



QUICK START GUIDE



Cisco Prime Network Control System (WAN) 1.1 Quick Start Guide

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1 About This Guide

This guide explains how to install Cisco Prime NCS (WAN) 1.1.

This guide is targeted to administrators who configure, monitor, and maintain Prime NCS (WAN), and troubleshoot problems that may occur. These administrators must be familiar with VMWare OVA applications, virtualization concepts and virtualized environments.

For detailed information about configuring and managing this product, see *Cisco Prime Network Control System (WAN) 1.1 User Guide*.

2 Product Overview

Prime NCS (WAN) provides lifecycle management of Cisco routers and switches, simplifying the configuration, administration, monitoring, and troubleshooting of these devices. Prime NCS (WAN) helps deploy and manage Cisco Borderless Network architectures and services with a focus on WAN and multi-service branch networks.

Prime NCS (WAN) is organized into a lifecycle workflow that includes the following high-level task areas:

- **Design**—The design phase focuses on the overall design of feature or device patterns or *templates*. The design area is where you create reusable design patterns such as configuration templates. Prime NCS (WAN) provides predefined templates, but you can also create your own. These patterns and templates are intended for use in the deployment phase of the lifecycle.
- **Deploy**—The deployment phase focuses on deploying previously defined designs or *templates* into your network. The deploy area is where you specify how to deploy features, making use of the templates created in the design phase. The deploy phase allows you to push configurations defined in your templates to one or many devices.
- **Operate**—The Operate area is where you monitor your network on a daily basis, as well as perform other day-to-day or ad hoc operations relating to network device inventory and configuration management. The Operate tab contains dashboards, the Device Work Center, and the tools you need for day-to-day monitoring, troubleshooting, maintenance, and operations.
- **Administration**—The Administration area is where you specify system configuration settings, manage access control, and specify data collection settings.

- Tools—Prime NCS (WAN) also provides reports that you can use to monitor the system and network health as well as troubleshoot problems. The Prime NCS (WAN) Task Manager provides status information and scheduling capabilities for jobs and provides information about background tasks.

3 Key Features

The following table details the key features of Prime NCS (WAN).

Table 1 Prime NCS (WAN) Key Features

Feature	Function	Benefit
Design Templates	You use templates to define device parameters and settings, which you can later deploy to a specified number of devices.	Templates enhance productivity when you are implementing new services or a new site. Altering configurations across a large number of devices can be tedious and time-consuming, and templates save you time by applying the necessary configurations and by ensuring consistency across devices.
Monitoring Dashboard	Provides current status of device inventory, device health, and status.	Decreases time and effort required to obtain a complete overview of any problems affecting your network.
Inventory	Helps to discover and create an inventory of all devices, and identify software versions and status of all devices.	<ul style="list-style-type: none"> • Provides immediate manageability and comprehensive inventory details • Reduces operations team resources needed to verify software upgrades.
Reporting	Out-of-the-box, flexible, customer-generated, scheduled, exportable, executive-facing reports	Improve productivity and communication using pre-packaged and custom sets of views of performance data.

For detailed information about Cisco Prime Network Control System (WAN) features, see the [Cisco Prime Network Control System \(WAN\) 1.1 User Guide](#).

4 About Cisco Prime Network Control System (WAN) Licensing

Prime NCS (WAN) is licensed based on the number of managed devices, where a device can be a router or a switch. To use Prime NCS (WAN), you must have one of the following licenses:

- Evaluation license—Valid for 60 days and 100 devices. You can obtain an evaluation license at <https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet?DemoKeys=Y>.
- Base license—Purchased base licenses are available in sizes of 50, 100, 500, 1000, 2500, 5000, or 10000 devices. You must purchase a single base license to use Prime NCS (WAN) unless you are purchasing Prime NCS (WAN) as an add-on to an existing Cisco Prime Assurance Manager installation. If you already have Cisco Prime Assurance Manager installed with a base license, you need only purchase add-on licenses to use Prime NCS (WAN). You can obtain a base license at <http://www.cisco.com/go/licensing> using the Product Authorization Key (PAK) provided as part of your order and the Virtual Unique Device Identifier (VUDI) obtained from your installed instance of Prime NCS (WAN).
- Add-on license—Purchased add-on licenses are available in sizes of 50, 100, 500, 1000, 2500, 5000, or 10000 devices. You can purchase add-on license files as your device count increases. Add-on licenses are available at <http://www.cisco.com/go/licensing> using your PAK and VUDI.

Prime NCS (WAN) license files are node-locked to the virtual machine based on the Virtual Unique Device Identifier (VUDI), which consists of the product identification and a uniquely generated serial number. You can view this information in the Prime NCS (WAN) web interface by choosing **Administration > Licenses**.

For more information about ordering Prime NCS (WAN) licenses, refer to the Prime Infrastructure Ordering Guide at <http://www.cisco.com/go/primeinfrastructure>.

5 Pre-Installation Tasks

Complete the tasks in the following sections before installing Prime NCS (WAN).

System Requirements

Server Requirements

VMware ESXi Server 4.1.0 software is required on the server.

Table 2 lists the minimum server requirements for each of the Prime NCS (WAN) OVA options.

Table 2 Minimum Server Requirements for Deploying Virtual Appliances

OVA Size	Number of Devices	Minimum Requirements
Small	< 250	RAM—8 GB Disk Space—200 GB Processors—2 virtual CPUs at 2.93 GHz or faster
Large	1,000	RAM—16 GB Disk Space—400 GB Processors—8 virtual CPUs at 2.93 GHz or faster
Extra Large	5,000	RAM—24 GB Disk Space—1.2 TB Processors—8 virtual CPUs at 2.93 GHz or faster

Web Client Requirements

Hardware—A Mac or Windows laptop or desktop compatible with one of the supported browsers:

- Internet Explorer 8.0 with the Flash and Chrome plugins
- Mozilla Firefox 7.0

Java requirements—JDK 1.6

Display resolution—We recommend that you set the screen resolution to 1024 x 768 or higher.

Adobe Flash Player—You must install Adobe Flash Player on the client machine for Prime NCS (WAN) features to work properly. We recommend that you download and install Adobe Flash Player version 11.0.1.152 from the Adobe website.

Ports Used

The following ports are used by Prime NCS (WAN) and must be open before installation:



Note If using a firewall, the following ports must be open.

Table 3 Ports to be Used

Port	Protocol	Direction	Usage
7	ICMP	Server to endpoints.	Endpoint discovery.
22	TCP	Server to endpoints.	To initiate SSH connection to endpoints during troubleshooting processes.
		Client to server.	To connect to the Prime NCS (WAN) server.
25	TCP	Server to SMTP server.	SMTP

Table 3 *Ports to be Used*

Port	Protocol	Direction	Usage
53	TCP	Server to DNS server.	DNS
161	UDP	Server to network devices.	SNMP MIB polling
162	UDP	Endpoints to server.	Trap receiver port.
443	TCP	Server to interfaces.	HTTPS connectivity to interfaces.
8080	TCP	Client to server.	Browser access to Prime NCS (WAN) (via HTTP).



Note HTTP is disabled by default.

Setting Up Devices on the Network

Before installing, you should enable devices to provide Prime NCS (WAN) with fault, application, and performance data. Your Cisco devices must run at least the minimum required software versions, and be configured as indicated in Table 4.

Required Software Versions and Configurations

Table 4 *Minimum Required Software Version and Configuration for Supported Devices*

Devices	Minimum Software Version
Cisco Switches and Routers	Cisco IOS 15.1(4)T
All other Cisco devices	Cisco IOS 15.1(4)T

You must also configure your devices to support SNMP traps and syslogs, and the Network Time Protocol (NTP), as explained in the following sections.

Configuring SNMP

To ensure that Prime NCS (WAN) can query SNMP devices and receive traps and notifications from them, you must:

- Set SNMP credentials (community strings) on each device you want to manage using Prime NCS (WAN).
- Configure these same devices to send SNMP notifications to the Prime NCS (WAN) server.

Use the following IOS configuration commands to set read/write and read-only community strings on an SNMP device:

```
snmp-server community private RW
snmp-server community public RO
```

where *private* and *public* are the community strings you want to set.

After you set the community strings, you can specify that device notifications be sent as traps to the Prime NCS (WAN) server using the following IOS global configuration command on each SNMP device:

```
snmp-server host NCSHost traps version community notification-type
```

where:

- *NCSHost* is the IP address of the Prime NCS (WAN) server.
- *version* is the version of SNMP that is used to send the traps.
- *community* is the community string sent to the server with the notification operation.
- *notification-type* is the type of trap to send. You may need to control bandwidth usage and the amount of trap information being sent to Prime NCS (WAN) server using this parameter. For more information,

You may need to control bandwidth usage and the amount of trap information being sent to the Prime NCS (WAN) server using additional commands.

For more information on configuring SNMP, see the [snmp-server community](#) and [snmp-server host](#) sections of the [IOS Command Reference](#). Also see the “[Configuring SNMP Support](#)” section of the [Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2](#), and the [list of notification-type values](#).

Configuring NTP

Network Time Protocol (NTP) synchronization must be configured on all devices in your network as well as on the Prime NCS (WAN) server. You can specify the NTP server when you deploy the Prime NCS (WAN) OVA. You can also change the NTP server later, in the installed product, by entering the following commands:

```
ssh admin IP address or hostname
# ntp server IP address or hostname
```

Failure to organize time synchronization across your network can result in anomalous results in Prime NCS (WAN).

6 Installing Cisco Prime Network Control System (WAN)

Before You Begin

See [Pre-Installation Tasks, page 4](#) for information about setting up the devices in your network.

Before installing Prime NCS (WAN) in a virtual machine, you must ensure that:

- VMware ESXi is installed and configured on the machine you plan to use as the Prime NCS (WAN) server host. See the VMware documentation for information on setting up and configuring your host machine.
- The installed VMware ESXi host is reachable.
- The VMWare vSphere Client is installed on the same host. After the virtual host is available on the network, you can browse to its IP address to display a web-based interface from which you can install the VMware vSphere client.



Note The VMWare vSphere Client is Windows-based. Therefore you must download and install the client from a Windows PC.

After you install the VMWare vSphere client, you can run it and log into the virtual host, using the host name or IP address of the virtual host, the root login ID, and the password you configured. You can add the host to a vCenter if you want to manage it through vCenter. See the VMWare vSphere documentation for details.

- The Prime NCS (WAN) OVA is saved to the same machine where your vSphere client is installed. Depending on your arrangement with Cisco, you may download the OVA file from Cisco.com or take it from your Cisco-supplied installation media.

Deploying the OVA

Make sure that all of the system requirements are met before you deploy the OVA. Please review the sections [System Requirements, page 4](#) and [Before You Begin, page 6](#).

-
- Step 1** Launch your VMWare vSphere client.
 - Step 2** Choose **File > Deploy OVF Template**.
The Deploy OVF Template window appears.
 - Step 3** Click the **Deploy from file** radio button.
 - Step 4** Click **Browse** to access the location where you have saved the OVA file.
 - Step 5** Click **Next**.

The OVF template details are displayed in the OVF Template Details window.

Step 6 Verify the details about the OVA file, including the product name, version, and the size, then click **Next**.

The Name and Location window appears.

Step 7 Specify a name and location for the template that you are deploying. The name must be unique within the inventory folder, and can contain up to 80 characters.

Step 8 Click **Next**.

The Ready to Complete window appears. It displays the details of the OVA file, the name of the virtual appliance, size, host, and storage details.

Step 9 After you verify the options, click **Finish** to start the deployment.

This may take a few minutes to complete. Check the progress bar in the Deploying Virtual Application window to monitor the task status.

After the deployment task has successfully completed, a confirmation window appears.

Step 10 Click **Close**.

The virtual appliance that you deployed is listed under the host, in the left pane of the vSphere client.

Installing the Server

After you deploy the Prime NCS (WAN) OVA, you must configure the virtual appliance in order to install and start Prime NCS (WAN).

Step 1 In the VMware vSphere client, right-click the deployed virtual appliance and choose **Power > Power On**.

Step 2 Click the **Console** tab. At the localhost login prompt, enter **setup**.

Step 3 The console prompts you for the following parameters:

- IP Address—The IP address of the virtual appliance.
- IP default netmask—The default subnet mask for the IP address.
- IP default gateway—The IP address of the default gateway.
- Default DNS domain—The default domain name.
- Primary nameserver—The primary name server. You may add or edit this nameserver. To configure multiple name servers or NTP servers, enter **y**.
- Primary NTP server[time.nist.gov]
- Username—The name of the first administrative user. You can accept the default, which is **admin**.
- Password—Enter your password and confirm it. The default is **admin**. We recommend that you note down this password. This password cannot be retrieved or reset.

Step 4 When you are done entering these values, the vSphere Client tests the network configuration parameters you entered. If the tests are successful, it begins installing Prime NCS (WAN). When the installation is complete, the virtual appliance reboots and you are presented with a login prompt.

Step 5 Log in to the virtual appliance using the administrative username and password you specified.

Logging into the Prime NCS (WAN) User Interface

Follow these steps to log into the Prime NCS (WAN) user interface through a web browser:

Step 1 Launch one of the Supported Browsers (see [System Requirements, page 4](#)) on a different computer from the one on which you installed and started Prime NCS (WAN).

Step 2 In the browser’s address line, enter **https://ipaddress**, where *ipaddress* is the IP address of the server on which you installed Prime NCS (WAN). The Prime NCS (WAN) user interface displays the Login window.



Note When you access Prime NCS (WAN) for the first time, some browsers will display a warning that the site is untrusted. When this happens, follow the prompts to add a security exception and download the self-signed certificate from the Prime NCS (WAN) server. After you complete this procedure, the browser will accept the Prime NCS (WAN) server as a trusted site in all future login attempts.

Step 3 Enter the default administrative username and password, which are *root* and *Public123*, respectively.

If any licensing problems occur, a message appears in an alert box. If you have an evaluation license, the number of days until the license expires is shown. You are also alerted to any expired licenses. You have the option to go directly to the **Administration > Licenses** page to address these problems.

Step 4 Click **Login** to log into Prime NCS (WAN). The user interface is now active and available for use. The home page appears.

To ensure system security, select **Administration > Users, Roles & AAA > Change Password** to change the password for the *root* administrator.

To exit the user interface, close the browser page or click **Logout** in the upper right corner of the page. Exiting a Prime NCS (WAN) user interface session does not shut down Prime NCS (WAN) on the server.

If a system administrator stops the Prime NCS (WAN) server during your Prime NCS (WAN) session, your session ends, and the browser displays this message: “The page cannot be displayed.” Your session does not reassociate to Prime NCS (WAN) when the server restarts. You must start a new Prime NCS (WAN) session.

7 Getting Started

After you install Prime NCS (WAN), you must perform additional tasks to begin managing your network. These tasks are all listed in the “Getting Started” chapter of the [Cisco Prime Network Control System \(WAN\) 1.1 User Guide](#). After you complete these tasks, you are ready to start monitoring and configuring your network.

8 Navigation and Documentation Reference

This section provides information about navigational paths to access Prime NCS (WAN) features, and the details of the sections where the features are covered in Prime NCS (WAN) documentation.

Table 5 *Navigation and Documentation Reference*

Task	Navigation in Cisco Prime Network Control System (WAN)	Section in Cisco Prime Network Control System (WAN) User Guide
Discovering your network	Operate > Discovery	Getting Started
Setting up site profiles	<ul style="list-style-type: none">• Operate > Site Profiles & Maps• Operate > Device Workcenter	Getting Started
Setting up port monitoring	Operate > Port Grouping	Getting Started
Setting up virtual domains	Administration > Virtual Domains	Getting Started
Using monitoring dashboards	Operate > Monitoring Dashboards	Operating the Network
Using templates for configuring and monitoring	Design > Templates	Operating the Network
Viewing alarms	Operate > Alarms & Events	Monitoring Alarms

Table 5 **Navigation and Documentation Reference (continued)**

Task	Navigation in Cisco Prime Network Control System (WAN)	Section in Cisco Prime Network Control System (WAN) User Guide
Finding and comparing device configurations	Operate > Configuration Archive	Working with Device Configurations
Maintaining device configurations	Operate > Configuration Archive	Maintaining Device Configuration Inventory
Managing Users	Administration > Users, Roles & AAA	Controlling User Access

9 Uninstalling Cisco Prime Network Control System (WAN)

To uninstall Prime NCS (WAN) on the local server:

Step 1 Right-click the Prime NCS (WAN) virtual appliance from the VMWare vSphere client.

Step 2 Choose **Remove from Disk**.

10 Related Documentation

The following additional documentation is available for Prime NCS (WAN):



Note We sometimes update the documentation after original publication. Therefore, you should also review the documentation on Cisco.com for any updates.

- [Cisco Prime Network Control System \(WAN\) 1.1 User Guide](#)
- [Cisco Prime Network Control System \(WAN\) 1.1 Release Notes](#)

11 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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