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Cisco NX-OS Release Notes, Release 5.0(3.lisp)

Date: November 5, 2010
Part Number: OL-22480-02

These release notes support Cisco NX-OS Release 5.0(3.lisp) and are updated as needed. The release notes are cumulative and list features in Cisco NX-OS Release 5.0(3.lisp) and Cisco NX-OS Release 5.0(1.13). Cisco NX-OS Release 5.0(3.lisp) provides additional functionality to Cisco NX-OS Release 5.0(1.13). For information about all features included in Cisco NX-OS software, see the Cisco NX-OS documentation that is available at the following URL:

http://www.cisco.com/en/US/products/ps9402/tsd_products_support_series_home.html



Note

Cisco NX-OS Release 5.0(3.lisp) is an Engineering Special release intended only for trial deployments on LISP nodes and is not intended nor recommended for general production deployments. The deployment guidelines documented in the Caveats section of these release notes must be followed strictly.

Table 1 shows the online change history for this document.

Table 1 Online History Change

Part Number	Revision	Date	Description
OL-22480-01	A0	July 02, 2010	Created release notes for Release 5.0(1.13)
OL-22480-02	A0	November 05, 2010	Created release notes for Release 5.0(3.lisp).

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Introduction

Cisco NX-OS Release 5.0(3.lisp) is based on Cisco NX-OS Release 5.0(3). This release is intended exclusively for the deployment of the Locator/ID Separation Protocol (LISP) functionality on the hardware that is listed in the “[Supported Device Hardware](#)” section.

System Requirements

This section includes the following topics:

- [Hardware Supported, page 2](#)
- [Supported Device Hardware, page 2](#)
- [Software Images, page 3](#)
- [EPLD Image, page 3](#)

Hardware Supported

The Cisco NX-OS software supports the Cisco Nexus 7000 Series chassis. You can find detailed information about supported hardware in the [Cisco Nexus 7000 Series Hardware Installation and Reference Guide](#).

Supported Device Hardware

Cisco NX-OS Release 5.0(3.lisp) supports the following Cisco Nexus 7000 Series hardware:

- Cisco Nexus 7010 chassis, N7K-C7010
- Cisco Nexus 7018 chassis, N7K-C7018
- Supervisor module, N7K-SUP1
- Fabric module, Cisco Nexus 7000 Series 10-slot, N7K-C7010-FAB-1
- Fabric module, Cisco Nexus 7000 Series 18-slot, N7K-C7018-FAB-1
- System fan tray for the Cisco Nexus 7010 chassis, N7K-C7010-FAN-S
- Fabric fan tray for the Cisco Nexus 7010 chassis, N7K-C7010-FAN-F
- Fan tray for the Cisco Nexus 7018 chassis, N7K-C7018-FAN
- 6-kW AC power supply unit, N7K-AC-6.0KW
- 7.5-kW AC power supply unit, N7K-AC-7.5KW-INT and N7K-AC-7.5KW-US
- 32-port 10-Gigabit Ethernet SFP+ I/O module, N7K-M132XP-12

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Note The 32-port 10-Gigabit Ethernet SFP+ I/O module is the only Cisco Nexus 7000 Series I/O module that Cisco NX-OS Release 5.0(3.lisp) supports.

Cisco NX-OS Release 5.0(3.lisp) supports the following Cisco Unified Computing System (Cisco UCS) hardware:

- Cisco UCS c200 M1 High-Density Rack-Mount Server

Software Images

Table 1 lists the software images available in Cisco NX-OS Release 5.0(1.13). Use the correct image for the supported hardware.

Table 2 *Software Images*

Image Name	Hardware Supported
Titanium LISP System Software Image for 5.0(3.lisp)	Cisco UCS c200 M1 High-Density Rack-Mount Server
Nexus 7000 LISP System Software Image for 5.0(3.lisp)	Cisco Nexus 7000 Series hardware as listed in “Supported Device Hardware”

EPLD Image

The 32-port 10-Gigabit Ethernet SFP+ I/O module requires the following EPLD image:

n7000-s1-epld.5.0.1.13.img

If you previously installed this EPLD image, you do not need to update it to run Cisco NX-OS Release 5.0(3.lisp).

New Software Features

This section describes new and changed software features and includes the following topics:

- [New Features in Cisco NX-OS Release 5.0\(3.lisp\), page 3](#)
- [New Features in Cisco NX-OS Release 5.0\(1.13\), page 4](#)

See the [“LISP Documentation” section on page 5](#) for details about supporting documentation for these features.

New Features in Cisco NX-OS Release 5.0(3.lisp)

This section describes new and changed software features in Cisco NX-OS Release 5.0(3.lisp).

LISP VM-Mobility Support

The LISP Virtual Machine Mobility (LISP VM-Mobility) Support feature includes functionality to allow any IP addressable device to move off of a subnet while keeping its IP address (its EID).

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LISP Instance ID Support

The LISP Instance ID Support feature includes the following support:

- Single-tenancy support on xTR—This type of support gives you the ability to associate an instance ID to a single LISP instance running on an xTR. Single-tenancy support allows for the segmentation of EID prefixes, including overlapping prefixes, that are supported by xTRs connected to the same or different networks.
- Multi-tenancy support on MS/MR—This type of support enables an MS/MR to maintain segmentation of the EID prefixes between instance IDs when providing mapping services to xTRs that are running with different LISP instance IDs.

New Features in Cisco NX-OS Release 5.0(1.13)

This section lists the new software features in Cisco NX-OS Release 5.0(1.13).

Locator/ID Separation Protocol

Locator/ID Separation Protocol (LISP) is a next-generation routing architecture. LISP can be used for any multi-homing environments while reducing operational complexities.

LISP creates a new paradigm by splitting the device identity, known as Endpoint Identifier (EID), and its location, known as its Routing Locator (RLOC) into two different numbering spaces. Splitting EID and RLOC functions yields several advantages that include improved scalability of the routing system through greater aggregation of RLOCs and improved multi-homing efficiency and ingress traffic engineering while avoiding site renumbering and reducing opex costs.

LISP Proxy Ingress Tunnel Router (PITR) Support

LISP Proxy Ingress Tunnel Router (PITR) support allows non-LISP enabled sites to communicate with LISP-enabled sites. This feature is supported only on the Cisco Nexus 7000.

LISP Proxy Egress Tunnel Router (PETR) Support

LISP Proxy Egress Tunnel Router (PETR) support allows two LISP enabled sites with a common address-family to communicate with each other when the intermediate network between does not use that address family. PETR support also allows a LISP enabled site to communicate with non-LISP enabled sites when it is necessary to bypass Unicast Reverse Path Forwarding (uRPF) mechanisms. This feature is supported only on the Cisco Nexus 7000.

LISP Ingress Tunnel Routers (ITR) Support

LISP Ingress Tunnel Router (ITR) support provides LISP map lookup and encapsulation capabilities. This feature is supported only on the Cisco Nexus 7000.

LISP Egress Tunnel Routers (ETR) Support

LISP Egress Tunnel Router (ETR) support provides LISP decapsulation capabilities. This feature is supported only on the Cisco Nexus 7000.

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LISP Support for IPv6 EIDs

IPv6 EID support is provided for all LISP features. LISP was designed to operate in a mixed address-family manner. This release provides full support for IPv6 EIDs and IPv4 RLOCs. This feature is supported only on the Cisco Nexus 7000.

LISP Mapping Services (MS) Support

LISP Map Server (MS) and Map Resolver (MR) support provides LISP mapping services to scale the handling of Locator and ID mappings. Mapping Services support is provided for both IPv4 and IPv6 stacks in the locator (RLOC) and identifier (EID) spaces. Mapping Services are supported only on the Cisco UCS c200 Rack Mount Servers.

LISP Documentation

For additional information on the features mentioned in this section, see the [Cisco LISP Configuration Guide](#).

For information about commands that support the Cisco NX-OS implementation of LISP in this release, see the [Cisco NX-OS LISP Command Reference, Nexus 7000 Series Cisco NX-OS Release 5.0\(3.lisp\)](#).

Internet Drafts Support

The Cisco NX-OS implementation of LISP supports the following Internet Drafts:

- draft-ietf-lisp-09
- draft-ietf-lisp-ms-06
- draft-ietf-lisp-alt-05
- draft-ietf-lisp-interworking-01
- draft-ietf-lisp-lig-01

Caveats

Cisco NX-OS Release 5.0(3.lisp) has the following known issues when LISP runs on a Cisco Nexus 7000 Series device:

- Before installing Cisco NX-OS Release 5.0(3.lisp), issue the **write-erase** command on your system to remove any existing configurations.
- Cisco NX-OS Release 5.0(3.lisp) does not support supervisor switchover or ISSU.
- When using the Ingress Tunnel Router (ITR), the source EID is not checked. When the source EID is checked, packets sourced from a non-LISP site will trigger a Map request that normally would not happen when source EIDs are checked. The Map request activity will cause transitory packet loss for new destinations. No functionality is lost and packet loss is expected to be minimal, but not zero.

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- A GRE tunnel interface must be manually configured on a LISP node acting as an ETR or PETR when this node is not connected to the ALT (normally such a tunnel interface would not be required). The tunnel interface can use any destination IP address and its source can be any physical interface as long as the interface is up. The requirement for this manually configured tunnel interface will be removed in the next release, but for this particular release it is mandatory.
- IPv6 routing locator (RLOC) spaces are not supported for ITR, ETR, PITR, or PETR.
- Decapsulation of IPv6-over-IPv4 packets is not supported. Because of this, you cannot use the Cisco Nexus 7000 Series device as an ETR or PETR for IPv6 EID addresses.
- Cisco NX-OS Release 5.0(3.lisp) does not support LISP VLAN interfaces.

Cisco NX-OS Release 5.3(3.lisp) has the following known issues when running LISP for the Cisco UCS c200 only:

- The output of the **show inventory** command does not reflect the correct hardware. Instead the output displays “Unknown MDS Chassis,” with no serial number.

Related Documentation

Cisco NX-OS documentation is available at the following URL:

http://www.cisco.com/en/US/products/ps9372/tsd_products_support_series_home.html

The Release Notes for upgrading the FPGA/EPLD is available at the following URL:

http://www.cisco.com/en/US/products/ps9402/prod_release_notes_list.html

The following are related Cisco NX-OS documents:

Cisco NX-OS Configuration Guides

Cisco Nexus 7000 Series NX-OS Getting Started with Virtual Device Contexts, Release 5.x

Cisco Nexus 7000 Series NX-OS Fundamentals Configuration Guide, Release 5.x

Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide, Release 5.x

Cisco Nexus 7000 Series NX-OS Layer 2 Switching Configuration Guide, Release 5.x

Cisco Nexus 7000 Series NX-OS Quality of Service Configuration Guide, Release 5.x

Cisco Nexus 7000 Series NX-OS Unicast Routing Configuration Guide, Release 5.x

Cisco Nexus 7000 Series NX-OS Multicast Routing Configuration Guide, Release 5.x

Cisco Nexus 7000 Series NX-OS Security Configuration Guide, Release 5.x

Cisco Nexus 7000 Series NX-OS Virtual Device Context Configuration Guide, Release 4.2

Cisco Nexus 7000 Series NX-OS Software Upgrade and Downgrade Guide, Release 5.x

Cisco NX-OS Licensing Guide

Cisco Nexus 7000 Series NX-OS High Availability and Redundancy Guide, Release 5.x

Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 5.x

Cisco NX-OS XML Management Interface User Guide

Cisco NX-OS System Messages Reference

Cisco Nexus 7000 Series NX-OS MIB Quick Reference

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Cisco NX-OS Command References

Cisco Nexus 7000 Series NX-OS Command Reference Master Index, Release 5.x
Cisco Nexus 7000 Series NX-OS Fundamentals Command Reference, Release 5.x
Cisco Nexus 7000 Series NX-OS Interfaces Command Reference, Release 5.x
Cisco Nexus 7000 Series NX-OS Layer 2 Switching Command Reference, Release 5.x
Cisco Nexus 7000 Series NX-OS Quality of Service Command Reference, Release 5.x
Cisco Nexus 7000 Series NX-OS Unicast Routing Command Reference, Release 5.x
Cisco Nexus 7000 Series NX-OS Multicast Routing Command Reference, Release 5.x
Cisco Nexus 7000 Series NX-OS Security Command Reference, Release 5.x
Cisco Nexus 7000 Series NX-OS Virtual Device Context Command Reference, Release 5.x
Cisco Nexus 7000 Series NX-OS System Management Command Reference, Release 5.x

Other Software Document

Cisco Nexus 7000 Series NX-OS Troubleshooting Guide

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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