

Cisco CatOS Software Release 8.1(1) for Cisco Catalyst 6500 Series and Cisco Catalyst 4000/4500 Series Switches

The Cisco® CatOS Software Release 8.1(1) for the supervisor engine supports the Cisco Catalyst® 6500 Series and Cisco Catalyst 4000/4500 Series multilayer switches, including the Cisco Catalyst 2948G, 4912G, and 2980G-A switches.

Overview

Cisco CatOS continues to provide several innovative features in the areas of high availability, operational manageability, security, and quality of service (QoS), allowing customers to deploy scalable, highly available, and secure networks from the access layer to the WAN edge. Cisco CatOS as a Layer 2 forwarding software targets the wiring closets or access layer service deployments. Along with Cisco CatOS and Cisco IOS® Software, the system in a hybrid mode can be used for offering Layers 2–4 services suited for WAN edge, core, and distribution layer deployments. Cisco is committed to delivering feature enhancements in Cisco CatOS, supporting Layers 2–7 services with existing and next-generation supervisor engines and modules.

Cisco CatOS Software Release 8.1(1) supports three generations of supervisor engines—Supervisor Engine 1A (SUP1A), Supervisor Engine 2 (SUP2), and the recently announced Cisco Catalyst 6500 Series Supervisor Engine 720 (SUP720) innovation with the third-generation policy feature card (PFC3a).

Cisco CatOS Software Release 8.1(1) brings the following important benefits to Cisco Catalyst 6500 Series Supervisor Engine 720 environments:

1. Enables hybrid (Cisco IOS Software Release 12.2(14)SX2 for Layer 3 and Cisco CatOS Software Release 8.1(1) for Layer 2) or Cisco CatOS Software-only support for Supervisor Engine 720 systems in core, distribution, data center, and WAN edge environments.
2. Expands the deployment options for Supervisor Engine 720 systems by supporting the popular combination of the Supervisor Engine 720 and the currently shipping portfolio of classic and CEF256 10/100/1000 fabric-enabled modules (including the latest 48-port modules), in the same Cisco Catalyst 6500 Series system in a hybrid or Cisco CatOS Software-only environment. Support for the time domain reflectometer (TDR) cable fault-detection and management feature for the 48-port 10/100/1000 card is also enabled with this release.



3. The 48-port 10/100/1000 classic and fabric-enabled modules can be upgraded with a field-upgradable Cisco Inline Power card to support IP telephony deployments in wiring closets. The 48-port 10/100/1000 modules can be upgraded with IEEE 802.3af voice cards in the future.
4. Includes VLAN Trunking Protocol (VTP) v3 support for 4000 VLANs and private VLANs.
5. Supports new user-based rate limiting for access networks.
6. Brings new campus security enhancements, including 802.1X Identity-Based Networking System (IBNS), SSH (Secure Shell) Protocol, and port security.
7. Enables advanced high-availability features such as Cisco EtherChannel[®], 802.1w rapid convergence, 802.3ad link aggregation, and Layer 2 stateful switchover to support call and applications continuity in a Supervisor Engine 720-based converged network environment.
8. Supports operational manageability enhancements for the Cisco Catalyst 6500 Series, such as:
 - a. TDR for 48-port 10/100/1000 classic and CEF256 fabric-enabled modules to reduce operational expenses associated with cable fault detection and management in dense access and server farm environments
 - b. Unidirectional link detection (UDLD) feature to prevent spanning-tree topology loops
 - c. Simple Network Management Protocol (SNMP) v1, v2, and v3
 - d. User configurable call-home feature to report system or component failure SYSLOG events in real time via automatic e-mail to system administrator
9. Enables Cisco Catalyst 5000/5500 Series customers to smoothly migrate to a Cisco Catalyst 6500 Supervisor Engine 720 environment by protecting their investments in Cisco CatOS Software commands and configuration tools.

In summary, customers who have hybrid or Cisco CatOS Software-only campus network deployments can now combine Supervisor Engine 720 scalability and services with the new portfolio of 48-port 10/100/1000 Ethernet modules—WS-6148-GE-TX, WS-6148V-GE-TX, WS-6548-GE-TX, and WS-6548V-GE-TX to scale their networks with high performance. This scalable architecture with the Supervisor Engine 720 provides increased bandwidth, network control, and secure converged services from the access layers through the core, to the data center and WAN edge, delivering a 10-to-12-year product life cycle (Table 1).

Table 1 Example Deployment Option in Hybrid Mode

Hardware	Cisco CatOS Software	Cisco IOS Software
Supervisor Engine 720 with: WS-6148-GE-TX WS-6148V-GETX WS-6548-GE-TX WS-6548V-GE-TX	8.1(1)	12.2(14)SX2



Software Support Matrix

Tables 2 and 3 list the software support combinations for various supervisors in Cisco CatOS Software and hybrid environments.

Table 2 Cisco CatOS Software-Only Deployments

	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 720
Cisco CatOS Software Release 8.1(1)	X	X	X

Table 3 Hybrid Environment

Image	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 720
Cisco CatOS Software Release 8.1(1)	X	X	X
Cisco IOS Software Release 12.1(19)E	X	X	Not supported
Cisco IOS Software Release 12.2(14)SX2	Not supported	Not supported	X

Hardware Supported

Table 4 gives a summary of hardware module support with various supervisor engine modules. For more details, please refer to the Cisco CatOS Software release notes, available at the links within the For More Information section.

Table 4 Hardware Support Matrix Summary

Hardware	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 720
Ethernet switching modules	Supports all of the existing Ethernet switching modules	Supports all of the existing Ethernet switching modules	Supports all of the existing Ethernet switching, including the latest: WS-6148-GE-TX WS-6148V-GE-TX WS-X6548-GE-TX WS-X6548V-GE-TX WS-6516A-GE-TX
WAN modules	Supported	Supported	Not supported in Cisco CatOS Software Release 8.1(1)
Layers 4–7 service modules	Supported	Supported	Not supported in Cisco CatOS Software Release 8.1(1)
Communications media modules	Supported	Supported	Not supported in Cisco CatOS Software Release 8.1(1)



Table 5 shows the new modules supported by Cisco CatOS Software Release 8.1(1).

Note: Distributed forwarding with Distributed Forwarding Card (DFC) and DFC3a is not supported using Cisco CatOS Software releases.

Table 5 Cisco Catalyst 6500 Series Hardware Supported in Cisco CatOS Software Release 8.1(1)

Hardware	Description
Supervisor Engine 720 (WS-SUP720)	This is the new Cisco Supervisor Engine 720 and third-generation policy feature card (PFC3a) with integrated Multilayer Switch Feature Card 3 (MSFC3). The Supervisor Engine 720 helps enable enterprise and service provider customers to enhance their network infrastructures with advanced IP services delivered in hardware with a fully integrated switch fabric.
WS-C6509-NEB-A	A 9-slot, vertically mounted 21-rack-unit chassis with NEBS compliancy. Power supply redundancy is supported with the provision of 2 power supply slots at the base of the chassis. Power supplies supported with this chassis include the AC and DC versions of the 2500W and 4000W power supply.

Table 6 Cisco Catalyst 4000 Series Hardware Supported in Cisco CatOS Software Release 8.1(1)

Hardware	Description
Cisco Catalyst 4500 Series 48-Port 10/100/1000 RJ-45 Line Card (WS-X4548-GB-RJ45=)	Cisco Catalyst 4500 Series 48-port 10/100/1000 RJ-45 module—more power-efficient than the existing 48-port 10/100/1000 line card (WS-X4448-GB-RJ45), requiring just 60 watts instead of 120 watts.
Cisco Catalyst 4500 Series 2-Port Gigabit Ethernet Line Card (WS-X4302-GB=)	Cisco Catalyst 4500 Series 2-port Gigabit Ethernet module—a 2-port, wire-speed gigabit interface converter (GBIC) line card. It offers additional uplinks for any Cisco Catalyst 4000/4500 Series chassis.
Cisco Catalyst 4500 Series 48-Port 100BASE-LX10 Fast Ethernet Line Card (WS-X4148-FE-LX-MT=)	Cisco Catalyst 4500 Series 48-port 100BASE-LX10 Fast Ethernet line card—uses single-mode fiber to support distances up to 10 km.

Software Features

Cisco CatOS Software Release 8.1(1) supports all of the software features previously supported by up to Release 7.6.1 on Cisco Catalyst 6500 Series and Cisco Catalyst 4000/4500 Series supervisor engines—except the following features with the Supervisor Engine 720:

- Internet Group Message Protocol (IGMP) v3
- TCP intercept
- Network based Application Recognition (NBAR)
- Web Cache Communication Protocol (WCCP)
- QDE
- AutoQoS
- Common Open Policy Service (COPS)/Resource Reservation Protocol (RSVP)



Cisco CatOS Software Release 8.1(1) supports the software features listed in Table 7. For more detailed information, please refer to the Cisco CatOS Software Release 8.1(1) release notes, available at the links within the For More Information section.

Table 7 Software Features of Cisco CatOS Software Release 8.1(1)

Software Feature	Description	Cisco Catalyst 6500 Series Feature	Cisco Catalyst 4000/4500 Series Feature
FTP support	Supports the FTP protocol for upload and download of configuration and software image files, in addition to the Trivial File Transfer Protocol (TFTP) support that exists today.	X	
VTPv3	This new version of VTP is mainly required to allow support for 4000 VLANs and to remove the risk of losing the domain configuration when introducing a bogus server. It also enhances the server authentication scheme, and is now capable of distributing transparently any database over a domain.	X	X
4000 VLANs via VTPv3	Allows distribution of 4096 VLANs via VTPv3. Previous versions of VTP only supported 1000 VLANs.	X	X
Improved usability	Pipe command to search and filter the show commands.	X	X
	Tool Command Language (TCL) scripting.	X	
	Increased number of aliases in text configuration mode from 20 to 100.	X	X
Call Home feature	Allows users to configure a destination e-mail address to send notifications to in the event of failures on the system, which generate SYSLOG messages.	X	
Per-port clearing of counters	Allows the user to clear port counters on an individual port basis.	X*	X
New MIB	ENTITY-MIB Enhancement	X	X
	CISCO-UDLDP-MIB Enhancement	X	
	CISCO-RF-MIB	X	
	CISCO-CALLHOME-MIB	X	
	CISCO-VTP-MIB Enhancement	X	X
	CISCO-SYS-INFO-LOG-MIB	X	
	CISCO-CAT6K-CROSSBAR-MIB Enhancement	X	
	CISCO-ENTITY-ASSET-MIB	X	
	CISCO-SWITCH-ENGINE-MIB Enhancement	X	
	CISCO-CATOS-ACL-QOS-MIB Enhancement	X	
	CISCO-PAGP-MIB Enhancement	X	
	CISCO-LAG-MIB Enhancement	X	
	CISCO-IGMP-SNOOPING-MIB Enhancement	X	



Table 8 lists the software versions and applicable ordering information for the Cisco Catalyst 6500 Series and Cisco Catalyst 4000/4500 Series supervisor engine software.

*Caution: Back up the switch configuration file *before* you upgrade or downgrade the switch software. When you downgrade switch software, you lose your configuration. Issue the “write network” command or the “copy config tftp” command to back up your configuration to a TFTP server. Issue the “copy config flash” command to back up the configuration to a Flash memory device.

Table 8 Software Ordering information

Product Number	Description	Image
SC6K-SUPK8-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image, Cisco CatOS Software Release 8.1(1)	cat6000-supk8.8-1-1.bin
SC6K-SUPK8-8.1(1)=	Spare	
SC6K-SUP2K8-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image, Cisco CatOS Software Release 8.1(1)	cat6000-sup2k8.8-1-1.bin
SC6K-SUP2K8-8.1(1)=	Spare	
SC6K-S7K8-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image, Cisco CatOS Software Release 8.1(1)	cat6000-sup720k8.8-1-1.bin
SC6K-S7K8-8.1(1)=	Spare	
SC6K-SCVK8-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with CiscoView, Cisco CatOS Software Release 8.1(1)	cat6000-supcvk8.8-1-1.bin
SC6K-SCVK8-8.1(1)=	Spare	
SC6K-S2CVK8-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with CiscoView, Cisco CatOS Software Release 8.1(1)	cat6000-sup2cvk8.8-1-1.bin
SC6K-S2CVK8-8.1(1)=	Spare	
SC6K-S7CVK8-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with CiscoView, Cisco CatOS Software Release 8.1(1)	cat6000-sup720cvk8.8-1-1.bin
SC6K-S7CVK8-8.1(1)=	Spare	
SC6K-SUPK9-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image with SSH, Cisco CatOS Software Release 8.1(1)	cat6000-supk9.8-1-1.bin
SC6K-SUPK9-8.1(1)=	Spare	
SC6K-SUP2K9-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with SSH, Cisco CatOS Software Release 8.1(1)	cat6000-sup2k9.8-1-1.bin
SC6K-SUP2K9-8.1(1)=	Spare	



Table 8 Software Ordering information

Product Number	Description	Image
SC6K-S7K9-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with SSH, Cisco CatOS Software Release 8.1(1)	cat6000-sup720k9.8-1-1.bin
SC6K-S7K9-8.1(1)=	Spare	
SC6K-SCVK9-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image with CiscoView and SSH, Cisco CatOS Software Release 8.1(1)	cat6000-supcvk9.8-1-1.bin
SC6K-SCVK9-8.1(1)=	Spare	
SC6K-S2CVK9-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with CiscoView and SSH, Cisco CatOS Software Release 8.1(1)	cat6000-sup2cvk9.8-1-1.bin
SC6K-S2CVK9-8.1(1)=	Spare	
SC6K-S7CVK9-8.1(1)	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with CiscoView and SSH, Cisco CatOS Software Release 8.1(1)	cat6000-sup720cvk9.8-1-1.bin
SC6K-S7CVK9-8.1(1)=	Spare	
SC4K-SUPK8-8.1(1)	Cisco Catalyst 4000 Series Supervisor Engine Flash image, Cisco CatOS Software Release 8.1(1)	cat4000-k8.8-1-1.bin
SC4K-SUPK8-8.1(1)=	Spare	
SC4K-SCVK8-8.1(1)	Cisco Catalyst 4000 Series Supervisor Engine CiscoView image, Cisco CatOS Software Release 8.1(1)	cat4000-cv.8-1-1.bin
SC4K-SCVK8-8.1(1)=	Spare	

For More Information

For more information, see the Cisco Catalyst 6500 Series and Cisco Catalyst 4000 Series release notes at:

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/relnotes/index.htm>

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat4000/relnotes/index.htm>

Cisco Catalyst 6500 Series and Cisco Catalyst 4000 Series documentation is available at:

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/index.htm>

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat4000/index.htm>

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