Cisco Remote Integrated Services Engine with Cisco Prime NAM and Cisco Nexus 7000 Series Switches Configuration Guide

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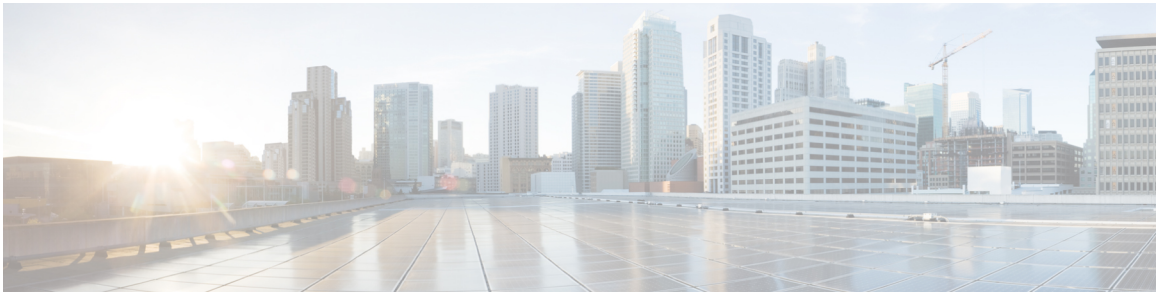

CONTENTS

Preface

The preface contains the following sections:

Preface

This preface describes the audience, organization, and conventions of the Book Title. It also provides information on how to obtain related documentation.

This chapter includes the following topics:

Audience

This publication is for experienced network administrators who configure and maintain Cisco NX-OS on Cisco Nexus 7000 Series Platform switches.

Document Conventions

Note

- As part of our constant endeavor to remodel our documents to meet our customers' requirements, we have modified the manner in which we document configuration tasks. As a result of this, you may find a deviation in the style used to describe these tasks, with the newly included sections of the document following the new format.
- The Guidelines and Limitations section contains general guidelines and limitations that are applicable to all the features, and the feature-specific guidelines and limitations that are applicable only to the corresponding feature.

Command descriptions use the following conventions:

Convention	Description
bold	Bold text indicates the commands and keywords that you enter literally as shown.
Italic	Italic text indicates arguments for which the user supplies the values.

Convention	Description
[x]	Square brackets enclose an optional element (keyword or argument).
[x | y]	Square brackets enclosing keywords or arguments separated by a vertical bar indicate an optional choice.
{x | y}	Braces enclosing keywords or arguments separated by a vertical bar indicate a required choice.
[x {y | z}]	Nested set of square brackets or braces indicate optional or required choices within optional or required elements. Braces and a vertical bar within square brackets indicate a required choice within an optional element.
`variable`	Indicates a variable for which you supply values, in context where italics cannot be used.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Examples use the following conventions:

Convention	Description
`screen font`	Terminal sessions and information the switch displays are in screen font.
`boldface screen font`	Information you must enter is in boldface screen font.
italic screen font	Arguments for which you supply values are in italic screen font.
< >	Nonprinting characters, such as passwords, are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

This document uses the following conventions:

Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.

Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Related Documentation

Documentation for Cisco Nexus 7000 Series Switches is available at:

- Configuration Guides

http://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/products-installation-and-configuration-guides-list.html

- Command Reference Guides

  http://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/products-command-reference-list.html

- Release Notes

  http://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/products-release-notes-list.html

- Install and Upgrade Guides

  http://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/products-installation-guides-list.html

- Licensing Guide

  http://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/products-licensing-information-listing.html

Documentation for Cisco Nexus 7000 Series Switches and Cisco Nexus 2000 Series Fabric Extenders is available at the following URL:

http://www.cisco.com/c/en/us/support/switches/nexus-2000-series-fabric-extenders/products-installation-and-configuration-guides-list.html

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to nexus7k-docfeedback@cisco.com. We appreciate your feedback.

Communications, Services, and Additional Information

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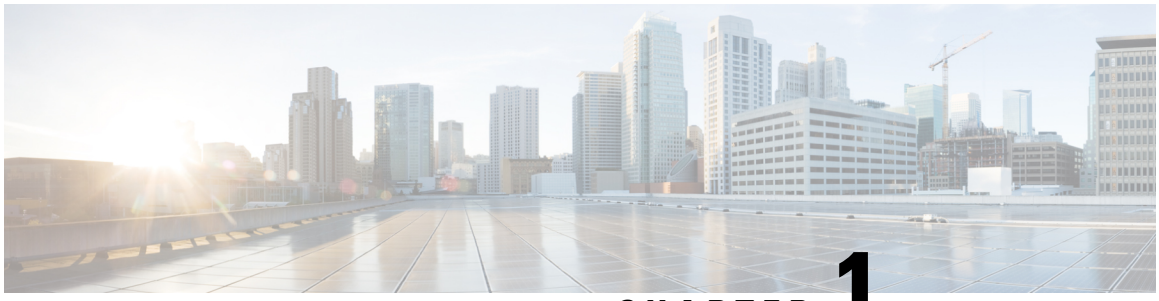
- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit Cisco Marketplace.
- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.



CHAPTER 1

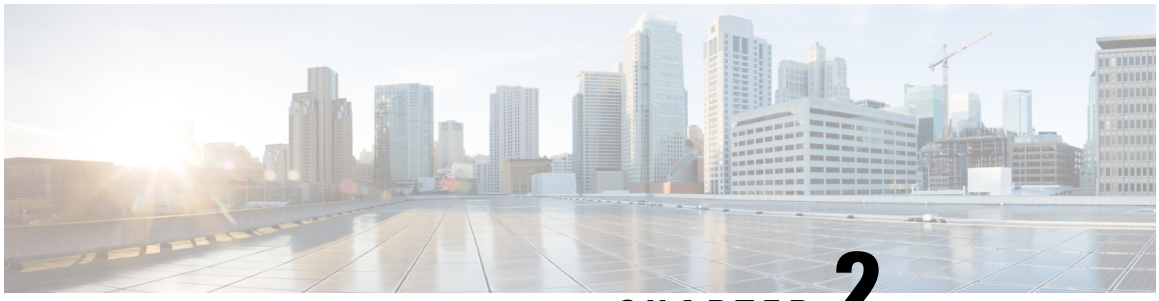
New and Changed Information

The following table provides an overview of the significant changes to this guide for this current release. The table does not provide an exhaustive list of all changes made to the configuration guide or of the new features in this release.

New and Changed Information

This book does not contain new features for Cisco NX-OS Release 8.0(1).

New and Changed Information



CHAPTER 2

Preparing for Integrating Cisco RISE with Cisco Prime NAM

This chapter describes how to prepare for integrating the Cisco Remote Integrated Services Engine (RISE) with a Cisco Prime Network Analysis Module (NAM) appliance connected to aCisco Nexus 7000 Series switch. The Cisco NX-OS software supports the Cisco Nexus 7000 Series switches, which includes the Cisco Nexus 7000 Series switches and Cisco Nexus 7700 Series switches.

This chapter includes the following sections:

Licensing Requirements

For a complete explanation of Cisco NX-OS licensing recommendations and how to obtain and apply licenses, see the *Cisco NX-OS Licensing Guide*.

Finding Feature Information

Your software release might not support all the features documented in this module. For the latest caveats and feature information, see the Bug Search Tool at https://tools.cisco.com/bugsearch/ and the release notes for your software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the “New and Changed Information” section or the "Feature History" table.

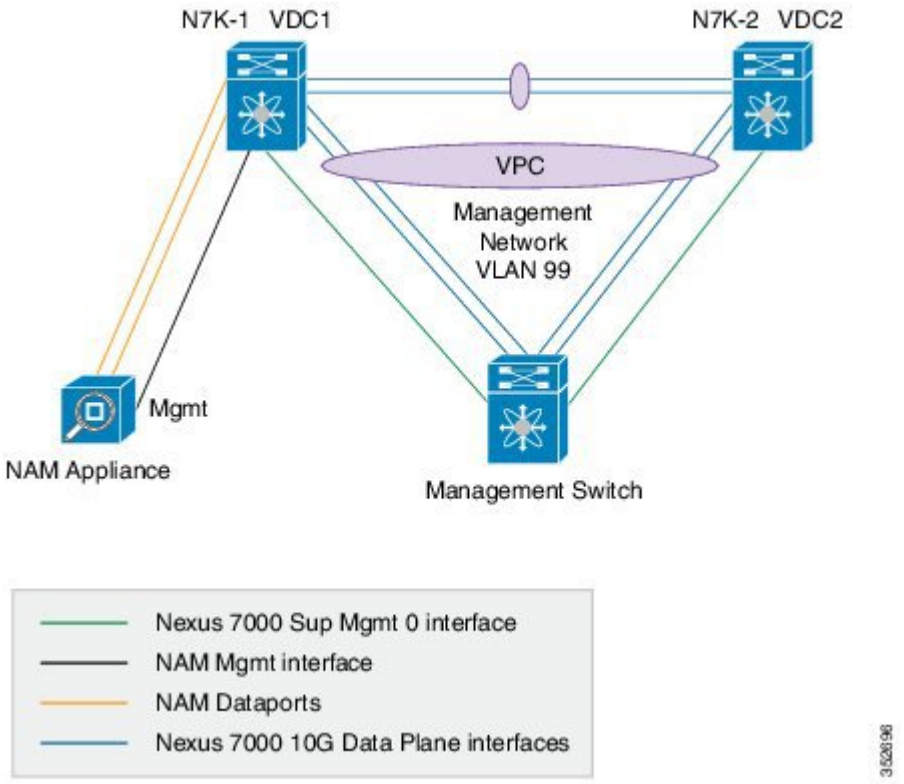
Information About Preparing for RISE Integration

This section includes the following topics:

Connection Modes

The only supported connect mode for the Cisco Remote Integrated Services Engine (RISE) with a Cisco Prime Network Analysis Module (NAM) appliance and Cisco Nexus 7000 Series switches is direct connect. The figure below shows the direct connect topology for the appliance and the switch in a RISE integration.

Figure 1: Direct Connect for RISE with Cisco Prime NAM



Guidelines and Limitations for Preparing for Cisco RISE with Cisco Prime NAM

Cisco Remote Integration Services Engine (RISE) for Cisco Network Analysis Modules (NAMs) and Cisco Nexus 7000 Series switches has the following guidelines and limitations:

- Support for the RISE feature has been deprecated in Cisco NX-OS Release 8.4(1).
- The following Cisco Prime NAM Series modules are supported for a Cisco RISE with Cisco Prime NAM deployment:

Cisco Prime NAM Series Model	Control Ports	Data Monitoring Ports
2304	2 x 1 Gb/s	4 x 1 Gb/s
2320	2 x 1 Gb/s	20 x 1 Gb/s

Cisco Prime NAM Series Model	Control Ports	Data Monitoring Ports
2420	2 x 10 Gb/s	4 x 10 Gb/s
2440	4 x 10 Gb/s	2 X 10 Gb/s

- For the Cisco Nexus 7000 Series switches in a Cisco RISE integration with Cisco Prime NAM, Cisco NX-OS Release 6.2(8) and later releases is required.
- For the Cisco Prime NAM in a Cisco RISE integration, the Cisco Prime NAM 6.0(2) software release is required.

Preparing for Cisco RISE with Citrix Application Delivery Controller (ADC)

This chapter describes how to prepare for integrating the Cisco Remote Integrated Services Engine (RISE) with Citrix Application Delivery Controller (ADC) appliance connected to the Cisco Nexus Series switches. The Cisco NX-OS software supports the Cisco Nexus 7000 Series switches, which includes the Cisco Nexus 7700 Series switches.

This section includes the following topics:

Installing the Cisco Nexus Series Switch

Perform the following steps to install and configure your Cisco Nexus switch before configuring the Remote Integrated Service Engine (RISE) feature for Cisco Nexus Series switches and service appliances:

Note For installation and configuration information, see the *Cisco Nexus Series configuration guides*

Step 1 Install the Cisco Nexus Series switches and perform the basic setup such as applying the required licenses. For switch hardware installation instructions, see the *Cisco Nexus Series Hardware Installation and Reference Guide*.

Step 2 Install the appropriate Cisco NX-OS release software in your environment and create the basic configuration of the Cisco Nexus Series switches, which includes, but is not limited, to the following tasks:

a) Configure the physical Ethernet interfaces or a port channel for connecting to the service appliance and to allow control and data VLANs.
b) Configure the switch virtual interfaces (SVIs) for RISE control and data VLANs.
c) Configure the service VLAN groups.
d) Enable the RISE feature to allow for RISE integration.

Installing the Cisco Prime NAM

Perform the following steps to install and configure your Cisco Prime Network Analysis Module (NAM) appliances before configuring the Remote Integrated Service Engine (RISE) feature for Cisco Nexus 7000 Series switches and Cisco Prime NAM.

Note For installation and configuration information, see the Cisco Prime Network Analysis Module (NAM) 2300 Series Appliances Installation and Configuration Guide and Cisco Prime Network Analysis Module (NAM) 2400 Series Appliances Installation and Configuration Guide.

The Cisco Prime NAM is typically mounted in a rack and all models ship with rack-rail hardware. Installation can include the following tasks:

Step 1 Unpack the appliance—The hardware accessories for your particular appliance, such as cables, adapters, and rail kit, can vary depending on the hardware platform that you ordered. Unpack the box that contains your new appliance on a sturdy table with plenty of space and inspect the contents.

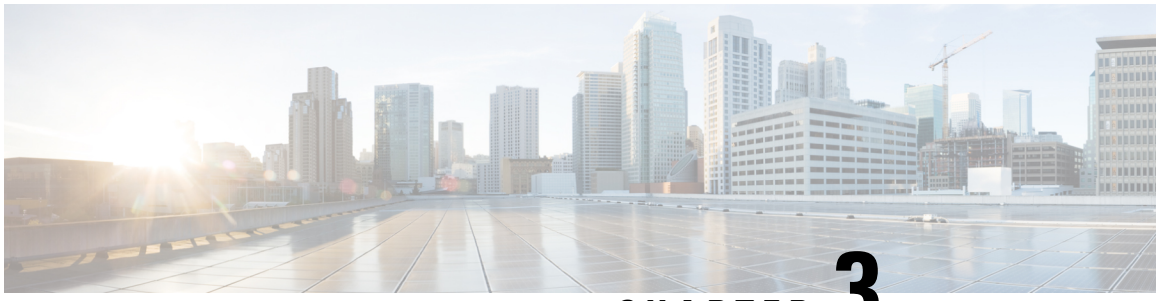
Step 2 Mount the appliance in the rack—Most appliances can be installed in standard server racks that conform to EIA-310-D specification. The slide rails supplied by Cisco Systems for this appliance do not require tools for installation. The inner rails (mounting brackets) are pre-attached to the sides of the appliance.

Step 3 Install your transceiver modules—A Small Form-Factor Pluggable (SFP) is a compact transceiver that can operate at speeds of up to 1 gigabit per second and is available in both copper and fiber types. Inserting a 1 G SFP copper transceiver converts the 1 G SFP port to a 1000BASE-T port. Inserting a 1 G SFP fiber transceiver converts the 1 G SFP port to a 1000BASE-X port. Auto-negotiation is enabled by default on the 1 G SFP port into which you insert your 1 G SFP transceiver. As soon as a link between the port and the network is established, the speed and mode are matched on both ends of the cable.

Step 4 Install your 10 G SFP+ transceivers—A 10 Gigabit Small Form-Factor Pluggable (SFP+) is a compact optical transceiver that can operate at speeds of up to 10 gigabits per second.

What to do next

After the appliance is securely mounted on the rack, you are ready to connect the cables. Connect the power cable first. Do not power on the unit yet. Connect the appliance cables next.



CHAPTER 3

Configuring Cisco RISE with Cisco Prime NAM

This chapter describes how to configure the Cisco Remote Integrated Services Engine (RISE) with a Cisco Prime Network Analysis Module (NAM) appliance and Cisco Nexus 7000 Series switches. The Cisco NX-OS software supports the Cisco Nexus 7000 Series switches, which includes the Cisco Nexus 7000 Series switches and Cisco Nexus 7700 Series switches.

This chapter includes the following sections:

Finding Feature Information

Your software release might not support all the features documented in this module. For the latest caveats and feature information, see the Bug Search Tool at https://tools.cisco.com/bugsearch/ and the release notes for your software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the "New and Changed Information"chapter or the Feature History table in this chapter.

Information About Cisco RISE with Cisco Prime NAM

This section includes the following topics:

Remote Integrated Service Engine

The Remote Integrated Service Engine (RISE) architecture logically integrates a service appliance, such as Citrix Netscaler Application Delivery Controller (ADC), and Cisco Nexus Series switches so that an external (remote) appliance appears as a service module (remote line card) in the switch. In addition to providing a

service module's streamlined deployment and simplified configuration and operation, it enables integration with the Cisco Nexus Series switches virtual device context (VDC) architecture.

The key features of a RISE integration are as follows:

- RISE enables feature integration between the appliance and the Cisco Nexus Series switches, such as plug-and-play auto-provisioning, discovery and bootstrap, health monitoring, and message encryption.
- The RISE-enabled service appliances appear as a module (virtual slot) in the Cisco Nexus chassis.
- Cisco Nexus ports are allocated for the virtual slot (appliance) and configured either as a port channel or as a regular trunk switch mode with the associated list of VLANs.
- An initial handshake is established between the appliance and the Cisco Nexus Series switches to exchange parameters and set up a control channel.

Cisco Prime NAM

A Cisco Prime Network Analysis Module (NAM) offers multi-dimensional perspective into the network to help identify applications running on the network, how are they performing, and which ones are consuming the most network resources. When there is a performance concern, the Cisco Prime NAM can help you to quickly isolate the source and analyze the root cause at a packet level.

The only physical topology supported for RISE with NAM is a single Rise control link between the Cisco Prime NAM and the Cisco Nexus 7000 switch.

SPAN traffic between the switch and the appliance is sent through the data link, which is separate from the management link.

Cisco Nexus Series Switch

The Cisco Nexus Series switches are used purely as a 1 and 10-Gigabit Ethernet switch, consolidating 10 Gigabit Ethernet connections into a smaller number of server connections trunked to the aggregation layers. These switches are designed for deployment in the core, aggregation, or access layers of a high performance, hierarchical data center network topology.

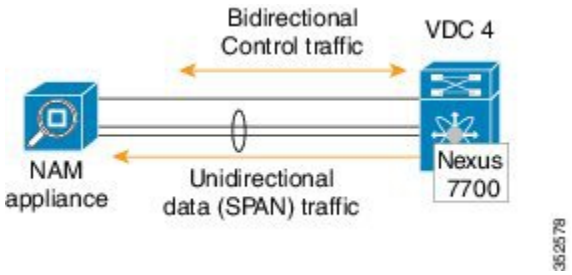
The Cisco Nexus Series switches run on the Cisco NX-OS software. This software fulfills the routing, switching, and storage networking requirements of data centers and provides an Extensible Markup Language (XML) interface and a command-line interface (CLI) that is similar to Cisco IOS software. As a crucial element in data center I/O consolidation, the switch enables I/O consolidation at the access layer and provides interoperability with the Cisco Nexus Series switches and other standards-based products.

VDC Support

Two types of VDC topologies are supported for Cisco Remote Integrated Services Engine (Rise) with Cisco Prime Network Analysis Module (NAM) and Cisco Nexus 7000 Series switches. The Cisco Prime NAM can monitor any virtual device context (VDC) without requiring you to recable the devices.

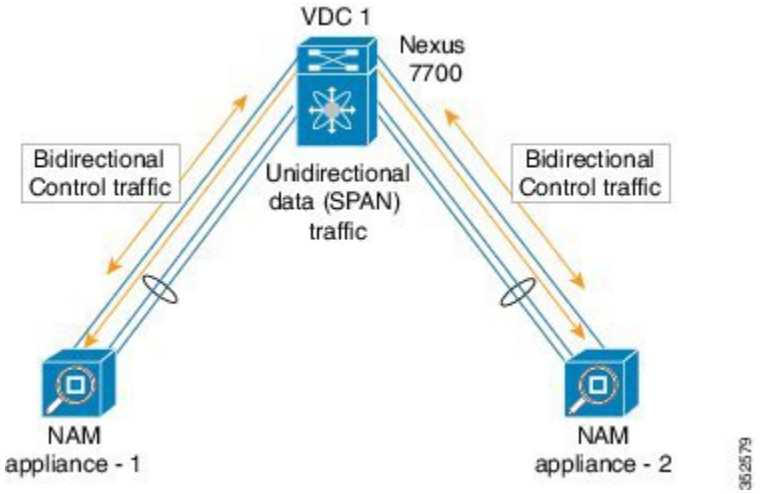
In the following figure, a single Cisco Prime NAM is part of one VDC with both bidirectional control traffic and unidirectional span traffic in the same VDC. The control plane IP address is the same as the NAM management IP address.

Figure 2: One Cisco Prime NAM and One VDC on the Switch



In this figure, multiple services can be created in a single VDC with multiple Cisco Prime NAMs. Each appliance has a separate control plane IP address and separate unidirectional span ports.

Figure 3: Multiple Cisco Prime NAMs and a Single VDC on the Switch



RISE Functionality

Note All features in this section function with IPv4.

This section includes the following topics:

Discovery and Bootstrap

The discovery and bootstrap functionality enables the Cisco Nexus Series switches to communicate with the appliance by exchanging information to set up the Remote Integrated Service Engine (RISE) channel, which transmits control and data packets. Auto-discovery is supported only when you directly connect the service appliance with the Cisco Nexus switch. Once you configure the RISE control channel on the switch, the connected service appliance is set to RISE mode and all of its ports are set to operational mode by default.

In indirect mode (when the appliance is either Layer 2 or Layer 3 adjacent to the switch), you must manually configure the appliance and the Cisco Nexus switches to establish the control channel connectivity and for discovery and bootstrap to occur.

For more information about connection modes, see the “Preparing for RISE Integration” chapter. For configuration information, see the “Configuring RISE” chapter.

Health Monitoring

A RISE-enabled appliance can use its health monitoring feature to track and support server health by sending out health probes to verify server responses.

The Cisco Nexus switch and the appliance also periodically send heartbeat packets to each other. If a critical error occurs and health monitoring detects a service instance failure, or if the heartbeat is missed six times successively, the RISE channel becomes nonoperational. The health monitoring timer is 30 seconds (sec).

Nondisruptive Maintenance

The nondisruptive maintenance feature of the Cisco Remote Integration Services Engine (RISE) maintains the RISE configuration and runtime information on the Cisco Nexus Series switches during maintenance processes, such as an in-service software upgrade (ISSU) or an in-service software downgrade (ISSD), instead of being purged.

In-Service Software Upgrade

During an in-service software upgrade (ISSU), all RISE control channel communications are disabled. The configuration state across all components is restored after the ISSU is completed. Data traffic is not affected during an ISSU.

In-Service Software Downgrade

During an in-service software downgrade (ISSD), when you are downgrading from a Cisco Nexus Series switch software image with RISE support to an image without RISE support, you are notified that you should enter the **no feature rise** command before proceeding with the downgrade. This removes all of the RISE configuration and runtime configuration from the switch.

ISSU Start and Stop Notifications

Cisco Nexus Series switch provides start and stop notifications to the RISE service appliance during an in-service software upgrade (ISSU) or downgrade. This notification includes the hitful and hitless status of the line card to which the appliance is connected.

When the RISE service appliance receives a start notification, the appliance stops all control plane communication with the switch until after the switch sends a stop notification. The appliance uses the hitful and hitless status in the start and stop notifications to determine whether the data plane is operational.

Prerequisites for Configuring RISE

The RISE feature has the following prerequisite:

- Cable and power up the Cisco Prime Network Analysis Module (NAM). See the “Preparing for RISE Integration” chapter for information on connecting the service appliance.
- The interface and the location of a dataport for the Cisco Prime NAM must be preconfigured. Create an ethernet or port channel on the Cisco Nexus switch and add all relevant management and data VLANs for the service appliance. The port that is configured for the ethernet or port channel must be in access

mode. See the Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide for information on creating port channels.

Guidelines and Limitations for Cisco RISE with Cisco Prime NAM

Cisco RISE with a Cisco Prime Network Analysis Module (NAM) and Cisco Nexus 7000 Series switches has the following guidelines and limitations:

- Cisco Rise with Cisco Prime NAM supports direct connect mode only.
- In a Cisco RISE with Cisco Prime NAM deployment, VLANs cannot be shared across virtual device contexts (VDCs) even though the Cisco Nexus switch configuration allows it.
- Only Cisco Prime NAM 6.02 or later releases are supported.
- In Cisco NX-OS Release 6.2.8, only a single NAM data port can be defined in the RISE service.
- The IP address for NAM management or default gateway can only be changed when NAM displays all RISE connections as "offline". The NAM will have no active RISE connections for a period of 60 second while moving from "online" to "offline" state. For the changes to take effect immediately without the need to wait for the 60 second time period, you can disable the RISE feature through the NAM CLI and enable it again. This limitation is applicable only for NAM appliances which are already running with RISE connection for which the user might wish to change the IP or gateway address.

Default Settings for RISE

The following table lists the default settings for RISE:

Table 1: Default RISE Parameters on the Cisco Nexus Series Switch

Parameter	Default
RISE mode	Disabled
CoPP	CoPP policies for RISE ports 8000 and 8001 are enabled by default.

Configuring Cisco RISE

This chapter describes how to configure the Cisco Remote Integrated Service Engine (RISE) on the Cisco Nexus 7000 Series switches and the Cisco Prime Network Analysis Module (NAM) appliance. The Cisco NX-OS software supports the Cisco Nexus 7000 Series switches, which includes the Cisco Nexus 7000 Series switches and Cisco Nexus 7700 Series switches.

This chapter includes the following sections:

Configuring Cisco RISE on the Cisco Nexus Switch

In a direct mode deployment, the service appliance, such as Cisco Prime NAM appliance, is attached to a single Nexus 7000 Series switch.

Note This task describes how to configure a Cisco Nexus switch in a direct mode deployment. After configuring the Cisco Remote Integrated Services Engine (RISE) on the Cisco Nexus 7000 Series switch, the appliance that is directly connected to the standalone switch is automatically configured for RISE mode and all of its ports are in operation mode. No configuration is required on the appliance in a direct mode deployment.

Before you begin

- To enable auto-discovery of the appliance by the switches, use the **no shutdown** command to ensure that the physical ports are up by default.
- Interconnect the ports on the appliance with the standalone or port channel of the switch.
- Ensure that all of the switch ports to which the appliance is connected are dedicated to the appliance.
- Make sure that you are in the correct VDC on the Cisco Nexus switch. To switch VDCs, use the **switchto vdc** command.

SUMMARY STEPS

1. switch# **configure terminal**
2. switch(config)# **feature rise**
3. switch(config)# [**no**] **service type rise name** *service-name* **mode [direct}**
4. switch(config-rise)# **vlan** *vlan-id*
5. switch(config-rise)# **ip** *ip-address netmask*
6. switch(config-rise)# **data** [**ethernet** slot/port | **port-channel** channel-number]
7. switch(config-rise)# **no shutdown**
8. (Optional) switch(config-rise)# **show module service**

DETAILED STEPS

	Command or Action	Purpose
Step 1	switch# **configure terminal**	Enters global configuration mode.
Step 2	switch(config)# **feature rise**	Enables the RISE feature on the Cisco Nexus 7000 Series switch.
Step 3	switch(config)# [**no**] **service type rise name** *service-name* **mode [direct}**	Creates a RISE service instance, enters the RISE configuration mode on the Cisco Nexus 7000 Series switch, and specifies that the Cisco Prime NAM is, directly or indirectly, connected to the switch in order to establish RISE connectivity. You can enter up to 31 alphanumeric characters for the name of the RISE service instance.

	Command or Action	Purpose
		Note Use the **no** form of this command to remove the service instance configuration.
Step 4	switch(config-rise)# **vlan** *vlan-id*	Assigns a VLAN to the Cisco Prime NAM that is directly connected to the Cisco Nexus 7000 Series switch. • The range is from 1 to 4094. • This VLAN controls message communication with the supervisor over the RISE port channel. The same VLAN can be used for the Cisco Prime NAM management VLAN. • The VLAN ID and SVI interface must be created before the RISE channel can be established. The IP address of the SVI interface is the supervisor IP address for Cisco Prime NAM to communicate with and send the control messages.
Step 5	switch(config-rise)# **ip** *ip-address netmask*	Specifies the IP address of the Cisco Prime NAM that is directly connected to the Cisco Nexus 7000 Series switch. This IP address controls message communication with the supervisor over the RISE port channel. The same IP address can be used for the management IP address of Cisco Prime NAM.
Step 6	switch(config-rise)# **data** [**ethernet** slot/port | **port-channel** channel-number]	Creates a destination Switch Port Analyzer (SPAN) port. • This port is directly connected to the unidirectional network interface card (NIC) ports at the Cisco Prime NAM. The data port channel is created and set as a span destination port. • The range for the ethernet interface is from 1 to 253 for slot and from 1 to 128 for port. • The range for the port-channel logical interface is from 1 to 4096.
Step 7	switch(config-rise)# **no shutdown**	Launches the auto-discovery and bootstrap configuration process. In the direct connect mode, this command launches the auto-discovery and bootstrap configuration process. The appliance's data port-channel is created and the RISE IP address is set at the appliance. **Note** The Cisco Nexus 7000 Series switch associates the NetScaler appliance serial number with the virtual slot number for this NetScaler appliance.

	Command or Action	Purpose
		Note Discovery does not start if any required information (such as the port, RISE VLAN, RISE IP address, or switch virtual interface [SVI] of the RISE VLAN) is not provided. If the discovery times out, the virtual module is shown in the inactive state. Use the **show rise** command on the switch to display the reason for discovery failure.
Step 8	(Optional) switch(config-rise)# **show module service**	Displays the status of the RISE service instances, including NAM, on the Cisco Nexus 7000 Series switch. If the RISE service instance is operational, the status that is displayed is "OK."

Verifying the RISE Configuration

To display the RISE configuration on the Cisco Nexus 7000 Series switch, perform one of the following tasks.

Command	Purpose
show module service	Displays the status of the RISE service module on the Cisco Nexus 7000 Series switch.
show rise [**detail**]	Displays the RISE configuration status on the Cisco Nexus 7000 Series switch.
show running-config services	Displays the RISE running configuration on the Cisco Nexus 7000 Series switch.
show tech-support services [**detail**]	Displays troubleshooting information for RISE on the Cisco Nexus 7000 Series switch.

The following example is sample output from the **show module service** command:

```
switch(config-rise)# show module  service

Mod  Ports  Module-Type                          Model              Name         Status
---  -----  ---------------------------------- ------------------ ------------ ----------
336  0      NetScaler Virtual Appliance         NetScaler          vpx05        ok
337  2      NSMPX-17550 12*CPU+2*E1K+8*IX+36*CV NetScaler          mpx24        ok
338  0      NetScaler Virtual Appliance         NetScaler          vpx15        ok
339  0      NetScaler Virtual Appliance         NetScaler          vpx14        ok
340  2      NSMPX-17550 12*CPU+2*E1K+8*IX+36*CV NetScaler          mpx25        ok

Mod  Sw                                 Serial-Num
---  ---------------------------------  --------------------------------
336  NetScaler NS10.1: Build 124.1308  HE2H81UJ47
337  NetScaler NS10.1: Build 124.1308  MJZ002A3CG
338  NetScaler NS10.1: Build 124.1308  HE2H81UJ47
339  NetScaler NS10.1: Build 124.1308  HE2H81UJ47
340  NetScaler NS10.1: Build 124.1308  MMNS22A3EX
```

Related Documents

Related Topic	Document Title
Commands on the Cisco Nexus 7000 Series switch	*Cisco Nexus 7000 Series NX-OS Fundamentals Configuration Guide*
Install and reference information for Cisco Prime NAM	Cisco NAM 2000 Series Appliances at http://www.cisco.com/en/US/products/ps10584/tsd_products_support_series_home.html
Interfaces and vPCs	*Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide*

Feature History for Cisco RISE with Cisco Prime NAM

The following table lists the feature history for this feature.

Table 2: Feature History for Cisco RISE with Cisco Prime NAM

Feature Name	Release	Feature Information
Cisco RISE with Cisco Prime NAM	Cisco NX-OS Release 6.2(8)	This feature was introduced on the Cisco Nexus 7000 Series switch.
	Cisco NAM 6.1.1	This feature was introduced on the Cisco Prime Network Analysis Module (NAM).