



## Preparing for RISE Integration

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This chapter describes how to install and connect the appliances and the Cisco Nexus 6000 Series switches before deploying the Remote Integrated Service Engine (RISE) features.

This chapter includes the following sections:

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## 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.

## Information About Preparing for RISE Integration

This section includes the following topics:

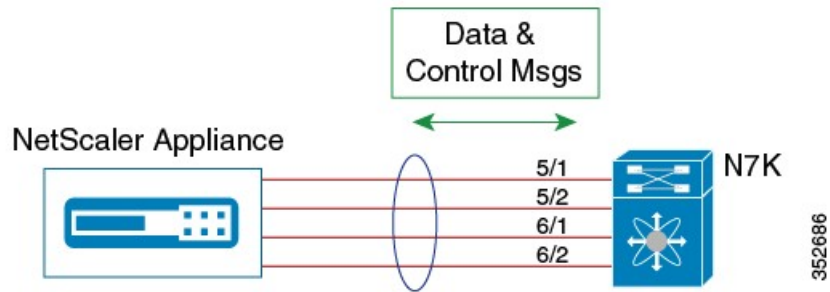
### Connection Modes

You can connect the Citrix NetScaler Application Delivery Controller (ADC) appliance to the Cisco Nexus 6000 Series switch in one of the following ways:

**Direct Connect Mode for a Standalone Switch**

In a direct mode deployment, the service appliance is attached to a single Nexus 6000 Series switch. The switch can be standalone device or a VPC peer (recommended deployment). The following figure shows the topology for a direct mode deployment for a standalone Cisco Nexus switch.

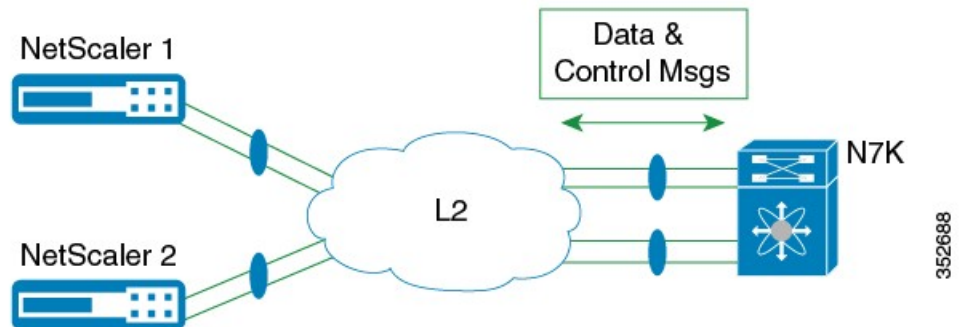
*Figure 1: Direct Connect Mode for the Appliance and a Standalone Switch*



**Indirect Connect Mode**

In an indirect mode deployment, a virtual service appliance is connected to a Cisco Nexus 6000 Series switch through a switched Layer 2 network. The topology in the following figure is for an indirect mode deployment.

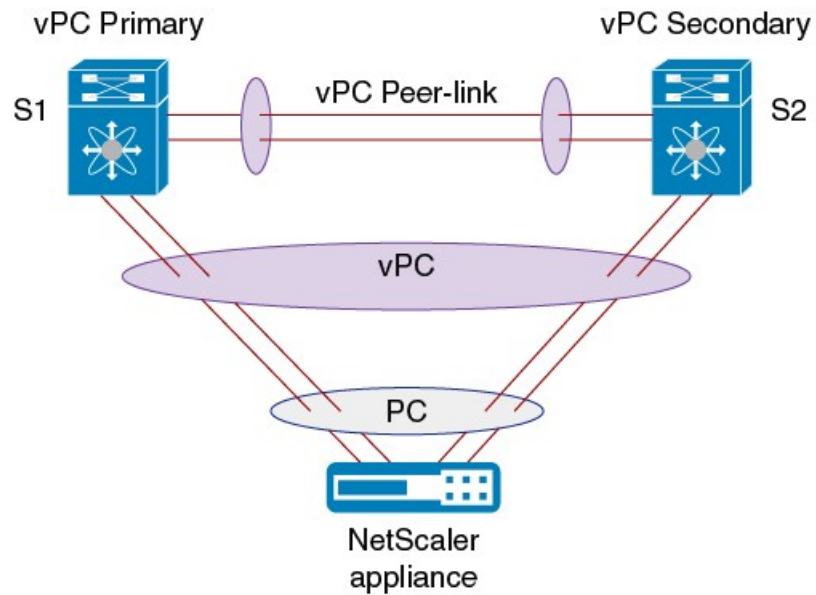
*Figure 2: Indirect Connect Mode Through a Layer 2 Network*



**Virtual Port Channel (vPC) Connect Mode (Recommended Deployment Mode)**

In a virtual port channel (vPC) direct mode deployment, the service appliance is attached to a single Nexus 6000 Series switch that is a vPC peer. The following figure shows the topology for a vPC direct mode deployment.

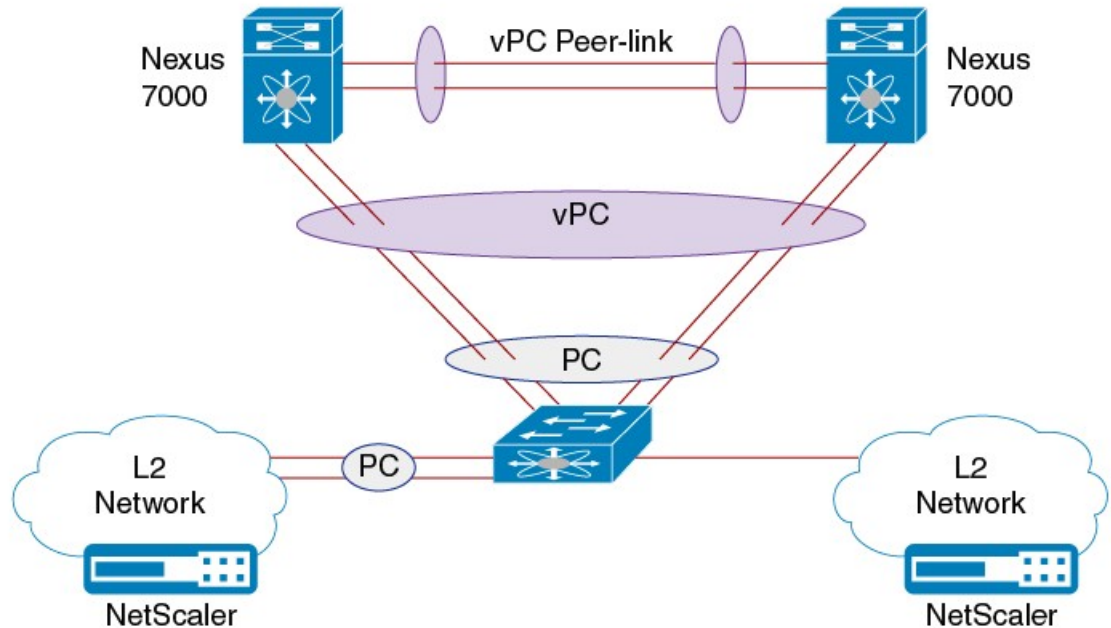
**Figure 3: vPC Direct Connect Mode for Connecting to vPC Peer Switches**



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In a vPC indirect mode deployment, the service appliance is indirectly attached to a Cisco Nexus vPC peer through a Layer 2 network. The following figure shows the topology for a vPC indirect mode deployment.

**Figure 4: vPC Indirect Connect Mode for Connecting to vPC Peer Switches**



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## Licensing for Cisco RISE

The following table shows the licensing requirements for this feature:

Product	License Requirements
Cisco NX-OS	The Cisco Remote Integrated Services Engine (RISE) requires the Network Services Package on the Cisco Nexus 6000 Series switch. The NETWORK_SERVICES_PKG license is available starting with Cisco NX-OS Release 7.2(0)N1(1). If you need to use RISE and ITD features with the Cisco NX-OS Release 7.1(1)N1(1), please use the ENHANCED_LAYER2_PKG license. For a complete explanation of the Cisco NX-OS licensing scheme and how to obtain and apply licenses, see the <a href="#">Cisco NX-OS Licensing Guide</a> .
Citrix NetScaler Application Delivery Controller (ADC) operation system	The Cisco Remote Integrated Services Engine (RISE) does not require a license on the Citrix NetScaler Application Delivery Controller (ADC) appliance for auto-attach. Advanced features, such as auto policy-based routing (APBR), require the NetScaler Platinum or Enterprise license on the Citrix NetScaler Application Delivery Controller (ADC) appliance. To display the license status, use the <b>show license</b> command in the NetScaler command line interface

# Guidelines and Limitations for Preparing for the RISE Integration

Cisco Remote Integration Services Engine (RISE) for Citrix NetScaler Application Delivery Controller (ADC) appliances and Cisco Nexus 6000 Series switches has the following guidelines and limitations:

- For the Cisco Nexus Series switches in a RISE integration, Cisco NX-OS Release 7.1(1)N1(1) and later releases is required.
- For the Citrix Application Delivery Controller (ADC) appliance in a RISE integration, the NetScaler 10.1.e or later software release is required.
- In RISE mode, the Citrix Application Delivery Controller (ADC) appliance always uses one link for both the data and control traffic (typically the port channel link).

## 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 6000 Series switches.

This section includes the following topics:

### Installing the Cisco Nexus 6000 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 6000 Series switches and service appliances:



**Note** For installation and configuration information, see the *Cisco Nexus 6000 Series configuration guides*

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- Step 1** Install the Cisco Nexus 6000 Series switches and perform the basic setup such as applying the required licenses. For switch hardware installation instructions, see the *Cisco Nexus 6000 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 6000 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.
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# Installing the Citrix Netscaler Application Delivery Controller (ADC) Appliance

Perform the following steps to install and configure your Citrix NetScaler Application Delivery Controller (ADC) appliances before configuring the Remote Integrated Service Engine (RISE) feature for Cisco Nexus 6000 Series switches and Citrix NetScaler Application Delivery Controller (ADC) appliances.



**Note** For installation and configuration information, see the [Installing the Netscaler Hardware](#).

The Citrix Application Delivery Controller (ADC) appliance is typically mounted in a rack and all models ship with rack-rail hardware. Installation can include the following tasks:

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- 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 appliances ship with a set of rails that you must install before you mount the appliance. The only tools that you need for installing an appliance are a Phillips screwdriver and a flathead screwdriver.
  - Step 3**    Install your 1 G SFP transceivers—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 XFP and 10 G SFP+ transceivers—A 10 Gigabit Small Form-Factor Pluggable (XFP or SFP+) is a compact optical transceiver that can operate at speeds of up to 10 gigabits per second. The MPX 15000 and MPX 17000 appliances use XFP transceivers and the MPX 8200/8400/8600, MPX 9700/10500/12500/15500, MPX 11500/13500/14500/16500/18500/20500, MPX 17500/19500/21500, and MPX 17550/19550/20550/21550 appliances use 10 G SFP+ transceivers.
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## What to Do Next

After the appliance is securely mounted on the rack, you are ready to connect the cables. Ethernet cables and the optional console cable are connected first. Connect the power cable last.