Cisco Nexus 3000 Series NX-OS Release Notes, Release 5.0(3)U3(2)

Release Date: April 26, 2012
Part Number: OL-26631-02 H0
Current Release: Cisco NX-OS Release 5.0(3)U3(2)

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 13.

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

Table 1-1   Online History Change

Part Number	Revision	Date	Description
OL-26631-02	A0	April 26, 2012	Created NX-OS Release 5.0(3)U3(2) release notes.
	B0	May 1, 2012	Updated the "New Software Features" section.
	C0	May 21, 2012	Removed the following open caveats: CSCtr07512, CSCtx71344, CSCty67689, CSCty75356, CSCty79683, CSCty82461, CSCty87542, CSCty90607, CSCtz05966, CSCtz09234, CSCtz13372, CSCtz20572, CSCtz25156, CSCtz32038, CSCtz33401, CSCtz35009, and CSCtz37403.
	D0	June 15, 2012	Updated supported versions in Table 1-3.
	E0	June 21, 2021	Updated part number for Cisco Nexus 3048 switch. Added Release 5.0(3)U2(2d) to Table 1-2.
	F0	November 20, 2012	Added CSCty91237.
	G0	January 3, 2012	Removed open caveat CSCtx27586.
	H0	November 28, 2013	Updated resolved caveat CSCuh79034.

Contents

This document includes the following sections:

Introduction

The Cisco NX-OS software is a data center-class operating system built with modularity, resiliency, and serviceability at its foundation. Cisco NX-OS helps ensure continuous availability and sets the standard for mission-critical data center environments. The highly modular design of Cisco NX-OS makes zero-effect operations a reality and enables exceptional operational flexibility. Cisco NX-OS software 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 running 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 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 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, one100/1000 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 industry-leading Cisco NX-OS Software operating system.

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

The Cisco NX-OS Release 5.0(3)U3(2) software requires 135MB of flash memory.

Hardware Supported

Cisco NX-OS Release 5.0(3)U3(2) 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 1-2 shows the hardware supported by Cisco NX-OS Release 5.0(3)U3(2) software.

Table 1-3 shows the transceivers supported by Cisco NX-OS Release 5.0(3)U3(2) software.

Table 1-2   Hardware Supported by Cisco NX-OS Release 5.0(3)Software

Hardware	Part Number	Supported Cisco NX-OS Release				
		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 3000 Series						
Cisco Nexus 3016 switch	N3K-C3016Q-40GE	X	X	X	—	—
Cisco Nexus 3048 switch	N3K-C3048TP-1GE	X	X	—	—	—
Cisco Nexus 3064-X switch	N3K-C3064PQ-10GX	X	—	—	—	—

Table 1-2   Hardware Supported by Cisco NX-OS Release 5.0(3)Software (continued)

Hardware	Part Number	Supported Cisco NX-OS Release				
		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-E switch	N3K-C3064PQ-10GE	X	X	X	X	—
Cisco Nexus 3064 switch	N3K-C3064PQ	X	X	X	X	X
Cisco Nexus 3048 fan module, Forward airflow (port-side exhaust)	N3K-C3048-FAN	X	X	—	—	—
Cisco Nexus 3048 fan module, Reverse airflow (port-side intake)	N3K-C3048-FAN-B	X	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, Forward airflow (port-side exhaust); also used in the Cisco Nexus 3016	N3K-C3064-FAN	X	X	X	X	X
Cisco Nexus 3064 fan module, Reverse airflow (port-side intake); also used in the Cisco Nexus 3016	N3K-C3064-FAN-B	X	X	X	X	X

Table 1-2   Hardware Supported by Cisco NX-OS Release 5.0(3)Software (continued)

Hardware	Part Number	Supported Cisco NX-OS Release				
		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 3000 power supply, Forward airflow (port-side exhaust)	N2200-PAC-400W	X	X	X	X	X
Cisco Nexus 3000 power supply, Reverse airflow (port-side intake)	N2200-PAC-400W-B	X	X	X	X	X
Cisco Nexus 2000 power supply, Forward airflow (port-side exhaust)	N2200-PDC-400W	X	X	X	X	X
Cisco Nexus 2000 DC power supply, Reverse airflow (port-side intake)	N3K-PDC-350W-B	X	X	X	X	X

Table 1-3   Transceivers Supported by Cisco NX-OS Release 5.0(3)Software

Transceivers	Part Number	Supported Cisco NX-OS Release					
		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(2a)	5.0(3)U1(2)	5.0(3)U1(1a), 5.0(3)U1(1b), 5.0(3)U1(1d)
QSFP							
40GBASE-SR4 QSFP transceiver module with mpo connector 100 m	QSFP-40G-SR4	X	X	X	X	X	X
40GBASE-CR4 passive copper cable, 1 m	QSFP-H40G-CU1M	X	X	X	X	X	X
40GBASE-CR4 passive copper cable, 3 m	QSFP-H40G-CU3M	X	X	X	X	X	X
40GBASE-CR4 passive copper cable, 5 m	QSFP-H40G-CU5M	X	X	X	X	X	X

Table 1-3   Transceivers Supported by Cisco NX-OS Release 5.0(3)Software (continued)

		Supported Cisco NX-OS Release					
Transceivers	Part Number	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(2a)	5.0(3)U1(2)	5.0(3)U1(1a), 5.0(3)U1(1b), 5.0(3)U1(1d)
QSFP to 4xSFP10G passive copper splitter cable, 1 m	QSFP-4SFP10G-CU1M	X	X	X	X	X	X
QSFP to 4xSFP10G passive copper splitter cable, 3 m	QSFP-4SFP10G-CU3M	X	X	X	X	X	X
QSFP to 4xSFP10G passive copper splitter cable, 5 m	QSFP-4SFP10G-CU5M	X	X	X	X	X	X
10-Gigabit							
10GBASE-SR SFP+ module (multimode fiber [MMF])	SFP-10G-SR	X	X	X	X	X	X
10GBASE-LR SFP+ module (single-mode fiber [SMF])	SFP-10G-LR	X	X	X	X	X	X
10GBASE-ER SFP+ module (single-mode fiber [SMF])	SFP-10G-ER	X	X	X	X	X	X
10GBASE-ZR SFP+ module (single-mode fiber [SMF])	SFP-10G-ZR	X					
10GBASE-CU SFP+ cable 1 m (Twinax cable)	SFP-H10GB-CU1M	X	X	X	X	X	X
10GBASE-CU SFP+ cable 3 m (Twinax cable)	SFP-H10GB-CU3M	X	X	X	X	X	X
10GBASE-CU SFP+ cable 5 m (Twinax cable)	SFP-H10GB-CU5M	X	X	X	X	X	X
1-Gigabit Ethernet							
1000BASE-T SFP	GLC-T	X	X	X	X	X	X

Table 1-3   *Transceivers Supported by Cisco NX-OS Release 5.0(3)Software (continued)*

		Supported Cisco NX-OS Release					
Transceivers	**Part Number**	**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(2a)**	**5.0(3)U1(2)**	**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-MM	X	X	X	X	X	X
Gigabit Ethernet SFP, LC connector LX/LH transceiver (SMF)	GLC-LH-SM	X	X	X	X	X	X

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 SFP+ twinax cables on Cisco Nexus 3000 switches:

If the attached interconnect (transceiver) is a twinax cable:

- Verify the transceiver SPROM to match Cisco magic code.

- If the check succeeds, bring up the interface; else check whether the Vendor Part Number (PN) has been certified.

- If the Vendor PN is certified, bring up the interface; else print the following warning message stating that a non-Cisco transceiver is attached and 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.
```

Starting with Cisco Release NX-OS 5.0(3)U3(1), the following algorithm is used to detect copper splitter (QSFP) cables on Cisco Nexus 3000 switches:

A Cisco Nexus 3000 switch allows any copper splitter (QSFP, connector type 0x21) cable to come up, however the following disclaimer applies to non-Cisco manufactured and non-Cisco certified QSFP copper splitter cables.

Cisco Service and Support

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 5.0(3)U3(2) and Release 5.0(3)U3(1). This section includes the following topics:

New Supported Hardware

Cisco NX-OS Release 5.0(3)U3(2) and Release 5.0(3)U3(1) support the Cisco Nexus 3064-X switch which is a 1 RU switch that supports 48 SFP+ ports and four QSFP+ ports. The Cisco Nexus 3064 delivers ultra-low nominal latency that allows customers to implement high-performance infrastructures for high-frequency trading workloads. It supports power-on auto provisioning and consumes low power of approximately 2W per port.

New Software Features

All Cisco Nexus 3000 Series switches are supported by Cisco NX-OS Release 5.0(3)U3(2) and Release 5.0(3)U3(1). Cisco NX-OS interoperates with any networking OS, including Cisco IOS software, that conforms to the networking standards mentioned in the product data sheet.

New Software Features in Cisco NX-OS Release 5.0(3)U3(2)

Cisco NX-OS Release 5.0(3)U3(2) is a maintenance release that includes bug fixes. This release does not include new software features, but it does include the following software enhancements:

- Syslog Thresholds for System Resources

  A syslog message can be generated when certain system resources reach a specified threshold. For additional about this enhancement, see the *Cisco Nexus 3000 Series Command Reference*.

- 100 Mbps Support with the GLC-T Transceiver

  The Cisco Nexus 3064 switch (N3K-C3064PQ) and the Cisco Nexus 3064-X switch (N3K-C3064PQ-10GX) support 100 Mbps with the 1000BASE-T SFP (GLC-T) transceiver.

Upgrade Guidelines

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 to upgrade through this path, see CSCty75328 for details about how to work around this issue.

Note This restriction does not apply to Cisco NX-OS Release 5.0(3)U3(2a) and Cisco NX-OS Release 5.0(3)U3(2).

In Cisco NX-OS Release 5.0(3)U3(1), support for IPv6 has been added in CoPP. To enable redirection of IPv6 control packets to the CPU, IPv6 CoPP must be configured on the system. Performing the write erase command on a device running Release 5.0(3)U3(1) automatically applies CoPP on the device and ensures that all IPv4 and IPv6 related CoPP configuration is setup 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.

Limitations

There are no known limitations for Cisco NX-OS Release 5.0(3)U3(2).

Caveats

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

This section includes the following topics:

Resolved Caveats in NX-OS Release 5.0(3)U3(2)

Table 1-4 lists descriptions of resolved caveats in Cisco NX-OS Release 5.0(3)U3(2). The record ID links to the Cisco Bug Toolkit where you can find details about the caveat.

Table 1-4   Cisco NX-OS Release 5.0(3)U3(2)—Resolved Caveats

Record Number	Resolved Caveat Headline
CSCts06174	A switch reloads due to CDP packet with TLV with null pointer (invalid).
CSCtw84818	The event manager process fails when using the EEM variable with the value $(SWITCHNAME).
CSCtw98673	Duplicate source address fe80::222:bdff:fedc:207c detected on VLAN1062.
CSCtx15209	IPv4 ping fails for packet size greater than 9170 when MTU is configured on the interface.
CSCtx38233	Grandmaster clock identity is not aging out.
CSCtx47185	SFP diagnostics information is not provided.
CSCtx97328	Ports move to error disabled when speed is changed from 100 to 1G on 48 interface.
CSCty03906	Remove the VRF in the **static route** command for IPv6.
CSCty24779	QSFP ports on the Cisco Nexus 3064 switch are in linkFlapErrDisabled state or down.
CSCty28535	A link on the Cisco Nexus 3064 switch does not come up when 40 G CR4 cable is replaced with optical QSFP.
CSCty75328	Interface numbering differs from Release 5.0(3)U2 code and 5.0(3)U3 code for Cisco Nexus 3048 platforms.
CSCty91237	The Cisco Nexus 3048 switch 1/49-52 ports show down when AN is enabled.
CSCtz06483	Port ACL or QoS do not work correctly when new members are added to a port channel.
CSCtz47755	Retimer factory yield and test escape issues require software workaround.
CSCuh79034	High CPU utilization due to bcm_usd and syslogd causing protocol flaps. **Note** This caveat was resolved in Cisco NX-OS Release 5.0(3)U5(1g)

Open Caveats

Table 1-5 lists descriptions of open caveats in Cisco NX-OS Release 5.0(3)U2(2) and Release 5.0(3)U3(1). The record ID links to the Cisco Bug Toolkit where you can find details about the caveat.

Table 1-5 **Cisco NX-OS Release 5.0(3)U3(2) and Release 5.0(3)U3(1)—Open Caveats**

Record Number	Open Caveat Headline
CSCtt14880	EEM: remove irrelevant system policies on the Cisco Nexus 3000 switch.
CSCtt20942	A port channel is in suspended mode after saveConfigAndReload.
CSCtu36261	A slow memory leak in the MT_MEM_mtrack_xxx occurs.
CSCtu43119	Unable to give priority to data traffic over ERSPAN traffic at ERSPAN SRC.
CSCtv91547	Port toggling between Layer 2 and Layer 3 with a minimum link does not bring up the port.
CSCtw49573	HSRP data packets use interface MAC address instead of virtual MAC address.
CSCtw74237	Configuring precedence and DSCP marking is missing in the configuration guide.
CSCtw79242	PO interface member is not coming up when min-link configuration is on both ends of the PO.
CSCtw86783	Document limitation of counters in the **show forward multicast route group** command.
CSCtw96047	Document how to configure default class in the configuration guide.
CSCtw96140	The **show running-config** command does not display the policy map with only the class default.
CSCtx07336	Copy running-configuration to save configuration takes a long time in QI.
CSCtx33441	Memory event for minor/severe/critical threshold is not triggered.
CSCtx36481	On a Cisco Nexus 5000 switch or Cisco Nexus 3000 switch, a SVI IP and HSRP VIP cannot be reached from a private VLAN host.
CSCtx50709	Allow a MAC address change for SVI and routed port.
CSCtx59525	A Cisco Nexus 3000 port is up but the RX packet count is zero. The CDP neighbor fails on the Cisco Nexus 3000 side.
CSCty07141	Traffic loops on reload cause BCM hog and BCM core in a vPC scale setup.
CSCty29266	QSFP and 1G SFP diagnostic information is not available.
CSCty29280	QSFP interface SFP diagnostic information is not available on the Cisco Nexus 3016 switch.
CSCty32677	The LLDP port description field does not reflect the interface description.
CSCty61186	The rendezvous point (RP) is lost after a reload for the nondefault VFR.
CSCty64730	The error "NOHMS_ENV_ERR_FAN_SPEED: System minor alarm in fan tray" appears.
CSCty65147	You cannot change VTP mode.
CSCty63101	After an upgrade from Release 5.0(3)U3(1) to Release 5.0(3)U3(1), the option82 CLI does not show.
CSCty65830	Layer 3 port-channel member ports go to I state with no port channel on peer side.
CSCty76168	Port buffers not moving to default value on rollback.
CSCty86778	In the use-shared-tree-only route map, the deny statement is treated as permit.
CSCty90314	When a neighbor and DUT default port mode are not the same, POAP does not work.
CSCty98262	A change on a Layer 3 port MTU causes a netstack failure.

Table 1-5   Cisco NX-OS Release 5.0(3)U3(2) and Release 5.0(3)U3(1)—Open Caveats (continued)

Record Number	Open Caveat Headline
CSCtz18997	The default-vrf is not taken if the use-vrf is not given in the scheduler transport.
CSCtz05820	A PTP hap-reset failed.
CSCtz28340	Drops are seen when traffic streams rehash to the new port-channel members.
CSCtz34559	When upgrading from Cisco NX-OS Release 5.0(3)U2(x) to Release 5.0(3)U3(x), the default availability of IPv4 routes that can be programmed reduces to half.
CSCtz39728	An Ethernet port goes to a suspended state on the Cisco Nexus 3048 switch.

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.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

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

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