Q & A

Cisco Catalyst 6500 Supervisor Engine 32

Q. What is the Cisco® Catalyst® 6500 Supervisor Engine 32?

A. The Cisco Catalyst 6500 Supervisor 32 (Sup32) is a new supervisor optimized in terms of features, performance, and price targeted for the Metro Ethernet access network, small-scale CO's, and broadband aggregation.

Equipped standard with the Policy Feature Card 3B (PFC3B) and Multilayer Switch Feature Card 2A (MSFC2A), Sup32 offers architecture and feature consistency with those of the Cisco Catalyst 6500 Series Supervisor Engine 720 (Sup720). There are two versions of Sup32:

- 8 x 1 Gigabit Ethernet (GbE) Small Form-Factor Pluggable (SFP) plus 1 x 10/100/1000 uplink port
- 2 x 10 GbE XENPAK plus 1 x 10/100/1000 uplink port

Both versions will be field upgradable to support hardware-based Layer 4 through 7 services post-FCS. Sup32 is positioned as a replacement for the Cisco Catalyst 6500 Supervisor Engine 1A and Cisco Catalyst 6500 Supervisor Engine 2 – PFC2. Sup32 is designed with a future-proofed architecture to enable simplified network management and application-aware functionality.

Q. Does Sup32 support Layer 3 routing?

A. Sup32 comes standard with MSFC2A, which performs Layer 3 control-plane functions, including address resolution and routing protocols. Additional purchase of a Layer 3 software license is required for support of protocols other than Routing Information Protocol (RIP) and static routes.

Q. Is there any system requirement to deploy Sup32?

A. Sup32 requires the high-speed fan tray when operating in the Cisco Catalyst 6500 Chassis. As such, a minimum of 2500W AC (in either 110V or 220V mode) or DC power supply is required for operation in a 6-, 9-, and 13-slot chassis. It requires a minimum of 950W in the 3-slot chassis.

Sup32 can also operate in the E-Series chassis or a Cisco 7600 Series Router.

Q. In which slots can Sup32 be installed?

A. Sup32 can be installed in the same slots as Sup720

- Slot 5 or 6 in 6-slot or 9-slot chassis
- Slot 7 or 8 in 13-slot chassis
- Slot 1 or 2 in 3-slot and 4-slot chassis

Q. What optics are supported on the 10 GbE ports of Sup32 at FCS?

A. Sup32 supports 10 GbE XENPAKs. XENPAKs supported at FCS include:

- XENPAK-10GB-CX4 (15m over InfiniBand copper)
- XENPAK-10GB-SR (26m over FDDI grade MMF, 300m over 50 um 2000 MHz*km MMF)
- XENPAK-10GB-LX4 (300m over MMF)
- XENPAK-10GB-LR (10 km over SMF)
- XENPAK-10GB-ER (40 km over SMF)

Q. What are the backplane and forwarding speeds for Sup32?

A. Sup32 is a "classic" supervisor that connects to the 32-Gbps bus. The supervisor does not include and does not support a switch fabric. The forwarding performance is 15 Mpps.

Q. How does the Sup32 compare with the Sup720?

A. Sup32 is a performance-optimized and price-optimized version of Sup720. Sup32 is 32-Gbps bus-based architecture, whereas the Sup720 is a 720-Gbps switch-fabric-based architecture.

Both Sup32 and Sup720 are equipped standard with the PFC3B. This enables feature consistency and enhances operational manageability from the access to the aggregation and core edge of the service provider networks.

Q. Are there any Competitive Technology Migration Program (CTMP) credits for Sup32?

A. Yes, Sup32 will qualify for the CTMP standard and bonus credits available for the Cisco Catalyst 6500.

Q. Which line cards are supported by Sup32?

A. All classic line cards and all CEF256 line cards (without a Distributed Forwarding Card [DFC]) are supported at FCS.

Q. Which line cards are not supported by Sup32?

A. The following series of line cards are not supported by Sup32; WS-X67XX, WS-X68XX, SFM, and DFC-based cards.

Q. Which images will support Sup32 at FCS?

A. The initial release supporting Sup32 in Cisco IOS® Software is Release 12.2(18)SXF (see Table 1).

Table 1. 12.2(18)SXF Release Feature Sets

Part Number	Description
S323IBK9L-12218SXF	Cisco CAT6000-SUP32 IOS IP BASE SSH LAN ONLY
S323IB-12218SXF	Cisco CAT6000-SUP32 IOS IP BASE
S323IBK9-12218SXF	Cisco CAT6000-SUP32 IOS IP BASE SSH
S323ISK9-12218SXF	Cisco CAT6000-SUP32 IOS IP SERVICES SSH
S323AIK9-12218SXF	Cisco CAT6000-SUP32 IOS ADVANCED IP SERVICES SSH
S323ESK9-12218SXF	Cisco CAT6000-SUP32 IOS ENTERPRISE SERVICES SSH
S323AEK9-12218SXF	Cisco CAT6000-SUP32 IOS ADVANCED ENTERPRISE SERVICES SSH

The initial release supporting Sup32 in the Cisco Catalyst OS is 8.4 (see Table 2).

Table 2. 8.4 Release Feature Sets

Part Number	Description
SC6K-S323K8-8.4	Catalyst 6000 Sup 32 PFC3 Flash Image, Rel 8.4 cat6000-sup32pfc3k8
SC6K-S323K9-8.4	Catalyst 6000 Sup 32 PFC3 Flash Image w/SSH, Rel 8.4 cat6000-sup32pfc3k9
SC6K-S323CVK8-8.4	Catalyst 6000 Sup 32 PFC3 Flash Image w/CV, Rel 8.4 cat6000-sup32pfc3cvk8
SC6K-S323CVK9-8.4	Catalyst 6000 Sup 32 PFC3 Flash Image w/CV and SSH, Rel 8.4 cat6000-sup32pfc3cvk9

Q. What PFC3B features will the Sup32 support at FCS?

A. Although all the features shown in Table 3 are supported in hardware, some features will be available in Cisco IOS Software only.

Table 3. Features Supported on Catalyst 6500 Supervisor Engine 32

Feature	Support
Control Plane Rate Limiters	Yes
IPv6	Cisco IOS Software only
MPLS	Cisco IOS Software only
PIM SM and SSM, PIM Snooping	Yes
ERSPAN	Cisco IOS Software only
NAT/PAT	Yes
GRE Tunneling	Yes
NetFlow	Yes
Bridged NetFlow, Multicast NetFlow with v9 export	Cisco IOS Software only

Q. Which Multiprotocol Label Switching (MPLS) features will be supported at FCS?

A. Sup32 enables in hardware MPLS VPN and EoMPLS (Martini tunnels) and multicast VPN. MPLS Traffic Engineering (TE) and Fast Re-Route (FRR) are supported as well. Such functionalities allow Sup32 to act as a service provider access device in an H-VPLS architecture.

Q. Does Sup32 support Cisco IOS Software Modularity?

A. Software Modularity will be introduced on Sup32 in the first half of 2006.

Q. Which high-availability features are available on Sup32?

A. Sup32 supports Non-Stop Forwarding (NSF)/Stateful Switchover (SSO) for unicast traffic, MMLS NSF/SSO for multicast traffic and RPR/RPR+ for IPv6 data. Sup32 also supports proactive detection and prevention of network equipment failures using Generic Online Diagnostics (GOLD).

Q. What type of congestion avoidance mechanism is supported on Sup32 uplink interfaces?

A. Sup32 uplinks support the Shaped Round Robin (SRR) scheduling mechanism.

Q. Will the USB ports be operational in the first release of software?

A. No, the USB port functionality will be enabled in a future release of software.

Q. Will the Sup32 support Compact Flash removable storage?

A. Yes, the Sup32 will support a single external Compact Flash slot. In place of a traditional bootflash, the Sup32 will also support an internal Compact Flash bootdisk.

Q. What is the default size of the internal Compact Flash?

A. 256 MB is default size of the internal compact flash and is field upgradable to 512 MB or 1 GB.

Q. How much DRAM comes by default on the Sup32?

A. 512-MB DRAM comes by default on the Sup32 for both the base board and MSFC2A, and both are field upgradable to 1 GB.

Q. For the 8-port Sup32 model, how many uplink ports can be simultaneously active?

A. For a single Sup 32, all 8 uplink ports can be active simultaneously. For redundant configurations, all 16 uplink ports can be active, but not all ports can operate at line rate simultaneously because of the bus speed at 15 Mpps.

Q. For the 10-GbE Sup32 model, how many uplink ports can be simultaneously active? What is the oversubscription rate for the 10-GbE uplinks?

A. All 4 10-GbE ports can be simultaneously active in redundant configurations. For typical traffic patterns, the 10-GbE uplinks are 2:1 oversubscribed in a single supervisor configuration. Actual bandwidth will depend on packet sizes and traffic patterns.

Q. What is the size of the external Compact Flash supported on Sup32?

A. External Compact Flash is optional on Sup32. The Compact Flashes supported at FCS are MEM-C6K-CPTFL64M, MEM-C6K-CPTFL128M, and MEM-C6K-CPTFL256M.

Q. Where can I get additional information about Sup32?

A. The data sheet is at: http://www.cisco.com/en/US/products/hw/switches/ps708/products_data_sheets_list.html.

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