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# Monitoring Dell EMC Unity

Dell EMC: Unity PowerPack version 100

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# Chapter 1

## Introduction

### Overview

This manual describes how to monitor Dell EMC: Unity storage systems in the ScienceLogic platform using the Dynamic Applications in the *Dell EMC: Unity PowerPack*.

The following sections provide an overview of Dell EMC Unity and the *Dell EMC: Unity PowerPack*:

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### What is Dell EMC Unity?

Dell EMC Unity is a unified storage array. The *Dell EMC: Unity PowerPack* discovers the storage array and collects health, configuration, performance, and capacity information.

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## What Does the Dell EMC: Unity PowerPack Monitor?

To monitor Dell EMC Unity storage devices with the ScienceLogic platform, you must install the *Dell EMC: UnityPowerPack*. This PowerPack lets you discover, model, and collect data about Unity storage devices using the Unisphere REST API.

The *Dell EMC: UnityPowerPack* includes:

- Dynamic Applications to discover, model, and monitor performance metrics and collect configuration data for Dell EMC Unity devices
- Device Classes for each type of Unity device monitored
- Event Policies that are triggered when Unity devices meet certain status criteria
- An example credential that you can use as a template to create a SOAP/XML credential to connect to Unity devices

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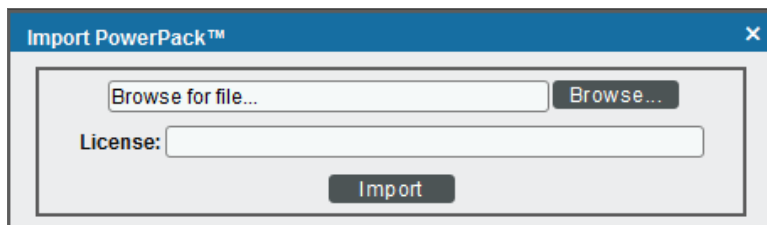
## Installing the Dell EMC: Unity PowerPack

Before completing the steps in this manual, you must import and install version xxx of the *Dell EMC: Unity PowerPack*.

**TIP:** By default, installing a new version of a PowerPack overwrites all content in 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 a PowerPack:

1. Download the PowerPack from the [ScienceLogic Customer Portal](#).
2. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
3. In the **PowerPack Manager** page, click the **[Actions]** button, then select *Import PowerPack*.
4. The **Import PowerPack** dialog box appears:



5. Click the **[Browse]** button and navigate to the PowerPack file.
6. When the **PowerPack Installer** modal page appears, click the **[Install]** button to install the PowerPack.

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

## Configuring Dell EMC Unity for Monitoring

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### Overview

The following sections describe how to configure Dell EMC Unity storage arrays for monitoring by the ScienceLogic platform using the *Dell EMC: UnityPowerPack*:

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### Prerequisites for Monitoring Dell EMC Unity

Before you can monitor Dell EMC Unity systems using the *Dell EMC: UnityPowerPack*, you must have the following information about the Unisphere REST API:

- Username and password for a user with access to the Unisphere REST API
- IP address for the Unisphere REST API


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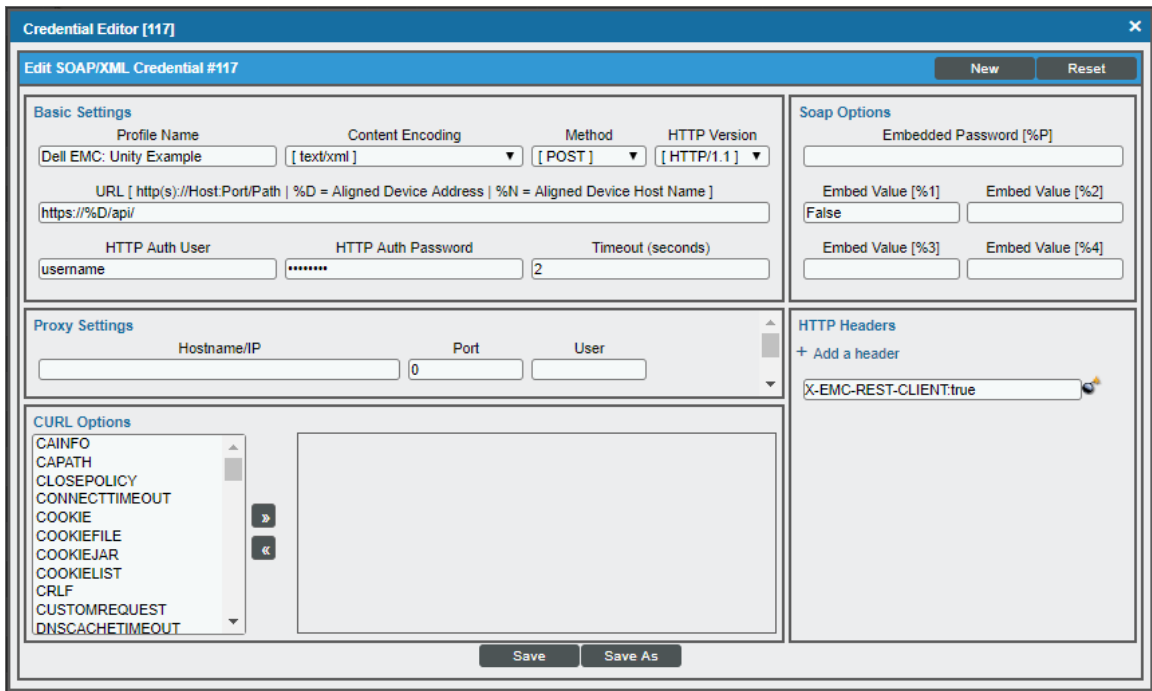
### Creating a SOAP/XML Credential for Dell EMC Unity

To configure the ScienceLogic platform to monitor Dell EMC Unity storage arrays, you must first create a SOAP/XML credential. This credential allows the Dynamic Applications in the *Dell EMC: Unity PowerPack* to use the Unisphere REST API. An example SOAP/XML credential that you can edit for your own use is included in the *Dell EMC: Unity PowerPack*.

To configure the SOAP/XML credential to access the Unisphere REST API:

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

2. Locate the **Dell EMC: Unity Example** credential, and then click its wrench icon (  ). The **Edit SOAP/XML Credential** page appears:



The screenshot shows the 'Credential Editor [117]' window with the 'Edit SOAP/XML Credential #117' sub-window. The form is divided into several sections:

- Basic Settings:** Profile Name (Dell EMC: Unity Example), Content Encoding ([text/xml]), Method ([POST]), HTTP Version ([HTTP/1.1]), URL [http(s)://Host:Port/Path | %D = Aligned Device Address | %N = Aligned Device Host Name] (https://%D/api), HTTP Auth User (username), HTTP Auth Password (masked with dots), and Timeout (seconds) (2).
- Proxy Settings:** Hostname/IP, Port (0), and User.
- CURL Options:** A list of options including CAINFO, CAPATH, CLOSEPOLICY, CONNECTTIMEOUT, COOKIE, COOKIEFILE, COOKIEJAR, COOKIELIST, CRLF, CUSTOMREQUEST, and DNSCACHETIMEOUT.
- Soap Options:** Embedded Password [%P], Embed Value [%1] (False), Embed Value [%2], Embed Value [%3], and Embed Value [%4].
- HTTP Headers:** A section with a '+ Add a header' button and one header: X-EMC-REST-CLIENT:true.

Buttons for 'New', 'Reset', 'Save', and 'Save As' are visible at the bottom of the form.

3. Complete the following fields:
  - **Profile Name.** Type a new name for the credential.
  - **HTTP Auth User.** Type the username for a user with access to the Unisphere REST API.
  - **HTTP Auth Password.** Type the password for the user you specified in the **HTTP Auth User** field.

**NOTE:** The HTTP Headers that are included in the example credential are required to receive a response from the Unisphere REST API. Do not delete or edit them.

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

## Discovering Dell EMC Unity Storage Arrays

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### Overview

The following sections describe how to discover Dell EMC Unity storage arrays for monitoring by the ScienceLogic platform using the *Dell EMC: Unity PowerPack*.

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### Discovering Dell EMC Unity Component Devices

To model and monitor your Dell EMC Unity storage arrays, you must run a discovery session to discover the Unisphere that the ScienceLogic platform will use as the root device for monitoring the Unity storage system.

After the discovery session completes, the Dynamic Applications in the *Dell EMC: Unity PowerPack* automatically align to the storage array device, and then the PowerPack discovers, models, and monitors the remaining Unity component devices.

To discover the Unity arrays that you want to monitor, perform the following steps:

1. Go to the **Discovery Control Panel** page (System > Manage > Discovery).



2. On the **Discovery Control Panel**, click the **[Create]** button. The **Discovery Session Editor** page appears:

The screenshot shows the 'Discovery Session Editor | Editing Session [6]' window. It is divided into several sections:


- Identification Information:** Name field contains 'Dell EMC: Unity', Description field is empty.
- IP and Credentials:**
  - IP Address/Hostname Discovery List:** Contains '10.2.5.120'. Includes 'Upload File' and 'Browse...' buttons.
  - SNMP Credentials:** A list of credentials including 'Cisco SNMPv2 - Example', 'Cisco SNMPv3 - Example', 'Cisco: CSP SNMP Port 161 Example', 'Cisco: CSP SNMP Port 1610 Examp', 'Dell EMC: Isilon SNMPv2 Example', 'EM7 Default V2', 'EM7 Default V3', and 'IPSLA Example'. 'Dell EMC: Unity' is selected.
  - Other Credentials:** A list of credentials including 'Cisco CE Series Configuration', 'Cisco CE Series History', 'Cisco CE Series Status', 'Cisco VOS SOAP - Example', 'Cisco: Conductor Example (Discov', 'Cisco: Conductor Example (Virtua', 'Dell EMC XtremIO Example', 'Dell EMC: Isilon SOAP Example', and 'Dell EMC: Unity'.
- Detection and Scanning:**
  - Initial Scan Level:** '[ System Default (recommended) ]'
  - Scan Throttle:** '[ System Default (recommended) ]'
  - Port Scan All IPs:** '[ System Default (recommended) ]'
  - Port Scan Timeout:** '[ System Default (recommended) ]'
  - Detection Method & Port:** A list of methods including 'UDP: 161 SNMP', 'TCP: 1 - tcpmux', 'TCP: 2 - compressnet', 'TCP: 3 - compressnet', 'TCP: 5 - rje', 'TCP: 7 - echo', 'TCP: 9 - discard', 'TCP: 11 - systat', 'TCP: 13 - daytime', and 'TCP: 15 - netstat'. '[ Default Method ]' is selected.
  - Interface Inventory Timeout (ms):** '600000'
  - Maximum Allowed Interfaces:** '10000'
  - Bypass Interface Inventory:**
- Basic Settings:**
  - Discover Non-SNMP:**
  - Model Devices:**
  - DHCP:**
  - Device Model Cache TTL (h):** '2'
  - Collection Server PID:** '3'
  - Collection Server:** '[KNT-ISO1-CU1-53]'
  - Organization:** '[ Dell EMC: Unity ]'
  - Add Devices to Device Group(s):** A list containing 'None' and 'Servers'.
  - Apply Device Template:** '[ Choose a Template ]'

At the bottom, there are 'Save' and 'Save As' buttons, and a 'Log All' checkbox which is checked.

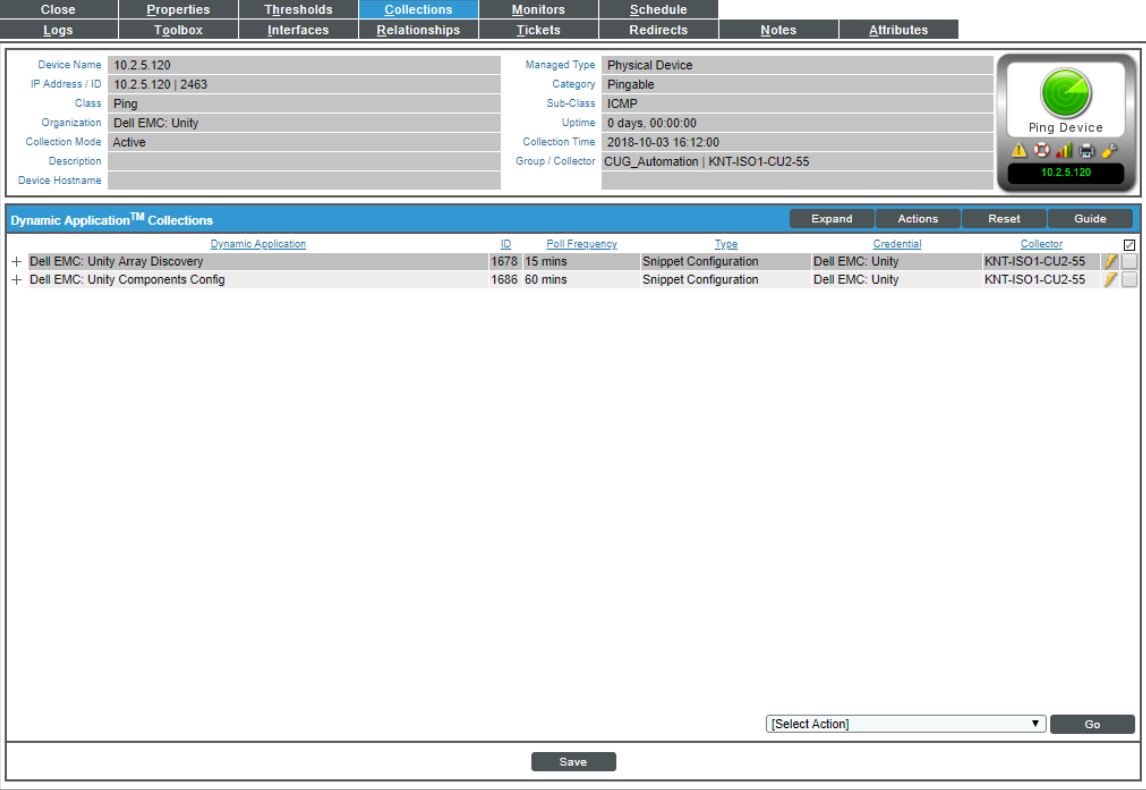
3. Complete the following fields:
  - **IP Address/Hostname Discovery List.** Type the IP address for the Unisphere.
  - **Other Credentials.** Select the SOAP/XML credential that you created for Unity devices.
  - **Discover Non-SNMP.** Select this checkbox.
  - **Model Devices.** Select this checkbox.
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. After the devices are discovered, click the device icon (🖨️) to view the **Device Properties** page for each device.



## Verifying Discovery and Dynamic Application Alignment

To verify that the ScienceLogic platform has automatically aligned the correct Dynamic Applications during discovery:

1. After discovery has completed, click the device icon for the root device ()
2. From the **Device Properties** page for the array device, click the **[Collections]** tab. The **Dynamic Application Collections** page appears.
3. All applicable Dynamic Applications for the device are automatically aligned during discovery.

**NOTE:** It can take several minutes after the discovery session has completed for Dynamic Applications to appear in the **Dynamic Application Collections** page.



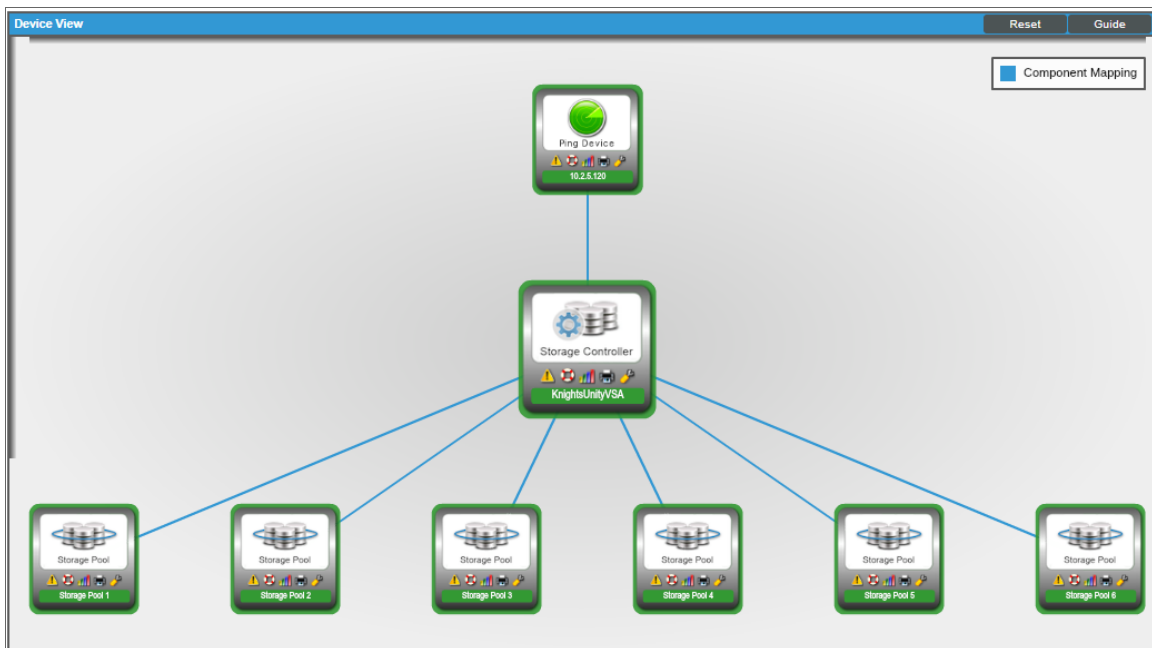
Dynamic Application	ID	Poll Frequency	Type	Credential	Collector	
+ Dell EMC: Unity Array Discovery	1678	15 mins	Snippet Configuration	Dell EMC: Unity	KNT-ISO1-CU2-55	
+ Dell EMC: Unity Components Config	1686	60 mins	Snippet Configuration	Dell EMC: Unity	KNT-ISO1-CU2-55	

The "Dell EMC: Unity Array Discovery" and "Dell EMC: Unity Components Config" Dynamic Applications are automatically aligned to the root device, after which the rest of the Dynamic Applications in the PowerPack will be aligned.

## Viewing Dell EMC Unity Component Devices

In addition to the **Device Manager** page (Registry > Devices > Device Manager), you can view the Unity storage devices in the following places in the user interface:

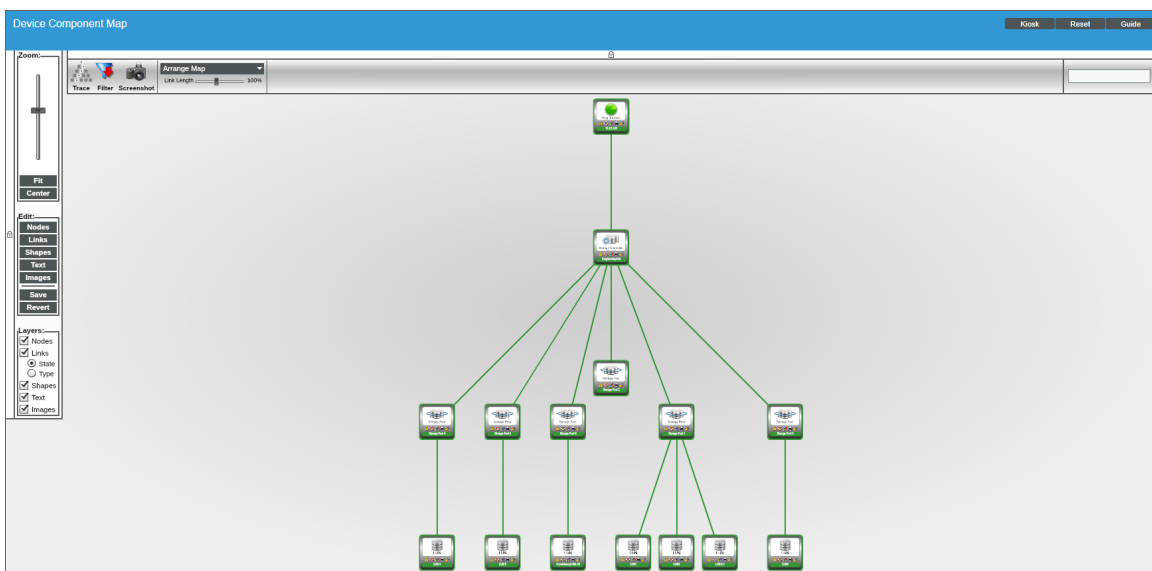
- The **Device View** modal page (click the bar-graph icon [img alt="bar-graph icon"] for a device, then click the **Topology** tab) displays a map of a particular device and all of the devices with which it has parent-child relationships. Double-clicking any of the devices listed reloads the page to make the selected device the primary device:



- The **Device Components** page (Registry > Devices > Device Components) displays a list of all root devices and component devices discovered by the ScienceLogic platform 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 Dell EMC Unity, find the Unity component device and click its plus icon (+):

Device Name	IP Address	Device Category	Device Class / Sub-class	DD	Organization	Current State	Collection Group	Collection State
10.2.5.120		Pingable	Ping   ICMP	2463	Dell EMC: Unity	Healthy	CUG_Automation	Active
KnightsUnityVSA	--	Array	Dell EMC   Unity Storage System	2464	Dell EMC: Unity	Healthy	CUG_Automation	Active
Storage Pool 1	--	Pool	Dell EMC   Unity Storage Pool	2468	Dell EMC: Unity	Healthy	CUG_Automation	Active
LUN 5.1	--	LUN	Dell EMC   Unity LUN	2476	Dell EMC: Unity	Healthy	CUG_Automation	Active
LUN1	--	LUN	Dell EMC   Unity LUN	2474	Dell EMC: Unity	Healthy	CUG_Automation	Active
LUN2	--	LUN	Dell EMC   Unity LUN	2475	Dell EMC: Unity	Healthy	CUG_Automation	Active
Storage Pool 2	--	Pool	Dell EMC   Unity Storage Pool	2470	Dell EMC: Unity	Healthy	CUG_Automation	Active
Storage Pool 3	--	Pool	Dell EMC   Unity Storage Pool	2469	Dell EMC: Unity	Healthy	CUG_Automation	Active
Storage Pool 4	--	Pool	Dell EMC   Unity Storage Pool	2465	Dell EMC: Unity	Healthy	CUG_Automation	Active
Storage Pool 5	--	Pool	Dell EMC   Unity Storage Pool	2466	Dell EMC: Unity	Healthy	CUG_Automation	Active
Storage Pool 6	--	Pool	Dell EMC   Unity Storage Pool	2467	Dell EMC: Unity	Healthy	CUG_Automation	Active

- The **Component Map** page (Views > 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. The ScienceLogic platform automatically updates the **Component Map** page as new component devices are discovered. The platform also updates each map with the latest status and event information. To view the map for an Dell EMC Unity arrays, 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 **Views** manual.



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