Cisco Introduces 10GBASE-T on Cisco Nexus 2000 Series Fabric Extenders

PB680200

Cisco is introducing 10GBASE-T on the Cisco Nexus® 2000 Series Fabric Extenders. The Cisco Nexus 2232TM 10GE Fabric Extender builds on the success of the Cisco Nexus 2000 Series and the benefits of 10GBASE-T technology. It supports highly scalable 1/10GBASE-T environments, with ease of migration from 1GBASE-T to 10GBASE-T and flexible use of Category 6, 6a, and 7 cabling. It expands the product line to provide a unified server access platform across a range of 100 Megabit Ethernet, Gigabit Ethernet, 10 Gigabit Ethernet, copper or fiber, unified fabric, and rack and blade server environments (Figure 1).

Figure 1.   Cisco Nexus 2000 Series Fabric Extenders

Table 1 summarizes the Cisco Nexus 2000 Series product line. Fabric extenders work in conjunction with a parent Cisco Nexus 5000 or 7000 Series Switch. Cisco Nexus 2000 Series Fabric Extenders can be mixed and matched with a parent switch to provide a variety of connectivity options.

Table 1.   Cisco Nexus 2000 Series Specifications

Description	Specification
Cisco Nexus 2148T Fabric Extender	48 1000BASE-T host interfaces and 4 10 Gigabit Ethernet fabric interfaces (Enhanced Small Form-Factor Pluggable [SFP+])
Cisco Nexus 2224TP Fabric Extender	24 100/1000BASE-T host interfaces and 2 10 Gigabit Ethernet fabric interfaces (SFP+)
Cisco Nexus 2248TP Fabric Extender	48 100/1000BASE-T host interfaces and 4 10 Gigabit Ethernet fabric interfaces (SFP+)
Cisco Nexus 2232PP Fabric Extender	32 1/10 Gigabit Ethernet and Fibre Channel over Ethernet (FCoE) host interfaces (SFP+) and 8 10 Gigabit Ethernet and FCoE fabric interfaces (SFP+)
Cisco Nexus 2232TM Fabric Extender	32 1/10GBASE-T host interfaces and modular uplinks (8 10 Gigabit Ethernet fabric interfaces (SFP+)

Cisco Nexus 2000 Series Distributed Modular System

The Cisco Nexus 2000 Series Fabric Extenders behave like remote I/O modules for a parent Cisco Nexus 5000 or 7000 Series Switch. The fabric extender is essentially an extension of the parent Cisco Nexus switch fabric, with the fabric extender and the parent Cisco Nexus switch together forming a distributed modular system.

The Cisco Nexus 2000 Series forwards all traffic to the parent switch over 10 Gigabit Ethernet uplinks. Passing all traffic to the parent switch allows traffic to be shaped according to homogeneous policies established on the parent switch with a single point of management across more than 1500 1 Gigabit Ethernet Ports and more than 1000 10 Gigabit Ethernet Ports.

The distributed modular system architecture includes the following benefits:

- Architecture flexibility
- Highly scalable server access
- Simplified operations
- Increased business benefits

Cisco Nexus 2232TM 10GE Fabric Extender Features

The Cisco Nexus 2232TM 10GE Fabric Extender offers the following features:

- Thirty-two 1/10 GBASE-T server access ports using existing Category 6, 6a, and 7 cabling
- Eight 10 Gigabit Ethernet lossless uplink and fabric ports using Cisco® Fabric Extender Transceiver (FET) SFP+, short-reach (SR) and long-reach (LR) SFP+, or CX1 direct-attach copper interconnects
- 10GBASE-T IEEE 802.3an
- Connection to the Cisco Nexus 5000 Series parent switch at first customer shipment (FCS) (Cisco Nexus 5010, 5020, 5548P, 5548UP, and 5596UP Switches)
- Support for cost-effective Cisco FET for uplink and fabric link connectivity
- Predictable low-latency cut-through switching
- Ideal for 10 Gigabit Ethernet server and pass-through blade server connectivity
- Well suited to unified fabric environments
- Support for host PortChannel and virtual PortChannel (vPC; up to eight PortChannel members per PortChannel, with no restriction on the number of PortChannels)
- In-Service Software Upgrade (ISSU)
- Highly scalable distributed modular system with up to 768 1/10 GBASE-T ports (24 fabric extenders per Cisco Nexus 5500 platform)
- Compact one-rack-unit (1RU) form factor

- Choice of standard front-to-back cooling or reversed-airflow cooling, compatible with data center hot-aisle and cold-aisle designs
  - With standard front-to-back cooling, all switch ports are at the rear of the unit in close proximity to server ports, aligned with the hot aisle (port-side exhaust)
  - With reversed airflow, ports are aligned with the cold aisle (port-side intake)
- Choice of AC or DC power supply (the default configuration includes redundant dual power supplies)
- Hot-swappable fan trays
- Accessibility of all user-serviceable components
- Hardware support for a choice of 1GBASE-T or 10GBASE-T on all host-facing ports
- Operation as a remote I/O module, extending the switch fabric for Cisco Nexus 5000 Series Switches
- Capability to be mixed and matched with different types of Cisco Nexus 2000 Series Fabric Extenders to the same parent switch to support various types of connectivity
- Homogeneous policies across a large number of ports
- Zero-touch provisioning, including configuration and software upgrade operations

Availability

The Cisco Nexus 2232TM is available for ordering today. FCS is expected mid-July 2011.

The minimum software release required is Cisco NX-OS Software Release 5.0(3)N2(1) for Nexus 5000 Series Switches.

Ordering Information

Table 2 provides ordering information for the Cisco Nexus 2232TM fabric extender.

Table 2.   Ordering Information

Part Number	Description
Chassis	
N2K-C2232TM-10GE	Cisco Nexus 2000 Series 10GBASE-T Fabric Extender, 2PS, 1 Fan Module, 32x1/10GBase-T + 8x10GE Module (req SFP+)
N2K-C2232TF-10GE	Cisco Nexus 2000 Series 10GBASE-T Fabric Extender, 2PS, 1 Fan Module, 32x1/10GBase-T + 8x10GE Module (includes 16 Fabric Extender Transceivers)
Fan Modules	
N2K-C2232-FAN=	Cisco Nexus 2232PP and 2232TM FEX Fan Module (Std airflow, port side exhaust), spare
N2K-C2232-FAN-B=	Cisco Nexus 2232PP and 2232TM FEX Fan Module, Back-to-front airflow (Reversed airflow, port side intake), spare
Power Supplies	
N2200-PAC-400W=	Cisco Nexus 2200 AC Power supply (Std airflow, port side exhaust), spare
N2200-PAC-400W-B=	Cisco Nexus 2200 AC Power supply, Back-to-front airflow (Reversed airflow, port side intake), spare
N2200-PDC-400W=	Cisco Nexus 2200 DC Power supply (Std airflow, port side exhaust), spare
Transceivers and Cables for Uplinks	
SFP-10G-SR(=)	10GBASE-SR SFP+ Module
SFP-10G-LR(=)	10GBASE-LR SFP+ Module
SFP-H10GB-CU1M(=)	10GBASE-CU SFP+ Passive Cable 1 Meter
SFP-H10GB-CU3M(=)	10GBASE-CU SFP+ Passive Cable 3 Meter
SFP-H10GB-CU5M(=)	10GBASE-CU SFP+ Passive Cable 5 Meter

Part Number	Description
SFP-H10GB-ACU7M(=)	10GBASE-CU SFP+ Active Cable 7 Meter
SFP-H10GB-ACU10M(=)	10GBASE-CU SFP+ Active Cable 10 Meter
Accessory Kit	
N2200-ACC-KIT=	Cisco Nexus 2200 FEX Accessory Kit, spare
Power Cords	
CAB-N5K6A-NA(=)	Power Cord, 210/220V 30A North America
CAB-AC-250V/13A(=)	Power Cord for North America, 125VAC/13A
CAB-C13-C14-JMPR(=)	Recessed receptacle AC power cord 27
CAB-C13-C14-2M(=)	Power Cord Jumper, C13-C14 Connectors, 2 Meter Length
CAB-C13-C14-AC(=)	Power Cord Jumper, C13-C14 Connectors, 3 Meter Length
CAB-C13-CBN(=)	Cabinet Jumper Power Cord, 250 VAC 16A, C14-C13 Connectors
CAB-9K12A-NA(=)	Power Cord, 125VAC 15A NEMA 5-15 Plug, North America
SFS-250V-10A-AR(=)	SFS Power Cord - 250V, 10A - Argentina
CAB-9K10A-AU(=)	Power Cord, 250VAC 10A 3112 Plug, Australia
SFS-250V-10A-CN(=)	SFS Power Cord - 250V, 10A - PRC
CAB-9K10A-EU(=)	Power Cord, 250VAC 10A CEE 7/7 Plug, EU
SFS-250V-10A-ID(=)	SFS Power Cord - 250V, 10A - South Africa, UAE, India
CAB-IND-10A(=)	10A Power cable for India
SFS-250V-10A-IS(=)	SFS Power Cord - 250V, 10A - Israel
CAB-9K10A-IT(=)	Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy
CAB-9K10A-SW(=)	Power Cord, 250VAC 10A MP232 Plug, Switzerland

To place an order, visit the Cisco Ordering homepage. To download software, visit the Cisco Software Center.

Figure 2 provides part number nomenclature information for the Cisco Nexus 2000 Series Fabric Extenders.

Figure 2.   Cisco Nexus 2000 Series Part Number Nomenclature


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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
N2K-C2232TM-10GE
    1-3  Cisco Nexus 2000 Series Identifier
    4    Dash
    5    Chassis
    6    Series Number
    7    Series Generation
    8-9  Number of Host Ports
    10   Host Physical Interface Type (P=Requires SFP+, T=Copper)
    11   Uplink Physical Interface Type (P=Requires SFP+, and T=Copper,
         F=Includes FET, M=Module for Uplinks)
    12   Dash
    13-16 Host Connection Speed or Bundle Identifier (-BUN)
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Warranty

The Cisco Nexus 2232TM fabric extender has a 1-year limited hardware warranty. The warranty includes hardware replacement with a 10-day turnaround from receipt of a return materials authorization (RMA).

Cisco Services

Cisco offers a wide range of services to help accelerate your success in deploying and optimizing the Cisco Nexus 5000 Series Switches and Cisco Nexus 2000 Series Fabric Extenders in your data center. The innovative Cisco Services offerings are delivered through a unique combination of people, processes, tools, and partners and are focused on helping you increase operation 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 at 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 5000 Series Switches. Spanning the entire network lifecycle, Cisco Services offerings help increase investment protection, optimize network operations, support migration operations, and strengthen your IT expertise. For more information about Cisco Nexus Services, visit http://www.cisco.com/go/nexusservices.

For More Information

- Cisco Nexus 2000 Series Fabric Extenders: http://www.cisco.com/go/nexus2000
- Cisco Nexus 5000 Series Switches: http://www.cisco.com/go/nexus5000
- Cisco NX-OS Software: http://www.cisco.com/go/nxos

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