

## Cisco Catalyst 6500 Series 8-Port 10 Gigabit Ethernet Module

Cisco Systems® announces a new 8-port 10 Gigabit Ethernet module for the Cisco® Catalyst® 6500 Series. The 8-port 10 Gigabit Ethernet module doubles the 10 Gigabit Ethernet density on the Catalyst 6500 Series, providing up to 64 ports of 10 Gigabit Ethernet in a single Catalyst 6500 chassis. It is ideal for deployment in the data center for aggregating bandwidth from servers and in the LAN distribution layer for consolidating uplinks from the LAN access layer. Cisco is also announcing a price drop of the LX4 and SR X2 modular optics. This reduces per port 10 Gigabit Ethernet pricing by 30 percent, bringing this to a new price/performance level of 10 times the bandwidth at just 5 times the price of Gigabit Ethernet. The new 8-port 10 Gigabit Ethernet module complements the existing integrated services on the Catalyst 6500 Series, enabling customers to build a scalable, resilient, and manageable data center to meet their growing business needs to consolidate and virtualize servers and storage to maximize resource utilization and drive down capital expenses.

Cisco data center switching delivers relentless velocity:

- Architecture scalability supports growth in any direction.
- Operational speed increases service velocity and IT staff productivity.
- Comprehensive resilience addresses many sources of downtime.

### PRODUCT OVERVIEW

**Figure 1.** Cisco Catalyst 6500 Series 8-Port 10 Gigabit Ethernet Module



There are two versions of the Catalyst 6500 8-port 10 Gigabit Ethernet module:

- 8-port 10 Gigabit Ethernet module with Distributed Forwarding Card 3C (DFC3C)
- 8-port 10 Gigabit Ethernet module with Distributed Forwarding Card 3C (DFC3CXL)

Both modules contain the WS-X6708-10GE base board and a distributed forwarding card. The base module supports up to eight pluggable X2 optics and has a 40 Gbps connection to the fabric and is therefore 2:1 oversubscribed. The distributed forwarding card provides hardware-based MAC learning and forwards traffic at 48 Mpps. The 8-port 10 Gigabit Ethernet module can demonstrate 60 Gbps local switching. Besides increased port density, it also has increased port buffering and enhanced queuing and scheduling mechanisms for congestion management. See Table 1 for new features and benefits provided by the 8-port 10 Gigabit Ethernet module and Table 2 for differences between the DFC3C and the DFC3CXL.

**Table 1.** New Features and Benefits

Feature	Description	Benefits
<b>Increased port density</b>	8-port per module Up to 64 ports per chassis	Consolidating chassis for bandwidth aggregation
<b>Increased port buffering</b>	200MB per port	More efficient transmissions for long haul connections
<b>New scheduler</b>	Shaped Round Robin (SRR) in egress	More efficient handling of bursty traffic
<b>New queuing mechanism</b>	Differentiated services code point (DSCP)-based queue mapping	Allows both ingress and egress queuing based on Layer 3 TOS and provide more granular classes of traffic
<b>Increased memory</b>	Default 1 GB DRAM	Storage of larger forwarding table

**Table 2.** Differences Between DFC3C and DFC3CXL

	DFC3C	DFC3CXL
<b>IPv4 routes</b>	256,000	1,000,000
<b>IPv6 routes</b>	128,000	500,000
<b>NetFlow entries</b>	128,000	256,000
<b>Reflexive access control lists (ACLs)</b>	128,000	256,000

The 8-port 10 Gigabit Ethernet module is supported in the Catalyst 6500 Series chassis as well as Cisco 7600 Series Routers. When operating in an E-Series chassis (6503-E, 6504-E, 6506-E, 6509-E), the 6509-NEB-A chassis, or 7604/7609 chassis, the configuration is NEBS 3 compliant (supports operating temperatures up to 55°C). When operating in a non-E-Series chassis (6506, 6509, 6513) or 7606/7613 chassis, fan tray 2 and 2500W or higher power supplies are required, and the configuration is not NEBS 3 compliant (supports operating temperatures up to 40°C only). The module can be deployed in all slots of a 3/4/6/9-slot chassis. When operating in a 13-slot chassis, it must be deployed in slots 9–13. It is not supported in the 6503 non-E Series chassis.

The 8-port 10 Gigabit Ethernet module is interoperable with all models of the Cisco Catalyst 6500 Series Supervisor Engine 720, including WS-Sup720, WS-Sup720-3B, and WS-Sup720-3BXL. When mixing DFCs in the same chassis, the chassis will operate in the mode of the lowest common denominator.

The following optics will be supported on the 8-port 10 Gigabit Ethernet module at FCS: X2-10GB-SR, X2-10GB-LR, X2-10GB-ER, X2-10GB-LX4, X2-10GB-CX4. Only the -02 version or later of these optics will be supported on this 8-port 10 Gigabit Ethernet module. The -01 version of the optics is not supported. The SR optics provide 26m over FDDI-grade multimode fiber and are ideal for deployment in data center for server aggregation. The LX4 optics provide 300m over multimode fiber and are ideal for deployment in campus LAN uplinks.

Both versions of the 8-port 10 Gigabit Ethernet module are supported today in both Cisco IOS® Software and Cisco IOS Software Modularity.

Table 3 provides orderability and shipping date information. Table 4 describes minimum software requirements. Table 5 provides ordering information.

## AVAILABILITY

**Table 3.** Orderability and Shipping Dates for the 8-Port 10 Gigabit Ethernet Module and Optics

Part Number	Orderability	First Customer Ship (FCS)
<b>Catalyst 6500 8-Port 10 Gigabit Ethernet Modules</b>		
WS-X6708-10G-3C	Now	Shipping (initially on new product hold; expect leadtimes to be 8–10 weeks.)
WS-X6708-10G-3CXL	Now	Shipping (initially on new product hold; expect leadtimes to be 8–10 weeks.)
<b>Optics<sup>1</sup></b>		
X2-10GB-SR	Now	Shipping
X2-10GB-LR	Now	Shipping
X2-10GB-ER	Now	Shipping
X2-10GB-LX4	Now	Shipping
X2-10GB-CX4	Now	Shipping

## MINIMUM SOFTWARE REQUIREMENTS

**Table 4.** Minimum Software Requirements for the 8-Port 10 Gigabit Ethernet Module

Part Number	Minimum Software
WS-X6708-10G-3C	12.2(18)SXF5
WS-X6708-10G-3CXL	12.2(18)SXF5

## ORDERING INFORMATION

**Table 5.** Ordering Information for Catalyst 6500 8-Port 10 Gigabit Ethernet Module and Optics

Part Number	Description
<b>Catalyst 6500 8-Port 10 Gigabit Ethernet Modules</b>	
WS-X6708-10G-3C	Cisco Catalyst 6500 8-Port 10 Gigabit Ethernet Module with DFC3C, requires X2
WS-X6708-10G-3CXL	Cisco Catalyst 6500 8-Port 10 Gigabit Ethernet Module with DFC3CXL, requires X2
<b>Optics</b>	
X2-10GB-SR	10GBASE-SR X2; 26m over FDDI-grade multimode fiber and 300m over 50um 2000MHz*km multimode fiber
X2-10GB-LR	10GBASE-LR X2; 10km over single-mode fiber
X2-10GB-ER	10GBASE-ER X2; 40km over single-mode fiber
X2-10GB-LX4	10GBASE-LX4 X2; 300m over multimode fiber
X2-10GB-CX4	10GBASE-CX4 X2; 15m over copper Infiniband cable
<b>Cabling</b>	
CAB-INF-28G-1=	Cisco 1 m CX4 patch cable for XENPAK-10GB-CX4
CAB-INF-28G-5=	Cisco 5 m CX4 patch cable for XENPAK-10GB-CX4
CAB-INF-28G-10=	Cisco 10 m CX4 patch cable for XENPAK-10GB-CX4
CAB-INF-26G-15=	Cisco 15 m CX4 patch cable for XENPAK-10GB-CX4
<b>Software</b>	
S733ISK9L-12218SXF	Cisco CAT6000-SUP720 IOS IP SERVICES SSH LAN ONLY

<sup>1</sup> Version -02 of these optics or above is required. Version -02 of these optics has been shipping since WS-X6708-10G-3C and WS-X6708-10G-3CXL first shipped. See Catalyst 6500 8-port 10 Gigabit Ethernet Q&A or 12.2SX release notes for more details.

Part Number	Description
S733ISK9-12218SXF	Cisco CAT6000-SUP720 IOS IP SERVICES SSH
S733IS-12218SXF	Cisco CAT6000-SUP720 IOS IP SERVICES
S733ESK9-12218SXF	Cisco CAT6000-SUP720 IOS ENTERPRISE SERVICES SSH
S733AIK9-12218SXF	Cisco CAT6000-SUP720 IOS ADVANCED IP SERVICES SSH
S733AEK9-12218SXF	Cisco CAT6000-SUP720 IOS ADVANCED ENTERPRISE SERVICES SSH
S733AIK9M-12218SXF	Cisco CAT6000-SUP720 IOS ADVANCED IP SERVICES SSH (MODULAR)
S733AEK9M-12218SXF	Cisco CAT6000-SUP720 IOS ADV ENTERPRISE SERVICES SSH (MODULAR)

## FOR MORE INFORMATION

For more information about Cisco Catalyst 6500 Series Switches, visit <http://www.cisco.com/en/US/products/hw/switches/ps708/index.html>.

## MARKETING CONTACTS

For additional inquiries, contact the Cisco Catalyst 6500 product marketing team at [ask-c6500-pm@cisco.com](mailto:ask-c6500-pm@cisco.com).



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