Upgrading Prime Network Services Controller

This section includes the following topics:

Upgrading Overview

Note Prime Network Services Controller 3.5.1b does not support InterCloud functionality. If you upgrade from a previous version of Prime Network Services Controller with InterCloud objects, the upgrade procedure will detect those objects and stop the upgrade process. You must delete all InterCloud objects before you can upgrade to 3.5.1b.

The following tables show the supported upgrade paths for Prime Network Services Controller. Upgrading to Prime Network Services Controller 3.5.1b is supported only in VMware environments.

Table 1: Supported Upgrade Paths for Prime Network Services Controller 3.5.1b

Hypervisor	Supported Upgrade Versions	
	Standalone Mode	**Orchestrator Mode**
VMware	3.2, 3.2.2a, 3.2.2b, 3.4.1c, 3.4.1d, 3.4.2a, 3.4.2b, 3.4.2c, 3.5.1a, 3.5.1b	Not applicable

To upgrade from VNMC 2.x to Prime Network Services Controller 3.5.1b, you must first upgrade to one of the supported upgrade versions.

The following scenarios are not supported:

- Backing up from VNMC 1.x or 2.x and restoring to Prime Network Services Controller 3.5.1b.

- Exporting from VNMC 1.x or 2.x and importing to Prime Network Services Controller 3.5.1b.

To upgrade to Prime Network Services Controller 3.5.1b, confirm that you meet the following requirement:

- If you are upgrading from VNMC 2.1, ensure that the VNMC 2.1 is deployed in a single disk. The upgrade will fail if the VNMC 2.1 deployment spans more than one disk.

Note For more information on PNSC upgrade matrix, see the *Cisco Prime Network Services Controller Release Notes* at http://www.cisco.com/c/en/us/td/docs/net_mgmt/prime/network_services_controller/3-4-2b/release-notes/b_CiscoPrimeNetworkServicesController-3-4-2-ReleaseNotes.html.

Upgrade Workflow

The following table identifies the tasks in sequence for a smooth upgrade.

Task	Notes
1. Perform a full-state backup of Prime Network Services Controller using the Secure Copy (SCP) protocol.	See Backing Up Data, on page 3.
2. Stop the Prime Network Services Controller Device Adapter VM.	Do not delete this VM yet. You can delete it after you verify that the upgrade is successful and that you do not need to restore the previous version.
3. Upgrade Prime Network Services Controller by using the CLI **update bootflash** command.	See Upgrading to Prime Network Services Controller , on page 5.
4. Using the new Prime Network Services Controller Device Adapter version, deploy a new Prime Network Services Controller Device Adapter VM and power it up.	When configuring the new Prime Network Services Controller Device Adapter VM, use the same host information (hostname, access credentials, and management IP address) as the previous version.
5. Verify that Prime Network Services Controller has been successfully upgraded.	1. In the console, enter the **show version** command to confirm that the new version is installed. 2. Log in to the Prime Network Services Controller GUI and confirm that the service nodes are registered.
6. Delete the previous Prime Network Services Controller Device Adapter VM.	After verifying that the service nodes are registered, you can delete this VM.

After upgrading Prime Network Services Controller:

- Allow the system to synchronize and stabilize for at least 15 minutes. Do not add or modify policies or service devices during this time.

- Allow approximately five minutes for each service node to register with Prime Network Services Controller.

- If you see the previous version of Prime Network Services Controller in your browser, clear the browser cache and history, and restart the browser. This applies to all supported browsers: Mozilla Firefox (recommended browser), Internet Explorer, and Chrome.

Migrating Classic PNSC (Release 3.4.2x) to NG PNSC (Release 3.5.1x)

To upgrade classic PNSC (release 3.4.2x) to next generation PNSC (release 3.5.1x), follow the instructions provided in Migrating Cisco VSG and Cisco PNSC with Cisco Nexus 1000V to Cisco Nexus 1000VE Environment section.

Backing Up Data

Back up Prime Network Services Controller before upgrading to a new version.

Adhere to the following conventions when backing up Prime Network Services Controller:

- Temporarily disable the Cisco Security Agent (CSA) on the remote file server.

- Do not use TFTP to back up data.

- Do not perform a backup while the system is importing images.

- Access the CLI through the console instead of using SSH. If the SSH session should disconnect, you will not be able to access the VM.

SUMMARY STEPS

    1. Using the console, log in to Prime Network Services Controller as admin.
    2. Enter system mode:
    3. Create a full-state backup file:
    4. When prompted, enter the required password.
    5. At the /system/backup* prompt, enter:
    6. Log in to the SCP server, and make sure that */file* exists and that the file size is not zero (0).

DETAILED STEPS

Step 1   Using the console, log in to Prime Network Services Controller as admin.

Step 2   Enter system mode:

```
scope system
```

Step 3   Create a full-state backup file:

```
create backup scp://user@host/file full-state enabled
```

where:

- *user* is the username.

• *host* is the system name.

• */file* is the full path and name of the backup file.

Step 4   When prompted, enter the required password.

Step 5   At the `/system/backup*` prompt, enter:

```
commit-buffer
```

Step 6   Log in to the SCP server, and make sure that */file* exists and that the file size is not zero (0).

PNSC Environment Upgrade Matrix and Path

This section lists the compatibility information and upgrade path for Cisco PNSC versions.

Table 2: PNSC Upgrade Path

Initial Version	Intermediate State(s)	Final Version
2.0.3	2.1 to 3.0.2g to 3.2.2a to 3.4.1d to 3.5.1a	3.5.1b
2.1	3.0.2 to 3.2.2a to 3.4.1d to 3.5.1a	3.5.1b
3.0.2	3.2.2a to 3.4.1d to 3.5.1a	3.5.1b
3.2.1d	3.4.1d to 3.5.1a	3.5.1b
3.2.2b	3.4.1d to 3.5.1a	3.5.1b
3.4.1b	3.4.1d to 3.5.1a	3.5.1b
3.4.1c	3.4.1d to 3.5.1a	3.5.1b
3.4.1d	3.5.1a	3.5.1b
3.4.2a	3.5.1a	3.5.1b
3.4.2b	3.4.2d	3.5.1b
3.4.2c	3.5.1a	3.5.1b
3.4.2d	N/A	3.5.1b
3.5.1a	N/A	3.5.1b

Upgrading to Prime Network Services Controller

After you back up the data for your existing Prime Network Services Controller installation, you can upgrade to Prime Network Services Controller .

Adhere to the following guidelines when upgrading Prime Network Services Controller:

- Do not use TFTP to update data.

- Do not access the GUI during the upgrade process.

- Use the console to access the CLI instead of SSH. If the SSH session should disconnect, you will not be able to access the VM.

Note For more information on PNSC upgrade matrix, see the *Cisco Prime Network Services Controller Release Notes* at http://www.cisco.com/c/en/us/td/docs/net_mgmt/prime/network_services_controller/3-4-2b/ release-notes/b_CiscoPrimeNetworkServicesController-3-4-2-ReleaseNotes.html.

Before you begin

Confirm the following:

- You have backed up your current system for recovery purposes, if needed. For more information, see Backing Up Data, on page 3.

- Prime Network Services Controller has two virtual disks with the following configuration:

  - Disk 1—20 GB

  - Disk 2—200 GB

If you do not have two disks configured, you will not be able to upgrade to .

Step 1 Using the console, log in to Prime Network Services Controller as admin.

Step 2 Connect to local-mgmt:

```
connect local-mgmt
```

Step 3 (Optional) Check the current version of the Prime Network Services Controller software:

```
show version
```

Step 4 Download the Prime Network Services Controller image from a remote file server:

```
copy scp://imageURLtoBinFile bootflash:/
```

Step 5 Upgrade to Prime Network Services Controller :

```
update bootflash:/
```

where is the image name.

Step 6   Restart the server:

```
service restart
```

Step 7   (Optional) Confirm that the Prime Network Services Controller server is operating as desired:

```
service status
```

Step 8   (Optional) Verify that the Prime Network Services Controller software version has been updated:

```
show version
```

Step 9   To confirm that Prime Network Services Controller is fully accessible after the upgrade, log in to the GUI.

If your browser displays the previous version instead of the upgraded version, clear the browser cache and browsing history, and restart the browser.

Step 10   If you have changed the server hostname or fully qualified domain name (FQDN), reconfigure Prime Network Services Controller connectivity with the VMM.

Note   You must perform this step before attempting any enterprise VM-related operations.

Synchronizing PNSC system clock with Network Time Protocol Server

After the PNSC upgrade is complete, to synchronize the PNSC system clock with the configured Network Time Protocol (NTP) server, perform the the following steps.

Step 1   Using the console, log in to Prime Network Services Controller.

Step 2   Connect to **policy-mgr**:

```
localhost#connect policy-mgr
```

Step 3   Create an NTP server host `127.127.1.0`.

    a) `localhost(policy-mgr)# scope org`
    b) `localhost(policy-mgr) /org # scope deviceprofile default`
    c) `localhost(policy-mgr) /org/deviceprofile # create ntp-server 127.127.1.0`
    d) `localhost(policy-mgr) /org/deviceprofile* # commit`

Step 4   Delete the NTP server host which you created in the previous step.

    a) `localhost(policy-mgr) /org/deviceprofile # delete ntp-server 127.127.1.0`

b) `localhost(policy-mgr) /org/deviceprofile* # commit`

c) `localhost(policy-mgr) /org/deviceprofile # exit`

d) `localhost(policy-mgr) /org # exit`

e) `localhost(policy-mgr)# exit`

Step 5 Verify if the NTP server host has been deleted.

`localhost(local-mgmt)# sh ntp peer status`

Only the NTP configured server/servers will be displayed.

```
     remote           refid      st t when poll reach   delay   offset  jitter
==============================================================================
bgl11-row1-dc-n .INIT.          16 u    -   64    0    0.000    0.000   0.000
```