Dell Storage vRealize Operations Management Pack Version 1.2 Administrator's Guide

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Contents

Preface

This preface introduces the Dell Storage vRealize Operations Management Pack documentation. It provides the purpose and audience of this document and a list of related publications.

Revision History

Document number 680-109-002

Revision	Date	Description
A	June 2017	Version 1.2 release

Purpose

The *Dell Storage vRealize Operations Management Pack Administrator's Guide* provides instructions for installing and configuring the Dell Storage vRealize Operations Management Pack. It also describes the dashboards that are included with the Dell Storage vRealize Operations Management Pack and provides information on how to use these dashboards to analyze and troubleshoot the environment.

Audience

The intended audience of this guide is information technology professionals who have intermediate to expert knowledge of Dell Storage Center and Dell Storage Manager. This guide assumes administrative working knowledge of the VMware vRealize Operations Manager.

Related Dell Publications

In addition to this guide, see the following related publications for more information on related topics. All Dell Storage documentation is available from www.dell.com/support.

- *Dell Storage Manager Administrator's Guide*

  Provides configuration and management instructions for Dell Storage Manager, which allows enterprise- level management of multiple Storage Centers, including setting up and monitoring replications and disaster recovery (DR) sites. In addition, Dell Storage Manager provides various system-generated performance reports and the ability to create custom reports.
- *Storage Center Administrator's Guide*

  Describes how to use the Storage Center System Manager to configure and manage storage on a Storage Center.

VMware Documentation

It is beyond the scope of this document to provide VMware conceptual information or detailed instructions for configuring the vRealize Operations Manager. See the VMware publications website: https://www.vmware.com/support/pubs/vrealize-operations-manager-pubs.html.

Getting Started

The Dell Storage vRealize Operations Management Pack is an embedded adapter that gathers topology, metrics, and alerts from Dell Storage Manager for display on dashboards in VMware vRealize Operations Manager. This guide refers to the embedded management pack as the Dell Storage Management Pack.

Introduction

The Dell Storage Management Pack allows users to monitor and analyze the health and status of the network resources managed by Dell Storage Manager. The Dell Storage Management Pack pulls data from Storage Centers managed by Dell Storage Manager.

> NOTE: The Dell Storage Management Pack requires VMware vRealize Operations Manager version 6.0 or later.

Requirements

For a list of the minimum revisions of software and firmware required for supporting the installation of the Dell Storage Management Pack, see the *Dell Storage vRealize Operations Management Pack Release Notes*.

Installing and Configuring the Management Pack

You install the Dell Storage Management Pack, and then add and configure the adapter instances. Each adapter instance represents a Dell Storage Manager Data Collector from which data is gathered and then displayed on the Dell Storage dashboards for further analysis.

Obtain the PAK File

Dell provides a standard VMware PAK file for installing the Dell Storage Management Pack.

The file is named `DellStorageAdapter-01.02.0013_signed.pak`. This file is also available from VMware's Solution Exchange Portal.

Download this PAK file and save it to a location such as your computer desktop.

Install the Dell Storage Management Pack

Before starting the installation process, make sure that you have downloaded the Dell PAK file to your local system.

1. Open a browser window to your vRealize Operations Manager in the following format:

    `https://IP`

    Replace `IP` with the fully-qualified domain name (FQDN) or IP address of the vRealize Operations Manager.
2. When prompted, type the Administrator user name and password.
    The vRealize Operations Manager user interface opens.
3. In the left pane of vRealize Operations Manager, click **Administration → Solutions**.
4. On the **Solutions** tab, click the plus sign (**+**).
    The **Add Solution** page opens.

5. Click **Browse** to navigate to the location of the PAK file.
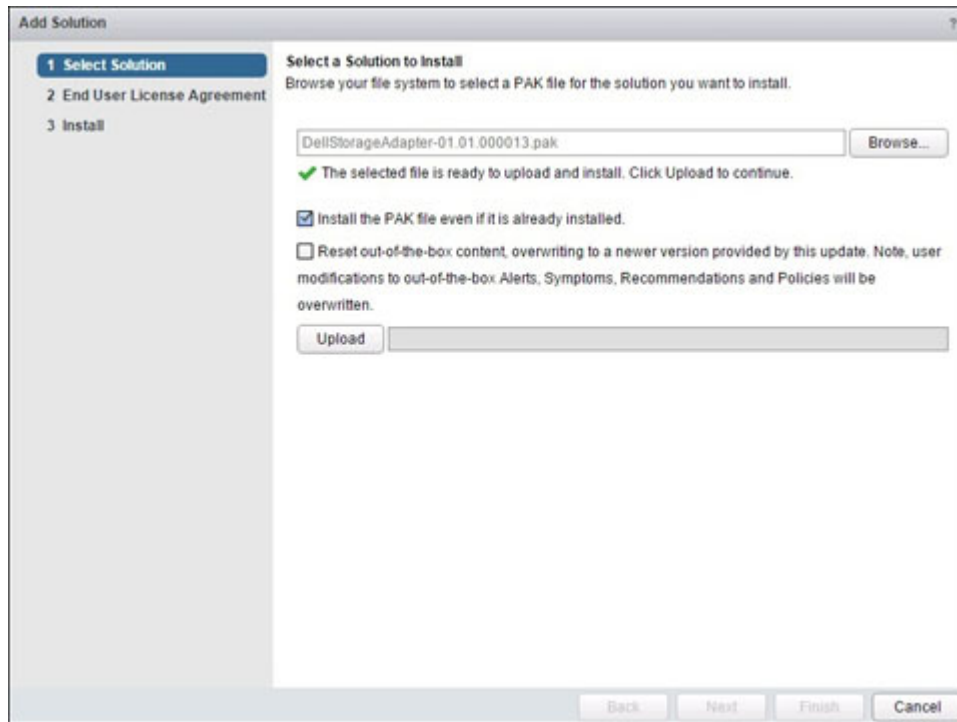6. Select the DellStorageAdapter PAK file.

Figure 1. Add Solutions Page

7. Click **Upload**.

   ![note icon] NOTE: The upload might take several minutes.

   A confirmation page indicates that the PAK file was uploaded.
8. Click **Next** to continue.

   The **Dell End User License Agreement** (EULA) page appears.
9. To accept the terms of the agreement, select the checkbox, then click **Next**.

   The update procedure begins. The installation could take several minutes to complete.
10. Click **Finish**.

   The Dell Storage vRealize Management Pack is listed in the **Solutions** table.

Update Installation

If updating the Dell Storage vRealize Operations Management Pack from version 1.1 to version 1.2:

1. Update vRealize Operations Manager from version 6.x to version 6.4 with Dell Storage vRealize Operations Management Pack version 1.1.
2. Update the Dell Storage vRealize Operations Management Pack from version 1.1 to version 1.2.

Add an Adapter Instance

After the management pack is installed, add an adapter instance by providing the host name or IP address, and login credentials for the Dell Storage Manager Data Collector.

NOTE: Each Dell Storage Manager Data Collector being monitored requires its own adapter instance.

1. In a browser, open the vRealize Operations Manager user interface.
2. Log in as an administrator.
3. Click **Administration → Solutions**.
   The **Solutions** page appears.

4. Select `Dell Storage vRealize Operations Management Pack`, then click the **Configure** button (🖾).
   The **Adapter Settings** dialog box appears.
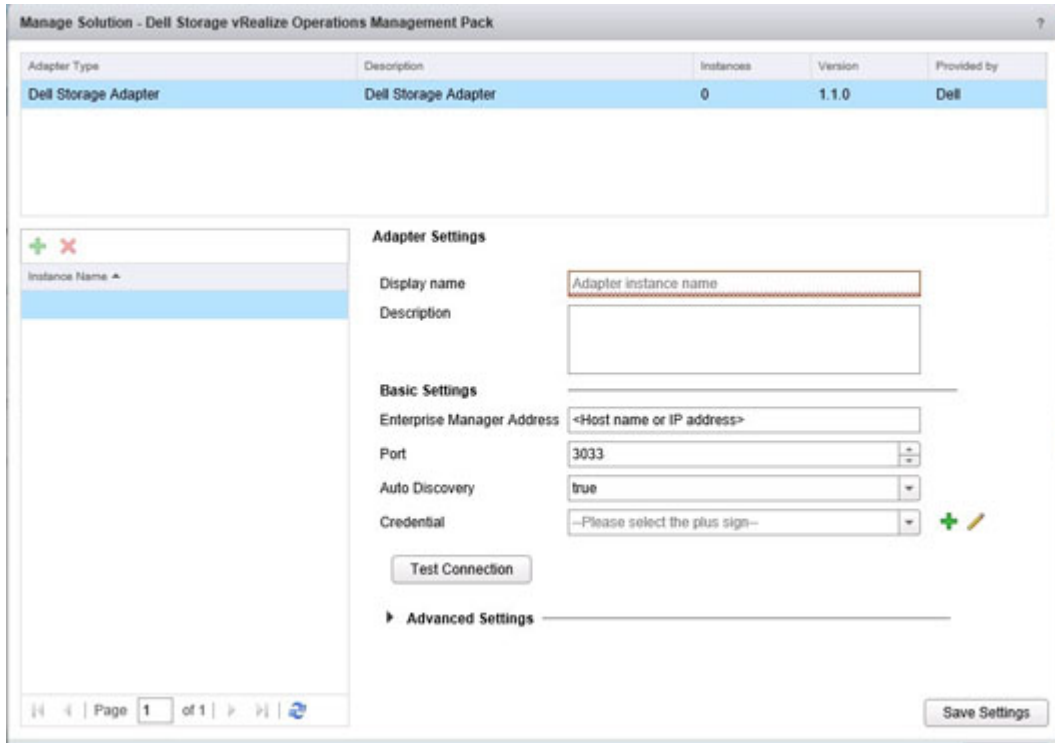

Figure 2. Adapter Settings for Dell Storage Adapter

5. Type a text string to identify the display name.
6. (Optional) Type a description.
7. To use Auto Discovery, keep the value as **True**.
8. Type the host name or IP address for the Dell Storage Manager Data Collector.
9. (Optional) Type the port number, if it is something other than the default.
10. To add credentials, click the plus sign (**+**) next to the **Credential** drop-down menu.
    The **Manage Credentials** dialog box appears.
11. Specify credentials for authenticating with Dell Storage Manager and vRealize Operations Manager.
12. Click **OK**.
    The **Add Credentials** dialog box is updated with additional fields.
13. Click **Test Connection** to validate the settings that you entered.
14. (Optional) Expand **Advanced Settings** and select a different collector from the list.
15. Click **Save Settings**.
16. Click **Close**.

2

Working with Dashboards

Several dashboards are prepackaged with the Dell Storage Management Pack. The Dell Storage dashboards provide a starting point for monitoring and analyzing your environment. The dashboards are fully configurable and can be modified to better represent your environment.

Viewing Dashboards

The Dell Storage dashboards are accessed from the **Dashboards** menu of the vRealize Operations Manager user interface. To select and view a Dell Storage dashboard, use the following procedure:

1. Open the vRealize Operations Manager user interface in a browser window.
2. Log in to the vRealize Operations Manager with Administrator credentials.
   The vRealize Operations Manager user interface opens.
3. Click **Home → Dashboard List**.
4. Select from the list of available dashboards.

The Dell Storage Management Pack provides the following dashboards:

- Dell Storage & VMware Relationship
- Dell Storage Metrics
- Dell Storage Volume Top-N Reports
- Dell Storage at A Glance
- Dell Storage Port Top-N Reports

View Dell Storage & VMware Relationship

This dashboard provides a visual representation of the relationship between VMware and Dell Storage resources.

Select a resource from the **Dell Storage & VMware Relationship View** to view its Object Relationship Health Tree, Sparkline Chart, Alerts, and Metric Chart.

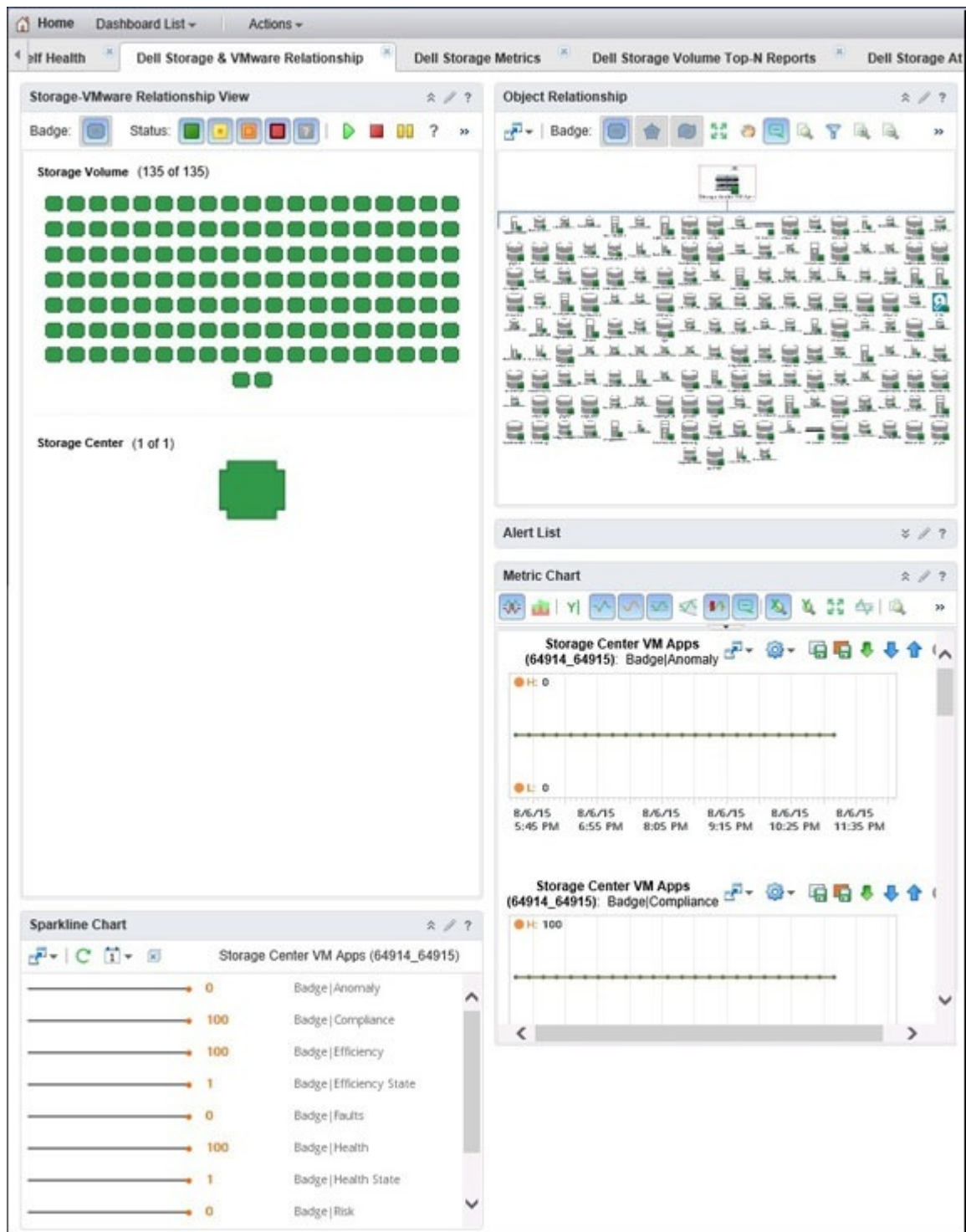The following figure shows an example of the dashboard.

Figure 3. Sample Dell Storage & VMware Relationship Dashboard

View Dell Storage Metrics

This dashboard displays the health status and metrics for the selected Storage Center.

1. Select a resource for the Storage Center from the **Select Resource to View Metrics** widget.
2. Select a metric to graph for the resource from the **Select Metrics to Graph** widget.
3. Select the graph type from the **Metric Graph** widget.

The following figure shows an example of a Dell Storage Metrics dashboard.
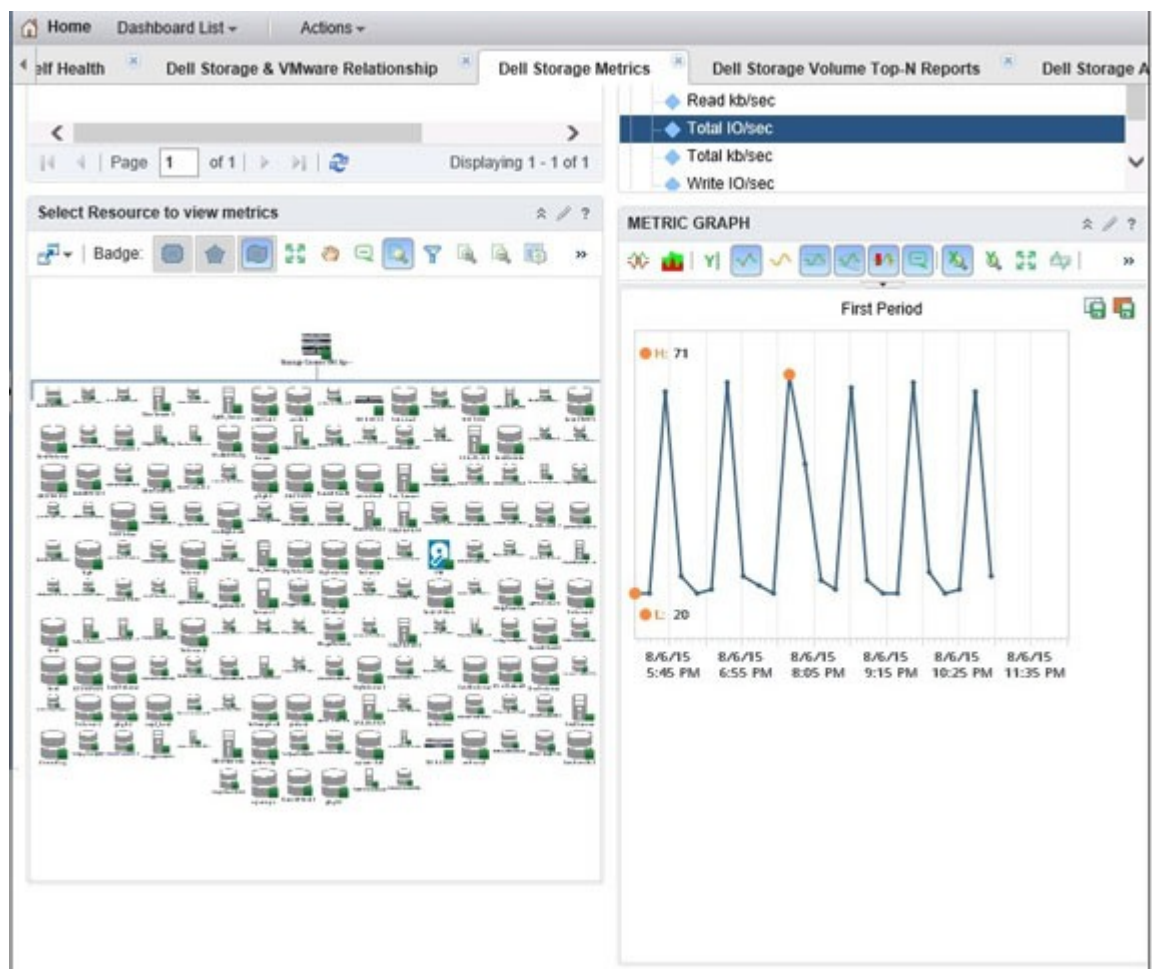

Figure 4. Sample Dell Storage Metrics Dashboard

View Dell Storage Volume Top-N Reports

This dashboard lists the top 25 volumes for the following categories:

- Dell Storage Volume Total IO/sec (24h)
- Dell Storage Volume Total KB/sec (24h)
- Dell Storage Volume Read IO/sec (24h)
- Dell Storage Volume Write IO/sec (24h)
- Dell Storage Volume Replay Space
- Dell Storage Volume Capacity

The following figure shows an example of a Dell Storage Volume Top-N Reports dashboard.
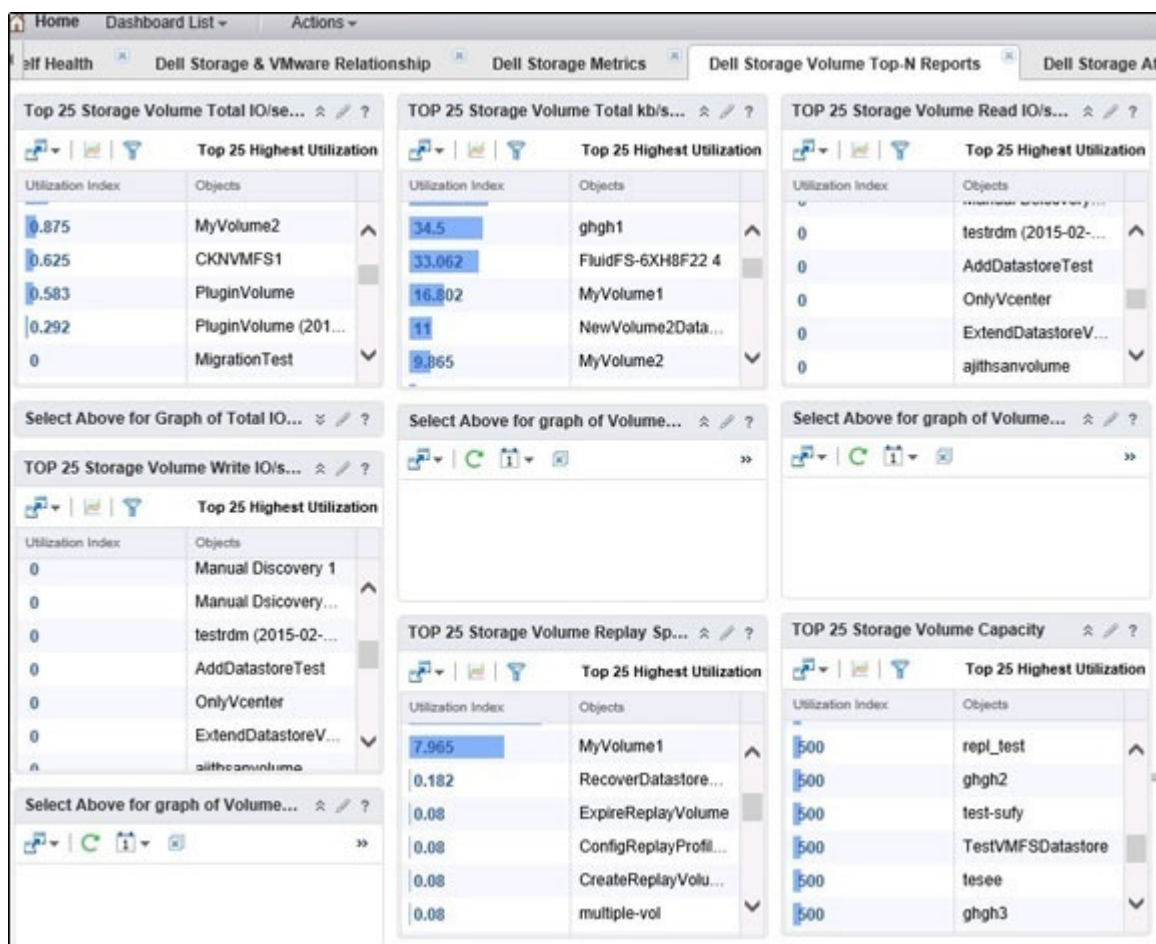
Figure 5. Sample Dell Storage Volume Top-N Reports Dashboard

View Graph of Metric

Click a row on any widget to view a graph of the metric.

Modify Period Length

Except for the **Replay Space** and **Volume Capacity** widgets, each widget lists the top 25 volumes for the last 24-hour period. Edit the widget to adjust the duration.

1. Click **Edit Widget**.
   The **Edit Top-N Analysis Widget** dialog box appears.
2. Select the new time period from the **Period Length** drop-down menu.
3. Click **OK**.
   Alternatively, to analyze the top volumes for different durations, clone the dashboard and then adjust the **Period Length** for each widget on the new dashboard.

View Dell Storage at a Glance

This dashboard displays the health status, storage array controllers, disk tiers, and alerts for the selected Storage Center.

1. Select the Storage Center from the Storage Array Selector.
   The **Selected Storage Array Health Tree** widget is updated to show the topology and health badges of the Storage Center resources.
2. Click a resource on the **Selected Storage Array Health Tree** widget to view its metrics in the **Metric Sparklines - Select From Health Tree** widget.

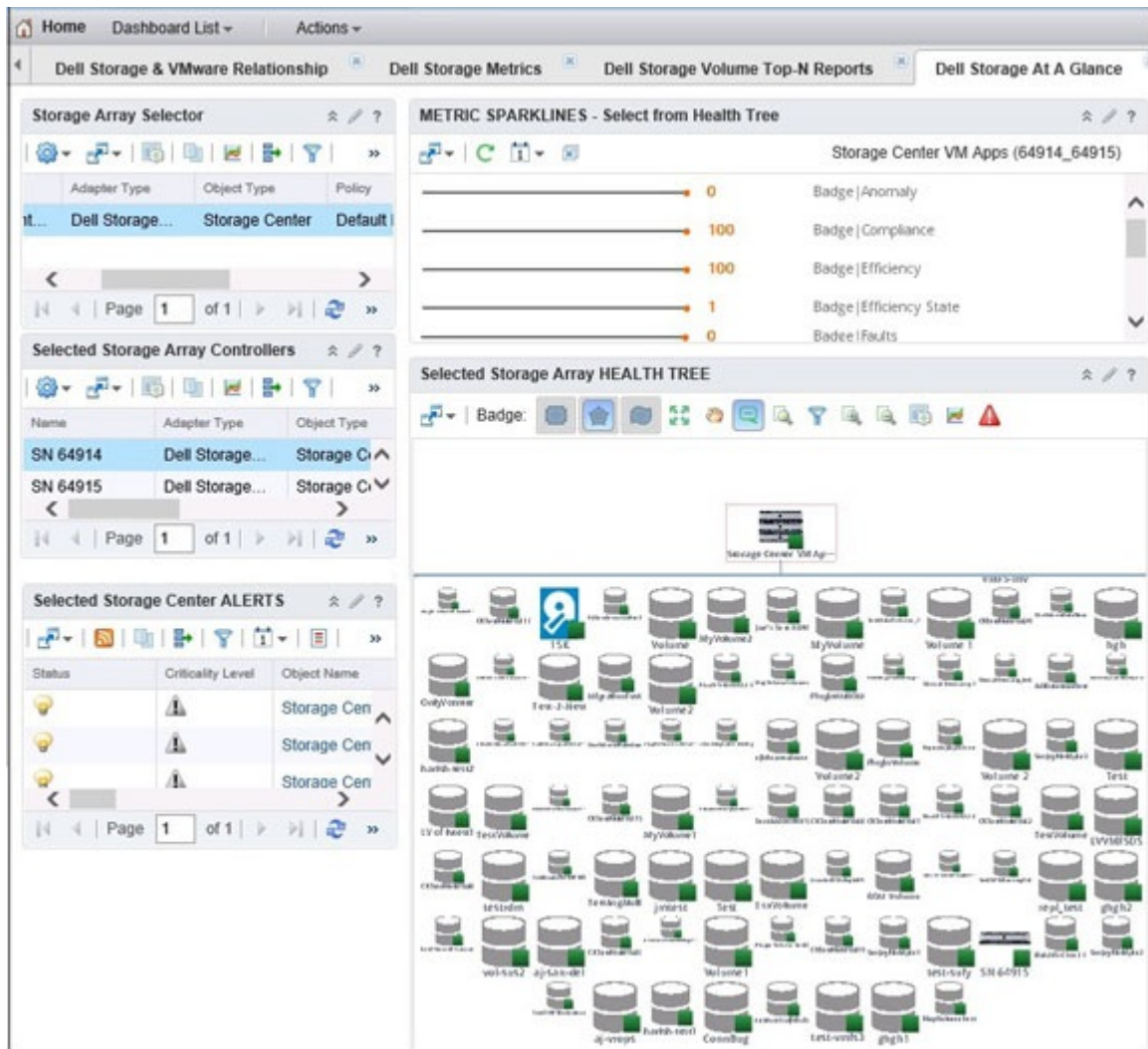The following figure shows an example of a Dell Storage at a Glance dashboard.

Figure 6. Sample Dell Storage at a Glance Dashboard

View Dell Storage Port Top-N Reports

This dashboard lists the top 25 ports for the following categories:

- Storage Front End Total IO/Sec (24h)
- Storage Front End Total kb/Sec (24h)
- Storage Front End Port Write IO/Sec (24h)
- Storage Front End Port Read IO/Sec (24h)
- Storage Front End Port Write Latency IO/Sec (24h)
- Storage Front End Port Read Latency (24h)

The following figure shows an example of a Dell Storage Port Top-N Reports dashboard.
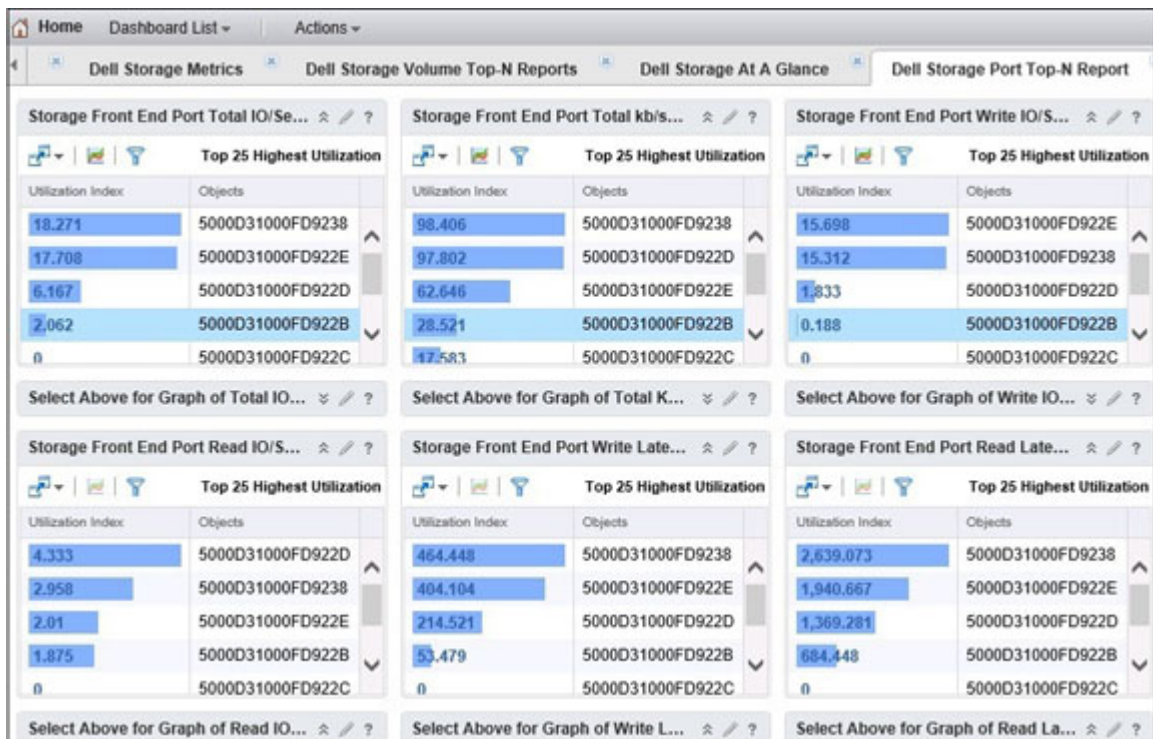
Figure 7. Sample Dell Storage Port Top-N Reports Dashboard

View Graph of Metric

Click a row on any widget to view a graph of the metric.

Modify Period Length

The length of time is configurable by editing the widget and selecting a new time value.

1. Click **Edit Widget**.
   The **Edit Top-N Analysis Widget** dialog box appears.
2. Select the new time period from the **Period Length** drop-down menu.
3. Click **OK**.

   Alternatively, to analyze the top volumes for different durations, clone the dashboard and then adjust the **Period Length** for each widget on the new dashboard.

Modifying Dashboards and Widgets

See the VMware vRealize Operations Manager documentation for detailed information on working with dashboards and widgets:

https://www.vmware.com/support/pubs/vrealize-operations-manager-pubs.html