



**Hewlett Packard  
Enterprise**

# **HPE Storage Plug-in for VMware vRealize Log Insight 1.3 User Guide**

## **Abstract**

The user guide describes how to install, configure, and use the HPE Storage Plug-in with VMware vRealize™ Log Insight. The plug-in integrates with VMware Log Insight to deliver real-time log management for VMware environments and the storage systems associated with the respective VMware environment to provide an end to end analysis of the physical and virtual environment. The guide is intended for system administrators that monitor and direct system configurations and resource allocation for the HPE Storage Systems.

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# Introduction

HPE Storage Plug-in integrates with VMware vRealize™ Log Insight to extend log management and analysis to HPE 3PAR StoreServ storage systems and VMware environment. The HPE Storage Plug-in for VMware vRealize™ Log Insight uses the predefined queries and alerts to:

- Simplify and provide insights from terabytes of log data
- correlate events across multiple tiers of a hybrid cloud environment in a single location.
- Reduce troubleshooting times.
- Improve operational efficiency and reduce IT costs.

HPE Storage Plug-in for VMware vRealize™ Log Insight delivers the following:

- Dashboard
- Predefined fields
- Queries
- Alerts based on the content of HPE 3PAR StoreServ storage systems syslogs.
- Enables the VMware and storage administrators to detect and analyze potential capacity, health, configuration, and performance-related issues ahead of time.

The ability to view logs from multiple devices at one place helps to correlate and troubleshoot across multiple platforms.

For more information on vRealize Log Insight, refer to VMware vRealize Log Insight documentation at:

**<https://www.vmware.com/support/pubs/log-insight-pubs.html>**

**<http://pubs.vmware.com/log-insight-25/index.jsp>**

HPE Storage Plug-in for VMware vRealize Log Insight supports VMware vRealize Log Insight 2.5 and later.

# Installation and Configuration

Installing and configuring HPE Storage Plug-in for VMware vRealize Log Insight involves two steps:

1. Download and install the HPE Storage Plug-in for VMware vRealize Log Insight.
2. Configure the 3PAR StoreServ syslogs server.

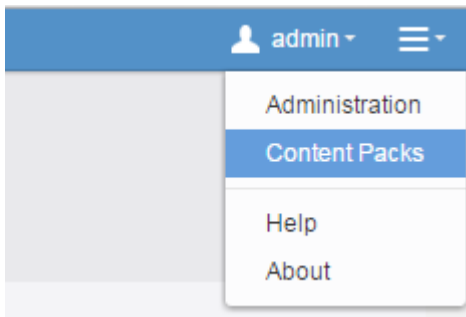
## Installing HPE Storage Plug-in for VMware vRealize Log Insight

The HPE Storage Plug-in for VMware vRealize Log Insight is available as a `v1cp` file extension. You can download and manually import the file into Log Insight or you can directly install the plug-in from the Log Insight Marketplace.

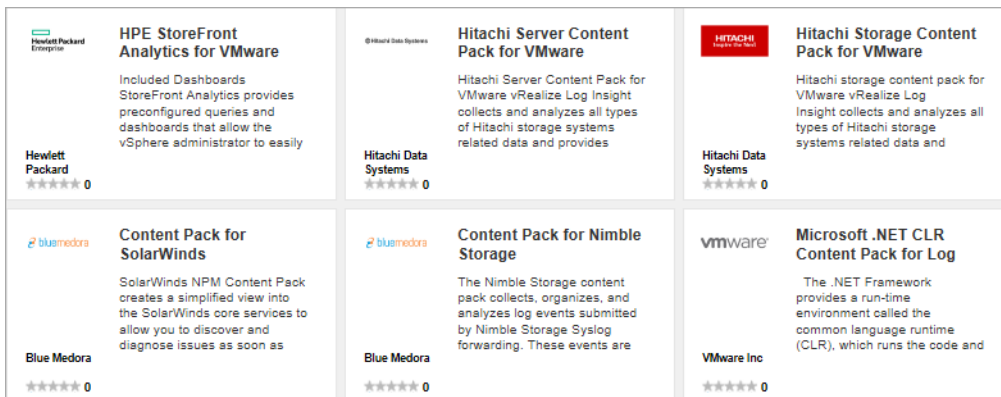
### Installing content pack from Log Insight Marketplace

#### Procedure

1. On the upper right menu bar, click the configuration drop-down menu icon  **Content Packs**.



2. Click **Marketplace** under **Content Pack Marketplace**.



3. Click HPE Storage Plug-in for VMware vRealize Log Insight on the right pane, and then click **Install**.

### Downloading and Installing HPE Storage Plug-in for VMware vRealize Log Insight manually

- Download HPE Storage Plug-in for VMware vRealize Log Insight from Hewlett Packard Enterprise Software Depot or VMware Solution Exchange.

Hewlett Packard Enterprise Software Depot:

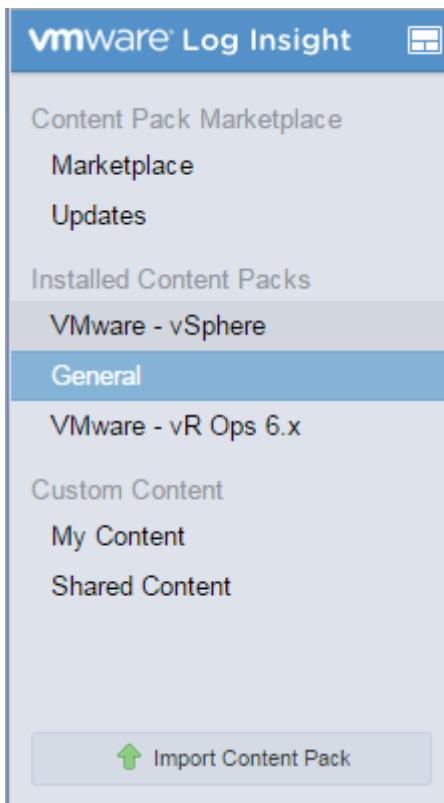
<http://www.hpe.com/downloads/LogInsight>

VMware Solution Exchange:

<https://solutionexchange.vmware.com/store/loginsight>



- On the upper right menu bar, click the configuration drop-down menu icon **Content Packs**.
- Click **Import Content Pack** on the bottom left corner of the Content Pack window.



- In the **Import Content Pack** window, click **Browse**. Navigate to the HPE Storage Plug-in for VMware vRealize Log Insight .v1cp file. Select the .v1cp file and click **Import**.
- Alternatively, **Import into My Content** can be selected if you choose to customize the content pack further.

Import Content Pack

Select a content pack to import:

[BROWSE...](#)

HPE Storage Plug-ins for VMware vRealize LogInsight v1.2.vlcp

Select how this content should be imported:

Install as content pack  
Content will be installed as a content pack. It will be read-only and visible to all users.

Import into My Content  
Content will be imported into my user space. It will be editable but only visible to me.

[CANCEL](#) [IMPORT](#)

- The HPE Storage Plug-in for VMware vRealize Log Insight is successfully installed and appears under the **Installed Content Packs**.

HPE Storage Plug-ins for VMware vRealize LogInsight

Hewlett Packard Enterprise

Version: 1.2  
Author: Hewlett Packard Enterprise  
Website: <http://www.hpe.com>  
Namespace: com.hp.3par  
Description: HPE Storage Plug-ins for VMware vRealize LogInsight v. 1... [Expand](#)

[Dashboards](#) [Queries](#) [Alerts](#) [Agent Groups](#) [Extracted Fields](#)

Dashboards

Dashboard 1

Widget Name	Widget Type	Notes
Total Events	Chart	The total number of events received over time.

General Overview

Widget Name	Widget Type	Notes
Count of All Events over time grouped by hostname	Chart	The total number of events received from HPE 3PAR StoreServ Storage System over time.
CLI Command Error events over time grouped by hostname	Chart	The total number of CLI command error events received from HPE 3PAR StoreServ Storage System over time.
Authentication Failure events over time grouped by hostname	Chart	The total number of authentication failure events received from HPE 3PAR StoreServ Storage System over time.
Firmware Out of date events grouped by hostname	Chart	The total number of firmware out of date events received from HPE 3PAR StoreServ Storage System over time.

## Configuring syslog server

To view 3PAR StoreServ syslog messages in the Log Insight user interface, configure the remote syslog server on the 3PAR StoreServ storage system.

**NOTE:** Forward the syslogs to the Log Insight server for each of the 3PAR StoreServ storage systems that is monitored.

To configure the remote syslog server on each of the 3PAR StoreServ storage systems, do the following:

## Procedure

1. Log in to the 3PAR storage system CLI and run the following commands:

```
setsys RemoteSyslogHost x.x.x.x
setsys RemoteSyslog 1
```

Where x.x.x.x is the IP address of the Log Insight server.

2. Run the `showsys -param` command to verify that the syslog server is set to the right address:

An example of the Log Insight server with the IP Address 10.10.11.22 is shown following:

```
setsys RemoteSyslogHost 10.10.11.22
setsys RemoteSyslog 1
Showsys -param
--Parameter-- -Value--
RawSpaceAlertFC : 0
RawSpaceAlertNL : 0
RawSpaceAlertSSD : 0
RemoteSyslog : 1
RemoteSyslogHost : 10.10.11.22
SparingAlgorithm : Default
EventLogSize : 3M
VVRetentionTimeMax : 336 Hours
UpgradeNote :
PortFailoverEnabled : yes
AutoExportAfterReboot : yes
AllowR5OnNLDrives : no
AllowR0 : no
ThermalShutdown : yes
FailoverMatchedSet : no
```

# Components of HPE Storage Plug-in for VMware vRealize Log Insight

The HPE Storage Plug-in for VMware vRealize Log Insight provides advanced dashboards, user-defined fields, queries, and alerts.

## Dashboards

Dashboards are collections of chart and query list widgets to help visualize information. There are two different types of dashboard widgets in Log Insight:

- A Chart widget that contains a visual representation of events with a link to a saved query.
- A Query List that contains title links to saved queries.

The five dashboards included with HPE Storage Plug-in for VMware vRealize Log Insight are:

- General Overview — Contains widgets with information about the general health of the 3PAR StoreServ Storage System.
- Provisioning Warning Events — Contains widgets that show events related to 3PAR StoreServ's provisioning such as events for CPG's, virtual volumes, and thin provisioning operations.
- Replication Warning Events — Contains widgets that show events related to 3PAR StoreServ's replication events such as events for remote copies and snapshots.



- Disk, Cage Warning Events — Contains widgets that show events related to 3PAR StoreServ Storage System's disk drives and cages.
- System, Port, Node Events — Contains widgets that show events related to 3PAR StoreServ Storage System's ports, nodes, and power system.

Screenshots of the dashboards are presented below.

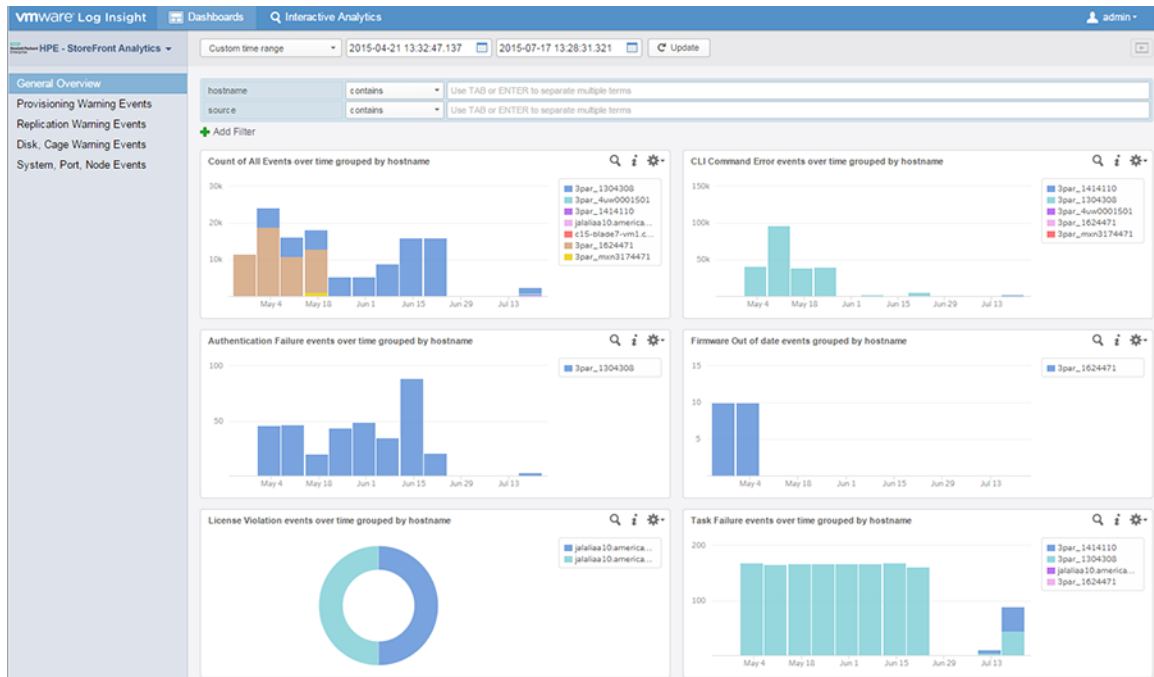


Figure 1: General Overview dashboard

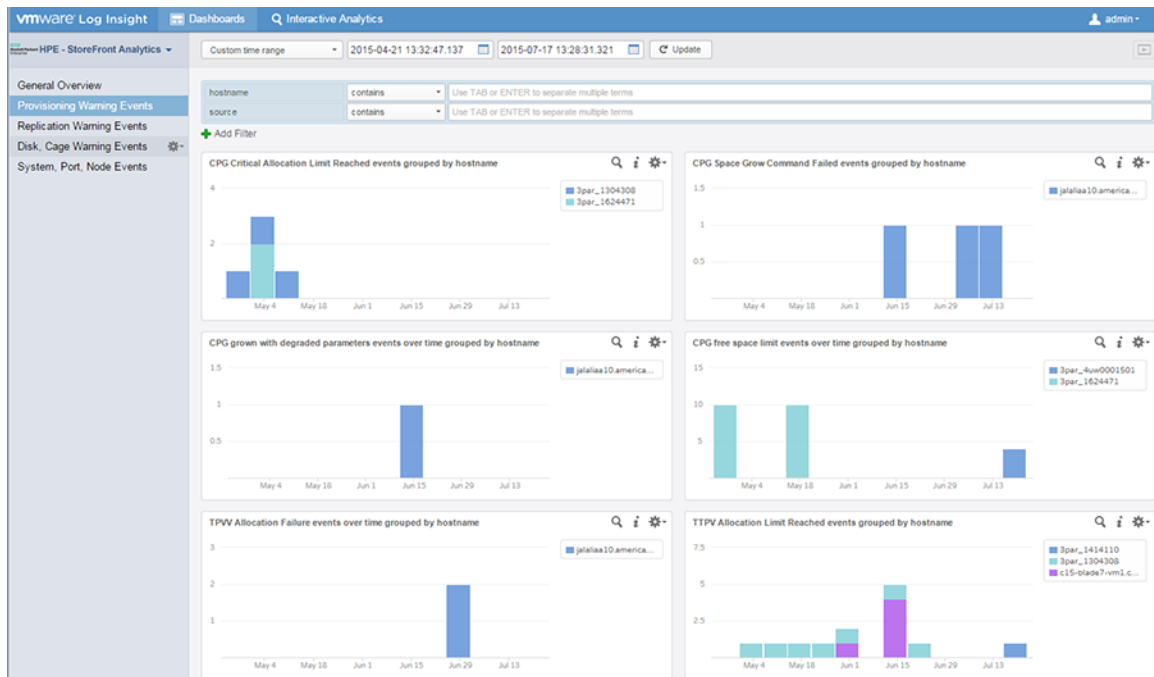
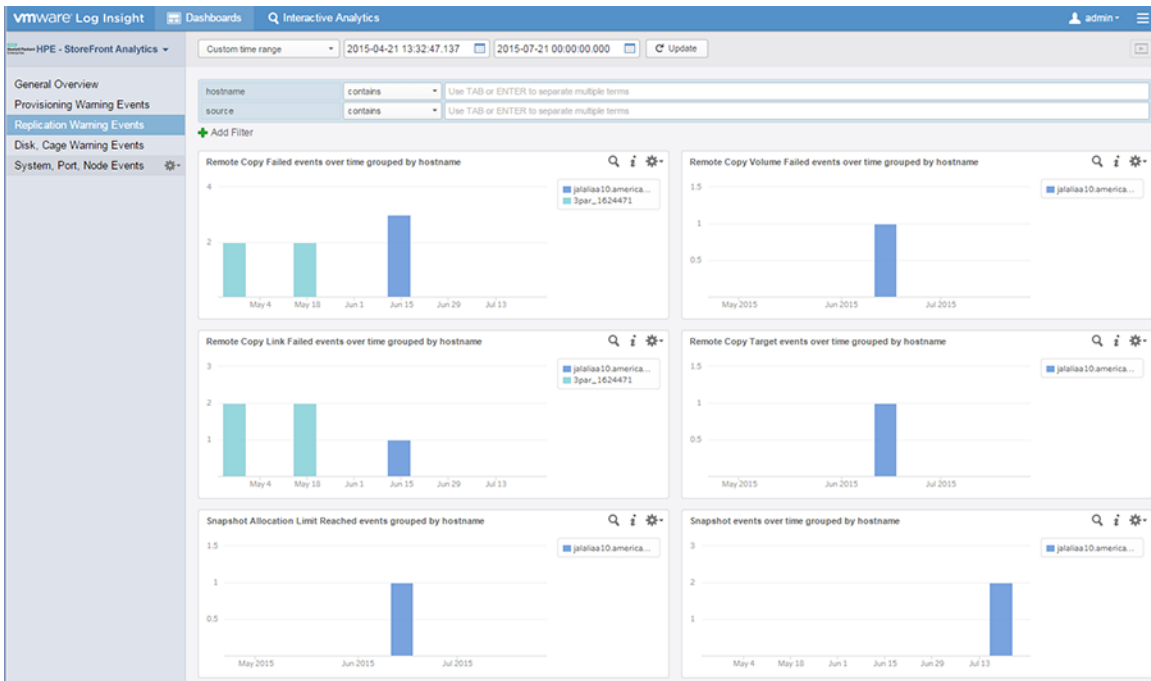
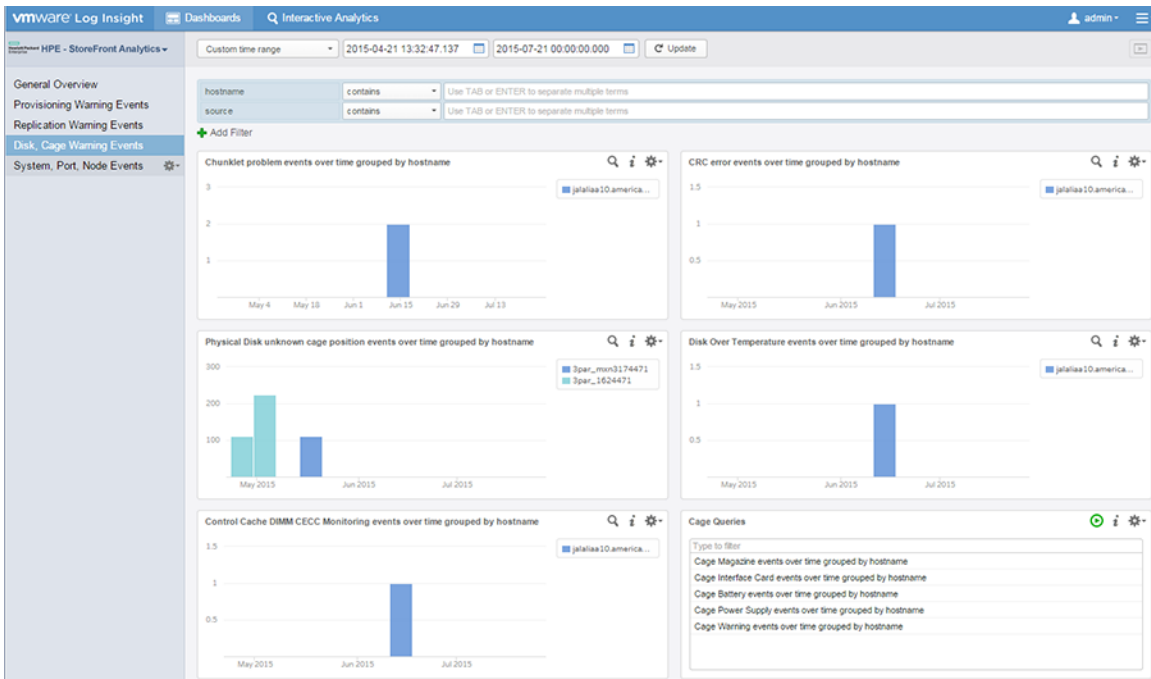


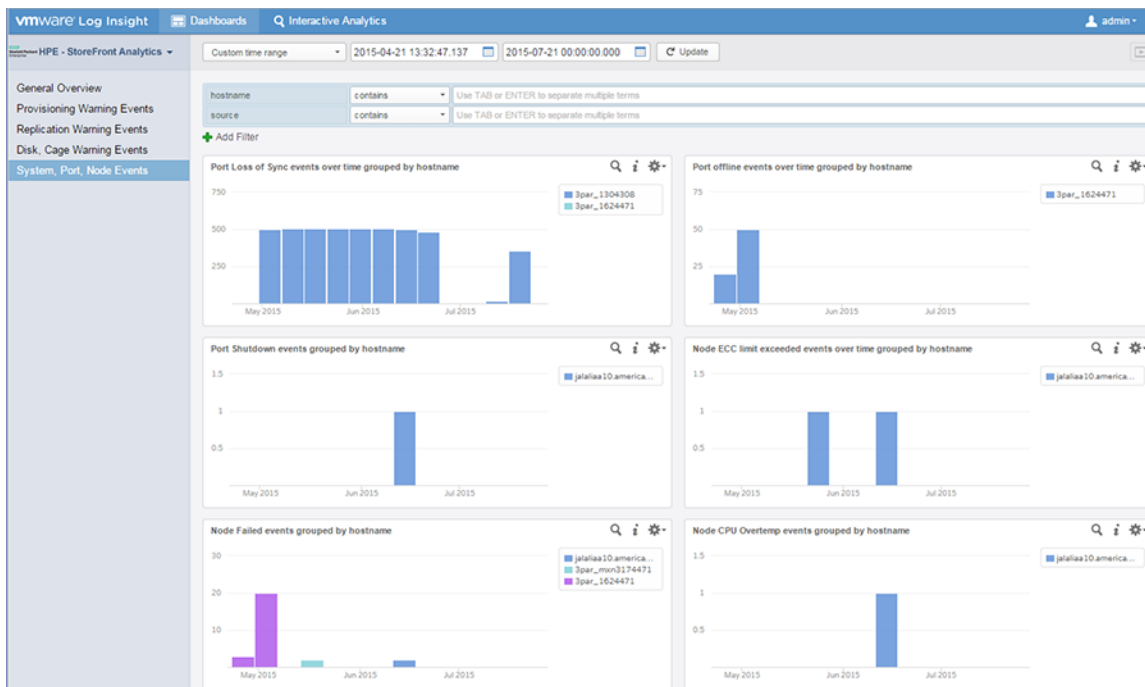
Figure 2: Provisioning Warning Events



**Figure 3: Replication Warning Events**



**Figure 4: Disk, Cage Warning Events**



**Figure 5: System, Port, Node Events**

## User-defined fields

HPE Storage Plug-in for VMware vRealize Log Insight has preconfigured user-defined fields for the most common objects in the log files. These fields are based on 3PAR alert definitions found in 3PAR Alerts Reference (<http://www.hpe.com/info/3PAROS-manuals>)

The fields in HPE Storage Plug-in for VMware vRealize Log Insight have the prefix "hp\_3par\_" so they can be identified easily. The following is a list of these fields:

- hp\_3par\_authentication\_failure
- hp\_3par\_cage\_battery\_degraded
- hp\_3par\_cage\_battery\_failed
- hp\_3par\_cage\_degraded
- hp\_3par\_cage\_failed
- hp\_3par\_cage\_ic\_degraded
- hp\_3par\_cage\_ic\_failed
- hp\_3par\_cage\_magazine\_degraded
- hp\_3par\_cage\_magazine\_failed
- hp\_3par\_cage\_ps\_degraded
- hp\_3par\_cage\_ps\_failed
- hp\_3par\_chunklets\_failed\_relocating
- hp\_3par\_chunklets\_marked\_failed
- hp\_3par\_chunklets\_relocation\_failure
- hp\_3par\_cpg\_allocation\_limit

- hp\_3par\_cpg\_grown\_degraded\_params
- hp\_3par\_cpg\_space\_grow\_failed
- hp\_3par\_disk\_degraded
- hp\_3par\_disk\_failed
- hp\_3par\_disk\_overtemp
- hp\_3par\_host\_port\_crc\_errors
- hp\_3par\_host\_port\_is\_down
- hp\_3par\_license\_node\_violation
- hp\_3par\_license\_violation
- hp\_3par\_no\_chunklet\_found
- hp\_3par\_node\_cpu\_overtemp
- hp\_3par\_node\_degraded
- hp\_3par\_node\_ecc\_limit
- hp\_3par\_node\_failed
- hp\_3par\_node\_license\_violation
- hp\_3par\_node\_limit\_exceeded
- hp\_3par\_port\_degraded
- hp\_3par\_port\_failed
- hp\_3par\_port\_shutdown
- hp\_3par\_power\_supply\_degraded
- hp\_3par\_power\_supply\_failed
- hp\_3par\_raw\_space\_threshold
- hp\_3par\_rcip\_port\_crc\_errors
- hp\_3par\_remote\_copy\_link\_degraded
- hp\_3par\_remote\_copy\_link\_failed
- hp\_3par\_remote\_copy\_volume\_degraded
- hp\_3par\_remote\_copy\_volume\_failed
- hp\_3par\_snapshot\_allocation\_limit
- hp\_3par\_task\_failed
- hp\_3par\_tpvv\_allocation\_failure
- hp\_3par\_tpvv\_allocation\_limit
- hp\_3par\_virtual\_volume\_degraded
- hp\_3par\_virtual\_volume\_failed
- hp\_3parcpg\_free\_space\_limit

## Alerts

Alerts provide a way to trigger a reaction when a certain type of event occurs.

HPE Storage Plug-in for VMware vRealize Log Insight includes the following alerts for HPE 3PAR StoreServ:

- 3PAR: Disk Over temperature Alert
- 3PAR: TPVV Allocation Limit Reached Alert
- 3PAR: License Violation Alert
- 3PAR: Node CPU Over temperature
- 3PAR: CPG capacity is over 80%
- 3PAR: CPG Space Grow Command Failed
- 3PAR: Port Shutdown Alert
- 3PAR: Power Supply Failure Alert

You have to manually activate the alerts as they are initially disabled. See section below on Enabling StoreFront Analytics alerts and forwarding them as Notification Events to HPE Storage Plug-in for VMware vRealize Operations.

## Saved Queries

HPE Storage Plug-in for VMware vRealize Log Insight includes several saved queries. The queries are incorporated into list widgets in some of the above dashboards as well as in Favorite queries.

The queries in are HPE Storage Plug-in for VMware vRealize Log Insight are:

- License Violation Query
- Degraded Events Queries:
  - Disk Degraded events over time grouped by hostname
  - Port Degraded events over time grouped by hostname
  - Node Degraded events over time grouped by hostname
  - Cage Degraded events over time grouped by hostname
  - Power Supply Degraded events over time grouped by hostname
  - Virtual Volume Degraded events over time grouped by hostname
  - Remote Copy Volume Degraded events over time grouped by hostname
  - Remote Copy Link Degraded events over time grouped by hostname
- Failed Events Queries:
  - Disk Failed events over time grouped by hostname
  - Port Failed events over time grouped by hostname
  - Node Failed events over time grouped by hostname
  - Cage Failed events over time grouped by hostname
  - Power Supply Failed events over time grouped by hostname

- Virtual Volume Failed events over time grouped by hostname
- Remote Copy Volume Failed events over time grouped by hostname
- Remote Copy Link Failed events over time grouped by hostname
- Cage Queries:
  - Cage Magazine events over time grouped by hostname
  - Cage Interface Card events over time grouped by hostname
  - Cage Battery events over time grouped by hostname
  - Cage Power Supply events over time grouped by hostname
- Power Events Queries
  - Powerfail events over time grouped by hostname
  - No Power Detected events over time grouped by hostname
  - Power Supply Warning events over time grouped by hostname

## Integrating vRealize Log Insight with vRealize Operations

The integration of vRealize Log Insight with vRealize Operations (vROps) platform maximizes ROI and value. The integration offers an enhanced solution for operations management by combining unstructured (log files) and structured data (metrics and key performance indicators).

HPE Storage Plug-in for VMware vRealize Operations displays the alerts based on different metrics. The plug-in does not report the alerts generated by the storage system itself. When you forward the alert from HPE Storage Plug-in for VMware vRealize Log Insight to HPE Storage Plug-in for VMware vRealize Operations, you receive detailed information about the alerts. The root cause of the alerts can be deduced from the information you receive by forwarding the alerts.

If you have the vRealize Operations Manager 6.0 with HPE Storage Plug-in for VMware vRealize Operations 3.0 or later installed, you can configure the Log Insight server to send notification events to vRealize Operations Manager for specific alerts.

### Prerequisite

Verify that the connection between vRealize Log Insight and vRealize Operations Manager is working correctly to enable alert integration.

For more information about integration with vROps, refer VMware Log Insight documentation at:

<http://pubs.vmware.com/log-insight-25/index.jsp?topic=%2Fcom.vmware.log-insight.administration.doc%2FGUID-5B66DDB2-577D-49E0-8911-86AAD883CD4B.html&resultof=%22vrealize%22%20%22vrealiz%22%20%22operation%22%20%22oper%22%20>

## Configuring Notification Events to HPE Storage Plug-in for VMware vRealize Operations


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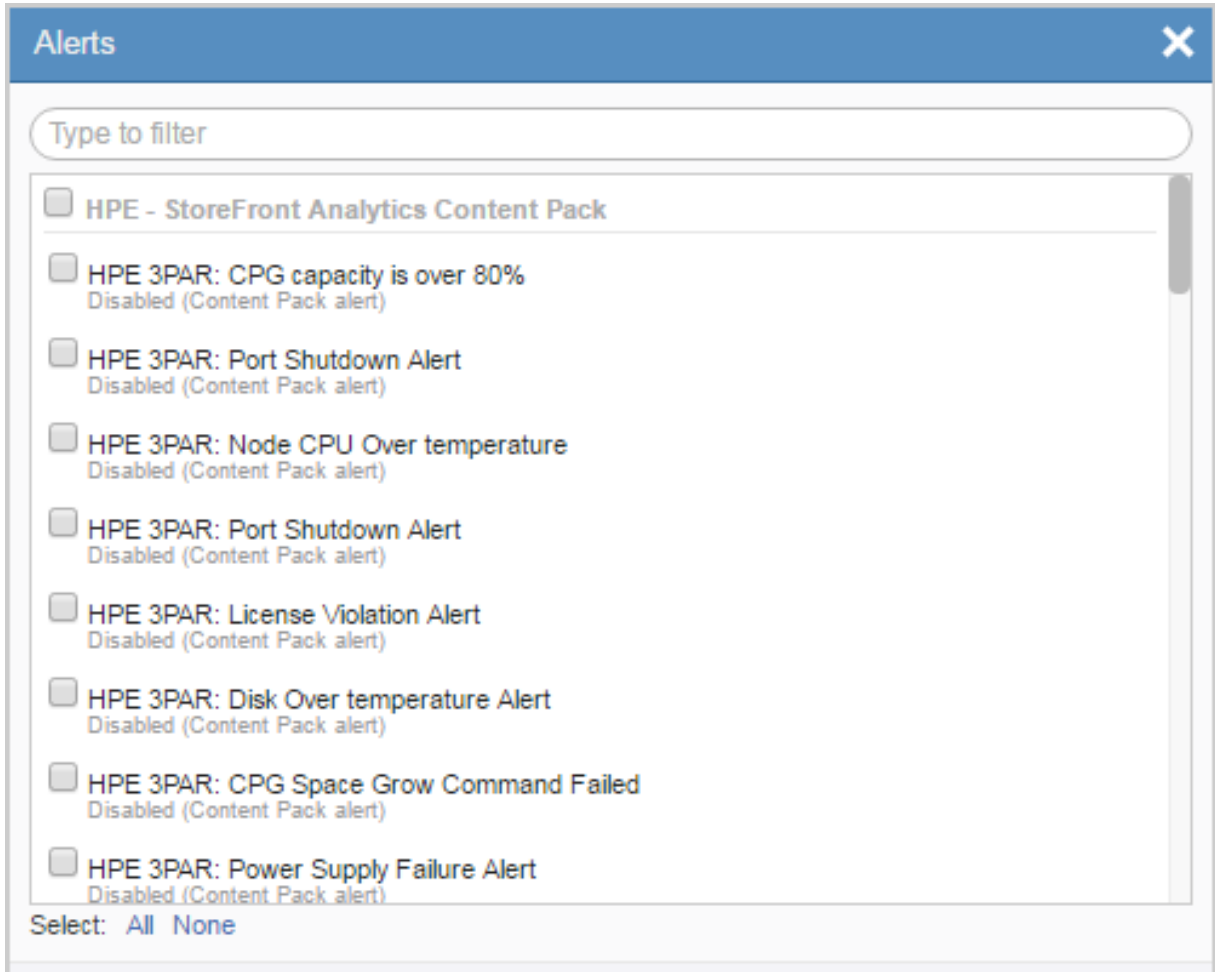
**NOTE:** This needs to be done for each alert that needs to be sent .


---

To send notification events to vRealize Operations Manager:

## Procedure

1. Click on the **Interactive Analytics** tab.
2. From the menu on the right of the Search button, click  **Manage Alerts**.
3. In the **Alerts** window, select the HPE Storage Plug-in for VMware vRealize Log Insight alert that should be enabled. User can enable the alert to be sent as an email and/or to the vRealize Operations manager.



- a. Click on the edit icon .
- b. In the **New Alert** window, select **Send to vRealize Operations Manager**. To choose a vRealize Operations Manager resource to be associated with the notification events that the VMware vRealize Log Insight sends, click **Select**.

- c. Hewlett Packard Enterprise recommends choosing the HP\_Storage\_Systems resource to receive all the Notification Alerts. To do this select **All Resources** from the drop-down menu, enter HP\_Storage\_Systems in the text box, click **Search**, and then click on the HP\_Storage\_Systems resource found.

- d. In the **Criticality** drop-down menu, select the criticality level for the notification events that appear in vRealize Operations Manager custom UI.

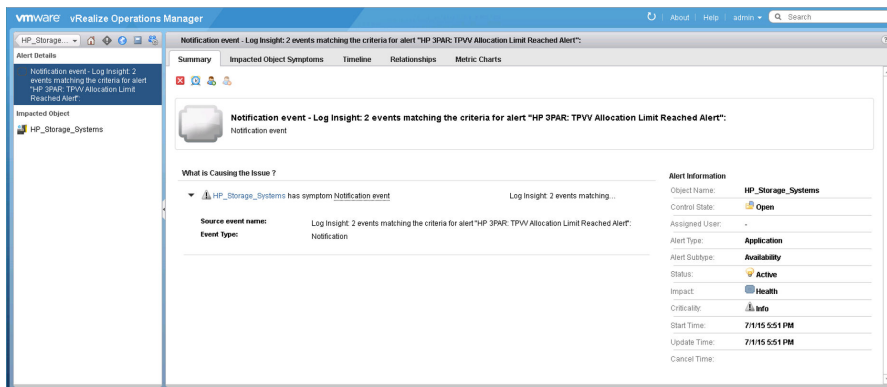


- e. Adjust the alert threshold if required.
- f. Click **Save to My Alerts** to save and enable the alert.

When the alert query returns results that match the alert criteria, a notification event is sent to vRealize Operations Manager. Alert queries run on a predefined schedule and are triggered only once for a given threshold time range.



Here is an example of a Notification Alert sent by Log Insight to vROps:



**NOTE:** It does take some time before the notification events appear in the vRealize Operations Manager UI.

# Support and other resources

## Support

### Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:  
<http://www.hpe.com/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:  
<http://www.hpe.com/support/hpesc>

#### Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

### Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:  
**Hewlett Packard Enterprise Support Center**  
[www.hpe.com/support/hpesc](http://www.hpe.com/support/hpesc)  
**Hewlett Packard Enterprise Support Center: Software downloads**  
[www.hpe.com/support/downloads](http://www.hpe.com/support/downloads)  
**Software Depot**  
[www.hpe.com/support/softwaredepot](http://www.hpe.com/support/softwaredepot)
- To subscribe to eNewsletters and alerts:  
[www.hpe.com/support/e-updates](http://www.hpe.com/support/e-updates)
- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:  
[www.hpe.com/support/AccessToSupportMaterials](http://www.hpe.com/support/AccessToSupportMaterials)

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**!** **IMPORTANT:** Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

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## Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

<http://www.hpe.com/support/selfrepair>

## Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

### Remote support and Proactive Care information

#### HPE Get Connected

[www.hpe.com/services/getconnected](http://www.hpe.com/services/getconnected)

#### HPE Proactive Care services

[www.hpe.com/services/proactivecare](http://www.hpe.com/services/proactivecare)

#### HPE Proactive Care service: Supported products list

[www.hpe.com/services/proactivecaresupportedproducts](http://www.hpe.com/services/proactivecaresupportedproducts)

#### HPE Proactive Care advanced service: Supported products list

[www.hpe.com/services/proactivecareadvancedsupportedproducts](http://www.hpe.com/services/proactivecareadvancedsupportedproducts)

### Proactive Care customer information

#### Proactive Care central

[www.hpe.com/services/proactivecarecentral](http://www.hpe.com/services/proactivecarecentral)

#### Proactive Care service activation

[www.hpe.com/services/proactivecarecentralgetstarted](http://www.hpe.com/services/proactivecarecentralgetstarted)

## Warranty information

To view the warranty information for your product, see the links provided below:

#### HPE ProLiant and IA-32 Servers and Options

[www.hpe.com/support/ProLiantServers-Warranties](http://www.hpe.com/support/ProLiantServers-Warranties)

#### HPE Enterprise and Cloudline Servers

[www.hpe.com/support/EnterpriseServers-Warranties](http://www.hpe.com/support/EnterpriseServers-Warranties)

#### HPE Storage Products

[www.hpe.com/support/Storage-Warranties](http://www.hpe.com/support/Storage-Warranties)

#### HPE Networking Products

[www.hpe.com/support/Networking-Warranties](http://www.hpe.com/support/Networking-Warranties)

## Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

[www.hpe.com/support/Safety-Compliance-EnterpriseProducts](http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts)

### Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

[www.hpe.com/info/reach](http://www.hpe.com/info/reach)

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

[www.hpe.com/info/ecodata](http://www.hpe.com/info/ecodata)

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

[www.hpe.com/info/environment](http://www.hpe.com/info/environment)

## Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback ([docsfeedback@hpe.com](mailto:docsfeedback@hpe.com)). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

## Other resources

### HPE 3PAR documentation

For information about:	See:
Supported hardware and software platforms	The Single Point of Connectivity Knowledge for HPE Storage Products (SPOCK) website: <a href="http://www.hpe.com/storage/spock">http://www.hpe.com/storage/spock</a>
Locating 3PAR documents	The HPE 3PAR StoreServ Storage site: <a href="http://www.hpe.com/info/3par">http://www.hpe.com/info/3par</a> To access 3PAR documents, click the <b>Support</b> link for your product.
<b>HPE 3PAR storage system software</b>	
Storage concepts and terminology	HPE 3PAR StoreServ Storage Concepts Guide

*Table Continued*

<b>For information about:</b>	<b>See:</b>
Using the HPE 3PAR Management Console (GUI) to configure and administer 3PAR storage systems	HPE 3PAR Management Console User's Guide
Using the HPE 3PAR CLI to configure and administer storage systems	HPE 3PAR Command Line Interface Administrator's Manual
CLI commands	HPE 3PAR Command Line Interface Reference
Analyzing system performance	HPE 3PAR System Reporter Software User's Guide
Installing and maintaining the Host Explorer agent in order to manage host configuration and connectivity information	HPE 3PAR Host Explorer User's Guide
Creating applications compliant with the Common Information Model (CIM) to manage 3PAR storage systems	HPE 3PAR CIM API Programming Reference
Migrating data from one 3PAR storage system to another	3PAR-to-3PAR Storage Peer Motion Guide
Configuring the Secure Service Custodian server in order to monitor and control 3PAR storage systems	HPE 3PAR Secure Service Custodian Configuration Utility Reference
Using the CLI to configure and manage HPE 3PAR Remote Copy	HPE 3PAR Remote Copy Software User's Guide
Updating 3PAR operating systems	HPE 3PAR Upgrade Pre-Planning Guide
Identifying storage system components, troubleshooting information, and detailed alert information	HPE 3PAR F-Class, T-Class, and StoreServ 10000 Storage Troubleshooting Guide
Installing, configuring, and maintaining the HPE 3PAR Policy Server	HPE 3PAR Policy Server Installation and Setup Guide HPE 3PAR Policy Server Administration Guide
<b>Planning for HPE 3PAR storage system setup</b>	
Hardware specifications, installation considerations, power requirements, networking options, and cabling information for 3PAR storage systems	
HPE 3PAR 7200, 7400, 7450, and 8000 storage systems	HPE 3PAR StoreServ 7000 Storage Site Planning Manual HPE 3PAR StoreServ 7450 Storage Site Planning Manual HPE 3PAR StoreServ 8000 Storage Site Planning Manual

*Table Continued*

<b>For information about:</b>	<b>See:</b>
HPE 3PAR 10000 and 20000 storage systems	HPE 3PAR StoreServ 10000 Storage Physical Planning Manual HPE 3PAR StoreServ 10000 Storage Third-Party Rack Physical Planning Manual HPE 3PAR Storeserv 20000 Storage Site Planning Manual
<b>Installing and maintaining HPE 3PAR 7200, 7400, and 7450 storage systems</b>	
Installing 7200, 7400, and 7450 storage systems and initializing the Service Processor	HPE 3PAR StoreServ 7000 Storage Installation Guide HPE 3PAR StoreServ 7450 Storage Installation Guide HPE 3PAR StoreServ 7000 Storage SmartStart Software User's Guide
Maintaining, servicing, and upgrading 7200, 7400, and 7450 storage systems	HPE 3PAR StoreServ 7000 Storage Service Guide HPE 3PAR StoreServ 7450 Storage Service Guide
Troubleshooting 7200, 7400, and 7450 storage systems	HPE 3PAR StoreServ 7000 Storage Troubleshooting Guide HPE 3PAR StoreServ 7450 Storage Troubleshooting Guide
Maintaining the Service Processor	HPE 3PAR Service Processor Software User Guide HPE 3PAR Service Processor Onsite Customer Care (SPOCC) User's Guide
<b>HPE 3PAR host application solutions</b>	
Backing up Oracle databases and using backups for disaster recovery	HPE 3PAR Recovery Manager Software for Oracle User's Guide
Backing up Exchange databases and using backups for disaster recovery	HPE 3PAR Recovery Manager Software for Microsoft Exchange 2007 and 2010 User's Guide
Backing up SQL databases and using backups for disaster recovery	HPE 3PAR Recovery Manager Software for Microsoft SQL Server User's Guide
Backing up VMware databases and using backups for disaster recovery	HPE 3PAR Management Plug-in and Recovery Manager Software for VMware vSphere User's Guide

*Table Continued*

<b>For information about:</b>	<b>See:</b>
Installing and using the HPE 3PAR VSS (Volume Shadow Copy Service) Provider software for Microsoft Windows	HPE 3PAR VSS Provider Software for Microsoft Windows User's Guide
Best practices for setting up the Storage Replication Adapter for VMware vCenter	HPE 3PAR Storage Replication Adapter for VMware vCenter Site Recovery Manager Implementation Guide
Troubleshooting the Storage Replication Adapter for VMware vCenter Site Recovery Manager	HPE 3PAR Storage Replication Adapter for VMware vCenter Site Recovery Manager Troubleshooting Guide
Installing and using vSphere Storage APIs for Array Integration (VAAI) plug-in software for VMware vSphere	HPE 3PAR VAAI Plug-in Software for VMware vSphere User's Guide

## HPE StoreVirtual documentation

For detailed instructions about using HPE StoreVirtual Storage, see the following resources:

- StoreVirtual Storage Online Help—Click **Help > Help Topics** from the menu bar to open the online help. Context-sensitive help is available by clicking the question mark on any screen.
- StoreVirtual Storage User Guide—Provides complete instructions for configuring and managing storage systems and clustered storage volumes.
- StoreVirtual Storage VSA Installation and Configuration Guide—Provides instructions for planning and installing the VSA and getting started with the Centralized Management Console.
- StoreVirtual Storage Remote Copy User Guide—Provides information about configuring and using asynchronous replication of storage volumes and snapshots across geographic distances.
- StoreVirtual Storage Multi-Site Configuration Guide—Provides instructions for designing and implementing the Multi-Site SAN features to synchronously and automatically mirror data between geographic sites.
- StoreVirtual Storage Release Notes—Provides the latest information about the product.

The latest versions of these documents, including localized versions are available at:

- Hewlett Packard Enterprise Support Center : <http://www.hpe.com/support/StoreVirtualManuals>
- Storage Information Library: <http://www.hpe.com/info/storage/docs>

## HPE 3PAR branding information

- The server previously referred to as the "InServ" is now referred to as the "HPE 3PAR StoreServ Storage system."
- The operating system previously referred to as the "InForm OS" is now referred to as the "HPE 3PAR OS."

- The UI previously referred to as the "InForm Management Console (IMC)" is now referred to as the "HPE 3PAR Management Console."
- All products previously referred to as "3PAR" products are now referred to as "HPE 3PAR" products.

## Websites

<b>Website</b>	<b>Link</b>
Hewlett Packard Enterprise Information Library	<a href="http://www.hpe.com/info/enterprise/docs">www.hpe.com/info/enterprise/docs</a>
Hewlett Packard Enterprise Support Center	<a href="http://www.hpe.com/support/hpesc">www.hpe.com/support/hpesc</a>
Contact Hewlett Packard Enterprise Worldwide	<a href="http://www.hpe.com/assistance">www.hpe.com/assistance</a>
Subscription Service/Support Alerts	<a href="http://www.hpe.com/support/e-updates">www.hpe.com/support/e-updates</a>
Software Depot	<a href="http://www.hpe.com/support/softwaredepot">www.hpe.com/support/softwaredepot</a>
Customer Self Repair	<a href="http://www.hpe.com/support/selfrepair">www.hpe.com/support/selfrepair</a>
Insight Remote Support	<a href="http://www.hpe.com/info/insightremotesupport/docs">www.hpe.com/info/insightremotesupport/docs</a>
Serviceguard Solutions for HP-UX	<a href="http://www.hpe.com/info/hpux-serviceguard-docs">www.hpe.com/info/hpux-serviceguard-docs</a>
Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix	<a href="http://www.hpe.com/storage/spock">www.hpe.com/storage/spock</a>
Storage white papers and analyst reports	<a href="http://www.hpe.com/storage/whitepapers">www.hpe.com/storage/whitepapers</a>



# Glossary

## **CPG**

Common Provisioning Group - defines the Logical Disk creation characteristics, such as RAID type, set size, disk type for chunklet selection, plus total space warning and limit points. A CPG creates a virtual pool of LDs that allows Volumes to share resources and to allocate space on demand. A volume created from a CPG can automatically be grown on demand by mapping new regions from the LDs associated with the CPG.

## **KPI**

Key Performance Indicator (as in the VMware metric - Full Set - Active KPI Breach Count)

## **Utilization Index**

A value that is calculated by the vROps analytics to indicate the usage level of a resource. The higher the value, the greater the resource is being used.

## **vApp**

A collection of virtual machines.

## **VM**

Virtual Machine

## **vROps**

vRealize Operations Manager