Cisco Nexus 3000 Series NX-OS Release Notes, Release 6.0(2)U1(4)

Release Date: June 05, 2014
Part Number: OL-29565-10
Current Release: Cisco NX-OS Release 6.0(2)U1(4)

This document describes the features, caveats, and limitations for Cisco Nexus 3000 Series switches. Use this document in combination with documents listed in the "Obtaining Documentation and Submitting a Service Request" section on page 19.

Note Release notes are sometimes updated with new information about restrictions and caveats. See the following website for the most recent version of the Cisco Nexus 3000 Series release notes: http://www.cisco.com/c/en/us/support/switches/nexus-3000-series-switches/products-release-notes-list.html

Note Table 1 shows the online change history for this document.

Table 1 Online History Change

Part Number	Revision	Date	Description
OL-29565-10	A0	June 05, 2014	Created NX-OS Release 6.0(2)U1(4) release notes.
	B0	May 11, 2015	Added Known Behaviors in Cisco NX-OS Release 6.0(2)U1(4), page 18.
	C0	November 2, 2015	Added the following footnote: GLC-SX-MMD is supported on all Cisco Nexus 3000 Series Switches except for the Cisco Nexus 3064-T. Please refer to the comparability matrix for all the supported platforms.

Contents

This document includes the following sections:

- Introduction, page 2
- System Requirements, page 3
- New and Changed Features, page 15
- Upgrade and Downgrade Guidelines, page 16
- Limitations, page 16
- Caveats, page 17
- Obtaining Documentation and Submitting a Service Request, page 19

Introduction

Several new hardware and software features are introduced for the Cisco Nexus 3000 Series device to improve the performance, scalability, and management of the product line. Cisco NX-OS Release 6.x also supports all hardware and software supported in Cisco NX-OS Release 5.1 and Cisco NX-OS Release 5.0.

Cisco NX-OS offers the following benefits:

- Cisco NX-OS runs on all Cisco data center switch platforms: Cisco Nexus 7000, Nexus 5000, Nexus 4000, Nexus 3000, Nexus 2000, and Nexus 1000V Series switches.
- Cisco NX-OS software interoperates with Cisco products that run any variant of Cisco IOS software and also with any networking operating system that conforms to common networking standards.
- Cisco NX-OS modular processes are triggered on demand, each in a separate protected memory space. Processes are started and system resources are allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps ensure timely processing of critical functions.
- Cisco NX-OS provides a programmatic XML interface that is based on the NETCONF industry standard. The Cisco NX-OS XML interface provides a consistent API for devices. Cisco NX-OS also provides support for Simple Network Management Protocol (SNMP) Versions 1, 2, and 3 MIBs.
- Cisco NX-OS enables administrators to limit access to switch operations by assigning roles to users. Administrators can customize access and restrict it to the users who require it.

Cisco Nexus 3000 Series Switches

The Cisco Nexus 3000 Series switches are high-performance, high-density, ultra-low-latency Ethernet switches that provide line-rate Layer 2 and Layer 3 switching. The Cisco Nexus 3000 Series includes the following switches:

- The Cisco Nexus 3064 switch is a 1 RU switch that supports 48 1- or 10-Gigabit downlink ports, four Quad Small Form-Factor Pluggable (QSFP+) ports that can be used as a 40 Gigabit Ethernet port or 4 x10-Gigabit Ethernet ports, one 10/100/1000 management port, and one console port.
- The Cisco Nexus 3048 switch is a 1 rack unit (RU) switch that supports 48 10/100/1000 Ethernet server-facing (downlink) ports, four 10-Gigabit network-facing (uplink) ports, one 100/1000 management port, and one console port.

- The Cisco Nexus 3016 is a 1 RU, 16-port QSFP+ switch. Each QSFP+ port can be used as a 40-Gigabit Ethernet port or 4 x10-Gigabit Ethernet ports.

Each switch includes one or two power supply units and one fan tray module, and each switch can be ordered with either forward (port-side exhaust) airflow or reverse (port-side intake) airflow for cooling. All platforms support both AC and DC power supplies. All combinations of power (AC/DC) and airflow (forward/reverse) are available. The Cisco Nexus 3000 Series switches run the Cisco NX-OS software.

For information about the Cisco Nexus 3000 Series, see the *Cisco Nexus 3000 Series Hardware Installation Guide.*

System Requirements

This section includes the following topics:

- Memory Requirements, page 3
- Hardware Supported, page 3
- Twinax Cable Support on Cisco Nexus 3000 Switches, page 15

Memory Requirements

The Cisco NX-OS Release 6.0(2)U1(4) software requires 135 MB of flash memory.

Hardware Supported

Cisco NX-OS Release 6.0(2)U1(4) supports the Cisco Nexus 3000 Series switches. You can find detailed information about supported hardware in the *Cisco Nexus 3000 Series Hardware Installation Guide*.

Table 2 shows the hardware supported by the Cisco NX-OS Release 6.x software. Table 3 shows the hardware supported by the Cisco NX-OS 5.x releases.

Table 4 shows the transceivers supported by the Cisco NX-OS Release 6.x software. Table 5 shows transceivers supported by the Cisco NX-OS 5.x releases.

Table 2 Hardware Supported by Cisco NX-OS Release 6.x Software

Hardware	Part Number	Supported Cisco NX-OS Release 6.0(2)U1(4) 6.0(2)U1(3) 6.0(2)U1(2) 6.0(2)U1(1a) 6.0(2)U1(1)
Cisco Nexus 3016 switch	N3K-C3016Q-40GE	X
Cisco Nexus 3048 switch	N3K-C3048TP-1GE	X
Cisco Nexus 3064-TQ switch	N3K-C3064TQ-10GT	X

Hardware	Part Number	Supported Cisco NX-OS Release 6.0(2)U1(4) 6.0(2)U1(3) 6.0(2)U1(2) 6.0(2)U1(1a) 6.0(2)U1(1)
Cisco Nexus 3064-X switch	N3K-C3064PQ-10GX	X
Cisco Nexus 3064-E switch	N3K-C3064PQ-10GE	X
Cisco Nexus 3064 switch	N3K-C3064PQ	X
Cisco Nexus 3048 fan module with forward airflow (port-side exhaust)	N3K-C3048-FAN	X
Cisco Nexus 3048 fan module with reverse airflow (port-side intake)	N3K-C3048-FAN-B	X
Cisco Nexus 3064-T 500W forward airflow (port-side exhaust) AC power supply	NXA-PAC-500W	X
Cisco Nexus 3064-T 500W reverse airflow (port-side intake) AC power supply	NXA-PAC-500W-B	X
Cisco Nexus 3064-X forward airflow (port-side exhaust) AC power supply	N3K-C3064-X-FA-L3	X
Cisco Nexus 3064-X reversed airflow (port-side intake) AC power supply	N3K-C3064-X-BA-L3	X
Cisco Nexus 3064-X forward airflow (port-side exhaust) DC power supply	N3K-C3064-X-FD-L3	X
Cisco Nexus 3064-X forward airflow (port-side intake) DC power supply	N3K-C3064-X-BD-L3	X
Cisco Nexus 3064 fan module with forward airflow (port-side exhaust); also used in the Cisco Nexus 3016	N3K-C3064-FAN	X
Cisco Nexus 3064 fan module with reverse airflow (port-side intake); also used in the Cisco Nexus 3016	N3K-C3064-FAN-B	X
Cisco Nexus 3000 power supply with forward airflow (port-side exhaust)	N2200-PAC-400W	X
Cisco Nexus 3000 power supply with reverse airflow (port-side intake)	N2200-PAC-400W-B	X
Cisco Nexus 2000 power supply with forward airflow (port-side exhaust)	N2200-PDC-400W	X
Cisco Nexus 2000 DC power supply with reverse airflow (port-side intake)	N3K-PDC-350W-B	X

Table 3 Hardware Supported by Cisco NX-OS Release 5.x Software

Hardware	Part Number	Supported Cisco NX-OS Release						
		5.0(3)U5(1f) 5.0(3)U5(1e) 5.0(3)U5(1d) 5.0(3)U5(1c) 5.0(3)U5(1b) 5.0(3)U5(1a) 5.0(3)U5(1)	5.0(3)U4(1)	5.0(3)U3(2b) 5.0(3)U3(2a) 5.0(3)U3(2) 5.0(3)U3(1)	5.0(3)U2(2d) 5.0(3)U2(2c) 5.0(3)U2(2b)	5.0(3)U2(2a)	5.0(3)U2(2) 5.0(3)U2(1) 5.0(3)U1(2a) 5.0(3)U1(2)	5.0(3)U1(1d)
Cisco Nexus 3016 switch	N3K-C3016Q-40GE	X	X	X	X	X	—	—
Cisco Nexus 3048 switch	N3K-C3048TP-1GE	X	X	X	X	—	—	—
Cisco Nexus 3064-TQ switch	N3K-C3064TQ-10GT	X[1]	—	—	—	—	—	—
Cisco Nexus 3064-X switch	N3K-C3064P10GX	X	X	X	—	—	—	—
Cisco Nexus 3064-E switch	N3K-C3064PQ-10GE	X	X	X	X	X	X	—
Cisco Nexus 3064 switch	N3K-C3064PQ	X	X	X	X	X	X	X
Cisco Nexus 3048 fan module with forward airflow (port-side exhaust)	N3K-C3048-FAN	X	X	X	X	—	—	—
Cisco Nexus 3048 fan module with reverse airflow (port-side intake)	N3K-C3048-FAN-B	X	X	X	X	—	—	—
Nexus 3064-T 500W forward airflow (port side exhaust) AC power supply	NXA-PAC-500W	X	X	—	—	—	—	—

Table 3 Hardware Supported by Cisco NX-OS Release 5.x Software (continued)

Hardware	Part Number	Supported Cisco NX-OS Release						
		5.0(3)U5(1f) 5.0(3)U5(1e) 5.0(3)U5(1d) 5.0(3)U5(1c) 5.0(3)U5(1b) 5.0(3)U5(1a) 5.0(3)U5(1)	5.0(3)U4(1)	5.0(3)U3(2b) 5.0(3)U3(2a) 5.0(3)U3(2) 5.0(3)U3(1)	5.0(3)U2(2d) 5.0(3)U2(2c) 5.0(3)U2(2b)	5.0(3)U2(2a)	5.0(3)U2(2) 5.0(3)U2(1) 5.0(3)U1(2a) 5.0(3)U1(2)	5.0(3)U1(1d)
Nexus 3064-T 500 W reverse airflow (port side intake) AC power supply	NXA-PAC-500W-B	X	X	—	—	—	—	—
Cisco Nexus 3064-X forward airflow (port-side exhaust) AC power supply	N3K-C3064-X-FA-L3	X	X	X	—	—	—	—
Cisco Nexus 3064-X reversed airflow (port-side intake) AC power supply	N3K-C3064-X-BA-L3	X	X	X	—	—	—	—
Cisco Nexus 3064-X forward airflow (port-side exhaust) DC power supply	N3K-C3064-X-FD-L3	X	X	X	—	—	—	—
Cisco Nexus 3064-X forward airflow (port-side intake) DC power supply	N3K-C3064-X-BD-L3	X	X	X	—	—	—	—

Table 3 Hardware Supported by Cisco NX-OS Release 5.x Software (continued)

Hardware	Part Number	Supported Cisco NX-OS Release						
		5.0(3)U5(1f) 5.0(3)U5(1e) 5.0(3)U5(1d) 5.0(3)U5(1c) 5.0(3)U5(1b) 5.0(3)U5(1a) 5.0(3)U5(1)	5.0(3)U4(1)	5.0(3)U3(2b) 5.0(3)U3(2a) 5.0(3)U3(2) 5.0(3)U3(1)	5.0(3)U2(2d) 5.0(3)U2(2c) 5.0(3)U2(2b)	5.0(3)U2(2a)	5.0(3)U2(2) 5.0(3)U2(1) 5.0(3)U1(2a) 5.0(3)U1(2)	5.0(3)U1(1d)
Cisco Nexus 3064 fan module with forward airflow (port-side exhaust); also used in the Cisco Nexus 3016	N3K-C3064-FAN	X	X	X	X	X	X	X
Cisco Nexus 3064 fan module with reverse airflow (port-side intake); also used in the Cisco Nexus 3016	N3K-C3064-FAN-B	X	X	X	X	X	X	X
Cisco Nexus 3000 power supply with forward airflow (port-side exhaust)	N2200-PAC-400W	X	X	X	X	X	X	X
Cisco Nexus 3000 power supply with reverse airflow (port-side intake)	N2200-PAC-400W-B	X	X	X	X	X	X	X

Table 3 Hardware Supported by Cisco NX-OS Release 5.x Software (continued)

Hardware	Part Number	Supported Cisco NX-OS Release						
		5.0(3)U5(1f) 5.0(3)U5(1e) 5.0(3)U5(1d) 5.0(3)U5(1c) 5.0(3)U5(1b) 5.0(3)U5(1a) 5.0(3)U5(1)	5.0(3)U4(1)	5.0(3)U3(2b) 5.0(3)U3(2a) 5.0(3)U3(2) 5.0(3)U3(1)	5.0(3)U2(2d) 5.0(3)U2(2c) 5.0(3)U2(2b)	5.0(3)U2(2a)	5.0(3)U2(2) 5.0(3)U2(1) 5.0(3)U1(2a) 5.0(3)U1(2)	5.0(3)U1(1d)
Cisco Nexus 2000 power supply with forward airflow (port-side exhaust)	N2200-PDC-400W	X	X	X	X	X	X	X
Cisco Nexus 2000 DC power supply with reverse airflow (port-side intake)	N3K-PDC-350W-B	X	X	X	X	X	X	X

1. Recommended release for Cisco Nexus 3064-TQ switch is Cisco NX-OS Release 5.0(3)U5(1c) or later releases.

Table 4 Transceivers Supported by Cisco NX-OS Release 6.x Software

Transceivers[1]	Part Number	Supported Cisco NX-OS Release
		6.0(2)U1(4) 6.0(2)U1(3) 6.0(2)U1(2) 6.0(2)U1(1a) 6.0(2)U1(1)
QSFP		
Active copper splitter cable 7 m	QSFP-4x10G-AC7M[2]	X
Active copper splitter cable 10 m	QSFP-4x10G-AC10M[1]	X
Active copper QSFP transceiver module 7 m	QSFP-H40G-ACU7M[1]	X
Active copper QSFP transceiver module 10 m	QSFP-H40G-ACU10M[1]	X
40GBASE-CSR4 QSFP transceiver module with multifiber push-on (MPO) connector 300 m	QSFP-40G-CSR4[1]	X
40GBASE-CSR4 QSFP transceiver module with MPO connector 300 m (using fiber splitter cables)	QSFP-40G-CSR4[1]	X

Table 4 Transceivers Supported by Cisco NX-OS Release 6.x Software (continued)

Transceivers[1]	Part Number	Supported Cisco NX-OS Release 6.0(2)U1(4) 6.0(2)U1(3) 6.0(2)U1(2) 6.0(2)U1(1a) 6.0(2)U1(1)
40GBASE-SR4 QSFP transceiver module with MPO connector 100 m	QSFP-40G-SR4[1]	X
40GBASE-SR4 QSFP transceiver module with MPO connector 100 m (using fiber splitter cables)	QSFP-40G-SR4[1]	X
40GBASE-LR4 QSFP transceiver module with LC connector 10 km (using single mode fiber)	QSFP-40GE-LR4	X
QSFP to SFP/SFP+ adapter	CVR-QSFP-SFP10G	X
40GBASE-CR4 passive copper cable, 1 m	QSFP-H40G-CU1M	X
40GBASE-CR4 passive copper cable, 3 m	QSFP-H40G-CU3M	X
40GBASE-CR4 passive copper cable, 5 m	QSFP-H40G-CU5M	X
QSFP to 4xSFP10G passive copper splitter cable, 1 m	QSFP-4SFP10G-CU1M	X
QSFP to 4xSFP10G passive copper splitter cable, 3 m	QSFP-4SFP10G-CU3M	X
QSFP to 4xSFP10G passive copper splitter cable, 5 m	QSFP-4SFP10G-CU5M	X
Revision 2 copper splitter cables 3 m	QSFP-4SFP10G-CU3 (Rev. 2)	X
Revision 2 copper splitter cables 5 m	QSFP-4SFP10G-CU5 (Rev. 2)	X
10-Gigabit		
10GBASE-DWDM long-range transceiver module 80 km with single mode duplex fiber	DWDM-SFP10G	X
10GBASE-SR SFP+ module (multimode fiber [MMF])	SFP-10G-SR	X
10GBASE-LR SFP+ module (single-mode fiber [SMF])	SFP-10G-LR	X
10GBASE-ER SFP+ module (single-mode fiber [SMF])	SFP-10G-ER	X
10GBASE-ZR SFP+ module (single-mode fiber [SMF])[3]	SFP-10G-ZR[2]	X
10GBASE-DWDM SFP+ module (single-mode fiber [SMF])[2]	10-2767-01[2]	X
Active Twinax cable assembly, 7 m	SFP-H10GB-ACU7M	X
Active Twinax cable assembly, 10 m	SFP-H10GB-ACU10M	X
10GBASE-CU SFP+ cable 1 m (Twinax cable)	SFP-H10GB-CU1M	X
10GBASE-CU SFP+ cable 1.5 m (Twinax cable)	SFP-H10GB-CU1-5M	X
10GBASE-CU SFP+ cable 2 m (Twinax cable)[3]	SFP-H10GB-CU2M[4]	X
10GBASE-CU SFP+ cable 3 m (Twinax cable)	SFP-H10GB-CU3M	X
10GBASE-CU SFP+ cable 5 m (Twinax cable)	SFP-H10GB-CU5M	X
10GBASE-CU SFP+ cable 2.5 m (Twinax cable)[3]	SFP-H10GB-CU2-5M[3]	X

Table 4 Transceivers Supported by Cisco NX-OS Release 6.x Software (continued)

Transceivers[1]	Part Number	Supported Cisco NX-OS Release 6.0(2)U1(4) 6.0(2)U1(3) 6.0(2)U1(2) 6.0(2)U1(1a) 6.0(2)U1(1)
Active optical cable 1 m	SFP-10G-AOC1M[4]	X
Active optical cable 3 m	SFP-10G-AOC3M[4]	X
Active optical cable 5 m	SFP-10G-AOC5M[4]	X
Active optical cable 7 m	SFP-10G-AOC7M[4]	X
1-Gigabit Ethernet		
1000Base-BX fiber transceiver	GLC-BX-D[4]	X
1000Base-BX fiber transceiver	GLC-BX-U[4]	X
1000BASE-EX fiber transceiver module, SMF	GLC-EX-SMD	X
Gigabit Ethernet SFP, LC connector LX/LH transceiver (SMF)	GLC-LH-SM[4]	X
1000BASE-LX/LH SFP transceiver module for MMF and SMF	GLC-LH-SMD[4]	X
Gigabit Ethernet SFP, LC connector SX transceiver (MMF)	GLC-SX-MM[3]	X
Gigabit Ethernet SFP, LC connector SX transceiver (MMF)	GLC-SX-MMD[5]	X
1000BASE-T SFP[5]	GLC-T[4]	X
1000BASE-ZX fiber transceiver module, SMF, 1550 nm	GLC-ZX-SMD	X
1000BASE-T SFP transceiver module with extended operating temperature range	SFP-GE-T[4]	X
100-Mbps Ethernet		
100BASE-FX SFP module for Gigabit Ethernet ports GLC-GE-100FX[6]	10-2019-02[6] GLC-GE-100FX	X

1. OIR is supported for all optical modules and transceivers in Cisco NX-OS Release 6.02 and later releases.
2. Supported on the Cisco Nexus 3016, Cisco Nexus 3064-X, Cisco Nexus 3064-TQ, Cisco Nexus 3064, and Cisco Nexus 3064-E switches.
3. Supported on the Cisco Nexus 3064-E and Cisco Nexus 3064-X switches.
4. Supported on the Cisco Nexus 3048, Cisco Nexus 3064-X, Cisco Nexus 3064, and Cisco Nexus 3064-E switches.
5. Supported on the Cisco Nexus 3048, Cisco Nexus 3064-E, and Cisco Nexus 3064-X switches.
6. Supported on the Cisco Nexus 3064, Cisco Nexus 3064-E, and Cisco Nexus 3064-X switches. For the GLC-GE-100FX, only part number 10-2019-02 is supported.

Note The Cisco Nexus 3000 supports 1,000 and 10,000 speeds while using SFP+ with Cisco QSA [CVR-QSFP-SFP10G] (and a maximum of 6 QSAs). The 100 speed is not supported on the SFP+ along with QSA, but using any speed 100 is supported on the SFP+.

Table 5 Transceivers Supported by Cisco NX-OS Release 5.x Software

Transceivers	Part Number	Supported Cisco NX-OS Release						
		5.0(3)U5(1f) 5.0(3)U5(1e) 5.0(3)U5(1d) 5.0(3)U5(1c) 5.0(3)U5(1b) 5.0(3)U5(1a) 5.0(3)U5(1)	5.0(3)U4(1)	5.0(3)U3(2b) 5.0(3)U3(2a) 5.0(3)U3(2) 5.0(3)U3(1)	5.0(3)U2(2c) 5.0(3)U2(2b) 5.0(3)U2(2a) 5.0(3)U2(2)	5.0(3) U2(1)	5.0(3)U1(2) 5.0(3)U1(2a)	5.0(3)U1(1a) 5.0(3)U1(1b) 5.0(3)U1(1d)
QSFP								
Active copper splitter cable 7 m	QSFP-4x10G-AC7M[1]	X	—	—	—	—	—	—
Active copper splitter cable 10 m	QSFP-4x10G-AC10M[1]	X	—	—	—	—	—	—
Active copper QSFP transceiver module 7 m	QSFP-H40G-ACU7M[1]	X	—	—	—	—	—	—
Active copper QSFP transceiver module 10 m	QSFP-H40G-ACU10M[1]	X	—	—	—	—	—	—
40GBASE-CSR4 QSFP transceiver module with MPO connector 300 m	QSFP-40G-CSR4[1]	X	X	—	—	—	—	—
40GBASE-CSR4 QSFP transceiver module with MPO connector 300 m (using fiber splitter cables)	QSFP-40G-CSR4[1]	X	X	—	—	—	—	—
40GBASE-SR4 QSFP transceiver module with MPO connector 100 m	QSFP-40G-SR4[1]	X	X	X	X	X	X	X
40GBASE-SR4 QSFP transceiver module with MPO connector 100 m (using fiber splitter cables)	QSFP-40G-SR4[1]	X	X	X	X	X	X	X
40GBASE-CR4 passive copper cable, 1 m	QSFP-H40G-CU1M	X	X	X	X	X	X	X
40GBASE-CR4 passive copper cable, 3 m	QSFP-H40G-CU3M	X	X	X	X	X	X	X

Table 5 Transceivers Supported by Cisco NX-OS Release 5.x Software (continued)

Transceivers	Part Number	Supported Cisco NX-OS Release						
		5.0(3)U5(1f) 5.0(3)U5(1e) 5.0(3)U5(1d) 5.0(3)U5(1c) 5.0(3)U5(1b) 5.0(3)U5(1a) 5.0(3)U5(1)	5.0(3)U4(1)	5.0(3)U3(2b) 5.0(3)U3(2a) 5.0(3)U3(2) 5.0(3)U3(1)	5.0(3)U2(2c) 5.0(3)U2(2b) 5.0(3)U2(2a) 5.0(3)U2(2)	5.0(3) U2(1)	5.0(3)U1(2) 5.0(3)U1(2a)	5.0(3)U1(1a) 5.0(3)U1(1b) 5.0(3)U1(1d)
40GBASE-CR4 passive copper cable, 5 m	QSFP-H40G-CU5M	X	X	X	X	X	X	X
QSFP to 4xSFP10G passive copper splitter cable, 1 m	QSFP-4SFP10G-CU1M	X	X	X	X	X	X	X
QSFP to 4xSFP10G passive copper splitter cable, 3 m	QSFP-4SFP10G-CU3M	X	X	X	X	X	X	X
QSFP to 4xSFP10G passive copper splitter cable, 5 m	QSFP-4SFP10G-CU5M	X	X	X	X	X	X	X
Revision 2 copper splitter cables 3 m	QSFP-4SFP10G-CU3 (Rev. 2)	X	—	—	—	—	—	—
Revision 2 copper splitter cables 5 m	QSFP-4SFP10G-CU5 (Rev. 2)	X	—	—	—	—	—	—
10-Gigabit								
10GBASE-SR SFP+ module (multimode fiber [MMF])	SFP-10G-SR	X	X	X	X	X	X	X
10GBASE-LR SFP+ module (single-mode fiber [SMF])	SFP-10G-LR	X	X	X	X	X	X	X
10GBASE-ER SFP+ module (single-mode fiber [SMF])	SFP-10G-ER	X	X	X	X	X	X	X
10GBASE-ZR SFP+ module (single-mode fiber [SMF])[2]	SFP-10G-ZR[2]	X	X	X	—	—	—	—

Table 5 Transceivers Supported by Cisco NX-OS Release 5.x Software (continued)

Transceivers	Part Number	Supported Cisco NX-OS Release						
		5.0(3)U5(1f) 5.0(3)U5(1e) 5.0(3)U5(1d) 5.0(3)U5(1c) 5.0(3)U5(1b) 5.0(3)U5(1a) 5.0(3)U5(1)	5.0(3)U4(1)	5.0(3)U3(2b) 5.0(3)U3(2a) 5.0(3)U3(2) 5.0(3)U3(1)	5.0(3)U2(2c) 5.0(3)U2(2b) 5.0(3)U2(2a) 5.0(3)U2(2)	5.0(3) U2(1)	5.0(3)U1(2) 5.0(3)U1(2a)	5.0(3)U1(1a) 5.0(3)U1(1b) 5.0(3)U1(1d)
10GBASE-DWDM SFP+ module (single-mode fiber [SMF])[2]	10-2767-01[2]	X	X	X	—	—	—	—
10GBASE-CU SFP+ cable 1 m (Twinax cable)	SFP-H10GB-CU1M	X	X	X	X	X	X	X
10GBASE-CU SFP+ cable 3 m (Twinax cable)	SFP-H10GB-CU3M	X	X	X	X	X	X	X
10GBASE-CU SFP+ cable 5 m (Twinax cable)	SFP-H10GB-CU5M	X	X	X	X	X	X	X
10GBASE-CU SFP+ cable 2 m (Twinax cable)[3]	SFP-H10GB-CU2M[3]	X	X	—	—	—	—	—
10GBASE-CU SFP+ cable 2.5 m (Twinax cable)[3]	SFP-H10GB-CU2-5M[3]	X	X	—	—	—	—	—
Active optical cable 1 m	SFP-10G-AOC1M[4]	X	—	—	—	—	—	—
Active optical cable 3 m	SFP-10G-AOC3M[4]	X	—	—	—	—	—	—
Active optical cable 5 m	SFP-10G-AOC5M[4]	X	—	—	—	—	—	—
Active optical cable 7 m	SFP-10G-AOC7M[4]	X	—	—	—	—	—	—
1-Gigabit Ethernet								
1000BASE-T SFP[4]	GLC-T[4]	X	X	X	X	X	X	X
Gigabit Ethernet SFP, LC connector SX transceiver (MMF)	GLC-SX-MM[3]	X	X	X	X	X	X	X

Table 5 Transceivers Supported by Cisco NX-OS Release 5.x Software (continued)

Transceivers	Part Number	Supported Cisco NX-OS Release						
		5.0(3)U5(1f) 5.0(3)U5(1e) 5.0(3)U5(1d) 5.0(3)U5(1c) 5.0(3)U5(1b) 5.0(3)U5(1a) 5.0(3)U5(1)	5.0(3)U4(1)	5.0(3)U3(2b) 5.0(3)U3(2a) 5.0(3)U3(2) 5.0(3)U3(1)	5.0(3)U2(2c) 5.0(3)U2(2b) 5.0(3)U2(2a) 5.0(3)U2(2)	5.0(3) U2(1)	5.0(3)U1(2) 5.0(3)U1(2a)	5.0(3)U1(1a) 5.0(3)U1(1b) 5.0(3)U1(1d)
Gigabit Ethernet SFP, LC connector SX transceiver (MMF)	GLC-SX-MMD[5]	X	X	—	—	—	—	—
Gigabit Ethernet SFP, LC connector LX/LH transceiver (SMF)	GLC-LH-SM[4]	X	X	X	X	X	X	X
1000BASE-LX/LH SFP transceiver module for MMF and SMF	GLC-LH-SMD[4]	X	—	—	—	—	—	—
1000Base-BX fiber transceiver	GLC-BX-U[4]	X	—	—	—	—	—	—
1000Base-BX fiber transceiver	GLC-BX-D[4]	X	—	—	—	—	—	—
1000BASE-T SFP transceiver module with extended operating temperature range	SFP-GE-T[4]	X	—	—	—	—	—	—
100-Mbps Ethernet								
100BASE-FX SFP module for Gigabit Ethernet ports GLC-GE-100FX[6]	10-2019-02[6] GLC-GE-100FX	X	X	X	X	X	X	X

1. Supported on the Cisco Nexus 3016, Cisco Nexus 3064-X, Cisco Nexus 3064-TQ, Cisco Nexus 3064, and Cisco Nexus 3064-E switches.
2. Supported on the Cisco Nexus 3064-E and Cisco Nexus 3064-X switches.
3. Supported on the Cisco Nexus 3048, Cisco Nexus 3064-X, Cisco Nexus 3064, and Cisco Nexus 3064-E switches.
4. Supported on the Cisco Nexus 3048, Cisco Nexus 3064-E, and Cisco Nexus 3064-X switches.
5. GLC-SX-MMD is supported on all Cisco Nexus 3000 Series Switches except for the Cisco Nexus 3064-T. Please refer to the comparability matrix for all the supported platforms.
6. Supported on the Cisco Nexus 3064, Cisco Nexus 3064-E, and Cisco Nexus 3064-X switches. For the GLC-GE-100FX, only part number 10-2019-02 is supported.

Twinax Cable Support on Cisco Nexus 3000 Switches

Starting with Cisco Release NX-OS 5.0(3)U1(1), the following algorithm is used to detect copper SFP+ twinax, QSFP+ twinax, and QSFP+ splitter cables on Cisco Nexus 3000 Series switches.

If the attached interconnect (transceiver) is a copper SFP+ twinax or QSFP+ twinax cable:

- Verify the transceiver SPROM to match the Cisco magic code.
- If the check succeeds, bring up the interface. Otherwise, print the following warning message appears stating that a non-Cisco transceiver is attached and that you should try to bring up the port.

  ```
  2009 Oct 9 01:46:42 switch %ETHPORT-3-IF_NON-CISCO_TRANSCEIVER: Non-Cisco transceiver
  on interface Ethernet1/18 is detected.
  ```

  If the attached transceiver is a QSFP+ splitter cable, then no special check is performed. The Cisco NX-OS software tries to bring up the port.

  The following disclaimer applies to non-Cisco manufactured and non-Cisco certified QSFP copper splitter cables:

  If a customer has a valid support contract for Cisco Nexus switches, Cisco TAC will support twinax cables that are a part of the compatibility matrix for the respective switches. However, if the twinax cables are not purchased through Cisco, a customer cannot return these cables through an RMA to Cisco for replacement.

  If a twinax cable that is not part of the compatibility matrix is connected into a system, Cisco TAC will still debug the problem, provided the customer has a valid support contract on the switches. However TAC may ask the customer to replace the cables with Cisco qualified cables if there is a situation that points to the cables possibly being faulty or direct the customer to the cable provider for support. Cisco TAC cannot issue an RMA against uncertified cables for replacement.

New and Changed Features

This section describes the new features introduced in Cisco NX-OS Release 6.0(2)U1(4). This section includes the following topics:

- New Supported Hardware, page 15
- New Software Features, page 15

New Supported Hardware

Cisco NX-OS Release 6.0(2)U1(4) does not include new hardware.

New Software Features

All Cisco Nexus 3000 Series switches are supported by Cisco NX-OS Release 6.0(2)U1(4). Cisco NX-OS interoperates with any networking operating system, including Cisco IOS software, that conforms to the networking standards listed in the product data sheet.

Cisco NX-OS Release 6.0(2)U1(4) does not include any new software features.

Upgrade and Downgrade Guidelines

Upgrade Path to Release 6.0(2)U1(4)

Cisco Nexus 3000 Series switches that use software versions older than Release 5.0(3)U5(1) need to be updated to Release 5.0(3)U5(1) before they are upgraded to Release 6.0(2).

Cisco NX-OS Release 5.0(3)U3(1) does not support a software upgrade from Cisco NX-OS Release 5.0(3)U2(2c). If you want to upgrade through this path, see CSCty75328 for details about how to work around this issue.

Note It is recommended that you upgrade by using Cisco NX-OS install procedures.

In Cisco NX-OS Release 5.0(3)U3(1), support for IPv6 has been added in Control Plane Policing (CoPP). To enable redirection of IPv6 control packets to the CPU, you must configure IPv6 CoPP on the system. Entering the **write erase** command on a device that runs Release 5.0(3)U3(1) automatically applies CoPP on the device and ensures that all IPv4 and IPv6-related CoPP configuration is set up correctly.

If you upgrade from a Cisco NX-OS release that does not support the CoPP feature to a release that does support the CoPP feature, you must run the setup utility after the upgrade to enable CoPP on the device.

If you upgrade from Cisco NX-OS Release 5.0(3)U2(2), which supports the CoPP feature, to Cisco NX-OS Release 5.0(3)U3(1), which adds CoPP classes for IPv6 support, you must run the setup script to enable the IPv6 CoPP feature on the device.

copy bootflash:file startup is a deprecated command in Cisco NX-OS Release 6.0(2)U1(2), and will be supported in future releases. See CSCuh57633 for more details.

When upgrading to Cisco NX-OS Release 5.0(3)U3(1) or a later release from an earlier release on a Cisco Nexus 3064 switch, the switching-mode may change from the default Cut-Through mode to the Store-Forward mode. This happens if the **mac address-table aging-time** command is in the running-config before the upgrade. Use the **show run | i switching** command to confirm the switching mode in use. If no output is returned, the switch is using the default Cut-Through mode.

To resolve this, do one of the following:

- Remove the **mac address-table aging-time** command from the running-config before the upgrade and add it back after the upgrade is complete.
- Manually change the switching-mode back to Cut-Through by using the **no switching-mode store-forward** command after upgrade.

Limitations

Link Level Flow Control (LLFC) is not supported on Cisco Nexus 3000 series and Cisco Nexus 3100 series switches.

Caveats

Open and resolved caveat record numbers are provided with links to the Bug Search page where you can find details about each caveat.

This section includes the following topics:

- Resolved Caveats in Cisco NX-OS Release 6.0(2)U1(4), page 17
- Open Caveats in Cisco NX-OS Release 6.0(2)U1(4), page 17
- Known Behaviors in Cisco NX-OS Release 6.0(2)U1(4), page 18

Resolved Caveats in Cisco NX-OS Release 6.0(2)U1(4)

Table 6 lists descriptions of resolved caveats in Cisco NX-OS Release 6.0(2)U1(4). The record ID links to the Cisco Bug Search page where you can find details about the caveat.

Table 6 Cisco NX-OS Release 6.0(2)U1(4)—Resolved Caveats

Record Number	Resolved Caveat Headline
CSCun97240	Nexus 3548 Crash Due to Service: PTP hap reset.
CSCuo44025	SG incoming interface points to RP instead of mcast source.
CSCun96201	OIL missing from S,G while the parent *,G is present.
CSCun76740	6-17 seconds delay in joining a multicast stream.

Open Caveats in Cisco NX-OS Release 6.0(2)U1(4)

Table 7 lists descriptions of open caveats in Cisco NX-OS Release 6.0(2)U1(4). The record ID links to the Cisco Bug Search page where you can find details about the caveat.

Table 7 Cisco NX-OS Release 6.0(2)U1(4) —Open Caveats

Record Number	Open Caveat Headline
CSCuj43255	TACACS: encryption not done for numeric values.
CSCuj41854	Continuous multiple uplink flaps duplicates multicast traffic on VPC.
CSCuj19326	Memory leak related issue seen on doing snmpwalk on few MIBs.
CSCuj55312	Error: AAA authorization failed AAA_AUTHOR_STATUS_METHOD=16(0x10).
CSCuj20151	Duplicate Egress objects added to ECMP object in a particular scenario.
CSCuj31123	BGP neighbor stays Idle if remote-as added after applying template peer.
CSCuj38790	RSTP port move change from Block to Forward drop traffic more than 1 second.
CSCuj39337	Incompatible MTU values err when config MTU to Parent and Subinterface.
CSCuh07678	Nexus 3000: vPC node failures causing high convergence times.
CSCug99832	Routes are not programmed in hardware after a switch reload.
CSCuh80610	TACACS+ "Error: AAA authorization failed" observed at random time.

Table 7 Cisco NX-OS Release 6.0(2)U1(4) —Open Caveats (continued)

Record Number	Open Caveat Headline
CSCug27068	Image upgrade using "install all" failure.
CSCuj84224	VPC Peer-link goes down when we shut/noshut PO members in a certain order.

Known Behaviors in Cisco NX-OS Release 6.0(2)U1(4)

Large core files are split into 3 or more files. For example:

- 1405964207_0x101_fwm_log.3679.tar.gzaa
- 1405964207_0x101_fwm_log.3679.tar.gzab
- 1405964207_0x101_fwm_log.3679.tar.gzac

To decode the multiple core files, first club the files to a single file as demonstrated below:

$ cat 1405964207_0x101_fwm_log.3679.tar.gz* > 1405964207_0x101_fwm_log.3679.tar.gz

MIB Support

The Cisco Management Information Base (MIB) list includes Cisco proprietary MIBs and many other Internet Engineering Task Force (IETF) standard MIBs. These standard MIBs are defined in Requests for Comments (RFCs). To find specific MIB information, you must examine the Cisco proprietary MIB structure and related IETF-standard MIBs supported by the Cisco Nexus 3000 Series switch. The MIB Support List is available at the following FTP sites:

ftp://ftp.cisco.com/pub/mibs/supportlists/nexus3000/Nexus3000MIBSupportList.html

Related Documentation

Documentation for the Cisco Nexus 3000 Series Switch is available at the following URL:

http://www.cisco.com/en/US/products/ps11541/tsd_products_support_series_home.html

The documentation set is divided into the following categories:

Release Notes

The release notes are available at the follwing URL:

http://www.cisco.com/en/US/products/ps11541/prod_release_notes_list.html

Installation and Upgrade Guides

The installation and upgrade guides are available at the following URL:

http://www.cisco.com/en/US/products/ps11541/prod_installation_guides_list.html

Command References

The command references are available at the following URL:

http://www.cisco.com/en/US/products/ps11541/prod_command_reference_list.html

Technical References

The technical references are available at the following URL:

http://www.cisco.com/en/US/products/ps11541/prod_technical_reference_list.html

Configuration Guides

The configuration guides are available at the following URL:

http://www.cisco.com/en/US/products/ps11541/products_installation_and_configuration_guides_list.html

Error and System Messages

The system message reference guide is available at the following URL:

http://www.cisco.com/en/US/products/ps11541/products_system_message_guides_list.html

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to nexus3k-docfeedback@cisco.com. We appreciate your feedback.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned 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. (1110R)

© 2014 Cisco Systems, Inc. All rights reserved.