

Cisco Firepower 4100/9300 FXOS Release Notes, 2.16

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This document contains release information for Cisco Firepower eXtensible Operating System (FXOS) 2.16.0. Use these Release Notes as a supplement with the other documents listed in the documentation roadmap:

- <http://www.cisco.com/go/firepower9300-docs>
- <http://www.cisco.com/go/firepower4100-docs>



Note The online versions of the user documentation are occasionally updated after the initial release. As a result, the information contained in the documentation on Cisco.com supersedes any information contained in the context-sensitive help included with the product.

Introduction

The Cisco security appliance is a next-generation platform for network and content security solutions. The security appliance is part of the Cisco Application Centric Infrastructure (ACI) Security Solution and provides an agile, open, secure platform that is built for scalability, consistent control, and simplified management.

The security appliance provides the following features:

- Modular chassis-based security system—Provides high performance, flexible input/output configurations, and scalability.
- Chassis Manager—Graphical user interface provides a streamlined, visual representation of the current chassis status and allows for simplified configuration of chassis features.
- FXOS CLI—Provides command-based interface for configuring features, monitoring chassis status, and accessing advanced troubleshooting features.
- FXOS REST API—Allows users to programmatically configure and manage their chassis.

What's New

New Features in FXOS 2.16.0.136

Fixes for various problems (see Resolved bugs in [Resolved bugs in FXOS 2.16.0.136, on page 4](#))

New Features in FXOS 2.16.0

Cisco FXOS 2.16.0 introduces the following new features:

Feature	Description
Smart Licensing using Smart Transport	<p>Smart Transport is the new transport mechanism used by Smart Licensing to communicate with the Cisco Smart Software Manager (CSSM) server. Smart Transport uses a direct URL to send Smart License messages to the CSSM server. In Firepower 9300 chassis, the transport type is set to Smart Transport by default. You can change it to Call Home from the FXOS CLI.</p> <p>New and modified commands: scope transport, set transport, set transport smart, set transport-url, set transport callhome, show license transport.</p> <p>Modified page: System > Licensing > Server Configuration</p>

Software Download

You can download software images for FXOS and supported applications from one of the following URLs:

- Firepower 9300 — <https://software.cisco.com/download/type.html?mdfid=286287252>
- Firepower 4100 — <https://software.cisco.com/download/navigator.html?mdfid=286305164>

For information about the applications that are supported on a specific version of FXOS, see the *Cisco FXOS Compatibility* guide at this URL:

<https://www.cisco.com/c/en/us/td/docs/security/firepower/fxos/compatibility/fxos-compatibility.html>

Important Notes

- In FXOS 2.4(1) or later, if you are using an IPSec secure channel in FIPS mode, the IPSec peer entity must support RFC 7427.
- When you upgrade a network or security module, certain faults are generated and then cleared automatically. These include a “hot swap not supported” fault or a “module removed when in online state” fault. If you have followed the appropriate procedures, as described in the [Cisco Firepower 9300 Hardware Installation Guide](#) or [Cisco Firepower 4100 Series Hardware Installation Guide](#), the fault(s) are cleared automatically and no additional action is required.
- From FXOS 2.13 release, the **set maxfailedlogins** command no longer works. The value can still be set, but if you try to log in a greater number of times than the already set value with an invalid password, you are not locked out. For compatibility, a similar command, **set max-login-attempts**, is available under **scope security**. This command also prevents logging in after a certain number of failed attempts but sets the value for all users. These commands are only available for Firepower 2100 platform mode and do not affect other platforms.

System Requirements

- You can access the chassis manager using the following browsers:
 - Mozilla Firefox—Version 42 and later
 - Google Chrome—Version 47 and later

- Microsoft Internet Explorer—Version 11 and later

We tested FXOS 2.16.0 using Mozilla Firefox version 42, Google Chrome version 47, and Internet Explorer version 11. Other versions of these browsers are expected to work. However, if you experience any browser-related issues, we suggest you use one of the tested versions.

Upgrade Instructions

You can upgrade your Firepower 9300 or Firepower 4100 series security appliance directly to FXOS 2.16.0 if it is currently running FXOS version 2.2(2) or later. Before you upgrade your Firepower 9300 or Firepower 4100 series security appliance to FXOS 2.16.0 first upgrade to FXOS 2.2(2), or verify that you are currently running FXOS 2.2(2).

For upgrade instructions, see the [Cisco Firepower 4100/9300 Upgrade Guide](#).

Installation Notes

- From FXOS 2.14.1, the FXOS firmware is bundled with FXOS software image. During FXOS upgrade, the system will auto-upgrade the firmware to the latest version if applicable. If the firmware is upgraded, the system will reboot 2 times and the total FXOS upgrade duration will be extended.

Following tables lists the time taken for upgrade with or without firmware upgrade:

FXOS Upgrade With Firmware Upgrade	Duration(in mins)
Initiate FXOS Upgrade with integrated FW changes	-
First Reboot triggered by FXOS upgrade	~9
CLI after FXOS Upgrade (before FW Upgrade)	~8
Second Reboot triggered by FW Upgrade	~1 to 20 *
CLI after FXOS Upgrade and FW Upgrade	~8
Blade to come online	~13
Application to come online	~10
Total	~49-70mins

FXOS Upgrade Without Firmware Upgrade	Duration(in mins)
Initiate FXOS Upgrade with integrated firmware changes	-
Reboot triggered by FXOS upgrade	~9
CLI after FXOS Upgrade (before firmware upgrade)	~8
Blade to come online	~13
Application to come online	~10
Total	~40 mins

- If you are upgrading a Firepower 9300 or Firepower 4100 series security appliance that is running a standalone logical device or if you are upgrading a Firepower 9300 security appliance that is running an intra-chassis cluster, traffic does not traverse through the device while it is upgrading.
- If you are upgrading a Firepower 9300 or a Firepower 4100 series security appliance that is part of an inter-chassis cluster, traffic does not traverse through the device being upgraded while it is upgrading. However, the other devices in the cluster continue to pass traffic.
- Downgrade of FXOS images is not officially supported. The only Cisco-supported method of downgrading an image version of FXOS is to perform a complete re-image of the device.

Resolved and Open Bugs

The resolved and open 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 [Cisco.com](https://www.cisco.com).

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

Resolved bugs in FXOS 2.16.0.136

The following table lists the previously release-noted and customer-found bugs that were resolved in FXOS 2.16.0.136:

Identifier	Headline
CSCwb77894	Firepower 1000/2100 may boot to ROMMON mode
CSCwm64553	Incompatible members warning message after Po member interface flaps unable to rejoin Po
CSCwm96280	Threat Defense device stuck in rommon mode after pressing reset button
CSCwj98673	Fail to start a disabled container on chassis reboot and misses to log the activity to Heimdall
CSCwn44335	FXOS - Download command generates an extra "/" over HTTP and HTTPS GET requests
CSCwn21204	SNMPv3 on Management Interface Intermittently Unresponsive with Frequent SNMP Core Files Generated
CSCwm49154	FXOS fault F1738 in multi-instance deployment. Error: CSP_OP_ERROR. CSP signature verification error
CSCwm52264	Not able to remove or clear Fault "The password encryption key has not been set."
CSCwn19190	memory fragmentation resulted in hugepages unavailable for lina
CSCwn46426	ASA 21xx: 'sh environment temperature shows incorrect temperature values
CSCwm03142	IPv6 Neighbor Discovery failure on shared interface in multi instance setup

Identifier	Headline
CSCwm52973	Secure Firewall 3100: Changing interface speed from 1g to 100mbps/100mps to 1g bring downs the link
CSCwm35751	FPR3100: Interface may go to half duplex speed is hardcoded to 100mbps
CSCwn13187	ASA upgrade failing from 9.20.2.21 to the target version 9.20.3.4
CSCwm49782	Enhance sma 2nd cruz heartbeat logging
CSCwm06393	Changes in port-channel membership or member status may cause periodic OSPF/EIGRP adjacency flaps
CSCwn40485	MI: Traffic fails to reach the Secondary threat defense when enabled with data-sharing interface
CSCwm34333	Threat defense - Multi-Instance, docker0 interface overlap with private network.

Related Documentation

For additional information on the Firepower 9300 or 4100 series security appliance and FXOS, see [Navigating the Cisco FXOS Documentation](#).

Online Resources

Cisco provides online resources to download documentation, software, and tools, to query bugs, and to open service requests. Use these resources to install and configure FXOS software and to troubleshoot and resolve technical issues.

- Cisco Support & Download site: <https://www.cisco.com/c/en/us/support/index.html>
- Cisco Bug Search Tool: <https://tools.cisco.com/bugsearch/>
- Cisco Notification Service: <https://www.cisco.com/cisco/support/notifications.html>

Access to most tools on the Cisco Support & Download site requires a Cisco.com user ID and password.

Contact Cisco

If you cannot resolve an issue using the online resources listed above, contact Cisco TAC:

- Email Cisco TAC: tac@cisco.com
- Call Cisco TAC (North America): 1.408.526.7209 or 1.800.553.2447
- Call Cisco TAC (worldwide): [Cisco Worldwide Support Contacts](#)

Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at [Cisco Profile Manager](#).
- To get the business impact you're looking for with the technologies that matter, visit [Cisco Services](#).
- To submit a service request, visit [Cisco Support](#).

- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit [Cisco Marketplace](#).
- To obtain general networking, training, and certification titles, visit [Cisco Press](#).
- To find warranty information for a specific product or product family, access [Cisco Warranty Finder](#).