Monitoring HP 3PAR: SMI-S

HP 3PAR: SMI-S PowerPack version 100

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Chapter 1

Introduction

Overview

This manual describes how to monitor HP 3PAR: SMI-S storage devices in SL1 using the HP 3PAR: SMI-S PowerPack.

The following sections provide an overview of HP 3PAR: SMI-S and the HP 3PAR: SMI-S PowerPack:

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What is SMI-S?

Storage Management Initiative Specification, or SMI-S, is a standard that allows users to manage heterogeneous storage devices in a Storage Area Network (SAN).

An HTTP server, called a ***provider***, sends and receives XML requests to the storage devices to manage those devices and retrieve information about those devices.

SL1 communicates with the provider to retrieve information about the SAN and its devices.

What Does the HP 3PAR: SMI-S PowerPack Monitor?

To monitor storage arrays using SL1, you must install the *HP 3PAR: SMI-S* PowerPack. This PowerPack enables you to discover, model, and collect data about HP 3PAR storage arrays and their component devices.

The *HP 3PAR: SMI-S* PowerPack includes:

- An example credential you can use to create Basic/Snippet credentials to connect to the SMI-S Provider
- Dynamic Applications to discover and monitor the storage arrays
- Device Classes for each type of storage array component device monitored by SL1
- Event Policies and corresponding alerts that are triggered when devices in the HP 3PAR system meet particular criteria

Installing the HP 3PAR: SMI-S PowerPack

Before completing the steps in this manual, you must import and install the latest version of the *HP 3PAR: SMI-S* PowerPack.

IMPORTANT: Version 100 is considered the initial release of the *HP 3PAR: SMI-S* PowerPack. ScienceLogic does not support an upgrade path from version 0.7.x to version 100 of the PowerPack. If you previously installed a pre-100 version of the PowerPack, you *must* delete any existing HP 3PAR devices and uninstall the old version before installing version 100.

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 ***System Administration*** manual.)

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 and Discovery

Overview

The *HP 3PAR: SMI-S* PowerPack can be used with any 3PAR storage array that has the SMI-S provider service enabled. The following sections describe how to configure SMI-S storage arrays for monitoring by SL1 using the *HP 3PAR: SMI-S* PowerPack:

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Prerequisites for Monitoring HP 3PAR

To configure the SL1 system to monitor a 3PAR storage array that has the SMI-S provider service enabled using the *SMI-S: Array* PowerPack, you must have the following information about the HP 3PAR Provider that you want to monitor:

- IP address and port for the HP 3PAR SMI-S Provider
- Username and password for a user with access to the HP 3PAR provider

The HP 3PAR Provider will act as the root device during discovery by SL1.

Creating a Credential to Monitor HP 3PAR Storage Arrays

To configure SL1 to monitor HP 3PAR storage arrays, you must first create a Basic/Snippet credential. This credential allows the Dynamic Applications in the *HP 3PAR: SMI-S* PowerPack to connect with the HP 3PAR provider. An example Basic/Snippet credential that you can edit for your own use is included in the *HP 3PAR: SMI-S* PowerPack.

To create a Basic/Snippet credential to access an HP 3PAR device:

1. Go to the **Credentials** page (Manage > Credentials).
2. Locate the example **HP 3PAR SMI-S Example** credential, click its **[Actions]** icon (⋯) and select ***Duplicate***. A copy of the credential, called **HP 3PAR SMI-S Example copy** appears.
3. Click the **[Actions]** icon (⋯) for the **HP 3PAR SMI-S Example copy** credential and select ***Edit***. The **Edit Credential** page appears:
4. Enter 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.
    - ***Hostname/IP***. Enter "%D".
    - ***Port***. Enter the Port value for an HTTPS connection.

NOTE: The default value for the ***Port*** field is "5989", however, you should use the Port value you have configured for your provider.

    - ***Username***. Enter the username for a user with access to the HP 3PAR provider.
    - ***Password***. Enter the password for the HP 3PAR account username.

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

Creating a Credential to Monitor Storage Arrays in the SL1 Classic User Interface

To configure SL1 to monitor HP 3PAR storage arrays, you must first create a Basic/Snippet credential. This credential allows the Dynamic Applications in the *HP 3PAR: SMI-S* PowerPack to connect with the HP 3PAR provider. An example Basic/Snippet credential that you can edit for your own use is included in the *HP 3PAR: SMI-S*PowerPack.

To create a Basic/Snippet credential to access an HP 3PAR device:

1. Go to the **Credential Management** page (System > Manage > Credentials).
2. Locate the **HP 3PAR SMI-S Example** credential and then click its wrench icon ( ). The **Edit Basic/Snippet Credential** modal page appears.

3. Enter values in the following fields:

    - ***Credential Name***. Enter a new name for the credential.
    - ***Hostname/IP***. Enter "%D".
    - ***Port***. Enter the Port value for an HTTPS connection.

> **NOTE:** The default value for the ***Port*** field is "5989", however, you should use the Port value you have configured for your provider.

    - ***Username***. Enter the username for a user with access to the HP 3PAR provider.
    - ***Password***. Enter the password for the HP 3PAR account username.

4. Click the **[Save As]** button.
5. When the confirmation message appears, click **[OK]**.

Discovering HP 3PAR Storage Arrays

To model and monitor your storage system, you must first run a discovery session to discover the HP 3PAR Provider that SL1 will use as the root device for monitoring the storage system.

The discovery session will discover the HP 3PAR Provider as a pingable device using *the Basic/Snippet credential that you created*.

To discover the storage system that you want to monitor, perform the following steps:

2. On the **Devices** page ( ) or the **Discovery Sessions** page (Devices > Discovery Sessions), click the **[Add Devices]** button. The **Select** page appears:
3. Click the **[Unguided Network Discovery]** button. Additional information about the requirements for discovery appears in the **General Information** pane to the right.
3. Click **[Select]**. The **Add Devices** page appears:
4. Complete the following fields:

    - ***Name***. Type a unique name for this discovery session. This name is displayed in the list of discovery sessions on the **[Discovery Sessions]** tab.
    - ***Description***. Optional. Type a short description of the discovery session. You can use the text in this description to search for the discovery session on the **[Discovery Sessions]** tab.
    - ***Select the organization to add discovered devices to***. Select the name of the organization to which you want to add the discovered devices.

5. Click **[Next]**. The **Credentials** page of the **Add Devices** wizard appears:
6. On the **Credentials** page, locate and select the *Basic/Snippet credential* you created.
7. Click **[Next]**. The **Discovery Session Details** page of the **Add Devices** wizard appears:

8. Complete the following fields:

    - ***List of IPs/Hostnames***. Enter the IP address for the HP 3PAR Provider.
    - ***Which collector will discover these devices?***. Select an existing collector to monitor the discovered devices. Required.
    - ***Run after save***. Select this option to run this discovery session as soon as you click **[Save and Close]**.

      In the **Advanced options** section, click the down arrow icon ( ) to complete the following fields:

        - ***Discover Non-SNMP***. Toggle on (blue).
        - ***Model Devices***. Toggle on (blue).

9. Click **[Save and Close]** to save the discovery session. The **Discovery Sessions** page (Devices > Discovery Sessions) displays the new discovery session.
10. If you selected the **Run after save** option on this page, the discovery session runs, and the **Discovery Logs** page displays any relevant log messages. If the discovery session locates and adds any devices, the **Discovery Logs** page includes a link to the **Device Investigator** page for the discovered device.

Manually Aligning Dynamic Applications

After the discovery session, you must manually align the following Dynamic Applications to the HP 3PAR Provider pingable device:

- 3PAR SMI-S: DCM Caching Configuration
- 3PAR SMI-S: Volume Stats Cache
- 3PAR SMI-S: Storage System Configuration

When you do so, SL1 will discover, model, and monitor the remaining component devices in your storage system.

1. Go to the **Device Manager** page (Devices > Device Manager.
2. Locate the HP 3PAR root device and then click its wrench icon ( ). The **Device Properties** page appears.
3. 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** modal:
    - In the Dynamic Applications field, select *3PAR SMI-S: DCM Caching Configuration*.
    - In the Credentials field, select ***the Basic/Snippet credential that you created***.
6. Click **[Save]** to align the Dynamic Application with the HP 3PAR root device. The Dynamic Application begins collecting data at the default polling interval.
7. Repeat this process for the *3PAR SMI-S: Volume Stats Cache* and *3PAR SMI-S: Storage System Configuration* Dynamic Applications.

NOTE: You do not need to align a credential to the "3PAR SMI-S: Storage System Configuration" Dynamic Application.

Discovering HP 3PAR Storage Arrays in the SL1 Classic User Interface

To model and monitor your storage system, you must first run a discovery session to discover the HP 3PAR Provider that SL1 will use as the root device for monitoring the storage system.

The discovery session will discover the HP 3PAR Provider as a pingable device using *the Basic/Snippet credential that you created*. You must manually align the following Dynamic Applications to the HP 3PAR Provider pingable device:

- 3PAR SMI-S: DCM Caching Configuration
- 3PAR SMI-S: Volume Stats Cache
- 3PAR SMI-S: Storage System Configuration

When you do so, SL1 will discover, model, and monitor the remaining component devices in your storage system.

To discover the storage system that you want to monitor, perform the following steps:

1. Go to the **Discovery Control Panel** page (System > Manage > Discovery).
2. In the **Discovery Control Panel**, click the **[Create]** button.
3. The **Discovery Session Editor** page appears. On this page, define values in the following fields:
    - ***IP Address Discovery List***. Enter the IP address for the HP 3PAR Provider.
    - ***Other Credentials***. Select the Basic/Snippet credential you created for the SMI-S Provider.
    - ***Discover Non-SNMP***. Select this checkbox.
    - ***Model Devices***. Select this checkbox.
4. Optionally, you can enter values in the other fields on this page. For more information about the other fields on this page, see the ***Discovery & Credentials*** manual.
5. Click the **[Save]** button to save the discovery session and then close the **Discovery Session Editor** window.
6. The discovery session you created appears at the top of the **Discovery Control Panel** page. Click its lightning-bolt icon ( ) to run the discovery session.
7. The **Discovery Session** window appears. When the HP 3PAR Provider is discovered, click its device icon ( ) to view the **Device Properties** page for the HP 3PAR Provider.
8. From the **Device Properties** page for the HP 3PAR Provider, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
9. Click the **[Actions]** button and then select *Add Dynamic Application* from the menu. The **Dynamic Application Alignment** page appears:
10. In the ***Dynamic Applications*** field, select *3PAR SMI-S: DCM Caching Configuration*.
11. In the ***Credentials*** field, select the Basic/Snippet credential you configured for the HP 3PAR Provider.

12. Click the **[Save]** button.
13. Repeat steps 8-12 for the *3PAR SMI-S: Storage System Configuration* and *3PAR SMI-S: Volume Stats Cache*.

NOTE: You cannot align a credential to the "3PAR SMI-S: Storage System Configuration" Dynamic Application.

13. The Dynamic Applications appear on the **Dynamic Application Collections** page and begin auto-aligning the other Dynamic Applications in the *HP 3PAR: SMI-S*PowerPack to the HP 3PAR Provider and discovering the other component devices in the storage system.

NOTE: It might take several minutes after manually aligning the discovery Dynamic Application for SL1 to discover and model the remaining component devices in the storage system.

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