CHAPTER 1

Product Overview

The Cisco 7000 router is part of the Cisco 7000 series. The seven-slot Cisco 7000 supports multiprotocol, multimedia routing and bridging with a wide variety of protocols and combinations 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.

The Cisco 7000 has seven slots: five interface processor slots (0 through 4), one slot for the Switch Processor (SP) or Silicon Switch Processor (SSP), and one slot for the Route Processor (RP). There are bays for up to two AC-input or DC-input power supplies. Network interfaces reside on interface processors that provide a direct connection between the two Cisco Extended Buses (CyBuses) and your external networks.

Caution Due to agency compliance and safety issues, mixing AC-input and DC-input power supplies in the same Cisco 7000 is not recommended.

Note Your Cisco 7000 can also be optionally configured with a 7000 Series Route Switch Processor (RSP7000), which combines the routing and switching functions of the separate RP and SP. This new processor module requires that your Cisco 7000 also be configured with the 7000 Series Chassis Interface (RSP7000CI), which provides the environmental monitoring functions for the Cisco 7000. With this Cisco 7000 configuration, slot 5 (the 7000 RSP slot) is reserved for the RSP7000, and slot 6 (the 7000 CI slot) is reserved for the RSP7000CI. The remaining five slots (0 through 4) are reserved for interface processors. If your chassis was ordered with the RSP7000 option, both RSP7000-related components are installed when the Cisco 7000 ships. The RSP7000 functionality requires Cisco Internetwork Operating System (Cisco IOS) Release 10.3(9) or later.

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.
- 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). A 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.
- RP—Route Processor. The system processor board.
- RSP7000—7000 Series Route Switch Processor.
- RSP7000CI—7000 Series Chassis Interface.
- SP—Switch Processor. The CxBus traffic controller.
- SSP—Silicon Switch Processor. The CxBus traffic controller.
- TRIP—Token Ring Interface Processor.

Figure 1-1 shows a view of the interface-processor end (rear) of the Cisco 7000 with AC-input power supplies, RP, and SP (or SSP) installed.

Figure 1-1 Cisco 7000 with RP and SP (or SSP), Rear View

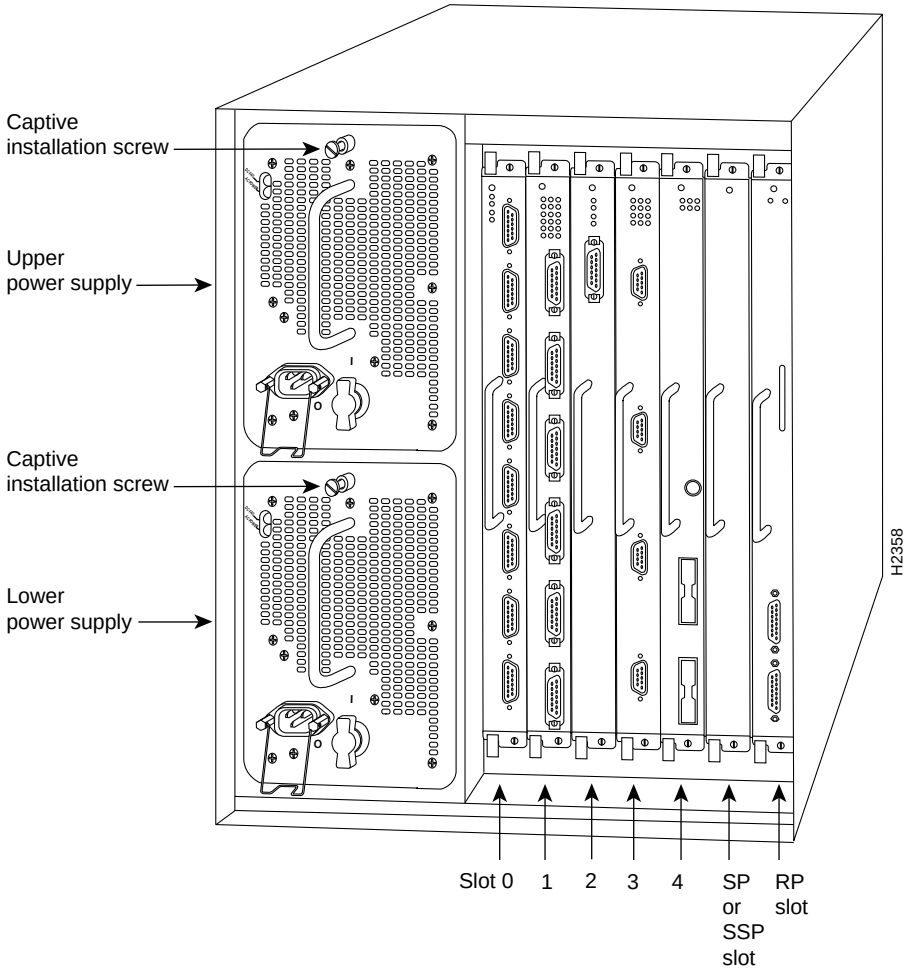
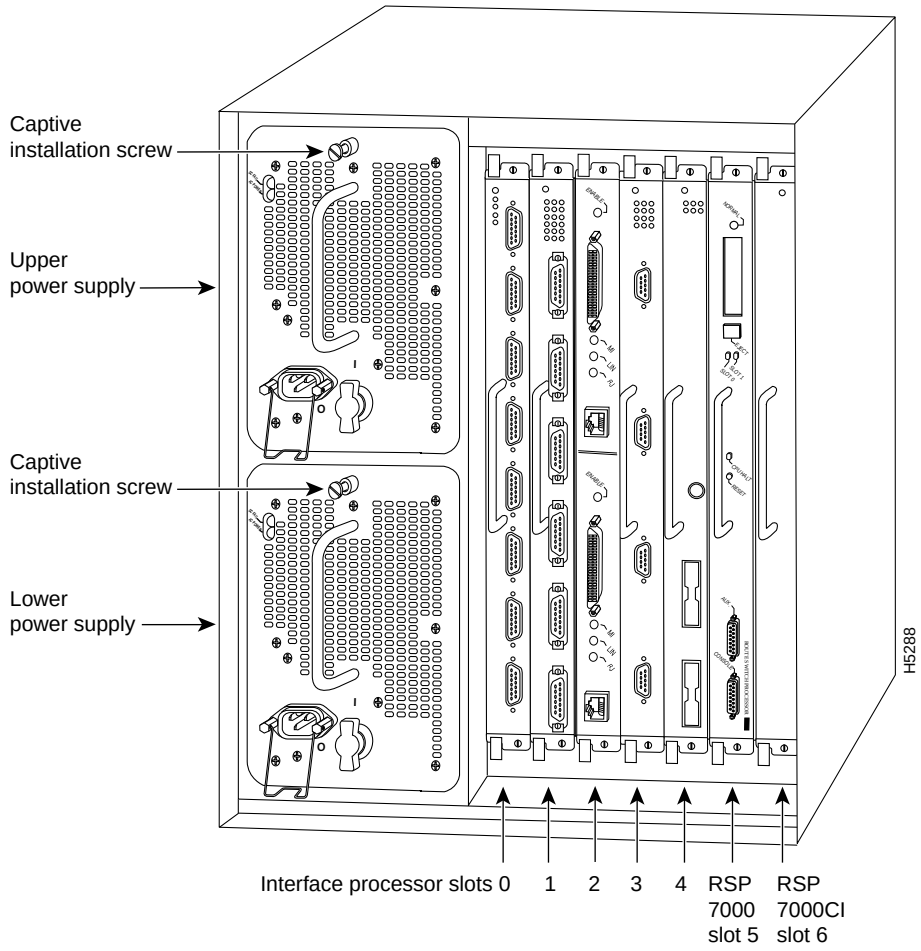


Figure 1-2 shows a view of the interface-processor end (rear) of the Cisco 7000 with AC-input power supplies, RSP7000, and RSP7000CI installed.

Figure 1-2 Cisco 7000 with RSP7000 and RSP7000CI, Rear View



System Specifications

Table 1-1 lists the specifications for the Cisco 7000 system.

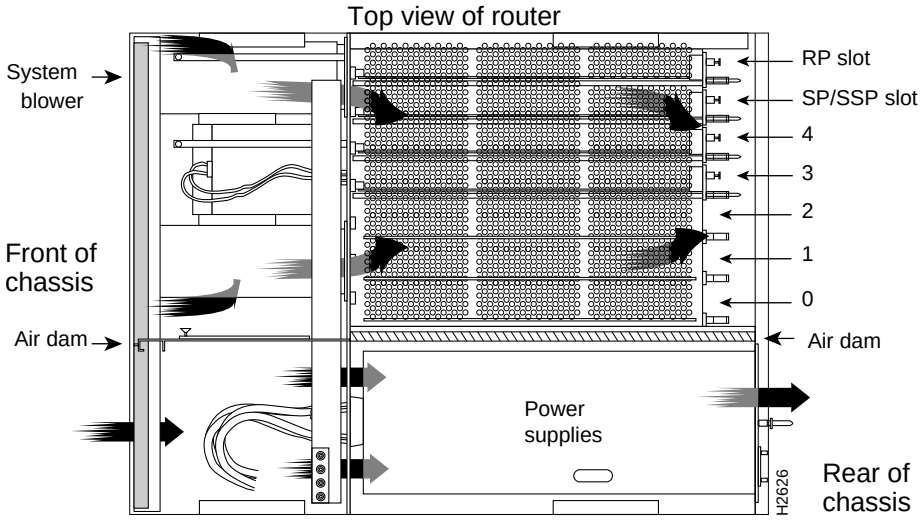
Table 1-1 Cisco 7000 Specifications

Description	Specifications
High-speed backplane	533-Mbps CxBus, 5 interface processor slots, 1 RP slot, and 1 SP (or SSP) slot
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 with 1 RP and 1 SP (or 1 SSP), 5 interface processors, 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 corrector (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)
Humidity	10 to 90%, noncondensing
Agency approvals	Safety: UL 1950, CSA 22.2-950, EN60950, EN41003, AUSTEL TS001, AS/NZS 3260 EMI: FCC Class A, EN55022 Class B, VCCI Class 2

Airflow Considerations

The system blower on the Cisco 7000 provides cooling air for the processor modules. The blower is located inside the front chassis compartment, shown in Figure 1-3.

Figure 1-3 Cisco 7000 Blower and Airflow



The system 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 RP (or 7000 RSP) 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 7000 Hardware Installation and Maintenance* publication, which is available on UniverCD or can be ordered separately. For information on ordering UniverCD, see the section "If You Need More Configuration Information" in the chapter "Performing a Basic Configuration of the Cisco 7000."