



Integrating Prime Performance Manager with Other Cisco Prime Products

Prime Performance Manager can be integrated with other Cisco Prime products including Cisco Prime Central (Prime Central), Cisco Prime Network (Prime Network), Cisco Prime Network Services Controller (Prime Network Services Controller), and Cisco Prime Analytics. Integration with other Cisco Prime products is covered in the following topics:

- [Prime Central Integration Overview, page 4-1](#)
- [Prime Network Integration Overview, page 4-8](#)
- [Prime Network Services Controller Integration Overview, page 4-8](#)

Prime Central Integration Overview

Cisco Prime Central is the presentation tier for the Cisco Prime Carrier Management suite, which includes Cisco Prime Performance Manager, Cisco Prime Network, Cisco Prime Optical, and other domain managers. Prime Central provides a number of centralized features and functions including:

- A single point of access (single sign-on) to the Prime Central domain managers.
- Central access to the experience lifecycle tasks.
- Support for LDAP, TACACS+, and RADIUS authentication plug-ins.
- Virtualization on VMware configurations.
- Common user management with role-based access control (RBAC).
- Grouping-to-domain manager mapping.
- Common adopted installation framework.
- Database and application monitoring.
- Common physical inventory management
- Dynamic inventory updates: when Prime Central receives physical device change notifications from domain managers, it sends notifications to all subscribing domain managers, including Prime Performance Manager, so the Prime Performance Manager device inventory is kept synchronized with the Prime Central inventory.

Integrating Prime Performance Manager with Prime Central involves the following general tasks:

- Running the Prime Central integration (required)
- Creating users (required)

- Importing trap destinations (optional)

Procedures are provided in the following topics:

- [Integrating Prime Performance Manager with Prime Central, page 4-2](#)
- [Prime Central Integration Considerations and Next Steps, page 4-7](#)

Integrating Prime Performance Manager with Prime Central

Prime Performance Manager can be integrated with Prime Central during Prime Performance Manager installation. If you did not integrate Prime Central with Prime Performance Manager during installation, you can run the integration from the Prime Performance Manager GUI or CLI.

Before You Begin

- Verify that Prime Central is installed and running on a server to which you have access.
- Verify that you have the Prime Central server database IP address or hostname, port, username, system ID, and password.
- Because you must restart the Prime Central integration layer and Prime Performance Manager after the integration, make sure you perform the procedure at a time when restarts can occur.

After you integrate Prime Performance Manager with Prime Central, the following Prime Performance Manager changes occur:

- Users and user logins—Prime Performance Manager users are removed. All logins and user management operations are performed in Prime Central. The Prime Performance Manager User Management window is visible with reduced functionality. For information about logins and user management, see the *Cisco Prime Central 1.3 User Guide*. Should you decide to remove Prime Performance Manager integration with Prime Central, SSL and user access are disabled. To enable users, see [Setting Up User Access and Security, page 6-1](#).
- Alarm management—The following alarm actions are available and synchronized between Prime Performance Manager and Prime Central:
 - Acknowledge/Unacknowledge
 - Clear
 - Delete
 - Clear/Delete
 - Change Severity

Assign Owner is not available, however.



Note

You can only integrate one Prime Performance Manager gateway with Prime Central.

Step 1 Log into the Prime Performance Manager GUI as a System Administrator user.

Step 2 From the Administration menu, choose **Prime Central Integration**.

Step 3 In the Prime Central Integration window, enter the following:

- Database Host—Enter the Prime Central database hostname or IP address.
- Database Port—Enter the Prime Central database port number, which is 1521 by default. The default port is recommended.

- Database User—Enter the Prime Central database username, which is primedba by default.
 - Database Password—Enter the Prime Central database user password; for example, Test456!
 - Database SID—Enter the Prime Central database service name, which is primedb by default.
 - Automatically Remove Devices From PPM When Removed From Prime Central—If checked, Prime Network devices are automatically removed from Prime Performance Manager when they are removed from Prime Central. If not checked, devices removed from Prime Central are retained in Prime Performance Manager but changed to an unmanaged state.
- Step 4** Click the **Submit Prime Central Integration** tool on the System Prime Central Integration window toolbar.
- If the integration information you entered is valid, you are prompted to restart the Prime Central integration layer. If not, an error is returned.
- Step 5** Restart Prime Performance Manager gateways and unit(s) by executing the **ppm restart** command. For information, see [Restarting Gateways and Units, page 2-5](#).
- Step 6** Log into the Prime Central server and stop the Prime Central Integration Layer:
- ```
itgctl stop
```
- Step 7** Wait two minutes, then start the Prime Central integration layer:
- ```
itgctl start
```
- Step 8** Verify the integration,
- a. Log into Prime Central. (For Prime Central login procedures, see the [Cisco Prime Central 1.3 User Guide](#).)
 - b. From the Prime Central Administration menu, choose **Suite Monitoring**.
 - c. Verify that Prime Performance Manager is listed under Applications and has an Up state.
If Prime Performance Manager is not shown, complete the steps in “Prime Performance Manager Does not Appear in Prime Central” in [Table 4-1 on page 4-6](#).
If Prime Performance Manager is shown, but its state is Down, complete the steps in “Prime Performance Manager is Displayed in Prime Central with a Down State” in [Table 4-1 on page 4-6](#).
 - d. From the Prime Central Assure menu, verify that Prime Performance Manager is listed. If not, complete the steps in “Prime Performance Manager Menu Option is Missing” in [Table 4-1 on page 4-6](#).
 - e. From the Prime Central Assure menu, choose Prime Performance Manager. Prime Performance Manager should be cross launched. If not, complete the steps in “Cannot Launch Prime Performance Manager from Prime Central” in [Table 4-1 on page 4-6](#).
- Step 9** If remote units are connected to the gateway, complete the “[Enabling SSL on Remote Units](#)” procedure on [page 6-3](#) to enable SSL on the remote units.
- Step 10** After Prime Performance Manager is integrated with Prime Central, use the Prime Central portal to create new users, even if they already existed in Prime Performance Manager. See the [Cisco Prime Central 1.3 User Guide](#) for procedures.



Note When you create a user who previously existed in Prime Performance Manager, Prime Central advises you that the user already exists in Prime Performance Manager, retrieves the user properties, and applies them to the new Prime Central user. For more information, see [Managing Users and User Security, page 6-13](#).

To integrate Prime Performance Manager with Prime Central using the Prime Performance Manager CLI:

- Step 1** Log into the Prime Performance Manager gateway server as a System Administrator user.
- Step 2** Enter the following command:
- ```
ppm primecentralintegration
```
- Step 3** At the prompts, enter the Prime Central server information:
- Database Host—Enter the Prime Central database server IP address or hostname.
  - Database SID [primedb]—Enter the Prime Central database service name, which is primedb by default.
  - Database User [primedba]—Enter the Prime Central database username, which is primedba by default.
  - Database Password [\*\*\*\*\*]—Enter the Prime Central database user password; for example, Test456!
  - Database Port [1521]—Enter the Prime Central database port number, which is 1521 by default.
  - Domain Manager ID (for HA only)—Enter the Prime Performance Manager domain manager ID for high availability.
- Allow a few minutes for the integration layer restart to complete, then continue with the next step.
- Step 4** Restart the Prime Performance Manager gateway and unit(s). See [Restarting Gateways and Units, page 2-5](#).
- Step 5** Verify the integration:
- a. Log into Prime Central. (For Prime Central login procedures, see the [Cisco Prime Central 1.3 User Guide](#).)
  - b. From the Prime Central Administration menu, choose **Suite Monitoring**.
  - c. Verify that Prime Performance Manager is listed under Applications and has an Up state.
 

If Prime Performance Manager is not shown, complete the steps in “Prime Performance Manager Does not Appear in Prime Central” in [Table 4-1 on page 4-6](#).

If Prime Performance Manager is shown, but its state is Down, complete the steps in “Prime Performance Manager is Displayed in Prime Central with a Down State” in [Table 4-1 on page 4-6](#).
  - d. From the Prime Central Assure menu, verify that Prime Performance Manager is listed. If not, complete the steps in “Prime Performance Manager Menu Option is Missing” in [Table 4-1 on page 4-6](#).
  - e. From the Prime Central Assure menu, choose Prime Performance Manager. Prime Performance Manager should be cross launched. If not, complete the steps in “Cannot Launch Prime Performance Manager from Prime Central” in [Table 4-1](#).

- Step 6** If remote units are connected to the gateway, complete the [“Enabling SSL on Remote Units” procedure on page 6-3](#) to enable SSL on the remote units.
- Step 7** After Prime Performance Manager is integrated with Prime Central, use the Prime Central portal to create new users, even if they already existed in Prime Performance Manager. See the [Cisco Prime Central 1.3 User Guide](#) for procedures.

The Prime Central Integration tool changes to Import inventory after Prime Performance Manager is integrated with Prime Central. The inventory is imported about fifteen minutes after you complete the integration and restart Prime Performance Manager. You can update the inventory after the Prime Central after the Prime Central Integration Layer is restarted.



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**Note** If you try to import the inventory while the Prime Central Integration Layer is down, the import will fail.

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[Table 4-1](#) lists Prime Central integration issues and resolutions.

Table 4-1 Prime Central Integration Issues and Resolutions

| Problem                                                                   | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prime Performance Manager Does not Appear in Prime Central                | <ol style="list-style-type: none"> <li>1. Log into the Prime Performance Manager gateway as the root user. (See <a href="#">Logging In as the Root User, page 2-1.</a>)</li> <li>2. Display the DMIntegrator log:<br/><code>/opt/CSCOppm-gw/prime-integrator/DMIntegrator.log</code></li> <li>3. In the log, check to see: <ul style="list-style-type: none"> <li>– Whether Prime Performance Manager registration status, either succeeded or failed.</li> <li>– If registration was successful, whether the Prime Central database server hostname or IP address located in the log [SERVER:] property is correct.</li> </ul> </li> <li>4. If the Prime Central Suite Monitoring table contains a Prime Performance Manager instance, select the row and press the <b>Remove</b>.</li> <li>5. Wait a few minutes for Prime Central to delete the Prime Performance Manager instance, then complete the <a href="#">“Integrating Prime Performance Manager with Prime Central” procedure on page 4-2</a>, making sure to enter the correct Prime Central database server information.</li> <li>6. If this does not resolve the problem, call Cisco TAC.</li> </ol> |
| Prime Performance Manager is Displayed in Prime Central with a Down State | <ol style="list-style-type: none"> <li>1. Restart the Prime Performance Manager gateway and all remote units that are connected to it. See the <a href="#">“Restarting Gateways and Units” procedure on page 2-5</a>.</li> <li>2. Check the Prime Performance Manager operational status. See the <a href="#">“Displaying Gateway and Unit Status” procedure on page 2-7</a>.</li> <li>3. Log into the Prime Central workstation as the primeusr UNIX OS user.</li> <li>4. Stop the Prime Central Integration Layer by entering:<br/><code>itgctl stop</code></li> <li>5. Wait around two minutes, then start the integration layer:<br/><code>itgctl start</code></li> <li>6. After a few minutes, check to see if the Prime Performance Manager state changes to Up in the Suite Monitoring &gt; Applications window.</li> <li>7. If this does not resolve the problem, call Cisco TAC.</li> </ol>                                                                                                                                                                                                                                                                |

**Table 4-1** Prime Central Integration Issues and Resolutions (continued)

| Problem                                                    | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prime Performance Manager Menu Option is Missing           | <ol style="list-style-type: none"> <li>1. From the Prime Central Administration menu, choose <b>Users</b>.</li> <li>2. Verify that the logged-in user has Prime Performance Manager in the domain manager access privileges.</li> <li>3. If not, select the user, click <b>Edit</b> and add Prime Performance Manager to the user's domain privileges. For detailed procedures, see "Edit a User" in the <i>Cisco Prime Central 1.3 User Guide</i>.</li> <li>4. Log out and then log back in</li> </ol> |
| Cannot Launch Prime Performance Manager from Prime Central | <ol style="list-style-type: none"> <li>1. Verify that the Prime Performance Manager gateway is up and running. See the "Displaying Gateway and Unit Status" procedure on page 2-7. All services should be running.</li> <li>2. If not, restart the gateway. See the "Displaying Gateway and Unit Status" procedure on page 2-7.</li> <li>3. If the problem persists, contact the Cisco TAC.</li> </ol>                                                                                                  |

## Prime Central Integration Considerations and Next Steps

After you integrate Prime Performance Manager with Prime Central, keep in mind that all user logins and management—adding, editing, removing—are performed from Prime Central. See the *Cisco Prime Central 1.3 User Guide* for login and user management procedures, as well as general information about using Prime Performance Manager in the Cisco Prime Carrier Management Suite.

When Prime Performance Manager is integrated with Prime Central, Prime Fault Management is imported as a trap destination (if it exists.) If you want to send traps to Prime Network instead, you can use the `ppm setpctrappedestination` command to send traps to Prime Network instead of Prime Fault Management.

After you integrate Prime Performance Manager with Prime Central, you can launch Prime Performance Manager from the Prime Central menu, from selected devices and interfaces in the Prime Central inventory view, and from selected alarms in the Fault Management window.

Following integration, you will likely want to perform other procedures, for example, import devices and begin generating reports.

**Table 4-2** Post Integration Commands and Procedures

| Task                                                                                                                       | Command or Procedure                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remove Prime Performance Manager from the Prime Central Suite Monitoring table and return it to standalone domain manager. | <code>ppm primecentralintegration remove</code><br><b>Note</b> The command switches Prime Performance Manager from suite to standalone mode. You must remove Prime Performance Manager from the Prime Central Suite Monitoring table manually using the Prime Central GUI. |
| Change Prime Performance Manager trap destination from Prime Fault Management to Prime Network.                            | <code>ppm setpctrappedestination</code><br>See <code>ppm setpctrappedestination</code> , page B-79, for command options.                                                                                                                                                   |

Table 4-2 Post Integration Commands and Procedures (continued)

| Task                                                                                                                                                            | Command or Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Update the device inventory from Prime Central. The inventory is automatically imported several minutes after integration, if the Integration Layer is running. | <p>Using the GUI:</p> <ol style="list-style-type: none"> <li>From the Administration menu, choose <b>Prime Central Integration</b>.</li> <li>From the Prime Central Integration toolbar, choose <b>Import Inventory</b>.</li> </ol> <p><b>Note</b> The Prime Central Integration Layer must be running. If not, the import will fail.</p> <p>Using the CLI:</p> <p>ppm inventoryimport command.</p> <p>See <a href="#">ppm inventoryimport, page B-43</a>, for command options.</p> |
| Adds cross-launch capability to Cisco Prime Network. Cross launches are automatically installed in each Prime Network instance registered with Prime Central.   | <p>ppm crosslaunch</p> <p>See <a href="#">ppm crosslaunch, page B-22</a>, for command options.</p>                                                                                                                                                                                                                                                                                                                                                                                  |

## Prime Network Integration Overview

To integrate Prime Performance Manager with Prime Network you generally integrate with Cisco Prime Central, the Cisco Carrier Management parent application. However, you can integrate Prime Performance Manager with Cisco Prime Network separately. Because integration is usually performed to import Prime Network devices into Prime Performance Manager, Prime Network integration procedures are provided in the [Chapter 5, “Discovering Network Devices.”](#) For information about Prime Network integration and device imports, see [Importing Devices From Prime Network, page 5-3](#).

## Prime Network Services Controller Integration Overview

Prime Network Services Controller is the management application for Cisco Nexus 1000V (Nexus 1000V) switches and services that can enable transparent, scalable, and automation-centric network management for virtual data center and hybrid cloud environments. Nexus 1000V switches and services deliver a highly secure multitenant environment by adding virtual intelligence to the data center network. The virtual switches are built to scale for cloud networks. Virtual Extensible LAN (VXLAN) support enables scalable LAN segmentation and virtual machine (VM) mobility.

Prime Network Services Controller allows administrators to manage Cisco virtual services through its GUI or XML API. Its model-centric architecture provides a flexible mechanism for provisioning and securing virtual infrastructure using Cisco Virtual Security Gateway (Cisco VSG) and Cisco Adaptive Security Appliance 1000V (ASA 1000V) Cloud Firewall virtual security services.

General integration flow:

- Initiation—Prime Performance Manager initiates integration with Prime Network Services Controller. It sends the Prime Performance Manager information (IP address) to Prime Network Services Controller through the Prime Network Services Controller API.



- One-to-one integration—One Prime Performance Manager gateway is connected to one Prime Network Services Controller gateway.
- Integration removal—To remove the Prime Network Services Controller integration, you must remove from both the Prime Performance Manager and Prime Network Services Controller GUIs.

Integrating Prime Performance Manager with Prime Network Services Controller provides the following capabilities:

- System level cross launch—Prime Performance Manager can be launched from Prime Network Services Controller. This capability is largely for administrators to access Prime Performance Manager to manage devices and users, and to set up performance reporting configurations such as thresholds. The cross-launch process steps include:
  - Prime Performance Manager initiates integration with Prime Network Services Controller. It sends the Prime Performance Manager information (IP address) to Prime Network Services Controller through the Prime Network Services Controller API.
  - A Prime Performance Manager cross launch menu item is added to the Prime Network Services Controller dashboard.
  - One-to-one integration—One Prime Performance Manager gateway is connected to one Prime Network Services Controller gateway.
  - Integration removal—To remove the Prime Network Services Controller integration, you must remove from both the Prime Performance Manager and Prime Network Services Controller GUIs.
- Device level cross launch—Prime Network Services Controller users can launch Prime Performance Manager reports from Prime Network Services Controller devices. Prime Performance Manager supports vDevices managed by Prime Network Services Controller in the private cloud. It gets device IP addresses or hostnames from Prime Network Services Controller through its North Bound API (NBAPI in XML). Prime Performance Manager uses the default account for device cross launch. No user information is needed for a device cross launch. Prime Performance Manager is launched as a separate application.
- Device import—Prime Network Services Controller devices are imported into Prime Performance Manager in an unmanaged state. You must add the Prime Network Services Controller credentials to Prime Performance Manager, then change the device state to managed. Additional notes:
  - Prime Performance Manager needs an IP or hostname and login credentials to access devices.
  - Prime Network Services Controller only has IP or hostname information.
- User management—Prime Network Services Controller and Prime Performance Manager have their own authentication and credential management. Users must log into Prime Performance Manager for administrator cross launch. Report cross launch to Prime Performance Manager does not require user log in. Separate user accounts must be independently created and maintained in both Prime Performance Manager and Prime Network Services Controller.
- TCA alarm integration—Prime Performance Manager passes TCA events (performance thresholds, etc) to Prime Network Services Controller, which displays the alarms and events in the device alarm table. Prime Performance Manager sends the alarm ID, message text, device name, and severity. Prime Network Services Controller adds a time stamp based on the local system time. Alarms deleted in Prime Performance Manager are cleared in Prime Network Services Controller.
- Prime Network Services Controller host—The Prime Network Services Controller host is displayed in the Prime Performance Manager Administration Alarms/Events Editor Upstream OSS Hosts table. Table fields and the Delete button are disabled. Filter and Resend are enabled.

- The Prime Network Services Controller host is removed from the Prime Performance Manager Upstream OSS Hosts table when Prime Network Services Controller integration is removed on the Prime Network Services Controller Integration page.

## Integrating Prime Performance Manager With Prime Network Services Controller

To integrate Prime Performance Manager with Prime Network Services Controller:

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- Step 1** Log into the Prime Performance Manager GUI as a System Administrator user.
- Step 2** From the Administration menu, choose **Prime Network Services Controller Integration**.
- Step 3** In the Administration Prime Network Services Controller Integration window, enter the following:

### Prime Network Services Controller Integration Setup

- **Host**—Enter the Prime Network Services Controller hostname or IP address.
- **Admin User Name**—Enter the Prime Network Services Controller administrator user name.
- **Admin User Password**—Enter the Prime Network Services Controller Integration administrator user password.

### Prime Performance Manager User Setup

- **Admin User Name (New)**—Allows you to enter a new Prime Performance Manager new administrator username.




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**Note** If user security is enabled, you can use an existing Prime Performance Manager user. If user security is not enabled, the user and password will be added as a new user expressly for Prime Network Services Controller access.

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- **Admin User Password(New)**—If you entered a new Prime Performance Manager administrator user, enter the new administrator user password.

- Step 4** On the toolbar, click **Submit Prime Network Services Controller Integration**.  
Wait a few minutes for the integration to complete.
- Step 5** From the Network menu, choose **Devices**.
- Step 6** In the Network Devices window, verify the Prime Network Services Controller devices are added. These include:
- Cisco Virtual Security Gateway
  - Cisco Adaptive Security Appliance 1000V Cloud Firewall
  - Cisco Cloud Services Router 1000V Series
  - Citrix NetScaler VPX load balancers Application Delivery Controller
- Because device credentials have not been added, Prime Network Services Controller devices have an unmanaged status.
- Step 7** Complete the [“Adding SNMP Device Credentials” procedure on page 5-6](#) to add the Prime Network Services Controller SNMP credentials.

- Step 8** Complete the “[Adding Device Credentials for Other Protocols](#)” procedure on page 5-8 to add the Prime Network Services Controller Telnet and SSH credentials.
- Step 9** From the Administration menu, choose **Prime Network Services Controller Integration**.
- Step 10** If you want Prime Performance Manager to manage only Prime Network Services Controller devices, check the Strict Sync checkbox. If not, continue with the next step.



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**Note** If strict sync is not enabled, devices removed from Prime Network Services Controller are deleted from Prime Performance Manager. Prime Performance Manager listens for inventory notifications from Prime Network Services Controller so devices added or deleted in Prime Network Services Controller are reflected immediately in Prime Performance Manager.

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**Note** A Prime Performance Manager cron job runs a full synchronization four times a day.

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- Step 11** On the Administration Prime Network Services Controller Integration window, click **Import Inventory**.
- Step 12** From the Network menu, choose **Devices**.
- Step 13** In the Network Devices window, verify the Prime Network Services Controller devices are added and their status is Active.
- Step 14** Open Prime Network Services Controller.
- Step 15** Verify that you can open Prime Performance Manager with the user and password entered in [Step 3](#).



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**Note** You can also perform Prime Network Services Controller integration using the ppm pnsintegration command. For information, see [ppm pnsintegration, page B-62](#).

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## Removing Prime Network Services Controller Integration

To remove Prime Network Services Controller integration with Prime Performance Manager:

- Step 1** Log into the Prime Performance Manager GUI as a System Administrator user.
- Step 2** From the Administration menu, choose **Prime Network Services Controller Integration**.
- Step 3** On the Administration Prime Network Services Controller Integration window, click the Remove Integration tool.
- Step 4** To complete the removal, log into Prime Network Services Controller and remove Prime Performance Manager through the Prime Network Services Controller GUI.
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