



Product Bulletin:

Cisco Nexus 5010 10GbE and FCoE Switch

Revision History

27 May 2009 - Initial version

3 May 2010 – Updated with new expansion modules and ability to resell without FCoE

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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 5010 Data Center Bridging and Fibre Channel over Ethernet (FCoE) switch.

The Cisco Nexus 5010 (Nexus 5010) is an access-layer switch that routes FCoE and IP traffic and can be an FC switch and part of the storage infrastructure into FCoE/DCB host and network configurations. The Nexus 5010 enables users to integrate traditional 10GbE host infrastructures and consolidate new 10GbE FCoE and Data Center Bridging-capable converged network adapters into configurations supporting traditional FC storage, native FCoE storage, and IP-based storage. Data Center Bridging (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. DCB is synonymous with Data Center Ethernet (DCE and used by Cisco), Converged Enhanced Ethernet (CEE), and Enhanced Ethernet. The Nexus 5010 is offered in a one-rack-unit fixed configuration with 20 x 10GbE small form factor pluggable SFP+ ports, redundant (1+1) hot-swappable power supplies, and 4+1 redundant hot-pluggable fan modules. It has one expansion module slot that supports 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 1/2/4Gbps Fibre Channel SFP interfaces
- An eight-port Fibre Channel module with 1/2/4Gbps Fibre Channel SFP interfaces
- A six-port 8Gbps Fibre Channel module with 2/4/8 Fibre Channel SFP interfaces

The Cisco Nexus 5010 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 Nexus 5010 (as with the 5020) can be used with iSCSI and NAS configurations, and is sold by NetApp in configurations that include the FCoE license or without the FCoE license. Native FCoE storage systems are enabled using a unified target adapter (X1139A-R5 and X1140A-R5) with the FAS/V 2050, 3040, 3070, 3100, and 6000 series storage controllers with Data ONTAP® 7.3.2 or later 7.3.x releases.

2. What's New?

The Cisco Nexus 5010 enables the transition to 10-Gigabit Ethernet. The Cisco Nexus 5010 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 Nexus 5010 supports Data Center Bridging (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 Nexus 5010 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 Data Center Bridging, the Nexus 5010 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)

- [NetApp FCoE SAN Overview](#)
- [NetApp Ethernet Storage Overview](#)
- [NetApp SalesEdge FC and FCoE Switches and Directors](#)
- [NetApp Partner SAN](#)

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

- [NetApp SalesEdge FC and FCoE Switches and Directors](#)
- [NetApp Partner SAN](#)

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.

6. Product Information

- The Nexus 5010 is currently sold by NetApp with or without the FCoE license.
- Any expansion module with Fibre Channel ports requires the FCoE licenses to be enabled.
- The Nexus 5010 base configuration does not include 10GbE optics, which are available with short-wave optics or Twinax cables as listed in the section below.
- The Nexus 5010 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 Nexus 5010.

Cisco Nexus 5010 Chassis Equipment

Part Number	Description	Discount Category
X-N5K-C5010P-BFS-R5-C	Cisco N5010 Switch,20-Pt,10GE FCoE,-C,R5	C
X-N5K-C5010P-BF-E-R5-C	Cisco,Switch,N5010 Ethernet,20-Pt,10GE,-C,R5	C
X-N5K-C5010-FAN-R5	Cisco Nexus 5010 Fan Module, Spare	C
X-N5K-PAC-550W-R5	Cisco N5010 Power Supply,550W,R5	C
X-N5K-PAC-550W-R5-C	Cisco N5010 Power Supply,550W,-C,R5	C
X-N5010-ACC-KIT-R5	Cisco N5010 Accessory Kit,R5	C

Expansion Module (for both Nexus 5010 and 5020)

Part Number	Description	Discount Category
X-N5K-M1600-R5	Cisco N50XX 6-port 10GE Module,R5	C

X-N5K-M1600-R5-C	Cisco N50XX 6-port 10GE Module,-C,R5	C
X-N5K-M1404-R5	Cisco N50XX Module 4x10GE,4xFC 4/2/1G,R5	C
X-N5K-M1404-R5-C	Cisco N50XX Module 4x10GE,4xFC 4/2/1G,-C,R5	C
X-N5K-M1008-R5	Cisco N50XX, Module,4Gb,8-port FC,R5	C
X-N5K-M1008-R5-C	Cisco N50XX, Module,4Gb,8-port FC,-C,R5	C
X-N5K-M1060-R5	Cisco,Module,N50XX 6-Port 8G FC,R5	C
X-N5K-M1060-R5-C	Cisco,Module,N50XX 6-Port 8G FC,-C,R5	C

Cisco Nexus 5010 Software

Part Number	Description	Discount Category
SW-N5000FMS1K9	Cisco N50xx Fabric Manager Server	J
SW-N5010-SSK9	Cisco,FCoE License,N5010	C

Cisco Nexus 5010 Cables and Optics

Part Number	Description	Discount Category
X-SFP-10G-SR-R6	10G Base-SR SFP+ Module,R6	C
X-SFP-10G-LR-R6	Cisco 10GBase LR SFP+ Optic,R6	C
X-SFP-H10GB-CU1M-R6	10G Base-CU SFP+ Cable 1 Meter, R6	C
X-SFP-H10GB-CU1M-R6-C	10G Base-CU SFP+ Cable 1 Meter, -C, R6	C
X-SFP-H10GB-CU3M-R6	10G Base-CU SFP+ Cable 3 Meter, R6	C
X-SFP-H10GB-CU3M-R6-C	10G Base-CU SFP+ Cable 3 Meter, -C, R6	C
X-SFP-H10GB-CU5M-R6	10G Base-CU SFP+ Cable 5 Meter	C
X-SFP-H10GB-CU5M-R6-C	10G Base-CU SFP+ Cable 5 Meter, -C, R6	C
X-GLC-SX-MM-R6	Cisco,1GBase SR SFP+,R6	C
X-GLC-LH-SM-R6	SFP,Cisco 1Gb Ethernet LongReach SFP+	C
X-SFP-1G-SR-R6	Cisco,1GBase SR SFP+ RJ45, R6	C

Power Cables

Part Number	Description	Discount Category
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X-CAB-N5K6A-R6	Cisco Nexus N5000 AC Power Cable, 6A, 250V, North America, 2.5M, R6	C
X-CAB-N5K6A-R6-C	Cisco Nexus N5000 AC Power Cable, 6A, 250V, North America, 2.5M, -C, R6	C
X-CAB-C13-C14-JMPR-R6	Cisco Nexus N5000 AC Power Cable, 6A, 250V, Power Strip Type, R6	C
X-CAB-C13-C14-JMPR-R6-C	Cisco Nexus N5000 AC Power Cable, 6A, 250V, Power Strip Type, -C, R6	C
X-CAB-AC-250V-13A-R6	Cisco Nexus N5000 AC Power Cable, 13A, 250V, North America, 2.5M, R6	C
X-CAB-AC-250V-13A-R6-C	Cisco Nexus N5000 AC Power Cable, 13A, 250V, North America, 2.5M, -C, R6	C
X-SFS-250V-10A-AR-R6	Cisco Nexus N5000 AC Power Cable, 10A, 250V, Argentina, 2.5M, R6	C
X-SFS-250V-10A-AR-R6-C	Cisco Nexus N5000 AC Power Cable, 10A, 250V, Argentina, 2.5M, -C, R6	C
X-SFS-250V-10A-CN-R6	Cisco Nexus N5000 AC Power Cable, 10A, 250V, China, 2.5M, R6	C
X-SFS-250V-10A-CN-R6-C	Cisco Nexus N5000 AC Power Cable, 10A, 250V, China, 2.5M, -C, R6	C
X-SFS-250V-10A-ID-R6	Cisco Nexus N5000 AC Power Cable, 10A, 250V, India, 2.5M, R6	C
X-SFS-250V-10A-ID-R6-C	Cisco Nexus N5000 AC Power Cable, 10A, 250V, India, 2.5M, -C, R6	C
X-SFS-250V-10A-IS-R6	Cisco Nexus N5000 AC Power Cable, 10A, 250V, Israel, 2.5M, R6	C
X-SFS-250V-10A-IS-R6-C	Cisco Nexus N5000 AC Power Cable, 10A, 250V, Israel, 2.5M, -C, R6	C
X-1594A-R6-C	Cisco N50XX Pwr Cord, 10A, 250V, Australia, -C	C
X-1595A-R6-C	Cisco N50XX Pwr Cord, 10A, 250V, Europe, -C	C
X-1596A-R6-C	Cisco N50XX Pwr Cord, 10A, 250V, India, -C	C
X-1633-R6-C	Cisco N50XX Pwr Cord, 10A, 250V, Switzerland, -C	C
X-1597A-R6-C	Cisco N50XX Pwr Cord, 10A, 250V, UK, -C	C
X-1593A-R6-C	Cisco N50XX Pwr Cord, 125VAC, 15A NEMA 5-15 Plug, NA, -C	C

Service Options

NetApp requires Cisco SMARTnet support for the Nexus 5010. (The Cisco SMARTnet support offerings are sold with the Nexus 5010 chassis and for any additional equipment or software added to the base chassis. The purchase of Cisco SMARTnet support at the time of equipment purchase is required by NetApp.) No separate service contract is required for the eight-port FC expansion module.

To check for Cisco service availability by city or country, see this tool:

- Go to Cisco SAM (service availability) at <http://tools.cisco.com/apidc/sam/search.do>.
- Enter user ID "NetApp," password "cisco123."
- Choose product family: Cisco Nexus 5000 Series.
- Choose switch model N5K-C5010P-BF from Product drop-down field.
- Click on Find Service Availability.

Part Number	Description	Discount Category
SW-SSPVN-CON-SAU-N5FMS	Cisco SSP,N50xx Fabric Manager Server	C
SW-SSPVN-CON-SAU-N1SK	Cisco SSP,N5010 FCoE	C
SVCVN-CON-OSE-N5010S	Cisco Onsite 8x5x4hr,5020 w/FCoE	C
SVCVN-CON-OSE-N5010	Cisco Onsite 8x5x4hr,5020	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-OSE-N5008	Cisco HW Svc,50XX 8Pt FC,Onsite 8x5x4hr	C
SVCVN-CON-OSE-N5060	Cisco,HW Svc,Onsite 8x5x4hr,50XX 6-Pt 8G FC	C
SVCVN-CON-OS-N5010S	Cisco Onsite 8x5xNBD,5020 w/FCoE	C
SVCVN-CON-OS-N5010	Cisco Onsite 8x5xNBD,5020	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-OS-N5008	Cisco HW Svc,50XX 8Pt FC,Onsite 8x5xNBD	C
SVCVN-CON-OS-N5060	Cisco,HW Svc,Onsite 8x5xNBD,50XX 6-Pt 8G FC	C
SVCVN-CON-OSP-N5010S	Cisco Onsite 24x7x4hr,5020 w/FCoE	C
SVCVN-CON-OSP-N5010	Cisco Onsite 24x7x4hr,5020	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-OSP-N5008	Cisco HW Svc,50XX 8Pt FC,Onsite 24x7x4hr	C
SVCVN-CON-OSP-N5060	Cisco,HW Svc,Onsite 24x7x4hr,50XX 6-Pt 8G FC	C
SVCVN-CON-PREM-N5010S	Cisco Onsite 24x7x2hr,5020 w/FCoE	C
SVCVN-CON-PREM-N5010	Cisco Onsite 24x7x2hr,5020	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-PREM-N5008	Cisco HW Svc,50XX 8Pt FC,Onsite 24x7x2hr	C
SVCVN-CON-PREM-N5060	Cisco,HW Svc,Onsite 24x7x2hr,50XX 6-Pt 8G FC	C
SVCVN-CON-S2P-N5010S	Cisco AR 24x7x2hr,5020 w/FCoE	C
SVCVN-CON-S2P-N5010	Cisco AR 24x7x2hr,5020	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-S2P-N5008	Cisco HW Svc,50XX 8Pt FC,AR 24x7x2hr	C
SVCVN-CON-S2P-N5060	Cisco,HW Svc,AR 24x7x2hr,50XX 6-Pt 8G FC	C
SVCVN-CON-SNTE-N5010S	Cisco AR 8x5x4hr,5020 w/FCoE	C
SVCVN-CON-SNTE-N5010	Cisco AR 8x5x4hr,5020	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-SNTE-N5008	Cisco HW Svc,50XX 8Pt FC,AR 8x5x4hr	C
SVCVN-CON-SNTE-N5060	Cisco,HW Svc,AR 8x5x4hr,50XX 6-Pt 8G FC	C
SVCVN-CON-SNT-N5010S	Cisco AR 8x5xNBD,5020 w/FCoE	C

SVCVN-CON-SNT-N5010	Cisco AR 8x5xNBD,5020	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-SNT-N5008	Cisco HW Svc,50XX 8Pt FC,AR 8x5xNBD	C
SVCVN-CON-SNT-N5060	Cisco,HW Svc,AR 8x5xNBD,50XX 6-Pt 8G FC	C
SVCVN-CON-SNTP-N5010S	Cisco AR 24x7x4hr,5020 w/FCoE	C
SVCVN-CON-SNTP-N5010	Cisco AR 24x7x4hr,5020	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
SVCVN-CON-SNTP-N5008	Cisco HW Svc,50XX 8Pt FC,AR 24x7x4hr	C
SVCVN-CON-SNTP-N5060	Cisco,HW Svc,AR 24x7x4hr,50XX 6-Pt 8G FC	C

7. Regulatory Compliance

The Cisco Nexus 5010 and associated expansion modules meet all defined NetApp EMI and RoHS compliance requirements.

8. Warranty and Service

The Cisco Nexus 5010 switch and expansion modules 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 Nexus 5010 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.

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