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Hitachi Storage Management Pack for VMware vRealize Operations

Dashboard User's Guide

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Contents

Preface

This User's Guide describes the prerequisites to display to a custom dashboard which was created for VMware vRealize Operations Manager user interface (hereinafter referred to as "the dashboard for Hitachi Storage Management Pack") the performance information of Hitachi storage system that Hitachi Storage Management Pack for VMware vRealize Operations (hereinafter referred to as "Hitachi Storage Management Pack") collected, the import method of the dashboard for Hitachi Storage Management Pack and the display of the dashboard for Hitachi Storage Management Pack.

Information on the vSphere environment required by the dashboard for Hitachi Storage Management Pack, the setting method of the Hitachi storage system management software and the installation method of Hitachi Storage Management Pack are not included. Therefore, ask the vSphere environment administrator, the Hitachi storage system management software administrator and VM administrators to complete the prerequired system configurations in advance

This document also provides the Hitachi Storage Management Pack troubleshooting information. VM administrators can pinpoint the root cause based on this document. If a problem seems to have been caused by Hitachi Storage Management Pack, the Hitachi Storage Management Pack support personnel should be contacted. Alternatively, if a problem appears to be caused by vSphere environment or the Hitachi storage system management software, the relevant administrators should be contacted to confirm the environment, investigate the cause, and solve the problem.

Software Version

This document supports “Hitachi Storage Management Pack for VMware vRealize Operations V01.2.2”.

Intended Audience

This document is intended for the following audiences:

- Operators of the user interface of the vRealize Operations Manager when used to verify the performance and the configurations of the storage system (herein after referred to as "VM administrators").

Prerequisite Knowledge

This document is intended for users who are familiar with:

- The basic operations of Microsoft Windows Server and Microsoft Windows
- The basic operations of Linux
- The basic operations of VMware vRealize Operations Manager
- The basic operations of Hitachi Device Manager
- The basic operations of Hitachi Tuning Manager

Related Documents

Related documents are as shown below.

- Documents for VMware vRealize Operations Manager 6.0
- Documents for VMware vSphere ESXi and vCenter Server 5.1
- Documents for VMware vSphere ESXi and vCenter Server 5.5
- Documents for VMware vSphere ESXi and vCenter Server 6.0
- Hitachi Storage Management Pack for VMware vRealize Operations User's Guide
- Hitachi Virtual Storage Platform Open System Configuration Guide
- Hitachi Virtual Storage Platform G1000 Open System Configuration Guide/ Mainframe System Configuration Guide
- Hitachi Virtual Storage Platform G200/G400/G600/G800 System Configuration Guide
- Hitachi Unified Storage VM System Configuration Guide
- Hitachi Command Suite Installation and Configuration Guide
- Hitachi Command Suite User Guide
- Hitachi Command Suite Tuning Manager Installation Guide
- Hitachi Command Suite Tuning Manager Hardware Reports Reference
- Hitachi Command Suite Tuning Manager Server Administration Guide
- Hitachi Command Suite Tuning Manager Agent Administration Guide
- Hitachi Command Suite Messages
- Hitachi Command Suite Administrator Guide
- Hitachi Command Suite Tuning Manager API Reference Guide

About Figures Listed in the Manual

This manual uses screenshots or partial screenshots from Windows computers in some illustrations. The colors in the screenshots may differ from the colors seen during actual use.

Revision Level

Revision	Date	Description
First edition	February, 2015	
Second edition	April, 2015	Updating the descriptions with the new version release of Hitachi Storage Management Pack for VMware vRealize Operations Manager. There is no change on the dashboard.
Third edition	April, 2015	Updating the descriptions with the new patch release.
Forth edition	June, 2015	Updating the description with new version release. · Added the dashboard file.

Acronyms and Abbreviations

#	Term and Abbreviation	Description
1.	Datastore	Virtual area used to store a virtual machine image on ESXi. The actual area is created on a local disk or external storage system.
2.	DP Pool	Abbreviation of Dynamic Provisioning Pool. It consists of more than one exclusive RAID group. Dynamic Provisioning Pool is the area which manages data written in the virtual volume.
3.	ESXi	A bare-metal hypervisor (a virtualization OS) of VMware, Inc.
4.	MPB	Abbreviation of Management Processor Blade. MPB is equipped with four Management Processors (MP) and each MP distributes load of processing.
5.	Parity Group	The group of physical drives which consists RAID in the storage system.
6.	Port	The port for channel adapter or port controller of the storage system.
7.	RAID	Abbreviation of Redundant Arrays of Independent Disks.
8.	VM	Abbreviation of Virtual Machine.
9.	Metric	Indicates the performance index which is collected by vRealize Operations Manager.

1. Overview

This chapter describes the dashboard for Hitachi Storage Management Pack.

The dashboard for Hitachi Storage Management Pack which displays the performance information of Hitachi storage system that Hitachi Storage Management Pack collected is a custom dashboard for VMware vRealize Operations Manager (hereinafter, vRealize Operations Manager) user interface. The view display of each dashboard describes in Chapter 5.

2. System Requirements

This chapter describes the system requirements to exactly display the import details of the dashboard and the details which are expected on the dashboard.

The dashboard for Hitachi Storage Management Pack requires that the Hitachi Storage Management Pack operates normally. Therefore, you must meet all of the system requirements of Hitachi Storage Management Pack. Refer to Hitachi Storage Management Pack for VMware vRealize Operations user's Guide for the system requirements of Hitachi Storage Management Pack.

2.1. Hardware Prerequisites

Refer to Hitachi Storage Management Pack for VMware vRealize Operations User's Guide.

2.2. Software Prerequisites

The requirements which were not described in Hitachi Storage Management Pack for VMware vRealize Operations User's Guide are described.

2.2.1. Hitachi Storage Management Pack for VMware vRealize Operations

Required that Hitachi Storage Management Pack for VMware vRealize Operations has been installed and the performance information has been collected.

Table 2.2.1-1 Hitachi Storage Management Pack for VMware vRealize Operations

#	Software	Remarks
1.	Hitachi Storage Management Pack for VMware vRealize Operations v01.2.2	-

3. Restrictions and Considerations

- Consideration During Importing A Dashboard

This Chapter describes restrictions and considerations.

3.1. Consideration During Importing A Dashboard

3.1.1. Metric collection

Make sure that all the metrics to display in the dashboard have collected before the import of the dashboard. Refer to 5. Display of the dashboard for each description of the dashboard.

3.1.2. Dashboards which require Super metrics

To display the dashboard normally, Table 3.1.2-1 lists the dashboards which require super metrics, the super metric file name to import and the super metric name which displays on the screen after import.

Table 3.1.2-1 Dashboards which require super metrics

#	Dashboard	Super Metric File Name	Super Metric Name	Applicable Object type
1.	Hitachi VM Performance Dashboard	-	-	-
2.	Hitachi VM Capacity Dashboard	-	-	-
3.	Hitachi TopN Dashboard	Hitachi_Pool_IO_Density.json	Hitachi Pool I/O Density	Dynamic Provisioning Pool

4. Procedure for import of the dashboard

This chapter describes the import procedure for the dashboard.

A flowchart of the import procedure for the dashboard is shown in Figure 4-1. Each procedure is described in Section 4.1 or later.

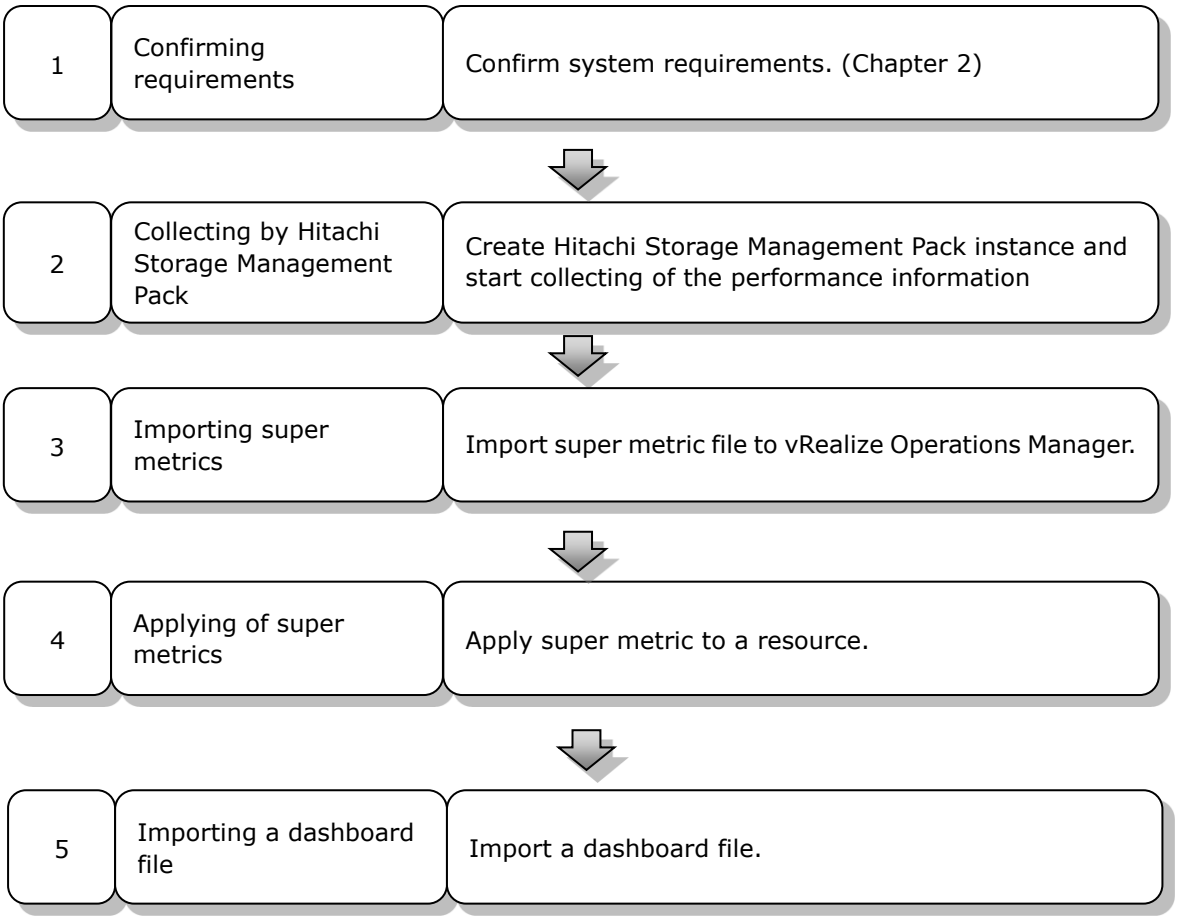

Figure 4-1 Import procedure of the dashboard

4.1. Collection By Hitachi Storage Management Pack

Most of information on the dashboard is collected by Hitachi Storage Management Pack. Accordingly, Hitachi Storage Management Pack is installed on vRealize Operations, and Hitachi Storage Management Pack instance is created, then the collection of the performance information of the target storage system is started. Refer to Hitachi Storage Management Pack for VMware vRealize Operations User's Guide for the installation method of Hitachi Storage Management Pack and the creation method of Hitachi Storage Management Pack instance.

4.2. Importing A Super Metric

Some dashboards use super metrics. Accordingly, when you use the dashboard, you need to import super metrics and allocate it to the designated resource in advance. Refer to Section 3.1 for the dashboard which requires importing and allocating the super metrics.

The import method of super metrics is shown as follows.

1) Log in to vRealize Operations Manager interface with administrator's account.(https://<IPaddress>/vcops-web-ent/login.action)

2) Click **Home** icon in on the upper part of the left pane.

3) Select **Content** from the option listed in the left pane.

4) Select **Super Metrics** from the option listed in the left pane.

5) Click **Actions** icon in the upper part of the right pane.

6) Select **Import Super Metric** from the drop-down list.

   The **Import Super Metric** window is displayed.

7) Click **Browse** button in the Import Super Metric window and select super metrics file.

8) Click **Done** button in the Import Super Metic window.

   The Import Super Metrics window is closed, and the imported super metrics name is displayed in the window. Refer to Section 3.1 for the displayed super metrics name

The imported super metrics name is displayed when **Done** button is clicked. Refer to Section 3.1 for the displayed super metrics name.

4.3. Applying A Super Metric

Super metrics are applied to the resource in order to collect the imported super metrics. The application procedure for super metrics to the resource is shown as below.

1) Click **Home** icon in the upper part of the left pane.

2) Select **Content** from the option listed in the left pane.

3) Select **Super Metrics** from the option listed in the left pane.

4) Select an applying super metric from the super metrics displayed in the right pane and click **Add Object Type** on **Object Type** tub of lower part of the display.

   The Select Object Type window is displayed.

5) At the Select Object Type window, click ▼ to show a list of object types. From the list of object types under Hitachi Storage Management Pack, select a object type that you are going to apply a super metric.

   Refer to Table 3.1.2-1 for the applying object type.

6) Click **Select** button in the Select Object Type window.

   The Select Object Typ window is closed.

7) Click **Home** icon in the upper part of the left pane.

8) Select **Administration** from the option listed in the left pane.

9) Select **Policies** from the option listed in the left pane.

10) Select **Policy Library** tab in the upper part of the right pane. Select the policy that is currently being used and click **Edit Selected Policy** icon.

    The **Edit Monitoring Policy** window is displayed.

11) Select **4. Override Attributes** in the left side of Edit Monitoring Policy window..

12) Select **Attribute Type** in the right upper part of the Edit Monitoring Policy window, Uncheck **Metric** and **Property**. Leave **Supermetric** check.

13) Select **Actions** in the right upper part of the Edit Monitoring Policy window, and select **Enable**

14) Select **Save** button in the Edit Monitoring Policy window.

    The Edit Monitoring Policy window is closed.

4.4. Importing A Dashboard File

To display the defined dashboard on the dashboard window, the dashboard file is imported. The import procedure of the dashboard file is shown as below.

1) Click **Home** icon in the upper part of the left pane.

2) Select **Content** from the option listed in the left pane.

3) Click **Actions** icon in the upper part of the right pane.

4) Select **Import Dashboards** from the drop-down list.

   The **Import Dashboard** window is displayed.

5) Click **Browse** button in the Import Dashboard window, and select a dashboard file.

   When the Dashboard file is selected, the Cancel button is changed to the Done button in the Import Dashboard window.

6) Click **Done** button in the Import Dashboard window.

   The Import Dashboard window is closed.

When the import of the dashboard file is completed, the imported dashboard is displayed in the **Dashboard List** menu. Select the dashboard from the **Dashboard List** menu for displaying the dashboard in HOME.

5. Displaying the dashboard

This chapter describes the widget which configures each dashboard and the display of widgets. In addition, for the dashboard using super metrics, the application method of super metrics are described.

5.1. Hitachi VM Performance dashboard

Hitachi VM Performance dashboard displays VM performance in the environment and the relationship between VM and storage resources. The display example of Hitachi VM Performance dashboard is shown in Figure 5.1-1.

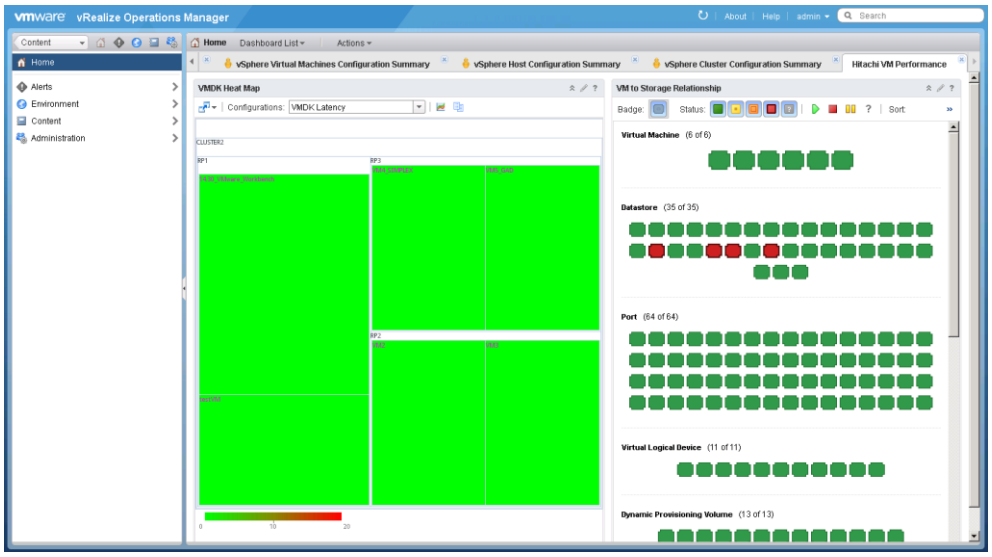

Figure 5.1-1 Display example of Hitachi VM Performance Dashboard

5.1.1. Hitachi VM Performance dashboard file

Table 5.1.1-1 lists the dashboard file name to designate at the import of Hitachi VM Performance dashboard, the dashboard name displayed in **Dashboard List** menu and the dashboard title name in HOME.

Table 5.1.1-1 Hitachi VM Performance dashboard name list

#	Dashboard file name	Label in the Dashboard List menu	Dashboard title
1.	HitachiVMPerformance-Dashboard.json	Hitachi VM Performance	Hitachi VM Performance
2.	HitachiVMPerformance-Dashboard_NoVLDEV.json *Note1*	Hitachi VM Performance	Hitachi VM Performance

Note 1: HitachiVMPerformance-Dashboard_NoVLDEV.json is a dashboard that VIRTUAL LOGICAL DEVICE is removed from HitachiVMPerformance-Dashboard.json. When a Datastore using Global Virtualization does not exist in the vSphere environment during monitoring, please use HitachiVMPerformance-Dashboard_NoVLDEV.json.

5.1.2. Super metrics which apply to Hitachi VM Performance dashboard

No super metrics for Hitachi VM Performance dashboard.

5.1.3. Widget which configures Hitachi VM Performance dashboard

This Chapter describes the widget which configures Hitachi VM Performance dashboard and the display of widgets.

Hitachi VM Performance dashboard consist of 2 widgets. Table 5.1.3-1 lists the widget which configures Hitachi VM Performance dashboard. The display of each widget describes in Subsection 5.1.3.1 or later.

Table 5.1.3-1 Widget which configures VM Performance dashboard

#	Widget
1.	VMDK Heat Map
2.	VM to Storage Relationship

5.1.3.1. VMDK Heat Map

VMDK Heat Map is a widget which customized Heatmap widget. There are 2 Heatmap Views and they can be changed by selecting from the pull-down menu. Each View is described as shown below.

VMDK Latency
VMDK Latency is one of Heatmap View which is displayed in VMDK Heat Map. Table 5.1.3.1-1 lists the setting details of VMDK Latency. The displayed contents are redrawn every 60 seconds.

Table 5.1.3.1-1 VMDK Latency setting list

#	Component	Metric	Unit of mesurement	Value
1.	Heat Map Object Size	Virtual Machine|Summary|CPU Shares	CPU Resource Share	N/A
2.	Heat Map Object Color	Virtual Machine|Virtual Disk|Aggregate|Total Latency	Milliseconds	N/A
3.	Green Threshold	Heat Map Object Color	Milliseconds	0
4.	Red Threshold	Heat Map Object Color	Milliseconds	20

VMDK IOPS

VMDK IOPS is one of Heat Map View which is displayed in VMDK Heat Map. Table 5.1.3.1-2 lists the setting details of VMDK IOPS. The displayed contents are redrawn every 60 seconds.

Table 5.1.3.1-2 VMDK IOPS setting list

#	Component	Metric	Unit of mesurement	Value
1.	Heat Map Object Size	Virtual Machine|Virtual Disk|Aggregate|Commands per Second	Commands per Second	N/A
2.	Heat Map Object Color	Virtual Machine|Virtual Disk|Aggregate|Total Latency	Milliseconds	N/A
3.	Green Threshold	Heat Map Object Color	Milliseconds	0
4.	Red Threshold	Heat Map Object Color	Milliseconds	20

5.1.3.2. VM to Storage Relationship

VM to Storage Relationship is a widget which customized an Environmental Overview widget. The color of the object changes depending on the soundness of each resource. Table 5.1.3.2-1 lists the resource kind that VM to Storage Relationship displays. The displayed contents are redrawn every 60 seconds.

Table 5.1.3.2-1 List of the Objet type on VM to Storage Relationship

#	Object Type
1.	Virtual Machine
2.	Datastore
3.	Port
4.	Virtual Logical Device
5.	Dynamic Provisioning Volume
6.	Dynamic Provisioning Pool
7.	Parity Group
8.	Management Processor Blade
9.	Cache

5.1.4. Hitachi VM Performance dashboard interaction

The following interaction is set to Hitachi VM Performance dashboard.

- When the Object on VMDK Heat Map is selected, Virtual Machine on VM to Storage Relationship corresponding to the selected Object is highlighted.

5.2. Hitachi VM Capacity dashboard

Hitachi VM Capacity dashboard displays the capacity and the utilization of Dynamic Provisioning Volume and the relationship between the virtual resource and the storage resource which were created on Dynamic Provisioning Volume.

An example display of Hitachi VM Capacity dashboard is shown in Figure 5.2-1.

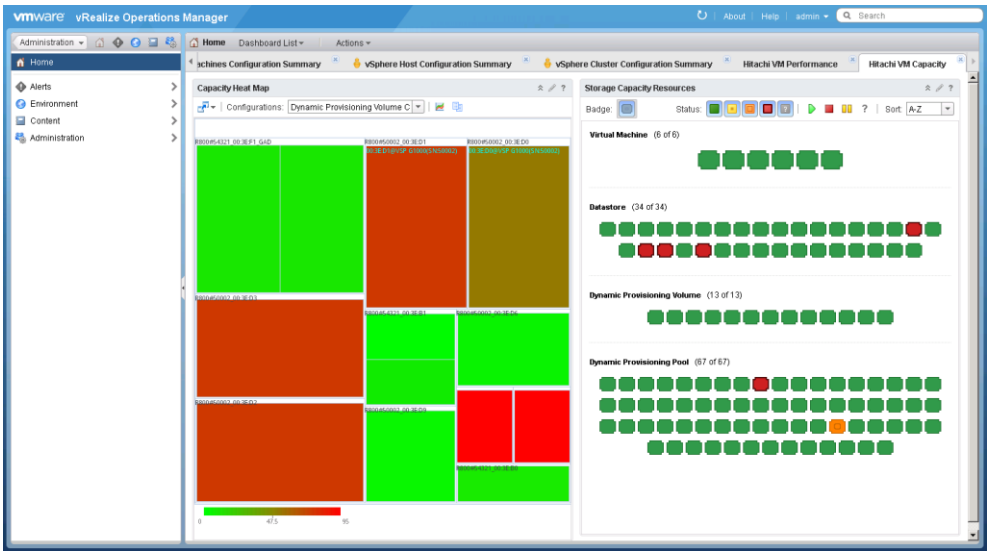

Figure 5.2-1 Example display of Hitachi VM Capacity Dashboard

5.2.1. Hitachi VM Capacity dashboard file

Table 5.2.1-1 lists the dashboard file name to designate at the import of Hitachi VM Capacity dashboard, the dashboard name in **Dashboard List** menu and the dashboard title name in Home.

Table 5.2.1-1 Hitachi VM Capacity dashboard name list

#	Dashboard file name	Label in Dashboard List menu	Dashboard title
1.	HitachiVMCapacity-Dashboard.json	Hitachi VM Capacity	Hitachi VM Capacity

5.2.2. Super metrics which apply to Hitachi VM Capacity dashboard

No super metrics for Hitachi VM Performance dashboard.

5.2.3. Widget which configures Hitachi VM Capacity dashboard

This Chapter describes the widget which configures Hitachi VM Capacity dashboard and the details which the widget displays.

Hitachi VM Capacity dashboard is configured with 2 widgets. Table 5.2.3-1 lists the widget which configures Hitachi VM Capacity dashboard. The display of each widget describes in Subsection 5.2.3.1 or later.

Table 5.2.3-1 Widget configuring Hitachi VM Capacity dashboard

#	Widget
1.	Capacity Heat Map
2.	Storage Capacity Resources

5.2.3.1. Capacity Heat Map

Capacity Heat Map is a widget which customized a Heatmap widget. There is one Heatmap View as below. Heatmap View is described as shown below.

- Dynamic Provisioning Volume Capacity

Dynamic Provisioning Volume Capacity
Dynamic Provisioning Volume Capacity is a Heatmap View that is displayed in the Capacity Heatmap widget. Table 5.2.3.1-1 lists the setting details of Dynamic Provisioning Volume Capacity. The displayed contents are redrawn every 60 seconds.

Table 5.2.3.1-1 Dynamic Provisioning Volume Capacity setting list

#	Component	Metric	Unit of mesurement	Value
1.	Heat Map Object Size	Dynamic Provisioning Volume|Virtual Volume Capacity (MB)	Megabytes	N/A
2.	Heat Map Object Color	Dynamic Provisioning Volume|Capacity Usage (%)	Percent	N/A
3.	Green Threshold	Heat Map Object Color	Percent	0
4.	Red Threshold	Heat Map Object Color	Percent	95

5.2.3.2. Storage Capacity Resources

Storage Capacity Resources is a widget which customized an Environmental Overview widget. The color of the object changes depending on the Health score of each object. The displayed contents are redrawn every 60 seconds.

Table 5.2.3.2-1 List of objetct type that Storage Capacity Resources display

#	Object Name
1.	Virtual Machine
2.	Datastore
3.	Dynamic Provisioning Volume
4.	Dynamic Provisioning Pool

5.2.4. Hitachi Capacity dashboard interaction

The following interaction is set to Hitachi Capacity dashboard.

- When the Object on Capacity Heat Map is selected, a Virtual Machine on Storage Capacity Resources corresponding to the selected Object is highlighted.

5.3. Hitachi TopN dashboard

Hitachi TopN dashboard displays the ranking in the monitoring target with the defined metric and also displays the time transition for change of the metric value.

An example display of Hitachi TopN dashboard is shown in Figure 5.3-1.

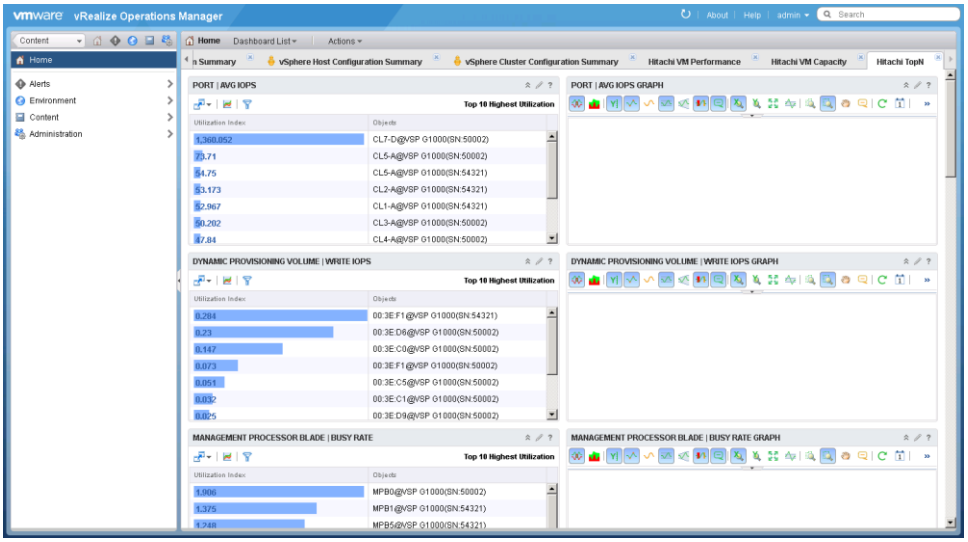

Figure 5.3-1 Example display of Hitachi TopN Dashboard

5.3.1. Hitachi TopN dashboard file

Table 5.3.1-1 lists the dashboard file name to designate at the import of Hitachi TopN dashboard, the dashboard name in **Dashboard List** menu and the dashboard title name in HOME.

Table 5.3.1-1 Hitachi TopN dashboard name list

#	Dashboard file name	Label in Dashboard List menu	Dashboard title
1.	HitachiTopN-Dashboard.json	Hitachi TopN	Hitachi TopN

5.3.2. Super metrics which apply to Hitachi TopN dashboard

This Chapter describes super metrics for Hitachi TopN dashboard.

Table 5.3.2-1 lists super metrics which apply to Hitachi TopN dashboard. Refer to Section 4.2 for the import procedure of super metrics and refer to Section 4.3 for the application procedure of super metrics.

Table 5.3.2-1 Super metrics which apply to Hitachi TopN dashboard

#	Resource Kind	Metric	Description
1.	Dynamic Provisioning Pool	Super Metric |Hitachi Pool I/O Density	Frequency of read and write operations for virtual volumes mapped to the Dynamic Provisioning pool per capacity of the pool.

5.3.3. Widget which configures Hitachi VM Performance dashboard

This chapter describes the widget which configures Hitachi TopN dashboard and the display of the widget.

Hitachi TopN dashboard consists of 2 type of widgets. The widget on the left which customized Top-N widget and the widget on the right which customized the Metric Chart was configured. The display details of each widget describes in Subsection 5.3.3.1 or later.

5.3.3.1. Widget which customized TopN widget

A widget which customized TopN widget displays Top 10 Highest Utilization in the past 30 days for metrics of the corresponding resource kind. Table 5.3.3.1-1 lists the widget information of the customized TopN widget.

Table 5.3.3.1-1 Widget which customized TopN Widget

#	Widget	Object Type	Metric
1.	PORT | AVG IOPS	Port	Port IO Operation | Avg I/O per second
2.	DYNAMIC PROVISIONING VOLUME | WRITE IOPS	Dynamic Provisioning Volume	DISK IO Operation | Write I/O per second
3.	MANAGEMENT PROCESSOR BLADE | BUSY RATE	Management Processor Blade	Processor | Processor Busy (%)
4.	DYNAMIC PROVISIONING VOLUME | USAGE	Dynamic Provisioning Volume	Capacity | Usage (%)
5.	DYNAMIC PROVISIONING POOL | USAGE	Dynamic Provisioning Pool	Capacity | Usage (%)
6.	DYNAMIC PROVISIONING VOLUME | READ IOPS	Dynamic Provisioning Volume	DISK IO Operation | Read I/O per second
7.	DYNAMIC PROVISIONING VOLUME | SEQUENTIAL TOTAL IOPS	Dynamic Provisioning Volume	DISK IO Operation | Sequential Total I/O per second
8.	DYNAMIC PROVISIONING VOLUME | TOTAL RESPONSE RATE	Dynamic Provisioning Volume	DISK IO Operation | Total Response Rate (us)
9.	DYNAMIC PROVISIONING VOLUME | RANDOM TOTAL IOPS	Dynamic Provisioning Volume	DISK IO Operation | Random Total I/O per second
10.	DYNAMIC PROVISIONING VOLUME | VIRTUAL VOLUME CAPACITY	Dynamic Provisioning Volume	DISK IO Operation | Virtual Volume Capacity (MB)
11.	DYNAMIC PROVISIONING POOL | HITACHI POOL I/O DENSITY	Dynamic Provisioning Pool	Super Metric | Hitachi Pool I/O Density

5.3.3.2. Widget which customized metric chart

The widget which customized the metric chart has been set the interaction to display a graph for the selected metric in the corresponding widget. Table 5.3.3.2-1 lists the widget information of the customized metric chart.

Table 5.3.3.2-1 Widget which customized metric chart

#	Widget	Corresponding Widget
1.	PORT | AVG IOPS GRAPH	PORT | AVG IOPS
2.	DYNAMIC PROVISIONING VOLUME | WRITE IOPS GRAPH	DYNAMIC PROVISIONING VOLUME | WRITE IOPS
3.	MANAGEMENT PROCESSOR BLADE | BUSY RATE GRAPH	MANAGEMENT PROCESSOR BLADE | BUSY RATE
4.	DYNAMIC PROVISIONING VOLUME | USAGE GRAPH	DYNAMIC PROVISIONING VOLUME | USAGE
5.	DYNAMIC PROVISIONING POOL | USAGE GRAPH	DYNAMIC PROVISIONING POOL | USAGE
6.	DYNAMIC PROVISIONING VOLUME | READ IOPS GRAPH	DYNAMIC PROVISIONING VOLUME | READ IOPS
7.	DYNAMIC PROVISIONING VOLUME | SEQUENTIAL TOTAL IOPS GRAPH	DYNAMIC PROVISIONING VOLUME | SEQUENTIAL TOTAL IOPS
8.	DYNAMIC PROVISIONING VOLUME | TOTAL RESPONSE RATE GRAPH	DYNAMIC PROVISIONING VOLUME | TOTAL RESPONSE RATE
9.	DYNAMIC PROVISIONING VOLUME | RANDOM TOTAL IOPS GRAPH	DYNAMIC PROVISIONING VOLUME | RANDOM TOTAL IOPS
10.	DYNAMIC PROVISIONING VOLUME | VIRTUAL VOLUME CAPACITY GRAPH	DYNAMIC PROVISIONING VOLUME | VIRTUAL VOLUME CAPACITY
11.	DYNAMIC PROVISIONING POOL | HITACHI POOL I/O DENSITY GRAPH	DYNAMIC PROVISIONING POOL | HITACHI POOL I/O DENSITY

5.3.4. Hitachi TopN dashboard interaction

Refer to Subsection 5.3.3.2 for the interaction of Hitachi TopN dashboard.

6

6. Troubleshooting

This chapter describes the troubleshooting during the operation of Hitachi Storage Management Pack for vRealize Operations dashboard when an error occurs.

Also, refer to Hitachi Storage Management Pack for VMware vRealize Operations User's Guide.

6.1. Troubleshooting During The Importing A Super Metrics

Table 6.1-1 lists the troubleshooting during the import of super metrics.

Table 6.1-1 Troubleshooting during the import of super metrics

#	Problem	Solution
1.	Cannot move to the display described in the import procedure.	vRealize Operations Manager provides plural GUI. Make sure whether GUI executing the import procedure is used. Refer to Hitachi Storage Management Pack for VMware vRealize Operations User's Guide for details.
2.	Failed to import with displaying the message of "Super Metric import failed. "Super metric with id **** already exists ". Please try again." when a super metric file was selected and was imported.	When the imported super metric was imported again, it cannot be imported if Skip import was selected. Select the Overwrite existing Super Metric for the import when the super metric is overwritten for repair.

6.2. Troubleshooting During The Importing A Dashboard

Table 6.2-1 lists the troubleshooting during the import of the dashboard.

Table 6.2-1 Troubleshooting during the import of the dashboard

#	Problem	Solution
1.	Cannot move to the display described in the import procedure.	vRealize Operations Manager provides plural GUI. Make sure whether GUI executing the import procedure is used. Refer to Hitachi Storage Management Pack for VMware vRealize Operations User's Guide for details.

6.3. Troubleshooting During Dashboard Operation

Table 6.3-1 lists the troubleshooting while using the dashboard.

Table 6.3-1 Troubleshooting while using the dashboard

#	Problem	Solution
1.	The metrics of the resource that Hitachi Storage Management Pack collects are not collected.	Make sure whether Hitachi Storage Management Pack has been installed normally. Also, make sure of whether Hitachi Storage Management Pack was created and the collection is executed definitely. Refer to Hitachi Storage Management Pack for VMware vRealize Operations User's Guide for the details.
2.	Super metrics are not collected.	Make sure whether the super metric has been imported normally. Also, make sure of whether a super metric is applied to a corresponding resource. Refer to Chapter 4 for the import procedure and refer to Chapter 5 for the application procedure. In addition, the super metric may not be displayed on the widget of the dashboard when the dashboard displaying the super metric is imported before the collection of the same super metric. In this case, import the dashboard again.
3.	Metrics are not displayed in the widget of the dashboard	Make sure that Hitachi Storage Adapter has been installed normally. Also, make sure whether Hitachi Storage Adapter Instance was created and the collection has executed definitely. Refer to Hitachi Storage Management Pack for VMware vRealize Operation User's Guide for the details. In addition, the metric may not be displayed on the widget of the dashboard when the dashboard is imported before the Hitachi Storage Adapter Instance collects metrics In this case, import the dashboard again.

6.4. Information Collected During Problems Occurrence

When a problem cannot be solved by troubleshooting, provide the following to the customer service for this software. Refer to Information Collected During Problems Occurrence in Hitachi Storage Management Pack Management Pack for VMware vRealize Operations User's Guide for details.

Hitachi Data Systems

Corporate Headquarters
2845 Lafayette Street
Santa Clara, California 95050-2639
U.S.A.
Phone: 1 408 970 1000
www.hds.com
info@hds.com

Asia Pacific and Americas
2845 Lafayette Street
Santa Clara, California 95050-2639
U.S.A.
Phone: 1 408 970 1000
info@hds.com

Europe Headquarters
Sefton Park
Stoke Poges
Buckinghamshire SL2 4HD
United Kingdom
Phone: + 44 (0)1753 618000
info.eu@hds.com

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