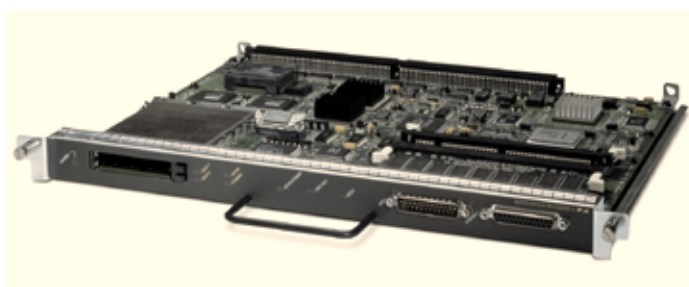


Route Switch Processor 16 for the Cisco 7500 Series Router

The Route Switch Processor 16 (RSP16) is the newest and highest-performance main system processor for the Cisco 7500 Series Router. The RSP16 supports up to 1 GB of program memory, allowing customers to significantly increase their route tables. The RSP16 provides significant performance enhancements, increasing switching performance by 20 percent and 55 percent compared the RSP8 and RSP4+, respectively.

The RSP16 is available as an upgrade to an existing RSP and supports the VIP2, VIP4, and new VIP6-80. The RSP16 does not support legacy interface processors, except for the CIP2, GEIP, GEIP+, FEIP2-DSW-2TX, FEIP2-DSW-2FX, SRPIP, CX-CIP2-ECA1 and ECA2.

The RSP16 fully supports Cisco 7500 Series high-availability features, including Single Line Card Reload, Route Processor Redundancy, Fast Software Upgrade (FSU), Nonstop Forward (NSF), and Stateful Switch Over (SSO). This support allows the Cisco 7500 Series routers to demonstrate some of the highest uptime in the industry. FSU allows customers to upgrade their existing RSP2, RSP4+, and RSP8 to RSP16 with minimal downtime.



The RSP16 is an ideal platform for enterprise and service provider networks that require additional performance and processing power to support service-enabled edge and core applications.

Features and Benefits Overview

Table 1 gives features and benefits of the RSP16.

Table 1 Cisco RSP16 Features and Benefits

Features	Benefits
Up to 1 GB configurable program memory	<ul style="list-style-type: none"> • Supports large route tables
Global Resilience IP <ul style="list-style-type: none"> – RPR – FSU – NSF – SSO 	<ul style="list-style-type: none"> • Provides industry-leading high system availability • Minimizes support cost and increases productivity
ECC protected memory	<ul style="list-style-type: none"> • Helps maintain system availability with parity protected memory
400-MHz processor	<ul style="list-style-type: none"> • Offers high-performance features

Product Specifications: Environmental Conditions

- 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

Product Specifications: Memory and Options

Table 2 lists memory options for the Cisco RSP16.

Table 2 Cisco RSP16 Memory Options

Type	Size	Quantity	Description
SDRAM ¹	128 MB (default)	1 x 128 MB	Any combination of 128-, 256-, or 512-MB DIMMs ² (based on SDRAM required) for main Cisco IOS [®] Software image functions
	256 MB (option)	1 x 256 MB	
	512 MB (option)	2 x 256 MB	
	1 GB (option post FCS)	2 x 512 MB	
SRAM	8 MB (fixed)	-	SRAM for packet buffering functions (MEMD)
	2 MB (fixed)	-	SRAM for tertiary (Layer 3) CPU cache memory functions
NVRAM ³	2 MB (fixed)	-	Nonvolatile SRAM for the system configuration file
Flash memory	16-MB SIMM ⁴	-	Contains the Cisco IOS Software images on Cisco RSP16
	48 MB (default) 128 MB (option)	Up to 2 Flash disks	Contains the Cisco IOS Software images on up to 2 Flash disks
Flash	512 kB (fixed)	-	Flash EPROM ⁵ for the ROM monitor program image

1. Synchronous dynamic random access memory
2. Double in-line memory modules
3. Nonvolatile random access memory
4. Single in-line memory module
5. Erasable programmable read-only memory

Product Specifications: MIBs and Management

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

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

Product Specifications: Physical Specifications

The Cisco RSP16 occupies one chassis slot and can be operated only in a Cisco 7500 Series Router, including the Cisco 7505, 7507, and 7513 Series routers.

The shipping weight is 5 lb (2.25 kg).

Product Specifications: LED Status Indicators

Table 3 gives LED status indicators of the Cisco RSP16.

Table 3 LED Status Indicators

LED Label	Color	State	Indication
Normal	Green	On	Cisco RSP16 is on and receiving +5V
CPU halt	Green	Off	Cisco RSP16 is operating normally Processor hardware failure has been detected
	Yellow	On	
Active	Green	On	Cisco RSP16 is active
Standby	Green	On	Cisco RSP16 is standby (HSA ¹ configuration required)
Slot 0 PC Card	Green	On	PC Card in this slot is being accessed
Slot 1 PC Card	Green	On	PC Card in this slot is being accessed

1. Global Resilience IP

Product Regulatory Approvals and Compliance

Product Regulatory Approvals

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

Product Regulatory Compliance

Table 4 gives regulatory compliance information on the Cisco RSP16.

Table 4 Cisco RSP16 Regulatory Compliance Data

Product safety	UL 1950, 3rd Edition, EN 60950, AS/NZS 3260, IEC 950, FCC Part 15, Class B
Emissions	CISPR22, EN55022, AS/ANS 3548, ICES-003, VCCI, BSMI (CNS 13438)
Immunity	EN61000-4-2, 3, 4, 5, and 6/IEC-61000-4-2, 3, 4, 5, and 6; EN61000-4-11/IEC-61000-4-11
NEBS ¹	Bellcore GR-63-CORE, GR-1089-CORE, SR-3590 Level 3
Telecom	FCC Part 68, CS-03, ACA TS 016: 1997, CTR 12 97/520/EC Amendment 1 1997 (TBR 12), JATE GREEN BOOK 1997
ETSI	300-386-1, 300-386-2, 300-019

1. Network Equipment Building Standards

Product System Requirements

The Cisco RSP16 is compatible with Cisco 7505, 7507, and 7513 Series routers. The Cisco RSP16 is compatible with existing VIPs as well as the new Cisco VIP6-80.

When configuring Route Processor Redundancy+ (RPR+), two Cisco RSP16s or one Cisco RSP16 and one Cisco RSP8 are required.

Software Requirements

The Cisco RSP16 is supported in the following images and higher:

- Cisco IOS Software Release 12.1(12)E
- Cisco IOS Software Release 12.0(22)S
- Cisco IOS Software Release 12.2(13)T

Product Ordering Details: Ordering Instructions

Please visit http://www.cisco.com/public/ordering_info.shtml to place an order.

Product Ordering Details: Product Part Number

Table 5 gives ordering information for the Cisco RSP 16.

Table 5 Cisco RSP16 Product Information

RSP Product Number	Product Description
RSP16=	Cisco 7500 Route Switch Processor 16

Memory Product Number	Product Description
MEM-RSP16-128M	RSP16 128 MB ECC SDRAM Memory Option
MEM-RSP16-128M=	RSP16 128 MB ECC SDRAM Memory Spare
MEM-RSP16-256M	RSP16 256 MB ECC SDRAM Memory Option
MEM-RSP16-256M=	RSP16 256 MB ECC SDRAM Memory Spare
MEM-RSP16-512M	RSP16 512 MB ECC SDRAM Memory Option
MEM-RSP16-512M=	RSP16 512 MB ECC SDRAM Memory Spare
MEM-RSP16-1G	RSP16 1 GB ECC SDRAM Memory Option
MEM-RSP16-1G=	RSP16 1 GB ECC SDRAM Memory Spare

System Product Number	Product Description
CISCO7507/16-MX	Cisco 7507, 7 Slots, MIX-enabled, Dual Bus, 1 Cisco RSP16, 1 PS
CISCO7507/16X2-MX	Cisco 7507, 7 Slots, MIX-enabled, Dual Bus, 2 Cisco RSP16s, 1 PS
CISCO7513/16-MX	Cisco 7513, 13 Slots, MIX-Enabled, Dual Bus, 1 Cisco RSP16, 1 PS
CISCO7513/16X2-MX	Cisco 7513, 13 Slot, MIX-Enabled, Dual Bus, 2 RSP16s, 1 PS

Product Ordering Details: Migration Program

A Technology Migration Plan has been established for this product.

The Technology Migration Plan is an innovative, industry-first sales program that allows customers to trade in Cisco products to receive a trade-in credit toward the purchase of any new Cisco product. The program underscores Cisco's commitment to the customer in terms of end-to-end product solutions as well as emphasizing to the customer Cisco's commitment to provide effective migration options in the face of ever-changing network requirements.

Service and Support

Cisco Systems offers a wide range of service and support options for its customers. More information on Cisco service and support programs and benefits can be found at:

http://www.cisco.com/public/Support_root.shtml.



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