C H A P T E R   1

Product Overview

The Cisco 7507 router is part of the Cisco 7500 series. The seven-slot Cisco 7507 supports multiprotocol, multimedia routing and bridging with a wide variety of protocols and any combination of Asynchronous Transfer Mode (ATM), Ethernet, Fast Ethernet, Token Ring, Fiber Distributed Data Interface (FDDI), serial, High-Speed Serial Interface (HSSI), channel attachment, and multichannel media.

Network interfaces reside on interface processors that provide a direct connection between the two Cisco Extended Buses (CyBuses) and your external networks. The Cisco 7507 has seven slots: interface processor slots 0 and 1, Route Switch Processor (RSP2) slots 2 and 3, and interface processor slots 4 through 6.

There are bays for up to two AC-input or DC-input power supplies. The chassis will operate with one power supply. While a second power supply is not required, it allows load sharing and increased system availability.

Caution   Because of agency compliance and safety issues, mixing AC-input and DC-input power supplies in the same Cisco 7507 is not a supported configuration and should not be attempted. Doing so might cause damage.

Following is a list of acronyms that identify the system components and features:

- CxBus—Cisco Extended Bus. A 533-megabits-per-second (Mbps) data bus for interface processors.

- CyBus—Cisco Extended Bus. A 1.067-gigabits-per-second (Gbps) data bus for interface processors (two CyBuses are used in the Cisco 7507).

- AIP—Asynchronous Transfer Mode (ATM) Interface Processor.

- CIP—Channel Interface Processor.

- EIP—Ethernet Interface Processor.

- FEIP—Fast Ethernet Interface Processor.

- FIP—FDDI (Fiber Distributed Data Interface) Interface Processor.

- FRU—Field-replaceable unit (as opposed to a spare part). An FRU can only be replaced by a Cisco certified technician. The arbiter board is categorized as an FRU; interface processors are categorized as spare parts.

- FSIP—Fast Serial Interface Processor.

- HIP—High-Speed Serial Interface (HSSI) Interface Processor.

- MIP—MultiChannel Interface Processor.

- OIR—Online insertion and removal. This feature allows you to replace interface processors and redundant power supplies without interrupting system power.

- PA—Port adapter. For example, the FSIP or MIP daughter card.

- RSP2—Route Switch Processor. The system processor board.

- TRIP—Token Ring Interface Processor.

Figure 1-1 shows a view of the interface-processor end of the Cisco 7507 with two AC-input power supplies and a single RSP2 installed.
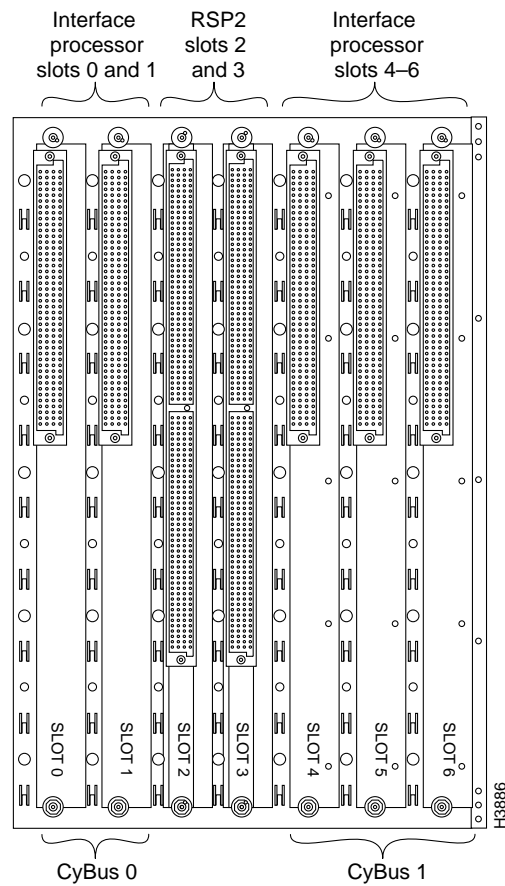
Figure 1-1   Cisco 7507, Rear View
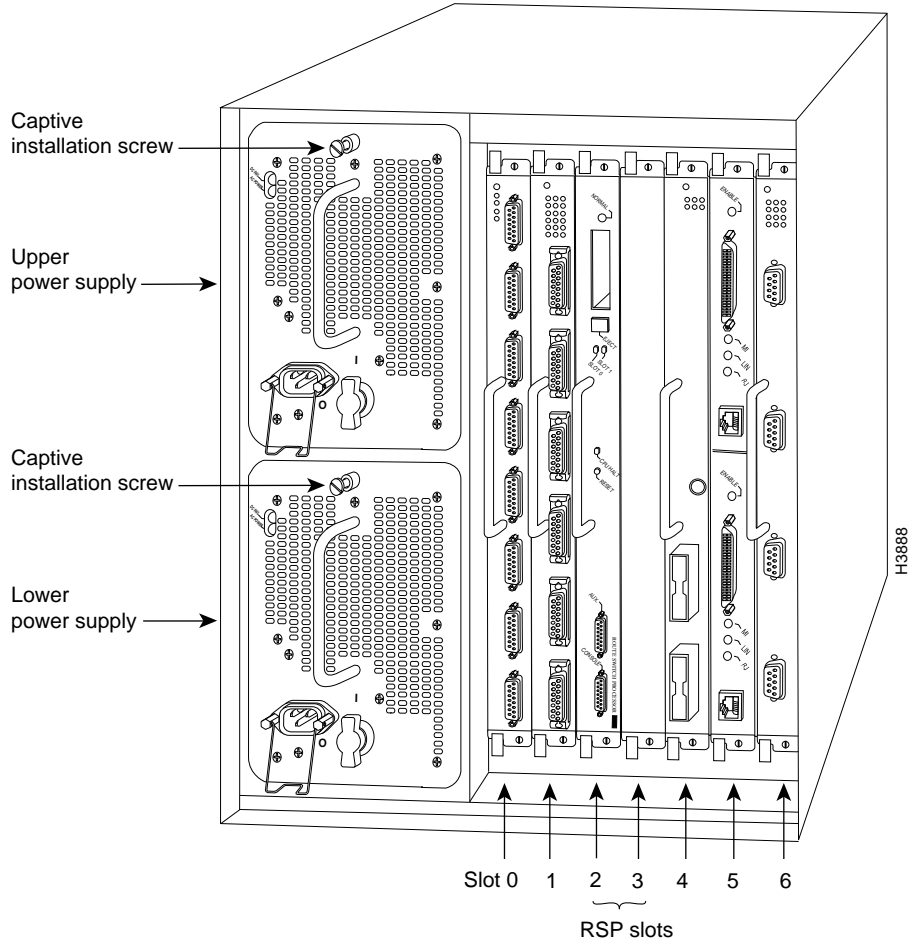
Dual-CyBus Backplane

The dual-CyBus backplane has seven slots: interface processor slots 0 and 1 (Cybus 0), two RSP slots (2 and 3), and interface processor slots 4 through 6 (CyBus 1), as shown in Figure 1-2.

Figure 1-2   Cisco 7507 Dual CyBus Backplane

An RSP2 in either slot 2 or slot 3 controls both CyBus 0 and CyBus 1. Interface processors connected to one CyBus are unaffected by the traffic generated by the interfaces processors connected to the other CyBus. The two CyBuses are independent of one another.

System Specifications

Table 1-1 lists the specifications for the Cisco 7507 system.

Table 1-1   Cisco 7507 Specifications

| Description	Specifications
High-speed backplane	Two 1.0677-Gbps CyBuses: 5 interface processor slots, 2 RS2P slots
Dimensions (H x W x D)	19.25 x 17.5 x 25.1" (48.90 x 44.45 x 63.75 cm) Chassis depth including power cord is 28" (71.12 cm)
Weight	Chassis only: 76 lb (34.47 kg) Chassis fully configured, using all slots and 2 power supplies: 145 lb (65.76 kg)
Power supply	700 watts (W) maximum (for AC-input and DC-input power supplies)
Power dissipation	626W, maximum configuration 530W typical with maximum configuration
Heat dissipation	1200W (4100 British thermal units [Btus]/hr) with AC-input 300W (1024 Btus/hr) with DC-input
Input voltage	100 to 240 volts alternating current (VAC) wide input with power factor correction (PFC)
Frequency	50 to 60 Hz autoranging
AC-input ratings	12A maximum @ 100 VAC, 6A maximum @ 240 VAC, chassis fully configured
DC-input ratings	–40 volts DC (VDC) minimum –48 VDC nominal –72 VDC maximum
Airflow	140 cubic feet per minute (cfm) through the system blower
Operating temperature	32 to 104 F (0 to 40 C)
Nonoperating temperature	–4 to 149 F (–20 to 65 C)

Description	Specifications
Humidity	10 to 90%, noncondensing
Agency approvals	Safety: UL 1950, CSA 22.2-950, EN60950: 1992 EMI: FCC Class A, EN55022 Class B, VCCI Class 2

Airflow Considerations

The system blower on the Cisco 7507 provides cooling air for the processor modules. The blower is located inside the front chassis compartment, as shown in Figure 1-3.

Figure 1-3   Cisco 7507 Airflow
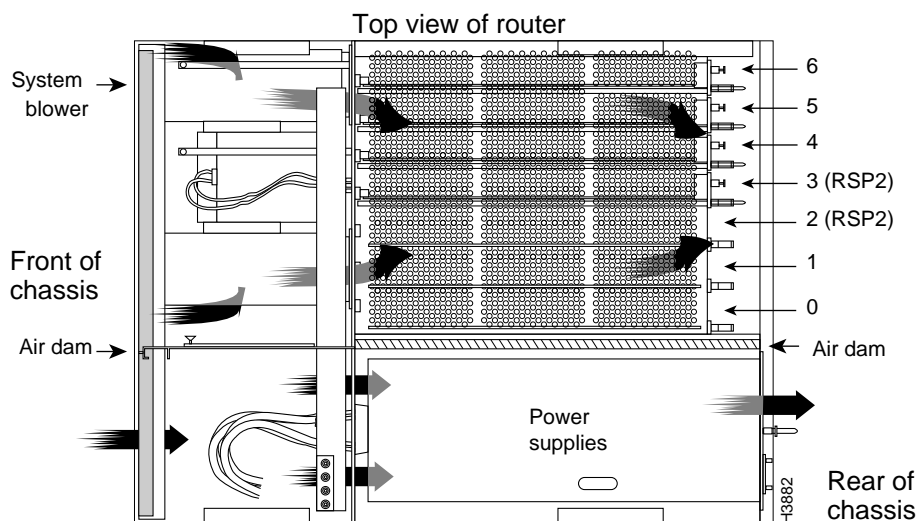
The blower draws air in through the air filter in the front chassis panel and directs it up through the floor of the internal slot compartment and over the cards. The exhaust air is forced out the rear of the chassis above and to each side of the processor slots. The blower needs a clean air filter in order to draw in sufficient amounts of cooling air; excessive dust in the filter will restrict the airflow. Keep the air filter clean and replace it when necessary.

Sensors on the RSP2 monitor the inlet and internal chassis air temperatures. If the air temperature at either of the sensors exceeds a desired threshold, an environmental monitor displays warning messages and can interrupt system operation to protect the system components from possible damage from excessive heat or electrical current.

The power supplies have their own fans. An air dam between the power supply bays and the processor module compartment keeps the airflow constant.

For complete information on fan and environmental considerations, refer to the *Cisco 7507 Hardware Installation and Maintenance* publication, which is available on UniverCD or in print. For information on ordering UniverCD, see the section "If You Need More Configuration Information," in the chapter "Performing a Basic Configuration of the Cisco 7507."