



FUJITSU Software ServerView

ESXi Server Integration Pack V8.5 for MS SCOM

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Contents

1	Introduction	1
1.1	Purpose and target groups	1
1.2	Changes since the last edition	2
1.3	ServerView Suite link collection	2
1.4	Documentation for ServerView Suite	4
1.5	Notational Conventions	4
2	Integration requirements	5
2.1	SCOM Run As accounts and profiles.....	6
2.1.1	CIM Run As account and profile.....	6
3	Installation and uninstallation.....	7
3.1	Installing the ServerView Integration Pack.....	7
3.1.1	Installed files.....	7
3.1.2	Importing Management Packs.....	8
3.2	Update to a new version	9
3.3	Updating the ServerView Library Management Packs	9
3.4	Uninstalling ServerView Integration Pack	10
4	Properties of the ServerView ESXi Server Integration Pack	11
4.1	Management Packs	11
4.2	PRIMERGY server computer groups	13
4.3	Managing the ESXi Host Servers	14
4.3.1	Add a Host Server to SCOM.....	14
4.3.2	Remove a Host Server from SCOM	14
4.4	Configuring the ESXi server Seed Discovery.....	15
4.5	Discovering and monitoring PRIMERGY servers	16
4.5.1	Displayed properties of recognized PRIMERGY servers.....	17
4.5.2	Health state of a PRIMERGY server	17
4.6	Discovering and monitoring server components	18
4.6.1	Discovering subsystems and components.....	18
4.6.1.1	Processors.....	18
4.6.1.2	Memory	19
4.6.1.3	Storage.....	20
4.6.1.4	Network Adapters	20
4.6.1.5	iRMC (integrated Remote Management Controller)	21

4.6.1.6	Fans (Cooling)	21
4.6.1.7	Temperature Sensors	22
4.6.1.8	Power Supplies.....	23
4.6.1.9	Power Consumption	23
4.6.1.10	Voltage Sensors	24
4.6.1.11	RAID Subsystem	24
4.6.1.12	Other Components	26
4.6.1.13	Communication Monitor	27
4.6.2	Updating the state of the subsystems	28
4.6.3	Discovering the required CIM Providers	28
4.6.4	Monitoring components.....	29
4.7	Performance Data Collection	29
4.7.1	Temperature Performance Data	30
4.7.2	Power Consumption Performance Data	30
4.8	Performance Data Collection for OMS.....	31
4.9	Views	31
4.9.1	Views defined by the <i>Fujitsu ServerView Core Library</i> MP	31
4.9.2	Views defined by the <i>Fujitsu AddOnViews</i> MP	33
4.9.3	Views defined by the <i>Fujitsu PRIMERGY ESXi Servers</i> MP	34
4.9.4	Active Alerts View.....	35
4.9.5	Diagram View	36
4.9.6	Servers Health View	37
4.9.7	Health Monitoring Views.....	37
4.9.8	Alerts per Server View (from optional AddOnViews MP)	38
4.9.9	Components per Server View (from optional AddOnViews MP)	39
4.9.10	Views defined by the Performance Monitoring MP	40
4.10	Health Explorer.....	41
4.11	Fujitsu PRIMERGY ESXi Server Tasks.....	42
4.11.1	Delete PRIMERGY Server Component Inventory	42
4.11.2	ServerView Remote Management iRMC.....	43
4.11.3	ServerView Remote Management MMB	43
4.12	Events and alerts	43
4.12.1	Enabling and disabling alerts	44
4.13	Knowledge Base	44
5	Working with the ServerView ESXi Server Integration Pack.....	45
5.1	Monitoring – Active Alerts.....	45
5.1.1	Displaying properties of an alert	45
5.1.2	Executing tasks.....	45
5.2	Monitoring – Servers Health.....	45
5.2.1	Executing tasks.....	46

6	Working with the Performance Monitoring Management Pack	47
6.1	Create additional Performance Monitoring Views	47
6.1.1	Create a Performance View based on specific rules	47
6.1.2	Create a Performance View based on specific performance objects and counters	48
6.1.3	Create a Dashboard View containing a State and a Performance Widget	49
6.1.3.1	Define the dashboard layout	49
6.1.3.2	Configure the State Widget.....	49
6.1.3.3	Configuring the Performance Widget	50
6.1.4	24 Hour Performance Dashboard View.....	51
7	Appendix.....	53
7.1	Supported PRIMERGY servers	53
7.2	Creating log files.....	53
7.2.1	Log files on the SCOM server.....	53
7.2.2	Currentness of log files	54
7.3	Troubleshooting	55
7.3.1	Use ServerView Remote Management iRMC to examine a PRIMERGY Server	55
7.3.2	Discovery template cannot find ESXi host	55
7.3.3	SVS CIM Provider stops responding on ESXi host	56
7.4	Hints and known issues	56

1 Introduction

The PRIMERGY ServerView Suite from Fujitsu offers numerous ServerView integration modules which enable PRIMERGY servers to be integrated easily into other enterprise management systems.

This manual describes the ServerView ESXi Server Integration Pack, which enables Fujitsu PRIMERGY ESXi Servers to be integrated into System Center 2012 / 2016 / 2019 Operations Manager (SCOM 2012 / 2016 / 2019). All SCOM 2012 / 2016 / 2019 editions are supported.

This ServerView Integration Pack permits PRIMERGY ESXi Servers from Fujitsu to be monitored via SCOM. Monitoring PRIMERGY ESXi Servers is implemented using the ServerView ESXi CIM Provider and script monitors for hardware and software components. The Health State of monitored components is displayed by means of icons.

If errors occur during monitoring of a PRIMERGY ESXi Server, the ServerView CIM Provider sends indications to a Listener Service controlled by the management pack. These indications are evaluated and displayed on the SCOM Console. Rules can be applied which trigger an appropriate action when a fault is detected, e.g. a mail describing the fault might be sent to hardware support.

For detailed analysis the ServerView Remote Management iRMC can be started.

The current ServerView ESXi Server Integration Pack for SCOM 2012 / 2016 / 2019 is provided on the latest PRIMERGY ServerView Suite DVD from Fujitsu or under:

http://download.ts.fujitsu.com/prim_supported/SVSSoftware/

1.1 Purpose and target groups

This manual is intended for system administrators, network administrators and service technicians who have a thorough knowledge of hardware and software. Likewise, a sound basic knowledge of the Microsoft System Center Operations Manager is required.

1.2 Changes since the last edition

The ServerView ESXi Server Integration Pack V8.5 includes the following new features:

- The Overall Health Collection State View has been removed.
- The Fujitsu ServerView Administration Pane (*Fujitsu.ServerView.IntegrationPackAdmin.mpb*) has been enhanced to support the Online Update of Fujitsu Management Packs. See AdminPane documentation *sv-intpack-scom-adm-en.pdf* in folder *Common* for details.
- The Diagram view was enhanced to show the relationship between Physical Disks and Logical Drives.
- The OMS/Cloud Management Packs are now included in the Integration Pack.
- CIM indications are split into separate Management Packs.
- A task to open the MMB console has been introduced for Blade Servers.

1.3 ServerView Suite link collection

Via the link collection, Fujitsu provides their customers with numerous downloads and further information on the ServerView Suite and PRIMERGY servers.

In "ServerView Suite" on the left side, links are offered on the following topics:

- Forum
- Service Desk
- Manuals
- Product information
- Security information
- Software downloads
- Training



The downloads include the following:

- Current software versions for the ServerView Suite and additional Readme files.
- Information files and update sets for system software components (BIOS,

firmware, drivers, ServerView Agents and ServerView Update Agents) for updating the PRIMERGY servers via ServerView Update Manager or for locally updating individual servers via ServerView Update Manager Express.

- The current version of all documentation on the ServerView Suite.

All downloads from the Fujitsu web server are free of charge.

For PRIMERGY servers, links are offered on the following topics:

- Service Desk
- Manuals
- Product information
- Spare parts catalogue

Access to the ServerView link collection

You can reach the link collection of the ServerView Suite in various ways:

1. Via ServerView Operations Manager.
 - ▶ Select *Help – Links* on the start page or on the menu bar.
This opens the start page of the ServerView link collection.
2. Via the start page of the online documentation for the ServerView Suite on the Fujitsu manual server.



The start page of the online documentation can be reached via the following link: <http://manuals.ts.fujitsu.com>

- ▶ In the selection list on the left, select *x86 servers*.
 - ▶ Click the menu item *PRIMERGY ServerView Links*.
This opens the start page of the ServerView link collection.
3. Via the ServerView Suite DVD2
 - ▶ In the start window of the ServerView Suite DVD2, select the option *Select ServerView Software Products*.
 - ▶ Click *Start* to open the page with the software products of the ServerView Suite.
 - ▶ On the menu bar select *Links* to open the start page of the ServerView link collection.




1.4 Documentation for ServerView Suite

The documentation can be downloaded free of charge from the Internet. You will find the online documentation at <http://manuals.ts.fujitsu.com> under the link *x86 servers*.

For an overview of the documentation to be found under ServerView Suite as well as the filing structure, see the ServerView Suite sitemap (*ServerView Suite -Site Overview*).

1.5 Notational Conventions

The following notational conventions are used in this manual:

	Warning This symbol is used to draw attention to risks which may represent a health hazard or which may lead to data loss or damage to the hardware
	Information This symbol highlights important information and tips.
	This symbol refers to a step that you must carry out in order to continue with the procedure.
<i>italics</i>	Commands, menu items, names of buttons, options, file names and path names are shown in italics in descriptive text.
<variable>	Angle brackets are used to enclose variables which are replaced by values.

Screen Output

Please note that the screen output shown in this manual may not correspond to the output from your system in every detail. System-related differences between the menu items available can also arise.

2 Integration requirements

The requirements specified below must be satisfied for integration.

Management station

- Microsoft System Center 2012 / 2016 / 2019 Operations Manager
- Windows Server 2008 R2 / 2012 / 2012 R2 / 2016 / 2019.
See the requirements for the relevant SCOM version
- SQL Server 2008 / 2012 / 2014 / 2016.
See the requirements for the relevant SCOM version
- SCOM 2012 SP1 UR6, SCOM 2012 R2 UR2, SCOM 2016 or SCOM 2019 for additional dashboard views



On SCOM 2012 SP1 with UR6

Microsoft.SystemCenter.Visualization.Component.Library version 7.0.9538.1109 is required.

On SCOM 2012 R2 with UR2

Microsoft.SystemCenter.Visualization.Component.Library version 7.1.10226.1015 is required.

- PowerShell >= 3.0
- .NET framework >= 4.0
- CIM Run As account within SCOM

Host Server (for CIM Indications Listener service)

- Windows Server 2008 R2 / 2012 / 2012 R2 / 2016 / 2019
- PowerShell >= 3.0
- .NET framework >= 4.0

Managed PRIMERGY servers

- VMware ESXi 5.1 to 6.7
- CIMOM (Sfcb) service

- ServerView CIM Provider ≥ 7.20
- ServerView CIM RAID Core Provider (ServerView CIM Provider ≥ 8.00) for RAID support
- Management controller iRMC (integrated Remote Management Controller) (for power consumption)

2.1 SCOM Run As accounts and profiles

2.1.1 CIM Run As account and profile

The Fujitsu PRIMERGY ESXi Servers Management Pack needs CIM access credentials for the discovery and monitoring processes. For this purpose it adds a Run As profile named *Fujitsu PRIMERGY ESXi Servers CIM Account* to SCOM.



Due to limitations with SCOM Run As Accounts there can be only one CIM Run As account configured to be used for all targeted objects of the Fujitsu PRIMERGY ESXi Management Pack. The Account Type must be set to Basic Authentication.

3 Installation and uninstallation

3.1 Installing the ServerView Integration Pack

The installation program *SVISCOM-ESXi.exe* is located on the ServerView Suite DVD at

<DVDroot>\SVSSoftware\Software\Integration_Solutions\SCOM

or as a download on the website at

http://download.ts.fujitsu.com/prim_supportcd/SVSSoftware/

The installation program first runs some basic checks then starts the Installation Wizard. Follow the instructions displayed during the installation process.

3.1.1 Installed files

The default installation path on the management station is:

- %ProgramFiles%\Fujitsu\ServerView Suite\SCOM Integration

The following files are copied into the installation directories:

Folder	Files
<i>Management Packs</i> sub folder	<ul style="list-style-type: none"> • <i>Fujitsu.ServerView.Library.mpb</i> • <i>Fujitsu.ServerView.Image.Library.mpb</i> • <i>Fujitsu.ServerView.AddOnViews.mpb</i> (optional) • <i>Fujitsu.ServerView.IntegrationPackAdmin.mpb</i> (optional) • <i>Fujitsu.ServerView.Monitoring.Cloud.mpb</i> (optional) • <i>Fujitsu.Servers.PRIMERGY.ESXi.mpb</i> • <i>Fujitsu.Servers.PRIMERGY.ESXiSeed.mpb</i> • <i>Fujitsu.Servers.PRIMERGY.ESXi.PerfMon.mpb</i> (optional) • <i>Fujitsu.Servers.PRIMERGY.ESXi.PerfMon.Overrides.xml</i> (optional) • <i>Fujitsu.Servers.PRIMERGY.ESXi.PerfMon.Cloud.mpb</i> (optional) • <i>Fujitsu.Servers.PRIMERGY.ESXi.PerfMon.Cloud.Overrides.xml</i> (optional) • <i>Fujitsu.Servers.PRIMERGY.ESXi.AddOnViews.mpb</i> (optional) • <i>Fujitsu.Servers.PRIMERGY.ESXi.RAIDCIM.Alerts.mpb</i> (optional) • <i>Fujitsu.Servers.PRIMERGY.ESXi.SC2CIM.Alerts.mpb</i> (optional)

Folder	Files
<i>SVISCOM-ESXi</i> sub folder	<ul style="list-style-type: none"> • <i>Eula_en.pdf</i> • <i>Eula_jp.pdf</i> • <i>sv-intpack-scom-esxi-en.pdf</i>
<i>SVISCOM-ESXi/Tools</i> sub folder	<ul style="list-style-type: none"> • <i>Clear-SecureReferenceOverrideMP.ps1</i> • <i>CMIndications-UnsubscribeAllESXiHosts.ps1</i>
<i>Common</i> sub foldert	<ul style="list-style-type: none"> • <i>sv-intpack-scom-adm-en.pdf</i> • <i>Whitepaper SCOM OMS integration-en.pdf</i>



After Installation start the SCOM console with the command
Microsoft.EnterpriseManagement.Monitoring.Console.exe /clearcache.



In case other Fujitsu Integration Packs are also installed on the SCOM, the folder *Management Packs* may contain both the old *ServerView Core Library* (*Fujitsu.ServerView.Library.mp*) and the new *ServerView Core Library* (*Fujitsu.ServerView.Library.mpb*) after installation.

Please note that to install the new *ServerView Core Library* (*Fujitsu.ServerView.Library.mpb*) it is imperative not to also select the old *ServerView Core Library* (*Fujitsu.ServerView.Library.mp*) for import into SCOM. If both Libraries are selected, SCOM will refuse to import any of them.

3.1.2 Importing Management Packs

Management packs installed by the ServerView ESXi Server Integration Pack are located in the folder 'Management Packs' within the installation folder. This folder holds all management packs from ServerView Integration Packs for System Center Operations Manager not only from the ServerView ESXi Server Integration Pack.

PRIMERGY Management Packs are imported in the usual way from the SCOM Console.



To import the Management Packs SCOM administrator rights are necessary.

Not all Management Packs of the ServerView ESXi Server Integration Pack must be imported, some Management Packs are optional. See chapter [3.1.1 Installed files](#) for details. All Management Packs can be installed at one time.

Close the SCOM Console once after importing management packs.

3.2 Update to a new version

Update installation is not supported by the ServerView ESXi Server Integration Pack. The process is an uninstallation of the old version followed by the installation of the new version.



The Management Packs of the ServerView ESXi Server Integration Pack themselves are usually update-compatible. New management packs can be imported on top of the old management packs.

You can do this either manually or use the Fujitsu ServerView Administration Page. See *sv-intpack-scom-adm-en.pdf* for its usage.

Use Windows' un-installation feature to un-install the old ServerView ESXi Server Integration Pack.

Follow chapter [3.1 Installing the ServerView Integration Pack](#) to install the new ServerView ESXi Server Integration Pack.

3.3 Updating the ServerView Library Management Packs

The ServerView Library Management Pack and the ServerView Image Library Management Pack are used and referenced by all Fujitsu ServerView Integration Packs for System Center Operations Manager.



If a ServerView Integration Pack contains a newer version of one of the ServerView Library Management Packs this new version can usually be imported into SCOM without impact to any other Fujitsu ServerView Integration Management Packs.

In the rare case that a new version of one of the ServerView Library Management Packs is not compatible with the old version, it is necessary to uninstall all Fujitsu Management Packs including their Override Management Packs and reinstall all Fujitsu Management Packs from the folder 'Management Packs' together with the updated ServerView Library and ServerView Image Library Management Packs.

3.4 Uninstalling ServerView Integration Pack

The ServerView ESXi Server Integration Pack is uninstalled via the following steps:

- Remove the corresponding override management packs if any from SCOM. To keep existing override settings, e.g. to re-use in a new version, the override management packs should be exported and saved.
- Remove all templates from Management Pack Templates Fujitsu PRIMERGY ESXi Server monitoring (Authoring pane)
- Remove (uninstall) all Host Servers from ESXi Host Servers (Administration pane)
- Run the Clear-SecureReferenceOverrideMP.ps1 script from the Tools folder or manually perform these actions:
 - Remove all associated Run As Accounts from the Fujitsu PRIMERGY ESXi Servers CIM Account profile.
 - Remove all references to any Fujitsu PRIMERGY Management Pack from the Manifest section of the Microsoft.SystemCenter.SecureReferenceOverride.
You need to export the Microsoft.SystemCenter.SecureReferenceOverride management pack, delete the references and re-import it again.
- Remove the Fujitsu PRIMERGY ESXi Server Management Packs from SCOM.



If other ServerView Integration Packs for System Center Operations Manager have been installed, the ServerView Library Management Packs cannot be uninstalled.

- Uninstall the ServerView ESXi Server Integration Pack from Windows.



To remove the Management Packs you need SCOM administrator rights. The ServerView Integration Pack should also be removed from all SCOM Remote Consoles.

For an update-installation removing the old installer package is sufficient.

4 Properties of the ServerView ESXi Server Integration Pack

4.1 Management Packs

The *Fujitsu ServerView Core Library* Management Pack contains the basic definitions to manage Fujitsu systems in a consolidated manner in SCOM. This Management Pack is distributed with all Fujitsu SCOM Integration Packs.

The file name of this package is *Fujitsu.ServerView.Library.mpb*.

The *Fujitsu ServerView Image Library* Management Pack contains images common to all Fujitsu SCOM Management Packs. This Management Pack is distributed with all Fujitsu SCOM Integration Packs.

The file name of this package is *Fujitsu.ServerView.Image.Library.mpb*.

The optional *Fujitsu ServerView AddOn Views* Management Pack contains definitions for additional interactive Views for detailed component health investigations.

This Management Pack requires SCOM 2012 SP1 UR6 or SCOM 2012 R2 UR2.

The file name of this package is *Fujitsu.ServerView.AddOnViews.mpb*.



On SCOM 2012 SP1 with UR6 Microsoft.SystemCenter.Visualization.Component.Library version 7.0.9538.1109 is required.

On SCOM 2012 R2 with UR2 Microsoft.SystemCenter.Visualization.Component.Library version 7.1.10226.1015 is required.

The optional *Fujitsu ServerView Administration Page* Management Pack contains an Addition to SCOM's Administration Pane which is designed to help with managing Fujitsu ServerView Integration Packs. For more information see *sv-intpack-scom-adm-en.pdf*.

The file name of this package is *Fujitsu.ServerView.IntegrationPackAdmin.mpb*.

The optional *Fujitsu ServerView Server - Collect Health State to OMS* Management Pack collects health information of Fujitsu ServerView Servers to a Microsoft Operations Management Suite (OMS) workspace. For more information see *Whitepaper SCOM OMS integration-en.pdf*.

The file name of this package is *Fujitsu.ServerView.Monitoring.Cloud.mpb*.

The Fujitsu PRIMERGY ESXi Seed Management Pack contains the basic definitions for the discovery of Fujitsu PRIMERGY ESXi Servers.

The file name of this package is *Fujitsu.Servers.PRIMERGY.ESXiSeed.mpb*.

The Fujitsu PRIMERGY ESXi Servers Management Pack contains the definitions for managing Fujitsu PRIMERGY servers running ESXi operating systems. It adds an administration view, *ESXi Host Servers*, to manage Host Server objects and an authoring template, *Fujitsu PRIMERGY ESXi Server Monitoring*, to enable the discovery of Fujitsu PRIMERGY ESXi Servers and associate them with a selected Host Server.

The file name of this package is *Fujitsu.Servers.PRIMERGY.ESXi.mpb*.

The optional *Fujitsu PRIMERGY ESXi Server Performance Monitoring* Management Pack adds performance collection rules for Temperature and Power Consumption related sensors of PRIMERGY servers.

The file name of this package is *Fujitsu.Servers.PRIMERGY.ESXi.PerfMon.mpb*.

The optional *Fujitsu PRIMERGY ESXi Server Performance Monitoring Overrides* Management Pack adds overrides for the performance collection rules from the *Fujitsu PRIMERGY ESXi Server Performance Monitoring* Management Pack to enable some Performance Counters (Ambient Temperature and System Power Consumption). It can be edited to enable or disable Performance Collection Rules as desired.

The file name of this package is *Fujitsu.Servers.PRIMERGY.ESXi.PerfMon.Overrides.xml*.



Please note that without importing the *Fujitsu PRIMERGY ESXi Server Performance Monitoring Overrides* Management Pack all Performance Collection rules are disabled by default.

The optional *Fujitsu PRIMERGY ESXi Servers AddOn Views* Management Pack contains definitions for additional interactive Views for detailed component health investigations.

This Management Pack requires SCOM 2012 SP1 UR6 or SCOM 2012 R2 UR2.

The file name of this package is *Fujitsu.Servers.PRIMERGY.ESXi.AddOnViews.mpb*.

The optional *Fujitsu PRIMERGY ESXi Servers RAID CIM Alerts* Management Pack contains rules to catch error and warning alerts from the ServerView CIM RAID Provider.

This Management Pack is not necessary to ensure full monitoring of PRIMERGY ESXi server's RAID environment but is provided for customers who do not only want to see status changes for the server's RAID environment but want to receive all RAID events as individual alerts.

The file name of this package is *Fujitsu.Servers.PRIMERGY.ESXi.RAIDCIM.Alerts.mpb*.

The optional *Fujitsu PRIMERGY ESXi Servers SC2 CIM Alerts* Management Pack contains rules to catch error and warning alerts from the ServerView CIM Provider.

This Management Pack is not necessary to ensure full monitoring of PRIMERGY ESXi servers but is provided for customers who do not only want to see status changes for hardware but want to receive all hardware events as individual alerts.

The file name of this package is *Fujitsu.Servers.PRIMERGY.ESXi.SC2CIM.Alerts.mpb*.

The optional *Fujitsu PRIMERGY ESXi Servers OMS Performance Data Collection* Management Pack adds additional rules to collect performance data of Fujitsu PRIMERGY ESXi Servers to a Microsoft Operations Management Suite (OMS) workspace.

The file name of this package is *Fujitsu.Servers.PRIMERGY.ESXi.PerfMon.Cloud.mpb*.

The optional *Fujitsu PRIMERGY ESXi Servers OMS Performance Data Collection Overrides* Management Pack adds overrides for the performance collection rules from the *Fujitsu PRIMERGY ESXi Servers OMS Performance Data Collection* Management Pack to enable Performance Counters. It can be edited to enable or disable Performance Collection Rules as desired.

The name of this package is *Fujitsu.Servers.PRIMERGY.ESXi.PerfMon.Cloud.Overrides.xml*.



Please note that without importing the *Fujitsu PRIMERGY ESXi Servers OMS Performance Data Collection Overrides* Management Pack all Performance Collection for OMS rules are disabled by default.

4.2 PRIMERGY server computer groups

Detected PRIMERGY servers are categorized in groups:

- BX models (e.g. BX920)
- CX models (e.g. CX122)
- RX models (e.g. RX100, RX300)
- SX models (e.g. SX150, SX350)
- TX models (e.g. TX150, TX300)
- PRIMEQUEST Partitions (e.g. PQ3800)
- PRIMERGY models which do not fit in any of the above groups

For a description of the presentation of the servers and the PRIMERGY server computer groups, see section [4.9 Views](#).

4.3 Managing the ESXi Host Servers

Windows servers which are managed by SCOM can be dedicated to handle ESXi server management (running the discovery and monitoring scripts).

To dedicate these servers to their task the Administration pane of SCOM is enhanced by a *Fujitsu ServerView Management* node containing the *ESXi Host Servers* page which is used to trigger the discovery of ESXi Host Servers. The discovery process also installs and starts the CIM Indications Listener service on the selected Host Server.

4.3.1 Add a Host Server to SCOM

- In the Administration pane of the SCOM Console open the *Fujitsu ServerView Management* node.
- Select *ESXi Host Servers* page and click *Add Host Server* from view Actions (or right-click on empty grid space and select *Add Host Server* from popup menu).
- In the *Add ESXi Host Server* window select a Windows Server Computer to be discovered as ESXi Host Server.
- Provide port and protocol for the CIM Indications Listener service (default values are supplied automatically).
- Click *Add Host Server*.



Host Server discovery may take a while. Refresh the *ESXi Host Servers* list, after the *Add ESXi Host Server* window was closed, to see if all dedicated Host Server(s) were discovered.

4.3.2 Remove a Host Server from SCOM

- In the Administration pane of the SCOM Console open the *Fujitsu ServerView Management* node.
- Select the *ESXi Host Servers* page and select the particular Host Server to be removed from the list.
- Click *Uninstall...* from the Actions menu (or right-click on selected item and select *Uninstall...*).

- Click *Yes* to uninstall the ESXi Host Server.



Uninstalling a Host Server will stop the monitoring of all ESXi servers associated with this Host Server. It also will result in loss of all monitored data. To start again monitoring provide a new Host Server for all associated templates.



Uninstalling a Host Server may take a while. Refresh the *ESXi Host Servers* list after the progress window disappears to see whether the Host Server was removed.

4.4 Configuring the ESXi server Seed Discovery

ESXi servers are not detected automatically by SCOM. To enable the initial discovery of Fujitsu PRIMERGY ESXi servers, the *Fujitsu PRIMERGY ESXi Server Monitoring* template must be configured.

- In the Authoring pane of the SCOM Console open the Management Pack Templates node.
- Right-click *Fujitsu PRIMERGY ESXi Server Monitoring* and select Add Monitoring Wizard.
- Select *Fujitsu PRIMERGY ESXi Server Monitoring* and click Next.
- Add a name for the template, e.g., *Fujitsu ESXi Server Discovery*, and a description (optional).
- The template must be written to a management pack. Select either an existing management pack or create a new one, e.g. the *Fujitsu ESXi Server Discovery* management pack. Then click Next.
- From the drop-down list select a Host Server and click Next.



If there is no drop-down list of possible Hosts Servers, make sure to add at least one Host Server to *ESXi Host Servers* page in the Fujitsu ServerView Management node of the Administration pane, see [4.3.1 Add a Host Server to SCOM](#).

- Click Add and provide an IP Subnet, an IP Range or an IP List of ESXi hosts to scan for in the new window. Select the servers to be monitored from the list of available ESXi servers and click Add. To confirm the selection click OK.



If the ESXi servers to be monitored do not have proper SSL certificates, check *Skip SSL certificate validation* to force the management pack to discover these servers without trusting SSL certificates.

The scan process uses the *Fujitsu PRIMERGY ESXi Servers CIM Account* to obtain additional information of the discovered ESXi hosts (see [2.1.1 CIM Run As account and profile](#)).

The log file `PRIMERGYTemplateDiscoveryTaskTrace_<hostservername>.log` contains possible reasons why particular ESXi servers are not discovered (see [7.2.1 Log files on the SCOM server](#)).

- Click Create to submit the new template to SCOM.

The main discovery process for the selected ESXi servers will start in SCOM after a short time.



Template editing should be done carefully. Selecting new Host Server in edit mode and then saving the template will stop the monitoring of all ESXi servers associated with this template. It also will result in loss of all monitored data.

4.5 Discovering and monitoring PRIMERGY servers

PRIMERGY servers and their components can be discovered and monitored only if they have been added to a *Fujitsu PRIMERGY ESXi Server Monitoring* template for a Host Server and have correctly configured Run As accounts and profiles.

The initial (seed) discovery is managed by checking the VMware https service and retrieving CIM data for manufacturer and system type for all ESXi servers added to the Host Servers within the *Fujitsu PRIMERGY ESXi Server Monitoring* template.

The servers are discovered and monitored using PowerShell scripts and on the basis of the data supplied by ServerView CIM Providers.

Only servers with the following manufacturer and model data are recognized:

- Manufacturer: Fujitsu... or FUJITSU... or FSC
- Model: PRIMERGY ...

The exact model is detected by means of the chassis name.

4.5.1 Displayed properties of recognized PRIMERGY servers

The following properties of a managed PRIMERGY server are displayed:

- *Display Name*: host name of the server
- *Network Name*: fully qualified DNS name of the server
- *IP Address*: IP address of the server
- *Model*: complete model name of the server
- *Serial Number*: serial number of the server
- *Operating System*: detailed version of the OS
- *Manufacturer*: system manufacturer
- *Chassis Model*: chassis name
- *Cabinets*: IDs of main and attached cabinets
- *System Firmware*: version of the system firmware
- *Physical Memory*: available memory
- *Disk Size*: total capacity of the partitions configured as logical disks
- *CIM Provider*: name and version of the ServerView CIM Providers
- *BMC Address*: IPv4 address of the iRMC (if available)
- *BMC DNS name*: Fully Qualified Domain Name (if available and if DNS enabled on iRMC)

The properties of a server which are discovered are displayed in the *Detail View* below a *Status* or a *Diagram* view.

4.5.2 Health state of a PRIMERGY server

The health state of a PRIMERGY server is determined by the state of its hardware and software components. The component with the most severe error determines the final health state of the PRIMERGY server. This means component redundancy is not supported.

This state is also passed on to the model group and the PRIMERGY server group (roll-up monitor).

4.6 Discovering and monitoring server components

The server components are discovered and monitored with scripts on the basis of data retrieved via the ServerView ESXi CIM Providers.

Only components which exist are discovered and monitored. If, for example, no fans can be detected (e.g. in a blade server where fans are managed by the chassis), the fan subsystem is not displayed in the Diagram View. Component groups which do not contain components with a usable state at discovery time are not displayed, either.

Instances of the same type are combined in groups (collections) and displayed together (e.g. all CPUs of a server belong to the processors group). In the case of an error the faulty component is displayed with *Critical* or *Warning* state and its health can be examined in the Health Explorer. The instance with the severest error determines the overall state of the group.

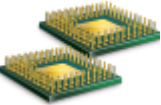
By default events with the severity *Critical* generate an alert and events with the severity *Warning* and *Informational* do not generate an alert. This default setting can be overridden.

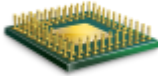
4.6.1 Discovering subsystems and components

The subsystems and components of a PRIMERGY server which are listed below can be discovered and monitored.

4.6.1.1 Processors


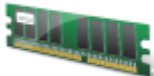
Processors which physically exist are discovered and grouped in the *Processors* collection. Their data is displayed and their health state is monitored.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Processors <Name of the server> Number of Processors: <number> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>

Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS Name:</i> <i>Device:</i> <i>Family Description:</i> <i>Logical Cores:</i> <i>Physical Cores:</i>	<Name of physical CPU> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of physical CPU> <Family description of CPU> <Number of logical cores> <Number of physical cores>



4.6.1.2 Memory

Memory modules which are connected are discovered and grouped in the *Memory* collection. Their data is displayed, and their health state is monitored.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Memory <Name of the server> Number of Memory Modules: <number> Overall Memory: <Total Memory> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>
Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS Name:</i> <i>Device:</i> <i>Capacity:</i> <i>Manufacturer:</i> <i>Part Number:</i> <i>Serial Number:</i> <i>Voltage:</i>	<Name of memory module> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of memory module> <Capacity of memory module> <Manufacturer of memory module> <Part number of memory module> <Serial number of memory module> <Voltage of memory module>


4.6.1.3 Storage


All available hard disks are discovered and grouped in the *Storage* collection. Their data is displayed, and their health state is monitored in the range provided by OS.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Storage <Name of the server> Number of Disks: <number> Overall Disk Space: <Capacity of storage devices> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>
Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS Name:</i> <i>Device:</i> <i>Size:</i>	<Name of the storage disk> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the storage disk> <Capacity of storage disk>

4.6.1.4 Network Adapters

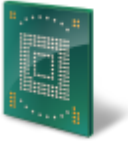
Available Network Adapters are discovered and grouped in the *Network (Ethernet)* collection. Their data is displayed, and their health state is monitored in the range provided by OS.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Networks (Ethernet) <Name of the server> Number of Network Devices: <number> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>

Component Icon		
	<i>Display name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS Name:</i> <i>Device:</i> <i>MAC Address:</i>	<Name of the network device> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the network device> <MAC address>


4.6.1.5 iRMC (integrated Remote Management Controller)


The iRMC Management Controller is discovered, its data is displayed and its health state is monitored.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Firmware Version:</i>	Management Controller <Name of the server> <Type> Firmware Version: <Version> <IPv4 address of the iRMC> <FQDN of the iRMC> <Version>

4.6.1.6 Fans (Cooling)



Connected fan modules of PRIMERGY servers and their connected extension modules are discovered and grouped in the *Fans (Cooling)* collection. Their data is displayed and their health state is monitored.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Fans (Cooling) <Name of the server> Number of Fans: <number> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>

Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS Name:</i> <i>Device:</i> <i>Active Cooling:</i> <i>Variable Speed:</i>	<Name of the fan> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the fan> <True/False> <True/False>



4.6.1.7 Temperature Sensors

Temperature sensors which physically exist are discovered and grouped in the *Temperatures* collection. Their data is displayed, and their health state is monitored.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Temperatures <Name of the server> Number of Temperature Sensors: <number> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>
Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS Name:</i> <i>Device:</i>	<Name of the temperature sensor> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the temperature sensor>


4.6.1.8 Power Supplies

Power supply modules which physically exist are discovered and grouped in the *Power Supplies* collection. Their data is displayed, and their health state is monitored.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Power Supplies <Name of the server> Number of PowerSupplies: <number> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>
Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS Name:</i> <i>Device:</i>	<Name of the power supply> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the power supply>



4.6.1.9 Power Consumption

Power Consumption is monitored if the iRMC supports power consumption monitoring and if the iRMC *Power Control Mode* is set to *Power Limit*.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Power Consumption <Name of the server> <Name of devices> <Sensor names> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>


4.6.1.10 Voltage Sensors

Voltage sensors which physically exist are discovered and grouped in the *Voltages* collection. Their data is displayed, and their health state is monitored.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Voltages <Name of the server> Number of Voltage Sensors: <number> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>
Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS Name:</i> <i>Device:</i>	<Name of the voltage sensor> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the voltage sensor>

4.6.1.11 RAID Subsystem


If ServerView ESXi CIM RAID Core Provider is installed and ServerView ESXi CIM Provider version is greater or equal to 8.00 the *RAID Subsystem* collection is discovered. It contains Adapters, Logical Drives and Physical Disks. Their data is displayed, and their health state is monitored.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	RAID Subsystem <Name of the server> Number of Raid Controllers: <number> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>

RAID Subsystem contains following components:



RAID controllers

The RAID controllers from ServerView RAID are discovered and monitored via the ServerView ESXi CIM RAID Core Provider.

Component Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i> <i>Firmware Version:</i>	<i><Name of the controller></i> <i><Name of the server></i> <i><IPv4 address of the iRMC></i> <i><FQDN of the iRMC></i> <i><Name of the controller></i> <i><Firmware version></i>



RAID Logical Drives

The status of the logical RAID drives from ServerView RAID is discovered and monitored via the ServerView ESXi CIM RAID Core Provider.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Network Name:</i>	RAID Logical Drives <i><Name of the server></i> <i><IPv4 address of the iRMC></i> <i><FQDN of the iRMC></i> <i><Network name of the server></i>
Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i> <i>RAID Level:</i>	<i><Name of the logical drive></i> <i><Name of the server></i> <i><IPv4 address of the iRMC></i> <i><FQDN of the iRMC></i> <i><Name of the logical drive></i> <i><RAID level></i>

RAID Physical Disks

The status of the physical RAID disks from ServerView RAID is discovered and monitored via the ServerView ESXi CIM RAID Core Provider.




Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Network Name:</i>	RAID Physical Disks <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Network name of the server>
Component Icon		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i> <i>Size:</i> <i>Firmware Revision:</i> <i>Model Name:</i> <i>Serial Number:</i> <i>Vendor Name:</i>	<Name of the physical disk> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the physical disk> <Size of the physical disk> <Firmware revision of the physical disk> <Model name of the physical disk> <Serial number of the physical disk> <Vendor name of the physical disk>

4.6.1.12 Other Components

This subsystem is used to display and monitor any hardware and non-hardware components which not fit into any of the above subsystems.

One of these is the overall state of a PRIMERGY server as reported by ServerView Agents which was cleared of all the know problems. This may reveal server problems which result from components the Management Pack cannot monitor.


Use the ServerView System Monitor task to check for details.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Devices:</i> <i>Device Information:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Other Components <Name of the server> Number of Components: <number> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>
Component Icons		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i>	BIOS Selftest <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> BIOS Selftest
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i>	ServerView Overall State <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> ServerView Overall State

4.6.1.13 Communication Monitor

The Other Components Subsystem also comprises a communication monitor which monitors the communication between the scripts run by SCOM and the ServerView CIM Provider.

Problems here indicate that hardware monitoring is impaired. Try to restart the sfcg service on affected ESXi target to resolve errors in communication.

Component Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i> <i>ESXi Seed Guid</i>	Communication Monitor <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> CIMOM (sfcg) monitor <ESXi Seed Guid>




4.6.2 Updating the state of the subsystems

By default, the configuration of the components of a PRIMERGY server is discovered automatically every 4 hours. To change the component discovery interval force an update by performing a (temporary) override.

Alternatively put the server in maintenance mode for a brief period. Once the maintenance mode has elapsed, SCOM automatically discovers the hardware components again.

4.6.3 Discovering the required CIM Providers

The ServerView CIM Providers of an ESXi PRIMERGY server which are listed below are discovered and grouped in *Software Components* collection. Their versions are monitored using PowerShell scripts.

Subsystem Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>Network Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Software Components <Name of the server> <Network name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC>
Component Icons		
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i> <i>Version:</i>	ServerView CIM Provider Version <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> ServerView CIM Provider Version <ServerView CIM Provider version>
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i> <i>Version:</i>	ServerView CIM RAID Core Provider Version <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> ServerView CIM RAID Core Provider Version <ServerView CIM RAID Provider version>

4.6.4 Monitoring components

Components are monitored by means of a single PowerShell script. The monitoring script is called at regular intervals (every 500 seconds; settable) and checks the state of the components. Each component is monitored by its own monitor using the same script at the same interval.

This enables SCOM to cook down the monitoring process to a single script call and collect all component health states by executing the monitoring script only once for each ESXi target server.



Script calls place a considerable load on SCOM.

If the monitoring intervals of single components are changed to different values this breaks down SCOMs CookDown feature and results in script calls in various intervals.

Keep this in mind when considering changing the monitoring intervals.

4.7 Performance Data Collection

The *Fujitsu PRIMERGY ESXi Server Performance Monitoring* Management Pack adds various data collection rules to SCOM which are by default disabled. To enable the most interesting performance collection rules (Ambient Temperature and System Power Consumption) the *Fujitsu PRIMERGY ESXi Server Performance Monitoring Overrides* Management Pack must be installed. It can be edited to enable or disable Performance Collection Rules as desired.



Please note that without importing the *Fujitsu PRIMERGY ESXi Server Performance Monitoring Overrides* Management Pack all Performance Collection rules are disabled by default.

When enabled the rules collect performance data by means of PowerShell scripts. The collected performance data are then visualized and filtered using standard SCOM Performance Views supplied with the Management Pack.

While the sensors themselves are evaluated by the main management pack's health state monitors, collecting and storing current sensor readings can be useful for long time trend analysis and similar scenarios, e.g. finding peak or weekly re-occurring workload areas within a data center and proactive actions such as cooling adjustments. Another scenario might be

finding temperature hot spot locations within the data center by comparing performance data from multiple servers in different locations of the data center.

4.7.1 Temperature Performance Data

The *Fujitsu Servers PRIMERGY ESXi Server Performance Monitoring* Management Pack imports the following temperature collection rules:

- *Fujitsu ESXi Server 'Ambient' Temperature Performance Data Collection Rule*
This rule collects data from the server's 'Ambient' or 'Air Inlet' temperature sensor.
- *Fujitsu ESXi Server 'Processor' Temperature Performance Data Collection Rule*
This rule collects data from all available 'Processor' temperature sensors of the server.
- *Fujitsu ESXi Server 'Memory' Temperature Performance Data Collection Rule*
This rule collects data from all available 'Memory' temperature sensors of the server.
- *Fujitsu ESXi Server 'Power Supply' Temperature Performance Data Collection Rule*
This rule collects data from all available 'Power Supply' temperature sensors of the server.
- *Fujitsu ESXi Server 'System Board' Temperature Performance Data Collection Rule*
This rule collects data from all available temperature sensors on the server's 'system board'.
- *Fujitsu ESXi Server 'Other' Temperature Performance Data Collection Rule*
This rule collects data from all other available temperature sensors of the server.

4.7.2 Power Consumption Performance Data

The *Fujitsu Servers PRIMERGY ESXi Server Performance Monitoring* Management Pack imports the following power consumption collection rules:

- *Fujitsu ESXi Server 'Total' Power Consumption Performance Data Collection Rule*
This rule collects data from the main power consumption sensors of the server.
- *Fujitsu ESXi Server 'System Chassis' Power Consumption Performance Data Collection Rule for Multi Node Systems*
This rule collects data from the main power consumption sensors of the chassis the server is housed in. The rule applies to BX and CX servers.
- *Fujitsu ESXi Server 'Processor' Power Consumption Performance Data Collection Rule*
This rule collects data from the available 'Processor' power consumption sensors of the server.

- *Fujitsu ESXi Server 'Power Supply' Power Consumption Performance Data Collection Rule*
This rule collects data from the available 'Power Supply' power consumption sensors of the server.
- *Fujitsu ESXi Server 'Other' Power Consumption Performance Data Collection Rule*
This rule collects data from the all other available power consumption sensors of the server.

4.8 Performance Data Collection for OMS

The *Fujitsu PRIMERGY ESXi Servers OMS Performance Data Collection* adds various data collection rules for OMS to SCOM which are by default disabled. It requires the *Fujitsu ServerView Server - Collect Health State to OMS* Management Pack to be installed.

To enable any performance collection rules the *Fujitsu PRIMERGY ESXi Servers Performance Monitoring Overrides* Management Pack must be installed. It can be edited to enable or disable Performance Collection Rules as desired.

For more information about forwarding data to an OMS work space see *Whitepaper SCOM OMS integration-en.pdf*.

4.9 Views

The health state in all views is displayed by the usual health state icons of the Operations Manager.

4.9.1 Views defined by the *Fujitsu ServerView Core Library* MP

When integrating the *Fujitsu ServerView Core Library* Management Pack a *Fujitsu ServerView Systems* node is created in the *Monitoring* pane of the SCOM Console. The following views are displayed in this node:

- Active Alerts
- Servers Diagram
- Systems State

Monitoring					
Systems State (19)					
Look for: <input type="text"/> Find Now Clear					
State	Name	Model	Serial Number	Operating System	
Critical	TX30058-STK	PRIMERGY TX300 S8	YLN0000017	SUSE Linux Enterprise Server 12 SP0 V3.12.28-4-default	
Warning	H49007-BX92452	PRIMERGY BX924 S2	BX92452267	Microsoft Windows Server 2012 Standard	
Warning	esxi51aw4bs200s5	PRIMERGY TX200 S5	YKKG.....	VMware ESXi 5.1.0 build-838463	
Warning	SCOM2016	PRIMERGY VM	4358-1827-3627-8659-42...	Microsoft Windows Server 2016 Standard	
Warning	FTS4	PRIMEQUEST 1800L	1480932004	Embedded Linux	
Warning	BX40051em_044_System_044	BX40051	System_044	Embedded Linux	
Healthy	iRMC01CA5C-iRMC.servwar...	PRIMERGY RX2540 M1	YLV0000098	N/A	
Healthy	TX14052-STK2	PRIMERGY TX14052	YLPX001011	VMware ESXi 6.0.0 build-2494585	
Healthy	RX10058-STK	PRIMERGY RX100 S8	YLN0000051	Red Hat Enterprise Linux Server 6.6 V2.6.32-504.el6.x86_64	
Healthy	FK-iRMC-RX4770M4-svsn...	PRIMERGY RX4770 M4	YMAK000000	N/A	
Healthy	H49053-TX20057	PRIMERGY TX200 S7	YLFK001124	VMware ESXi 5.5.0 build-3343343	
Healthy	iRMC4DBD13.servware.abg.f...	PRIMERGY RX2520 M1	YLSK004699	Windows Server 2016 Standard	
Healthy	PRIMEQUESTFTS7	PRIMEQUEST 2800E	1541329002	Embedded Linux	

These views display all objects which are assigned to the class the particular view targets. Which systems this class comprises depends on the further Fujitsu Management Packs that have been installed, e.g. the Fujitsu PRIMERGY ESXi Servers Management Pack.

The views installed by the Fujitsu ServerView Core Library Management Pack comprise all systems that are targeted by Management Packs that depend on the Fujitsu ServerView Core Library Management Pack and aim for an easy overview of all Fujitsu systems.

Additionally a *Fujitsu ServerView Management* node is created in the *Administration* pane of the SCOM console. This node is designed to hold all administration features any *Fujitsu ServerView Management Pack* may introduce, e.g. the admin page introduced by the *Fujitsu ServerView Administration Page* management pack.

Fujitsu ServerView Integration Packs

This page provides a list of all installed and available Fujitsu Software ServerView Integration Packs those located locally on the SCOM Console host after Integration Pack installation.

Available Integration Packs and Libraries:


Integration Packs
✓ Fujitsu PRIMEQUEST
✓ Fujitsu PRIMERGY BladeSystem
✓ Fujitsu PRIMERGY ESXi
✓ Fujitsu PRIMERGY Linux
✓ Fujitsu PRIMERGY OutOfBand
✓ Fujitsu PRIMERGY PRO
✓ Fujitsu PRIMERGY Windows
Common Libraries

Figure 1 – Administration node defined by the Fujitsu ServerView Core Library MP

For more information about the *Fujitsu ServerView Administration Page* management pack see *sv-intpack-scom-adm-en.pdf*.

4.9.2 Views defined by the *Fujitsu AddOnViews MP*

The AddOnViews Management Pack requires SCOM 2012 SP1 with UR6 or SCOM 2012 R2 with UR2 installed.

 On SCOM 2012 SP1 with UR6 Microsoft.SystemCenter.Visualization.Component.Library version 7.0.9538.1109 is required.

On SCOM 2012 R2 with UR2 Microsoft.SystemCenter.Visualization.Component.Library version 7.1.10226.1015 is required.

When integrating the *Fujitsu ServerView AddOnViews* Management Pack the *Fujitsu ServerView Systems* node is enhanced with the following dashboard views:

- Alerts per Server
- Components per Server

Alerts per Server

Fujitsu ServerView Servers

State	Alerts	Name	Model	Processors	Memory	Fans	Temperatures	Voltages	Power Supplies	Other	RAID	Path
✓	✓	TX14052-STK2	PRIMERGY TX14052	✓	✓	✓	✓	✓		✓		SCOM-CIM-T
✓	✓	PGTR3	PRIMERGY TX1420	✓	✓	✓	✓	✓		✓	✓	pgtr3.servwe
⚠	✗	BX92052-PST	PRIMERGY BX920 S2	✓	✓		✓	✓		⚠	⚠	BX92052-P5
✓		H50235-MX13052L	PRIMERGY MX130 S2	✓	✓	✓	✓	✓		✓		H50235-MX1
⚠		TX30054-STK2	PRIMERGY TX300 S4	✓	✓	✓	✓	✓		✓		SCOM-CIM-T

Alerts per selected Server(s) (2)

Filter

Severity	Source	Maintenance Mode	Name
✗	Raid Physical Disk: 0/2		BX92052-PST.servware.abg.fsc.net: The 'RAID Physical Disks' collection of a Fujitsu PRIMERGY Windows Server is in failed state
⚠	Communication Monitor		BX92052-PST.servware.abg.fsc.net: The Communication Monitor of a Fujitsu PRIMERGY Windows Server is in warning state.

Detail View

Display Name	BX92052-PST
Path	BX92052-PST.servware.abg.fsc.net\BX92052-PST
Health	⚠ Warning
Object Display Name	BX92052-PST
Model	PRIMERGY BX920 S2

The *Alerts per Server* dashboard view displays alerts for selected servers. The view is comprised of three windows.

Servers are displayed in the top 'Fujitsu ServerView Servers' window. When a server is selected in the 'Servers' View, its alerts are displayed in the middle 'Alerts per selected Servers' window. The Detail view below in the bottom window displays the details of the selected object (Server or alert)

Components per Server

Fujitsu ServerView Servers

State	Alerts	Name	Model	Processors	Memory	Fans	Temperatures	Voltages	Power Supplies	Other	RAID	Path	
⚠	✖	BX92052-PST	PRIMERGY BX920 S2	✓	✓		✓	✓			⚠	⚠	BX92052-PST
✓		H50235-MX130S2L	PRIMERGY MX130 S2	✓	✓	✓	✓	✓		✓			H50235-MX1
⚠		TX30054-STK2	PRIMERGY TX300 S4	✓				✓					SCOM-CIM-T

Component of selected Server(s)

State	Display Name	Server	Devices
✓	Storage	BX92052-PST.servware.abg.fsc.net	Storage Dis
⚠	RAID Subsystem	BX92052-PST.servware.abg.fsc.net	Raid Contr
✓	Power Consumption	BX92052-PST.servware.abg.fsc.net	Power Level

Sub-Components of selected Component(s)

State	Display Name	Server	Path
⚠	Raid Controller 0	BX92052-PST.servware.abg.fsc.net	BX92052-PST.s
✓	Raid Controller 1	BX92052-PST.servware.abg.fsc.net	BX92052-PST.s
✓	SV Raid Version	BX92052-PST.servware.abg.fsc.net	BX92052-PST.s

Alerts (1)

Severity	Source	Maintenance Mode	Name
✖	Raid Physical Disk	0/2	BX92052-PST.servware.abg.fsc.net: The 'RAID Physical Disks' collection of a Fujitsu PRIMERGY Windows Server is in failed state

Detail View

Display Name	RAID Subsystem
Path	BX92052-PST.servware.abg.fsc.net\Fujitsu.HealthCollections\RAID Subsystem
Health	⚠ Warning

The *Components per Server* dashboard view displays components groups, components and alerts for selected servers. The view is comprised of 5 individual windows.

Servers are displayed in the top 'Fujitsu ServerView Servers' window. When a server is selected in the 'Servers' View, its alerts are displayed in the bottom 'Alerts' window and its component groups are displayed in the middle left 'Component Groups per selected Servers' window.

When a component group is selected in the middle left 'Components Group View', the middle right 'Sub-Components of selected Components' window shows all components and the bottom 'Alerts' view shows all alerts for the selected group.

The Detail view below in the very bottom window always displays the details of the selected object (server or group or component or alert).

4.9.3 Views defined by the *Fujitsu PRIMERGY ESXi Servers MP*

When integrating the *Fujitsu PRIMERGY ESXi Servers* Management Pack a new node *PRIMERGY ESXi Servers* is created below the *Fujitsu Systems* node in the Monitoring pane of the SCOM Console. The following views are displayed in this node:

- Active Alerts
- Servers Health

— Health Monitoring

- Fans Health
- Management Controller Health
- Memory Health
- Networks Health
- Other Components Health
- Power Supplies Health
- Processors Health
- RAID Controllers Health
- RAID Logical Drives Health
- RAID Physical Disks Health
- Software Components Health
- Storage Health
- Temperature Sensors Health
- Voltage Sensors Health

Health Monitoring Side	State	Name	Model	Processors Group	Memory Group	Fans Group	Temperature Sensors Group	Voltage Sensors Group	Power Supplies Group	Power Consumption	Network Devices Group	Storage Disks Group	Management Controller	Other Component	CIM Provider
Warning	Warning	esx51wdb2005	PRIMERGY TX200 S5	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Warning	Healthy	Healthy	ServerView CIM Provider / 07.20.01
Warning	Warning	TX30054-STX2	PRIMERGY TX300 S4	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Warning	Healthy	Healthy	ServerView CIM Provider / 07.20.01
Warning	Warning	esx00	PRIMERGY RX200 S8	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Warning	Healthy	Warning	ServerView CIM Provider / 07.20.01
Warning	Warning	TX14052-STX2	PRIMERGY TX140 S2	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Warning	Healthy	Warning	ServerView CIM Provider / 07.20.01

The views installed by the *Fujitsu PRIMERGY ESXi Servers* Management Pack target and display PRIMERGY ESXi servers only.

4.9.4 Active Alerts View

The *Active Alerts* view displays all alerts which are assigned to the Fujitsu PRIMERGY ESXi Server class. Only alerts which have the resolution state *Not Closed* are displayed.

The following causes can trigger an alert:

- If a component monitor is in the *Critical* state and a corresponding alert is displayed for this component. This alert is "auto-resolving": As soon as the cause has been resolved, the alert is no longer displayed in the view.
- A CIM Indication for which a rule is defined in the Management Pack is entered by CIM Indication Listener in the event log of a host server. These alerts remain in the display until they are explicitly closed.
- An error for which a rule is defined in the Management Pack occurs in a PowerShell script. These alerts remain in the display until they are explicitly closed.

By default alerts are only generated by CIM Indications with the severity Critical (Error). Events with the severity Warning and Informational can also be displayed if they are enabled by the user.

Source	Name	Resolution State	Created	Last Modified	Repeat Count	Age
Severity: Critical (3)						
esxi60	'Ambient': Temperature high critical : 42 C	New	2016-05-13 14:43:12	2016-05-13 14:43:14	0	< 1 Minute
Ambient	esxi60: subcomponent of 'Temperatures' is in failed state.	New	2016-05-13 14:41:53	2016-05-13 14:41:53	0	2 Minutes
esxi51sw4b200s5	General PowerShell error [SVISCOM_PS1_107]	New	2016-05-13 06:53:12	2016-05-13 06:53:15	0	7 Hours, 50 Minutes

Alerts which are placed in the resolution state *Closed* no longer appear in the *Active Alerts* view.

For some alerts Alarm Suppression is enabled. In this case, the alert is only reported once. Any next alert of this type causes the *Repeat Count* to be increased. To display the *Repeat Count* column use the *personalize view* setting.

4.9.5 Diagram View

A *Diagram* view is the graphical presentation of the Fujitsu systems infrastructure. The connection of Fujitsu systems to PRIMERGY servers to model groups and the connection of the components to the PRIMERGY servers are presented here.

When systems are included in a group, this is indicated by a non-empty circle near the computer symbol. This group can be expanded further to display the existing systems.

The state of the hardware and software components of a server is also shown in the *Servers Diagram* view. The components are displayed graphically together with the assigned server.

Components which are in a healthy state are included in the healthy group beneath the associated server.

If more than one component is in the *Warning* or *Critical* state, these are collected in the corresponding groups and also presented (simultaneously) beneath the PRIMERGY server.

The discovered instances of a component are grouped into health collections. Properties of the selected component or group are displayed in the *Detail View* below the diagram representation.

The following properties are displayed for each group of components:

- *Display Name*: Name of the component
- *Server Name*: Name of the system to which the component belongs
- *Devices*: Information of amount of discovered device instances

- *Device Information:* Additional information for the group if available
- *BMC Address:* IPv4 address of the integrated Remote Management Controller
- *BMC DNS name:* Fully Qualified Domain Name, if available and DNS enabled on iRMC

The following properties are displayed for each component:

- *Display Name:* Name of the component
- *Server Name:* Name of the system to which the component belongs
- *BMC Address:* IPv4 address of the integrated Remote Management Controller
- *BMC DNS name:* Fully Qualified Domain Name, if available and DNS enabled on iRMC
- *Device:* Name of discovered device instance
- *Device Info:* Additional information for the device if available
- *Additional properties:* if information available

4.9.6 Servers Health View

The *Servers Health* view displays the state of all servers which are assigned to the Fujitsu PRIMERGY ESXi Server class.

State	Name	Model	Processors Group	Memory Group	Fans Group	Temperature Sensors Group	Voltage Sensors Group	Power Supplies Group	Power Consuming	Network Devices Group	Storage Disks Group	Management Controller	Other Component Group	CIM Provider
Warning	esxi51w4b2005	PRIMERGY TX200 S5	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Warning	Healthy	Healthy	ServerView CIM Provider / 07.20.01
Warning	TX300S4-STK2	PRIMERGY TX300 S4	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Warning	Healthy	Healthy	ServerView CIM Provider / 07.20.01
Warning	esxi60	PRIMERGY RX200 S8	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Warning	ServerView CIM Provider / 07.20.21
Healthy	TX140S2-STK2	PRIMERGY TX140S2	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	ServerView CIM Provider / 07.20.01

The properties of the selected PRIMERGY server are displayed in the Details View below this view.

4.9.7 Health Monitoring Views

The *Health Monitoring* views display the health state and corresponding alerts of the hardware component class the view targets. The Detail view below State and Alerts view display the details of the selected object (hardware component or alert).

Temperature Sensors State (37)

State	Name	Server Name
Critical	Ambient	esxi60
Healthy	Ambient	esxi51sw4bx200s5
Healthy	DIMM-1D	esxi51sw4bx200s5
Healthy	DIMM-1A	esxi51sw4bx200s5
Healthy	VR MEM AB	esxi60
Healthy	CPU2	esxi60
Healthy	CPU3	esxi60

Temperature Sensors Alerts (1)

Source	Name	Resolution State	Created	Age	Repeat Count
Severity: Critical (1)					
Ambient	esxi60: subcomponent of 'Temperatures' is in failed state.	New	2016-05-13 14:41:53	6 Minutes	0

Alert Details

Critical

esxi60: subcomponent of 'Temperatures' is in failed state.

Source:

Ambient

Full Path Name:

SCOM2012R2PFN.servware.abg.fsc.net\Fujitsu ESXi Monitor Service\10.172.181.64\Fujitsu.HealthCollections\Temperatures\Ambient

Alert Monitor:

Fujitsu PRIMERGY ESXi Server Temperature Sensor Health Monitor

Created:

2016-05-13 14:41:53

Alert Description

esxi60: An instance of the PRIMERGY Component 'Temperatures' is in Critical or Warning state. Check the running status of the ServerView CIM Provider Service.

4.9.8 Alerts per Server View (from optional AddOnViews MP)

The AddOnViews Management Pack requires SCOM 2012 SP1 with UR6 or SCOM 2012 R2 with UR2 installed.

The *Alerts per Server* dashboard view displays alerts for selected servers. The view is comprised of three windows.

Servers are displayed in the top 'Fujitsu PRIMERGY ESXi Servers' window. When a server is selected in the 'Servers' View, its alerts are displayed in the middle 'Alerts per selected Server(s)' window. The Detail view below in the bottom window displays the details of the selected object (Server or alert).

Alerts per Server

Fujitsu PRIMERGY ESXi Servers

MM	State	Alerts	Name	Model	Processors	Memory	Fans	Temperatures	Voltages	Power
	⚠		esxi51sw4tx200s5	PRIMERGY TX200 S5	✓	✓	✓	✓	✓	
	⚠		TX300S4-STK2	PRIMERGY TX300 S4	✓	✓	✓	✓	✓	
	⚠	✗	esxi60	PRIMERGY RX200 S8	✓	⚠	✓	✓	✓	
	✓		TX140S2-STK2	PRIMERGY TX140S2	✓	✓	✓	✓	✓	
	✓	✗	localhost	PRIMERGY RX100 S8	✓	✓	✓	✓	✓	

Alerts per selected Server(s) (2)

Filter

Severity	Source	Maintenance Mode	Name
✗	esxi60		The ServerView CIM Provider is not responding on PRIMERGY ESXi Server [SVISCOM_PS1_111]
			General PowerShell error [SVISCOM_PS1_107]

Detail View

Display Name	esxi60
Path	SCOM2012R2PFN.servware.abg.fsc.net\Fujitsu ESXi Monitor Service\10.172.181.64\esxi60
Health	⚠ Warning
Object Display Name	esxi60
Model	PRIMERGY RX200 S8

4.9.9 Components per Server View (from optional AddOnViews MP)

The AddOnViews Management Pack requires SCOM 2012 SP1 with UR6 or SCOM 2012 R2 with UR2 installed.

The *Components per Server* dashboard view displays components groups, components and alerts for selected servers. The view is comprised of 5 individual windows.

Servers are displayed in the top 'Fujitsu PRIMERGY ESXi Servers' window. When a server is selected in the 'Servers' View, its alerts are displayed in the bottom 'Alerts' window and its component groups are displayed in the middle left 'Component Groups per selected Server(s)' window.

When a component group is selected in the middle left 'Components Group View', the middle right 'Components per selected Group(s)' windows shows all components and the bottom 'Alerts' view shows all alerts for the selected group.

The Detail view below in the bottom windows always displays the details of the selected object (server or group or component or alert).

Components per Server

Fujitsu PRIMERGY ESXi Server Group

MM	State	Alerts	Name	Model	Processors	Memory	Fans	Temperatures	Voltages
			esxi60	PRIMERGY RX200 S8					
			TX300S4-STK2	PRIMERGY TX300 S4					
			esxi51sw4tx200s5	PRIMERGY TX200 S5					

Component Groups per selected Server(s)

MM	State	Name	Server	Path
		Memory	esxi60	SCOM2012R2PFN
		Other Components	esxi60	SCOM2012R2PFN
		Power Supplies	esxi60	SCOM2012R2PFN

Components per selected Group(s)

MM	State	Name	Server	Path
		DIMM-1A	esxi60	SCOM2012R2PFN
		DIMM-1E	esxi60	SCOM2012R2PFN

Alerts (0)

Filter

Severity	Source	Maintenance Mode	Name
----------	--------	------------------	------

Details View

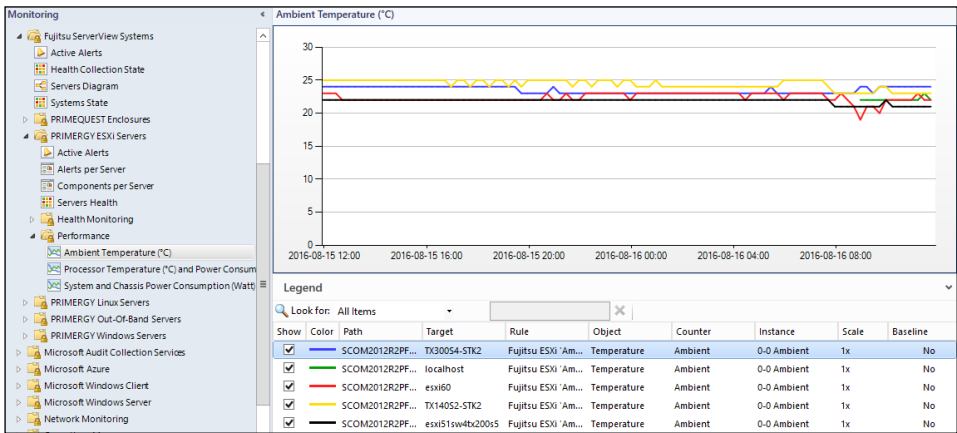
Display Name	DIMM-1A
Path	SCOM2012R2PFN.servware.abg.fsc.net\Fujitsu ESXi Monitor Service\10.172.181.64\Fujitsu.HealthCollections\Memory\DIMM-1A
Health	Warning

4.9.10 Views defined by the Performance Monitoring MP

When integrating the *Fujitsu PRIMERGY ESXi Server Performance Monitoring* Management Pack a *Performance* node is created in the *ESXi Server* pane of the *Fujitsu Systems* node in the SCOM Console. The following views are displayed in this node:

- Ambient Temperature (°C)
- Processor Temperature (°C) and Power Consumption (Watt)
- System and Chassis Power Consumption (Watt)

Each of these views filters the available performance data for the specified data type and displays these in a diagram view. Data to be displayed must be selected in the Legend section of the view.



4.10 Health Explorer

The Health Explorer can be started from various views. It shows the components and dependencies in a tree structure. When components are in the *Warning* or *Critical* state, the corresponding subdirectories are automatically expanded in the display.

Two different displays are possible in the right-hand window of the Health Explorer: *Knowledge* and *State Change Events*. Information on what the monitor displays and which actions (resolutions) are possible and recommended is provided under the *Knowledge* tab.

All state transitions (*OK* <-> *Degraded* <-> *Error*) of the component selected from the navigation window on the left are displayed under the *State Change Events* tab.

If the state is not *OK*, the component is placed in the *Degraded* or *Error* state. If two or more components show different health states, the instance with the severest error determines the overall status of the group.

Context provided for State Change Events:

Component

Name of the component.

Type

Type of the component.

HealthState

Health State of the component.

Reason

Reason of the degraded Health State if available.

4.11 Fujitsu PRIMERGY ESXi Server Tasks

Tasks are actions which can be displayed and executed in different views. They are displayed in the *Actions* window when a PRIMERGY server is highlighted or when PRIMERGY hardware components are selected.

Tasks of the Fujitsu PRIMERGY ESXi Servers and server components:

- Delete PRIMERGY Server Component Inventory
- ServerView Remote Management iRMC
- ServerView Remote Management MMB (Blade Servers only)

4.11.1 Delete PRIMERGY Server Component Inventory

The *Fujitsu PRIMERGY ESXi Servers* Management Pack keeps track of the amount of components that have been discovered for a server in the server's registry at

HKEY_LOCAL_MACHINE\SOFTWARE\Fujitsu\ServerView Suite\SCOM Integration\SVISCOM-ESXi\ComponentsTrace\<SCOM-Guid>.

If new components are added to a server, the component inventory is increased and an informational alert is raised.

If components are missing, an alert is raised every time the component discovery script runs again (default: every 4 hours).

This task resets the server components inventory data. The next component discovery cycle generates new inventory data without raising any alerts.

Use this task if components have been removed from a server.

4.11.2 ServerView Remote Management iRMC

This task is used to call the console of the integrated Remote Management Controller (iRMC). If a DNS name has been found for the iRMC, the DNS name is called. Otherwise the IPv4 address of the iRMC is used.

4.11.3 ServerView Remote Management MMB

This task is only available for blade servers.

It is used to call the console of the Management Board (MMB) of the corresponding BX400 or BX900 chassis.

4.12 Events and alerts



This section applies only to alerts for which rules are defined in the Management Pack(s). Other reasons why an alert can be triggered are described in section [4.9.4 Active Alerts View](#).

Alerts remain visible in the *Active Alerts* view until they are explicitly closed (assigned the resolution state *Closed*).

Alerts are independent of monitors and have no influence on the health state of the server. They are used only to display an event.

The following event groups are integrated in the main Management Pack:

- Event Log entries of PowerShell scripts in the Management Pack



All alerts have alert suppression enabled.

The following alerts have been moved to separate Management Packs for customers who want to receive even these alerts even though the component health states are fully covered by individual health state monitors.

- SC2 CIM Indications
- RAID CIM Indications

Only events with the severity *Warning* or *Critical* are integrated with all *Warning* alerts disabled by default.

4.12.1 Enabling and disabling alerts

By default all the events with the severity *Critical* generate an alert, and all the events with the severity *Warning* and *Informational* generate no alert.

To change the default settings override them in the Authoring section of the SCOM Console. The overrides must then be stored in a custom Management Pack which is writable.

4.13 Knowledge Base

A Knowledge Base is provided for the events and alerts. Depending on the alert various possible resolutions / actions after error are displayed.

For CIM Indications alerts additional resolutions are provided in Alert Description text.

5 Working with the ServerView ESXi Server Integration Pack

5.1 Monitoring – Active Alerts

All generated alerts which are assigned to the PRIMERGY servers and their components are displayed in the *Active Alerts* views in the *Monitoring* area.

5.1.1 Displaying properties of an alert

- ▶ To view the properties of an alert, select the alert entry in the table.
The properties of the alert are then displayed in the *Alert Details* window below the table.
- ▶ To view all properties of an alert, double-click the alert entry or select the menu item *Properties* with the right mouse button
The Alert Properties dialog is opened.

5.1.2 Executing tasks

- ▶ Select an alert to execute the following tasks for the PRIMERGY server concerned:
 - Delete PRIMERGY Server Component Inventory
 - ServerView Remote Management iRMC

5.2 Monitoring – Servers Health

The states of all PRIMERGY servers are displayed in the *Monitoring* area of the *Servers State* view.

5.2.1 Executing tasks

- ▶ Select a server to execute the following tasks for the PRIMERGY server concerned:
 - Delete PRIMERGY Server Component Inventory
 - ServerView Remote Management iRMC
 - ServerView Remote Management MMB (Blade Servers only)

6 Working with the Performance Monitoring Management Pack

6.1 Create additional Performance Monitoring Views

Make sure the Performance Data collection rules additional views are to be created for are enabled via overrides.



All performance collection rules are disabled by default.

6.1.1 Create a Performance View based on specific rules

- ▶ In the 'My Workspace' Pane or in an unsealed management pack in the 'Monitoring' Pane create a 'Performance View' via 'Right Click' - 'New' - 'Performance View'.
- ▶ Give it a descriptive name, e.g. 'Power Supply Power Consumption'.
- ▶ On the 'Criteria' tab select an existing server group, e.g. 'ESXi Servers Group', or create a new group containing only the servers of interest.
- ▶ Select the Checkbox 'collected by specific rules', and click the blue underlined 'specific' in the criteria selection pane.
- ▶ Select one or multiple rules, confirm all selections with 'OK'
- ▶ When the view is displayed, select one or more performance counter instances of interest.



View settings can be changes later via 'Right Click' - 'Properties'.

6.1.2 Create a Performance View based on specific performance objects and counters

- ▶ In the 'My Workspace' Pane or an unsealed Management Pack in the 'Monitoring' Pane create a 'Performance View' via 'Right Click' - 'New' - 'Performance View'.
- ▶ Give it a descriptive name, e.g. 'Rack Server Processor Power Consumption'.
- ▶ On the 'Criteria' tab select an existing server group, e.g. 'ESXi RX Servers Group', or create a new group containing only the servers of interest.
- ▶ Select the Checkbox 'with a specific object name', and click the underlined 'specific' in the criteria selection pane. The following Object names are supported:
 - Power Consumption
 - Temperature
- ▶ Select the Checkbox 'with a specific counter name', and click the underlined 'specific' in the criteria selection pane.
 - For Power Consumption Sensors the following Counter Names are supported:
 - Total
 - System Chassis
 - Processor
 - Power Supply
 - Other
 - For Temperature Sensors the following Counter Names are supported:
 - Ambient
 - Processor
 - Memory
 - Power Supply
 - System Board
 - Other

6.1.3 Create a Dashboard View containing a State and a Performance Widget

The following steps show how to create a dashboard view containing a state widget for the Out-Of-Band Servers as well as a Performance Widget showing the Systems Power Consumption.

6.1.3.1 Define the dashboard layout

- ▶ In the 'My Workspace' Pane or an unsealed Management Pack in the 'Monitoring' Pane create a 'Dashboard View' via 'Right Click' - 'New' - 'Dashboard View'.
- ▶ From the templates select 'Grid Layout' from the right column.
- ▶ Add a descriptive name, e.g. 'Server State and Power Consumption'.
- ▶ Select the dashboard layout, e.g. a '2 Cells' layout with horizontal tiles.
- ▶ Confirm settings and create the View layout

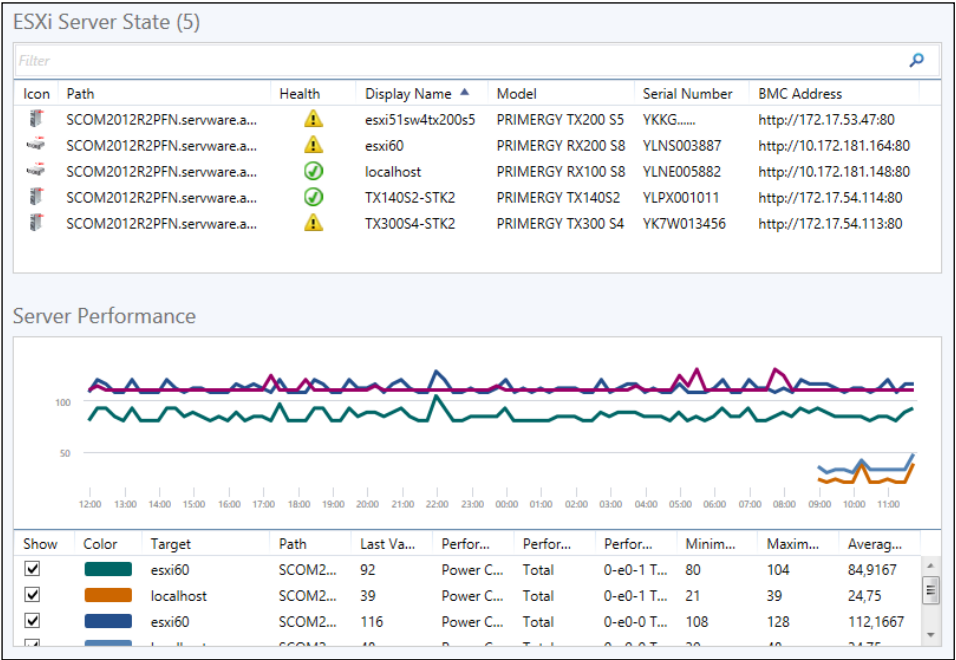
6.1.3.2 Configure the State Widget

- ▶ Open the newly created view, e.g. 'Server State and Power Consumption'.
- ▶ Select the cell where you want to place the state widget, e.g. the upper tile.
- ▶ From the templates select the State Widget.
- ▶ Give the state widget a descriptive name.
- ▶ Select 'ESXi Servers Group' as Object and 'Fujitsu PRIMERGY ESXi Server' as Class Scope.
Note: You can add multiple groups containing ESXi Servers if needed.
 - Select the Class by clicking on 'Add'.
Note: This defines which properties can be displayed as columns later on.
 - Select the Group in the lower part of the wizard
Note: This defines which objects are shown in the state view.
- ▶ Specify display criteria.
- ▶ Select the columns to display and they are to be sorted.
- ▶ Confirm the settings and create the state widget

6.1.3.3 Configuring the Performance Widget

- ▶ Open the newly created view, e.g. 'Server State and Power Consumption'.
- ▶ Select the cell where you want to place the performance widget, e.g. the lower tile.
- ▶ From the templates select the Performance Widget.
- ▶ Give the performance widget a descriptive name, e.g. 'ESXi Server Power Consumption'.
- ▶ Select 'ESXi Servers Group' as Object in the 'Specify Scope and Counters' page
 - Click '...' to start the group selection.
- ▶ In the 'Specify Scope and Counters' page click 'Add' to start the performance counter selection.
 - Select 'Power Consumption' as Performance Object
 - Select 'Total' as Performance Counter
 - Scroll down the list of available instances and select the 'All' entry, then click 'Add'.
 - Verify the selection and click 'OK'.
- ▶ In the 'Specify Scope and Counters' page click 'Next'.
- ▶ Select a time range for the performance data.
- ▶ Select the columns you want to display in the legend area of the widget. You can rearrange the order as needed.
- ▶ Confirm Settings and Click 'Create'

The final Dashboard View with State and Performance Widget:



6.1.4 24 Hour Performance Dashboard View

In order to illustrate the possibilities of dashboard views the following screenshot is shown. This view contains a status widget which allows quick filtering the list of ESXi servers and 2 contextual performance widgets showing the list of Power Consumption and Temperature values over the last 24 hours for the selected server(s). This allows a quick overview or comparison of different server values without the need for manually creating a separate view containing only the selected performance counter instances for the specific comparison.



While Microsoft currently provides a contextual health and alert widget, unfortunately a contextual performance widget is not available. There are some workarounds on SCOM related Internet blogs available which address this topic, but some technical limitations from the underlying standard SCOM performance widget still exist (e.g. sorting preferences and selected performance instances are not saved and reset to default when the re-entering the view).

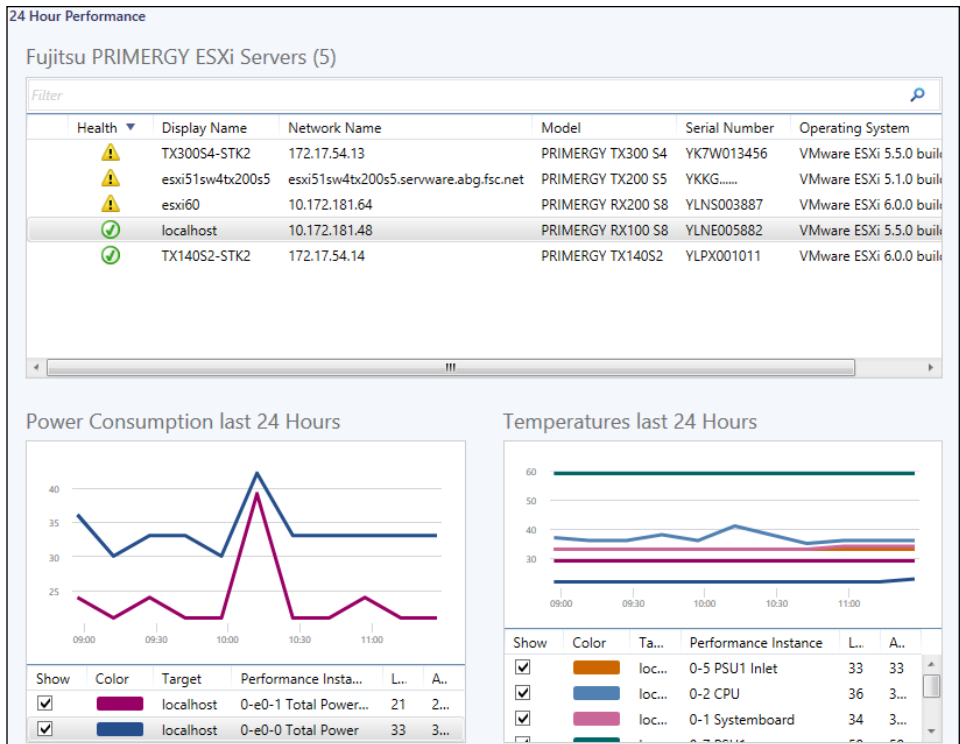


Due to the existing limitations of SCOM the 24 hour performance dashboard view is not distributed with the ESXi Performance Monitoring Management Pack. An evaluation copy which will be provided 'as-is' can be requested by sending a mail to <mailto:PRIMERGY-PM@ts.fujitsu.com?Subject=ESXi Performance Monitoring Add-On Management Pack>.

Starting points for the technical interested are (but not limited to):

https://blogs.msdn.microsoft.com/wei_out_there_with_system_center/2015/09/11/opsmgr-sample-contextual-performance-widget-template/

<https://gallery.technet.microsoft.com/Sample-Management-Pack-d03d2cf3>



7 Appendix

7.1 Supported PRIMERGY servers

The ServerView ESXi Server Integration Pack does not itself support PRIMERGY ESXi Servers but relies on ServerView CIM Provider installed on the server to provide server hardware data. PRIMERGY support therefore depends on the ServerView CIM Provider installed on the monitored system.

7.2 Creating log files

7.2.1 Log files on the SCOM server

Log files can be created for error analysis. The log files are stored in the subdirectory *SVISCOM\SVISCOM-ESXi* of the directory entered in the system environment variable *TEMP*. Usually this is the *C:\Windows\TEMP* directory (where *C:* represents the system partition in this example).

Logging options are defined in the file *SVISCOM-ESXiLog.xml* in this folder. Sample copy of the file with the name *SVISCOM-ESXiLog.sample.xml* is generated on each server discovery in the *%TEMP%\SVISCOM\SVISCOM-ESXi* folder (on management server and host servers).

SVISCOM-ESXiLog.sample.xml contains debug options for all discovery and monitoring features of the management pack. See *SVISCOM-ESXiLog.sample.xml* on management station for details.

In the case of error analysis using log files proceed as follows.

- ▶ Rename *SVISCOM-ESXiLog.sample.xml* to *SVISCOM-ESXiLog.xml*.
If *SVISCOM-ESXiLog.xml* already exists, check that all options of *SVISCOM-ESXiLog.sample.xml* also exist in *SVISCOM-ESXiLog.xml*.
- ▶ Check the debug options (documented in detail within the *SVISCOM-ESXiLog.sample.xml* file) for each feature to be monitored and set to the desired value.

The following log files are created as required:

- *PRIMERGYServerDiscoveryTrace_<hostservername>.log*
- *PRIMERGYComponentsMonitorTrace_<servername>.log*
- *PRIMERGYConnectionMonitorTrace_<servername>.log*
- *PRIMERGYAlertMonitorTrace_<servername>.log*
- *PRIMERGYLogParserTrace_<servername>.log*
- *PRIMERGYCheckCIMSubscriptionsTrace_<servername>.log*
- *PRIMERGYCIMIndicationsTrace_<servername>.log*
- *PRIMERGYPerformanceMonitorTrace_<servername>.log*
- *PRIMERGYTemplateDiscoveryTaskTrace_<servername>.log*

These files must be sent to Fujitsu Support for further analysis.

If you wish to disable the creation of log files again, delete or rename *SVISCOM-ESXiLog.xml* or change the logging options within the file.

7.2.2 Currentness of log files

Log files are generated promptly only if the initialization file is available and the Fujitsu Management Pack is imported at this time. If the management pack already is imported log files are generated depending on the execution interval of the discovery or monitoring scripts.

Up to 4 hours are necessary for all log files to be generated.



The server discovery is executed by default every 4 hours.

After the discovery was successful, monitoring is run every 8 minutes.

Alternatively:

To create a current set of discovery log files, put the server in maintenance mode for a short time and let SCOM exit the maintenance mode. SCOM executes the server and component discovery automatically after maintenance mode has ended.

7.3 Troubleshooting

7.3.1 Use ServerView Remote Management iRMC to examine a PRIMERGY Server

If a PRIMERGY server seems to have a problem (e.g. the PRIMERGY Overall State is bad) and the cause of this problem cannot be determined via SCOM, it may help to use the Remote Management Console for closer examination.

Highlight the server and use the ServerView System Remote Management iRMC task to start Remote Management Console.

7.3.2 Discovery template cannot find ESXi host

The *Fujitsu PRIMERGY ESXi Server Monitoring* management pack template discovers ESXi hosts by checking specific ESXi machine ports (902 and 443) and services (ESXi web page on port 443 and CIMOM on selected port). If a large amount of IP addresses is to be checked, the discovery task will use only a small timeout value to ensure that the discovery task will end in a reasonable time.

If the *Fujitsu PRIMERGY ESXi Server Monitoring* template has problems in discovering particular ESXi hosts in a given IP subnet, range or list these problems can be caused by the small timeout value for large amounts of IP addresses.

To discover the missing ESXi hosts set them up for discovery in a separate step which specifies only a small amount of addresses, e.g. up to 10 IP addresses.

Any timeout errors that occur during discovery can be found in *PRIMERGYTemplateDiscoveryTaskTrace_<servername>.log* (see [7.2.1 Log files on the SCOM server](#)).

7.3.3 SVS CIM Provider stops responding on ESXi host

On VMware ESXi 5.x hosts SVS CIM Provider can stop responding to CIMXML requests under some circumstances. This situation will raise an error alert in SCOM, stating that the Power Shell script cannot enumerate CIM instances with an additional alert description, e.g.:

```
ThreadPool -- svcs -- request queued @ 1426432241, max: 5, active: 5, queued: 1
```

```
ThreadPool --- Failed to enqueue request. Too many queued requests already: svcs, active 5, queued 11
```

The problem is caused by an instability in SFCB on ESXi 5.x which causes the crash of the Emulex CIM Provider and this in turn causes the SVS CIM Provider to no longer respond. To solve this problem, simply restart *sfcdb* (CIMOM) service on affected host:

```
/etc/init.d/sfcdb-watchdog restart
```

If the Emulex CIM Provider is not needed on the ESXi machine, it can be disabled or uninstalled to prevent the error from happening.

To disable Emulex CIM Provider:

```
esxcli system settings advanced set -o /UserVars/CIMvmw_emulex-cim-providerProviderEnabled -i 0
```

```
/etc/init.d/sfcdb-watchdog restart
```

To uninstall Emulex CIM Provider:

```
esxcli system maintenanceMode set --enable true
```

```
esxcli software vib remove -n emulex-cim-provider
```

```
esxcli system maintenanceMode set --enable false
```

7.4 Hints and known issues

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