

Cisco Nexus 7000 Series 10-Slot Chassis

Product Overview

The Cisco® Nexus 7000 Series Switches combine the highest levels of scalability with operational flexibility.

The Cisco Nexus 7000 Series Switches comprise a modular data center–class product line designed for highly scalable 10 Gigabit Ethernet networks with a fabric architecture that scales beyond 15 terabits per second (Tbps). Designed to meet the requirements of the most mission-critical data centers, it delivers continuous system operation and virtualized, pervasive services. The Cisco Nexus 7000 Series is based on a proven operating system, with enhanced features to deliver real-time system upgrades with exceptional manageability and serviceability. Its innovative design is purpose built to support end-to-end data center connectivity, consolidating IP, storage, and interprocess communication (IPC) networks onto a single Ethernet fabric.

The first in the next generation of switch platforms, the Cisco Nexus 7000 Series 10-Slot chassis (Figure 1) provides integrated resilience combined with features optimized specifically for the data center for availability, reliability, scalability, and ease of management.

Figure 1. Cisco Nexus 7000 Series 10-Slot Chassis.



Features and Benefits

Coupled with the Cisco NX-OS Software, the Cisco Nexus 7000 Series 10-Slot chassis delivers a rich set of features for data centers with nonstop operation.

- Front-to-back airflow with 10 front-accessed vertical module slots and an integrated cable management system facilitates installation, operation, and cooling in both new and existing data centers.
- Designed for reliability and maximum availability, all interface and supervisor modules are accessible from the front, and the redundant power supplies, fan trays, and fabric modules are all accessible completely from the rear to ensure that cabling is not disrupted during maintenance.
- The system uses dual dedicated supervisor modules; a scalable, fully distributed fabric architecture composed of up to five rear-mounted fabric modules combined with the chassis midplane delivers up to 7 Tbps of forwarding capacity in the 10-slot form factor.
- The Cisco Nexus 7000 Series 10-Slot chassis with eight I/O module slots supports up to 256 10 Gigabit Ethernet or 384 Gigabit Ethernet ports, meeting the demands of the largest data center deployments.
- Front-to-back airflow ensures that use of the Cisco Nexus 7000 Series 10-Slot chassis in a data center addresses the requirement for hot aisle and cold aisle deployments without additional complexity. The system uses dual system and fabric fan trays for cooling. Each fan tray is redundant and composed of independent variable-speed fans that automatically adjust to the ambient temperature, helping reduce power consumption in well-managed facilities while providing optimum operation of the switch. The system design uses all fan trays with redundancy capabilities, allowing hot swap without affecting the system; if one fan or fan tray fails, the system continues to operate without a significant degradation in cooling.
- The integrated cable management tray is designed to allow all cables to be groomed correctly either to a single side or to both sides.
- The system supports an optional air filter to ensure clean air flow through the system. The addition of the air filter satisfies Network Equipment Building Standards (NEBS) requirements.
- A series of LEDs at the top of the chassis provide a clear summary of the status of the major system components, alerting operators to the need to perform further investigation. These LEDs report the power supply, fan, fabric, supervisor, and I/O module status.
- The cable management cover and optional front module doors provide protection from accidental interference with both the cabling and modules installed in the system. The transparent front door allows observation of cabling, module indicator and status lights.

Product Specifications

Table 1 lists the product specifications for the Cisco Nexus 7000 Series 10-Slot chassis.

Table 1. Product Specifications

| Item | Specification |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product compatibility | Supports all Cisco Nexus 7000 Series modules |
| Software compatibility | Cisco NX-OS Software Release 4.0 or later (minimum requirement) |
| Options | <ul style="list-style-type: none"> • Air filter • Lockable front module doors |
| Performance | 480 million packets per second (Mpps) (IPv4 unicast) in combination with supervisor and fabric modules |
| Reliability and availability | <ul style="list-style-type: none"> • Mean time between failure (MTBF): 264,552 hours • Online insertion and removal (OIR) of all redundant components: Supervisor, fabric, power supply, and fan trays |
| MIBs | Supports Simple Network Management Protocol (SNMP) Versions 3, 2c, and 1 (see Cisco NX-OS Software release notes for details about specific MIB support) |
| Network management | <ul style="list-style-type: none"> • Cisco Data Center Network Manager (DCNM) 4.0 • Cisco VFrame Data Center 1.2 |
| Programming interfaces | <ul style="list-style-type: none"> • Extensible Markup Language (XML) • Scriptable command-line interface (CLI) • Cisco DCNM 4.0 Web Services |
| Physical specifications | <ul style="list-style-type: none"> • Usable rack space: 21 rack units (21RUs) • 10-slot chassis: 2 dedicated supervisors and 8 I/O modules • 5 fabric module slots • 3 power supply slots • Dimensions (H x W x D): 36.5 x 17.3 x 33.1 in. (92.7 x 43.9 x 84.1 cm) • Chassis depth including cable management and chassis doors is 38 in. (96.5 cm) • Unit is rack mountable in a standard 19-inch (482.6mm) Electronic Industries Alliance (EIA) rack • Weight <ul style="list-style-type: none"> ◦ Chassis only: 200 lb (90 kg) ◦ Fully configured: 500 lb (227 kg) • Power requirements: 110 to 240 VAC |
| Environmental specifications | <ul style="list-style-type: none"> • Airflow direction: Bottom front of chassis to top back • Operating temperature: 32 to 104°F (0 to 40°C) • Operational relative humidity: 5 to 90%, noncondensing • Operating altitude: –500 to 13,123 ft (agency certified 0 to 6500 ft) • Seismic: Zone 4 per GR63 • Floor loading: 190 lb per sq ft • Operational vibration <ul style="list-style-type: none"> ◦ GR63, Section 5.4.2 ◦ ETS 300 019-1-3, Class 3.1, Section 5.5 • Storage altitude: 1000 to 30,000 ft • Storage temperature: –40 to 158°F (–40 to 70°C) • Storage relative humidity: 5 to 95%, noncondensing • Heat dissipation: Maximum –12,000W per chassis (actual dissipation will be lower, depending on the chassis configuration) |

| | |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Regulatory compliance | <ul style="list-style-type: none"> • EMC compliance <ul style="list-style-type: none"> ◦ FCC Part 15 (CFR 47) (USA) Class A ◦ ICES-003 (Canada) Class A ◦ EN55022 (Europe) Class A ◦ CISPR22 (International) Class A ◦ AS/NZS CISPR22 (Australia and New Zealand) Class A ◦ VCCI (Japan) Class A ◦ KN22 (Korea) Class A ◦ CNS13438 (Taiwan) Class A ◦ CISPR24 ◦ EN55024 ◦ EN50082-1 ◦ EN61000-3-2 ◦ EN61000-3-3 ◦ EN61000-6-1 ◦ EN300 386 |
| Environmental standards | <ul style="list-style-type: none"> • NEBS criteria levels <ul style="list-style-type: none"> ◦ SR-3580 NEBS Level 3 (GR-63-CORE, issue 3, and GR-1089-CORE, issue 4) • Verizon NEBS compliance <ul style="list-style-type: none"> ◦ Telecommunications Carrier Group (TCG) Checklist • Qwest NEBS requirements <ul style="list-style-type: none"> ◦ Telecommunications Carrier Group (TCG) Checklist • ATT NEBS requirements <ul style="list-style-type: none"> ◦ ATT TP76200 level 3 and TCG Checklist • ETSI <ul style="list-style-type: none"> ◦ ETSI 300 019-1-1, Class 1.2 Storage ◦ ETSI 300 019-1-2, Class 2.3 Transportation ◦ ETSI 300 019-1-3, Class 3.2 Stationary Use • Reduction of Hazardous Substances (ROHS) 5 |
| Safety | <ul style="list-style-type: none"> • UL/CSA/IEC/EN 60950-1 • AS/NZS 60950 |

Software Requirements

The Cisco Nexus 7000 Series 10-Slot chassis is supported in the Cisco NX-OS Software. The minimum software version is Cisco NX-OS Software Release 4.0 or later.

Ordering Information

To place an order, visit the Cisco Ordering homepage. To download software, visit the Cisco Software Center. Table 2 provides ordering information.

Table 2. Ordering Information

| Product Name | Part Number |
|------------------------------------------------------------------------------|-------------------|
| System | |
| Cisco Nexus 7000 Series 10-Slot chassis including Fan Trays, No Power Supply | N7K-C7010 |
| Cisco Nexus 7000 Series 10-Slot chassis including Fan Trays, No Power Supply | N7K-C7010= |
| Cisco Nexus 7000 Series—10-Slot System Fan Tray Spare | N7K-C7010-FAN-S |
| Cisco Nexus 7000 Series—10-Slot Fabric Fan Tray Spare | N7K-C7010-FAN-F= |
| Cisco Nexus 7000 Series Accessories | |
| Cisco Nexus 7010-Air Filter | N7K-C7010-AFLT= |
| Cisco Nexus 7000-Rack Mount Kit | N7K-RMK= |
| Cisco Nexus 7010-EMI Inlet Screen Kit | N7K-C7010-EMI-SC= |
| Cisco Nexus 7010 Front Door Top Section—including Cable Management Kit | N7K-C7010-FD-TOP= |
| Cisco Nexus 7010 Front Door—Kit | N7K-C7010-FD-MB= |

| | |
|--------------------------------------------------------|-------------------|
| Cisco Nexus 7000 Bottom Support Kit | N7K-BSK= |
| Blank Panel Covers | |
| Cisco Nexus 7000 Series Supervisor Blank Slot Cover | N7K-SUP-BLANK= |
| Cisco Nexus 7000 Series Module Blank Slot Cover | N7K-MODULE-BLANK= |
| Cisco Nexus 7010 Chassis Power Supply Blank Slot Cover | N7K-PS-BLANK= |
| Cisco Nexus 7010 Fabric Module Blank | N7K-FAB-BLANK= |
| Cisco Nexus 7000 Series Network Clock Card Blank | N7K-CLK-BLANK= |

Service and Support

Cisco offers a wide range of services to help accelerate your success deploying and optimizing Cisco Nexus 7000 Series Switches in your data center. Our innovative services are delivered through a unique combination of people, processes, tools, and partners, and are focused on helping you increase operational efficiency and improve your data center network. Cisco Advanced Services use an architecture-led approach to help you align your data center infrastructure to your business goals and provide long-term value. Cisco SMARTnet[®] Service helps you resolve mission critical problems with direct access anytime to Cisco network experts and award-winning resources. With this service, you can take advantage of the Smart Call Home service capability that offers proactive diagnostics, and real-time alerts on your Cisco Nexus 7000 switches. Spanning the entire network lifecycle, Cisco Services help maximize investment protection, optimize network operations, provide migration support, and strengthen your IT expertise. For more information about Cisco Data Center Services, visit: <http://www.cisco.com/go/dcservices>.

For More Information

For more information about the Cisco Nexus 7000 Series, visit the product homepage at: <http://www.cisco.com/go/nexus> or contact your local account representative.



Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Europe Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: +31 0 800 020 0791
Fax: +31 0 20 357 1100

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

©2007 Cisco Systems, Inc. All rights reserved. CCVP, the Cisco logo, and Welcome to the Human Network are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn is a service mark of Cisco Systems, Inc.; and Access Registrar, Aironet, BPX, Catalyst, CCDA, CCDP, CCIIE, CCIP, CCNA, CCNP, CCSP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, IP/TV, IQ Expertise, the IQ logo, iQ Net Readiness Scorecard, iQuick Study, LightStream, Linksys, MeetingPlace, MGX, Networkers, Networking Academy, Network Registrar, PIX, ProConnect, ScriptShare, SMARTnet, StackWise, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0710R)