



# Use Operations Center to Monitor Multiple Prime Infrastructure Instances

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- [How to Monitor Multiple Cisco Prime Infrastructure Instances, on page 1](#)
- [Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers, on page 2](#)
- [Run Reports on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center, on page 12](#)

## How to Monitor Multiple Cisco Prime Infrastructure Instances

There are three situations in which you will want to use multiple Cisco Prime Infrastructure server instances to manage your network:

- You want to categorize the devices in your network into logical groups, with a different Cisco Prime Infrastructure instance managing each of those groups. For example, you could have one instance managing all of your network's wired devices and another managing all of its wireless devices.
- The one Cisco Prime Infrastructure instance you have running is sufficient to manage your network, but the addition of one or more instances would improve Cisco Prime Infrastructure performance by spreading the CPU and memory load among multiple instances.
- Your network has sites located throughout the world, and you want a different Cisco Prime Infrastructure instance to manage each of those sites in order to keep their data separate.

If multiple Cisco Prime Infrastructure instances are running in your network, you can monitor those instances from the Operations Center. In this chapter, we will cover a typical workflow you might employ when using the Operations Center. This workflow consists of the following tasks:

- Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers
- Run Reports on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center

See Related Topics for more details:

### Related Topics

[Run Reports on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center, on page 12](#)

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers, on page 2](#)

[Operations Center FAQ](#)

# Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers

After viewing the various dashboards available in the Operations Center, you can then take a closer look at what is going on in your network. Specifically, you can monitor:

- The devices that belong to your network.
- The Cisco Prime Infrastructure servers that manage those devices.
- The alarms, events and other incidents that have taken place in your network.
- The clients and users configured to use your network.

The following related topics cover these items in more detail.

## Related Topics

[View Devices Managed by All Cisco Prime Infrastructure Servers Using Operations Center](#), on page 3  
[Use Virtual Domains on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 5

[Manage Prime Infrastructure Servers using Operations Center](#), on page 8

[View the Status of Multiple Prime Infrastructure Servers using Operations Center](#), on page 9

[View Software Updates on Multiple Prime Infrastructure Servers Using Operations Center](#)

[View Alarms on Devices Managed by Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 10

[View Clients and Users Managed by Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 11

## Add Devices Using Operations Center

Cisco Prime Infrastructure Operations Center allows you to add the devices to one or more of managed instances from the Operations Center user interface. In addition to manually adding devices, you can also choose to import devices using the Bulk Import option.

### Procedure

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**Step 1** Choose **Monitor > Managed Elements > Network Devices**.

**Step 2** To add devices manually, do the following:

- a) Click the **+** icon above the Network Devices table, then choose **Add Device**.
- b) In the **Add Device** dialog box, choose the Prime Infrastructure server to which you want to add the devices.
- c) Complete the required fields. Click the "?" next to a field for a description of that field.

**Note** Telnet/SSH information is mandatory for devices such as most Cisco NCS devices.

- d) (Optional) Click **Verify Credentials** to validate the credentials before adding the device.

Prime Infrastructure supports HTTP credentials-verification for NAM devices only.

- e) Click **Add** to add the device with the settings you specified.

**Note** User Defined Field (UDF) parameters will be available for the new device only if you first choose **Administration > Settings > System Settings > Inventory > User Defined Fields** and then add these UDF parameters. Do not use the special characters : ; and # for UDF field parameters.

- Step 3** To import devices from another source using CSV file, do the following:
- Click the **+** icon above the Network Devices table, then choose **Bulk Import**.
  - In the **Bulk Device Import** dialog box, choose the Prime Infrastructure server to which you want to import the devices.
  - Click **Choose File** and select the CSV file containing the device details for bulk import.  
For details on creating a CSV file, see [Create Device Import CSV Files](#)
  - Click **Import**.

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## Move Device from One Prime Infrastructure Instance to Another Prime Infrastructure Instance

You can move the device that is managed in one Prime Infrastructure instance to another Prime Infrastructure instance for load balancing among different managed Prime Infrastructure instances.

### Procedure

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- Step 1** Choose **Monitor > Managed Elements > Network Devices**.
  - Step 2** In the Network Devices table, choose the device and click **Move Device**.
  - Step 3** In the Moving Devices Dialog box, choose the Prime Infrastructure server to which you want the device to be moved.
  - Step 4** Check the **Remove device from source server** check box and click **OK**.  
If you uncheck the **Remove device from source server** check box, the device will be managed by more than one Prime Infrastructure instance which is not a recommended practice.
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## View Devices Managed by All Cisco Prime Infrastructure Servers Using Operations Center

Select **Monitor > Managed Elements > Network Devices** to open the Network Devices page in Operations Center. From here, you can view information for every device that belongs to your network that a Cisco Prime Infrastructure instance is managing. This information includes the device's hostname/IP address, its current reachability status, and the last time inventory data was successfully collected from that device. You can also launch the Device 360° view and perform Telnet, Ping, and Traceroute actions.

When you first open the Network Devices page, every network device is displayed. To refine the devices displayed, do one of the following:

- From the Device Group pane, select the desired device type, location, or user-defined group, and drill-down to the sub-groups. You can also view the **Unified AP** and **Third Party AP** tabs when you select any of the the location groups.
- Apply a custom filter or select one of the predefined filters from the Show drop-down list. Operations Center provides a custom filter that allows you to view duplicate devices across your managed instances. For details on how to use filters, see the related topic "Quick Filter".
- Search for a particular device. For details, see the related topic "Search Methods".
- If you want to hide the empty device groups, do the following:
  - Choose **Administration > System Settings > Inventory > Grouping**.
  - Uncheck the **Display groups with no members** check box.
  - Click **Save**.

If you delete a device from the Operations Center Network Devices page, the device is also deleted from all the managed Cisco Prime Infrastructure instances monitoring that device.

#### Related Topics

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers](#), on page 2

[Use Virtual Domains on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 5

[Quick Filters](#)

[Search Methods](#)

## Synchronize Devices Using Operations Center

To synchronize the Prime Infrastructure Operation Center database with the configuration running on Prime Infrastructure devices, you can force an inventory collection.

To synchronize devices, follow these steps:

#### Procedure

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- Step 1** Choose **Monitor > Managed Elements > Network Devices**.
- Step 2** Select the device(s) whose configuration you want synchronized with the configuration stored in the Prime Infrastructure Operation Center database.
- Step 3** Click **Sync**.
- Note** If the synchronized device is a default/Admin VDC, then all the configuration of all the child VDCs are synchronized automatically and the configuration is updated in the Prime Infrastructure Operation Center database. Admin VDC sync will also add the newly added VDC in hardware to the user interface or delete the deleted VDC in hardware from the user interface.
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# Use Virtual Domains on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center

As explained in [Control User Access](#), this feature provides an Operations Center administrator the ability to define a virtual domain on managed Cisco Prime Infrastructure instances. The Virtual Domains page will be modified to give Operations Center administrators visibility to each virtual domain defined under a managed Cisco Prime Infrastructure instance. The list of domains will be consolidated and displayed in the Operations Center.

From the Operations Center, you can view all the virtual domains available in all of the Cisco Prime Infrastructure instances that Operations Center is managing.

You can also create or edit virtual domains from Operations Center itself. If the same virtual domain is active in multiple Cisco Prime Infrastructure instances, Operations Center displays the virtual domain once, with data aggregated from all the active virtual domains with the same name on all the managed Cisco Prime Infrastructure instances.

You can create virtual domain only if an instance is present or it is in reachable state. The Number of network elements in Virtual Domains is limited when compared to that of Cisco Prime Infrastructure, since the Virtual Domain shows only managed network elements. You can assign device groups to virtual domain and also choose the instances to which you want to distribute the virtual domain using Operations Center.

Creating, editing, importing, and exporting virtual domains from within Operations Center works the same way as creating, editing, importing, and exporting virtual domains in a single instance of Cisco Prime Infrastructure. For more details, see [Using Virtual Domains to Control Access](#)

## Related Topics

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers](#), on page 2

[View Devices Managed by All Cisco Prime Infrastructure Servers Using Operations Center](#), on page 3

[Manage Prime Infrastructure Servers using Operations Center](#), on page 8

[Distribute Virtual Domains to Cisco Prime Infrastructure Servers](#), on page 5

## Distribute Virtual Domains to Cisco Prime Infrastructure Servers

In Operations Center, if you want to distribute the existing virtual domain to instances, follow these steps:

### Procedure

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- Step 1** Choose **Administration > Users > Virtual Domains**.
- Step 2** From the Virtual Domains sidebar menu, click an existing virtual domain which you want to create in new instance.
- Step 3** Click **Managed Servers** tab.
- Step 4** Click **Add** and choose the Prime Infrastructure manage instances for which you want to distribute the virtual domain.
- Step 5** Click **OK**.
- Step 6** Click **Submit**.

For more information see the chapter *User Permissions and Device Access* in [Cisco Prime Infrastructure Administrator Guide](#).

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### Related Topics

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers](#), on page 2

## Enable Operations Center RBAC Support

The Role Based Access Control (RBAC) support in Operations Center allows a collection of devices from multiple managed instances to be associated with a user via virtual domains. This feature enables to assign privileges such as accessing Monitor and Manage server page, adding, modifying or deleting managed instances, and populate certain dashlets, to a specific user.

Follow these steps to enable RBAC in the Operations Center:

### Procedure

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- Step 1** Log in to Prime Infrastructure as an administrator.
- Step 2** Choose **Administration > Users > Users, Roles & AAA > User Groups**.
- Step 3** Click a group name to which RBAC is to be provided.
- Step 4** Click **Task Permissions** tab.
- Step 5** Check the following check boxes under Operations Center Tasks:
  - **Monitor and Manage Servers Page Access.**
  - **Administrative Privileges under Manage and Monitor Server Pages.**

These options are enabled by default for admin and super users.

- Step 6** Click **Save**.

For more information refer the chapter *User Access and Device Permissions* in [Cisco Prime Infrastructure Administrator Guide](#).

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### Related Topics

[Use Virtual Domains on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 5

## Share Device Configuration Templates Across Prime Infrastructure Servers Using Operations Center

Although it does not directly manage or configure any device in your network, Operations Center gives you access to the configuration templates stored on the Prime Infrastructure server instances it manages. You can use Operations Center to:

- View the configuration templates on any of the Prime Infrastructure servers.

- Distribute templates that exist on one server to any of the other servers Operations Center manages. Template distribution like this is required if (for example) you want to deploy a template across your entire network.

The steps for doing these tasks are identical to the ones you follow when you perform the same tasks on standalone Prime Infrastructure servers. You simply need to log into the Operations Center instance first, and then select the Prime Infrastructure server instance whose templates you want to work on.

## View Configuration Templates Using Operations Center

You can view configuration templates on any managed Prime Infrastructure instance by selecting the Configuration menu option in Operations Center and expanding the listing until you find the templates you want.

### Procedure

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- Step 1** Log in to Operations Center and choose **Configuration > Templates > Features & Technologies**.
  - Step 2** Expand the template category you want to view (for example, **My Templates**). Operations Center displays a list of the managed Prime Infrastructure instances with templates in that category.
  - Step 3** Expand the managed instance whose templates you want to view. Expand the template sub-categories as needed.
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## Deploy Configuration Templates Using Operations Center

### Procedure

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- Step 1** After you create a configuration template, click **Deploy**. The Deployment wizard appears.
  - Step 2** Select the devices on which you want to deploy the template, then click **Next** to choose the input values.
  - Step 3** In the **Input Values** tab, you can toggle between **Form** and **CLI** view.
  - Step 4** After entering the necessary configuration values, click **CLI** to confirm the device and template configuration values.
  - Step 5** Click **Next** to view the job deployment summary.
  - Step 6** On the **Deployment Summary** tab, you can see the CLI view for each of the devices.
  - Step 7** Click **Finish** to deploy the template.
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## Distribute Configuration Templates Across Managed Servers

You can distribute any user-defined configuration template from one managed Prime Infrastructure instance to another managed instance.

Distributing a template to another Prime Infrastructure server instance occurs automatically when you deploy a template to a device on another such instance without first copying (distributing) that template to the other instance.

## Procedure

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- Step 1** Log in to Operations Center and choose **Configuration > Templates > Features & Technologies**.
- Step 2** Expand the template category you want to view (for example, **My Templates**). Operations Center displays a list of the managed Prime Infrastructure instances with templates in that category.
- Step 3** Expand the managed instance whose templates you want to view. Expand the template sub-categories as needed.
- Step 4** (optional) If you want to edit the template before distribution, do the following:
- Click **Add Variable** and choose the template variable.
  - Click the edit icon and make the necessary changes.
  - Click **Save**.
- Step 5** When you see the template you want to distribute, click on it to select it. Operations Center displays details for the selected template.
- Step 6** Click **Distribute**. Operations Center displays a list of all the Prime Infrastructure server instances that it manages and that are currently reachable.
- Step 7** Select the checkbox next to each Prime Infrastructure server instance to which you want to distribute the template.
- Step 8** Check the **Overwrite template with the same name** check box and then click **OK**.  
If you uncheck the **Overwrite template with the same name** check box and if the template already exists on the other server, Operations Center will not distribute the template and will alert you to check the **Overwrite template with the same name** check box.
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## Manage Prime Infrastructure Servers using Operations Center

Select **Monitor > Monitoring Tools > Manage and Monitor Servers** to open the Manage and Monitor Servers page. From here, you can:

- Add new Cisco Prime Infrastructure servers (up to the license limit).
- Edit, delete, activate, and deactivate current Cisco Prime Infrastructure servers.
- View each server's reachability, CPU utilization, memory utilization, software update status such as latest patch and its version, and secondary server details (if it is configured), summary of purchased licenses and utilized licenses, and alarms generated for the Cisco Prime Infrastructure instances.
- Determine whether any servers are down.
- Cross-launch into individual Cisco Prime Infrastructure instances.
- See if any backup servers are running. Administrators can use the Cisco Prime Infrastructure High Availability (HA) framework to configure a backup Cisco Prime Infrastructure server to automatically come online and take over operations for the associated primary server when it goes down. For more information on Cisco Prime Infrastructure HA framework, see "Configure High Availability" in Related Topics. Administrators should be sure to follow the restrictions on use of HA with Operations Center given in "Before You Begin Setting Up High Availability".

Aside from a server's reachability status, there are three server metrics you should focus on:

- CPU utilization
- Memory utilization.



If a server has a network latency figure that exceeds one second, or it has a CPU or memory utilization percentage greater than 80%, the chances are good that an issue exists with that server.

If a server's status is listed as "unreachable", a "?" icon will appear next to the reachability status message. Hover your mouse cursor over the icon to see a popup message giving possible causes for the server's status (for example, server cannot be pinged, API response (latency) is too slow and SSO is not setup properly).

#### Related Topics

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers](#), on page 2

[Use Virtual Domains on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 5

[View the Status of Multiple Prime Infrastructure Servers using Operations Center](#), on page 9

## View the Status of Multiple Prime Infrastructure Servers using Operations Center

Use the Server Status Summary to view the current status of your Prime Infrastructure servers without leaving the dashboard or page you have open. To open it, place your cursor over any portion of the Server Status area at the top of the Operations Center's main page. From here, you can quickly determine if any of your servers are currently down. You can also launch a separate Prime Infrastructure instance for the selected server.

You can also quickly view the reachability history for any Prime Infrastructure server managed by Operations Center.

#### Procedure

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- Step 1** Select **Monitor > Monitoring Tools > Manage and Monitor Servers**. Operations Center displays the list of Prime Infrastructure servers it manages.
  - Step 2** Select one of the managed servers. The page displays summary status for that server.
  - Step 3** Click the **Reachability History** tab at the bottom of the page. Operations Center displays a list of recent changes in reachability for the selected Prime Infrastructure server.
  - Step 4** If want to clear the reachability history, click **Clear History** and click **Yes** in the pop-up window.

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#### Related Topics

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers](#), on page 2

## Activate Operation Center using Smart Licensing

Smart Licensing is a cloud-based, software license management solution that enables you to automate time-consuming, manual licensing tasks. The solution allows you to easily track the status of your license and software usage trends.

Smart Licensing helps simplify three core functions:

- **Purchasing:** The software that you have installed in your network can automatically self-register themselves, without Product Activation Keys (PAKs).

- **Management:** You can automatically track activations against your license entitlements. Additionally, there is no need to install the license file on every node.
- **Reporting:** Through the portal, Smart Licensing offers an integrated view of the licenses you have purchased and what has been actually deployed in your network. You can use this data to make better purchase decisions, based on your consumption.

To select smart software licenses, see Choose Smart Software Licenses section in [Cisco Prime Infrastructure Administrator Guide](#).

## Distribute Software Updates to Prime Infrastructure Instances Managed by Operations Center

Operation Center allows you to distribute software updates to multiple Prime Infrastructure instances.

To distribute a software update:

### Procedure

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- Step 1** Go to **Administration > Licenses and Software Updates > Software Update**.
- Step 2** Click **Prime Infrastructure** tab and click **upload** link. In the **Upload Update** dialog, click the **Upload from local computer** or **Copy from server's local disk** radio button as required.
- Step 3** Click **Browse** to choose the downloaded patch file from the save location and click **Ok**.
- Step 4** Click **Distribute** to distribute the patch file to Prime Infrastructure servers.
- Note** You may now choose to distribute the patch file from Prime Infrastructure Operations Center to Prime Infrastructure's Secondary Server. Please note that installing patches on paired High Availability servers is not allowed. For more information, refer *How to Patch Paired HA Servers* section in the [Cisco Prime Infrastructure Administrator Guide](#).
- Step 5** Choose the required Prime Infrastructure servers from the list of servers and click **Ok**. Update success popup message appears.
- Step 6** Select the **Prime infrastructure** tab and click the **Install** button to install the updates in Prime Infrastructure instances.
- Step 7** You can view the status of the updates in **Status of Updates** section.
- Note** You can distribute the software update to any number of available Prime Infrastructure servers using **Distribute** button in Prime Infrastructure tab. To know more on Software Updates, see Licenses and Software Updates chapter in [Cisco Prime Infrastructure Administrator Guide](#).
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## View Alarms on Devices Managed by Multiple Cisco Prime Infrastructure Servers Using Operations Center

Select **Monitor > Monitoring Tools > Alarms and Events** to open the Alarms and Events page. From here, you can view a comprehensive listing of your network's alarms and events. With one or multiple alarms

selected, you can also determine whether those alarms have been acknowledged, add a note that describes them in more detail, or delete them from the page.

The Alarm Summary displays an aggregated count of critical, major, and minor alarms from the managed Cisco Prime Infrastructure instances.

To refine the alarms and events displayed here, do one of the following:

- From the Device Group pane, select the desired device type, location, or user-defined group.
- Apply a custom filter or select one of the predefined filters from the Show drop-down list. For details on how to use filters, see the related topic “Quick Filters”.
- Search for a particular alarm or event. For details, see the related topic “Search Methods”.
- Hover your cursor on the Alarm Browser screen to display the aggregated count of alarms for the managed Cisco Prime Infrastructure instances. You can also acknowledge, annotate, and delete alarms; that action is duplicated on the respective Cisco Prime Infrastructure instance.

#### Related Topics

[Quick Filters](#)

[Search Methods](#)

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers](#), on page 2

[View Clients and Users Managed by Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 11

## View Clients and Users Managed by Multiple Cisco Prime Infrastructure Servers Using Operations Center

Select **Monitor > Monitoring Tools > Clients and Users** to open the Clients and Users page, which contains the aggregated clients of all managed Cisco Prime Infrastructure instances. From here, you can view information for the clients configured on your network, such as a client’s MAC address, the user associated with the client, and the name of the device that hosts the client. You can choose a client or user and view the client association history and the statistical information. You can also launch the 360° Degree View to get more information about the device and the associated clients.

To refine the list of clients displayed here, do one of the following:

- Apply a custom filter or select one of the predefined filters from the Show drop-down list. For details on how to use filters, see the related topic “Quick Filters”.
- Search for a particular client. For details, see the related topic “Search Methods”.

#### Related Topics

[Quick Filters](#)

[Search Methods](#)

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers](#), on page 2

# Run Reports on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center

In addition to the Operations Center dashboards and monitor pages, Operations Center provides a subset of Cisco Prime Infrastructure reports that combine network management and performance data across all the managed instances of Cisco Prime Infrastructure. If you are using Operations Center to segment and rationalize your management of a global network, these specialized versions of the standard reports can help get a closer look at your network as a whole, help you monitor health across the globe, and troubleshoot emergent issues.

The Operations Center reports contain aggregated data from all of the managed Cisco Prime Infrastructure instances. If you want to restrict this aggregation to a subset of the managed instances, the best ways to do this are to:

- Temporarily deactivate those Cisco Prime Infrastructure managed instances whose data you do not want included in the aggregated Operations Center report data. You can do this by selecting **Monitor > Monitoring Tools > Manage and Monitor Servers** and choosing to deactivate the servers you want to ignore.
- Use virtual domains to restrict the data the instances in which you are interested. For details, see “Use Virtual Domains on Deployments with Multiple Prime Infrastructure Servers Using Operations Center” in Related Topics.

Except for aggregating data across managed instances, Operations Center reports generation works the same way as in Cisco Prime Infrastructure. For more information about Cisco Prime Infrastructure reports and how to generate them, see "Create, Schedule, and Run a New Report" in Related Topics.

## Related Topics

[Create, Schedule, and Run a New Report](#)

[Use the Operations Center Config Dashboard to Manage Multiple Cisco Prime Infrastructure Servers](#), on page 2

[Use Virtual Domains on Deployments with Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 5

[View Alarms on Devices Managed by Multiple Cisco Prime Infrastructure Servers Using Operations Center](#), on page 10

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[Operations Center FAQ](#)