

Route Switch Processor 8 for Cisco 7500 Series Routers

Overview

The Route Switch Processor 8 (RSP8) is Cisco Systems' new-generation, main system processor for the Cisco 7500 Series Router. The RSP8 increases switching performance more than 40 percent compared to the RSP4.

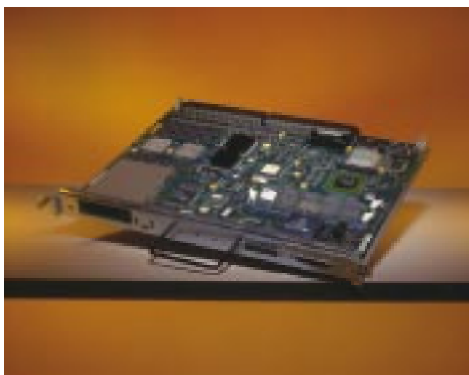
The RSP8 is available as an upgrade to existing RSP4, RSP2, or RSP1-based systems, as well as Cisco 7500 system configurations. It serves as an ideal platform for enterprise and service provider networks that require additional performance and processing power to support service-enabled edge and core applications.

RSP8 for Cisco 7500 Series Routers

The RSP8 combines all of the routing and high-speed switching functions for the Cisco 7500 series router. In addition to running the system software, the RSP8 contains and executes the following management functions that control the system:

- Sending and receiving routing protocol updates
- Managing tables and caches
- Monitoring interface and environmental status
- Providing Simple Network Management Protocol (SNMP) management and the interface between the console and Telnet

The high-speed switching section of the RSP8 communicates with and controls the interface processors on the Cisco 7500's internal high-speed buses. This switching section determines the destination of a packet, and switches it based on that decision.



RSP8 Hardware Characteristics

The RSP8 is a high-performance engine that provides the routing intelligence for the Cisco 7500 router series. It offers many technological advances including:

- 250-MHz, R7000 CPU with 256-KB Layer 2 cache
- Up to 256-MB of parity-protected DRAM (64-MB default). DRAM stores the routing tables, protocols, and runs the Cisco IOS Software.
- 8-MB of parity-protected, static random-access memory (SRAM) for packet buffering
- 2-MB Layer 3 CPU cache memory
- 2-MB non-volatile RAM (NVRAM) for storage of system configuration, software configuration register settings, and environmental monitoring logs
- 20-MB PCMCIA flash card (default) for loading and storing multiple Cisco IOS software and microcode images; additional second PCMCIA slot available
- 16-MB Boot Flash
- Two asynchronous serial ports for network management access
- Error Correction Code (ECC) for parity-protection, ensuring very high levels of availability and service

Key RSP8 Functions

The RSP8 provides the following key functions:

- Creates and maintains the routing table
- Distributes and updates Express Forwarding (EF) tables on the Versatile Interface Processors (VIPs) and maintains copies of the tables of each VIP for card initialization

- Processes interior gateway protocols (IGPs) such as Intermediate System-to-Intermediate System (IS-IS), Interior Gateway Routing Protocol (IGRP), Open Shortest Path First (OSPF), and Enhanced IGRP (EIGRP) to determine the network topology
- Processes external gateway protocols such as Border Gateway Protocol (BGP)
- Handles general maintenance functions such as diagnostics, console support, and VIP monitoring

High Availability

The RSP8 supports High Availability (HA) feature, which allows two RSP8s to be used simultaneously in a Cisco 7507 or Cisco 7513 router with the HA feature enabled and configured. With this feature, one RSP8 operates as the system *master* and the other RSP8 operates as the system *slave*, which takes over if the master RSP8 fails. The HA feature requires two RSP8s.

Specifications

Hardware

Physical Dimensions

- The RSP8 occupies one chassis slot and can only be operated in a Cisco 7500 series router, including the Cisco 7505, Cisco 7507, Cisco 7513 and Cisco 7576.
- Shipping weight: 5 lb. (2.25 kg)

Environmental

- Operating temperature: 32 to 104 F (0 to 40 C)
- Storage temperature: -40 to 167 F (-40 to 75 C)
- Relative humidity: 10% to 90%, noncondensing
- Operating altitude: -60 to 4000 m

Software

Cisco IOS Software

- The RSP8 is compatible with Cisco IOS Release 12.0(9)S, or a later release of 12.0 S
- The RSP8 is also supported in Cisco IOS Release 12.1-based releases (e.g. 12.1, 12.1T, 12.1E) and 12.2-based releases (12.2(1), 12.2(2))

For an up to date listing of the IOS releases that support the RSP8, please go to:

<http://www.cisco.com/cgi-bin/front.x/Support/HWSWmatrix/hwswmatrix.cgi>

Management

- Simple Network Management Protocol (SNMP) agent V1 (RFC 1155-1157)

- Management Information Base (MIB) II (RFC 1213)

Host Platform Requirements

Hardware

- The RSP8 is compatible with the Cisco 7500 router series, including the Cisco 7505, Cisco 7507, Cisco 7513, and Cisco 7576 routers

EMC

- FCC Part 15 Class A
- EN 55022 Class B
- CISPR22 Class B
- VCCI Class B
- AS/NZS 3548 Class B

NEBS

- Level 3

Safety

- UL 1950
- CSA C22.2 No. 950
- EN 60950
- IEC 950
- AS/NZS 3260
- CE Marking

Ordering Information

Product	Product Description
RSP8=	RSP8 Spare
MEM-RSP8-64M=	RSP8 64MB DRAM Option
MEM-RSP8-128M=	RSP8 128MB DRAM Upgrade Kit
MEM-RSP8-256M=	RSP8 256MB DRAM Upgrade Kit
MEM-RSP8-FLC20M=	RSP8 Flash Card: 20 MB Option
MEM-RSP8-FLC32M=	RSP8 Flash Card: 32 MB Kit
MEM-RSP8-FLD48M=	RSP8 Flash Disk: 48 MB Kit
MEM-RSP8-FLD128M=	RSP8 Flash Disk: 128MB Kit



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