



Product Bulletin

Cisco Nexus 5020 10GbE and FCoE Switch

Revision History

October 31, 2008 - Initial version

November 6, 2008 – Updates to support and service sections

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This product bulletin informs NetApp sales and NetApp partners about new or changed NetApp® products or services.

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1. Summary

This product bulletin announces the availability of the Cisco Nexus 5020 10 Gigabit Ethernet (10GbE) and Fibre Channel over Ethernet (FCoE) switch.

The Cisco Nexus 5020 is an access-layer switch that routes FCoE and IP traffic and can be an FC switch and storage infrastructure into FCoE/DCB host and network configurations. The Cisco Nexus 5020 enables users to integrate traditional 10GbE host infrastructure and consolidate new 10GbE FCoE and data center bridging (DCB) capable converged network adapters into configurations supporting traditional FC storage, native FCoE storage, and IP-based storage. DCB is the IEEE term representing a number of Ethernet extensions that improve the quality of service of Ethernet for all storage protocols utilizing Ethernet, and DCB is synonymous with data center Ethernet (DCE and used by Cisco), converged enhanced Ethernet (CEE), and enhanced Ethernet. The Cisco Nexus 5020 is offered in a two rack-unit fixed configuration with 40 10GbE small form factor pluggable SFP+ ports, redundant (1+1) hot-swappable power supplies, and 4+1 redundant hot-pluggable fan modules, and has two expansion

module slots that support any combination of the following modules:

- A six-port 10GbE, DCB, and FCoE SFP+ module
- A Fibre Channel plus Ethernet module with four ports of 10GbE, DCB, and FCoE SFP+ interfaces and four ports of 1/2/4Gb per second Fibre Channel SFP interfaces
- An eight-port Fibre Channel module with 1/2/4Gb per second Fibre Channel SFP interfaces (future)

The Cisco Nexus 5020 is a fabric component of NetApp's end-to-end support of FCoE, which also includes the qualification of host converged network adapters (akin to FC HBAs) and the integration of NetApp FC storage systems or native FCoE storage systems into converged I/O and fabric configurations. The Cisco Nexus 5020 can be used with iSCSI and NAS configurations, but is currently sold by NetApp only in configurations that include the FCoE license. Native FCoE storage systems will be enabled via an FCoE target expansion card with the FAS/V 3040, 3070, 3100 series, and 6000 series with Data ONTAP® 7.3.1 in December 2008.

2. What's New?

The Cisco Nexus 5020 enables the transition to 10 Gigabit Ethernet. The Cisco Nexus 5020 supports line-rate 10 Gigabit Ethernet on all ports for a combined 1.04 terabits per second throughput with very low latency, independent of packet size and services enabled.

The Cisco Nexus 5020 supports DCB (Cisco data center Ethernet) and multiple traffic classes over a lossless unified Ethernet fabric, enabling consolidation of SAN, LAN, and cluster environments.

The carrier-grade switch provides high availability via redundant power supplies and fan modules. With its front-to-back cooling, the Cisco Nexus 5020 is designed for data center installations by making cable runs short and simple.

To support the high density of 10GbE interfaces, new Twinax copper cabling offers the option of standard SFP+ connectors for in-rack use or optical cabling for longer cable runs.

By supporting DCB, the Cisco Nexus 5020 also provides the following software features:

- Priority flow control (PFC): Allows class of service based flow control
- Data center bridging protocol (DCBX): Simplifies installations and reduces configuration errors by autonegotiation of Cisco DCE features between the NIC and the switch and between switches
- Backward congestion notification (BCN): Congestion management via a future-looking variant of the soon to be ratified 802.1Qau (BCN standard)
- Layer 2 multipathing: Allows active-active uplinks from access switch

3. Sales Tools (Sales Guides, Training Presentations, SE Presentations)

N/A

4. Customer-Ready Tools (Customer Presentations, Datasheets)

N/A

5. System Requirements

Interoperability

For NetApp FCoE storage system configurations that are supported by NetApp, refer to the NetApp Interoperability matrix.

Cabling

The product information section below lists the cable types that are supported with the Cisco Nexus 5020 in host to Cisco Nexus configurations. Note that in native FCoE storage system configurations, NetApp currently supports only SR optical cable connections.

6. Product Information

- The Cisco Nexus 5020 is currently sold by NetApp only with the FCoE license.
- The Cisco Nexus 5020 base configuration does not include 10GbE optics, which are available via part number X-SFP-10G-SR-R6.
- The Cisco Nexus 5020 is sold as an access layer switch to be used in server-rack configurations. NetApp does not currently offer NetApp storage system cabinet integration for the Cisco Nexus 5020.

Cisco Nexus 5020 Chassis Equipment

Part Number	Description	Discount Category
X-N5K-C5020P-BFS-R5-C	Cisco N5020 Switch,40-Pt,10GE FCoE,-C,R5	B
X-N5K-C5020-FAN-R5	Cisco Nexus 5020 Fan Module, Spare	B
X-N5K-PAC-1200W-R5	Cisco N5020 1200W AC Power Supply,R5	B
X-N5K-PAC-1200W-R5-C	Cisco N5020 1200W AC Power Supply,-C,R5	B

Cisco Nexus 5020 Expansion Modules

Part Number	Description	Discount Category
X-N5K-M1600-R5	Cisco Nexus 5000 Series Module 6-port 10 GbE (requires SFP+)	B
X-N5K-M1600-R5-C	Cisco Nexus 5000 Series Module 6-port 10 GbE (requires SFP+), -C	B
X-N5K-M1404-R5	Cisco Nexus 5000 Series Module with four 10GbE ports (requires SFP+) and four 4/2/1	B

	Fibre Channel ports	
X-N5K-M1404-R5-C	Cisco Nexus 5000 Series Module with four 10GbE ports (requires SFP+) and four 4/2/1 Fibre Channel ports, -C	B

Cisco Nexus 5020 Software

Part Number	Description	Discount Category
SW-N5000FMS1K9	Cisco N5020 Fabric Manager Server	J

Cisco Nexus 5020 Cables and Optics

Part Number	Description	Discount Category
X-SFP-10G-SR-R6	10G Base-SR SFP+ Module,R6	B
X-SFP-H10GB-CU1M-R6	10G Base-CU SFP+ Cable 1 Meter, R6	B
X-SFP-H10GB-CU1M-R6-C	10G Base-CU SFP+ Cable 1 Meter, -C, R6	B
X-SFP-H10GB-CU3M-R6	10G Base-CU SFP+ Cable 3 Meter, R6	B
X-SFP-H10GB-CU3M-R6-C	10G Base-CU SFP+ Cable 3 Meter, -C, R6	B
X-SFP-H10GB-CU5M-R6	10G Base-CU SFP+ Cable 5 Meter	B
X-SFP-H10GB-CU5M-R6-C	10G Base-CU SFP+ Cable 5 Meter, -C, R6	B

Power Cables

Part Number	Description	Discount Category
X-CAB-N5K6A-R6	Cisco Nexus N5000 AC Power Cable, 6A, 250V, North America, 2.5M, R6	B
X-CAB-N5K6A-R6-C	Cisco Nexus N5000 AC Power Cable, 6A, 250V, North America, 2.5M, -C, R6	B
X-CAB-C13-C14-JMPR-R6	Cisco Nexus N5000 AC Power Cable, 6A, 250V, Power Strip Type, R6	B
X-CAB-C13-C14-JMPR-R6-C	Cisco Nexus N5000 AC Power Cable, 6A, 250V, Power Strip Type, -C, R6	B
X-CAB-AC-250V-13A-R6	Cisco Nexus N5000 AC Power Cable, 13A, 250V, North America, 2.5M, R6	B
X-CAB-AC-250V-13A-R6-C	Cisco Nexus N5000 AC Power Cable, 13A, 250V, North America, 2.5M, -C, R6	B
X-SFS-250V-10A-AR-R6	Cisco Nexus N5000 AC Power Cable, 10A, 250V, Argentina, 2.5M, R6	B

X-SFS-250V-10A-AR-R6-C	Cisco Nexus N5000 AC Power Cable, 10A, 250V, Argentina, 2.5M, -C, R6	B
X-SFS-250V-10A-CN-R6	Cisco Nexus N5000 AC Power Cable, 10A, 250V, China, 2.5M, R6	B
X-SFS-250V-10A-CN-R6-C	Cisco Nexus N5000 AC Power Cable, 10A, 250V, China, 2.5M, -C, R6	B
X-SFS-250V-10A-ID-R6	Cisco Nexus N5000 AC Power Cable, 10A, 250V, India, 2.5M, R6	B
X-SFS-250V-10A-ID-R6-C	Cisco Nexus N5000 AC Power Cable, 10A, 250V, India, 2.5M, -C, R6	B
X-SFS-250V-10A-IS-R6	Cisco Nexus N5000 AC Power Cable, 10A, 250V, Israel, 2.5M, R6	B
X-SFS-250V-10A-IS-R6-C	Cisco Nexus N5000 AC Power Cable, 10A, 250V, Israel, 2.5M, -C, R6	B

Service Options

NetApp requires Cisco SMARTnet support for the Cisco Nexus 5020. The Cisco SMARTnet support offerings are sold with the Cisco Nexus 5020 chassis and for any additional equipment or software added to the base chassis. The purchase of a Cisco SMARTnet support offering at the time of equipment purchase is required by NetApp.

Part Number	Description	Discount Category
SW-SSPVN-CON-SAU-N5FMS	Cisco SSP,N5020 Fabric Manager Server	C
SVCVN-CON-OSE-N5020S	Cisco Onsite 8x5x4hr,5020 w/FCoE	C
SVCVN-CON-OSE-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,Onsite 8x5x4hr	C
SVCVN-CON-OSE-N5600	Cisco Onsite 8x5x4hr,5020 6-port 10GE	C
SVCVN-CON-OS-N5020S	Cisco Onsite 8x5xNBD,5020 w/FCoE	C
SVCVN-CON-OS-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,Onsite 8x5xNBD	C
SVCVN-CON-OS-N5600	Cisco HW Svc,5020 6Pt 10GE,Onsite 8x5xNBD	C
SVCVN-CON-OSP-N5020S	Cisco Onsite 24x7x4hr,5020 w/FCoE	C
SVCVN-CON-OSP-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,Onsite 24x7x4hr	C
SVCVN-CON-OSP-N5600	Cisco Onsite 24x7x4hr,5020 6-port 10GE	C
SVCVN-CON-PREM-N5020S	Cisco Onsite 24x7x2hr,5020 w/FCoE	C
SVCVN-CON-PREM-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,Onsite 24x7x2hr	C
SVCVN-CON-PREM-N5600	Cisco Onsite 24x7x2hr,5020 6-port 10GE	C
SVCVN-CON-S2P-N5020S	Cisco AR 24x7x2hr,5020 w/FCoE	C
SVCVN-CON-S2P-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,AR 24x7x2hr	C
SVCVN-CON-S2P-N5600	Cisco AR 24x7x2hr,5020 6-port 10GE	C
SVCVN-CON-SNTE-N5020S	Cisco AR 8x5x4hr,5020 w/FCoE	C
SVCVN-CON-SNTE-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,AR 8x5x4hr	C
SVCVN-CON-SNTE-N5600	Cisco AR 8x5x4hr,5020 6-port 10GE	C
SVCVN-CON-SNT-N5020S	Cisco AR 8x5xNBD,5020 w/FCoE	C
SVCVN-CON-SNT-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,AR 8x5xNBD	C
SVCVN-CON-SNT-N5600	Cisco AR 8x5xNBD,5020 6-port 10GE	C
SVCVN-CON-SNTP-N5020S	Cisco AR 24x7x4hr,5020 w/FCoE	C
SVCVN-CON-SNTP-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,AR 24x7x4hr	C

SVCVN-CON-SNTP-N5600	Cisco AR 24x7x4hr,5020 6-port 10GE	C
SW-SSPVN-CON-SAU-N5FMS	Cisco SSP,N5020 Fabric Manager Server	C
SVCVN-CON-OSE-N5020S	Cisco Onsite 8x5x4hr,5020 w/FCoE	C
SVCVN-CON-OSE-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,Onsite 8x5x4hr	C
SVCVN-CON-OSE-N5600	Cisco Onsite 8x5x4hr,5020 6-port 10GE	C
SVCVN-CON-OS-N5020S	Cisco Onsite 8x5xNBD,5020 w/FCoE	C
SVCVN-CON-OS-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,Onsite 8x5xNBD	C
SVCVN-CON-OS-N5600	Cisco HW Svc,5020 6Pt 10GE,Onsite 8x5xNBD	C
SVCVN-CON-OSP-N5020S	Cisco Onsite 24x7x4hr,5020 w/FCoE	C
SVCVN-CON-OSP-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,Onsite 24x7x4hr	C
SVCVN-CON-OSP-N5600	Cisco Onsite 24x7x4hr,5020 6-port 10GE	C
SVCVN-CON-PREM-N5020S	Cisco Onsite 24x7x2hr,5020 w/FCoE	C
SVCVN-CON-PREM-N5404	Cisco HW Svc,5020 4Pt 10GE/FC,Onsite 24x7x2hr	C
SVCVN-CON-PREM-N5600	Cisco Onsite 24x7x2hr,5020 6-port 10GE	C

7. Regulatory Compliance

The Cisco Nexus 5020 meets all defined NetApp EMI and RoHS compliance requirements

8. Warranty and Service

The Cisco Nexus 5020 switch and additional hardware equipment have a one-year limited hardware warranty. The warranty includes hardware replacement with a 10-day turnaround from Cisco on receipt of a return materials authorization (RMA). Each purchase of a Cisco Nexus 5020 also requires a SMARTnet service contract. For additional support options, see Support Options above.

Contact information: Please contact your NetApp sales or channel partner representative with questions about this bulletin.