) or manually install the timestamping root certificates that we use. You can also use the signtool to verify if the issue is outside of AnyConnect by running the

```
signtool.exe verify /v /all/debug/pa<file to verify>
```

command from a Microsoft provided Windows SDK.

## macOS Keychain Prompts During Authentication

On macOS, a keychain authentication prompt may appear after the VPN connection is initiated. The prompt only occurs when access to a client certificate private key is necessary, after a client certificate request from the secure gateway. Even if the tunnel group is not configured with certificate authentication, certificate mapping may be configured on the ASA, causing the keychain prompts when the access control setting for the client certificate private key is configured as *Confirm Before Allowing Access*.

You can stop the keychain authentication prompts with one of the following actions:

- Configure the certificate matching criteria in the client profile to exclude well-known system keychain certificates.
- Configure the access control setting for the client certificate private keys in the system keychain to allow access to AnyConnect.

CSCuv78008 tracks an enhancement request to extend support for profile-based certificate store filtering to macOS. This enhancement allows you to restrict AnyConnect access strictly to user certificates from the login keychain without configuring certificate matching criteria in the profile.

## Umbrella Roaming Security Plugin Changes

The dashboard to retrieve the `OrgInfo.json` file is now [dashboard.umbrella.com](https://dashboard.umbrella.com). From there you navigate to **Identities > Roaming Computers**, click the + (Add icon) in the upper left, and click **Module Profile** from the AnyConnect Umbrella Roaming Security Module section.

## Microsoft Inadvertently Blocks Updates to Windows 10 When Network Access Manager is Installed

Microsoft intended to block updates to earlier versions of Windows when the Network Access Manager is installed, but Windows 10 and Creators Edition (RS2) were inadvertently blocked as well. Because of the error (Microsoft Sysdev 11911272), you must first uninstall the Network Access Manager module before you can upgrade to the Creators Editor (RS2). You can then reinstall the module after the upgrade. Microsoft's fix for this error is planned for June 2017.

## Windows 10 Defender False Positive—Cisco AnyConnect Adapter Issue

When upgrading to Windows 10 Creator Update (April 2017), you may encounter a Windows Defender message that the AnyConnect adapter has an issue. Windows Defender instructs you to enable the adapter under the Device Performance and Health section. In actuality, the adapter should be disabled when not in use, and no manual action should be taken. This false positive error has been reported to Microsoft under Sysdev # 11295710.

AnyConnect 4.4MR1 (or later) and 4.3MR5 are compatible with Windows 10 Creators Edition (RS2).

## AnyConnect Compatibility with Microsoft Windows 10

AnyConnect 4.1MR4(4.1.04011) and later are compatible with Windows 10 official release. Technical Assistance Center (TAC) support is available beginning on 7/29/2015.

For best results, we recommend a clean install of AnyConnect on a Windows 10 system and not an upgrade from Windows 7/8/8.1. If you are planning to perform an upgrade from Windows 7/8/8.1 with AnyConnect pre-installed, make sure that you first upgrade AnyConnect prior to upgrading the operating system. The Network Access Manager Module **must** be uninstalled prior to upgrading to Windows 10. After the system upgrade is complete, you can re-install Network Access Manager on the system. You may also choose to fully uninstall AnyConnect and re-install one of the supported versions after upgrading to Windows 10.

## Win32 Limitation With Connected Standby

Because AnyConnect is a Win32 (not a Windows store) application, we have limitations with Microsoft regarding privileges; therefore, AnyConnect cannot provide access to the Connected Standby (suspend and resume events) status in Windows 8 and later.

## New Split Include Tunnel Behavior (CSCum90946)

Formerly, if a split-include network was a Supernet of a Local Subnet, the local subnet traffic was *not* tunneled unless a split-include network that exactly matches the Local Subnet was configured. With the resolution of CSCum90946, when a split-include network is a Supernet of a Local Subnet, the Local Subnet traffic is tunneled, unless a split-include (deny 0.0.0.0/32 or ::/128) is also configured in the access-list (ACE/ACL).

The new behavior requires the following configurations when a Supernet is configured in the split-include *and* the desired behavior is to allow LocalLan access:

- access-list (ACE/ACL) must include *both* a permit action for the Supernet and a deny action for 0.0.0.0/32 or ::/128.
- Enable Local LAN Access in the AnyConnect profile (in the Preferences Part 1 menu of the profile editor. (You also have the option to make it user controllable.)

## Microsoft Phasing out SHA-1 Support

A secure gateway with a SHA-1 certificate or a certificate with SHA-1 intermediate certificates may no longer be considered valid by a Windows Internet Explorer 11 / Edge browser or a Windows AnyConnect endpoint after February 14, 2017. After February 14, 2017, Windows endpoints may no longer consider a secure gateway with a SHA-1 certificate or intermediate certificate as trusted. We highly recommend that your secure gateway does not have a SHA-1 identity certificate and that any intermediate certificates are not SHA-1.

Microsoft has made modifications to their original plan of record and timing. They have published details for how to [test whether your environment will be impacted by their February 2017 changes](#). Cisco is not able to make any guarantees of correct AnyConnect operation for customers with SHA-1 secure gateway or intermediate certificates or running old versions of AnyConnect.

Cisco highly recommends that customers stay up to date with the current maintenance release of AnyConnect in order to ensure that they have all available fixes in place. The most up-to-date version of AnyConnect 4.x and beyond are available [Cisco.com Software Center](#) for customers with active AnyConnect Plus, Apex, and VPN Only terms/contracts. [AnyConnect Version 3.x is no longer actively maintained](#) and should no longer be used for any deployments.





**Note** Cisco has validated that AnyConnect 4.3 and 4.4 (and beyond) releases will continue to operate correctly as Microsoft further phases out SHA-1. Long term, Microsoft intends to distrust SHA-1 throughout Windows in all contexts, but their current advisory does not provide any specifics or timing on this. Depending on the exact date of that deprecation, many earlier versions of AnyConnect may no longer operate at any time. Refer to [Microsoft's advisory](#) for further information.

## Authentication Failure When Using a SHA512 Certificate for Authentication

(For Windows 7, 8, and 8.1 users) When the client uses a SHA512 certificate for authentication, authentication fails, even though the client logs show that the certificate is being used. The ASA logs correctly show that no certificate was sent by AnyConnect. These versions of Windows require that you enable support for SHA512 certificates in TLS 1.2, which is not supported by default. Refer to <https://support.microsoft.com/en-us/kb/2973337> for information on enabling support for these SHA512 certificates.

## No Longer Supporting RC4 TLS Cipher Suite

RC4 TLS cipher suites are not supported from AnyConnect release 4.2.01035 and onwards due to security policy enhancements.

## OpenSSL Cipher Suites Changes

Because the OpenSSL standards development team marked some cipher suites as compromised, we no longer support them beyond AnyConnect 3.1.05187. The unsupported cipher suites include the following: DES-CBC-SHA, RC4-SHA, and RC4-MD5.

Likewise, our crypto toolkit has discontinued support for RC4 ciphers; therefore, our support for them will be dropped with releases 3.1.13011 and 4.2.01035 and beyond.

## Using Log Trace in ISE Posture

After a fresh installation, you see ISE posture log trace messages as expected. However, if you go into the ISE Posture Profile Editor and change the Enable Agent Log Trace file to 0 (disable), you must do an AnyConnect service restart to get expected results.

## Interoperability With ISE Posture on Mac

If you are using Mac OS X 10.9 or later and want to use ISE posture, you may need to do the following to avoid issues:

- Turn off certificate validation to avoid a "failed to contact policy server" error during posture assessment.
- Disable the captive portal application; otherwise, discovery probes are blocked, and the application remains in pre-posture ACL state.

## Firefox Certificate Store on Mac OS X is Not Supported

The Firefox certificate store on Mac OS X is stored with permissions that allow any user to alter the contents of the store, which allows unauthorized users or processes to add an illegitimate CA into the trusted root store. Anyconnect no longer utilizes the Firefox store for either server validation or client certificates.

If necessary, instruct your users how to export your AnyConnect certificates from their Firefox certificate stores, and how to import them into the Mac OS X keychain. The following steps are an example of what you may want to tell your AnyConnect users.

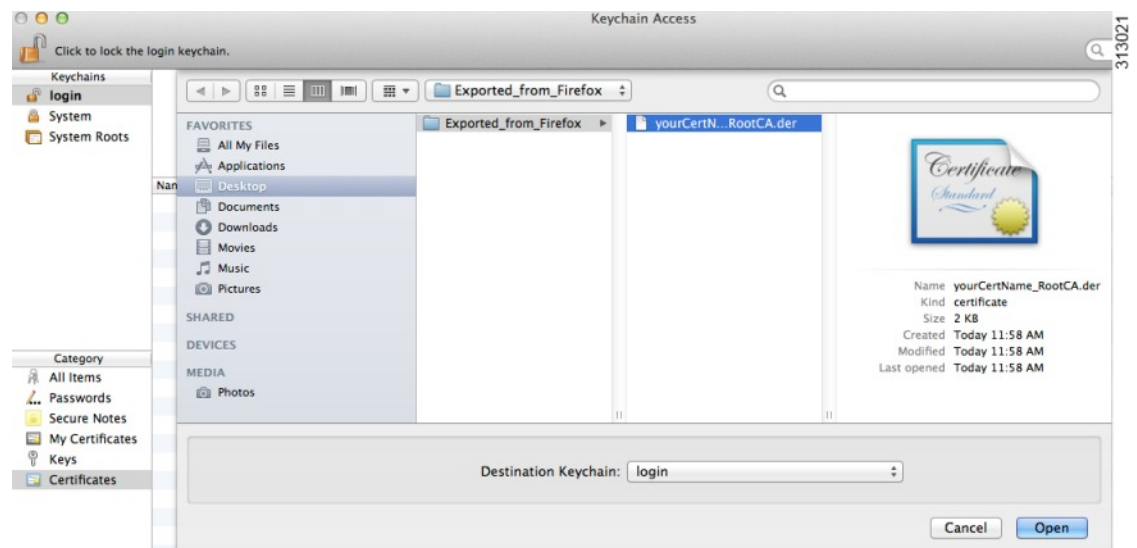
1. Navigate to **Firefox > Preferences > Advanced**, Certificates tab, click **View Certificates**.

2. Select the Certificate used for AnyConnect, and click **Export**.

Your AnyConnect Certificate(s) will most likely be located under the Authorities category. Verify with your Certificate Administrator, as they may be located under a different category (Your Certificates or Servers).

3. Select a location to save the Certificate(s), for example, a folder on your desktop.

4. In the Format pull down menu, select **X.509 Certificate (DER)**. Add the .der extension to the certificate name, if required.

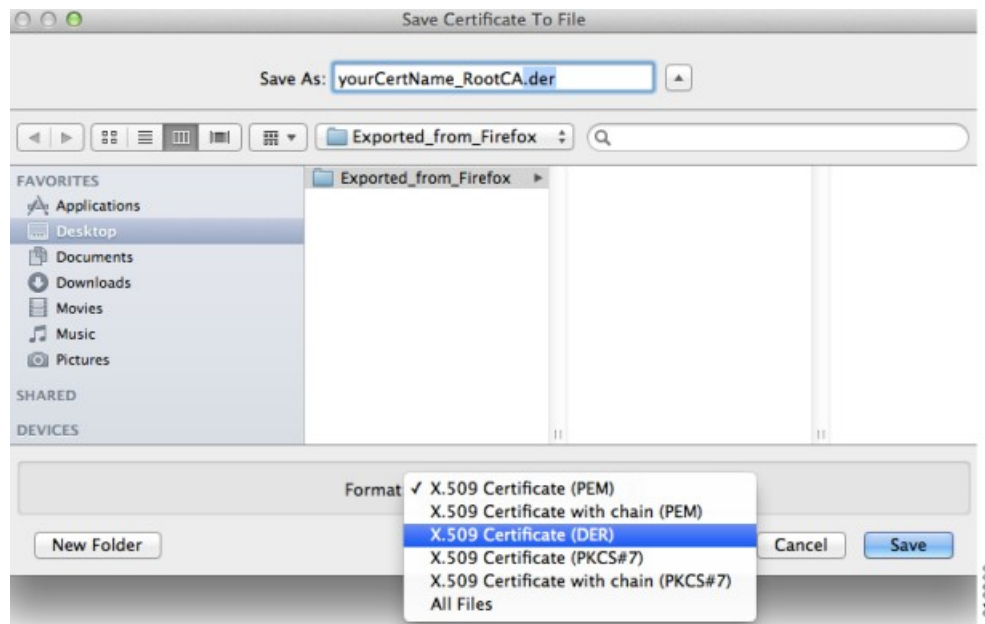


**Note** If more than one AnyConnect Certificate and/or a Private Key is used/required, repeat the above process for each Certificate).

5. Launch KeyChain. Navigate to File, Import Items..., and select the Certificate that you exported from Firefox.

In the Destination Keychain:, select the desired Keychain. The login Keychain that is used for this example may not be the one used at your company. Ask your Certificate Administrator to which Keychain your certificate(s) should be imported.

6. In the Destination Keychain:, select the desired Keychain. The login Keychain that is used for this example may not be the one used at your company. Ask your Certificate Administrator to which keychain your certificate(s) should be imported.



7. Repeat the preceding steps for additional Certificates that are used or required for AnyConnect.

## AnyConnect UI Fails Due to Missing Dependency libpangox

On many newer Linux distributions, the AnyConnect UI may fail to start with the error:

```
error while loading shared libraries: libpangox-1.0.so.0: cannot open shared
object file: No such file or directory
```

The missing library is obsolete and is no longer available. This impacts other applications, not just AnyConnect.

Pango has released the source code of a compatible library that has been built by others and is available online.

To resolve this problem, find and install either the package

*pangox-compat-0.0.2-2.el7.x86\_64.rpm* or

*pangox-compat-0.0.2-3.fc20.x86\_64.rpm*.

## SSLv3 Prevents HostScan From Working

(CSCue04930) HostScan does not function when the SSLv3 options SSLv3 only or Negotiate SSL V3 are chosen in ASDM (Configuration > Remote Access VPN > Advanced > SSL Settings > The SSL version for the security appliance to negotiate as a server). A warning message displays in ASDM to alert the administrator.

## WebLaunch Issues With Safari

There is an issue with Weblaunch with Safari. The default security settings in the version of Safari that comes with OS X 10.9 (Mavericks) prevents AnyConnect Weblaunch from working. To configure Safari to allow Weblaunch, edit the URL of the ASA to Unsafe Mode, as described below.

1. Open **Safari > Preferences > Security > Manage Website Settings**.
2. Click on the ASA and select run in Unsafe Mode.

## Active X Upgrade Can Disable Weblaunch

Automatic upgrades of AnyConnect software via WebLaunch will work with limited user accounts as long as there are no changes required for the ActiveX control.

Occasionally, the control will change due to either a security fix or the addition of new functionality.

Should the control require an upgrade when invoked from a limited user account, the administrator must deploy the control using the AnyConnect pre-installer, SMS, GPO or other administrative deployment methodology.

## Java 7 Issues

Java 7 can cause problems with AnyConnect Secure Mobility Client, Hostscan, CSD and Clientless SSL VPN (WebVPN). A description of the issues and workarounds is provide in the Troubleshooting Technote [Java 7 Issues with AnyConnect, CSD/Hostscan, and WebVPN - Troubleshooting Guide](#), which is in Cisco documentation under Security > Cisco Hostscan.

## Implicit DHCP filter applied when Tunnel All Networks Configured

To allow local DHCP traffic to flow in the clear when Tunnel All Networks is configured, AnyConnect adds a specific route to the local DHCP server when the AnyConnect client connects. To prevent data leakage on this route, AnyConnect also applies an implicit filter on the LAN adapter of the host machine, blocking all traffic for that route except DHCP traffic.

## AnyConnect VPN over Tethered Devices

Cisco has qualified the AnyConnect VPN client over a bluetooth or USB tethered Apple iPhone only. Network connectivity provided by other tethered devices should be verified with the AnyConnect VPN client before deployment.

## AnyConnect Smart Card Support

AnyConnect supports Smartcard provided credentials in the following environments:

- Microsoft CAPI 1.0 and CAPI 2.0 on Windows7, Windows 8, and Windows 10.
- Keychain on macOS, and CryptoTokenKit on macOS 10.12 and higher.



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**Note** AnyConnect does not support Smart cards on Linux or PKCS #11 devices.

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## AnyConnect Virtual Testing Environment

Cisco performs a portion of AnyConnect client testing using these virtual machine environments:

- VMWare ESXi Hypervisor (vSphere) 4.0.1 and later
- VMWare Fusion 2.x, 3.x, and 4.x

We do not support running AnyConnect in virtual environments; however, we expect AnyConnect to function properly in the VMWare environments we test in.

If you encounter any issues with AnyConnect in your virtual environment, report them. We will make our best effort to resolve them.

## UTF-8 Character Support for AnyConnect Passwords

AnyConnect 3.0 or later used with ASA 8.4(1) or later supports UTF-8 characters in passwords sent using RADIUS/MSCHAP and LDAP protocols.

## Disabling Auto Update May Prevent Connectivity Due to a Version Conflict

When Auto Update is disabled for a client running AnyConnect, the ASA must have the same version of AnyConnect or earlier installed, or the client will fail to connect to the VPN.

To avoid this problem, configure the same version or earlier AnyConnect package on the ASA, or upgrade the client to the new version by enabling Auto Update.

## Interoperability between Network Access Manager and other Connection Managers

When the Network Access Manager operates, it takes exclusive control over the network adapters and blocks attempts by other software connection managers (including the Windows native connection manager) to establish connections. Therefore, if you want AnyConnect users to use other connection managers on their endpoint computers (such as iPassConnect Mobility Manager), they must disable Network Access Manager either through the Disable Client option in the Network Access Manager GUI, or by stopping the Network Access Manager service.

## Network Interface Card Drivers Incompatible with Network Access Manager

The Intel wireless network interface card driver, version 12.4.4.5, is incompatible with Network Access Manager. If this driver is installed on the same endpoint as the Network Access Manager, it can cause inconsistent network connectivity and an abrupt shutdown of the Windows operating system.

## Avoiding SHA 2 Certificate Validation Failure (CSCtn59317)

The AnyConnect client relies on the Windows Cryptographic Service Provider (CSP) of the certificate for hashing and signing of data required during the IKEv2 authentication phase of the IPsec/IKEv2 VPN connection. If the CSP does not support SHA 2 algorithms, and the ASA is configured for the pseudo-random function (PRF) SHA256, SHA384, or SHA512, and the connection profile (tunnel-group) is configured for certificate or certificate and AAA authentication, certificate authentication fails. The user receives the message Certificate Validation Failure.

This failure occurs for Windows only, for certificates that belong to CSPs that do not support SHA 2-type algorithms. Other supported OSs do not experience this problem.

To avoid this problem you can configure the PRF in the IKEv2 policy on the ASA to md5 or sha (SHA 1). Alternatively, you can modify the certificate CSP value to native CSPs that work such as Microsoft Enhanced RSA and AES Cryptographic Provider. Do not apply this workaround to SmartCards certificates. You cannot change the CSP names. Instead, contact the SmartCard provider for an updated CSP that supports SHA 2 algorithms.



---

**Caution**

Performing the following workaround actions could corrupt the user certificate if you perform them incorrectly. Use extra caution when specifying changes to the certificate.

---

You can use the Microsoft Certutil.exe utility to modify the certificate CSP values. Certutil is a command-line utility for managing a Windows CA, and is available in the Microsoft Windows Server 2003 Administration Tools Pack. You can download the Tools Pack at this URL:

<http://www.microsoft.com/downloads/en/details.aspx?FamilyID=c16ae515-c8f4-47ef-a1e4-a8dcbacff8e3&displaylang=en>

Follow this procedure to run Certutil.exe and change the Certificate CSP values:

1. Open a command window on the endpoint computer.
2. View the certificates in the user store along with their current CSP value using the following command: **certutil -store -user My**

The following example shows the certificate contents displayed by this command:

```

===== Certificate 0 =====
Serial Number: 3b3be91200020000854b
Issuer: CN=cert-issuer, OU=Boston Sales, O=Example Company, L=San Jose,
S=CA, C=US, E=csmith@example.com
NotBefore: 2/16/2011 10:18 AM
NotAfter: 5/20/2024 8:34 AM
Subject: CN=Carol Smith, OU=Sales Department, O=Example Company, L=San Jose, S=C
A, C=US, E=csmith@example.com
Non-root Certificate
Template:
Cert Hash(sha1): 86 27 37 1b e6 77 5f aa 8e ad e6 20 a3 14 73 b4 ee 7f 89 26
  Key Container = {F62E9BE8-B32F-4700-9199-67CCC86455FB}
  Unique container name: 46ab1403b52c6305cb226edd5276360f_c50140b9-ffef-4600-ada
6-d09eb97a30f1
  Provider = Microsoft Enhanced RSA and AES Cryptographic Provider
Signature test passed

```

3. Identify the <CN> attribute in the certificate. In the example, the CN is Carol Smith. You need this information for the next step.
4. Modify the certificate CSP using the following command. The example below uses the subject <CN> value to select the certificate to modify. You can also use other attributes.

On Windows 7 or later, use this command: **certutil -csp "Microsoft Enhanced RSA and AES Cryptographic Provider" -f -repairstore -user My <CN> carol smith**

5. Repeat step 2 and verify the new CSP value appears for the certificate.

## Configuring Antivirus Applications for AnyConnect

Applications like antivirus, antimalware, and Intrusion Prevention System (IPS) can misinterpret the behavior of Cisco AnyConnect applications as malicious. You can configure exceptions to avoid such misinterpretation. After installing the AnyConnect modules or packages, configure your antivirus software to “white-list” the Cisco AnyConnect Installation folder or make security exceptions for the Cisco AnyConnect applications.

## Configuring Antivirus Applications for HostScan

Antivirus applications can misinterpret the behavior of some of the applications included in the posture module and the HostScan package as malicious. Before installing the posture module or HostScan package, configure your antivirus software to “white-list” or make security exceptions for these HostScan applications:

- cscan.exe

- ciscod.exe
- cstub.exe

## Microsoft Internet Explorer Proxy Not Supported by IKEv2

IKEv2 does not support the public-side Microsoft Internet Explorer proxy. If you need support for that feature, use SSL. Private-side proxies are supported by both IKEv2 and SSL as dictated by the configuration sent from the secure gateway. IKEv2 applies the proxy configuration sent from the gateway, and subsequent HTTP traffic is subject to that proxy configuration.

## MTU Adjustment on Group Policy May Be Required for IKEv2

AnyConnect sometimes receives and drops packet fragments with some routers, resulting in a failure of some web traffic to pass.

To avoid this, lower the value of the MTU. We recommend 1200. The following example shows how to do this using CLI:

```
hostname# config t
hostname(config)# group-policy DfltGrpPolicy attributes
hostname(config-group-policy)# webvpn
hostname(config-group-webvpn)# anyconnect mtu 1200
```

To set the MTU using ASDM, go to **Configuration > Network (Client) Access > Group Policies > Add or Edit > Advanced > SSL VPN Client**.

## MTU Automatically Adjusted When Using DTLS

If Dead Peer Detection (DPD) is enabled for DTLS, the client automatically determines the path MTU. If you previously reduced the MTU using the ASA, you should restore the setting to the default (1406). During tunnel establishment, the client auto-tunes the MTU using special DPD packets. If you still have a problem, use the MTU configuration on the ASA to restrict the MTU as before.

## Network Access Manager and Group Policy

Windows Active Directory Wireless Group Policies manage the wireless settings and any wireless networks that are deployed to PCs in a specific Active Directory Domain. When installing the Network Access Manager, administrators must be aware that certain wireless Group Policy Objects (GPOs) can affect the behavior of the Network Access Manager. Administrators should test the GPO policy settings with the Network Access Manager before doing full GPO deployment. The following GPO conditions may prevent the Network Access Manager from operating as expected :

- When using the Windows 7 or later, **Only use Group Policy profiles for allowed networks** option.

## FreeRADIUS Configuration to Work With Network Access Manager

To use Network Access Manager, you may need to adjust the FreeRADIUS configuration. Any ECDH related ciphers are disabled by default to prevent vulnerability. In /etc/raddb/eap.conf, change the cipher\_list value.

## Full Authentication Required if Roaming between Access Points

A mobile endpoint running Windows 7 or later must do a full EAP authentication instead of leveraging the quicker PMKID reassociation when the client roams between access points on the same network. Consequently, in some cases, AnyConnect prompts the user to enter credentials for every full authentication if the active profile requires it.

## User Guideline for Cisco Cloud Web Security Behavior with IPv6 Web Traffic

Unless an exception for an IPv6 address, domain name, address range, or wild card is specified, IPv6 web traffic is sent to the scanning proxy where it performs a DNS lookup to see if there is an IPv4 address for the URL the user is trying to reach. If the scanning proxy finds an IPv4 address, it uses that for the connection. If it does not find an IPv4 address, the connection is dropped.

If you want all IPv6 traffic to bypass the scanning proxies, you can add this static exception for all IPv6 traffic `::/0`. Doing this makes all IPv6 traffic bypass all scanning proxies. This means that IPv6 traffic is not protected by Cisco Cloud Web Security.

## Preventing Other Devices in a LAN from Displaying Hostnames

After one uses AnyConnect to establish a VPN session with Windows 7 or later on a remote LAN, the network browsers on the other devices in the user's LAN display the names of hosts on the protected remote network. However, the other devices cannot access these hosts.

To ensure the AnyConnect host prevents the hostname leak between subnets, including the name of the AnyConnect endpoint host, configure that endpoint to never become the master or backup browser.

1. Enter **regedit** in the Search Programs and Files text box.
2. Navigate to **HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Services\Browser\Parameters\**
3. Double-click **MaintainServerList**.

The Edit String window opens.

1. Enter **No**.
2. Click **OK**.
3. Close the Registry Editor window.

## Revocation Message

An AnyConnect certificate revocation warning popup window opens after authentication if AnyConnect attempts to verify a server certificate that specifies the distribution point of an LDAP certificate revocation list (CRL) if the distribution point is only internally accessible.

If you want to avoid the display of this popup window, do one of the following:

- Obtain a certificate without any private CRL requirements.
- Disable server certificate revocation checking in Internet Explorer.





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**Caution** Disabling server certificate revocation checking in Internet Explorer can have severe security ramifications for other uses of the OS.

---

## Messages in the Localization File Can Span More than One Line

If you try to search for messages in the localization file, they can span more than one line, as shown in the example below:

```
msgid ""  
"The service provider in your current location is restricting access to the "  
"Secure Gateway. "
```

## AnyConnect for Mac OS X Performance when Behind Certain Routers

When the AnyConnect client for Mac OS X attempts to create an SSL connection to a gateway running IOS, or when the AnyConnect client attempts to create an IPsec connection to an ASA from behind certain types of routers (such as the Cisco Virtual Office (CVO) router), some web traffic may pass through the connection while other traffic drops. AnyConnect may calculate the MTU incorrectly.

To work around this problem, manually set the MTU for the AnyConnect adaptor to a lower value using the following command from the Mac OS X command line:

```
sudo ifconfig utun0 mtu 1200 (For Mac OS X v10.7 and later)
```

## Preventing Windows Users from Circumventing Always-on

On Windows computers, users with limited or standard privileges may sometimes have write access to their program data folders. This could allow them to delete the AnyConnect profile file and thereby circumvent the always-on feature. To prevent this, configure the computer to restrict access to the C:\ProgramData folder, or at least the Cisco sub-folder.

## Avoid Wireless-Hosted-Network

Using the Windows 7 or later [Wireless Hosted Network](#) feature can make AnyConnect unstable. When using AnyConnect, we do not recommend enabling this feature or running front-end applications that enable it (such as Connectify or Virtual Router).

## AnyConnect Requires That the ASA Be Configured to Accept TLSv1 Traffic

AnyConnect requires the ASA to accept TLSv1 traffic, but not SSLv3 traffic. The SSLv3 key derivation algorithm uses MD5 and SHA-1 in a way that can weaken the key derivation. TLSv1, the successor to SSLv3, resolves this and other security issues present in SSLv3.

Thus, the AnyConnect client cannot establish a connection with the following ASA settings for “ssl server-version”:

```
ssl server-version sslv3
```

```
ssl server-version sslv3-only
```

## Trend Micro Conflicts with Install

If you have Trend Micro on your device, the Network Access Manager will not install because of a driver conflict. You can uninstall the Trend Micro or uncheck **trend micro common firewall driver** to bypass the issue.

## What HostScan Reports

None of the supported antimalware and firewall products report the last scan time information. HostScan reports the following:

- For antimalware
  - Product description
  - Product version
  - File system protection status (active scan)
  - Data file time (last update and timestamp)
- For firewall
  - Product description
  - Product version
  - Is firewall enabled

## Long Reconnects (CSCtx35606)

You may experience long reconnects on Windows if IPv6 is enabled and auto-discovery of proxy setting is either enabled in Internet Explorer or not supported by the current network environment. As a workaround, you can disconnect any physical network adapters not used for VPN connection or disable proxy auto-discovery in IE, if proxy auto-discovery is not supported by the current network environment. With release 3.1.03103, those with multi-homed systems may also experience the long reconnects.

## Users with Limited Privileges Cannot Upgrade ActiveX

On Windows 7 or later, user accounts with limited privileges cannot upgrade ActiveX controls and therefore cannot upgrade the AnyConnect client with the web deploy method. For the most secure option, Cisco recommends that users upgrade the client from within the application by connecting to the headend and upgrading.



---

**Note**

If the ActiveX control was previously installed on the client using the administrator account, the user can upgrade the ActiveX control.

---

## Using the Manual Install Option on Mac OS X if the Java Installer Fails

If users WebLaunch from the ASA headend to start AnyConnect on a Mac, and the Java installer fails, a dialog box presents a **Manual Install** link. Users should do the following when this happens:

1. Click **Manual Install**. A dialog box presents the option to save a .dmg file that contains an OS X installer.
2. Mount the disk image (.dmg) file by opening it and browsing to the mounted volume using Finder.
3. Open a Terminal window and use the CD command to navigate to the directory containing the file saved. Open the .dmg file and run the installer.
4. Following the installation, choose **Applications > Cisco > Cisco AnyConnect Secure Mobility Client** to initiate an AnyConnect session, or use Launchpad.

## No Pro-Active Key Caching (PKC) or CCKM Support

Network Access Manager does not support PKC or CCKM caching. On Windows 7, fast roaming with a non-Cisco wireless card is unavailable.

## Application Programming Interface for the AnyConnect Secure Mobility Client

The AnyConnect Secure Mobility Client includes an Application Programming Interface (API) for those who want to write their own client programs.

The API package contains documentation, source files, and library files to support a C++ interface for the Cisco AnyConnect VPN Client. You can use the libraries and example programs for building on Windows, Linux and MAC platforms. The Makefiles (or project files) for the Windows platform are also included. For other platforms, it includes platform specific scripts showing how to compile the example code. Network administrators can link their application (GUI, CLI, or embedded application) with these files and libraries.

You can download the APIs from Cisco.com.

For support issues regarding the AnyConnect API, send e-mail to the following address: [anyconnect-api-support@cisco.com](mailto:anyconnect-api-support@cisco.com).

## HostScan 4.6.03051

Caveats describe unexpected behavior or defects in Cisco software releases.

[The Cisco Bug Search Tool](#) has detailed information about the following open and resolved caveats in this release. A Cisco account is required to access the Bug Search Tool. If you do not have one, register at <https://tools.cisco.com/RPF/register/register.do>.

### Resolved

Identifier	Component	Headline
CSCvm33224	posture-asa	ASDM- Unable to activate HostScan extensions

### Open

To find the latest information about open defects in this release, refer to the [Cisco Bug Search Tool](#).

## AnyConnect 4.6.03049

Caveats describe unexpected behavior or defects in Cisco software releases.

The [Cisco Bug Search Tool](#) has detailed information about the following open and resolved caveats in this release. A Cisco account is required to access the Bug Search Tool. If you do not have one, register at <https://tools.cisco.com/RPF/register/register.do>.

### Resolved

Identifier	Component	Headline
CSCvh75661	certificate	Certificate matching does not work using "Not Equal" and "Wildcard"
CSCvm01217	core	VPNUI crashes when machine has high number of User/Machine Certificates
CSCvm03172	core	AnyConnect macOS logs are truncated
CSCvj52540	download_install	OSX: Downloader Error install timeout during upgrade process
CSCvm21759	gui	AnyConnect macOS v10.14 (Mojave) "Problem retrieving SSO cookie"
CSCvj65951	nam	AnyConnect choosing the wrong intermediate certificate
CSCvm13655	nam	Resolve initialization issues found by static analysis
CSCvj93213	nvm	Dayzero: Ubuntu 18.04 kernel version not supporting NVM module installation
CSCvi08911	opswat-ise	Manual remediation of quick time player is not working with CM 4.2.1331 on macOS machines
CSCvg07127	opswat-ise	LANDESK Security Patch Manager Support for Compliance Module 4.x
CSCvh75523	opswat-ise	Trend Micro Antivirus+ version 12.0.1153 is missing from ISE posture

Identifier	Component	Headline
CSCvi08911	opswat-ise	Manual remediation of quick time player is not working with CM 4.2.1331 on macOS machines
CSCvi02900	posture-ise	Posture discovery starts before VPN connection is established
CSCvj18929	posture-ise	AnyConnect doesn't run PRA at scheduled time
CSCvh23356	profile-editor	Enabling always on with untrusted network policy set to "DoNothing"
CSCvk03139	vpn	Dayzero: VPN TND is not working in Ubuntu 18.04
CSCvk05860	vpn	AnyConnect not properly reading nested user preferences from preferences.xml
CSCvm04554	vpn	AnyConnect not able to modify routing table with MS Direct Access (MDA)

### Open

To find the latest information about open defects in this release, refer to the [Cisco Bug Search Tool](#).

## AnyConnect 4.6.02074

Caveats describe unexpected behavior or defects in Cisco software releases.

The [Cisco Bug Search Tool](#) has detailed information about the following open and resolved caveats in this release. A Cisco account is required to access the Bug Search Tool. If you do not have one, register at <https://tools.cisco.com/RPF/register/register.do>.

### Resolved

Identifier	Component	Headline
CSCvj65286	cli	Upgrade to Windows 10 1803 and password entry returns after one character
CSCuw96601	nam	Do not probe for hidden networks when connected
CSCvj51400	nam	NAM does not support smartcard T1 protocol

Identifier	Component	Headline
CSCvh56278	opswat-ise	Support for F-Secure Client Security 13.x
CSCvi08911	opswat-ise	Manual remediation of quick time player is not working with CM 4.2.1331 on Mac machines
CSCvi49382	opswat-ise	Request for McAfee LiveSafe Internet Security support for Mac
CSCvi57877	opswat-ise	KES 11 not present in posture updates
CSCvj56278	opswat-ise	Support for F-Secure Client Security 13.x
CSCvm15205	posture-ise	ISE certificate should be trusted on the endpoint, to perform elevated posture tasks
CSCvi54979	posture-asa	HostScan v4 not compatible with Ubuntu 16.04
CSCvj18929	posture-ise	AnyConnect doesn't run PRA at scheduled time
CSCvk03264	posture-ise	Localization changes for ISE NSA
CSCvi98222	profile editor	AnyConnect profile editor throws an error while applying certificate pinning config
CSCvj44658	umbrella	OSX: Protection state flap in the the behind VA networks
CSCvg65089	vpn	Multiple vulnerabilities in openssl
CSCvj47654	vpn	Cisco AnyConnect Secure Mobility Client for Windows desktop denial of service vulnerability
CSCvj71152	vpn	Optimize tunnel security reinforcement on Windows upon virtual adapter detection
CSCvj49414	web security	4.5.x client did not report AD user/group when AD is not reachable but 4.3.x does
CSCvj64844	web security	Mac: CPU hit 20% by acwebsecagent when connected TND enabled

**Open**

To find the latest information about open defects in this release, refer to the [Cisco Bug Search Tool](#).

**AnyConnect 4.6.01098**

Caveats describe unexpected behavior or defects in Cisco software releases.

The [Cisco Bug Search Tool](#) has detailed information about the following open and resolved caveats in this release. A Cisco account is required to access the Bug Search Tool. If you do not have one, register at <https://tools.cisco.com/RPF/register/register.do>.

**Resolved**

Identifier	Component	Headline
CSCvh53568	certificate	AC should retrieve certificates directly from SmartCards on macOS
CSCvh74675	core	XML Soft libxml2 htmlParseTryOrFinish Function buffer over-read vulnerability
CSCvf46705	gui	AnyConnect toast message steals focus from user on Win
CSCvf92525	gui	AC: 4.6.0015: AC icon is not proper when iseposture module is redeployed
CSCvi86187	gui	AnyConnect (IKEv2 + TND) UI displays cascading error message window in case of DNS failure
CSCvc89860	nam	NAM unable or slow to connect with Fast Transition (FT) enabled and Intel 8260
CSCvg60371	nam	ISE posture is not aware of the Active Group being changed by the vpnui
CSCvh77728	nam	AnyConnect Network Access Manager using FIPS doesn't work on Windows 8 or 10
CSCvh79215	nam	Revise Network Access Manager FD installer to use SetupAPI and INetCfg

Identifier	Component	Headline
CSCvi81479	nam	AnyConnect Network Access Manager statistics show FIPS mode enabled for Not FIPS compliant (Wi-Fi) on Windows 8 or 10
CSCvi31374	nvm	Windows machines Eventviewer (NVM) displays "Failed to fetch the service groups for svchost" error
CSCvi50638	nvm	Flow records with source IP address set to multicast address range is captured
CSCvf87190	opswat-ise	USB check failed even after USB block was successful
CSCvg33928	opswat-ise	AnyConnect compliance module does not detect Kaspersky Security Center Network Agent version 10.x
CSCvg53232	opswat-ise	Not detecting recent FireAMP mac
CSCvh53871	opswat-ise	AnyConnect ISE posture not detecting AMP 6.x for Windows
CSCvf44509	posture-asa	Unable to view the Kaspersky internet security firewall action's on remediation UI page
CSCvf82746	posture-asa	macOS (10.11.6) Builtin firewall enable and disable not working
CSCvh74718	posture-asa	Failure message content on VPN UI should be refined with HostScan compatibility
CSCvi72586	posture-ise	ISE posture module is not sending the report with specific size
CSCvh59492	profile editor	AnyConnect profile editor IPv6 wildcard support
CSCvh75689	umbrella	OSX: DNS times out with tunnel-all VPN and Umbrella resolvers unreachable
CSCvi38827	umbrella	Intermittent failure to proxy TCP DNS requests
CSCuz41966	vpn	AnyConnect failure when custom ciphers DHE-RSA are used



Identifier	Component	Headline
CSCve82594	vpn	VPN can't reconnect after DTLS MTU adjustment (VA disabling takes too long)
CSCvf63546	vpn	Duplicate client certificate sent to ASA
CSCvg76820	vpn	AnyConnect client does not launch on start-up on macOS 10.13.1 (High Sierra)
CSCvh16360	vpn	vpnagent crashes empty ?ProgramData\Csico\Cisco AnyConnect Secure Mobility Client\ConfigParam.bin?
CSCvi23971	vpn	DNS queries for split DNS domains sent publicly when client-bypass-protocol enabled
CSCvi66266	vpn	DNS request matching split-DNS domain leaked by Hyper-V host when DNS query issued by Hyper-V guest

### Open

To find the latest information about open defects in this release, refer to the [Cisco Bug Search Tool](#).

## AnyConnect 4.6.00362

Caveats describe unexpected behavior or defects in Cisco software releases.

The [Cisco Bug Search Tool](#) has detailed information about the following open and resolved caveats in this release. A Cisco account is required to access the Bug Search Tool. If you do not have one, register at <https://tools.cisco.com/RPF/register/register.do>.

### Resolved

Identifier	Component	Headline
CSCvg27433	certificate	AnyConnect Smartcard removal disconnect feature not functioning with Multi-cert Auth feature
CSCve44125	core	OSX Private Side Proxy & Split DNS

Identifier	Component	Headline
CSCvg66793	core	vpnagent timeout results in 'no valid certificates available for authentication' (see detailed info)
CSCvh16603	core	Win10 + AC 4.4 + Symantec Endpoint protection + MS Driver Verifier causes BSOD upon connect
CSCvh45292	core	AnyConnect on macOS - Websites/Webpages fail to load
CSCvh99050	core	macOS: tunnel establishment fails with multicast range route configured as split-include network
CSCvi38364	core	macOS - web-launch fails when AnyConnect UI is open
CSCvf67227	dart	ENH: Anyconnect should display exact folder location of Temp in DART
CSCvh68305	download_install	AnyConnect Downloader should delete DNS cache to prevent encountering DNS resolution errors
CSCvh09761	ipv6	MacOS: VPN tunnel establishment fails due to IPv6 route verification failure
CSCvh27178	nam	Windows 10 update 1703 breaking anyconnect NAM service
CSCvi13011	nam	Login Denied error after installing AnyConnect NAM on Windows 10 build 1709
CSCve31890	opswat-ise	ISE Posture fails to posture McAfee Endpoint Security due to missing product date
CSCve43776	opswat-ise	A Request to add Support for Mac Bitdefender Antivirus 5.x
CSCvc61902	posture-ise	Run AnyConnect as service for admin users
CSCvg13215	posture-ise	Anyconnect 4.4.3034 ISE Posture module crashes
CSCvg66908	posture-ise	Too many logs generated for event ID 259 despite fix in CSCuy57519

Identifier	Component	Headline
CSCvi07556	profile-editor	Profile Editor will not launch in CSM due to Java build incompatibility
CSCvg35507	vpn	Android MAC is not taken into account when used in DAP
CSCvg63576	vpn	ENH: AnyConnect to not add DNS suffix from disconnected adapter
CSCvh88156	vpn	64 bit anyconnect support for MAC OS

### Open

Identifier	Component	Headline
CSCvi54979	posture-asa	HostScan V4 not compatible with Ubuntu 16.04
CSCvh84361	posture-ise	Posture-ISE enhancement for Disk Encryption state check
CSCvi24022	vpn	[AnyConnect Performance] Investigate and make Improvements on Windows Platforms

## Related Documentation

### Other AnyConnect Documents

- [Cisco AnyConnect Secure Mobility Client Administrator Guide, Release 4.6](#)
- [AnyConnect Secure Mobility Client Features, Licenses, and OSs, Release 4.6](#)
- [Open Source Software Used in AnyConnect Secure Mobility Client, Release 4.6](#)
- [Cisco End User License Agreement, AnyConnect Secure Mobility Client, Release 4.x](#)

### ASA Related Documents

- [Release Notes for the Cisco ASA Series](#)
- [Navigating the Cisco ASA Series Documentation](#)
- [Cisco ASA 5500-X Series Next-Generation Firewalls, Configuration Guides](#)
- [Supported VPN Platforms, Cisco ASA 5500 Series](#)

- [HostScan Support Charts](#)

**ISE Related Documents**

- [Release Notes for Cisco Identity Services Engine, Release 2.2](#)
- [Cisco Identity Services Engine Admin Guide, Release 2.2](#)

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