

## Cisco 7604 Chassis

Extending Performance, Versatility, and Reliability at the Provider Edge

### Cisco 7604 Router

The Cisco® 7604 Router is a compact, high-performance router designed in a 4-slot form factor for deployment at the network edge, where robust performance and IP/Multiprotocol Label Switching (MPLS) services are necessary to meet the requirements of both enterprises and service providers. 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 7604 also delivers WAN and metropolitan-area network (MAN) networking solutions at the enterprise edge.

With a powerful combination of speed and services in a compact form factor, the Cisco 7604 is an outstanding choice for multiple applications. Whether deployed as a mobile Radio Access Network (RAN) preaggregation device, as a device for peering, as a residential broadband services aggregator, or as a device for Metro Ethernet aggregation and uplink, the Cisco 7604 meets requirements for redundancy, high availability, and rack density. In the point-of-presence (POP) enterprise edge or the metropolitan network edge, the Cisco 7604 sets new standards as part of the industry-leading Cisco 7600 Series Routers (Figure 1).

**Figure 1.** Cisco 7604 Router



With a forwarding rate of up to 144-Mpps distributed and 320-Gbps total throughput, the Cisco 7604 provides performance and reliability with options for redundant route processors and power supplies. The inclusion of two Gigabit Ethernet ports on the Cisco Catalyst® 6500 Series Supervisor Engine 720 with the Multilayer Switch Feature Card 3 (MSFC-3) or the new Cisco Route Switch Processor 720 (RSP 720) with the MSFC-4 used in the Cisco 7604 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.

Shared port adaptors (SPAa) on the SPA interface processors (SIPs) are available on the Cisco 7600 Series with interface speeds ranging from OC-3 to OC-192 and from Fast Ethernet to 10

Gigabit Ethernet. The Cisco 7600 Series can also use the Cisco 7600 Series/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-192 and LAN connectivity from 10-Mbps Ethernet through 10 Gigabit Ethernet.

The Cisco 7604 chassis accommodates a broad selection of line cards supporting numerous applications, including:

- SPAs and SIPs (Cisco 7600 Series SPA Interface Processor-200 [SIP-200], SIP-400, and SIP-600):
  - Channelized T1/E1, Channelized T3, and Channelized OC-3/STM-1
  - OC-3/STM-1, OC-12/STM-4, OC-48/STM-16 Packet over SONET/SDH (PoS), and OC-192/STM-64 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, distributed denial of service, intrusion detection, network analysis, and content switching commonly used, for example, in the Cisco Mobile Exchange solution
- Supervisor support: Cisco Catalyst 6500 Supervisor Engine 32 (WS-SUP32-GE-3B and WS-SUP32-10GE-3B), Cisco Catalyst 6500 Supervisor Engine 720 (WS-SUP720-3B and WS-SUP720-3BXL), and the new Cisco Route Switch Processor 720 (RSP720-3C and RSP720-3CXL)

The Cisco 7604 can be configured two ways: with a single supervisor engine and up to three line cards, or with dual supervisor engines and up to two line cards for high availability and redundancy. The Cisco 7604 also supports redundant 2700W (AC/DC) power supplies for increased availability. Understanding the need to use rack space efficiently, Cisco designed this router to be 8.75 inches tall (5 rack units [RUs]), with single-side connection management for both interface and power terminations. This setup allows placement of up to nine Cisco 7604 units per standard 7-foot rack.

## Applications

The flexible Cisco 7604 Router is ideal for addressing high-performance applications such as:

- IP/MPLS provider edge
- Metro Ethernet access
- Enterprise WAN aggregation
- Mobile RAN preaggregation
- Residential subscriber aggregation
- Customer premises equipment (CPE)
- Leased line

## Feature Summary

### Cisco 7604 Chassis Features

- 5RU (8.75-in.) compact chassis, up to nine chassis per 7-foot rack
- Four slots (2 supervisor slots and 2 interface slots or 1 supervisor slot with 3 interface slots)
- Route processor protection capability: 1 + 1
- Power supply protection option, AC or DC: 1 + 1
- Network Equipment Building Standards (NEBS) Level 3 compliance (post-first customer shipment [FCS])
- Single-side connection management for interface and power terminations
- Side-to-side airflow

### Cisco 7604 System Features

- Total throughput: 320 Gbps
- Up to 144-Mpps forwarding rate distributed

## Technical Specifications

Table 1 gives specifications of the Cisco 7604.

**Table 1.** Product Specifications

Features	Descriptions
Physical specifications	5RU (8.75-in.) chassis 4-slot chassis Dimensions (H x W x D): 8.75 x 17.5 x 21.75 in. (22.225 x 44.45 x 55.245 cm) Weight: 40 lb Power requirements: 110 to 240 VAC, –48 to –60 VDC Mean time between failure (MTBF): 7 years for system configuration
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: 10 to 85% noncondensing Relative humidity, storage: 5 to 95% noncondensing Operating altitude: –500 to 6500 ft
Regulatory compliance	EMC <ul style="list-style-type: none"> <li>• FCC Part 15 (CFR 47) Class A</li> <li>• ICES-003 Class A</li> <li>• EN55022 Class A</li> <li>• CISPR22 Class A</li> <li>• AS/NZS 3548 Class A</li> <li>• VCCI Class A</li> <li>• EN55024</li> <li>• ETS300 386</li> <li>• EN50082-1</li> <li>• EN61000-3-2</li> <li>• EN61000-3-3</li> </ul> Regulatory Compliance <ul style="list-style-type: none"> <li>• UL 60950</li> <li>• IEC 60825-1, -2</li> <li>• IEC 60950</li> <li>• EN 60950, EN 60825-1, -2</li> <li>• CAN/CSA-C22.2 No. 60950-00</li> <li>• AS/NZS 3260-1993</li> <li>• 21CFR1040</li> </ul>

Features	Descriptions
Safety and environmental standards compliance	<ul style="list-style-type: none"> <li>• GR-63-Core NEBS Level 3 (post-FCS)</li> <li>• GR-1089-Core NEBS Level 3 (post-FCS)</li> <li>• ETSI 300 019 Storage Class 1.1</li> <li>• ETSI 300 019 Transportation Class 2.3</li> <li>• ETSI 300 019 Stationary Use Class 3.1</li> </ul>
Minimum software release	Cisco IOS® Software Release 12.2.18SXE

## Ordering Information

To place an order, visit the Cisco Ordering Home Page or refer to Table 2.

**Table 2.** Ordering Information

Chassis Bundles	Description
<b>Spare Units</b>	Note that "=" denotes a spare order
CISCO7604=	Cisco 7604 Router, mounting kit, and cable guide
PWR-2700-AC/4=	2700-WAC power supply for Cisco 7604
PWR-2700-DC/4=	2700-WDC power supply for Cisco 7604
CAB-7513ACU	AC power cord (U.K.)
CAB-7513ACR	AC power cord (Argentina)
CAB-7513ACSA	AC power cord (South Africa)
CAB-ACS-10	AC power cord (Swiss)
CAB-AC-2500W-US1	Power cord, 250 VAC 16A, straight blade NEMA 6-20 plug, United States
CAB-AC-C6K-TWLK	Power cord, 250 VAC 16A, twist lock NEMA L6-20 plug, United States
CAB-AC-2500W-EU	Power cord, 250 VAC 16A, Europe
CAB-AC-2500W-INT	Power cord, 250 VAC 16A, International
CAB-ACS-16	AC power cord (Swiss) 16A
CAB-AC-16A-AUS	Power Cord, 250VAC, 16A, Australia C19
CAB-AC-2500W-ISRL	Power Cord, 250VAC, 16A, Israel
CAB-7513AC	AC Power Cord North America (110V)
CAB-C19-CBN	Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors
FAN-MOD-4HS=	High-speed fan module for Cisco 7604 Chassis
KIT-MNTG-CG-4=	Mounting kit and cable guide for Cisco 7604
CLK-7600=	Spare clock card for Cisco 7603, Cisco 7604, Cisco 7606, or Cisco 7609

## Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, refer to Cisco Technical Support Services or Cisco Advanced Services.

## For More Information

For more information about the Cisco 7604 Router, visit <http://www.cisco.com/go/7600> or contact your local Cisco account representative.



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