Cisco CRS-3 24-Slot Fabric-Card Chassis

The Cisco® CRS-3 Carrier Routing System offers industry-leading performance, advanced services intelligence, an environmentally conscious design, and system longevity. The Cisco CRS-3 is powered by the Cisco QuantumFlow Array – a chipset architecture based on multidimensional engineering and Cisco IOS® XR Software, a unique self-healing, distributed operating system.

Packet-based data communications are being replaced by video and rich media traversing the IP Next-Generation Network (NGN) in multiple directions, straining the architectural foundations of both public and private networks serving businesses and consumers. As part of the medianet, a media-aware Cisco IP NGN, the Cisco CRS-3 delivers continuous, always-on operations and scales easily from numerous single-chassis form factors to a massive multi-chassis system. Its highly efficient design conserves power, cooling, and rack-space resources while optimizing bandwidth capacity. The Cisco CRS-3 is compatible with the CRS-1, protecting investments for decades to come.

This data sheet provides detailed product specifications for the Cisco CRS-3 24-Slot Fabric-Card Chassis (FCC). This FCC is an important element of the Cisco CRS-3 multichassis system because it contains the second-stage switching fabric that interconnects multiple Cisco CRS-3 16-slot single-shelf systems. The interconnectivity of FCCs and Cisco CRS-3 16-slot single-shelf systems allows the Cisco CRS-3 to gracefully scale from 4.48 to 322 Tbps of system capacity. For more information about the Cisco CRS-3 or about other interfaces available for the Cisco CRS-3, visit: http://www.cisco.com/go/crs.

Figure 1. Cisco CRS-3 24-Slot Fabric-Card Chassis

Product Specifications

Table 1 gives specifications of the Cisco CRS-3 24-Slot FCC.

Table 1. Product Specifications

Feature	Description	
Software compatibility	Cisco IOS XR Software Release 4.0	
Components	Each Cisco CRS-3 24-Slot FCC includes: • Two Cisco CRS-3 fan controllers (part number CRS3-FCC-SC-22GE) • Eight Cisco CRS-3 S2 fabric cards (part number CRS3-FCC-SFC) • Two power shelves (DC, AC type Wye, or AC type Delta) • Two alarm cards • Two fan trays • One fan filter	
Performance	4.48 to 322 Tbps switching capacity	
Reliability and availability	System redundancy: • Power-shelf redundancy 1:1 • Fan-tray redundancy 1:1 • Fan-controller redundancy 1:1 • Alarm-card redundancy 1:1 • Fabric-card redundancy 1:8	
MIBs	Simple Network Management Protocol (SNMP) framework support: • SNMPv1 • SNMPv2c • SNMPv3 • MIB II, including interface extensions (RFC 1213) • SNMP-FRAMEWORK-MIB • SNMP-TARGET-MIB • SNMP-NOTIFICATION-MIB • SNMP-USM-MIB • SNMP-VACM-MIB System management: • CISCO- BULK-FILE-MIB • CISCO-CONFIG-COPY-MIB • CISCO-CONFIG-MAN-MIB • CISCO-FLASH-MIB • CISCO-MEMORY-POOL-MIB • Cisco FTP Client MIB • Cisco Process MIB • Cisco Syslog MIB • CISCO-SYSTEM-MIB • CISCO-CDP-MIB • IF-MIB (RFC 2233/RFC 2863)	Chassis: • ENTITY-MIB (RFC 2737) • CISCO-entity-asset-MIB • CISCO-entity-sensor-MIB • CISCO-FRU-MIB (Cisco-Entity-FRU-Control-MIB) Fabric: • CISCO-Fabric-HFR-MIB • CISCO-Fabric-Mcast-MIB • CISCO-Fabric-Mcast-Appl-MIB
Network management	• Enhanced command-line interface (CLI) • Extensible Markup Language (XML) interface • CraftWorks Interface (CWI) • SNMP and MIB support • Cisco Active Network Abstraction (ANA)	
Programmatic interfaces	XML schema support	

Feature	Description
Physical dimensions	Chassis height: • 84 in. (213.36 cm) with power shelves installed • 80 in. (203.2 cm) without power shelves installed Chassis width: • 23.6 in. (59.94 cm) Chassis depth: • 36 in. (91.44 cm) • 41.5 in. (105.41 cm), including cable-management system and front cover Weight: • 780 lb (355 kg) as shipped, chassis only with fan trays installed, no power shelves • Approximately 1100 lb (500 kg) chassis ship weight including crate and pallet • 1630 lb (740 kg) chassis fully configured, using all card slots, power shelves, and cosmetics (estimated)
Power	• Maximum power consumption when chassis is fully loaded with 8 fabric cards with traffic running: 3244W • Maximum power consumption when chassis is fully loaded with 24 fabric cards with traffic running: 7660W • Chassis power supply maximum output capacity: 8.8kW for DC power supply and 10kW for AC power supply
Environmental conditions	Storage temperature: –40 to 70°C (–40 to 158°F) Operating temperature: • Normal: 5 to 40°C (41 to 104°F) • Short-term: –5 to 50°C (23 to 122°F) Relative humidity: • Normal: 5 to 85% • Short-term: 5 to 90% but not to exceed 0.024 kg water/kg of dry air Short-term refers to a period of not more than 96 consecutive hours and a total of not more than 15 days in 1 year (this refers to a total of 360 hours in any given year, but no more than 15 occurrences during that 1-year period).

Approvals and Compliance

Table 2 gives compliance and agency approvals for the Cisco CRS-3 24-Slot FCC.

Table 2.   Compliance and Agency Approvals

Feature	Description
Safety Standards	• UL/CSA/IEC/EN 60950-1 • IEC/EN 60825 Laser Safety • ACA TS001 • AS/NZS 60950 • FDA-Code of Federal Regulations Laser Safety
EMI	• FCC Class A • ICES 003 Class A • AS/NZS 3548 Class A • CISPR 22 (EN55022) Class A • VCCI Class A • BSMI Class A • IEC/EN 61000-3-2: Power Line Harmonics • IEC/EN 61000-3-3: Voltage Fluctuations and Flicker
Immunity (Basic Standards)	• IEC/EN-61000-4-2: Electrostatic Discharge Immunity (8-kV contact, 15-kV air) • IEC/EN-61000-4-3: Radiated Immunity (10 V/m) • IEC/EN-61000-4-4: Electrical Fast Transient Immunity (2-kV power, 1-kV signal) • IEC/EN-61000-4-5: Surge AC Port (4-kV CM, 2-kV DM) • IEC/EN-61000-4-5: Signal Ports (2-kV CM and 1-kV DM) • IEC/EN-61000-4-5: Surge DC Port (1 kV) • IEC/EN-61000-4-6: Immunity to Conducted Disturbances (10 Vrms) • IEC/EN-61000-4-8: Power Frequency Magnetic Field Immunity (30 A/m) • IEC/EN-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations
ETSI and EN	• EN300 386: Telecommunications Network Equipment (EMC) • EN55022: Information Technology Equipment (emissions) • EN55024: Information Technology Equipment (immunity) • EN50082-1/EN-61000-6-1: Generic Immunity Standard

Feature	Description
Network Equipment Building Standards (NEBS)	This product is designed to meet the following requirements (qualification in progress): • SR-3580: NEBS Criteria Levels (Level 3) • GR-1089-CORE: NEBS EMC and Safety • GR-63-CORE: NEBS Physical Protection

Ordering Information

Table 3.   Ordering Information

Product Part Number	Product Name
CRS3-MC-FC24	CRS-3 Multichassis System with 24-Slot Fabric Chassis
CRS3-FC24=	CRS-3 Fabric Chassis 24-Slot System (complete FCC)
CRS3-FCC=	Cisco CRS-3 FCC, spare (chassis only)

To place an order, visit: Cisco Ordering Home Page.

To download Cisco IOS Software, visit: Cisco Software Center.

Cisco Services

Cisco Services make networks, applications, and the people who use them work better together.

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For More Information

For more information about the Cisco CRS-3 24-Slot FCC or the Cisco 16-Slot Single-Shelf System, contact your local Cisco account representative or visit: http://www.cisco.com/go/crs.