

Cisco Nexus 7000 Series Release 4.1

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As part of Cisco Nexus™ 7000 Series Release 4.1, Cisco is pleased to announce the expansion of the Cisco Nexus 7000 portfolio with the introduction of the Cisco Nexus 7000 18-Slot Chassis, 48-Port Gigabit Ethernet Small Form-Factor Pluggable (SFP) I/O Module, and 7.5kW AC Dual 30A Power Supply Module. The Cisco Nexus 7000 Series Switches comprise a modular data center–class product line designed to provide highly scalable 10 Gigabit Ethernet networks with future support for 40 and 100 Gigabit Ethernet interfaces. Purpose built to meet the requirements of the most mission-critical environments, it delivers continuous system operation and virtualized, pervasive services. The Cisco Nexus 7000 Series is powered by the proven Cisco® NX-OS Software operating system, with enhanced features to deliver real-time system upgrades with exceptional manageability and serviceability. Its innovative design is built to support end-to-end data center connectivity, consolidating IP, storage, and interprocess communication (IPC) networks on a single Ethernet fabric.

Cisco Nexus 7000 Series Hardware Features

The Cisco Nexus 7000 Series (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



Cisco NX-OS Software Release 4.1 covers the following new hardware:

- Fully modular and fully redundant Cisco Nexus 7000 18-Slot Chassis
- 48-port Gigabit Ethernet SFP I/O module compatible with both the 18-slot and 10-slot chassis
- 7.5kW AC Dual 30A power supply compatible with both the 18-slot and 10-slot chassis

Cisco Nexus 7000 18-Slot Chassis

The Cisco Nexus 7018 18-Slot Chassis (Figure 2) addresses the need for high availability, system performance, port density, and data center services scalability in a compact form factor.

Figure 2. Cisco Nexus 7000 18-Slot Chassis



The 18-slot system supports front-accessed module slots with side-to-side airflow in a compact horizontal form factor with purpose-built integrated cable management to ease operations and reduce complexity.

Features include:

- Support for dual dedicated supervisor modules, providing exceptional high availability with no service interruptions even during hardware and software upgrades
- Backward compatibility with the Cisco Nexus 7000 Supervisor Module, I/O modules, and power supplies

- Highly scalable fabric architecture supporting up to five fabric modules for load-balanced, fault-tolerant operation designed to deliver 230 Gbps per slot of bandwidth at release, with future support for more than 500 Gbps per slot
- Virtual output queue (VOQ) and fabric arbitration, delivering quality of service (QoS) and fairness across all ports, even during congestion, and providing the basis for future unified I/O
- Integrated security hardware support for Cisco TrustSec, providing data confidentiality while simplifying and scaling access control
- Up to 512 10 Gigabit Ethernet or 768 Gigabit Ethernet SFP or 10/100/1000 Ethernet ports in a single system for outstanding scalability
- Fully distributed forwarding engines, providing scalable packet processing and forwarding
- A series of LEDs at the top of the chassis that provide a clear summary of the status of major system components
- Variable-speed system fans, providing efficient cooling capacity to the entire system; fan redundancy features help ensure reliability of the system and provide support for hot swap of fan trays
- Up to four load-sharing power supply modules that deliver fault tolerance for a fully loaded chassis with worst-case N+1 and grid redundancy

Cisco Nexus 7000 18-Slot Fabric Module

The Cisco Nexus 7000 18-Slot Fabric Module with 46Gbps per Slot (Figure 3) delivers the fault-tolerant fabric that provides parallel fabric channels to each I/O and supervisor module slot. Up to five simultaneously active fabric modules can work together, delivering 230 Gbps per slot of bandwidth.

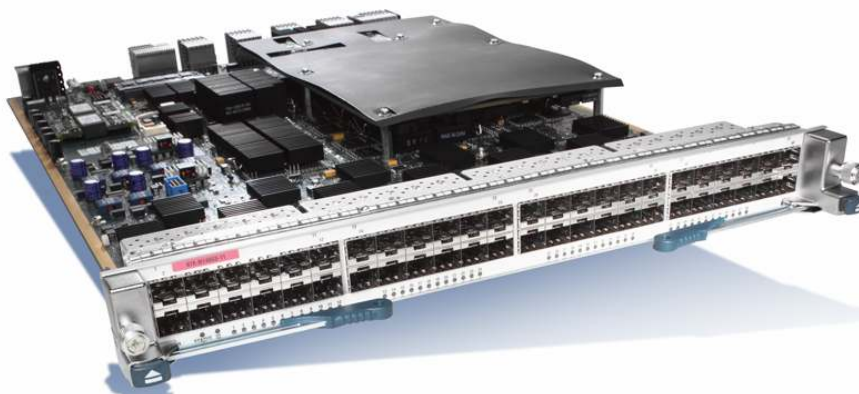
Figure 3. Cisco Nexus 7000 18-Slot Fabric Module with 46 Gbps per Slot



Cisco Nexus 7000 48-Port Gigabit Ethernet SFP I/O Module

The Cisco Nexus 7000 48-Port Gigabit Ethernet SFP I/O Module (Figure 4) is designed for mission-critical Ethernet networks that require high performance. The 48-port Gigabit Ethernet SFP module is supported by both the 18-slot and the 10-slot chassis (Cisco NX-OS Software Release 4.1 and later).

Figure 4. Cisco Nexus 7000 48-Port Gigabit Ethernet SFP I/O Module



All Cisco Nexus 7000 Series I/O modules incorporate a dedicated forwarding engine, helping ensure that all data plane processing resides on the I/O modules. This high-availability architecture scales and isolates the control plane and data plane, delivering continuous operation even during upgrades. The forwarding engine also delivers access control list (ACL) filtering, marking, rate limiting, and NetFlow without degrading performance.

Advanced security features are integrated into the I/O modules with hardware support for Cisco TrustSec. All ports include line-rate 128-bit Advanced Encryption Standard (AES) encryption, providing data confidentiality and integrity. Access control is enhanced using Cisco metadata headers capable of carrying security group tags (SGTs). Security group ACLs (SGACLs) use SGT information to provide hardware-based enforcement of security policies. This approach removes dependencies on IP addressing and network topology, thus improving scalability and simplifying manageability.

Cisco Nexus 7000 7.5kW AC Power Supply Module

The Cisco Nexus 7000 7.5kW AC Dual 30A Power Supply Module (Figure 5) delivers fault tolerance, high efficiency, load sharing, and hot-swap features to the Cisco Nexus 7000 Series. Each Cisco Nexus 7000 Series chassis can accommodate multiple power supplies, providing both chassis-level and facility power fault tolerance.

Figure 5. Cisco Nexus 7000 7.5kW AC Dual 30A Power Supply Module



Availability

The Cisco Nexus 7000 Series 18-Slot Chassis, 48-Port Gigabit Ethernet SFP I/O Module, and 7.5kW AC Dual 30A Power Supply Module are now available and will be shipping in the fourth quarter of calendar year 2008.

Ordering Information

To place an order, visit the Cisco Ordering homepage. To download software, visit the Cisco Software Center. Table 1 provides ordering information for the new hardware in Cisco Nexus 7000 Series Release 4.1.

Table 1. Ordering Information

Product Name	Part Number
Common Equipment	
Cisco Nexus 7000 Series 18 Slot Chassis—includes cable management and Fans, does not include Power Supplies	N7K-C7018
Cisco Nexus 7000 18 Slot Fabric Module—46Gbps per slot	N7K-C7018-FAB-1
Cisco Nexus 7000 Series 7.5kW AC Power Supply Module US (cable included)	N7K-AC-7.5KW-US
Cisco Nexus 7000 Series 7.5kW AC Power Supply Module International (cable included)	N7K-AC-7.5KW-INT
I/O Modules	
Cisco Nexus 7000 - 48 Port GE Module, 40G Fabric (req. SFP)	N7K-M148GS-11
Optional Equipment	
Cisco Nexus 7018 Front Door Kit (Note: cable management is included as standard equipment in the chassis. The optional Front Door Kit supports dual opening capability for flexible operation cable installation.)	N7K-C7018-FD-MB
Cisco Nexus 7000 Spares*	
Cisco 18 Slot Chassis, No Power Supply, No Fans	N7K-C7018=
Cisco Nexus 7000 - 18 Slot Chassis - 46Gbps/Slot Fabric Module	N7K-C7018-FAB-1=
Cisco Nexus 7000 - 7.5KW AC Power Supply Module US (cable included)	N7K-AC-7.5KW-US=
Cisco Nexus 7000 - 7.5KW AC Power Supply Module International (cable included)	N7K-AC-7.5KW-INT=
Cisco Nexus 7000 - 48 Port GE Module, 40G Fabric (req. SFP)	N7K-M148GS-11=
Cisco Nexus 7000 - 18 Slot Fan	N7K-C7018-FAN=
Cisco Nexus 7018 Fabric Module Blank	N7K-C7018-F-BLANK=
Cisco Nexus 7018 Chassis Power Supply Blank with Handle	N7K-PS-BLANK-H=
Cisco Nexus 7018 Front Top Section and Cable Mgmt-Kit	N7K-C7018-CAB-TOP=
Cisco Nexus 7018 Front Door Kit	N7K-C7018-FD-MB=
Cisco Nexus 7018 Rack Mount Kit	N7K-C7018-RMK=
Cisco Nexus 7018 Bottom Support Kit	N7K-C7018-BSK=
Cisco Nexus 7018 Shipping Packaging	N7K-C7018-SHPPKG=
Cisco Nexus 7018 Chassis LEDs Kit	N7K-C7018-LEDs=
SFP Optic Module (Other optics to be supported post-FCS)	
1000Base-SX SFP	SFP-GE-S
1000Base-LX/LH SFP	SFP-GE-L
1000Base-ZX SFP	SFP-GE-Z

*All of the spares listed here come standard with the chassis and may be ordered if you need a spare. All the common equipment, I/O modules, and optional equipment may also be ordered as spares.

Service and Support

Cisco offers a wide range of services to help accelerate your success in deploying and optimizing Cisco Nexus 7000 Series Switches in your data center. Cisco provides innovative services delivered through a unique combination of people, processes, tools, and partners and focused on helping you increase operating efficiency and improve your data center network. Cisco Advanced Services uses an architecture-led approach to help you align your data center infrastructure with your business goals and achieve long-term value. Cisco SMARTnet[®] Service helps you resolve mission-critical problems with direct access any time to Cisco network experts and award-winning resources. With this service, you can take advantage of the Cisco Smart Call Home service capability, which offers proactive diagnostics and real-time alerts on your Cisco Nexus 7000 Series Switches. Spanning the entire network lifecycle, Cisco services help increase investment protection, optimize network operations, perform migration, 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.



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