

Cisco Catalyst Operating System Software Release 8.2 for Cisco Catalyst 6500 Series Switches

Overview

The Cisco[®] Catalyst[®] Operating System (Catalyst OS) Software Release 8.2 for the supervisor engine supports the Cisco Catalyst 6500 Series multilayer switches. The 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 2–4 services suited for WAN edge, core, and distribution layer deployments. Cisco Systems[®] is committed to delivering feature enhancements in Cisco Catalyst OS, supporting Layer 2–7 services with existing and next-generation supervisor engines and modules.

Cisco Catalyst Operating System Software Release 8.2 supports three generations of supervisor engines—Supervisor Engine 1A (part number SUP1A), Supervisor Engine 2 (part number SUP2), and the Cisco Catalyst 6500 Series Supervisor Engine 720 (part number SUP720) innovation with the third-generation policy feature card (part number PFC3a).

Cisco Catalyst OS 8.2 supports all hardware and software supported in Release 8.1. In addition, Cisco Catalyst OS 8.2 brings the following important benefits to the Cisco Catalyst 6500 Series:

- Ensures maximum network uptime and resiliency with improved supervisor failover times for fault-tolerant connectivity; Cisco Catalyst OS 8.2 enables subsecond (approximately 200 milliseconds to 3 seconds) stateful Layer 2 failover between redundant supervisor engines
- Expands the deployment options in the wiring closet by supporting the new, highest-density, 96-port 10/100 module (part number WS-X6148X2-RJ-45); (requires a splitter at the patch panel or the wall jack); furthermore, the 96-port 10/100 classic modules can be upgraded in the future with a field-upgradable, 802.3af-compliant inline power card to support IP telephony deployments in wiring closets
- Enables support for voice daughter cards (when the daughter-card hardware becomes available in the future) for the 10/100 and 10/100/1000 modules, which can be used to provide inline power for Cisco IP phones, Cisco Aironet[®] wireless access points, and IEEE 802.3af-compliant devices
- Enables the combination of Cisco Catalyst 6500 Supervisor 720 and the Layer 4–7 services modules together in the same system in a hybrid (Cisco Catalyst OS 8.2 for Layer 2 and Cisco IOS Software Release 12.2(17a)SX1 for Layer 3) software environment for campus core and distribution and datacenter deployments, thus collapsing advanced network services into the switching infrastructure and helping reduce cost of deployment



- Adds hybrid software support for the Cisco FlexWAN Module for the Cisco Catalyst 6500 Series Supervisor Engine 720 that delivers convergence for a wide range of applications for the WAN edge and extends the end-to-end Cisco Catalyst 6500 deployment solution
- Enables support for the ATM modules (part number WS-X6101-OC12) with the Supervisor 720 in hybrid environments, thus extending the leading-edge performance of the Cisco Catalyst 6500 for today's ATM LAN Emulation (LANE) and Multiprotocol-over-ATM (MPOA) networks
- Provides initial support for the LX 4 Xenpak XENPAK-10GB-LX4) for up to 300-meter range, Serial 1310-nm XENPAK (multimode fiber [MMF]) that will further accelerate 10-Gigabit Ethernet deployments in campus backbones; this Release 8.2 also adds support for the 1000BASE-ZX Small Form-Factor Pluggable (SFP) (part number GLC-ZX-SM), single-mode only, dual LC connector.
- Most importantly, provides more compelling reasons for customers to continue migration from their Cisco Catalyst 5000 or Catalyst 5500 to Cisco Catalyst 6500 converged networks

New Hardware Supported

Table 1 summarizes new hardware module support in the Cisco Catalyst OS 8.2 with various supervisor engine modules, in addition to the support in Cisco Catalyst OS 8.1. For more details, refer to the Cisco Catalyst OS Software release notes, available at the links in the “More Information” section.

Table 1 New Hardware Support Matrix Summary

Hardware	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 720
Ethernet switching modules	Supports all the existing Ethernet switching modules, including the latest WS-X6148X2-RJ-45	Supports all the existing Ethernet switching modules, including the latest WS-X6148X2-RJ-45	Supports all the existing Ethernet switching, including the latest WS-X6148X2-RJ-45
WAN modules	Supported	Supported	WS-6182-2PA WS-X6101-OC12-MMF WS-X6101-OC12-SMF
Layer 4–7 service modules	Supported	Supported	<i>Note:</i> Support for the following modules requires Cisco IOS Software Release 12.2(17a)SX1 on the Multilayer Switch Feature Card (MSFC): WS-SVC-CSG-1 WS-SVC-FWM-1-K9 WS-SVC-IDSM2-BUN-K9 WS-SVC-NAM-1 WS-SVC-NAM-2 WS-SVC-SSL-1-K9 WS-X6066-SLB-APC WS-X6608-E1 WS-X6608-T1 WS-X6624-FXS



Table 1 New Hardware Support Matrix Summary (Continued)

Hardware	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 720
Communications media modules	Supported	Supported	<i>Note:</i> Support for the following modules requires Cisco IOS Software Release 12.2(17a)SX1 on the MSFC: WS-SVC-CMM WS-SVC-CMM-6E1 WS-SVC-CMM-6T1 WS-X6608-T1 WS-X6608-E1 WS-X6624-FXS
GBIC/SFP/XENPAK	-	-	GLC-ZX-SM XENPAK-10GB-LX4

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

New Software Features

Cisco Catalyst OS 8.2 supports all the software features previously supported up to Release 8.1 on the Cisco Catalyst 6500 Series. In addition, Release 8.2 adds the software features listed in Table 2. Catalyst OS. For more detailed information, refer to the Cisco Catalyst OS Software Release 8.2 release notes, available at the links within the “More Information” section.

Table 2 Software Features of Cisco Catalyst OS 8.2

Software Feature	Description
Custom .1Q Ethertypes	The Ethertype in the 802.1q tag is configurable. If the configured value does not match a valid supported Ethertype, an error is reported and the user is asked to reenter the Ethertype.
No differentiated-services -code-point (DSCP) rewrite	This global bit disables DSCP [differentiated-services-code-point] rewrites; class of service (CoS) rewrites will still happen.
QoS phase 2 on Supervisor 720—AutoQoS	This feature simplifies QoS configuration for users by customizing the settings for various environments. Currently, it can customize port level settings (trust, CoS->Q, Threshold) for IP phone and non-IP phone configurations. It is capable of detecting whether an IP phone is plugged in using a Cisco Discovery Protocol message and autoconfigure-specified ports.



Table 2 Software Features of Cisco Catalyst OS 8.2

Software Feature	Description
QoS phase 2 on Supervisor 720 — QDE	This feature provides per-port and per-aggregate policer statistics that can be exported to a client using the User Datagram Protocol (UDP). It is useful to customers for gathering statistics to perform billing functions.
QoS phase 2 on Supervisor 720—Egress QoS	This feature allows users to select QoS policy on an egress VLAN basis. Specifically, users can map an access control list (ACL) with classification and policing parameters on packets transiting a VLAN.
QoS phase 2 on Supervisor 720 — DSCP Mutation	This feature ties into the egress QoS. Users can mutate the DSCP (that is, change it to a different value in addition to the classified or marked-down DSCP). It allows users to convert DSCP or CoS conventions from one domain to another. Mutation tables are selectable on a subset of the 4000 VLANs.
CISCO-VLAN-MEMBERSHIP-MIB Enhancement	This feature added new objects to support the Cisco Catalyst 6500 96-port 10/100 module (part no. WS-X6148X2-RJ45V).
CISCO-CATALYST OS-ACL-QOS-MIB Enhancement	This feature added new objects to support the Cisco Catalyst 6500 96-port 10/100 module (part no. WS-X6148X2-RJ45V).
Port Security Auto Configure CLI	If this feature is enabled, when a port goes down or port security is disabled, dynamically learned addresses are converted into configured addresses (stored in NVRAM).
Internet Group Management Protocol (IGMP) Group-Specific Query	This option from the command-line interface (CLI) sends out a draft-specified IGMP group-specific query in response to a leave. (Earlier, a general query with a group IP address was sent out.)

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

	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 720
Cisco Catalyst OS Software Release 8.2	X	X	X

Table 4 Hybrid Environment

Image	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 720
Cisco Catalyst OS Software Release 8.2	X	X	X



Table 4 Hybrid Environment

Image	Cisco Supervisor Engine 1A	Cisco Supervisor Engine 2	Cisco Supervisor Engine 720
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
Cisco IOS Software Release 12.2(17a)SX1	Not supported	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.

Note: The image names (image version suffix such as 8-2-1, 8-2-2, 8-2-3) will differ based on the latest available maintenance release for Release 8.2; the image names in this table reflect Version 8.2(1) of Release 8.2

Table 5 Software Ordering Information

Product Number	Description	Image
SC6K-SUPK8-8.2	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image, Cisco Catalyst OS Software Release 8.2	cat6000-supk8.8-2-1.bin
SC6K-SUPK8-8.2=	Spare	
SC6K-SUP2K8-8.2	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image, Cisco Catalyst OS Software Release 8.2	cat6000-sup2k8.8-2-1.bin
SC6K-SUP2K8-8.2=	Spare	
SC6K-S7K8-8.2	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image, Cisco Catalyst OS Software Release 8.2	cat6000-sup720k8.8-2-1.bin
SC6K-S7K8-8.2=	Spare	
SC6K-SCVK8-8.2	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with CiscoView, Cisco Catalyst OS Software Release 8.2	cat6000-supcvk8.8-2-1.bin
SC6K-SCVK8-8.2=	Spare	
SC6K-S2CVK8-8.2	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with CiscoView, Cisco Catalyst OS Software Release 8.2	cat6000-sup2cvk8.8-2-1.bin
SC6K-S2CVK8-8.2=	Spare	
SC6K-S7CVK8-8.2	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with CiscoView, Cisco Catalyst OS Software Release 8.2	cat6000-sup720cvk8.8-2-1.bin
SC6K-S7CVK8-8.2=	Spare	



Table 5 Software Ordering Information (Continued)

Product Number	Description	Image
SC6K-SUPK9-8.2	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image with Secure Shell (SSH) Protocol, Cisco Catalyst OS Software Release 8.2	cat6000-supk9.8-2-1.bin
SC6K-SUPK9-8.2=	Spare	
SC6K-SUP2K9-8.2	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with SSH, Cisco Catalyst OS Software Release 8.2	cat6000-sup2k9.8-2-1.bin
SC6K-SUP2K9-8.2=	Spare	
SC6K-S7K9-8.2	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with SSH, Cisco Catalyst OS Software Release 8.2	cat6000-sup720k9.8-2-1.bin
SC6K-S7K9-8.2=	Spare	
SC6K-SCVK9-8.2	Cisco Catalyst 6500 Series Supervisor Engine 1A Flash image with CiscoView and SSH, Cisco Catalyst OS Software Release 8.2	cat6000-supcvk9.8-2-1.bin
SC6K-SCVK9-8.2=	Spare	
SC6K-S2CVK9-8.2	Cisco Catalyst 6500 Series Supervisor Engine 2 Flash image with CiscoView and SSH, Cisco Catalyst OS Software Release 8.2	cat6000-sup2cvk9.8-2-1.bin
SC6K-S2CVK9-8.2=	Spare	
SC6K-S7CVK9-8.2	Cisco Catalyst 6500 Series Supervisor Engine 720 Flash image with CiscoView and SSH, Cisco Catalyst OS Software Release 8.2	cat6000-sup720cvk9.8-2-1.bin
SC6K-S7CVK9-8.2=	Spare	

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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