



PRODUCT BULLETIN NO. 2679

CISCO CATALYST OPERATING SYSTEM SOFTWARE RELEASE 8.4 FOR CISCO CATALYST 6500 SERIES SWITCHES

The Cisco® Catalyst® Operating System (Catalyst OS) Software Release 8.4 for the supervisor engine supports the Cisco Catalyst 6500 Series multilayer switches.

OVERVIEW

Cisco Catalyst OS 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 Catalyst OS as a Layer 2 Forwarding software targets the wiring closets or access layer service deployments. Along with Cisco Catalyst OS and Cisco IOS® Software, the system in a hybrid mode can be used for offering Layer 2 through 4 services suited for WAN edge, core, and distribution layer deployments. Cisco Systems® is committed to delivering feature enhancements in Cisco Catalyst OS, supporting Layer 2 through 7 services with existing and next-generation supervisor engines and modules.

Cisco Catalyst OS Software Release 8.4 supports four generations of supervisor engines—Supervisor Engine 1A, Supervisor Engine 2, Supervisor Engine 720, and the recently announced Cisco Catalyst 6500 Series Supervisor Engine 32.

Cisco Catalyst OS 8.4 supports all hardware and software supported in Cisco Catalyst OS Release 8.3. In addition, Cisco Catalyst OS 8.4 brings the following important benefits to the Cisco Catalyst 6500 Series:

- Cisco Catalyst OS 8.4 introduces support for the Supervisor Engine 32 with Policy Feature Card 3B, bringing the Supervisor Engine 720 level of advanced services into the access layer. Supervisor Engine 32 provides investment protection for current Cisco Catalyst 6500 deployments by supporting all existing classic and Cisco Express Forwarding 256-based modules and helping enable new applications.
- Cisco Catalyst OS 8.4 enhances the suite of Cisco Catalyst 6500 wiring-closet interface modules by introducing the support for:
 - Cisco Catalyst 6500 48-Port 10/100/1000 Classic Interface Module (part number WS-X6148A-GE-TX) with Power over Ethernet (PoE) option—Refreshed module that now supports jumbo frames and enhanced QoS capabilities (deeper and more per-port queues). Continues to support time-domain-reflectometer (TDR) for rapid cable fault detection
 - Cisco Catalyst 6500 48-Port 10/100 Classic Interface Module (part number WS-X6148A-RJ-45) with PoE option—Adds integrated time-domain-reflectometer (TDR) support for rapid cable fault detection
 - Cisco Catalyst 6500 96-Port 10/100 (RJ-21) Classic Interface Module (part number WS-X6196-RJ-21) with PoE option—The industry’s highest density PoE-enabled module now supports RJ-21 interfaces for simplified, structured cable management
 - Cisco Catalyst 6500 48-Port 100BASE-X SFP Classic Interface Module (part number WS-X6148-FE-SFP)—New module that supports a range of modular SFP’s on a 100BASE interface module for customers that want flexible 100 Mbps fiber connectivity options to desktops or other devices
- Cisco Catalyst OS 8.4 adds support for the 6000-WAC power supply on Cisco Catalyst 6500 Series chassis to meet increasing demand for power to support the IEEE 802.3af Power over Ethernet standard.
- Cisco Catalyst OS 8.4 simplifies operational complexity with the introduction of Cisco Smartports Macro enhancements, Configuration Rollback, Switch Profiles, and Multiple Switched Port Analyzer (SPAN) destinations, increasing configuration consistency, reducing provisioning overhead and helping businesses use the full potential of their networks.
- Cisco Catalyst OS 8.4 offers new campus security enhancements, including 802.1x-based port access control lists (PACLs), 802.1x with Authorization Failed VLAN, ACL and sampled ACL hit counters, Compression and Reordering of ACL Masks (CRAM) algorithm, and 4k ACL Label support.

- NetFlow gets significant enhancements in the Cisco Catalyst OS 8.4 with the introduction of NetFlow Top Talkers, NetFlow support per VLAN, and NetFlow Export with autonomous system, giving users increased flexibility in recording network performance data.
- Cisco Catalyst OS 8.4 introduces consistent TDR across 10/100 and 10/100/1000 interfaces for rapid cable fault detection.
- Metropolitan (Metro) Ethernet deployments are enhanced with the introduction of cutting-edge features in Cisco Catalyst OS 8.4—VLAN translation, MAC-based ACLs, and Layer 2 Tunneling Protocol (L2PT) enhancements. With Cisco Catalyst OS 8.4, the Cisco Catalyst 6500 extends its leadership in Layer 2 metro Ethernet deployments.
- The Cisco Catalyst 6500 with Cisco Catalyst OS 8.4 continues delivery of leading high-availability solutions with the introduction of Cisco EtherChannel® enhancements for highly available switching deployments.
- Most importantly, the Cisco Catalyst 6500 with Cisco Catalyst OS 8.4 provides more compelling reasons for customers to continue migration from their Cisco Catalyst 5000 or Cisco Catalyst 5500 to Cisco Catalyst 6500 converged networks.

NEW HARDWARE SUPPORTED

Table 1 summarizes new hardware module support in Cisco Catalyst OS 8.4 with various supervisor engine modules, in addition to the support in Cisco Catalyst OS 8.3. For more details, refer to the Cisco Catalyst OS Software release notes, available at the links within the “For More Information” section.

Table 1. New Hardware Support Matrix Summary

Hardware	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 32	Cisco Supervisor Engine 720
Chassis	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3
Policy feature cards (PFCs)	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3
Ethernet switching modules	Supports all the existing Ethernet switching modules, including the latest: <ul style="list-style-type: none"> • WS-X6148A-GE-TX • WS-X6148A-GE-45AF • WS-X6148A-RJ-45 • WS-X6148A-45AF • WS-X6196-RJ-21 • WS-X6196-21AF • WS-X6148-FE-SFP 	Supports all the existing Ethernet switching modules, including the latest: <ul style="list-style-type: none"> • WS-X6148A-GE-TX • WS-X6148A-GE-45AF • WS-X6148A-RJ-45 • WS-X6148A-45AF • WS-X6196-RJ-21 • WS-X6196-21AF • WS-X6148-FE-SFP 	Supports all the existing Ethernet switching modules, including the latest: <ul style="list-style-type: none"> • WS-X6148A-GE-TX • WS-X6148A-GE-45AF • WS-X6148A-RJ-45 • WS-X6148A-45AF • WS-X6196-RJ-21 • WS-X6196-21AF • WS-X6148-FE-SFP 	Supports all the existing Ethernet switching modules, including the latest: <ul style="list-style-type: none"> • WS-X6148A-GE-TX • WS-X6148A-GE-45AF • WS-X6148A-RJ-45 • WS-X6148A-45AF • WS-X6196-RJ-21 • WS-X6196-21AF • WS-X6148-FE-SFP
Layer 4–7 service modules	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3
Communications media modules	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3
IEEE power daughter cards	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3	Supports all as in Cisco Catalyst OS 8.3

Hardware	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 32	Cisco Supervisor Engine 720
Gigabit interface converter, SFP, and XENPAK	Adds Support for: <ul style="list-style-type: none"> GLC-FE-100FX GLC-FE-100LX GLC-FE-100BX-U GLC-FE-100BX-D 	Adds Support for: <ul style="list-style-type: none"> GLC-FE-100FX GLC-FE-100LX GLC-FE-100BX-U GLC-FE-100BX-D 	Adds Support for: <ul style="list-style-type: none"> GLC-FE-100FX GLC-FE-100LX GLC-FE-100BX-U GLC-FE-100BX-D 	Adds Support for: <ul style="list-style-type: none"> GLC-FE-100FX GLC-FE-100LX GLC-FE-100BX-U GLC-FE-100BX-D

Note: Distributed forwarding with a distributed forwarding card (DFC) and DFC3A, DFC3B, and DFC3BXL is not supported using Cisco Catalyst OS Software releases.

NEW SOFTWARE FEATURES

Cisco Catalyst OS Software Release 8.4 supports all the software features previously supported up to Release 8.3 on the Cisco Catalyst 6500 Series. New software features supported in Cisco Catalyst OS Software Release 8.4 are listed in Table 2. For more detailed information, refer to the Cisco Catalyst OS Software Release 8.4 release notes, available at the links within the “For More Information” section.

Table 2. Software Features of Cisco Catalyst OS Software Release 8.4

Software Feature	Description
Cisco Smartports Macro enhancements	<ul style="list-style-type: none"> Provides a set of macros that allow multiple commands to be invoked behind the scenes when only one command is issued. Adds support for the CiscoSwitch, CiscoRouter, CiscoDesktop, and a global macro.
Switch profiles	<ul style="list-style-type: none"> Provides the flexibility of loading a particular type of configuration on the switch as either the default configuration or a configuration that would follow a certain set of guidelines or policies.
Security enhancements	<ul style="list-style-type: none"> Offers ACL and sampled ACL hit counters Offers 802.1x PACLs Support for 802.1x Authorization Failed VLAN Provides CRAM algorithm Support for 4000 ACL labels
NetFlow enhancements	<ul style="list-style-type: none"> Offers NetFlow support per VLAN Provides NetFlow Top Talkers Provides NetFlow Export with Autonomous System (AS)
Cisco EtherChannel enhancements	<ul style="list-style-type: none"> Provides automatic failover of all traffic to another port in the channel when one of the ports in the channel exceeds a configurable error threshold Offers ability to error disable a port if the port is not part of a channel
Configuration rollback	<ul style="list-style-type: none"> Provides the ability to roll back to a saved configuration with the least possible disturbance to switch operation
Metro Ethernet enhancements	<ul style="list-style-type: none"> Offers MAC-based ACLs Offers VLAN translation Provides L2PT enhancements

Software Feature	Description
Multiple SPAN destinations	<ul style="list-style-type: none"> Allows specification of multiple destination ports in one local SPAN session Introduces the ability to uniquely identify SPAN sessions

SOFTWARE SUPPORT MATRIX

Tables 3 and 4 list the software support combinations for various supervisors in Cisco Catalyst OS Software and hybrid environments.

Table 3. Cisco Catalyst OS Software-Only Deployments

Image	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 32	Cisco Supervisor Engine 720
Cisco Catalyst OS Software Release 8.4	X	X	X	X

Table 4. Hybrid Environment

Image	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 32	Cisco Supervisor Engine 720
Cisco Catalyst OS Software Release 8.4	X	X	X	X
Cisco IOS Software Release 12.1(23)E	X	X	Not supported	Not supported
Cisco IOS Software Release 12.2(14)SX1	Not supported	Not supported	Not supported	X
Cisco IOS Software Release 12.2(17d)SXB3	Not supported	X	Not supported	X
Cisco IOS Software Release 12.2(18)SXD	Not supported	X	Not supported	X

Table 5 lists the software versions and applicable ordering information for the Cisco Catalyst 6500 Series 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 Trivial File Transfer Protocol (TFTP) server. Issue the **copy config flash** command to back up the configuration to a Flash memory device.

Table 5. Software Ordering Information

Product Number	Description	Image
SC6K-SUPK8-8.4	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image, Cisco Catalyst OS Software Release 8.4	cat6000-supk8.8-4-1.bin
SC6K-SUPK8-8.4=	Spare	

Product Number	Description	Image
SC6K-SUP2K8-8.4	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image, Cisco Catalyst OS Software Release 8.4	cat6000-sup2k8.8-4-1.bin
SC6K-SUP2K8-8.4=	Spare	
SC6K-S323K8-8.4	Cisco Catalyst 6500 Series Supervisor Engine 32 PFC3 Flash image, Cisco Catalyst OS Software Release 8.4	cat6000-sup32pfc3k8.8-4-1.bin
SC6K-SUP323K8-8.4=	Spare	
SC6K-S7K8-8.4	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image, Cisco Catalyst OS Software Release 8.4	cat6000-sup720k8.8-4-1.bin
SC6K-S7K8-8.4=	Spare	
SC6K-SCVK8-8.4	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image with CiscoView, Cisco Catalyst OS Software Release 8.4	cat6000-supcvk8.8-4-1.bin
SC6K-SCVK8-8.4=	Spare	
SC6K-S2CVK8-8.4	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with CiscoView, Cisco Catalyst OS Software Release 8.4	cat6000-sup2cvk8.8-4-1.bin
SC6K-S2CVK8-8.4=	Spare	
SC6K-S323CVK8-8.4	Cisco Catalyst 6500 Series Supervisor Engine 32 PFC3 Flash image with CiscoView, Cisco Catalyst OS Software Release 8.4	cat6000-sup32pfc3cvk8.8-4-1.bin
SC6K-S32CVK8-8.4=	Spare	
SC6K-S7CVK8-8.4	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with CiscoView, Cisco Catalyst OS Software Release 8.4	cat6000-sup720cvk8.8-4-1.bin
SC6K-S7CVK8-8.4=	Spare	
SC6K-SUPK9-8.4	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image with Secure Shell (SSH) Protocol, Cisco Catalyst OS Software Release 8.4	cat6000-supk9.8-4-1.bin
SC6K-SUPK9-8.4=	Spare	
SC6K-SUP2K9-8.4	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with SSH, Cisco Catalyst OS Software Release 8.4	cat6000-sup2k9.8-4-1.bin
SC6K-SUP2K9-8.4=	Spare	
SC6K-SUP323K9-8.4	Cisco Catalyst 6500 Series Supervisor Engine 32 PFC3 Flash image with SSH, Cisco Catalyst OS Software Release 8.4	cat6000-sup2pfc3k9.8-4-1.bin
SC6K-SUP323K9-8.4=	Spare	

Product Number	Description	Image
SC6K-S7K9-8.4	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with SSH, Cisco Catalyst OS Software Release 8.4	cat6000-sup720k9.8-4-1.bin
SC6K-S7K9-8.4=	Spare	
SC6K-SCVK9-8.4	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image with CiscoView and SSH, Cisco Catalyst OS Software Release 8.4	cat6000-supcvk9.8-4-1.bin
SC6K-SCVK9-8.4=	Spare	
SC6K-S2CVK9-8.4	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with CiscoView and SSH, Cisco Catalyst OS Software Release 8.4	cat6000-sup2cvk9.8-4-1.bin
SC6K-S2CVK9-8.4=	Spare	
SC6K-S323CVK9-8.4	Cisco Catalyst 6500 Series Supervisor Engine 32 PFC3 Flash image with CiscoView and SSH, Cisco Catalyst OS Software Release 8.4	cat6000-sup32pfc3cvk9.8-4-1.bin
SC6K-S323CVK9-8.4=	Spare	
SC6K-S7CVK9-8.4	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with CiscoView and SSH, Cisco Catalyst OS Software Release 8.4	cat6000-sup720cvk9.8-4-1.bin
SC6K-S7CVK9-8.4=	Spare	

Note: The image names (image version suffixes such as 8-4-1, 8-4-2, and 8-4-3) differ based on the latest available maintenance release for Cisco Catalyst OS Software Release 8.4; the image names in this table reflect Version 8.4(1) of Release 8.4.

FOR MORE INFORMATION

For more information, refer to the Cisco Catalyst 6500 Series release notes at:

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

Cisco Catalyst 6500 Series documentation is available at: <http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/index.htm>.



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