Cisco Catalyst 6840-X Series Fixed Backbone Switch

Contents

Product Overview

Network traffic has grown exponentially over the last several years, and this trend is expected to continue into the foreseeable future. By 2018, there will be 20+ billion networked devices, up from 10 billion in 2011. Business IP traffic is expected to reach 13.1 exabytes per month in 2016[1]. Networks must be capable of scaling well beyond the needs of today to deal with the traffic of tomorrow while at the same time providing investment protection.

The Cisco® Catalyst® 6840-X Series Switch (Figure 1) is a 2RU fixed backbone switch in the Cisco Catalyst 6800 family. The 6840-X is based on the Cisco Catalyst 6800, with more than 3000 features and maturity of software code. The Cisco Catalyst 6840-X is the smallest Multiprotocol Label Switching (MPLS) aggregator or Instant Access controller in the Cisco 6800 Catalyst Family. The 6840-X offers the following four SKUs:

- 16 and 32 ports of 10G SFP/SFP+

- 24 and 40 ports of 10G SFP/SFP+ with 2 Native uplink ports of 40G QSFP

This 10G/40G-ready platform is ideal for those who want to introduce premium 10G services in small or midsize campus backbones. This unique platform offers 10G port density, full IPv4/IPv6 and MPLS/VPLS functionality with large table sizes (up to 256,000 FIB entries), and more than 15 years of best-in-class features. With a full suite of L2/L3, virtualization, security, multicast, IPv6, application visibility, smart operations, and rich media services, the Cisco Catalyst 6840-X delivers unprecedented capabilities on day one. This platform also runs on the same architecture as the Cisco Catalyst 6500 Supervisor Engine 2T and therefore offers stability with proven operating system software.

The Cisco Catalyst 6840-X Series chassis offers integrated resiliency by providing 1+1 power supply redundancy, single removable fan-tray with four redundant fans, and support for Virtual Switching System (VSS), thereby limiting network downtime, and makes sure of workforce productivity, customer satisfaction, and profitability.

Cisco Catalyst 6840-X Product Details

The Cisco Catalyst 6840-X provides flexibility to build desired port density through four chassis versions. The four models come with a minimum of fixed 16x10G ports and up to 40x10G ports using SFP/SFP+. Two of the models come with 2x40G uplink ports with native QSFP. Table 1 outlines the 6840-X models and their capabilities.

Table 1.   6840-X Models and Capabilities

6840-X Models	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Native Optics	SFP/SFP+	SFP/SFP+	SFP/SFP+ and QSFP	SFP/SFP+ and QSFP
Number of 10G Ports	16	32	24 + 8 using breakout cable	40 + 8 using breakout cable

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[1] Cisco VNI forecast – https://www.cisco.com/web/solutions/sp/vni/vni_forecast_highlights/index.html.

6840-X Models	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Number of 40G Ports	0	0	2	2
Features	Full-feature L2/L3 with MPLS, VPLS, IPv4/IPv6 capabilities, 512K Netflow	Full-feature L2/L3 with MPLS, VPLS, IPv4/IPv6 capabilities, 1M Netflow	Full-feature L2/L3 with MPLS, VPLS, IPv4/IPv6 capabilities, 1M Netflow	Full-feature L2/L3 with MPLS, VPLS, IPv4/IPv6 capabilities, 1.5M Netflow
Additional Hardware Features	Large buffers, SGT, MACSec, LISP, dual priority queues, two-level shaping, Instant Access	Large buffers, SGT, MACSec, LISP, dual priority queues, two level shaping, Instant Access	Large buffers, SGT, MACSec, LISP, dual priority queues, two-level shaping, Instant Access	Large buffers, SGT, MACSec, LISP, dual priority queues, two-level shaping, Instant Access

Figure 1.
Cisco Catalyst 6840-X Series Chassis with All Four SKUs

The Cisco Catalyst 6840-X Series offers premium Campus Backbone features and benefits, including:

- **Platform scalability:** The platform supports up to 960Gbps of switching capacity, which doubles up to 1.92Tbps with VSS technology.

- **Security:** Support for Cisco TrustSec® to provide IEEE 802.1AE MACsec encryption and role-based ACL, CoPP to prevent DoS attacks, and Cisco ISE to safeguard and manage end-to-end security for the enterprise.

- **Virtualization:** Comprehensive suite of virtualization features, including L2/L3 VPN, full MPLS, EVN, VRF-aware applications for NAT Netflow, GRE for v4/v6, L2 extensions with VPLS, and so on to segment different user groups and serve unique security/QoS policy requirements of each of these diverse user groups.

- **Application visibility and control (AVC):** Supports enhanced application monitoring such as Flexible and Sampled NetFlow and advanced priority queuing capabilities such as Hierarchical QoS.

- **Smart operations:** The Cisco Catalyst 6840-X supports Cisco Catalyst Instant Access*, which allows an Instant Access client to act as a remote line card of the Cisco Catalyst 6840-X, as well as Smart Install Director, which provides zero-touch deployment of access switches.

- **High availability:** Two Cisco Catalyst 6840-X Series Switches can be combined into a VSS. In addition to high availability VSS, provides ease of operation by providing a single point of management, eliminating the need for First Hop Routing Protocol (FHRP) and removing the reliance on Spanning Tree Protocol (STP) for link failure restoration.

Product Specifications

System Specifications

Table 2 lists the system specifications for the Cisco Catalyst 6840-X Series Switch.

Table 2. Cisco Catalyst 6840-X Series System Specifications

Item	C6816-X-LE Specification	C6832-X-LE Specification	C6824-X-LE-40G Specification	C6840-X-LE-40G Specification
Switching Capacity	Up to 80 Gbps Full Duplex	Up to 160 Gbps Full Duplex	Up to 160 Gbps Full Duplex	Up to 240 Gbps Full Duplex
Performance	Up to 60Mpps	Up to 120Mpps	Up to 120Mpps	Up to 180Mpps
Maximum Port Density per Chassis	16 x 10G SFP native	32 x 10G SFP native	24 x 10G native + 8 x 10G SFP using breakout cable or 2 x 40G native	40 x 10G native + 8 x 10G SFP using breakout cable or 2 x 40G native
Maximum Port Density (VSS)	30 x 10G SFP native	62 x 10G SFP native	46 x 10G native + 8 x 10G SFP using breakout cable or 2 x 40G native	78 x 10G native + 8 x 10G SFP using breakout cable or 2 x 40G native
Power Supply Compatibility*	AC: 750W, DC: 750W	AC: 750W, DC: 750W	AC: 750W, DC: 750W	AC: 1100W, DC: 1100W
Reliability and Availability				
Online Insertion and Removal (OIR)	OIR supported for redundant Power Supplies and fan tray			
Physical dimensions (H x W x D)				
Inches	3.5 x 17.35 x 21.52	3.5 x 17.35 x 21.52	3.5 x 17.35 x 21.52	3.5 x 17.35 x 21.52
Centimeters	8.89 x 44.07 x 54.66	8.89 x 44.07 x 54.66	8.89 x 44.07 x 54.66	8.89 x 44.07 x 54.66
Rack Units (RU)	2RU	2RU	2RU	2RU
Weight				
Chassis with 2 Power Supplies and Built-In Fan**	24.04 lbs/10.09 kgs	33.95 lbs/15.4 kgs	34.83 lbs/15.8 kgs	37.03 lbs/16.8 kgs
Input Voltage	100 to 240 VAC −48 to −72 VDC	100 to 240 VAC −48 to −72 VDC	100 to 240 VAC −48 to −72 VDC	100 to 240 VAC −48 to −72 VDC
Safety	UL 60950 Second Edition CAN/CSA-C22.2 No. 60950 Second Edition EN 60950 Second Edition IEC 60950 Second Edition AS/NZS 60950			

Item	C6816-X-LE Specification	C6832-X-LE Specification	C6824-X-LE-40G Specification	C6840-X-LE-40G Specification
EMC	FCC Part 15 (CFR 47) Class A VCCI Class A EN55022 Class A CISPR 22 Class A CE marking AS/NZS 3548 Class A ETS300 386 EN55024 EN61000-6-1 EN50082-1			
NEBS/ETSI	GR-1089-Core NEBS Level 3 ETS 300 019 Storage Class 1.1 ETS 300 019 Transportation Class 2.3 ETS 300 019 Stationary Use Class 3.1			
ATIS Pb Free and Energy Efficiency	ATIS-0600020.2010 Pb Free circuit packs ATIS-0600015-2009 General Energy Efficiency Requirements (TEER) ATIS-0600015.03-2009 Switch and Router Energy Efficiency ATIS-0600015.01-2009 Server Energy Efficiency VZ.TPR.9205 Verizon Energy Efficiency Requirements for Telecommunication Equipment (TEEER)			
Network Management	ETHERLIKE-MIB (RFC 1643) IP-MIB and IP-FORWARD-MIB for IPv6 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			
Operating Environment				
Operating Temperature	32°F to 104°F (0 to 40°C)	32°F to 104°F (0 to 40°C)	32°F to 104°F (0 to 40°C)	32°F to 104°F (0 to 40°C)
Storage Temperature	-4 to 149°F (-20 to 65°C)	-4 to 149°F (-20 to 65°C)	-4 to 149°F (-20 to 65°C)	-4 to 149°F (-20 to 65°C)

Item	C6816-X-LE Specification	C6832-X-LE Specification	C6824-X-LE-40G Specification	C6840-X-LE-40G Specification
Thermal Transition	0.5°C per minute (hot to cold) 0.33°C per minute (cold to hot)	0.5°C per minute (hot to cold) 0.33°C per minute (cold to hot)	0.5°C per minute (hot to cold) 0.33°C per minute (cold to hot)	0.5°C per minute (hot to cold) 0.33°C per minute (cold to hot)
Relative Humidity	Ambient (noncondensing) operating: 5% to 90% Ambient (noncondensing) non-operating and storage: 5% to 95%			
Operating Altitude	Certified for operation: 0 to 6500 ft (0 to 2000 m) Designed and tested for operation: -200 to 10,000 ft (-60 to 3000 m)			

* 750W power supply is not supported on the C6840-X-LE-40G. The 1100W power supply is only supported on the C6840-X-LE-40G.

** AC Power Supply is 1Kg/2.2lbs and DC Power Supply is 1.05Kg/2.31lbs

Table 3 provides base system performance and scalability information.

Table 3.   Base System Scalability

Attribute	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
MAC Entries	128K	128K	128K	128K
Routes	256K (IPv4) 128K (IPv6)	256K (IPv4) 128K (IPv6)	256K (IPv4) 128K (IPv6)	256K (IPv4) 128K (IPv6)
ACL Entries	64K shared for QoS/security	64K shared for QoS/security	64K shared for QoS/security	64K shared for QoS/security
NetFlow Entries	512K (per system)	1M (per system)	1M (per system)	1.5M (per system)
Multicast Routes	128K (IPv4) 64K (IPv6)	128K (IPv4) 64K (IPv6)	128K (IPv4) 64K (IPv6)	128K (IPv4) 64K (IPv6)
IPv4 Routing	In hardware Up to 60 Mpps**	In hardware Up to 120 Mpps**	In hardware Up to 120 Mpps**	In hardware Up to 180 Mpps**
IPv6 Routing	In hardware Up to 30 Mpps**	In hardware Up to 60 Mpps**	In hardware Up to 60 Mpps**	In hardware Up to 90 Mpps**
L2 Bridging	In hardware Up to 60 Mpps**	In hardware Up to 120 Mpps**	In hardware Up to 120 Mpps**	In hardware Up to 180 Mpps**
Jumbo Frame Support	Up to 9216 bytes (For bridged and routed pkts.)	Up to 9216 bytes (For bridged and routed pkts.)	Up to 9216 bytes (For bridged and routed pkts.)	Up to 9216 bytes (For bridged and routed pkts.)
VLAN	4094	4094	4094	4094
Bridge Domains	16K	16K	16K	16K
MPLS	8192 VRFs In hardware Up to at 60 Mpps	8192 VRFs In hardware Up to 120 Mpps	8192 VRFs In hardware Up to 120 Mpps	8192 VRFs In hardware Up to 180 Mpps

Attribute	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Logical Interfaces	128K	128K	128K	128K
EtherChannel Hash	8 bits	8 bits	8 bits	8 bits
VPLS	In hardware (up to 30 Mpps)	In hardware (up to 30 Mpps)	In hardware (up to 30 Mpps)	In hardware (up to 30 Mpps)
GRE	In hardware (up to 30 Mpps)	In hardware (up to 30 Mpps)	In hardware (up to 30 Mpps)	In hardware (up to 30 Mpps)
NAT	Hardware assisted	Hardware assisted	Hardware assisted	Hardware assisted
Onboard Memory	4GB	4GB	4GB	4GB
Ingress Buffers Per Port	1.25MB per 10G in 2:1 mode 2.5MB per 10G in 1:1 mode (10MB per Port ASIC)	1.25MB per 10G in 2:1 mode 2.5MB per 10G in 1:1 mode (10MB per Port ASIC)1:1	1.25MB per 10G in 2:1 mode 2.5MB per 10G in 1:1 mode (10MB per Port ASIC)	1.25MB per 10G in 2:1 mode 2.5MB per 10G in 1:1 mode (10MB per Port ASIC)
Egress Buffers Per Port	250MB per 10G in 2:1 mode 500MB per 10G in 1:1 mode (2GB per Replication ASIC)	250MB per 10G in 2:1 mode 500MB per 10G in 1:1 mode (2GB per Replication ASIC	250MB per 10G in 2:1 mode 500MB per 10G in 1:1 mode (2GB per Replication ASIC)	250MB per 10G in 2:1 mode 500MB per 10G in 1:1 mode (2GB per Replication ASIC)
Oversubscription	At 2:1 in oversubscription mode (default) At 1:1 in performance mode (configurable)			

* 1K=1024.

Table 4 provides information about QoS features and scalability.

Table 4. QoS Features and Scalability

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Layer-3 classification and marking Access Control Entries (ACEs)	64K shared for QoS/Security	64K shared for QoS/Security	64K shared for QoS/Security	64K shared for QoS/Security
Aggregate rate-limiting Policers	16,348	16,348	16,348	16,348
Flow-based rate-limiting method; number of rates	Per source address, destination address, or full flow; 64 rates	Per source address, destination address, or full flow; 64 rates	Per source address, destination address, or full flow; 64 rates	Per source address, destination address, or full flow; 64 rates
Distributed Policers	Yes	Yes	Yes	Yes
Shared uFlow Policers	Yes	Yes	Yes	Yes
Egress uFlow Policers	Yes	Yes	Yes	Yes

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Packet or byte Policers	Yes	Yes	Yes	Yes
Per-Port/Per-VLAN	Yes	Yes	Yes	Yes
MAC ACL with Per-Port/Per-VLAN	Yes	Yes	Yes	Yes
COS based Queue Mapping	Yes	Yes	Yes	Yes
DSCP based Queue Mapping	Yes	Yes	Yes	Yes
Weighted Random Early Detection (WRED)	Yes	Yes	Yes	Yes
Deficit Weighted Round Robin (DWRR)	Yes	Yes	Yes	Yes
Shaped Round Robin (SRR)	Yes	Yes	Yes	Yes
CBWFQ Traffic Shaping				
Hierarchical QoS	2-Level	2-Level	2-Level	2-Level
Receive and Transmit Queues	Default: 1p7q4t Configurable: 2p6q4t	Default: 1p7q4t Configurable: 2p6q4t	Default: 1p7q4t Configurable: 2p6q4t	Default: 1p7q4t Configurable: 2p6q4t

Table 5 provides information about security features and scalability.

Table 5. Security Features and Scalability

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Port Security	Yes	Yes	Yes	Yes
IEEE 802.1x and 802.1x extensions	Yes	Yes	Yes	Yes
Router ACLs	Yes	Yes	Yes	Yes
VLAN ACLs	Yes	Yes	Yes	Yes
Port ACLs	Yes	Yes	Yes	Yes
Security ACL entries	64K shared for QoS/Security	64K shared for QoS/Security	64K shared for QoS/Security	64K shared for QoS/Security
1:1 mask ratio to ACE values	Yes	Yes	Yes	Yes
ACL labels	16K	16K	16K	16K
Port ACL	8K	8K	8K	8K
ACL dry run	Yes	Yes	Yes	Yes

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Hitless ACL changes			Yes	Yes
MAC ACLs on IP	Yes	Yes	Yes	Yes
Number of interfaces with ACL	16k	16k	16k	16k
Private VLANs	Yes	Yes	Yes	Yes
uRPF check (IPv4/IPv6)	Up to 16	Up to 16	Up to 16	Up to 16
RPF interfaces	16	16	16	16
Layer 2 Cisco TrustSec (Security Group Tagging & Security Group Access Control List)	Yes	Yes	Yes	Yes
Layer 3 Cisco TrustSec (Security Group Tagging & Security Group Access Control List)	Yes	Yes	Yes	Yes
IEEE 802.1ae (MACSEC) Layer 2 encryption in hardware	Yes	Yes	Yes	Yes
CPU rate limiters (DoS protection)	57	57	57	57
Layer 2 rate limiters	20 ingress 6 egress	20 ingress 6 egress	20 ingress 6 egress	20 ingress 6 egress
CPU rate-limiters by PPS or BPS	Yes	Yes	Yes	Yes
CoPP for multicast	L2 and L3 support	L2 and L3 support	L2 and L3 support	L2 and L3 support
CoPP for exceptions (MTU, TTL)	Yes	Yes	Yes	Yes
CoPP exceptions NetFlow support	Yes	Yes	Yes	Yes

Table 6 provides information about Netflow and AVC features.

Table 6. Netflow and AVC Features

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Netflow support in hardware	Yes	Yes	Yes	Yes
Flexible Netflow (FNF)	Yes	Yes	Yes	Yes
Ingress Netflow	Yes	Yes	Yes	Yes
Egress Netflow	Yes	Yes	Yes	Yes
Sampled Netflow	Yes	Yes	Yes	Yes
IPv6 Netflow Collection	Yes	Yes	Yes	Yes
MPLS Netflow Collection	Yes	Yes	Yes	Yes
Layer 2 Netflow Collection	Yes	Yes	Yes	Yes
NFv5 Netflow Data Export	Yes	Yes	Yes	Yes
NFv9 Netflow Data Export	Yes	Yes	Yes	Yes
CPU Yielding NDE	Yes	Yes	Yes	Yes
Control-Plane (CPU) Netflow	Yes	Yes	Yes	Yes
Control-Plane (CPU) Packet Caputre	Yes	Yes	Yes	Yes
Mini Protocol Analyzer (MPA)	Yes	Yes	Yes	Yes
SPAN	2 Bidir 16 TX only	2 Bidir 16 TX only	2 Bidir 16 TX only	2 Bidir 16 TX only
RSPAN	Yes	Yes	Yes	Yes
ERSPAN	Yes	Yes	Yes	Yes

Table 7 provides information about Multicast Features.

Table 7. Multicast Features

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Multicast support in hardware	Yes	Yes	Yes	Yes
IPv4 PIM (DM, SM, SSM, BIDIR)	Yes	Yes	Yes	Yes
IPv6 PIM (SM, SSM)	Yes	Yes	Yes	Yes
IGMPv1/v2 snooping in hardware	Yes	Yes	Yes	Yes

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
MLDv1 snooping in hardware	Yes	Yes	Yes	Yes
IGMPv3 snooping in hardware	Yes	Yes	Yes	Yes
PIM BSR	Yes	Yes	Yes	Yes
Auto RP	Yes	Yes	Yes	Yes
MSDP	Yes	Yes	Yes	Yes
Multicast VPN (mVPN) - Rosen	Yes	Yes	Yes	Yes
Label Switched Multicast (LSM)	Yes	Yes	Yes	Yes
Multicast Service Reflection (MSR)	Yes	Yes	Yes	Yes
Ingress and Egress multicast replication in hardware	Yes	Yes	Yes	Yes
IGMPv3 snooping in hardware	Yes	Yes	Yes	Yes
IPv6 MLDv2 snooping in hardware	Yes	Yes	Yes	Yes
PIM snooping in hardware	Yes	Yes	Yes	Yes
Multicast Boundary	Yes	Yes	Yes	Yes
IGMP/MLD filtering	Yes	Yes	Yes	Yes
PIM registers in hardware	Yes	Yes	Yes	Yes
Dual RPF (Live-Live)	Yes	Yes	Yes	Yes
IP-based Layer 2 Multicast	Yes	Yes	Yes	Yes

Table 8 provides information about MPLS and virtualization features.

Table 8.   MPLS and Virtualization Features

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Virtual Switching System (VSS)*	Yes	Yes	Yes	Yes
Instant Access (IA)	Yes	Yes	Yes	Yes
Location ID Separation Protocol (LISP)	Yes	Yes	Yes	Yes
LISP Across Subnet Mode (ASM)	Yes	Yes	Yes	Yes
Multi-Protocol Label Switching (MPLS)	Yes	Yes	Yes	Yes

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
Label Distribution Protocol (LDP)	Yes	Yes	Yes	Yes
Label imposition (MPLS-PE)	Yes	Yes	Yes	Yes
Label swapping (MPLS-P)	Yes	Yes	Yes	Yes
Virtual Private LAN Service (VPLS)	Yes	Yes	Yes	Yes
QoS using experimental (EXP) Bits	Yes	Yes	Yes	Yes
RSVP-TE	Yes	Yes	Yes	Yes
MPLS Differentiated Services Traffic Engineering (MPLS-DS-TE)	Yes	Yes	Yes	Yes
MPLS Traceroute	Yes	Yes	Yes	Yes
H-VPLS	Yes	Yes	Yes	Yes
A-VPLS	Yes	Yes	Yes	Yes
EoMPLS	Yes	Yes	Yes	Yes
Native VPLS in HW	Yes	Yes	Yes	Yes
Multipoint GRE	Yes	Yes	Yes	Yes
L2oMGRE	Yes	Yes	Yes	Yes
VRF Lite	Yes	Yes	Yes	Yes
Easy Virtual Network (EVN)	Yes	Yes	Yes	Yes
IPv4 and IPv6 in IPv6 Tunneling	Yes	Yes	Yes	Yes
IPv6 in IPv4 Tunneling (Intra-Site Automatic Tunnel Addressing Protocol [ISATAP], 6to4, GRE	Yes	Yes	Yes	Yes
QoS support for uniform, short pipe and pipe mode tunnel	Yes	Yes	Yes	Yes
VRF-aware Context	Yes	Yes	Yes	Yes
VPN NetFlow support	Yes	Yes	Yes	Yes
VPN-aware NAT	Yes	Yes	Yes	Yes
VPN-aware DHCP	Yes	Yes	Yes	Yes

Feature	C6816-X-LE	C6832-X-LE	C6824-X-LE-40G	C6840-X-LE-40G
VPN-aware DHCP	Yes	Yes	Yes	Yes
Per-VPN interface statistics	Yes	Yes	Yes	Yes

[*] VSS is supported between all of the four 6840-X chassis.

Table 9 provides information about supported optics for Cisco Catalyst 6840-X Series.

Table 9.   Pluggable Optics for Cisco Catalyst 6840-X Base System

Category	Optics
10G SFP+ Modules	SFP-10G-SR
	SFP-10G-LRM
	SFP-10G-LR
	SFP-10G-ER
	SFP-10G-ZR
	DWDM-SFP10G (all 40 wavelengths)
10G SFP+ Twinax Copper Cables	SFP-H10GB-CU1M
	SFP-H10GB-CU3M
	SFP-H10GB-CU5M
	SFP-H10GB-ACU7M
	SFP-H10GB-ACU10M
1G SFP Modules	GLC-SX-MM
	GLC-SX-MMD
	GLC-LH-SM
	GLC-LH-SMD
	GLC-EX-SMD
	GLC-ZX-SM
	GLC-ZX-SMD
	GLC-BX-D
	GLC-BX-U
1000BASE-T SFP Module	GLC-T (Support 10/100/1000Mbps)
100BASE-FX SFP Module	GLC-GE-100FX[*]

[*] Support of GLC-GE-100FX is available on 15.1(2)SY2 and later releases.

Table 10 provides information about software packaging.

Table 10. Software Packaging

Item	C6840-X PID: C6816-X-LE	C6840-X PID: C6832-X-LE	C6840-X PID: C6824-X-LE-40G	C6840-X PID: C6840-X-LE-40G
Software License (Feature Set)	• IP Services • Advanced Enterprise Services	• IP Services • Advanced Enterprise Services	• IP Services • Advanced Enterprise Services	• IP Services • Advanced Enterprise Services
Software Compatibility	15.2(2)SY and later releases*	15.2(2)SY and later releases*	15.2(2)SY and later releases*	15.2(2)SY and later releases*

Cisco ONE Software

Cisco ONE Software for Access Switching is available for the Cisco Catalyst 6840-X Series Switch.

Cisco ONE Software is a new way for customers to purchase and use our infrastructure software. It offers a simplified consumption model, centered on common customer scenarios in the data center, WANs, and LANs.

Cisco ONE Software and services provide customers with four primary benefits:

- Software suites that address typical customer use scenarios at an attractive price
- Investment protection of their software purchase through software services-enabled license portability
- Access to ongoing innovation and new technology with Cisco Software Support Service (SWSS)
- Flexible licensing models to smoothly distribute customer's software spend over time

For ordering information for Cisco ONE Software for the Cisco Catalyst 6840-X Series Switch, go to https://www.cisco.com/c/en/us/products/software/one-access/switching-part-numbers.html.

Ordering Information

Table 11 lists the ordering information for the Cisco Catalyst 6840-X Series chassis. To place an order, visit the Cisco ordering homepage.

Table 11. Ordering Information

Product Description	Part Number
Cisco Catalyst 6816-X-Chassis (Standard Tables)	C6816-X-LE
Cisco Catalyst 6832-X-Chassis (Standard Tables)	C6832-X-LE
Cisco Catalyst 6824-X-Chassis and 2 x 40G (Standard Tables)	C6824-X-LE-40G
Cisco Catalyst 6840-X-Chassis and 2 x 40G (Standard Tables)	C6840-X-LE-40G
Cisco Catalyst 6840-X Power Supply AC-750W	C6840-X-750W-AC=
Cisco Catalyst 6840-X Power Supply DC-750W	C6840-X-750W-DC=

Product Description	Part Number
Cisco Catalyst 6840-X Power Supply AC-1100W	C6840-X-1100W-AC=
Cisco Catalyst 6840-X Power Supply DC-1100W	C6840-X-1100W-DC=

Warranty Coverage and Technical Service Options

The Cisco Catalyst 6840-X System comes with a Cisco one-year hardware warranty. Adding a contract for a technical service offering such as Cisco SMARTnet™ 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 https://www.cisco.com/go/warranty.

For information about Cisco Technical Services (Table 12), go to https://www.cisco.com/go/ts.

Table 12.   Cisco Technical Services for Cisco Catalyst 6840-X Series Switch

Technical Services
Cisco SMARTnet 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[3] and onsite parts replacement and installation available • Ongoing operating system software updates within the licensed feature set[4] • Proactive diagnostics and real-time alerts on Smart Call Home-enabled devices
Cisco Focused Technical Support Services Three 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 SMARTnet or SP Base contracts on all network equipment are required.

[3.]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; review the appropriate service descriptions for details.

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

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