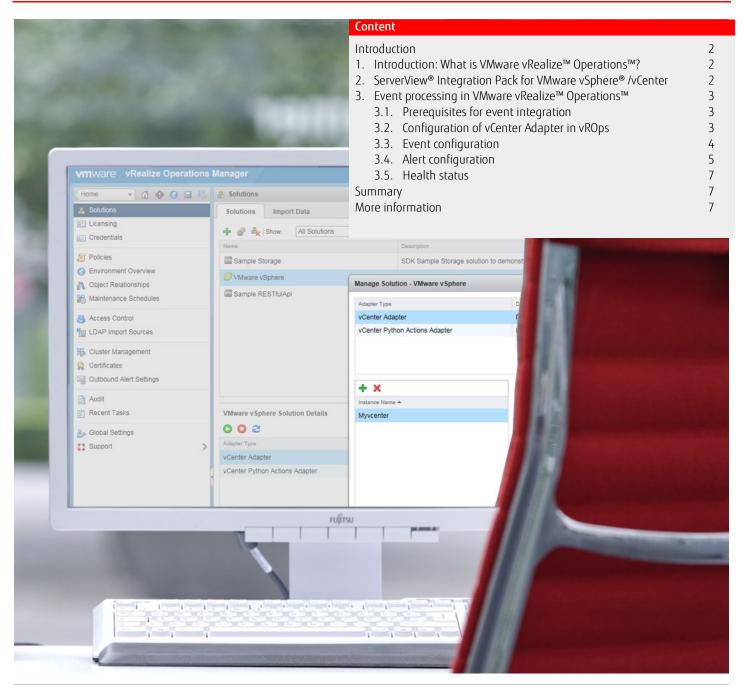


# White Paper FUJITSU Software ServerView<sup>®</sup> Suite Integration of system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers in VMware vRealize<sup>™</sup> Operations<sup>™</sup>

This white paper describes the settings required in VMware vRealize™ Operations™ (vROps) to import system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers from VMware vCenter and their further processing into alerts, which in turn influence the vROps health status.



#### Introduction

ServerView<sup>®</sup> Integration Packs and best practice information enable seamless and simple integration of Fujitsu PRIMERGY and PRIMEQUEST servers in corporate IT management systems such as VMware vSphere<sup>®</sup> or Microsoft<sup>®</sup> System Center. These systems also allow users to effectively manage heterogeneous environments via a uniform management platform.

This white paper describes the settings required in VMware vRealize<sup>M</sup> Operations<sup>M</sup> (vROps) to import system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers - in addition to the usual OS-related events - from VMware vCenter and their further processing into alerts, which in turn influence the vROps health status.

## 1. Introduction: What is VMware vRealize<sup>™</sup> Operations<sup>™</sup>?

The VMware vCenter Server™ offers a central platform for the management of VMware vSphere environments, enabling users to provide a reliable virtual infrastructure and automate processes.

These functions extend the intelligent IT operations management **VMware vRealize**<sup>M</sup> **Operations**<sup>M</sup> (vROps) – formerly vCenter Operations Management Suite (vCOps) – to include predictive analysis functions and policy-based automation of applications right through to storage for vSphere, Hyper-V, Amazon and physical hardware. Thanks to the comprehensive, central insight into applications and infrastructures users can improve performance, avoid interruptions to business operations and increase efficiency [Source: <u>VMware</u>].

## 2. ServerView® Integration Pack for VMware vSphere® /vCenter

PRIMERGY and PRIMEQUEST servers from Fujitsu have for several generations provided native support for virtualization with the help of VMware, Hyper-V, Xen or KVM. The same applies for the ServerView<sup>®</sup> Suite. Based on this premise it is only consistent for Fujitsu to provide its own tool, which simplifies the integration of our industry-standard servers in system landscapes that are based on the virtualization platform VMware vSphere and managed with the help of the VMware vCenter Management Suite (see fig. 1):

VMware vSphere® Web Client										
	mation Busines	s Orchestrator								
VMware vSphere® vCenter ServerView Integration ESX	NSX	VSAN								
Server	Network	Storage								

Fig. 1: ServerView<sup>®</sup> Integration in VMware vSphere

The technical basis for integration is formed by the *Common Information Model* (CIM), which is an open standard that defines the components of an IT environment as a number of objects and the relationships between them. ServerView<sup>®</sup> Suite uses on the one hand special CIM providers (monitoring and management modules), which are supplied with the VMware Hypervisor ESXi, and thus docks onto vSphere. Fujitsu also provides a separate **ServerView<sup>®</sup> Plug-in for VMware vCenter** (SV Plug-in), which displays the performance values of the connected hosts and storage systems. In the web client a separate start page and a summary provide an initial overview of the information available. Details can be accessed using the *Monitor* tabs, where the administrator can learn everything about the overall status of the connected PRIMERGY systems and their components.

The ServerView<sup>®</sup> Plug-in for VMware vCenter is also an important component for the integration of the system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers in VMware vRealize<sup>™</sup> Operations<sup>™</sup>. For more details about this see the following section.

## 3. Event processing in VMware vRealize<sup>™</sup> Operations<sup>™</sup>

Once appropriately configured, VMware vRealize<sup>™</sup> Operations<sup>™</sup> (vROps) is in a position to receive a variety of system events from several vCenter instances and use them to create alerts and symptoms. The latter are then processed in vROps and ultimately affect the respective system's health status, which is in turn transmitted to the administrator for further processing by e-mail or other channels of communication.

System-specific **events of Fujitsu PRIMERGY and PRIMEQUEST servers**, such as events from the environment of internal system storage components, power management as well as temperature sensors and fans, can also be integrated in this mechanism. With the aid of this integration the health status of servers in vROps is not only influenced by normal OS-related events, but also by hardware-specific events, which would otherwise remain unnoticed. All in all, this increases server availability and in the event of an error is conducive towards eliminating the problem quickly.

# 3.1. Prerequisites for event integration

The following prerequisites should be created in order to integrate system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers in VMware vRealize™ Operations™ (vROps):

- Version 2.1 or higher of the ServerView<sup>®</sup> vCenter Plug-in must be installed in all VMware vCenter instances, in which PRIMERGY or PRIMEQUEST systems are run.
- In vROps an instance must be created and configured in the vCenter Adapter for each VMware vCenter instance that is to be integrated.
- The **event collection** of the vROps should be extended to include the system-specific events of the Fujitsu servers (via file import).
- The supplied configuration file is available for the final **classification** of the system-specific events of PRIMERGY und PRIMEQUEST servers into alerts and symptoms.

# 3.2. Configuration of vCenter Adapter in vROps

Note: The following explanations are based on version 6 of VMware vRealize<sup>™</sup> Operations<sup>™</sup> (vROps).

The template for vCenter Adapter included in vROps enables users to easily create and accordingly configure the necessary instances of the vCenter Adapter for all VMware vCenter instances. To do this, open in vROps menu item *Solutions* under *Administration* and select *VMware vSphere*. After that click on the *Configure* button to get to the *vCenter Adapter* (see fig. 2).

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B Maintenance Schedules	Sample RI	ESTfulApi	SDK Sample internal M	lanagem	1.0.2264619		VMware, In	с.	1	Not applic	able			
Access Control														
Cluster Management	VMware vSphe	ere Solution Deta	ails											
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Fig. 2: Start of the vCenter Adapter in VMware vRealize<sup>™</sup> Operations<sup>™</sup>

Click on the + symbol in the input window to create a new vCenter Adapter instance and the required vCenter Server address as well as its credentials can be entered in the appropriate fields (see fig. 3).

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8 Maintenance Schedules	Sample RESTfulApi							
		Adapter Type	Description		Instances	Version	Provided by	
📇 Access Control		vCenter Adapter	Provides the connect	ction information and credenti	1	2.0.2263092	VMware Inc.	
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Outbound Alert Settings		+ ×	Adapter Settings					
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Fig. 3: Configuration of the vCenter Adapter in VMware vRealize™ Operations™

As in the above description, a vCenter Adapter instance should be created for each VMware vCenter instance that is to be integrated in VMware vRealize™ Operations™.

**Important:** VMware vCenter and vROps must have the same time zone setting!

## 3.3. Event configuration

Descriptions of all the events that are collected from VMware vCenter are saved in VMware vRealize<sup>M</sup> Operations<sup>M</sup> (vROps) in a text file with the file name *Eventlist.txt*. This text file should be extended to include the descriptions of the system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers. Fujitsu provides the extensions required for this on its web pages in the file *eventlist\_to\_include.txt* that can be downloaded from the Fujitsu <u>Download Portal</u>.

The text file *Eventlist.txt* is to be found in vROps by following the path (default values):

OS	Path
LINUX	/usr/lib/vmware-vcops/user/plugins/inbound/vmwarevi_adapter3/conf/eventlist.txt
Windows	C:\vmware\vcenter-operations\vmware-vcops\user\plugins\inbound\vmwarevi_adapter3\conf\eventlist.txt

To edit this file on the vROps Linux appliance, SSH needs to be enabled:

- Open the console on the Linux appliance
- Press ALT+F1 to login (login as root user)
- Enable access via SSH with "service sshd start"

The lines from the downloaded file *eventlist\_to\_include.txt* are attached at the end of the text file *Eventlist.txt*.

Important:The original entries in the text file *Eventlist.txt* may not be modified.<br/>You should also bear in mind that line breaks are handled differently in Linux and Windows!

Once the *Eventlist.txt* file has been extended to include the descriptions of the system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers, the vCenter Adapter must be restarted. This can be done in the vROps window (see fig. 2).

The *Event* view of vROps can be accessed via the menu item *Environment*  $\Rightarrow$  vSphere Hosts and Clusters  $\Rightarrow$  Hosts  $\Rightarrow$  <host> and the *Troubleshooting* tab. The system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers are shown once the event type Change has been activated (see fig. 4).

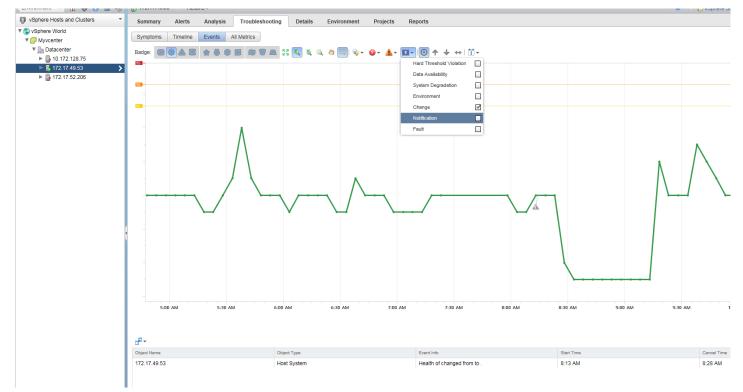


Fig. 4: Event view in VMware vRealize<sup>™</sup> Operations<sup>™</sup>

Events are queried by VMware vRealize<sup>™</sup> Operations<sup>™</sup> at 5 minute intervals; the event descriptions are language-dependent, i.e. they depend on the selected language of the vCenter instance.

## 3.4. Alert configuration

Alerts and symptoms are derived in VMware vRealize<sup>M</sup> Operations<sup>M</sup> (vROps) from the events received. In order to process system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers it is necessary to download the *alerts.xml* file from the Fujitsu <u>Download Portal</u> and import it in menu item *Content*  $\Rightarrow$  *Alert definition* (see fig. 5). Consequently, symptoms are also correct initialized at the same time, i.e. a separate symptom configuration is not necessary.

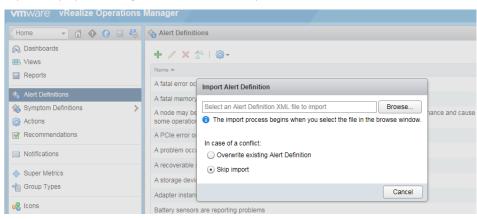


Fig. 5: Importing the *alerts.xml* file in menu item *Alert Definition* 

Finally, the imported alert definition can be modified according to individual requirements (see fig. 6)

Alert Definition Workspace							
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Description:	Base Obj	ect Type:	Host System			as health, risk, or efficiency pr	oblem. Next, choose a criticality
Hardware alert from FUJITSU system	Impact:		Health			or how serious the problem is subtype with which your alert	
	Criticality		Symptom Based			choose settings for your cycle	s, which are data collection
	Alert Type	e:	Hardware (OSI) : Availability			where your symptoms exist be	how many cycles should pass fore triggering the alert. Cancel
	Sympton	ns			*	Cycle indicates how many cyc pass before the alert is cance	
Self-HostSystem							
	This symptom set is true when:			Impact			
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Fig. 6: Modification of the alert definition

System-specific symptoms for Fujitsu servers are shown in menu item *Environment*  $\Rightarrow$  *vSphere Hosts and Clusters*  $\Rightarrow$  *Hosts*  $\Rightarrow$  *Troubleshooting* tab  $\Rightarrow$  *Symptoms* view (see fig. 7)

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	4	Host System Time Remaining is critically low	9	172.17.49.53	3/9/15 9:02 PM	-		0 <= 0
	4	Host System Capacity Remaining is critically low	9	172.17.49.53	3/12/15 9:03 PM	-		
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Fig. 7: Display of system-specific symptoms for Fujitsu servers

# 3.5. Health status

Importing and configuring system-specific events of Fujitsu PRIMERGY and PRIMEQUEST server not only enhances the display of alerts in the regular alert view of VMware vRealize<sup>™</sup> Operations<sup>™</sup> (vROps), it also influences the health status of the affected PRIMERGY or PRIMEQUEST system in vROps (see fig. 8)

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#### Fig. 8: Health status display of systems in vROps

In this way, hardware-related events are shown, for example from the environment of internal system storage components, power management as well as events of temperature sensors and fans, which would remain unnoticed without system-specific event integration. All in all, this increases server availability and is in the event of an error conducive towards eliminating the problem quickly.

#### Summary

Integrating the system-specific events of Fujitsu PRIMERGY and PRIMEQUEST servers in VMware vRealize<sup>™</sup> Operations<sup>™</sup> (vROps) enhances the display of alerts in the regular alert view of vROps. This then results in the health status of PRIMERGY and PRIMEQUEST servers in vROps not only being influenced by the normal OS-related events, but now also by hardware-specific events, which would otherwise remain unnoticed. All in all, this increases server availability and is in the event of an error conducive towards eliminating the problem quickly.

#### More information

<u>Fujitsu ServerView® Suite – Internet</u> <u>Fujitsu ServerView® Suite – User Manuals</u> <u>Fujitsu ServerView® Suite – Online DVD</u> <u>Fujitsu Download Portal</u>

<u>VMware vSphere with Operations Management - Internet</u> <u>VMware vCenter Server - Internet</u> <u>VMware vRealize™ Operations™ (formerly vCenter Operations Management Suite) - Internet</u>

#### FUJITSU Software ServerView® Suite - Overview

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DEPLOY Fast, easy, reliable	CONTROL Centralized, easy, efficient	DYNAMIZE Simple, sophisticated, efficient	MAINTAIN In any state, at any place	INTEGRATE Seamless, manage uniformly
<ul> <li>Wizard-based and quality controlled server configuration</li> <li>Reproducible, totally unattended installation of all major OS</li> <li>Support for script-based installation</li> </ul>	<ul> <li>Comprehensive control of PRIMERGY and PRIMEQUEST servers</li> <li>Immediate detection of performance issues for constant service delivery</li> <li>Extensive power control and power consumption management</li> <li>Easy operation through software ergonomics: clear presentation of data and intelligent GUIs</li> </ul>	<ul> <li>Simplifies the virtualization of IO links in PRIMERGY blade and rack servers</li> </ul>	<ul> <li>Full remote control irrespective of system status and location</li> <li>Full automated distribution and installation of updates</li> <li>Inventory snapshots to easily identify server configuration changes and possible problems</li> </ul>	<ul> <li>Seamless and easy integration of Fujitsu PRIMERGY servers in widely-used enterprise management systems or vendor specific server management solutions</li> </ul>

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