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# Cisco Nexus 3000 Series NX-OS Release Notes, Release 5.0(3)U1(2)

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**Release Date:** July 12, 2011  
**Part Number:** OL-25341-01C0  
**Current Release:** Cisco NX-OS Release 5.0(3)U1(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 10.



**Note**

[Table 1-1](#) shows the online change history for this document.

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**Table 1-1**      *Online History Change*

Revision	Date	Description
A0	July 12, 2011	Created NX-OS Release 5.0(3)U1(2) release notes.
B0	July 15, 2011	Updated <a href="#">Hardware Supported, page 3</a> to include reversed airflow fan and power supply.
C0	November 28, 2013	Updated resolved caveat CSCuh79034.

## Contents

This document includes the following sections:

- [Introduction, page 2](#)
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- [Caveats, page 6](#)



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- [Obtaining Documentation and Submitting a Service Request, page 10](#)

## Introduction

The Cisco NX-OS software is a data center-class operating system built with modularity, resiliency, and serviceability at its foundation. Based on the industry-proven Cisco MDS 9000 SAN-OS software, 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

Cisco NX-OS Release 5.0(3)U1(2) supports the new Nexus 3064-E switch and the existing Nexus 3064 switch. 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. Each switch is a 1 rack unit (RU) switch that supports 48 fixed 1- and 10-Gigabit Ethernet host ports, four fixed 40-Gigabit Ethernet network ports, two fixed 100/1000 management ports, and one console port. They include one or two power supply units and one fan tray module, both of which provide front-to-back air flow and back-to-front airflow for cooling. The Cisco Nexus 3000 Series switches run the industry-leading Cisco NX-OS Software operating system.

For information about the new Cisco Nexus 3064-E switch, see the [“New Hardware Features” section on page 4](#). 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](#)

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## Memory Requirements

The Cisco NX-OS Release 5.0(3)U1(2) software requires 135MB of flash memory.

## Hardware Supported

Cisco NX-OS Release 5.0(3)U1(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)U1(2) software.

**Table 1-2 Hardware Supported by Cisco NX-OS Release 5.0(3)U1(2) Software**

Hardware	Part Number	Supported Release	Supported Release
		5.0(3)U1(2)	5.0(3)U1(1d)
<b>Cisco Nexus 3000 Series</b>			
Cisco Nexus 3064-E switch	N3K-C3064PQ-10GE	X	—
Cisco Nexus 3064 switch	N3K-C3064PQ	X	X
Cisco Nexus 3064 fan module, Standard airflow (port-side exhaust)	N3K-C3064-FAN	X	X
Cisco Nexus 3064 fan module, Reversed airflow (port-side intake)	N3K-C3064-FAN-B	X	X
Cisco Nexus 3000 power supply, Standard airflow (port-side exhaust)	N2200-PAC-400W	X	X
Cisco Nexus 3000 power supply, Reversed airflow (port-side intake)	N2200-PAC-400W-B	X	X
<b>Transceivers</b>			
<b>QSFP</b>			
QSFP to 4xSFP10G passive copper splitter cable, 5 m	QSFP-4SFP10G-CU5M	X	X
<b>10-Gigabit</b>			
10GBASE-SR SFP+ module (multimode fiber [MMF])	SFP-10G-SR	X	X
10GBASE-LR SFP+ module (single-mode fiber [SMF])	SFP-10G-LR	X	X
10GBASE-CU SFP+ cable 1 m (Twinax cable)	SFP-H10GB-CU1M	X	X
10GBASE-CU SFP+ cable 3 m (Twinax cable)	SFP-H10GB-CU3M	X	X
10GBASE-CU SFP+ cable 5 m (Twinax cable)	SFP-H10GB-CU5M	X	X
Active Twinax cable assembly, 7 m	SFP-H10GB-ACU7M	X	X
Active Twinax cable assembly, 10 m	SFP-H10GB-ACU10M	X	X

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**Table 1-2 Hardware Supported by Cisco NX-OS Release 5.0(3)U1(2) Software (continued)**

Hardware	Part Number	Supported Release	Supported Release
		5.0(3)U1(2)	5.0(3)U1(1d)
<b>1-Gigabit Ethernet</b>			
1000BASE-T SFP	GLC-T	X	X
Gigabit Ethernet SFP, LC connector SX transceiver (MMF)	GLC-SX-MM	X	X
Gigabit Ethernet SFP, LC connector LX/LH transceiver (SMF)	GLC-LH-SM	X	X

## New and Changed Features

This section describes the new features introduced in Cisco NX-OS Release 5.0(3)U1(2). This section includes the following topics:

- [New Hardware Features, page 4](#)
- [New Software Features, page 5](#)

## New Hardware Features

This section describes the new hardware feature:

- [Cisco Nexus 3064-E Switch, page 4](#)

### Cisco Nexus 3064-E Switch

The Cisco Nexus 3064-E switch includes the following features:

- 1 RU fixed form-factor 1-, 10-Gigabit Ethernet switch offering a throughput of up to 1.28 TBps
- 64 10-Gigabit Ethernet ports (48 SFP+ and 4 QSFP+)
- 48 fixed 1/10 Gigabit Ethernet Enhanced Small Form-Factor Pluggable (SFP+) ports
- 4 fixed Quad SFP+ (QSFP+) ports (each QSFP+ port is 4 x 10-Gigabit Ethernet capable)
- Locator LED
- Dual-redundant power supplies (front-to-back airflow or back-to-front airflow)
- Hot-swappable fan tray with redundant fans that can function with up to one failed fan
- Fan trays and power supplies are capable of front-to-back or back-to-front airflows



**Note** Back-to-front modules have a black stripe across the front of the module. Front-to-back modules do not have the black stripe. All modules must show the same airflow direction.

- One 10/100/1000 management ports

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**Note** The Cisco Nexus 3064-E switch includes two management ports; however, Cisco NX-OS Release 5.0(3)U1(2) provides support for one management port.

- One RS-232 serial console port
- One USB port
- 1.28-Tbps switching capacity
- Forwarding rate of 950 mpps
- Line-rate traffic throughput (both Layer 2 and 3) on all ports
- Configurable maximum transmission units (MTUs) of up to 9216 bytes (jumbo frames)
- Hardware capable of supporting up to 16,000 host table entries.

## New Software Features

Cisco NX-OS Release 5.0(3)U1(2) includes the new software features described in this section. All Cisco Nexus 3000 Series switches are supported by Cisco NX-OS Release 5.0(3)U1(2). Cisco NX-OS interoperates with any networking OS, including Cisco IOS software, that conforms to the networking standards mentioned in the product data sheet.

This section includes the following topics:

- [Preventing Duplicate Packets, page 5](#)
- [Response to IGMP Global Leave Messages, page 5](#)
- [Allowing BGP Multipath Advertisements From Different AS, page 5](#)

### Preventing Duplicate Packets

Beginning with Cisco NX-OS Release 5.0(3)U1(2), you can prevent duplicated packets during a switchover from the rendezvous point tree (RPT) to the shortest path tree (SPT). Use the **hardware profile multicast prefer-source-tree** command to ensure that there are no duplicate packets.

### Response to IGMP Global Leave Messages

Beginning with Cisco NX-OS Release 5.0(3)U1(2), you can use the general Maximum Response Time (MRT) in response to an IGMP global leave message for general queries. Use the **ip igmp global-leave-ignore-gss-mrt** command to configure the switch to use the configured MRT.

### Allowing BGP Multipath Advertisements From Different AS

Beginning with Cisco NX-OS Release 5.0(3)U1(2), you can configure the switch to allow treating paths received from different AS for multipath, if their as-path lengths are the same and other multipath conditions are met. BGP automatically kicks off a new bestpath selection for all configured address families when there is a configuration change. Use the **bestpath as-path multipath-relax** command to configure this feature. To display the configuration settings, use the **show bgp internal bestpath** command.

# Limitations

This section describes the limitations for Cisco NX-OS Release 5.0(3)U1(2).

- When a private VLAN port is configured as a TX (egress) SPAN source, the traffic seen at the SPAN destination port is marked with the VLAN of the ingressed frame. There is no workaround.
- Multiple **boot kickstart** statements in the configuration are not supported.

# 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:

- [Open Caveats, page 6](#)
- [Resolved Caveats, page 8](#)

# Open Caveats

Table 1-3 lists descriptions of open caveats in Cisco NX-OS Release 5.0(3)U1(2). The record ID links to the Cisco Bug Toolkit where you can find details about the caveat.

**Table 1-3 Cisco NX-OS Release 5.0(3)U1(2)—Open Caveats**

Record Number	Open Caveat Headline
<a href="#">CSCt194539</a>	SVI counters do not display values in the <b>show interface vlan xyz counters</b> command output even when member ports show the packet counts correctly in the <b>show interface ethernet xyz counters</b> command output.
<a href="#">CSCtn10660</a>	When a monitor session is created with a source interface on the STP blocked source port, the transmitted packets are spanned when no packets are actually transmitted out of the STP blocked port.
<a href="#">CSCtn95676</a>	Failed to allocate shared memory <code>mfwd_mrrib_get_route_buffer</code> .
<a href="#">CSCtn99196</a>	The <b>show spanning tree</b> command output shows ports which are not part of the VLAN.
<a href="#">CSCto07020</a>	The transmit SPAN is always tagged even when egress is untagged it will show tagged with VLAN 1.
<a href="#">CSCto26494</a>	The <b>clear mac</b> command clears some MAC addresses from the hardware and not in the software; the MAC addresses in hardware and software are not synchronized.
<a href="#">CSCto26707</a>	The <b>mac add count</b> and <b>show mac add</b> commands do not show MAC addresses learned on some interfaces.
<a href="#">CSCto27430</a>	CRC errors are not seen when packets larger than the programmed MTU value traverse from a 12 trunk port to an other port.
<a href="#">CSCto32375</a>	When untagged packets are sent with a packet size greater than the system MTU, they are not truncated to the programmed MTU value.
<a href="#">CSCto48220</a>	The banner motd configuration change is not reflected in the running configuration.

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**Table 1-3** *Cisco NX-OS Release 5.0(3)U1(2)—Open Caveats (continued)*

<b>Record Number</b>	<b>Open Caveat Headline</b>
<a href="#">CSCto53539</a>	The interface discard counters increment even when packets are not forwarded.
<a href="#">CSCto57493</a>	When STP mode is changed to MST mode, MAC addresses are not synchronized.
<a href="#">CSCto62445</a>	Packets on the TX SPAN destination are incorrectly trunked for untagged traffic if the packet size is greater than an MTU of +22.
<a href="#">CSCto67340</a>	There are forwarding issues on Layer 3 subinterfaces with HSRP enabled.

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## Resolved Caveats

Table 1-4 lists descriptions of resolved caveats in Cisco NX-OS Release 5.0(3)U1(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)U1(2)—Resolved Caveats**

Record Number	Resolved Caveat Headline
<a href="#">CSCtk57295</a>	Duplicate multicast packets are received via RPT and SPT for over 40 seconds.
<a href="#">CSCto56055</a>	While running snmpwalk on dot1dtpFdbTable, the fwm mac sdb tables are not getting updated and older MAC entries were not getting flushed.
<a href="#">CSCtq17822</a>	Driver process core at avl_insert_impl.
<a href="#">CSCtq32359</a>	The switch does not respond to a ping6 request on a SVI interface configured with an IPv6 address.
<a href="#">CSCtq55814</a>	A multicast convergence delay occurs when an mrouter entry does not expire for 2 to 3 minutes.
<a href="#">CSCtq81785</a>	IGMP groups are not learned on new STP forwarding ports after an STP topology change.
<a href="#">CSCtq83576</a>	Multicast: (S,G) entries time out in a steady state.
<a href="#">CSCtq85095</a>	Multicast traffic loss occurs to existing servers when a new server is added or removed from the topology.
<a href="#">CSCtq86835</a>	When a link is toggled for a standalone port or a member of a port channel, the links do not come back up.
<a href="#">CSCtq89776</a>	Auto-RP packets are not processed if they are received over a Layer 3 PO subinterface.
<a href="#">CSCtq91704</a>	When you delete a VLAN and then change the STP state of any port or VLAN, the switch crashes when the interface comes up after deleting the VLAN.
<a href="#">CSCtq92534</a>	When you shutdown the VRF links between an access layer and aggregation layer, MSDP peerings went down with aggregation switches.
<a href="#">CSCtq95244</a>	(S,G) Entries do not program due to a contention for the mcastfwd route buffer.
<a href="#">CSCtr01792</a>	The <b>show lldp neighbor</b> command output does not display the remote system name and the <b>show lldp neighbor detail</b> command displays the total number of interfaces for every 8 records instead of displaying them at the end.
<a href="#">CSCtr01944</a>	Ping to a Layer 3 interface is successful even if the packet matches a Deny RACL.
<a href="#">CSCtr05793</a>	The output of the <b>show ip route</b> command and the <b>show forwarding route</b> command does not synchronize when there are large number of ECMP routes in the system.
<a href="#">CSCtr07349</a>	When SVIs are created and deleted, PIM hellos stop forwarding between the two port channel switches.
<a href="#">CSCtr07476</a>	Upgrading a switch using the <b>install all</b> command requires the <b>force</b> keyword



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**Table 1-4 Cisco NX-OS Release 5.0(3)U1(2)—Resolved Caveats (continued)**

Record Number	Resolved Caveat Headline
<a href="#">CSCtr10146</a>	An ospfv2 memory leak occurs when receiving specific malformed packets.
<a href="#">CSCtr13684</a>	MSDP messages do not get updated after a switch reload.
<a href="#">CSCtr13782</a>	BGP AS Multipath support.
<a href="#">CSCtr19883</a>	An interface discards multicast IP address packets 229.0.0.1 when input to port with IGMP Snooping enabled (default).
<a href="#">CSCtr20082</a>	DuT stops forwarding Layer 3 traffic when some ECMP ports are shut.
<a href="#">CSCtr26190</a>	IpInHdrError counters show 0 for ports greater than 16 in show commands.
<a href="#">CSCuh79034</a>	High CPU utilization due to bcm_usd and syslogd causing protocol flaps.
	 <b>Note</b> This caveat was resolved in Cisco NX-OS Release 5.0(3)U5(1g)

## 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](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 following URL:

[http://www.cisco.com/en/US/products/ps11541/prod\\_release\\_notes\\_list.html](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](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](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](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](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:

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[http://www.cisco.com/en/US/products/ps11541/products\\_system\\_message\\_guides\\_list.html](http://www.cisco.com/en/US/products/ps11541/products_system_message_guides_list.html)

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## Obtaining Documentation and Submitting a Service Request

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