High-Density Multi-Rate 10-Gigabit Interface Modules for Cisco 6807-XL and 6500-E Series Switches

Gigabit Ethernet modules deliver secure and predictable performance for bandwidth-intensive applications in campus aggregation and core switches.

Product Overview

The Cisco Catalyst® 6800 Family Switches offer a variety of 10-Gigabit Ethernet modules. Working in conjunction with the Catalyst® 6500-E/6807-XL Supervisor Engine 2T/2TXL (VS-S2T-10G & VS-S2T-10GXL), they can serve different needs on campus deployments. The family includes three modules: the Catalyst 6800 32-port, 16-port, and 8-port 10-Gigabit Ethernet Fiber Modules.

The modules support hardware-based multicast replication, quality of service (QoS), access control lists (ACLs), jumbo frames, and low latency to enable secure and predictable performance for bandwidth-intensive applications. All three share a common ASIC architecture and support the same set of features in hardware. They support Small Form-Factor Pluggable (SFP/SFP+), 10/100/1000M GLC-T (1G copper SFP) transceivers, and 100M FX. The modules are designed to meet the increasing demand for aggregation of 10-Gigabit Ethernet streams in campus deployments, as well as for high-density 10-Gigabit Ethernet transport in the core.

The modules consist of port groups of eight ports each. The 32-port and 16-port modules can operate in either of two modes: 1) oversubscribed mode (default), which provides for maximum port density, using all of the ports with 2:1 oversubscription; and 2) performance mode, which uses half of the ports, enabling line rates and double the port buffer size. The mode of operation can be changed for each eight-port port-group (mixed mode), and is described in more detail in the following sections. The eight-port 10-Gigabit Ethernet Module always operates in performance mode.

The modules are based on the WS-X6904-40G module and provide the same level of advanced enterprise features and large table sizes that have proven essential to successful operation as a campus aggregation or core switch. They include hardware features such as Virtual Switching System (VSS), Instant Access (IA), Location ID Separation Protocol (LISP), Security Group Tagging (SGT) and Access Control (SGACL), MACsec (802.1ae), traffic shaping, and hierarchical quality of service (HQoS), among others. The line cards are also the first to launch with front-facing passive UHF RFID technology, providing the latest Auto-ID capabilities for asset management.

Product Details

C6800 Family 32-Port 10-Gigabit Ethernet Fiber Module
The C6800 Family 32-port 10-Gigabit Ethernet Fiber Module is suitable for deployment in all campus aggregation and core networks.

- **Two models:** C6800-32P10G, a 32-port 10-Gigabit Ethernet Fiber Module with DFC4 (see Figure 1), and C6800-32P10G-XL, a 32-port 10-Gigabit Ethernet Fiber Module with DFC4XL

- **Backplane connection:** 160-Gbps backplane bandwidth in 6807XL; 80 Gbps backplane bandwidth in 6500-E chassis
- **Chassis/slot support:** Can occupy slots 1-2 and 5-7 in a Cisco Catalyst 6807-XL. Can occupy any slot in Cisco Catalyst 6503E, 6504E, 6506E, 6509E, and 6509-V-E. Can occupy slots 1-6 and 9-13 in a Cisco Catalyst 6513-E
- **Supervisor engine:** Compatible with Supervisor Engine 2T and Supervisor Engine 2TXL
- **Distributed forwarding and performance:** Comes equipped with factory-installed dual (2) DFC4-E or DFC4-EXL daughter cards

The C6800 Family 32-port 10-Gigabit Ethernet Fiber module provides up to 160 10-Gigabit Ethernet fiber ports in a single Cisco Catalyst 6807-XL Switch chassis or up to 320 10-Gigabit Ethernet fiber ports in a Cisco Catalyst 6807-XL Virtual Switching System (VSS) 2T. It also provides up to 352 10-Gigabit Ethernet fiber ports in a single Cisco Catalyst 6513-E Switch chassis, or up to 704 10-Gigabit Ethernet fiber ports in a Cisco Catalyst 6500 VSS 2T.

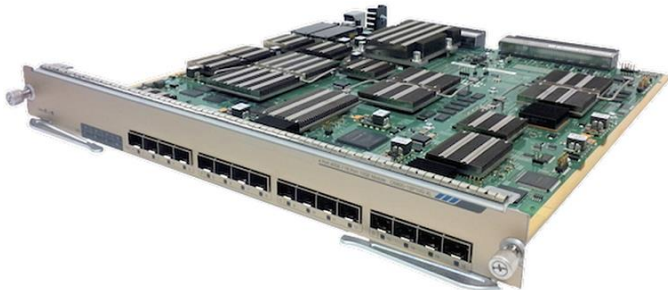**Figure 1.**   6800 Series 32-Port 10-Gigabit Ethernet Fiber Module.

C6800 Family 16-Port 10-Gigabit Ethernet Fiber Module

The C6800 Family 16-port 10-Gigabit Ethernet fiber module is suitable for deployment in all campus aggregation and core networks.

- **Two models:** C6800-16P10G, a 16-port 10-Gigabit Ethernet Fiber Module with DFC4 (Figure 2), and C6800-16P10G-XL, a16-port 10-Gigabit Ethernet Fiber Module with DFC4XL
- **Backplane connection:** 80-Gbps backplane bandwidth in Catalyst 6807-XL and 6500-E chassis
- **Chassis/slot support:** Can occupy slots 1-2 and 5-7 in a Cisco Catalyst 6807-XL. Can occupy any slot in Cisco Catalyst 6503E, 6504E, 6506E, 6509E, and 6509-V-E. Can occupy slots 1-6 and 9-13 in a Cisco Catalyst 6513-E
- **Supervisor engine:** Compatible with Supervisor Engine 2T and Supervisor Engine 2TXL
- **Distributed forwarding and performance:** Comes equipped with a factory-installed DFC4-E or DFC4-EXL daughter card

The C6800 Family 16-port 10-Gigabit Ethernet Fiber Module provides up to 80 10-Gigabit Ethernet fiber ports in a single Cisco Catalyst 6807-XL Switch chassis, or up to 160 10-Gigabit Ethernet fiber ports in a Cisco Catalyst 6807-XL Virtual Switching System (VSS) 2T. It also provides up to 176 10-Gigabit Ethernet Fiber ports in a single Cisco Catalyst 6513-E Switch chassis or up to 352 10-Gigabit Ethernet Fiber ports in a Cisco Catalyst 6500 Virtual Switching System (VSS) 2T.

Figure 2.   6800 Series 16-Port 10-Gigabit Ethernet Fiber Module

C6800 Family 8-Port 10-Gigabit Ethernet Fiber Module

The C6800 Family 8-port 10-Gigabit Ethernet fiber module is suitable for deployment in all aggregation and core networks.

- **Two models:** C6800-8P10G, an 8-port 10-Gigabit Ethernet Fiber Module with DFC4 (Figure 3), and C6800-8P10G-XL, an 8-port 10-Gigabit Ethernet Fiber Module with DFC4XL
- **Backplane connection:** 80-Gbps backplane bandwidth in Catalyst 6807-XL and 6500-E chassis
- **Chassis/slot support:** Can occupy slots 1-2 and 5-7 in a Cisco Catalyst 6807-XL. Can occupy any slot in Cisco Catalyst 6503E, 6504E, 6506E, 6509E, and 6509-V-E. Can occupy slots 1-6 and 9-13 in a Cisco Catalyst 6513-E
- **Supervisor engine:** Compatible with Supervisor Engine 2T and Supervisor Engine 2TXL
- **Distributed forwarding and performance:** Comes equipped with a factory-installed DFC4-E or DFC4-EXL daughter card

The C6800 Family 8-port 10-Gigabit Ethernet Fiber module provides up to 40 10-Gigabit Ethernet fiber ports in a single Cisco Catalyst 6807-XL Switch chassis, or up to 80 10-Gigabit Ethernet fiber ports in a Cisco Catalyst 6807-XL Virtual Switching System (VSS) 2T. It also provides up to 88 10-Gigabit Ethernet fiber ports in a single Cisco Catalyst 6513-E Switch chassis or up to 176 10-Gigabit Ethernet fiber ports in a Cisco Catalyst 6500 Virtual Switching System (VSS) 2T.

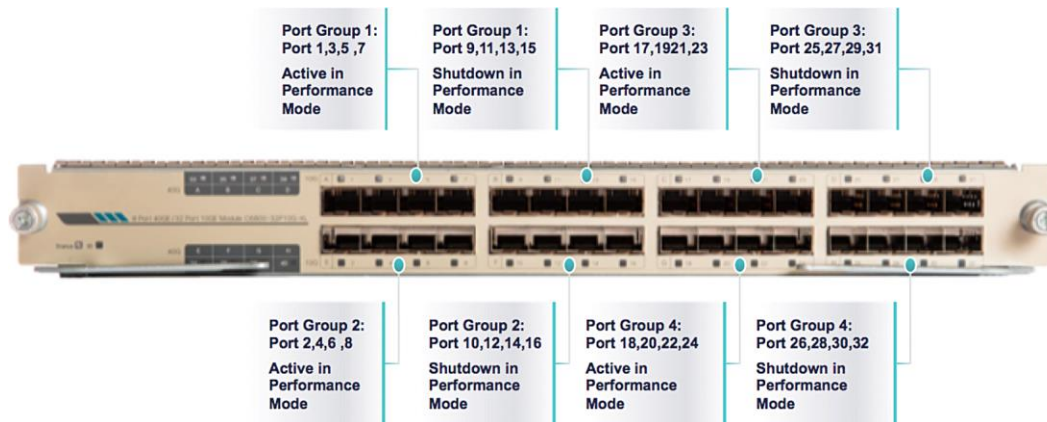**Figure 3.**   6800 Series 8-Port 10-Gigabit Ethernet Fiber Module

Performance Mode

Cisco Catalyst 6800 Family 32-Port and 16-Port 10-Gigabit Ethernet Fiber Module can operate in performance mode to provide line-rate operation. The 8-Port 10-Gigabit Ethernet Fiber Module provides line rate by default, so there is no performance mode for the eight-port module.

In performance mode, a set of eight ports is grouped as a port-group (Figure 4). Performance mode enables line-rate performance by using half (4) of the ports in each port-group. Oversubscribed mode uses all eight ports in a port group and provides 2:1 oversubscription. Details for the default mode and performance mode are shown in Figure 4 and the description below it.

Figure 4.   6800 Family 32-Port 10-Gigabit Ethernet Fiber Module Port Groups and Performance Mode

- Oversubscribed mode (default)
  - For the 32-Port 10-Gigabit Ethernet Module, ports are numbered from left to right. As shown, the top row has odd number ports and the bottom row has even number ports.
  - For the 16-Port 10-gigabit Ethernet Module. ports are numbered from left to right.
- Performance Mode
  - In performance mode, the second four ports in each port group operate in shutdown mode.
  - The first half of the ports can achieve line rate
  - The ingress and egress buffer sizes are also doubled

Note: When the 32-Port 10-Gigabit Ethernet Fiber Module is operating in the Catalyst 6500-E chassis, the oversubscription mode is 4:1 and the performance mode is 2:1.

Product Features

Table 1 summarizes the primary features of the Catalyst 6800 Family of 10-Gigabit Ethernet modules.

Table 1.   C6800 10-Gigabit Ethernet Module Primary Features

Feature	32-port 10GE Fiber Module	16-port 10GE Fiber Module	8-port 10GE Fiber Module
10GE ports	**32 ports 1GE or 10GE** Numbered left to right: • Top row has odd numbered ports: TenGigabitEthernet 1 to 31 • Bottom row has even numbered ports: TenGigabitEthernet 2 to 32	**16 ports 1GE or 10GE** Numbered left to right: • TenGigabitEthernet 1 to 16	**8 ports 1GE or 10GE** Numbered left to right: • TenGigabitEthernet 1 to 8
Port groups	**4 port groups** 2 port-sets per port group Port-group 1: • **1, 3, 5, 7** • 9,11, 13, 15	**2 port groups** 2 port-sets per port group Port-group 1: • **1, 2, 3, 4** • 5, 6, 7, 8	**2 port groups (N/A)** Port-group 1: • 1 to 4 Port-group 2: • 5 to 8

Feature	32-port 10GE Fiber Module	16-port 10GE Fiber Module	8-port 10GE Fiber Module
	Port-group 2: • **2, 4, 6, 8** • 10, 12, 14, 16 Port-group 3: • **17, 19, 21, 23** • 25, 27, 29, 31 Port-group 4: • **18, 20, 22, 24** • 26, 28, 30, 32	Port-group 2: • **9, 10, 11, 12** • 13, 14, 15, 16	Performance Mode is not applicable to 8-port 10GE module
Performance Mode	Yes per port-group	Yes per port-group	N/A
Switch fabric connection	160 Gbps in 6807-XL chassis 80 Gbps in 6500-E chassis	80 Gbps in 6807-XL and 6500-E chassis	80 Gbps in 6807-XL and 6500-E chassis
Oversubscription	In C6807-XL: 32 ports: oversubscription mode 2:1 16 ports: performance mode 1:1 In Catalyst 6500-E: 32 ports: oversubscription mode 4:1 16 ports: performance mode 2:1	In both the C6807-XL and Catalyst 6500-E chassis: 16 ports: oversubscription mode 2:1 8 ports: performance mode 1:1	In both the C6807-XL and Catalyst 6500-E chassis: 8 ports line rate 1:1
Number of forwarding engines	2	1	1
Throughput (per module)	IPv4: up to 120 Mpps IPv6: up to 60 Mpps	IPv4: up to 60 Mpps IPv6: up to 30 Mpps	IPv4: up to 60 Mpps IPv6: up to 30 Mpps

Forwarding engine features	• Non-XL version: comes equipped with DFC4-E for distributed forwarding, supporting:
	  ◦ 256K IPV4 and MPLS Forwarding entries, 128K IPV6 entries
	  ◦ 64K IPV4/IPV6 Multicast routes
	  ◦ 64K ACL entries (shared between QoS and security)
	  ◦ 1M NetFlow entries (32 port card, with 2 forwarding engines)
	  ◦ 512K NetFlow entries (8/16 port card, with 1 forwarding engine)
	• XL version: equipped with DFC4-EXL for distributed forwarding, supporting
	  ◦ 1M IPV4 and MPLS Forwarding entries, 512K IPV6 entries
	  ◦ 64K IPV4/IPV6 Multicast routes
	  ◦ 256K ACL entries (shared between QoS and security)
	  ◦ 2M NetFlow entries (32 port card, with 2 forwarding engines)
	  ◦ 1M NetFlow entries (8/16 port card, with 1 forwarding engine)
	• Both models support a MAC Address Table of 128K
	• In addition to the increased NetFlow entries, supports Flexible NetFlow, Sampled NetFlow and Egress NetFlow
	• Increased MPLS and VPLS performance of up to:
	  ◦ 120Mpps for MPLS forwarding and up to 60Mpps for VPLS forwarding (32 port card, with 2 forwarding engines)
	  ◦ 60Mpps for MPLS forwarding and up to 30Mpps for VPLS forwarding (8/16 port card, with 1 forwarding engine)
	• Support for 16K Bridge Domains, allowing the standard 4K VLANs to be reused across these bridge domains
	• IPv4 Internet Group Management Protocol Version 3 (IGMPv3) snooping in hardware
	• IPv6 Multicast Listener Discovery Version 2 (MLDv2) snooping in hardware
	• Protocol Independent Multicast (PIM) source registers in hardware
	• IPV4 and IPv6 in IPv6 tunneling, IPV4 and IPv6 in MPLS tunneling (6PE/6VPE)
	• IPv6 in IPv4 tunneling (Intra-Site Automatic Tunnel Addressing Protocol [ISATAP], 6to4, GRE)
	• Quality-of-service (QoS) support for uniform, short pipe, and pipe mode tunnel; Hierarchical QoS
	• Fast Link Notification (FLN) for hardware port state detection with 50ms
	• MACsec (802.1ae) link-layer hardware AES 128 bit encryption
	• Location ID Separation Protocol (LISP) hardware encapsulation
	• Virtual Switch Header (VSH) and Virtual Network Tag (VNtag) hardware encapsulation for VSS and Instant Access		

Feature	32-port 10GE Fiber Module	16-port 10GE Fiber Module	8-port 10GE Fiber Module
Queues	Receive: • 1p7q4t (default) • 2p6q4t (configurable) Transmit: • 1p7q4t (default) • 2p6q4t (configurable)		
Queuing mechanisms	• Class of Service (CoS) based queue mapping • (Differentiated Service Code Point (DSCP) based queue mapping		

Scheduler	Ingress Queuing:
	• Deficit Weighted Round Robin (DWRR)
	Egress Queuing:
	• Deficit Weighted Round Robin (DWRR)
	  ◦ Weighted Random Early Detection (WRED)
	• Shaped Round Robin (SRR)
	  ◦ Weighted Random Early Detection (WRED)
	• Class Based Weighted Fair Queuing (CBWFQ)
	  ◦ 2 Level Traffic Shaping (HQoS)
	  ◦ Low-Latency Queuing (LLQ)		

Port buffers	Oversubscription mode: • 250 MB per port (Egress) • 1.2 MB per port (Ingress) Performance mode: • 500 MB per port (Egress) • 2.5 MB per port (Ingress)	Oversubscription mode: • 250 MB per port (Egress) • 1.2 MB per port (Ingress) Performance mode: • 500 MB per port (Egress) • 2.5 MB per port (Ingress)	• 500 MB per port (Egress) • 2.5 MB per port (Ingress)
Hardware multicast replication	• Ingress and Egress replication-mode • Approximately 20 Gbps per replication engine • 8 replication engines per module	• Ingress and Egress replication-mode • Approximately 20 Gbps per replication engine • 4 replication engines per module	• Ingress and Egress replication-mode • Approximately 20 Gbps per replication engine • 4 replication engines per module
Jumbo frame support	Up to 9216 bytes		
Can be used to form VSS Virtual Switch Link	Yes (on all ports)		
Can be used to form Instant Access Remote Switch Link	Yes (on all ports)		
Maximum 10G port density per chassis (not including supervisor uplinks)	160 ports (6807-XL chassis) 352 ports (6513-E chassis) 256 ports (6509-E chassis) 160 ports (6506-E chassis) 96 ports (6504-E chassis) 64 ports (6503-E chassis)	80 ports (6807-XL chassis) 176 ports (6513-E chassis) 128 ports (6509-E chassis) 80 ports (6506-E chassis) 48 ports (6504-E chassis) 32 ports (6503-E chassis)	40 ports (6807-XL chassis) 88 ports (6513-E chassis) 64 ports (6509-E chassis) 40 ports (6506-E chassis) 24 ports (6504-E chassis) 16 ports (6503-E chassis)
Maximum port density per VSS (not including supervisor uplinks)	320 ports (6807-XL chassis) 704 ports (6513-E chassis) 512 ports (6509-E chassis) 320 ports (6506-E chassis) 192 ports (6504-E chassis) 128 ports (6503-E chassis)	160 ports (6807-XL chassis) 352 ports (6513-E chassis) 256 ports (6509-E chassis) 160 ports (6506-E chassis) 96 ports (6504-E chassis) 64 ports (6503-E chassis)	80 ports (6807-XL chassis) 176 ports (6513-E chassis) 128 ports (6509-E chassis) 80 ports (6506-E chassis) 48 ports (6504-E chassis) 32 ports (6503-E chassis)
Supervisor engines supported	Catalyst® 6500 Supervisor Engine 2T and 2TXL		
Chassis supported	• Cisco Catalyst 6807-XL chassis • Cisco Catalyst 6500 E-Series chassis, including 6503-E, 6504-E, 6506-E, 6509-E, 6509-V-E (NEBS) and 6513-E • Not supported in 6500 non-E Series chassis and 7600 Series Chassis		

Feature	32-port 10GE Fiber Module	16-port 10GE Fiber Module	8-port 10GE Fiber Module
Slot requirements	• Can occupy slots 1-2 and 5-7 in a Cisco Catalyst 6807-XL chassis • Can occupy any slot in any Cisco Catalyst 6503-E, 6504-E, 6506-E, 6509-E or 6509-V-E or chassis • Can occupy slots 1-6 and 9-13 in a Cisco Catalyst 6513-E chassis		
Onboard memory	2 GB default	2 GB default	2 GB default
Minimum IOS software release	15.2(1)SY		

Product Specifications

Table 2 lists product specification of the 6800 Series 10-Gigabit Ethernet modules.

Table 2. Product Specifications

Product	Specifications
Standard protocols	IEEE 802.1d, IEEE 802.1p, IEEE 802.1q, IEEE 802.1s, IEEE 802.1w, IEEE 802.3x, IEEE 802.3ad, IEEE 802.3ae, IEEE 802.3ak, IEEE 802.3aq, and IEEE 802.3an

Physical specifications	• Occupies one slot in the Cisco Catalyst 6500 E-Series and 6807-XL chassis
	• Dimensions (H x W x D): 1.73 x 15.4 x 16.4 inches (4.39 x 39.11 x 41.65 cm)
	• Weight:
	  ○ 14.3 lb (6.5kg) for C6800-32P10G/C6800-32P10G-XL
	  ○ 11.0 lb (5kg) for C6800-16P10G/XL and C6800-8P10G/XL

Environmental conditions	Operating temperature: • Agency-certified for operation: 32 to 104°F (0 to 40°C) • Design and tested for operation 32 to 130°F (0 to 55°C) • Storage temperature: -40 to 167°F (-40 to 75°C) • Relative humidity: 10 to 90 percent, noncondensing Operating altitude: • Agency-certified for operation: -500 to 6500 ft (-150 to 2000m) • Designed and tested for operation -500 to 10000 ft (-150 to 3000m)
Regulatory compliance	6800 Series 10-Gigabit Ethernet Copper module, when installed in a system, comply with the following EMC and safety standards: EMC Standards: • FCC Part 15 (CFR 47) Class A • ICES-003 Class A • VCCI Class A • EN55022 Class A • EN55024 • CISPR24 • CISPR 22 Class A • AS/NZS CISPR 22 Class A • ETS 300 386 • KN 22 Class A • EN 50082-1 • EN61000-3-2 • EN61000-3-3 • EN61000-6-1 • CNS13438 Class A • KN6100 -4 Series Safety Standards: • UL 60950-1 • CAN/CSA C22.2 No. 60950 • EN 60950-1 • IEC 60950-1 • AS/NZS 60950-1 • IEC 60825 Class 1

Product	Specifications
	• EN 60825 Class 1 • 21CFR 1040
NEBS criteria levels	SR-3580 Issue 3, June 2007 (GR-63-CORE, issue 3, and GR-1089-CORE, issue 4)
ETSI	• ETS 300 019-2-1, Class 1.1 Storage • ETS 300 019-2-2, Class 2.1 and 2.2 Transportation • ETS 300 019-2-3, Class 3.1E Stationary Use
Network management	• ETHERLIKE-MIB (RFC 1643) • IF-MIB (RFC 1573) • Bridge MIB (RFC 1493) • CISCO-STACK-MIB • CISCO-VTP-MIB • CISCO-CDP-MIB • RMON MIB (RFC 1757) • CISCO-PAGP-MIB • CISCO-STP-EXTENSIONS-MIB • CISCO-VLAN-BRIDGE-MIB • CISCO-VLAN-MEMBERSHIP-MIB • ENTITY-MIB (RFC 2037) • HC-RMON • RFC1213-MIB (MIB-II) • SMON-MIB
Power requirements	• C6800-32P10G: 587.60 Watts • C6800-32P10G-XL: 587.60 Watts • C6800-16P10G: 303.68 Watts • C6800-16P10G-XL: 303.68 Watts • C6800-8P10G: 303.68 Watts • C6800-8P10G-XL: 303.68 Watts • Go to http://www.cisco.com/go/powercalculator for easy power consumption calculation.
Indicators	• Status: green (operational), red (faulty), and orange (module booting) • Link: green (port enabled and connected), orange (port disabled), and off (port enabled and not connected) • Blue beacon: Used to identify a specific module in a fully populated system, within a multisystem environment

Ordering Information

Table 3 provides part numbers for specific models to assist you with ordering.

Table 3.   Part Numbers for Ordering

Part Numbers	Description
6800 Series 10-gigabit Fiber Modules	
C6800-32P10G	Catalyst 6800 32-port 10GE with dual integrated dual DFC4
C6800-32P10G-XL	Catalyst 6800 32-port 10GE with dual integrated dual DFC4-XL
C6800-32P10G=	Catalyst 6800 32-port 10GE with dual integrated dual DFC4 spare
C6800-32P10G-XL=	Catalyst 6800 32-port 10GE with dual integrated dual DFC4-XL spare
C6800-16P10G	Catalyst 6800 16-port 10GE with integrated DFC4
C6800-16P10G-XL	Catalyst 6800 16-port 10GE with integrated DFC4-XL
C6800-16P10G=	Catalyst 6800 16-port 10GE with integrated DFC4 spare
C6800-16P10G-XL=	Catalyst 6800 16-port 10GE with integrated DFC4-XL spare
C6800-8P10G	Catalyst 6800 8-port 10GE with integrated DFC4
C6800-8P10G-XL	Catalyst 6800 8-port 10GE with integrated DFC4-XL
C6800-8P10G=	Catalyst 6800 8-port 10GE with integrated DFC4 spare
C6800-8P10G-XL=	Catalyst 6800 8-port 10GE with integrated DFC4-XL spare

Pluggable Optics for 10 Gigabit and Gigabit Ethernet Modules

Please refer to "Cisco 10-Gigabit Ethernet Transceiver Modules Compatibility Matrix" for the most up-to-date information:

http://www.cisco.com/c/en/us/td/docs/interfaces_modules/transceiver_modules/compatibility/matrix/10GE_Tx_Matrix.html.

Please refer to "Cisco Gigabit Ethernet Transceiver Modules Compatibility Matrix" for the most up-to-date information:

http://www.cisco.com/c/en/us/td/docs/interfaces_modules/transceiver_modules/compatibility/matrix/GE_Tx_Matrix.html.

Cisco and Partner Services

We and our partners can help you create an innovative, secure, intelligent edge in the Borderless Network Architecture. These are services tailored to your company: Through a discovery process that begins with understanding your business objectives, we help you integrate the new Cisco Catalyst 6800 10G line cards into your architecture and incorporate network services onto that platform. Sharing knowledge and leading practices, we support your success every step of the way as you deploy, absorb, manage, and scale new technology. Choose from a flexible suite of support services designed to meet your business needs and help you maintain high-quality network performance while controlling operational costs. For additional information about Cisco services, visit http://www.cisco.com/go/services.

Warranty Coverage and Technical Service Options

The Cisco Catalyst 6800 Family comes with a Cisco one-year hardware warranty. Adding a contract for a technical service offering such as Cisco Smart Net Total Care™ Service to your device coverage provides access to the Cisco Technical Assistance Center (TAC) and can provide a variety of hardware replacement options to meet critical business needs, updates for licensed OS software, and registered access to the extensive Cisco.com knowledge base and support tools.

For more information about Cisco warranties, go to http://www.cisco.com/go/warranty.

For information about Cisco Technical Services, go to http://www.cisco.com/go/ts.

Table 4 shows the Cisco technical services available for the Cisco Catalyst 6500 System.

Table 4.   Cisco Technical Services for Cisco Catalyst 6500 System

Technical Services
Cisco Smart Net Total Care Service • Around-the-clock, global access to the Cisco Technical Assistance Center (TAC) • Unrestricted access to the extensive Cisco.com resources, communities, and tools • Next-business-day, 8x5x4, 24x7x4, and 24x7x2 advance hardware replacement[2] and onsite parts replacement and installation available • Ongoing operating system software updates within the licensed feature set[1] • Proactive diagnostics and real-time alerts on Smart Call Home enabled devices
Cisco Focused Technical Support Services 3 levels of premium, high-touch services are available: • Cisco High-Touch Operations Management Service • Cisco High-Touch Technical Support Service • Cisco High-Touch Engineering Service Valid Cisco Smart Net Total Care or SP Base contracts on all network equipment are required.

1. Cisco operating system updates include the following: maintenance releases, minor updates, and major updates within the licensed feature set.

2. Advance hardware replacement is available in various service-level combinations. For example, 8x5xNBD indicates that shipment will be initiated during the standard 8-hour business day, 5 days a week (the generally accepted business days within the relevant region), with next business day (NBD) delivery. Where NBD is not available, same day ship is provided. Restrictions apply; please review the appropriate service descriptions for details.

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For More Information

For more information about Cisco Catalyst 6800 Series Switches, visit http://www.cisco.com/c/en/us/products/switches/catalyst-6800-series-switches/index.html or contact your local account representative.

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