

## 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
<b>Software compatibility</b>	Cisco IOS XR Software Release 4.0
<b>Components</b>	Each Cisco CRS-3 24-Slot FCC includes: <ul style="list-style-type: none"> <li>• Two Cisco CRS-3 fan controllers (part number CRS3-FCC-SC-22GE)</li> <li>• Eight Cisco CRS-3 S2 fabric cards (part number CRS3-FCC-SFC)</li> <li>• Two power shelves (DC, AC type Wye, or AC type Delta)</li> <li>• Two alarm cards</li> <li>• Two fan trays</li> <li>• One fan filter</li> </ul>
<b>Performance</b>	4.48 to 322 Tbps switching capacity
<b>Reliability and availability</b>	System redundancy: <ul style="list-style-type: none"> <li>• Power-shelf redundancy 1:1</li> <li>• Fan-tray redundancy 1:1</li> <li>• Fan-controller redundancy 1:1</li> <li>• Alarm-card redundancy 1:1</li> <li>• Fabric-card redundancy 1:8</li> </ul>
<b>MIBs</b>	<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p>Simple Network Management Protocol (SNMP) framework support:</p> <ul style="list-style-type: none"> <li>• SNMPv1</li> <li>• SNMPv2c</li> <li>• SNMPv3</li> <li>• MIB II, including interface extensions (RFC 1213)</li> <li>• SNMP-FRAMEWORK-MIB</li> <li>• SNMP-TARGET-MIB</li> <li>• SNMP-NOTIFICATION-MIB</li> <li>• SNMP-USM-MIB</li> <li>• SNMP-VACM-MIB</li> </ul> <p>System management:</p> <ul style="list-style-type: none"> <li>• CISCO- BULK-FILE-MIB</li> <li>• CISCO-CONFIG-COPY-MIB</li> <li>• CISCO-CONFIG-MAN-MIB</li> <li>• CISCO-FLASH-MIB</li> <li>• CISCO-MEMORY-POOL-MIB</li> <li>• Cisco FTP Client MIB</li> <li>• Cisco Process MIB</li> <li>• Cisco Syslog MIB</li> <li>• CISCO-SYSTEM-MIB</li> <li>• CISCO-CDP-MIB</li> <li>• IF-MIB (RFC 2233/RFC 2863)</li> </ul> </div> <div style="width: 35%;"> <p>Chassis:</p> <ul style="list-style-type: none"> <li>• ENTITY-MIB (RFC 2737)</li> <li>• CISCO-entity-asset-MIB</li> <li>• CISCO-entity-sensor-MIB</li> <li>• CISCO-FRU-MIB (Cisco-Entity-FRU-Control-MIB)</li> </ul> <p>Fabric:</p> <ul style="list-style-type: none"> <li>• CISCO-Fabric-HFR-MIB</li> <li>• CISCO-Fabric-Mcast-MIB</li> <li>• CISCO-Fabric-Mcast-Appl-MIB</li> </ul> </div> </div>
<b>Network management</b>	<ul style="list-style-type: none"> <li>• Enhanced command-line interface (CLI)</li> <li>• Extensible Markup Language (XML) interface</li> <li>• CraftWorks Interface (CWI)</li> <li>• SNMP and MIB support</li> <li>• Cisco Active Network Abstraction (ANA)</li> </ul>
<b>Programmatic interfaces</b>	XML schema support

Feature	Description
<b>Physical dimensions</b>	<p>Chassis height:</p> <ul style="list-style-type: none"> <li>• 84 in. (213.36 cm) with power shelves installed</li> <li>• 80 in. (203.2 cm) without power shelves installed</li> </ul> <p>Chassis width:</p> <ul style="list-style-type: none"> <li>• 23.6 in. (59.94 cm)</li> </ul> <p>Chassis depth:</p> <ul style="list-style-type: none"> <li>• 36 in. (91.44 cm)</li> <li>• 41.5 in. (105.41 cm), including cable-management system and front cover</li> </ul> <p>Weight:</p> <ul style="list-style-type: none"> <li>• 780 lb (355 kg) as shipped, chassis only with fan trays installed, no power shelves</li> <li>• Approximately 1100 lb (500 kg) chassis ship weight including crate and pallet</li> <li>• 1630 lb (740 kg) chassis fully configured, using all card slots, power shelves, and cosmetics (estimated)</li> </ul>
<b>Power</b>	<ul style="list-style-type: none"> <li>• Maximum power consumption when chassis is fully loaded with 8 fabric cards with traffic running: 3244W</li> <li>• Maximum power consumption when chassis is fully loaded with 24 fabric cards with traffic running: 7660W</li> <li>• Chassis power supply maximum output capacity: 8.8kW for DC power supply and 10kW for AC power supply</li> </ul>
<b>Environmental conditions</b>	<p>Storage temperature: -40 to 70°C (-40 to 158°F)</p> <p>Operating temperature:</p> <ul style="list-style-type: none"> <li>• Normal: 5 to 40°C (41 to 104°F)</li> <li>• Short-term: -5 to 50°C (23 to 122°F)</li> </ul> <p>Relative humidity:</p> <ul style="list-style-type: none"> <li>• Normal: 5 to 85%</li> <li>• Short-term: 5 to 90% but not to exceed 0.024 kg water/kg of dry air</li> </ul> <p>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).</p>

## 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
<b>Safety Standards</b>	<ul style="list-style-type: none"> <li>• UL/CSA/IEC/EN 60950-1</li> <li>• IEC/EN 60825 Laser Safety</li> <li>• ACA TS001</li> <li>• AS/NZS 60950</li> <li>• FDA-Code of Federal Regulations Laser Safety</li> </ul>
<b>EMI</b>	<ul style="list-style-type: none"> <li>• FCC Class A</li> <li>• ICES 003 Class A</li> <li>• AS/NZS 3548 Class A</li> <li>• CISPR 22 (EN55022) Class A</li> <li>• VCCI Class A</li> <li>• BSMI Class A</li> <li>• IEC/EN 61000-3-2: Power Line Harmonics</li> <li>• IEC/EN 61000-3-3: Voltage Fluctuations and Flicker</li> </ul>
<b>Immunity (Basic Standards)</b>	<ul style="list-style-type: none"> <li>• IEC/EN-61000-4-2: Electrostatic Discharge Immunity (8-kV contact, 15-kV air)</li> <li>• IEC/EN-61000-4-3: Radiated Immunity (10 V/m)</li> <li>• IEC/EN-61000-4-4: Electrical Fast Transient Immunity (2-kV power, 1-kV signal)</li> <li>• IEC/EN-61000-4-5: Surge AC Port (4-kV CM, 2-kV DM)</li> <li>• IEC/EN-61000-4-5: Signal Ports (2-kV CM and 1-kV DM)</li> <li>• IEC/EN-61000-4-5: Surge DC Port (1 kV)</li> <li>• IEC/EN-61000-4-6: Immunity to Conducted Disturbances (10 Vrms)</li> <li>• IEC/EN-61000-4-8: Power Frequency Magnetic Field Immunity (30 A/m)</li> <li>• IEC/EN-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations</li> </ul>
<b>ETSI and EN</b>	<ul style="list-style-type: none"> <li>• EN300 386: Telecommunications Network Equipment (EMC)</li> <li>• EN55022: Information Technology Equipment (emissions)</li> <li>• EN55024: Information Technology Equipment (immunity)</li> <li>• EN50082-1/EN-61000-6-1: Generic Immunity Standard</li> </ul>

Feature	Description
<b>Network Equipment Building Standards (NEBS)</b>	This product is designed to meet the following requirements (qualification in progress): <ul style="list-style-type: none"> <li>• SR-3580: NEBS Criteria Levels (Level 3)</li> <li>• GR-1089-CORE: NEBS EMC and Safety</li> <li>• GR-63-CORE: NEBS Physical Protection</li> </ul>

## Ordering Information

**Table 3.** Ordering Information

Product Part Number	Product Name
<b>CRS3-MC-FC24</b>	CRS-3 Multichassis System with 24-Slot Fabric Chassis
<b>CRS3-FC24=</b>	CRS-3 Fabric Chassis 24-Slot System (complete FCC)
<b>CRS3-FCC=</b>	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](#).

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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>.



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