

# Release Notes for Cisco ASDM, 7.12(x)

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## Release Notes for Cisco ASDM, 7.12(x)

This document contains release information for Cisco ASDM Version 7.12(x) for the Cisco ASA series.

### Important Notes

- Upgrade ROMMON for ASA 5506-X, 5508-X, and 5516-X to Version 1.1.15—There is a new ROMMON version for these ASA models (May 15, 2019); we highly recommend that you upgrade to the latest version. To upgrade, see the instructions in the [ASA configuration guide](#).



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**Caution** The ROMMON upgrade for 1.1.15 takes twice as long as previous ROMMON versions, approximately 15 minutes. **Do not** power cycle the device during the upgrade. If the upgrade is not complete within 30 minutes or it fails, contact Cisco technical support; **do not** power cycle or reset the device.

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- ASDM Upgrade Wizard—Due to an internal change, the wizard is only supported using ASDM 7.10(1) and later; also, due to an image naming change, you must use ASDM 7.12(1) or later to upgrade to ASA 9.10(1) and later. Because ASDM is backwards compatible with earlier ASA releases, you can upgrade ASDM no matter which ASA version you are running.
- SSH security improvements and new defaults in 9.12(1)—See the following SSH security improvements:
  - SSH version 1 is no longer supported; only version 2 is supported. The **ssh version 1** command will be migrated to **ssh version 2**.
  - Diffie-Hellman Group 14 SHA256 key exchange support. This setting is now the default (**ssh key-exchange group dh-group14-sha256**). The former default was Group 1 SHA1. Make sure that your SSH client supports Diffie-Hellman Group 14 SHA256. If it does not, you may see an error such as "Couldn't agree on a key exchange algorithm." For example, OpenSSH supports Diffie-Hellman Group 14 SHA256.
  - HMAC-SHA256 integrity cipher support. The default is now the high security set of ciphers (hmac-sha1 and hmac-sha2-256 as defined by the **ssh cipher integrity high** command). The former default was the medium set.
- No support in 9.10(1) and later for the ASA FirePOWER module on the ASA 5506-X series and the ASA 5512-X—The ASA 5506-X series and 5512-X no longer support the ASA FirePOWER module in 9.10(1) and later due to memory constraints. You must remain on 9.9(x) or lower to continue using this module. Other module types are still supported. If you upgrade to 9.10(1) or later, the ASA configuration to send traffic to the FirePOWER module will be erased; make sure to back up your configuration before you upgrade. The FirePOWER image and its configuration remains intact on the SSD. If you want to downgrade, you can copy the ASA configuration from the backup to restore functionality.

- The NULL-SHA TLSv1 cipher is deprecated and removed in 9.12(1)—Because NULL-SHA doesn't offer encryption and is no longer considered secure against modern threats, it will be removed when listing supported ciphers for TLSv1 in the output of **tls-proxy** mode commands/options and **show ssl ciphers all**. The **ssl cipher tlsv1 all** and **ssl cipher tlsv1 custom NULL-SHA** commands will also be deprecated and removed.
- Local CA server is deprecated in 9.12(1), and will be removed in a later release—When ASA is configured as local CA server, it is enabled to issue digital certificates, publish Certificate Revocation Lists (CRLs), and securely revoke issued certificates. This feature has become obsolete and hence the **crypto ca server** command is deprecated.
- The default trustpool is removed in 9.12(1)—In order to comply with PSB requirement, SEC-AUT-DEFROOT, the "default" trusted CA bundle is removed from the ASA image. As a result, **crypto ca trustpool import default** and **crypto ca trustpool import clean default** commands are also removed along with other related logic. However, in existing deployments, certificates that were previously imported using these command will remain in place.
- The **ssl encryption** command is removed in 9.12(1)—In 9.3(2) the deprecation was announced and replaced by **ssl cipher**. In 9.12(1), **ssl encryption** is removed and no longer supported.

## System Requirements

This section lists the system requirements to run this release.

### ASDM Java Requirements

#### Oracle JRE Support

The default ASDM version uses Oracle JRE 8.0. The filename of the Oracle JRE version is **asdm-version.bin**.

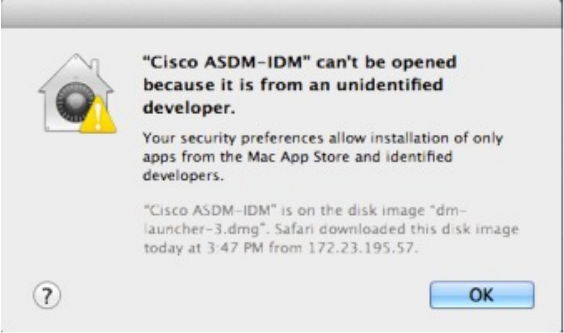
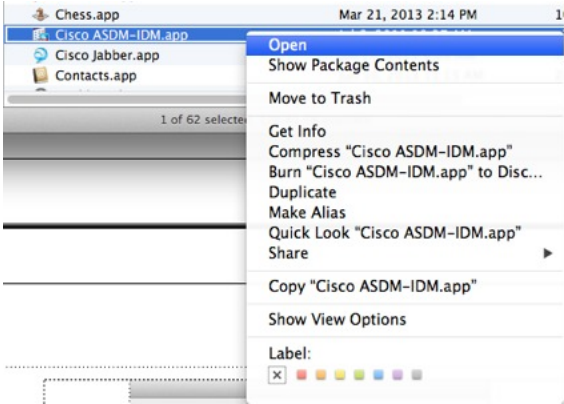

#### OpenJRE Support

You can install a version of ASDM that uses OpenJRE 1.8.x instead of Oracle JRE. The filename of the OpenJRE version is **asdm-openjre-version.bin**.

### ASDM Compatibility Notes

The following table lists compatibility caveats for ASDM.

Conditions	Notes
Requires strong encryption license (3DES/AES) on ASA	<p>ASDM requires an SSL connection to the ASA. You can request a 3DES license from Cisco:</p> <ol style="list-style-type: none"> <li>1. Go to <a href="http://www.cisco.com/go/license">www.cisco.com/go/license</a>.</li> <li>2. Click <b>Continue to Product License Registration</b>.</li> <li>3. In the Licensing Portal, click <b>Get Other Licenses</b> next to the text field.</li> <li>4. Choose <b>IPS, Crypto, Other...</b> from the drop-down list.</li> <li>5. Type <b>ASA</b> in to the <b>Search by Keyword</b> field.</li> <li>6. Select <b>Cisco ASA 3DES/AES License</b> in the <b>Product</b> list, and click <b>Next</b>.</li> <li>7. Enter the serial number of the ASA, and follow the prompts to request a 3DES/AES license for the ASA.</li> </ol>
<ul style="list-style-type: none"> <li>• Self-signed certificate or an untrusted certificate</li> <li>• IPv6</li> <li>• Firefox and Safari</li> </ul>	<p>When the ASA uses a self-signed certificate or an untrusted certificate, Firefox and Safari are unable to add security exceptions when browsing using HTTPS over IPv6. See <a href="https://bugzilla.mozilla.org/show_bug.cgi?id=633001">https://bugzilla.mozilla.org/show_bug.cgi?id=633001</a>. This caveat affects all SSL connections originating from Firefox or Safari to the ASA (including ASDM connections). To avoid this caveat, configure a proper certificate for the ASA that is issued by a trusted certificate authority.</p>
<ul style="list-style-type: none"> <li>• SSL encryption on the ASA must include both RC4-MD5 and RC4-SHA1 or disable SSL false start in Chrome.</li> <li>• Chrome</li> </ul>	<p>If you change the SSL encryption on the ASA to exclude both RC4-MD5 and RC4-SHA1 algorithms (these algorithms are enabled by default), then Chrome cannot launch ASDM due to the Chrome “SSL false start” feature. We suggest re-enabling one of these algorithms (see the <b>Configuration &gt; Device Management &gt; Advanced &gt; SSL Settings</b> pane); or you can disable SSL false start in Chrome using the <b>--disable-ssl-false-start</b> flag according to <a href="#">Run Chromium with flags</a>.</p>
IE9 for servers	<p>For Internet Explorer 9.0 for servers, the “<b>Do not save encrypted pages to disk</b>” option is enabled by default (See <b>Tools &gt; Internet Options &gt; Advanced</b>). This option causes the initial ASDM download to fail. Be sure to disable this option to allow ASDM to download.</p>
OS X	<p>On OS X, you may be prompted to install Java the first time you run ASDM; follow the prompts as necessary. ASDM will launch after the installation completes.</p>

Conditions	Notes
OS X 10.8 and later	<p>You need to allow ASDM to run because it is not signed with an Apple Developer ID. If you do not change your security preferences, you see an error screen.</p>  <p>1. To allow ASDM to run, right-click (or Ctrl-Click) the Cisco ASDM-IDM Launcher icon, and choose <b>Open</b>.</p>  <p>2. You see a similar error screen; however, you can open ASDM from this screen. Click <b>Open</b>. The ASDM-IDM Launcher opens.</p> 

## Install an Identity Certificate for ASDM

When using Java 7 update 51 and later, the ASDM Launcher requires a trusted certificate. An easy approach to fulfill the certificate requirements is to install a self-signed identity certificate. You can use Java Web Start to launch ASDM until you install a certificate.

See [Install an Identity Certificate for ASDM](#) to install a self-signed identity certificate on the ASA for use with ASDM, and to register the certificate with Java.

## Increase the ASDM Configuration Memory

ASDM supports a maximum configuration size of 512 KB. If you exceed this amount you may experience performance issues. For example, when you load the configuration, the status dialog box shows the percentage of the configuration that is complete, yet with large configurations it stops incrementing and appears to suspend operation, even though ASDM might still be processing the configuration. If this situation occurs, we recommend that you consider increasing the ASDM system heap memory.

### Increase the ASDM Configuration Memory in Windows

To increase the ASDM heap memory size, edit the **run.bat** file by performing the following procedure.

#### Procedure

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- Step 1** Go to the ASDM installation directory, for example C:\Program Files (x86)\Cisco Systems\ASDM.
  - Step 2** Edit the **run.bat** file with any text editor.
  - Step 3** In the line that starts with “start javaw.exe”, change the argument prefixed with “-Xmx” to specify your desired heap size. For example, change it to -Xmx768M for 768 MB or -Xmx1G for 1 GB.
  - Step 4** Save the **run.bat** file.
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### Increase the ASDM Configuration Memory in Mac OS

To increase the ASDM heap memory size, edit the **Info.plist** file by performing the following procedure.

#### Procedure

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- Step 1** Right-click the **Cisco ASDM-IDM** icon, and choose **Show Package Contents**.
  - Step 2** In the **Contents** folder, double-click the **Info.plist** file. If you have Developer tools installed, it opens in the **Property List Editor**. Otherwise, it opens in **TextEdit**.
  - Step 3** Under **Java > VMOptions**, change the string prefixed with “-Xmx” to specify your desired heap size. For example, change it to -Xmx768M for 768 MB or -Xmx1G for 1 GB.

```

<key>CFBundleIconFile</key>
<string>asdm32.icns</string>

<key>VMOptions</key>
<string>-Xms64m -Xmx512m</string>

<key>CFBundleDocumentTypes</key>
<array>

```

**Step 4** If this file is locked, you see an error such as the following:



**Step 5** Click **Unlock** and save the file.

If you do not see the **Unlock** dialog box, exit the editor, right-click the **Cisco ASDM-IDM** icon, choose **Copy Cisco ASDM-IDM**, and paste it to a location where you have write permissions, such as the Desktop. Then change the heap size from this copy.

## ASA and ASDM Compatibility

For information about ASA/ASDM software and hardware requirements and compatibility, including module compatibility, see [Cisco ASA Compatibility](#).

## VPN Compatibility

For VPN compatibility, see [Supported VPN Platforms, Cisco ASA 5500 Series](#).

## New Features

This section lists new features for each release.



**Note** New, changed, and deprecated syslog messages are listed in the syslog message guide.

## New Features in ASA 9.12(2)/ASDM 7.12(2)

Released: May 30, 2019

Feature	Description
<b>ASDM Features</b>	
OpenJRE version of ASDM	You can install a version of ASDM that uses OpenJRE 1.8.x instead of Oracle JRE. The filename of the OpenJRE version is <b>asdm-openjre-version.bin</b> .
<b>Tools &gt; Preferences</b> option to specify the ASA FirePOWER module local management file folder	You can now specify the location to install ASA FirePOWER module local management files. You must have read/write privileges to the configured location. New/Modified screen: <b>Tools &gt; Preferences &gt; SFR Location Wizard</b> area

## New Features in ASA 9.12(1)/ASDM 7.12(1)

Released: March 13, 2019

Feature	Description
<b>Platform Features</b>	
Support for ASA and FTD on separate modules of the same Firepower 9300	You can now deploy ASA and FTD logical devices on the same Firepower 9300. Requires FXOS 2.6.1. No modified screens.
<b>Firewall Features</b>	
GTPv1 release 10.12 support.	The system now supports GTPv1 release 10.12. Previously, the system supported release 6.1. The new support includes recognition of 25 additional GTPv1 messages and 66 information elements. In addition, there is a behavior change. Now, any unknown message IDs are allowed. Previously, unknown messages were dropped and logged. No modified screens.
Cisco Umbrella Enhancements.	You can now identify local domain names that should bypass Cisco Umbrella. DNS requests for these domains go directly to the DNS servers without Umbrella processing. You can also identify which Umbrella servers to use for resolving DNS requests. Finally, you can define the Umbrella inspection policy to fail open, so that DNS requests are not blocked if the Umbrella server is unavailable. New/Modified screens: <b>Configuration &gt; Firewall &gt; Objects &gt; Umbrella, Configuration &gt; Firewall &gt; Objects &gt; Inspect Maps &gt; DNS</b> .

Feature	Description
The object group search threshold is now disabled by default.	<p>If you enabled object group search, the feature was subject to a threshold to help prevent performance degradation. That threshold is now disabled by default. You can enable it by using the <b>object-group-search threshold</b> command.</p> <p>We changed the following screen: <b>Configuration &gt; Access Rules &gt; Advanced</b>.</p>
Interim logging for NAT port block allocation.	<p>When you enable port block allocation for NAT, the system generates syslog messages during port block creation and deletion. If you enable interim logging, the system generates message 305017 at the interval you specify. The messages report all active port blocks allocated at that time, including the protocol (ICMP, TCP, UDP) and source and destination interface and IP address, and the port block.</p> <p>New/Modified screen: <b>Configuration &gt; Firewall &gt; Advanced &gt; PAT Port Block Allocation</b>.</p>
<b>VPN Features</b>	
New <b>condition</b> option for <b>debug aaa</b> .	<p>The <b>condition</b> option was added to the <b>debug aaa</b> command. You can use this option to filter VPN debugging based on group name, user name, or peer IP address.</p> <p>No modified screens.</p>
Support for RSA SHA-1 in IKEv2	<p>You can now generate a signature using the RSA SHA-1 hashing algorithm for IKEv2.</p> <p>New/Modified screens:</p>
View the default SSL configuration for both DES and 3DES encryption licenses as well as available ciphers	<p>You can now view the default SSL configuration with and without the 3DES encryption license. In addition, you can view all the ciphers supported on the device.</p> <p>New/Modified commands: <b>show ssl information</b></p> <p>No modified screens.</p>
Add subdomains to webVPN HSTS	<p>Allows domain owners to submit what domains should be included in the HSTS preload list for web browsers.</p> <p>New/Modified screens:</p> <p><b>Configuration &gt; Remote Access VPN &gt; Clientless SSL VPN Access &gt; Advanced &gt; Proxies &gt; Enable HSTS Subdomains</b>field</p>
<b>High Availability and Scalability Features</b>	
Per-site gratuitous ARP for clustering	<p>The ASA now generates gratuitous ARP (GARP) packets to keep the switching infrastructure up to date: the highest priority member at each site periodically generates GARP traffic for the global MAC/IP addresses. When using per-site MAC and IP addresses, packets sourced from the cluster use a site-specific MAC address and IP address, while packets received by the cluster use a global MAC address and IP address. If traffic is not generated from the global MAC address periodically, you could experience a MAC address timeout on your switches for the global MAC address. After a timeout, traffic destined for the global MAC address will be flooded across the entire switching infrastructure, which can cause performance and security concerns. GARP is enabled by default when you set the site ID for each unit and the site MAC address for each Spanned EtherChannel.</p> <p>New/Modified screens: <b>Configuration &gt; Device Management &gt; High Availability and Scalability &gt; ASA Cluster &gt; Cluster Configuration &gt; Site Periodic GARP</b> field</p>



Feature	Description
<b>Routing Features</b>	
OSPF Keychain support for authentication	<p>OSPF authenticates the neighbor and route updates using MD5 keys. In ASA, the keys that are used to generate the MD5 digest had no lifetime associated with it. Thus, user intervention was required to change the keys periodically. To overcome this limitation, OSPFv2 supports MD5 authentication with rotating keys.</p> <p>Based on the accept and send lifetimes of Keys in KeyChain, OSPF authenticates, accepts or rejects keys and forms adjacency.</p> <p>New/Modified screens:</p> <ul style="list-style-type: none"> <li>• <b>Configuration &gt; Device Setup &gt; Key Chain</b></li> <li>• <b>Configuration &gt; Device Setup &gt; Routing &gt; OSPF &gt; Setup &gt; Authentication</b></li> <li>• <b>Configuration &gt; Device Setup &gt; Routing &gt; OSPF &gt; Setup &gt; Virtual Link</b></li> </ul>
<b>Certificate Features</b>	
Local CA configurable FQDN for enrollment URL	<p>To make the FQDN of the enrollment URL configurable instead of using the ASA's configured FQDN, a new CLI option is introduced. This new option is added to the <b>smpt</b> mode of <b>crypto ca server</b>.</p> <p>New/Modified commands: <b>fqdn</b></p>
<b>Administrative, Monitoring, and Troubleshooting Features</b>	
<b>enable</b> password change now required on a login	<p>The default <b>enable</b> password is blank. When you try to access privileged EXEC mode on the ASA, you are now required to change the password to a value of 3 characters or longer. You cannot keep it blank. The <b>no enable password</b> command is no longer supported.</p> <p>At the CLI, you can access privileged EXEC mode using the <b>enable</b> command, the <b>login</b> command (with a user at privilege level 2+), or an SSH or Telnet session when you enable <b>aaa authorization exec auto-enable</b>. All of these methods require you to set the enable password.</p> <p>This password change requirement is not enforced for ASDM logins. In ASDM, by default you can log in without a username and with the <b>enable</b> password.</p> <p>No modified screens.</p>
Configurable limitation of admin sessions	<p>You can configure the maximum number of aggregate, per user, and per-protocol administrative sessions. Formerly, you could configure only the aggregate number of sessions. This feature does not affect console sessions. Note that in multiple context mode, you cannot configure the number of HTTPS sessions, where the maximum is fixed at 5 sessions. The <b>quota management-session</b> command is also no longer accepted in the system configuration, and is instead available in the context configuration. The maximum aggregate sessions is now 15; if you configured 0 (unlimited) or 16+, then when you upgrade, the value is changed to 15.</p> <p>New/Modified screens: <b>Configuration &gt; Device Management &gt; Management Access &gt; Management Session Quota</b></p>

Feature	Description
Notifications for administrative privilege level changes	<p>When you authenticate for enable access (<b>aaa authentication enable console</b>) or allow privileged EXEC access directly (<b>aaa authorization exec auto-enable</b>), then the ASA now notifies users if their assigned access level has changed since their last login.</p> <p>New/Modified screens:</p> <p><b>Status bar &gt; Login History icon</b></p>
NTP support on IPv6	<p>You can now specify an IPv6 address for the NTP server.</p> <p>New/Modified screens: <b>Configuration &gt; Device Setup &gt; System Time &gt; NTP &gt; Add button &gt; Add NTP Server Configuration dialog box</b></p>
SSH stronger security	<p>See the following SSH security improvements:</p> <ul style="list-style-type: none"> <li>• SSH version 1 is no longer supported; only version 2 is supported.</li> <li>• Diffie-Hellman Group 14 SHA256 key exchange support. This setting is now the default. The former default was Group 1 SHA1.</li> <li>• HMAC-SHA256 integrity cipher support. The default is now the high security set of ciphers (hmac-sha1 and hmac-sha2-256). The former default was the medium set.</li> </ul> <p>New/Modified screens:</p> <ul style="list-style-type: none"> <li>• <b>Configuration &gt; Device Management &gt; Management Access &gt; ASDM/HTTPS/Telnet/SSH</b></li> <li>• <b>Configuration &gt; Device Management &gt; Advanced &gt; SSH Ciphers</b></li> </ul>
Allow non-browser-based HTTPS clients to access the ASA	<p>You can allow non-browser-based HTTPS clients to access HTTPS services on the ASA. By default, ASDM, CSM, and REST API are allowed.</p> <p>New/Modified screens:</p> <p><b>Configuration &gt; Device Management &gt; Management Access &gt; HTTP Non-Browser Client Support</b></p>
Capture control plane packets only on the cluster control link	<p>You can now capture control plane packets only on the cluster control link (and no data plane packets). This option is useful in the system in multiple context mode where you cannot match traffic using an ACL.</p> <p>New/Modified screens:</p> <p><b>Wizards &gt; Packet Capture Wizard &gt; Cluster Option</b></p>
<b>debug conn</b> command	<p>The <b>debug conn</b> command was added to provide two history mechanisms that record connection processing. The first history list is a per-thread list that records the operations of the thread. The second history list is a list that records the operations into the conn-group. When a connection is enabled, processing events such as a connection lock, unlock, and delete are recorded into the two history lists. When a problem occurs, these two lists can be used to look back at the processing to determine the incorrect logic.</p> <p>New/Modified commands: <b>debug conn</b></p>

Feature	Description
<b>show tech-support</b> includes additional output	<p>The output of the <b>show tech-support</b> is enhanced to display the output of the following:</p> <ul style="list-style-type: none"> <li>• <b>show ipv6 interface</b></li> <li>• <b>show aaa-server</b></li> <li>• <b>show fragment</b></li> </ul> <p>New/Modified commands: <b>show tech-support</b></p>
ASDM support to enable and disable the results for free memory and used memory statistics during SNMP walk operations	<p>To avoid overutilization of CPU resources, you can enable and disable the query of free memory and used memory statistics collected through SNMP walk operations.</p> <p>New or modified screen: <b>Configuration &gt; Device Management &gt; Management Access &gt; SNMP</b></p>
Configurable graph update interval for the ASDM Home pane for the System in multiple-context mode	<p>For the System in multiple context mode, you can now set the amount of time between updates for the graphs on the Home pane.</p> <p>New/Modified screens:</p> <p><b>Tools &gt; Preferences &gt; Graph User time interval in System Context</b></p>

## Upgrade the Software

This section provides the upgrade path information and a link to complete your upgrade.

### ASA Upgrade Path

To view your current version and model, use one of the following methods:

- CLI—Use the **show version** command.
- ASDM—Choose **Home > Device Dashboard > Device Information**.

See the following table for the upgrade path for your version. Some older versions require an intermediate upgrade before you can upgrade to a newer version. Recommended versions are in **bold**.

Current Version	Interim Upgrade Version	Target Version
9.10(x)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b>
9.9(x)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b>

Current Version	Interim Upgrade Version	Target Version
9.8(x)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → <b>9.8(x)</b>
9.6(x)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x)
9.5(x)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.5(x)
9.3(x)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x)

Current Version	Interim Upgrade Version	Target Version
9.2(x)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x)
9.1(2), 9.1(3), 9.1(4), 9.1(5), 9.1(6), or 9.1(7.4)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)
9.1(1)	→ 9.1(2)	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)

Current Version	Interim Upgrade Version	Target Version
9.0(2), 9.0(3), or 9.0(4)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)
9.0(1)	→ 9.0(2), 9.0(3), or 9.0(4)	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)

Current Version	Interim Upgrade Version	Target Version
8.6(1)	→ 9.0(2), 9.0(3), or 9.0(4)	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)
8.5(1)	→ 9.0(2), 9.0(3), or 9.0(4)	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)

Current Version	Interim Upgrade Version	Target Version
8.4(5+)	—	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)
8.4(1) through 8.4(4)	Any of the following: → 9.0(2), 9.0(3), or 9.0(4) → 8.4(6)	→ <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)



Current Version	Interim Upgrade Version	Target Version
8.3(x)	→ 8.4(6)	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)
8.2(x) and earlier	→ 8.4(6)	Any of the following: → <b>9.12(x)</b> → <b>9.10(x)</b> → <b>9.9(x)</b> → 9.7(x) → 9.6(x) → 9.4(x) → 9.3(x) → 9.2(x) → 9.1(3), 9.1(4), 9.1(5), 9.1(6), 9.1(7.4)

## Upgrade Link

To complete your upgrade, see the [ASA upgrade guide](#).

## Open and Resolved Bugs

The open and resolved bugs for this release are accessible through the Cisco Bug Search Tool. This web-based tool provides you with access to the Cisco bug tracking system, which maintains information about bugs and vulnerabilities in this product and other Cisco hardware and software products.



**Note** You must have a Cisco.com account to log in and access the Cisco Bug Search Tool. If you do not have one, you can [register for an account](#). If you do not have a Cisco support contract, you can only look up bugs by ID; you cannot run searches.

For more information about the Cisco Bug Search Tool, see the [Bug Search Tool Help & FAQ](#).

## Open Bugs

This section lists open bugs in each version.

### Open Bugs in Version 7.12(2)

The following table lists select open bugs at the time of this Release Note publication.

Caveat ID Number	Description
<a href="#">CSCvo10929</a>	Access list Error - while uncheck RSA Signature in Site-to-Site VPN

### Open Bugs in Version 7.12(1)

The following table lists select open bugs at the time of this Release Note publication.

Caveat ID Number	Description
<a href="#">CSCvo10929</a>	Access list Error - while uncheck RSA Signature in Site-to-Site VPN

## Resolved Bugs

This section lists resolved bugs per release.

### Resolved Bugs in Version 7.12(2)

The following table lists select resolved bugs at the time of this Release Note publication.

Caveat ID Number	Description
<a href="#">CSCvo26166</a>	ASDM unable to apply external group-policy to AnyConnect / IKEv1 / IKEv2 RA tunnel-group
<a href="#">CSCvp01248</a>	Interface edit button on ASDM startup wizard does not work.
<a href="#">CSCvp67520</a>	ASDM 7.12.1: Editing Existing NAT rule fails to successfully push to the ASA (9.12.1)
<a href="#">CSCvp69678</a>	AnyConnect images disappear from ASDM

### Resolved Bugs in Version 7.12(1)

The following table lists select resolved bugs at the time of this Release Note publication.

Caveat ID Number	Description
<a href="#">CSCuz09934</a>	ASDM : Password Expiry warning message not displayed after Login
<a href="#">CSCvi21519</a>	ASDM 7.8(2)151 "Specified remark does not exist" when editing multiple ACL remarks
<a href="#">CSCvi38815</a>	ASDM deletes remarks when changing log level on an ACL line
<a href="#">CSCvi66705</a>	ASDM in multi-context mode not able to be opened by a read-only user
<a href="#">CSCvi87301</a>	ASDM:ASA cluster details not getting displayed 'Page not found' error seen instead for admin context
<a href="#">CSCvj37182</a>	Not able to launch the DAP in Remote access VPN in ASDM
<a href="#">CSCvj91403</a>	When editing port-channel via ASDM always asks for MIO port-channel ID
<a href="#">CSCvk71176</a>	ASDM 7.9(2)152 warning "uploaded file is not a valid ASA-SM image"
<a href="#">CSCvm21655</a>	ASDM , ACL remarks are getting duplicated and showing in every sub entry
<a href="#">CSCvm37098</a>	ASDM Trying to edit Site to Site tunnel without making changes removes the Nat Exempt rule
<a href="#">CSCvm64354</a>	ASDM image special release with charts update frequency set to 30 seconds
<a href="#">CSCvm68799</a>	ASDM restore feature performed overwriting a file of AC profile by multiple same category files
<a href="#">CSCvn08410</a>	Enabling split-tunnel-all-dns from CLI doesn't reflect on ASDM. ASDM to CLI works.
<a href="#">CSCvn20484</a>	ASDM throws an error when trying to disable/negate a rule action if the class-map has a single rule
<a href="#">CSCvn32924</a>	Firepower tabs don't visible on ASDM on ASA v9.9 (2) with ASDM v7.9.2.X on Multi-Context Enviorment.
<a href="#">CSCvn38874</a>	ASDM error when replace TCT/HTTP with IP on ACL
<a href="#">CSCvn72617</a>	ASDM: Nested TCP-UDP Object Groups Not Showed as Listed nor the Child objects
<a href="#">CSCvo23506</a>	ASDM in multi-context mode not able to be opened with message "show flow-offload info"

## End-User License Agreement

For information on the end-user license agreement, go to <http://www.cisco.com/go/warranty>.

## Related Documentation

For additional information on the ASA, see [Navigating the Cisco ASA Series Documentation](#).

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