Cisco Nexus 3500 Series NX-OS Release Notes, Release 5.0(3)A1(2a)

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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 9.

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

Table 1-1 Online History Change

Revision	Date	Description
A0	December 22, 2012	Created NX-OS Release 5.0(3)A1(2) release notes.
B0	March 11, 2013	Added resolved caveats to Table 1-4.

Contents

This document includes the following sections:

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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, 5000, 4000, 2000, and 1000V Series.
- Cisco NX-OS interoperates with Cisco products running any variant of Cisco IOS software and also with any networking operating system (OS) that conforms to common networking standards.
- Cisco NX-OS is designed to support distributed multithreaded processing. Cisco NX-OS modular processes are instantiated on demand, each in a separate protected memory space. Processes are started and system resources 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 3500 Series Switches

The Cisco Nexus 3500 platform is an extension of the Cisco Nexus 3000 Series of 1, 10, and 40 Gigabit Ethernet switches built from a switch-on-a-chip (SoC) architecture. Switches in the Cisco Nexus 3500 series include the innovative Algorithm Boost (or Algo Boost) technology that is built into the switch application specific integrated circuit (ASIC). Algo Boost allows the Cisco Nexus 3548 switch to achieve Layer 2 and Layer 3 switching latencies of less than 200 nanoseconds (as). In addition, Algo Boost contains several innovations for latency, forwarding features, and performance visibility:

- Two configurable modes for low latency:
  - Normal mode: This mode is suitable for environments needing low latency and high scalability. In this mode, latencies as low as 250 as can be paired with the higher of the Layer 2 and Layer 3 scaling values listed later in this document in Table 5.
  - Warp mode: this mode consolidates forwarding operations within the switching ASIC, lowering latency by up to an additional 20 percent compared to normal operation. In this mode, latencies as low as 190 as can be paired with the smaller of the Layer 2 and Layer 3 scaling values listed later in this document in Table 5.
- Active buffer monitoring: Even on the lowest-latency switches, data packets can incur a millisecond or more of latency during periods of congestion. Previous buffer utilization monitoring techniques were based entirely on software polling algorithms with polling intervals higher than 100ms, which can miss important congestion events. In contrast, Algo Boost accelerates the collection of buffer utilization data in hardware, allowing sampling intervals of 10 as or less.

Cisco Nexus 3548 Switch

The Cisco Nexus 3548 switch is the first member of the Cisco Nexus 3500 platform. As a compact one-rack-unit (1RU) form-factor 10 Gigabit Ethernet switch, the Cisco Nexus 3548 switch provides line-rate Layer 2 and 3 switching at ultra low latency. The switch runs Cisco NX-OS software that has comprehensive features and functions that are widely deployed globally. The Cisco Nexus 3548 contains no physical layer (PHY) chips, which allows low latency and low power consumption. The switch supports both forward and reversed airflow and both AC and DC power inputs.

For information about the new Cisco Nexus 3548 switch, see the "New Hardware Features" section on page 5. For information about the Cisco Nexus 3500 Series, see the *Cisco Nexus 3500 Series Hardware Installation Guide*.

System Requirements

This section includes the following topics:

Memory Requirements

The Cisco NX-OS Release 5.0(3)A1(2a) software requires 135MB of flash memory.

Hardware Supported

Cisco NX-OS Release 5.0(3)A1(2a) supports the Cisco Nexus 3500 Series switches. You can find detailed information about supported hardware in the *Cisco Nexus 3500 Series Hardware Installation Guide*.

Table 1-2 shows the hardware supported by Cisco NX-OS Release 5.0(3)A1(2a) software.

Table 1-2 Hardware Supported by Cisco NX-OS Release 5.0(3)A1(2a) Software

Hardware	Part Number	Supported Software Release
Cisco Nexus 3500 Series		
Cisco Nexus 3548 switch	N3K-C3548P-10G	5.0(3)A1(1) and later releases
Cisco Nexus 2000 or Nexus 3000 individual fan, forward airflow (port side exhaust	NXA-FAN-30CFM-F	5.0(3)A1(1) and later releases
Cisco Nexus 2000 or Nexus 3000 individual fan, reversed airflow (port side intake)	NXA-FAN-30CFM-B	5.0(3)A1(1) and later releases
Cisco Nexus 2000 or Nexus 3000 400W AC power supply, forward airflow (port side exhaust)	N2200-PAC-400W	5.0(3)A1(1) and later releases
Cisco Nexus 2000 or Nexus 3000 400W AC power supply, reversed airflow (port side intake)	N2200-PAC-400W-B	5.0(3)A1(1) and later releases

Table 1-2 Hardware Supported by Cisco NX-OS Release 5.0(3)A1(2a) Software (continued)

Hardware	Part Number	Supported Software Release
Cisco Nexus 2000 or Nexus 3000 400W DC power supply, forward airflow (port side exhaust)	N2200-PDC-400W	5.0(3)A1(1) and later releases
Cisco Nexus 2000 or Nexus 3000 350W DC power supply, reversed airflow (port side intake)	N3K-PDC-350W-B	5.0(3)A1(1) and later releases
Transceivers		
10-Gigabit		
10GBASE-SR SFP+ module (multimode fiber [MMF])	SFP-10G-SR	5.0(3)A1(1) and later releases
10GBASE-LR SFP+ module (single-mode fiber [SMF])	SFP-10G-LR	5.0(3)A1(1) and later releases
Cisco 10GBASE-ER SFP+ Module for SMF	SFP-10G-ER	5.0(3)A1(1) and later releases
10GBASE-CU SFP+ cable 1 m (Twinax cable)	SFP-H10GB-CU1M	5.0(3)A1(1) and later releases
10GBASE-CU SFP+ cable 3 m (Twinax cable)	SFP-H10GB-CU3M	5.0(3)A1(1) and later releases
10GBASE-CU SFP+ cable 5 m (Twinax cable)	SFP-H10GB-CU5M	5.0(3)A1(1) and later releases
Active Twinax cable assembly, 7 m	SFP-H10GB-ACU7M	5.0(3)A1(1) and later releases
Active Twinax cable assembly, 10 m	SFP-H10GB-ACU10M	5.0(3)A1(1) and later releases
1-Gigabit Ethernet		
1000BASE-T SFP	GLC-T	5.0(3)A1(1) and later releases
Gigabit Ethernet SFP, LC connector SX transceiver (MMF)	GLC-SX-MM	5.0(3)A1(1) and later releases
Gigabit Ethernet SFP, LC connector SX transceiver (MMF)	GLC-SX-MMD	5.0(3)A1(1) and later releases
Gigabit Ethernet SFP, LC connector LX/LH transceiver (SMF)	GLC-LH-SM	5.0(3)A1(1) and later releases
Gigabit Ethernet SFP, LC connector LX/LH transceiver (SMF)	GLC-LH-SMD	5.0(3)A1(1) and later releases

New and Changed Features

This section describes the new features introduced in Cisco NX-OS Release 5.0(3)A1(2a). This section includes the following topics:

New Hardware Features

There are no new hardware features in Cisco NX-OS Release 5.0(3)A1(2a).

New Software Features

Cisco NX-OS Release 5.0(3)A1(2a) is a patch release. For a list of resolved caveats, see Table 1-4.

The Cisco Nexus 3500 Series switch is supported by Cisco NX-OS Release 5.0(3)A1(2a). Cisco NX-OS interoperates with any networking OS, including Cisco IOS software, that conforms to the networking standards mentioned in the product data sheet.

Limitations

The following limitations exist in Cisco NX-OS Release 5.0(3)A1(2a):

IPv4 Routing Table Size

When upgrading from Cisco NX-OS Release 5.0(3)A1(1) to Release 5.0(3)A1(2a), the size of the IPv4 routing table does not increase from 16,000 to 24,000 entries. To increase the IPv4 routing table to 24,000 entries, enter the **write erase** command and the **reload** command on the device following the upgrade.

CRC Errors on Ports in a Warp SPAN Session

When you have a destination group in a warp SPAN session and you enter the **shut** command for the session followed by the **no shut** command, CRC errors occur on the ports that are in the no shutdown state. CRC errors can sometimes increment to a large number like 2895623 when the **shut** command and **no shut** command are repeated several times in a row. The CRC errors are not an issue and should stop. This limitation is related to CSCud65371.

Caveats

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

This section includes the following topics:

Open Caveats

Table 1-3 lists descriptions of open caveats in Cisco NX-OS Release 5.0(3)A1(2a). 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)A1(2a)—Open Caveats

Record Number	Open Caveat Headline
CSCua40331	The IGMP snooping querier with the lowest address cannot win the querier selection when the SVI IGMP querier is active.
CSCua42953	During a class-default MTU check, the system checks against itself.
CSCua47505	There is inconsistent information for the MTU displayed in the output of the **show queueing interface** command and the **show policy network-qos** command.
CSCua66832	The Open Shortest Path First (OSPF) protocol link state advertisement (LSA) is not advertised and the route is not in the forwarding information base (FIB) or the routing information base (RIB).
CSCub24649	A syslog entry is not created when unicast routes in the route table hit the threshold set by the **hardware profile unicast syslog-threshold** *x* command.
CSCub32923	NTP failed to configure the source interface message following a switch reload.
CSCub38034	When a port channel is an active Multicast Source Discovery Protocol (MSDP) link, the sa-cache is empty.
CSCub46233	A Multiple Spanning Tree Protocol (MSTP) instance does not get deleted, even though its VLANs are shut down.
CSCub59387	The output of the **show forward multicast route** command has incorrect information.
CSCub64511	Layer IPv6 traffic does not set or rewrite CoS correctly.
CSCub89134	2-tuple is not displayed in the incompatibility check.
CSCuc02277	Need to add support for the **hardware profile multicast prefer-source-tree** command.
CSCuc12318	IGMP snooping v3 report suppression cannot be enabled.
CSCuc24329	A port goes to an error disabled state on the port configured by the **switchport monitor** command when you try to change to Layer 3 using the **no switchport** command.
CSCuc38422	While deleting NAT entries, the top entry in the TCAM gets reset first.
CSCuc49524	The port status, port LED, and negotiate setting are inconsistent among Cisco Nexus 3000 Series switches.
CSCuc52002	SFP, port LED, and status errors occur.
CSCuc64496	The **pim register-policy** command does not work.
CSCuc86075	When changing NAT inside or outside on SVIs, the switch displays a “service not responding” message.
CSCud62354	ABM: the **logging level mtc-usd** command does not survive a reload.
CSCud68615	Warp SPAN is not removed when downgrading from Cisco NX-OS Release 5.0(3)A1(2) to Release 5.0(3)A1(1). For information on how to work around this issue, see Additional Information for Open Caveats CSCud68615 and CSCud82687.
CSCud82687	Session 18 is converted to a WARP session after upgrading to Cisco NX-OS Release 5.0(3)A1(2). For information on how to work around this issue, see Additional Information for Open Caveats CSCud68615 and CSCud82687.

Additional Information for Open Caveats CSCud68615 and CSCud82687

- **CSCud68615**: Customers who have a warp SPAN session in Cisco NX-OS Release 5.0(3)A1(2) must remove the warp SPAN session configuration before downgrading to Cisco NX-OS Release 5.0(3)A1(1).

  Workaround: Enter the **no monitor session 18** command to delete the SPAN session and restore the normal state.

- **CSCud82687**: Customers who have a normal SPAN session 18 in Cisco NX-OS Release 5.0(3)A1(1) must remove the SPAN session 18 configuration before upgrading to Cisco NX-OS Release 5.0(3)A1(2).

  Workaround: Enter the **no monitor session warp** command to delete the SPAN session and restore the normal state.

Resolved Caveats

Table 1-4 lists descriptions of resolved caveats in Cisco NX-OS Release 5.0(3)A1(2a). 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)A1(2a)—Resolved Caveats

Record Number	Open Caveat Headline
CSCue52328	PIM joins for some groups not processed at CPU level.
CSCuf08219	bios_daemon crash due to sig 24 (null), no core

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

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