



Product Overview

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The Cisco 6500/7600 Series Manager (C65/76M) software manages and monitors one or more Catalyst 6000 family switches or Cisco 7600 series Internet Routers using Cisco Element Management Framework (CEMF), version 3.2. The C65/76M provides standard element-management functionality, such as fault, configuration, accounting, performance, and security (FCAPS).

Cisco 6500/7600 Series Manager Software Overview

The Cisco 6500/7600 Series Manager (C65/76M) software adds custom windows and modeling behavior to the standard CEMF system to provide management of the Catalyst 6000 family switches and Cisco 7600 series Internet Routers.

The software helps network administrators manage Catalyst 6000 family switches or Cisco 7600 series Internet Routers by eliminating the need to have Simple Network Management Protocol (SNMP) and a detailed knowledge of the Cisco IOS or Catalyst OS required commands. The software also helps simplify the deployment process for the Catalyst 6000 family switches or Cisco 7600 series Internet Routers.

Multiple Element Managers can be installed onto a single CEMF server, which allows multidevice and multivendor management from a single system.



Note

Refer to the *Cisco Element Management Framework User Guide* for additional information.

Software Features

The C65/76M software provides the following features:

- Manual predeployment of Catalyst 6000 family switches or Cisco 7600 series Internet Routers and subcomponents in the management system before actual installation. The system can automatically detect predeployed objects and begin management when they are installed and configured.
- Autodiscovery feature that identifies newly installed Catalyst 6000 family switches or Cisco 7600 series Internet Routers and their hardware configuration.
- Access to maps that are automatically created by the management system to show the exact representation of Catalyst 6000 family or Cisco 7600 series Internet Router components.
- SNMP alarms presented as color-coded icons on network maps.
- Access to fault, configuration, accounting, performance, and security (FCAPS) functionality (supported through SNMP and Cisco IOS or Catalyst OS software) through GUIs that you can operate without SNMP or Cisco IOS or Catalyst OS software expertise.
- Many operations can be performed to several Catalyst 6000 family switches or Cisco 7600 series Internet Routers, simplifying the management of a large deployment of multiple switches.
- CEMF event browser or performance manager provide historical information analysis.
- Configuration of Ethernet, PoS, ATM, and Sonet modules.
- Configuration management, including backup and restore operations.
- Software-download initiation.

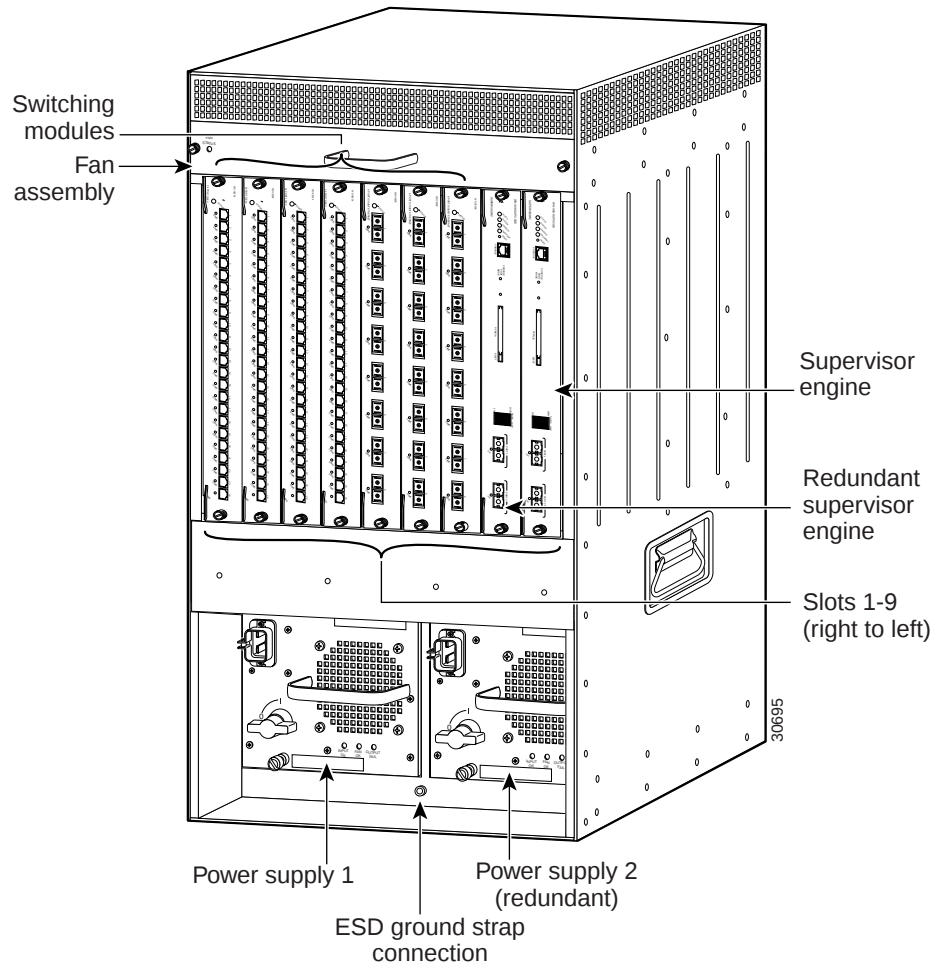
Catalyst 6000 Family Overview

The Catalyst 6000 family consists of the 6-slot Catalyst 6006 switch and the 9-slot Catalyst 6009 switch. The Catalyst 6500 series consists of the 6-slot Catalyst 6506 switch, the 9-slot Catalyst 6509 switch, the 9-slot Catalyst 6509NEB switch (shown in [Figure 1-1](#)), and the 13-slot 6513 switch.

These high-performance, modular, frame-based switches support high-density Fast Ethernet and Gigabit Ethernet in both campus-backbone and server-aggregation environments. The Catalyst 6006 and the Catalyst 6009 switches have a 32-Gbps switching capacity, while the Catalyst 6506, the Catalyst 6509, and the Catalyst 6509-NEB switches can support a backplane architecture that scales from 32 Gbps to 256 Gbps.

All platforms share the same supervisor engines, switching modules, and software, and support redundant configurations of supervisor engines, power supplies, and port interfaces.

For additional information about the Catalyst 6000 family switches, refer to the *Catalyst 6000 Family Installation Guide*. For a complete list of Catalyst 6000 family documentation, see the [“Related Documentation”](#) section on page xv.

Figure 1-1 Catalyst 6509-NEB Switch

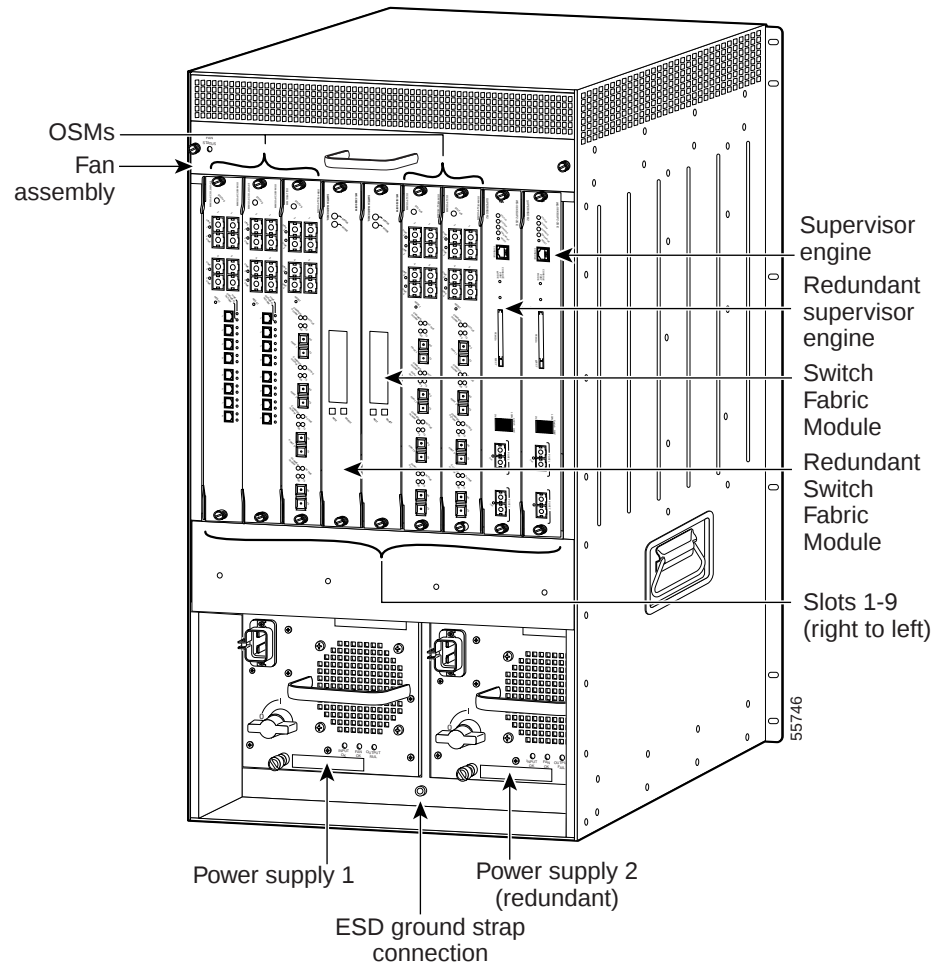
Cisco 7600 Series Overview

The Cisco 7600 series Internet Routers consist of the 3-slot 7603, the 6-slot 7606, and the vertical 9-slot 7609 (shown in [Figure 1-2](#)).

The Cisco 7600 series Internet Routers deliver optical LAN, WAN, and MAN networking with a focus on line-rate delivery of high-touch IP services at the network edge. Service providers can “service enable” their networks at optical speeds, enabling them to differentiate their service offerings for competitive advantage.

The Cisco 7600 series Internet Routers support the following features:

- 30 Mpps forwarding processor and up to 512 MB DRAM for Internet routing
- Up to two distributed Parallel Express Forwarding (PXF) IP services processors on each Optical Services Module (OSM) for flexible IP service implementation
- High-touch, line-rate IP services at 6 Mpps per slot:
 - QoS
 - Hierarchical traffic shaping
 - Destination sensitive services (accounting, billing, and QoS)
- The ability to monitor service levels delivered to customers under service level agreements (SLAs)
- Wide range of WAN and MAN interfaces providing DS0 through OC-48 (using the FlexWAN module)
- Compatibility with the Catalyst 6000 family LAN interfaces offering 10 Mbps Ethernet to 1 Gbps

Figure 1-2 Cisco 7609 Internet Router

For additional information about the Cisco 7600 series Internet Routers, refer to the *Cisco 7603 and 7606 Internet Router Installation Guide* and *Cisco 7609 Internet Router Installation Guide*. For a complete list of Cisco 7600 series Internet Router documentation, see the [“Related Documentation” section on page xv](#).

Supported Hardware

Table 1-1 lists the hardware that is supported by C65/76M, release 2.1:

Table 1-1 Supported Hardware

Platform	Part Number	Description
Catalyst 6000 family chassis	WS-C6006	6-slot Catalyst 6000 series chassis
	WS-C6009	9-slot Catalyst 6000 series chassis
	WS-C6506	6-slot Catalyst 6500 series chassis
	WS-C6509	9-slot Catalyst 6500 series chassis
	WS-C6509-NEB	Vertical 9-slot Catalyst 6500 series chassis
	WS-C6513	13-slot Catalyst 6500 series chassis
Cisco 7600 series chassis	CISCO7603	3-slot Cisco 7600 series chassis
	CISCO7606	6-slot Cisco 7600 series chassis
	OSR-7609	Vertical 9-slot Cisco 7600 series chassis
Catalyst 6000 family power supplies	WS-CAC-1000W	1000W AC power supply
	WS-CAC-1300W	1300W AC power supply
	WS-CAC-2500W	2500W AC power supply
	WS-CAC-4000W	4000W AC power supply
	WS-CDC-1300W	1300W DC power supply
	WS-CDC-2500W	2500W DC power supply
Cisco 7600 series power supplies	PWR-950-AC	950W AC power supply
	PWR-950-DC	950W DC power supply
	PWR-1900-AC/6	1900W AC power supply
	PWR-1900-DC	1900W DC power supply

Table 1-1 Supported Hardware (continued)

Platform	Part Number	Description
Catalyst 6000 family modules	WS-X6K-SUP1A-MSFC	Supervisor Engine 1A with MSFC
	WS-X6K-S1A-MSFC2	Supervisor Engine 1A with MSFC2
	WS-X6K-S2-MSFC2	Supervisor Engine 2 with MSFC2
	WS-X6K-S2U-MSFC2	Supervisor Engine 2 with 256 MB DRAM and MSFC2
	WS-X6066-SLB-APC	Content Switching Module
	WS-X6182-2PA	FlexWAN Module
	WS-X6224-100FX-MT	24-port 100FX, MT-RJ
	WS-X6324-100FX-MM	24-port 100FX, MT-RJ, multimode fiber, 128K per port packet buffers
	WS-X6324-100FX-SM	24-port 100FX, MT-RJ, single-mode fiber, 128K per port packet buffers
	WS-X6248-RJ-45	48-port 10/100TX, RJ-45
	WS-X6248-TEL	48-port 10/100TX, RJ-21
	WS-X6248A-TEL	48-port 10/100TX, RJ-21, 128K per port packet buffers
	WS-X6348-RJ-45	48-port 10/100TX, RJ-45, 128K per port packet buffers
	WS-X6348-RJ45V	48-port 10/100TX, RJ-45, 128K per port packet buffers with inline power
	WS-X6348-RJ-21	48-port 10/100, RJ-21, upgradable to voice
	WS-X6348-RJ-21V	48-port 10/100, RJ-21, inline power
	WS-X6524-100FX-MM	Fabric-enabled 100FX Fast Ethernet Module, multimode fiber, MT-RJ
	WS-X6548-RJ-21	Fabric-enabled 10/100 Fast Ethernet Modules, RJ-21
	WS-X6548-RJ-45	Fabric-enabled 10/100 Fast Ethernet Modules, RJ-45

Table 1-1 Supported Hardware (continued)

Platform	Part Number	Description
Catalyst 6000 family modules (continued)	WS-X6408-GBIC	8-port Gigabit Ethernet
	WS-X6408A-GBIC	8-port Gigabit Ethernet with enhanced QoS
	WS-X6416-GBIC	16-port Gigabit Ethernet
	WS-X6416-GE-MT	16-port Gigabit Ethernet, MT-RJ
	WS-X6516-GBIC	16-port Gigabit Ethernet, single fabric-enabled connection
	WS-X6816-GBIC	16-port Gigabit Ethernet, dual fabric-enabled with Distributed Forwarding, (Req GBICs)
	WS-X6316-GE-TX	16-port Gigabit Ethernet, RJ-45
	WS-X6501-10GEX4	One-port 10GBASE-EX4 Metro Extended Reach 10 Gigabit Ethernet Module (single-mode fiber)
	WS-X6502-10GE	1-port 10GBASE-LR Serial 130nm Long Haul 10 Gigabit Ethernet module (WS-G6488 installed)
	WS-X6516-GE-TX	16-port Gigabit Ethernet, RJ-45, x-bar
	WS-X6066-SLB-APC	Server Load Balancing Module
	WS-C6500-SFM	Switch Fabric Module
	WS-C6500-SFM2	Switch Fabric Module, version 2
	OSM-4GE-WAN-GBIC	4-port Gigabit Ethernet Optical Services Module, GBIC
	OSM-4OC12-POS-MM	4-port OC-12/STM-4 SONET/SDH OSM, MM, with 4 ports of Gigabit Ethernet
	OSM-4OC12-POS-SI	4-port OC-12/STM-4 SONET/SDH OSM, SM-IR, with 4 ports of Gigabit Ethernet
	OSM-4OC12-POS-SL	4-port OC-12/STM-4 SONET/SDH OSM, SM-LR, with 4 ports of Gigabit Ethernet
	OSM-1OC48-POS-SS	1-port OC-48/STM-16 SONET/SDH OSM, SM-SR, with 4 ports of Gigabit Ethernet
	OSM-1OC48-POS-SI	1-port OC-48/STM-16 SONET/SDH OSM, SM-IR, with 4 ports of Gigabit Ethernet

Table 1-1 Supported Hardware (continued)

Platform	Part Number	Description
Cisco 7600 Optical Services Modules (continued)	OSM-1OC48-POS-SL	1-port OC-48/STM-16 SONET/SDH OSM, SM-LR, with 4 ports of Gigabit Ethernet
	OSM-16OC3-POS-MM	16-port OC-3/STM-1 SONET/SDH OSM, MM, with 4 ports of Gigabit Ethernet
	OSM-16OC3-POS-SI	16-port OC-3/STM-1 SONET/SDH OSM, SM-IR, with 4 ports of Gigabit Ethernet
	OSM-16OC3-POS-SL	16-port OC-3/STM-1 SONET/SDH OSM, SM-LR, with 4 ports of Gigabit Ethernet
	OSM-2OC12-POS-MM	2-port OC-12/STM-4 SONET/SDH OSM, MM, with 4 ports of Gigabit Ethernet
	OSM-2OC12-POS-SI	2-port OC-12/STM-4 SONET/SDH OSM, SM-IR, with 4 ports of Gigabit Ethernet
	OSM-2OC12-POS-SL	2-port OC-12/STM-4 SONET/SDH OSM, SM-LR, with 4 ports of Gigabit Ethernet
	OSM-8OC3-POS-MM	8-port OC-3/STM-1 SONET/SDH OSM, MM, with 4 ports of Gigabit Ethernet
	OSM-8OC3-POS-SI	8-port OC-3/STM-1 SONET/SDH OSM, SM-IR, with 4 ports of Gigabit Ethernet
	OSM-8OC3-POS-SL	8-port OC-3/STM-1 SONET/SDH OSM, SM-LR, with 4 ports of Gigabit Ethernet
	OSM-1CHOC48/T3-SS	1-port channelized OC48 OSM, SM-SR, with 4 Gigabit Ethernet
	OSM-1CHOC48/T3-SI	1-port channelized OC48 OSM, SM-IR, with 4 Gigabit Ethernet
	OSM-2CHOC48/T3-SS	2-port channelized OC48 OSM, SM-SR, with 4 ports of Gigabit Ethernet
	OSM-2CHOC48/T3-SI	2-port channelized OC-48 OSM, SM-IR, with 4 ports of Gigabit Ethernet
Cisco 7600 Optical Services Modules (continued)	OSM-4CHOC12/T3-MM	4-port channelized OC-12 OSM, MM, with 4 ports of Gigabit Ethernet
	OSM-4CHOC12/T3-SI	4-port channelized OC-12 OSM, SI, with 4 ports of Gigabit Ethernet
	OSM-8CHOC12/T3-MM	8-port channelized OC-12 OSM, MM, with 4 ports of Gigabit Ethernet
	OSM-8CHOC12/T3-SI	8-port channelized OC-12 OSM, SI, with 4 ports of Gigabit Ethernet

Supported Software

The Cisco 6500/7600 Series Manager, version 2.1, supports Native IOS Release 12.1(3a)E3 to Release 12.1(11)E. It also supports Hybrid OS in the following combinations:

- Catalyst OS 6.3(3a) and IOS 12.1(8)E
- Catalyst OS 7.1(2) and IOS 12.1(8)E
- Catalyst OS 7.1(2) and IOS 12.1(11)E

**Note**

The Cisco 6500/7600 Series Manager does not support Catalyst 6000 family switches or Cisco 7600 series Internet Routers running only Catalyst software (no Multilayer Switch Feature Card installed).