ScienceLogic

Monitoring Juniper: Mist

Juniper: Mist PowerPack version 101

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Introduction

Overview

This manual describes how to monitor Juniper: Mist devices in SL1 using the Dynamic Applications in the *Juniper: Mist* PowerPack.

The following sections provide an overview of Juniper: Mist and the *Juniper: Mist*PowerPack:

This chapter covers the following topics:

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What Does the Juniper: Mist PowerPack Monitor?

To monitor Juniper: Mist devices using SL1, you can install the *Juniper: Mist*PowerPack. This PowerPack enables you to align Dynamic Applications to Juniper: Mist devices to collect data.

The *Juniper: Mist*PowerPack includes:

- Dynamic Applications that enable SL1 to align to and monitor Juniper: Mist devices

- Device Classes for each type of Juniper: Mist component device SL1 monitors

- Event Policies that are triggered when Juniper: Mist devices meet certain status criteria
- Sample universal ("Juniper Mist UCF Example") and SOAP/XML ("Juniper Mist Example") credentials that you can use to create your own Juniper: Mist credential

Installing the Juniper: Mist PowerPack

Before completing the steps in this manual, you must import and install the latest version of the *Juniper: Mist*PowerPack.

> **TIP:** By default, installing a new version of a PowerPack overwrites all content from a previous version of that PowerPack that has already been installed on the target system. You can use the ***Enable Selective PowerPack Field Protection*** setting in the **Behavior Settings** page (System > Settings > Behavior) to prevent new PowerPacks from overwriting local changes for some commonly customized fields. For more information, see the section on *Global Settings*.

> **NOTE:** For details on upgrading SL1, see the relevant *SL1 Platform Release Notes*.

To download and install the PowerPack:

1. Search for and download the PowerPack from the **PowerPacks** page (Product Downloads > PowerPacks & SyncPacks) at the ScienceLogic Support Site.

2. In SL1, go to the **PowerPacks** page (System > Manage > PowerPacks).

3. Click the **[Actions]** button and choose *Import PowerPack*. The **Import PowerPack** dialog box appears.

4. Click **[Browse]** and navigate to the PowerPack file from step 1.

5. Select the PowerPack file and click **[Import]**. The **PowerPack Installer** modal displays a list of the PowerPack contents.

6. Click **[Install]**. The PowerPack is added to the **PowerPacks** page.

> **NOTE:** If you exit the **PowerPack Installer** modal without installing the imported PowerPack, the imported PowerPack will not appear in the **PowerPacks** page. However, the imported PowerPack will appear in the **Imported PowerPacks** modal. This page appears when you click the **[Actions]** menu and select *Install PowerPack*.

Chapter

2

Configuration

Overview

The following sections describe how to configure and discover Juniper: Mist devices for monitoring by SL1 using the *Juniper: Mist*PowerPack:

This chapter covers the following topics:

Configuring a Credential for Juniper: Mist

To configure SL1 to monitor Juniper: Mist, you must first create a credential. This credential allows the Dynamic Applications in the "Juniper: Mist" PowerPack to connect with Juniper: Mist devices. The "Juniper: Mist" PowerPack supports two credential types to use to connect with Juniper: Mist devices:

- *Universal*

- *SOAP/XML*

Creating a Universal Credential for Juniper: Mist

To define a universal credential to access Juniper: Mist:

1. Go to the **Credentials** page (Manage > Credentials).

2. Click **[Create New]** and select *Create Juniper: mist api Credential*. The **Create Credential** modal page appears.

3. Supply values in the following fields:

- *Name*. Type a name for your credential.
- *All Organizations*. Toggle on (blue) to align the credential to all organizations, or toggle off (gray) and then select one or more specific organizations from the from the *Select the organizations the credential belongs to* drop-down field to align the credential with those specific organizations.
- *Timeout (ms)*. Keep the default value of 1500.
- *Authentication Type*. Keep the default value.
- *URL*. Enter the Juniper: Mist API URL that you want to use to retrieve device data.
- *API Key*. Type the Juniper: Mist API key.
- *SSL Peer Verify*. Keep the default value of *True* to verify SSL certificates for API calls made using this credential.
- *CA Path*. Enter the path to your Certificate Authority (CA) certificate.
- *Port*. Keep the default value.
- *Timeout**. Keep the default value.

Proxy Settings

Toggle on this field (blue) if you are using a proxy server to communicate with your Juniper: Mist account, then enter the values in the fields listed below:

- *Proxy Scheme*. Select *http* or *https* from the drop-down field.
- *Proxy Hostname/IP*. Enter the hostname or the IP address associated with your device.
- *Proxy Port*. Enter the port number for the proxy server.
- *Proxy User*. Enter the username for the proxy server.
- *Proxy Password*. Enter the password for the proxy server.

4. Click **[Save & Close]**.

Creating a SOAP/XML Credential for Juniper: Mist

To configure SL1 to monitor Juniper: Mist devices, you must first create a SOAP/XML credential. This credential allows the Dynamic Applications in the *Juniper: Mist* PowerPack to communicate with Juniper: Mist devices.

The PowerPack includes an example SOAP/XML credential that you can edit for your own use.

To configure a SOAP/XML credential to access Juniper: Mist devices:

1. Go to the **Credentials** page (Manage > Credentials).
2. Locate the **Juniper Mist Example** sample credential, click its **[Actions]** icon (⋯) and select *Duplicate*. A copy of the credential, called **Juniper Mist Example copy** appears.
3. Click the **[Actions]** icon (⋯) for the **Juniper Mist Example copy** credential and select *Edit*. The **Edit Credential** modal page appears.
4. Supply values in the following fields:

- *Name*. Type a new name for the credential.
- *All Organizations*. Toggle on (blue) to align the credential to all organizations, or toggle off (gray) and then select one or more specific organizations from the **What organization manages this service?** drop-down field to align the credential with those specific organizations. This field is required.

NOTE: To learn more about aligning credentials and organizations, see *Aligning Organizations With a Credential*.

- *URL*. Type the URL of your Juniper: Mist API endpoint. The example URL uses "https://api.mist.com/api/v1/" as a default value , Please verify and modify the URL for your specific region.

NOTE: The URL provided in the sample credential is the generic main Juniper: Mist URL. There are several others, the choice of which is determined by your global region. For example, the URL for the EU region could be https://api.eu.mist.com/ For more information, see the Juniper: Mist documentation at https://www.juniper.net/documentation/us/en/software/mist/automation-integration/topics/topic-map/api-endpoint-url-global-regions.html#reference_u5h_lrd_qjb .

- *Embed Value [%1]*. Enter your Juniper: Mist Organization ID.
- *HTTP Auth Password*. Type the Juniper: Mist API Key.
- *Embedded Password [%P]*. Leave this field blank.

NOTE: The PowerPack does not verify SSL certificates by default. You can enable SSL verification by selecting the *SSLVERIFYPEER* option from the **CURL Options** field and then selecting *1* from the drop-down field. Since the Mist API exists at a public URL with an authority-issued certificate, no further action is required.

Proxy Settings

NOTE: You must complete the **Proxy Settings** fields only if you connect to Juniper: Mist through a third-party proxy server. If you do not use a proxy to connect to Juniper: Mist, then you can leave these fields blank.

- *Proxy Hostname/IP*. Type the server's hostname or IP address.
- *Proxy Port*.Type the port on the proxy server to which you will connect.
- *Proxy User*. Type the username used to access the proxy server.
- *Proxy Password*. Type the password used to access the proxy server.

- *Add a header*. Click **[Add a header]** to connect a proxy server using http or https.

    - *proxy_url_protocol:http*.Enter this schema if the proxy server does not have https configured.

    - *proxy_url_protocol:https*. Enter this schema if the proxy server has https configured.

5. Click **[Save & Close]**.

Creating a SOAP/XML Credential for Juniper: Mist in the SL1 Classic User Interface

To configure SL1 to monitor Juniper: Mist devices, you must first create a SOAP/XML credential. This credential allows the Dynamic Applications in the *Juniper: Mist* PowerPack to communicate with Juniper: Mist devices.

The PowerPack includes an example SOAP/XML credential that you can edit for your own use.

To configure a SOAP/XML credential to access Juniper: Mist devices:

1. Go to the **Credential Management** page (System > Manage > Credentials).

2. Locate the **Juniper Mist Example** credential, then click its wrench icon ( ). The **Edit SSH/Key Credential** modal page appears:

3. Complete the following fields:

    - *Profile Name*. Type a new name for the credential.

    - *URL*. Type the URL of your Juniper: Mist API endpoint. The example URL uses "https://api.mist.com/api/v1/" as a default value , Please verify and modify the URL for your specific region.

NOTE: The URL provided in the sample credential is the generic main Juniper: Mist URL. There are several others, the choice of which is determined by your global region. For example, the URL for the EU region could be https://api.eu.mist.com/ For more information, see the Juniper: Mist documentation at https://www.juniper.net/documentation/us/en/software/mist/automation-integration/topics/topic-map/api-endpoint-url-global-regions.html#reference_u5h_lrd_qjb .

    - *Embed Value [%1]*. Enter your Juniper: Mist Organization ID.

    - *HTTP Auth Password*. Type the Juniper: Mist API Key.

    - *Embedded Password [%P]*. Leave this field blank.

NOTE: The PowerPack does not verify SSL certificates by default. You can enable SSL verification by selecting the *SSLVERIFYPEER* option from the **CURL Options** field and then selecting *1* from the drop-down field. Since the Mist API exists at a public URL with an authority-issued certificate, no further action is required.

Proxy Settings

> **NOTE:** You must complete the **Proxy Settings** fields only if you connect to Juniper: Mist through a third-party proxy server. If you do not use a proxy to connect to Juniper: Mist, then you can leave these fields blank.

- **Proxy Hostname/IP**. Type the server's hostname or IP address.
- **Proxy Port**.Type the port on the proxy server to which you will connect.
- **Proxy User**. Type the username used to access the proxy server.
- **Proxy Password**. Type the password used to access the proxy server.

HTTP Headers

- **Add a header**. Click **[Add a header]** to connect a proxy server using http or https.
  - **proxy_url_protocol:http**.Enter this schema if the proxy server does not have https configured.
  - **proxy_url_protocol:https**. Enter this schema if the proxy server has https configured.

4. Click the **[Save As]** button.

Discovering Juniper: Mist Devices

To discover Juniper: Mist devices, you must first create a virtual device, and then align Dynamic Applications to it.

Managing API Call Limits

The "Mist: AP Asset Configuration", "Mist: AP Discovery", and "Mist: AP Statistics" Dynamic Applications are disabled by default. Before enabling these Dynamic Applications, be advised that doing so may enable SL1 to discover a very large number of access points (APs). Due to the structure of the Juniper: Mist API, ScienceLogic polls the Juniper: Mist API for AP data regardless.

Enabling or disabling any device-related Dynamic Applications will not change the number of API calls the PowerPack makes. You should expect the PowerPack to make one API call per 1000 total devices (APs, Switches, or Gateways) each polling cycle, as long as at least one Dynamic Application related to those device types is active.

For example, if you have 400 switches, 400 gateways, and 1200 APs, there will be two API calls each polling cycle, since there are 2000 total devices, and ScienceLogic fetches 1000 per API call.

Creating a Juniper: Mist Virtual Device

To monitor your Juniper: Mist devices, you must create a **virtual device** that represents the Juniper: Mist root device. A virtual device is a user-defined container that represents a device or service that cannot be discovered by SL1. You can use the virtual device to store information gathered by policies or Dynamic Applications.

If you want to discover more than one Juniper: Mist account, you must create a virtual device for each API key that you want to use.

To create a virtual device:

1. Go to the **Device Manager** page (Devices > Classic Devices, or Registry > Devices > Device Manager in the classic SL1 user interface).

2. Click **[Actions]** and select *Create Virtual Device* from the menu. The **Virtual Device** modal page appears.

3. Enter values in the following fields:

    - **Device Name**. Enter a name for the device.

    - **Organization**. Select the organization for this device. The organization you associate with the device limits the users that will be able to view and edit the device. Typically, only members of the organization will be able to view and edit the device.

    - **Device Class**. Select *Mist | Mist Portal*.

    - **Collector**. Select the collector group that will monitor the device.

4. Click **[Add]** to create the virtual device.

5. Repeat these steps for each Juniper: Mist API key that you want to use.

Manually Aligning Dynamic Applications to the Virtual Device

After creating the Juniper: Mist virtual device, you must manually align the "Mist: Site Discovery" Dynamic Application to the Juniper: Mist virtual device.

> **NOTE:** ScienceLogic recommends manually disabling the "Mist: API Cache Producer" Dynamic Application. If the Dynamic Application remains active and aligned to the root device, extra API calls will be made, and you may experience performance or rate limit issues.

To manually align the "Mist: Site Discovery" Dynamic Application:

1. Go to the **Devices** page (Devices > Classic Devices, or Registry > Devices > Device Manager in the classic SL1 user interface).

2. Locate your Juniper: Mist virtual device and click its name.

3. In the **Device Investigator**, click the **[Collections]** tab.

4. Click the **[Edit]** button at the top of the page, then click the **[Align Dynamic App]** button.

5. In the **Align Dynamic Application** modal, click *Choose Dynamic Application*.

6. Locate "Mist: Site Discovery" and click **[Select]**.

7. In the **Align Dynamic Application** modal, de-select the *Use Device SNMP Credential* box. Click the *Choose Credential* option that appears.

8. Select the Juniper: Mist credential you created and click **[Select]**.

9. Click **[Align Dynamic App]** to align the Dynamic Application with the Juniper: Mist virtual device.

After aligning the "Mist: Site Discovery" Dynamic Application, your Juniper: Mist component devices will be discovered and classified.

> **NOTE:** Upon initial collection, you will see the "Cache empty or expired" event in SL1. This event is expected and will expire in 60 minutes, or it can be manually cleared. Once the cache producer finishes creating the cache, this event will no longer occur.

Manually Aligning Dynamic Applications to the Virtual Device in the SL1 Classic User Interface

After creating the Juniper: Mist virtual device, you must manually align the "Mist: Site Discovery" Dynamic Application to the Juniper: Mist virtual device.

> **NOTE:** ScienceLogic recommends manually disabling the "Mist: API Cache Producer" Dynamic Application. If the Dynamic Application remains active and aligned to the root device, extra API calls will be made, and you may experience performance or rate limit issues.

To manually align the "Mist: Site Discovery" Dynamic Application:

1. Go to the **Device Manager** page (Devices > Classic Devices, or Registry > Devices > Device Manager in the classic SL1 user interface).

2. Click the wrench icon (🔧) for your Juniper: Mist virtual device.

3. In the **Device Administration** panel, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.

4. Click the **[Actions]** button and select *Add Dynamic Application* from the menu.

5. In the **Dynamic Application Alignment** window, from the **Dynamic Applications** field, select the "Mist: Site Discovery" Dynamic Application.

6. In the **Credentials** field, select the Juniper: Mist credential you created.

7. Click **[Save]** to align the Dynamic Application with the Juniper: Mist virtual device.

After aligning the "Mist: Site Discovery" Dynamic Application, your Juniper: Mist component devices will be discovered and classified.

> **NOTE:** Upon initial collection, you will see the "Cache empty or expired" event in SL1. This event is expected and will expire in 60 minutes, or it can be manually cleared. Once the cache producer finishes creating the cache, this event will no longer occur.

Viewing Juniper: Mist Component Devices

In addition to the **Devices** page, you can view your Juniper: Mist devices in the following places in the user interface:

- The **Device Investigator** Map page (click **Map** in the **Device Investigator** page) displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-clicking any of the listed devices reloads the page to make the selected device the primary device.

- The **Device Components** page (Devices > Device Components) displays a list of all root devices and component devices discovered by SL1. The **Device Components** page displays all root devices and component devices in an indented view, so you can easily view the hierarchy and relationships between child devices, parent devices, and root devices. To view the component devices associated with a Juniper: Mist device, find the device and click its plus icon (**+**).

- The **Component Map** page (Classic Maps > Device Maps > Components) allows you to view devices by root node and view the relationships between root nodes, parent components, and child components in a map. This makes it easy to visualize and manage root nodes and their components. SL1 automatically updates the **Component Map** as new component devices are discovered. The platform also updates each map with the latest status and event information. To view the map for a Juniper: Mist device, go to the **Component Map** page and select the map from the list in the left NavBar. To learn more about the **Component Map** page, see the *Maps* manual.

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