

Route Switch Module

The WS-X5302 route switch module, the latest member of the Catalyst® 5000 series of line modules, provides the performance, scalability, and sophisticated multiprotocol capabilities of Cisco IOS™ software integrated into the award-winning Catalyst 5000 switch series. With the introduction of the route switch module, the Catalyst 5000 becomes the first truly multiprotocol, multilayer switch available today and allows network managers the option to deploy cost-effective distributed Layer 3 services from the wiring closet to the data center. The route switch module provides high-performance, multilayer switching and routing services between switched Virtual LANs (VLANs), emulated LANs (ELANs) within an Asynchronous Transfer Mode (ATM) fabric, or across mixed media via an optional Versatile Interface Processor (VIP) and port adapters.

The route switch module offers integrated, high-performance, multiprotocol switching.



Extending the Benefits of Multiprotocol Switching to the Catalyst Family of Switches

Multiprotocol Switching with Cisco IOS Software

The Cisco Catalyst 5000 series route switch module builds upon the Route Switch Processor (RSP) featured in Cisco's premier multiprotocol routing platform, the Cisco 7500. It combines Cisco Systems' proven software technology with the exceptional performance features of the Catalyst 5000 series of LAN switches to meet the requirements of today's mission-critical networks. The route switch module delivers the full suite of Cisco IOS software services, which include the widest set of protocols available on any multilayer switch: IP, IPX, AppleTalk, DECnet, VINES, XNS, SNA, as well as:

- Multimedia services—Protocol Independent Multicast (PIM), Cisco Group Management Protocol (CGMP)
- Security services—Access lists, encryption, Lock and Key
- Class of service (COS) enablers—Resource Reservation Protocol (RSVP), Weighted Fair Queuing (WFQ)

NetFlow Switching Delivers High-Performance Layer 3 Network Services

The route switch module introduces NetFlow™ Switching to the Catalyst 5000 switch series which provides "per-flow" switching between VLANs or subnets. NetFlow Switching enables today's networks to perform more network services on a larger scale and at higher bandwidths. NetFlow Switching provides the following benefits:

- **High Performance**—NetFlow switching provides low-latency, high-throughput Layer 3 switching performance scaling to over 1 Mpps while providing sophisticated network services such as per-flow statistics, security screening, and accounting information.
- **Security Services**—NetFlow Switching provides robust security screening while dramatically reducing the overhead required for security processing.
- **COS**—Based on the RSVP, which enables applications to request a specific CoS and advanced queuing techniques such as WFQ, the route switch module supports these CoS guarantees.
- **Flow Management**—NetFlow Switching generates detailed information on each flow or session as a readily accessible by-product of its basic switching function. This detail includes packet and byte counts, duration, and timestamps.

Features

- The route switch module provides the full suite of Cisco IOS feature set combinations ranging from IP to the full Cisco IOS enterprise suite. In addition, the route switch module provides multimedia services such as CGMP and PIM, security services such as access lists and encryption, and CoS enablers such as RSVP and WFQ.
- NetFlow Switching provides per-flow switching between subnets and provides network services on a larger scale and at higher bandwidths. NetFlow Switching also provides high-performance, low-latency switching and:
 - Security services
 - CoS enablers
 - Flow management
- Slot independent, multiple route switch modules can be inserted into a Catalyst 5000 series chassis for loadsharing, redundancy, and increased Layer 3 switching performance. The route switch module is hot-swappable and can be removed or replaced without resetting any other modules within the chassis.
- Integrating directly with the Catalyst 5000 series multigigabit switching bus, the route switch module uses the same high-speed application-specific integrated circuit (ASIC) technology used on all Catalyst 5000 modules.
- The route switch module is compatible with all line cards available for the Catalyst 5000 series, including Ethernet, Fast Ethernet, ATM, and Fiber Distributed Data Interface (FDDI) modules. Future support for Gigabit Ethernet, Token Ring modules, and port adapters is planned.
- An optional VIP can be added to the route switch module to provide additional media interfaces via two port adapters, which are interchangeable with Cisco 7000, 7200, and 7500 VIPs.
- Web browser support provides a graphical navigational tool through the command-line interface (CLI) and allows the user to display status and gather statistical data through a point-and-click interface.

Catalyst 5000 Route Switch Module Specifications

Physical Specifications

- Occupies one slot in the Catalyst 5000 platform
- Additional slot used for optional VIP
- Dimensions (H x W x D): 1.2 x 14.4 x 16 in. (3 x 35.6 x 40.6 cm)

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

Agency Approvals

- UL 1950
- CSA-C22.2 No. 950-93
- EN 60950
- IEC 950
- TS 001
- FCC Class A (Part 15)
- CE Marking
- VCCI Class 2
- EN55022 Class B
- CISPR22 Class B
- AS/NZS3548 Class B

CPU and Memory

- MIPS R4700 100-MHz Processor
- 32-MB DRAM system memory default expandable to 128 MB
- 16-MB Flash memory card default expandable to 40 MB
- 2-MB high-speed packet memory
- 1.5-MB high-speed RAM—Catalyst switching bus interface
- 8-MB Boot Flash Memory

Software

- IP Routing and NetFlow Switching license, system software defaults

Indicators and Interfaces

- Module status: Green (Operational)/Red (Faulty)/Orange (Disabled)
- Channel 0/1 Transmit (Tx) Receive (Rx): Green/Data Traffic Off/No Data Traffic
- PC card Slot 0 Active, Slot 1 Active
- Enabled—Indicates that the Catalyst switching channels have been enabled
- CPU Halt—Normally ON, OFF when system fault detected



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