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Cisco Nexus 3164Q Switch — READ ME FIRST

The Cisco Nexus 3164Q switch runs Cisco Nexus 9000 Series switch software, starting with Cisco NX-OS Release 6.1(2)I2(2a). Therefore, it shares many of the same user documents with the Cisco Nexus 9000 Series switches.

This document lists the user documentation that applies to the Cisco Nexus 3164Q switch and explains any software differences between this device and the Cisco Nexus 9000 Series switches. To find a document online, use one of the links in this document.

Note Unless otherwise noted, the user documentation for the Cisco Nexus 3000 Series and 3100 Series switches does not apply to the Cisco Nexus 3164Q switch.

Software Differences

The Cisco Nexus 3164Q switch and the Cisco Nexus 9000 Series switches run the same software and support most of the same features. The software differences between the two platforms are as follows:

- Software license—The Cisco Nexus 3164Q switch uses the N3K-LAN1K9 software license rather than the Cisco Nexus 9000 Series software license. See the Cisco NX-OS Licensing Guide for details.
- MIB support list—The Cisco Nexus 3164Q switch supports the same MIBs as the Cisco Nexus 9000 Series switches, but the Cisco Nexus 3164Q switch uses a different MIB support list. The Cisco Nexus 3164Q MIB support list is available at the following FTP site: ftp://ftp.cisco.com/pub/mibs/supportlists/nexus3164/Nexus3164MIBSupportList.html.
- Verified scalability numbers—The Cisco Nexus 3164Q switch and the Cisco Nexus 9000 Series switches have been verified for use with different scalability limits. See the Cisco Nexus 3164Q NX-OS Verified Scalability Guide for your release for the verified limits.
- 40GE to 4x10GE breakout support—The Cisco Nexus 3164Q switch supports breakout interfaces beginning with Cisco NX-OS Release 6.1(2)I2(2b). The **interface breakout module** command splits each of the Cisco Nexus 3164Q switch's 64 40G interfaces into 4 10G interfaces, for a total of 256 10G interfaces. After you enter this command, you must copy the running configuration to the startup configuration and reload the device. Breakout support for Cisco NX-OS Releases prior to 7.0(3)I1(1) is at the module level, applying to all ports of the module. Beginning with Cisco NX-OS Release 7.0(3)I1(1), you can break out any number of ports.
- Cisco NX-OS to ACI Conversion—You can convert a Cisco Nexus 9000 Series switch from Cisco NX-OS to ACI boot mode, but you cannot convert a Cisco Nexus 3164Q switch to ACI boot mode. The 3164Q operates only in Cisco NX-OS mode.
- Cut-through switching—By default, all HiGig™ links operate at 42G to compensate for the HiGig™ header over fabric and to support the full line rate of 40G from the front-panel ports. However, the speed mismatch could result in packets being forwarded in store-and-forward mode. To make sure that the traffic is cut through, you can use the **switching-mode fabric-speed 40g** command to change the HiGig™ links on the 42G ports to operate at 40G and use the **show switching-mode fabric-speed** command to verify the configuration. This feature is supported only for the Cisco Nexus 3164Q switch and the Cisco Nexus 9500 Series switches with the 9636PQ line card. It is not supported for the Cisco Nexus 9300 Series switches. Operating at 40G improves latency but prevents the fabric from supporting the full line rate. See the *Cisco Nexus 9000 Series NX-OS Layer 2 Configuration Guide* for more information.

- DCBXP for LLDP—While some Cisco Nexus 9300 and 9500 switches support the Data Center Bridging Exchange Protocol (DCBXP) TLV, which is designed to provide an acknowledgment to the received LLDP packet, the Cisco Nexus 3164Q switch does not.
- Designated router delay—This PIM multicast feature, which delays participation in the election of a new designated router (DR) by setting the DR priority that is advertised in PIM hello messages to 0, is supported only for the Cisco Nexus 9000 Series switches. It is not supported on the Cisco Nexus 3164Q switch.
- ERSPAN—ERSPAN sessions on the Cisco Nexus 3164Q switch or the Cisco Nexus 9500 Series switches do not support ERSPANv2 or ERSPANv3 headers in spanned copy. Cisco Nexus 9300 Series switches support ERSPANv2 and ERSPANv3 headers but only for sessions with 40G uplink SPAN destinations.
- Fast reload—Starting with Cisco NX-OS Release 6.1(2)I3(4) and 7.0(3)I2(1), you can use the **fast-reload** command to reboot the Cisco Nexus 3164Q switch faster than during a cold reboot and to upgrade the Cisco NX-OS software. This feature is not supported on the Cisco Nexus 9000 Series switches. See the *Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide* for more information.

Note Fast reload support is disabled for the Cisco Nexus 3164Q switch starting with Cisco NX-OS Release 7.0(3)I4(1).

- FCoE NPV—Some Cisco Nexus 9300 and 9500 switches support FCoE NPV, but the Cisco Nexus 3164Q switch does not.
- FEX—The Cisco Nexus 2000 Series Fabric Extender (FEX) is supported for use with the Cisco Nexus 9372PX and 9396PX switches and with the Cisco Nexus 9500 Series switches and X9464PX and X9564PX line cards but not with the Cisco Nexus 3164Q switch.
- ITD—Some Cisco Nexus 9300 and 9500 Series switches support the Intelligent Traffic Director (ITD), but the Cisco Nexus 3164Q switch does not.
- Network address translation (NAT)—Cisco Nexus 9300 Series switches support static, dynamic, and VRF-aware NAT. The Cisco Nexus 9500 Series switches and Cisco Nexus 3164Q switch do not support these NAT features.
- OpenFlow—While Cisco Nexus 9300 Series switches support OpenFlow, the Cisco Nexus 9500 Series switches and Cisco Nexus 3164Q switch do not.
- Segment routing—The Cisco Nexus 3164Q switch supports segment routing but only in the default hierarchical routing mode.
- SPAN—The Cisco Nexus 3164Q switch and the Cisco Nexus 9500 Series switches support SPAN in the transmit direction on 40G uplink ports while the Cisco Nexus 9300 Series switches do not. Also, the Cisco Nexus 3164Q switch and the Cisco Nexus 9000 Series switches do not support IPv6 ACL filters for Layer 2 ports in Cisco NX-OS Release 7.0(3)I2(1) and earlier releases.
- Static MPLS—While the Cisco Nexus 3164Q switch supports static MPLS [beginning with Cisco NX-OS Release 7.0(3)I2(1)], it does not support stateful switchovers (SSOs) for static MPLS.
- System routing modes—While the Cisco Nexus 9500 Series switches support the default system routing mode, the max-host routing mode, the nonhierarchical routing mode, and the 64-bit algorithmic longest prefix match (ALPM) routing mode and the Cisco Nexus 9300 Series switches support the default system routing mode and the ALPM routing mode, the Cisco Nexus 3164Q switch supports the default system routing mode, the nonhierarchical routing mode [beginning with Cisco NX-OS Release 7.0(3)I2(1)], and the 64-bit ALPM routing mode [beginning with Cisco NX-OS Release 7.0(3)I1(2)]. See the Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide for more information.
- Virtual Machine Tracker auto-configuration—The Cisco Nexus 3164Q switch does not support the auto-configuration feature introduced for the Cisco Nexus 9300 Series switches in Cisco NX-OS Release 7.0(3)I2(1).

- VXLAN port VLAN (PV) routing—While VXLAN PV switching is supported on the Cisco Nexus 3164Q switch, VXLAN PV routing is not.
- VXLAN QnQ—The Cisco Nexus 3164Q 40G ports support Layer 2 QnQ traffic but not Layer 3 QnQ traffic.
- VXLAN routing and VXLAN bud node—The Cisco Nexus 3164Q switch and the Cisco Nexus 9300 Series switches support VXLAN. However, the Cisco Nexus 3164Q switch does not support the VXLAN routing and VXLAN bud node features introduced in Cisco NX-OS Release 7.0(3)I1(1).

User Documentation

Release Notes

Use the following documents to get the most current information about the Cisco NX-OS software for the Cisco Nexus 3164Q switch:

- Cisco Nexus 9000 Series NX-OS Release Notes, for Cisco NX-OS Release 6.1(2)I2(2a) or a later release
- Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes, for Cisco NX-OS Release 6.1(2)I2(2a) or a later release

Getting Started Information

Use the following documents to plan for and install your Cisco Nexus 3164Q switch:

- Cisco Nexus 3000 Series Hardware Installation Guide

Cisco NX-OS Configuration Information

Use the following documents to configure the Cisco Nexus 3164Q switch using Cisco NX-OS Release 6.1(2)I2(2a) or a later release:

- Cisco Nexus 3164Q NX-OS Verified Scalability Guide, for Cisco NX-OS Release 6.1(2)I2(2a) or a later release
- Cisco Nexus 9000 Series NX-OS Fundamentals Configuration Guide
- Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide
- Cisco Nexus 9000 Series NX-OS IP SLAs Configuration Guide
- Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide
- Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide
- Cisco Nexus 9000 Series NX-OS Multicast Routing Configuration Guide
- Cisco Nexus 9000 Series NX-OS Quality of Service Configuration Guide
- Cisco Nexus 9000 Series NX-OS Security Configuration Guide
- Cisco Nexus 9000 Series NX-OS System Management Configuration Guide
- Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide
- Cisco Nexus 9000 Series NX-OS Virtual Machine Tracker Configuration Guide
- Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide

Programming Information

Use the following documents to program the Cisco Nexus 3164Q switch using Cisco NX-OS Release 6.1(2)I2(2a) or a later release:

- Cisco Nexus 9000 Series NX-OS Programmability Guide
- Cisco NX-OS XML Interface User Guide

Additional Information

Use the following documents to get additional information for the Cisco Nexus 3164Q switch:

- Cisco NX-OS Licensing Guide
- Cisco Nexus 9000 Series NX-OS Troubleshooting Guide
- Cisco Nexus 9000 Series NX-OS System Messages Reference, for Cisco NX-OS Release 6.1(2)I2(2a) or a later release

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html

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This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/)

This product includes software written by Tim Hudson (tjh@cryptsoft.com).

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