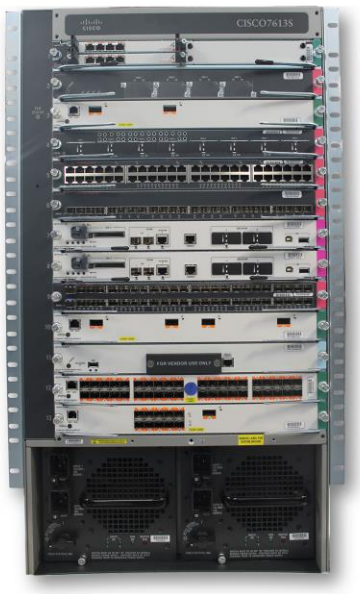
Cisco 7600 Series Routers: Cisco 7613-S Chassis

Cisco 7613-S Router

The Cisco® 7613-S Router is a high-performance router designed for deployment at the network edge where performance, IP services, and redundancy and fault resiliency are critical requirements. It enables Carrier Ethernet service providers to deploy an advanced network infrastructure that supports a range of IP video and triple-play (voice, video, and data) system applications in both the residential and business services markets. The Cisco 7613-S allows enterprises to deploy advanced WAN and metropolitan-area network (MAN) networking solutions necessary to succeed in demanding, high-traffic environments.

Providing the foundation for a powerful combination of speed and services, the 13-slot Cisco 7613-S Router is an outstanding choice for multiple applications. Whether deployed as a high-speed WAN aggregator, as a device for peering, as a residential broadband services aggregator, or as a device for Metro Ethernet aggregation and uplink, the Cisco 7613-S meets requirements for redundancy, high availability, and rack density. In the point-of-presence (POP) service provider edge or the metropolitan network edge, the Cisco 7613-S sets new standards as part of the industry-leading Cisco 7600 Series Routers (Figure 1).

Figure 1. Cisco 7613-S Chassis



With a forwarding rate of up to 720-Mpps distributed and 2-Tbps total throughput, the Cisco 7613-S provides performance and reliability with options for redundant route processors and power supplies. The inclusion of two Gigabit Ethernet ports on the Cisco Route Switch Processor 720 (RSP 720) with the Cisco Multilayer Switch Feature Card 4 (MSFC4used in the Cisco 7613-S eliminates the need for a line-card slot for uplink ports. The result of this design is more efficient use of available line-card slots and increased deployment flexibility. Four Gigabit Ethernet ports are available for use in dual-route processor configurations.

Chassis Features and Benefits

As part of the Cisco 7600 Series, the Cisco 76013-S Router chassis is an enhancement to the highly successful 13-slot chassis (Cisco 7613). This enhanced chassis delivers numerous design improvements, including:

- 2-Tbps support with SUP2T Supervisor Engine 2T
- Improved failover mechanisms in the hardware, which when paired with the proper Cisco IOS® Software image, can achieve 100-ms failover
- Ability to deliver higher power of up to 750W per slot
- Redundant high-speed fan tray module with five speeds on a side-to-side airflow design
- Better thermal flow measurement and management

The power supplies supported on the Cisco 7613-S are the 2500W, 4000W, 6000W (AC and DC),3000W, and 8700 AC power supplies (refer to Table 1).

Shared port adaptors (SPAs) on the SPA interface processors (SIPs) are available on the Cisco 7600 Series with interface speeds ranging from OC-3 to OC-48 and from Fast Ethernet to 10 Gigabit Ethernet. The Cisco 7600 Series can also use the Cisco 7600 Series and Catalyst® 6500 Series Enhanced FlexWAN Module to take advantage of most Cisco 7200 and 7500 Port Adapters for terminating DS-0 to OC-3 speeds. By using the Cisco Catalyst 6000 Series of Ethernet line cards in conjunction with the SIP-based SPAs and the enhanced FlexWAN module, the Cisco 7600 provides a multitude of options to scale WAN connectivity from DS-0 to OC-48 and LAN connectivity from 10-Mbps Ethernet through 10 Gigabit Ethernet.

The Cisco 7613-S chassis accommodates a broad selection of line cards supporting numerous applications, including:

- SPAs and SIPs (Cisco 7600 Series SPA Interface Processor-200 [SIP-200] and SIP-400):
  - Channelized T1/E1, Channelized T3, and Channelized OC-3/STM-1
  - OC-3/STM-1, OC-12/STM-4, and OC-48/STM-16 Packet over SONET/SDH (PoS)
  - OC-3/STM-1 ATM, OC-12/STM-4 ATM, and OC-48/STM-16 ATM
  - Fast Ethernet, Gigabit Ethernet, and 10 Gigabit Ethernet
- Enhanced FlexWAN module: Supporting Cisco 7200 and 7500 WAN Port Adapters from DS-0 to OC-3 for channelized and ATM interfaces and also Fast Ethernet port adapters
- High-density Ethernet services modules: 10/100 Mbps, Gigabit Ethernet, and 10 Gigabit Ethernet
- Services modules: IP Security (IPsec), firewall,network analysis, and content switching commonly used, for example, in the Cisco Mobile Exchange solution
- Supervisor support: Cisco Route Switch Processor 720 (RSP720-3C andRSP720-3CXL) and the new Cisco Catalyst 6500 Series Supervisor Engine 2T (VS-S2T-10G and VS-S2T-10G-XL).

The Cisco 7613-S incorporates many service provider and high-end enterprise carrier-class requirements. Understanding the need to use rack space efficiently, Cisco designed this router for horizontal line-card configurations with side-to-side airflow and single-side connection management for both interface and power terminations. High availability is an inherent facet in the form of redundant power supplies and redundant fan-tray modules. Standard or extended cable-tray inserts provide unrestricted management of either fiber and coaxial or multiple conductor types with up to 48 10/100 cables per slot. Two chassis can be installed per 7-foot rack (32.7 in. [83 cm] height, 19 rack units [RUs]).

Cisco 7613-S Chassis Features

- Thirteen-slot Network Equipment Building Standards (NEBS)-compliant chassis
- Nineteen-RU (32.7 in. [83 cm]) chassis
- Up to two chassis per 7-foot rack
- Up to 12 interface slots (with 1 slot occupied by the forwarding and routing engine)
- Route processor and switch fabric protection capability: 1 + 1
- Power supply protection option, AC or DC: 1 + 1
- Single-side connection management for both interface and power terminations
- Horizontal line-card configurations
- Side-to-side airflow
- Total throughput: 720 Gbps for Route Switch Processor 720 and 2Tbps for the Supervisor 2T.
- Up to 720-Mpps distributed forwarding rate

Product Specifications

Table 1 lists product specifications.

Table 1. Cisco 7613-S Chassis Specifications

Description	Specification
Physical dimensions	• Height: 32.7 in. (83 cm) • Width: 17.3 in. (43.9 cm) • Depth: 18.1 in. (46 cm)
Power requirements	• 100 to 240 VAC recommended (or –48 to –60 VDC)
Mean time between failure (MTBF)	• 311,778 hours
Environmental conditions	• Operating temperature: 32 to 104°F (0 to 40°C) • Storage temperature: –4 to 149°F (–20 to 65°C) • Relative humidity, operating: 5 to 90%, noncondensing • Relative humidity, storage: 5 to 95%, noncondensing • Operating altitude: ◦ Certified for operation: 0 to 6500 ft(0 to 2000m) ◦ Designed and tested for operation: –200 to 10,000 ft (–60 to 3000 m)
Regulatory compliance	• UL 60950 Second Edition • CAN/CSA-C22.2 No. 60950 Second Edition • EN 60950 Second Edition • IEC 60950 Second Edition • AS/NZS 60950
Electromagnetic compatibility (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

Description	Specification
Safety and environmental standards compliance	• GR-1089-Core NEBS Level 3 • ETSI 300 019 Storage Class 1.1 • ETSI 300 019 Transportation Class 2.3 • ETSI 300 019 Stationary Use Class 3.1
Minimum software release	• Cisco IOS Software Release 15.3(1)S for Route Switch Processor 720 and Release 15.1(1)SY for the Supervisor 2T

Ordering Information

Table 2. CISCO 7613-S Chassis Ordering Information

Part Number	Description
Spare Units (denoted by "=")	
CISCO7613-S	Cisco 7613-S Chassis
CISCO7613-S=	Cisco 7613-S chassis, mounting kit, and cable guide
PWR-6000-DC=	6000W DC power supply for Cisco 7609/7609-S/7613
WS-CAC-6000W =	Spare AC power supply for the Cisco 7609/7609-S chassis
PWR-4000-DC=	4000W DC power supply for Cisco 7609/7613
WS-CAC-4000W-US=	Spare AC power supply for Cisco 7609 chassis (requires 30A circuit) US/Japan cord attached
WS-CAC-4000W-INT=	Spare AC power supply for Cisco 7609 chassis (requires 30A circuit) International cord attached
WS-CAC-3000W=	Spare 3000W AC power supply for the Cisco 7609 and 7613
WS-CDC-2500W=	Spare DC 2500W Supply
WS-CAC-8700W-E=	Spare 8700W Enhanced AC Power Supply
FAN-MOD-13SHS=	Cisco 7613 fan tray, spare

For ordering information, visit http://www.cisco.com/public/ordering_info.shtml.

Service and Support

Cisco offers numerous service and support offerings for both service provider and enterprise customers. Cisco has earned the highest customer satisfaction ratings in the industry by providing the world-class service and support necessary to deploy, operate, and optimize networks. Whether the goal is speed to market, maximizing network availability, or enhancing customer satisfaction and retention, Cisco is committed to the success of its customers.

For More Information

For more information about Cisco service and support programs and benefits, visit: http://www.cisco.com/en/US/support/index.html.

For more information about Cisco 7600 Series Routers, contact your Cisco account representative or visit: http://www.cisco.com/go/7600.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at **www.cisco.com/go/offices.**

Printed in USA C78-727199-00 03/13