



# FUJITSU Software ServerView

Linux Server Integration Pack V8.5 for MS SCOM

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# 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 Linux Server Integration Pack, which enables Fujitsu PRIMERGY Linux 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 Linux Servers from Fujitsu to be monitored via SCOM. Monitoring PRIMERGY Linux Servers is implemented using the ServerView Linux Agents via CIM and SNMP 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 Linux Server, the ServerView Agents enters these into the event log of the managed server. These events 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 System Monitor can be started.

The current ServerView Linux Server Integration Pack for SCOM is provided on the latest PRIMERGY ServerView Suite DVD from Fujitsu or under:

[http://download.ts.fujitsu.com/prim\\_supportcd/SVSSoftware/](http://download.ts.fujitsu.com/prim_supportcd/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 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.




## 1.3 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*).

## 1.4 Notational Conventions

The following notational conventions are used in this manual:

	<b>Warning</b> 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
	<b>Information</b> 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.
<code>&lt;variable&gt;</code>	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
- Unix/Linux Run As accounts configured as required by Microsoft
- SNMP Run As account within SCOM (optional)  
See chapter [2.2 SCOM Run As accounts and profiles](#)

### Managed PRIMERGY servers

- Red Hat Enterprise Linux (6.5 – 7) or SUSE Linux Enterprise Server (11 – 12)
- ServerView Linux Agents >= V6.31.10
- ServerView CIM Provider >= 7.20
- CIMOM (Sfcb or OpenPegasus) service
- SNMP service

- Python >= 2.6
- Management controller iRMC (integrated Remote Management Controller) (for power consumption)
- ServerView RAID for RAID monitoring (ServerView CIM Provider >= 8.00 for CIM RAID monitoring)
- Linux Monitoring user configured with home directory
- Installed SCOM agent

## 2.1 ServerView Agent events

To permit ServerView Agent events to be displayed in SCOM, they must be written to /var/log/messages. Since ServerView Agents logs events via the syslog daemon, its configuration must point to /var/log/messages.



If the syslog daemon is configured to log to another location, the ServerView Linux Server Management Pack is not able to evaluate ServerView Agent events.

## 2.2 SCOM Run As accounts and profiles

### 2.2.1 Unix/Linux Run As account and profile

Fujitsu PRIMERGY Linux Server Management Pack needs to have the Unix/Linux Run As accounts and profiles set up as required by Microsoft for the discovery and monitoring processes.



For details about configuring Linux server discovery in SCOM refer to “How to Configure Run As Accounts and Profiles for UNIX and Linux Access” at <https://technet.microsoft.com/en-us/library/hh212926.aspx>

The user account configured for the Unix/Linux Monitoring account must have a home directory configured for the Management pack to store component tracking data and additional Python modules.

The Linux monitoring user should also have access to WBEM (CIMOM) from localhost and to the following SNMP OID's:

- 1.3.6.1.2.1.2.2.1
- 1.3.6.1.2.1.25.3
- 1.3.6.1.4.1.231.2.49.1

All SNMP protocol versions are supported and are used only locally on the target server. The management pack will try to use SNMPv3, SNMPv2c and SNMPv1 (in this order). If SNMPv3 is configured on the target server the SNMPv3 user should be configured to be the SCOM Linux monitoring user for this server (SNMPv3 user should have the same credentials as Linux monitoring user).

For more information about SNMPv2c and SNMPv1 see [2.2.2 SNMP Run As account](#).

## 2.2.2 SNMP Run As account

The ServerView Linux Server Integration Pack adds a Run As profile named *Fujitsu PRIMERGY Linux Servers SNMP Account* to SCOM to support an easy adaption of the SNMP v1 and v2c community string for monitored Fujitsu Linux Servers. The default SNMP community string is *public*.



If the SNMP community string for monitored servers is other than *public*, create a SNMP account in SCOM with the expected community string and associate it with the *Fujitsu PRIMERGY Linux Servers SNMP Account*.

## 2.3 Updating ServerView Agents

When updating the ServerView Agents set the relevant PRIMERGY server in Maintenance Mode during this action.



Failure to set target servers where ServerView Agents are to be updated in maintenance mode may lead to an incomplete installation of ServerView Agents. This may impact the monitoring capabilities of the ServerView Agents and the ServerView Linux Server Integration Pack.

## 3 Installation and uninstallation

### 3.1 Installing ServerView Integration Pack

The installation program *SVISCOM-Lin.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/](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>SVISCOM-Lin</i> sub folder	<ul style="list-style-type: none"> <li>• <i>Eula_en.pdf</i></li> <li>• <i>Eula_jp.pdf</i></li> <li>• <i>sv-intpack-scom-lin-en.pdf</i></li> </ul>
<i>Management Packs</i> sub folder	<ul style="list-style-type: none"> <li>• <i>Fujitsu.ServerView.Library.mpb</i></li> <li>• <i>Fujitsu.ServerView.Image.Library.mpb</i></li> <li>• <i>Fujitsu.ServerView.AddOnViews.mpb</i> (optional)</li> <li>• <i>Fujitsu.ServerView.IntegrationPackAdmin.mpb</i> (optional)</li> <li>• <i>Fujitsu.ServerView.Monitoring.Cloud.mpb</i> (optional)</li> <li>• <i>Fujitsu.Servers.PRIMERGY.Linux.mpb</i></li> <li>• <i>Fujitsu.Servers.PRIMERGY.LinuxSeed.mpb</i></li> <li>• <i>Fujitsu.Servers.PRIMERGY.Linux.PerfMon.mpb</i> (optional)</li> <li>• <i>Fujitsu.Servers.PRIMERGY.Linux.PerfMon.Overrides.xml</i> (optional)</li> <li>• <i>Fujitsu.Servers.PRIMERGY.Linux.PerfMon.Cloud.mpb</i> (optional)</li> <li>• <i>Fujitsu.Servers.PRIMERGY.Linux.PerfMon.Cloud.Overrides.xml</i></li> </ul>

Folder	Files
	(optional) <ul style="list-style-type: none"> <li>• <i>Fujitsu.Servers.PRIMERGY.Linux.AddOnViews.mpb</i> (optional)</li> <li>• <i>Fujitsu.Servers.PRIMERGY.Linux.RAIDMIB.Alerts.mpb</i> (optional)</li> <li>• <i>Fujitsu.Servers.PRIMERGY.Linux.SC2MIB.Alerts.mpb</i> (optional)</li> </ul>
<i>SVISCOM-Lin/AlertKB</i> sub folder	<ul style="list-style-type: none"> <li>• <i>images</i></li> <li>• <i>styles</i></li> <li>• <i>RAID.mib.html</i></li> <li>• <i>SC2.mib.html</i></li> </ul>
<i>SVISCOM-Lin /Tools</i> sub folder	<ul style="list-style-type: none"> <li>• <i>Putty.exe</i></li> <li>• <i>Clear-SecureReferenceOverrideMP.ps1</i></li> </ul>
<i>Common</i> sub folder	<ul style="list-style-type: none"> <li>• <i>sv-intpack-scom-adm-en.pdf</i></li> <li>• <i>Whitepaper SCOM OMS integration-en.pdf</i></li> </ul>



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 Linux 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 Linux Server Integration Pack.

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

Not all Management Packs of the ServerView Linux 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 Linux 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 Linux 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 Linux Server Integration Pack.

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

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

## 3.4 Uninstalling ServerView Integration Pack

The ServerView Linux 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.
- If any SNMP accounts have been associated with *Fujitsu PRIMERGY Linux Servers SNMP Account* profile 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 Linux Servers SNMP 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 Linux 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 Linux 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 Linux 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 Linux Seed* Management Pack contains the basic definitions for preliminary discovery of Fujitsu PRIMERGY Linux Servers.

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

The *Fujitsu PRIMERGY Linux Servers* Management Pack contains the definitions for managing Fujitsu PRIMERGY servers running Linux operating systems.

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

The optional *Fujitsu PRIMERGY Linux 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.Linux.PerfMon.mpb*.

The optional *Fujitsu PRIMERGY Linux Server Performance Monitoring Overrides* Management Pack adds overrides for the performance collection rules from the *Fujitsu PRIMERGY Linux 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.Linux.PerfMon.Overrides.xml*.



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

The optional *Fujitsu PRIMERGY Linux 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.Linux.AddOnViews.mpb*.

The optional *Fujitsu PRIMERGY Linux Servers RAID.MIB Alerts* Management Pack contains rules to catch error and warning alerts from the ServerView RAID.mib.

This Management Pack is not necessary to ensure full monitoring of PRIMERGY Linux 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.Linux.RAIDMIB.Alerts.mpb*.

The optional *Fujitsu PRIMERGY Linux Servers SC2.MIB Alerts* Management Pack contains rules to catch error and warning alerts from the ServerView hardware MIB SC2.mib and other hardware MIBs (HD.mib, NTCLUSTER.mib, THRESHOLD.mib).

This Management Pack is not necessary to ensure full monitoring of PRIMERGY Linux 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.Linux.SC2MIB.Alerts.mpb*.

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

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

The optional *Fujitsu PRIMERGY Linux Servers OMS Performance Data Collection Overrides* Management Pack adds overrides for the performance collection rules from the *Fujitsu PRIMERGY Linux 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.Linux.PerfMon.Cloud.Overrides.xml*.



Please note that without importing the *Fujitsu PRIMERGY Linux 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. BX2560)
- CX models (e.g. CX2550)
- RX models (e.g. RX2510, RX4770)
- SX models (e.g. SX150, SX350)
- TX models (e.g. TX1330, TX2560)
- PRIMEQUEST Partitions (e.g. PQ3800)
- PRIMERGY models which do not fit in any of the above groups



Econel models are assigned to the TX model group (Econel Floorstand) or to the RX model group.

For a description of the presentation of the servers and the PRIMERGY server computer groups, see section [4.7 Views](#).

## 4.3 Discovering and monitoring PRIMERGY servers

PRIMERGY servers and their components can be discovered and monitored only if they have been included in SCOM management (installed SCOM Agent on the servers to be monitored) and have properly configured Run As accounts and profiles.

The initial (seed) discovery is managed by checking the DMI data on the target server for manufacturer and system type.

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

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.

### 4.3.1 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
- *Monitoring Agents*: name and version of the ServerView Agents
- *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.

### 4.3.2 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).

## 4.4 Discovering and monitoring server components

The server components are discovered and monitored with scripts on the basis of data retrieved via the ServerView Agents' CIM providers, via ServerView RAID and SNMP.

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.

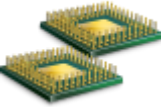
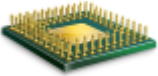
By default events with the severity *Critical* generate an alert and events with the severity *Warning* and *Informational* do not generate an alert. This default setting can be overridden.

# 4.4.1 Discovering subsystems and components

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


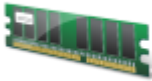
## 4.4.1.1 Processors

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>

### 4.4.1.2 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>




### 4.4.1.3 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>

### 4.4.1.4 Network Adapters

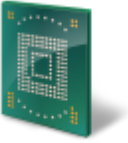
Available Network Adapters are discovered and grouped in the *Network (Ethernet)* collection. Their data is displayed, and their health state is monitored in the range provided by OS.

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>


#### 4.4.1.5 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>

#### 4.4.1.6 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>



#### 4.4.1.7 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>


### 4.4.1.8 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>



### 4.4.1.9 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>


### 4.4.1.10 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>

### 4.4.1.11 RAID Subsystem


If ServerView RAID Agent is installed and configured 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 Agents (using CIM or SNMP protocols).

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>	<Name of the controller> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the controller> <Firmware version>



### RAID Logical Drives

The status of the logical RAID drives from ServerView RAID is discovered and monitored via the ServerView Agents (using CIM or SNMP protocols).

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 <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>RAID Level:</i>	<Name of the logical drive> <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> <Name of the logical drive> <RAID level>

## RAID Physical Disks

The status of the physical RAID disks from ServerView RAID is discovered and monitored via the ServerView Agents (using CIM or SNMP protocols).




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>

### 4.4.1.12 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

#### 4.4.1.13 Communication Monitor

The Other Components Subsystem also comprises a communication monitor which monitors the communication between the scripts run on target Linux machine and the ServerView CIM Provider.

Problems here indicate that hardware monitoring is impaired. Try to restart the sfcv service on affected Linux 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>	Communication Monitor <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> Communication Monitor




## 4.4.2 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.

## 4.4.3 Discovering the required services


The services of a PRIMERGY server which are listed below are discovered and grouped in *Software Components* collection. Their statuses are monitored using shell scripts.


Component 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 <i>&lt;Name of the server&gt;</i> <i>&lt;Network name of the server&gt;</i> <i>&lt;IPv4 address of the iRMC&gt;</i> <i>&lt;FQDN of the iRMC&gt;</i>

### 4.4.3.1 ServerView Linux Agents (EECD)

The ServerView Linux Agents are Fujitsu's central service to monitor PRIMERGY hardware components.


The state of the ServerView Linux Agents component is also influenced by the state of the ServerView Agents version (e.g. too old).

Component Icon	Information	
	<i>Display Name:</i> <i>Version:</i> <i>Server Name:</i> <i>Devices:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	ServerView Linux Agents <i>&lt;Version of the agent&gt;</i> <i>&lt;Name of the server&gt;</i> Service eecd <i>&lt;IPv4 address of the iRMC&gt;</i> <i>&lt;FQDN of the iRMC&gt;</i>

Version Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i> <i>Version:</i>	ServerView Agents Version <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> ServerView Agents Version <ServerView Linux Agents Version>


#### 4.4.3.2 Linux CIMOM (SFCB or OpenPegasus)

The CIMOM service (SFCB or OpenPegasus) is used to query Fujitsu's CIM Provider.

Component Icon	Information	
	<i>Display Name:</i> <i>Version:</i> <i>Server Name:</i> <i>Devices:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	Linux CIMOM (SFCB or OpenPegasus) <SFCB or OpenPegasus version if available> <Name of the server> Service sfcdb/cimserver <IPv4 address of the iRMC> <FQDN of the iRMC>

#### 4.4.3.3 Linux SNMP daemon



SNMP service is used to monitor all other Fujitsu components that are not available through CIM Provider.

Component Icon	Information	
	<i>Display Name:</i> <i>Version:</i> <i>Server Name:</i> <i>Devices:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	SNMP daemon <Version> <Name of the server> Service snmpd <IPv4 address of the iRMC> <FQDN of the iRMC>

### 4.4.3.4 ServerView RAID

ServerView RAID manages and monitors all RAID controllers of PRIMERGY servers.

The state of the ServerView RAID component is also influenced by the state of the ServerView RAID version (e.g. too old).

Component Icon	Information	
	<i>Display Name:</i> <i>Version:</i> <i>Server Name:</i> <i>Devices:</i> <i>BMC Address:</i> <i>BMC DNS name:</i>	ServerView RAID daemon <Version> <Name of the server> Service amDaemon <IPv4 address of the iRMC> <FQDN of the iRMC>
Version info Icon	Information	
	<i>Display Name:</i> <i>Server Name:</i> <i>BMC Address:</i> <i>BMC DNS name:</i> <i>Device:</i> <i>Version:</i>	ServerView RAID Version <Name of the server> <IPv4 address of the iRMC> <FQDN of the iRMC> ServerView RAID Version <ServerView RAID Version>

### 4.4.4 Monitoring components

Components are monitored by means of PowerShell and Python scripts. The monitoring scripts are called at regular intervals (every 300 seconds; settable) and check 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 Linux 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.

## 4.4.5 Monitoring services

The required services are monitored by two-state monitors. The health state of the services is displayed in the Health Explorer.

### 4.4.5.1 ServerView Linux Agents (EECD)

The state of this software component is determined by the following service:

- Environment Enclosure Control Daemon

If this service is not running the state of the ServerView Linux Agents component is set to *Critical* and a corresponding alert is generated. After that a recovery task, which tries to start the failed service, is automatically run.



If the ServerView Linux Agents are in *Critical* state, Fujitsu PRIMERGY server monitoring is no longer possible.

When the component returns to the *OK* state, the alert is resolved and no longer displayed in the *Active Alerts* view (see [4.7.4 Active Alerts View](#)).

### 4.4.5.2 Linux CIMOM (SFCB or OpenPegasus)

The state of this software component is determined by one of the following services:

- Small Footprint CIM Broker (SFCB)
- OpenPegasus

If this service is not running or not responding, the state of the CIMOM component is set to *Critical*.

If the monitoring function reports the *Critical* state, a corresponding alert is generated and a recovery task, which tries to start the failed service, is automatically run.



If the Linux CIMOM service is in *Critical* state, Fujitsu PRIMERGY server monitoring is limited to SNMP components.

When the component returns to the *OK* state, the alert is resolved and no longer displayed in the *Active Alerts* view (see [4.7.4 Active Alerts View](#)).

### 4.4.5.3 Linux SNMP daemon

The state of this software component is determined by the following service:

- Simple Network Management Protocol

If the monitoring function reports the *Critical* state, a corresponding alert is generated. After that a recovery task, which tries to start the failed service, is automatically run.



If the SNMP daemon is in *Critical* state, monitoring the PRIMERGY server is limited to CIM components.

When the component returns to the *OK* state, the alert is resolved and no longer displayed in the *Active Alerts* view (see [4.7.4 Active Alerts View](#)).

### 4.4.5.4 ServerView RAID Manager

The state of this software component is determined by the following service:

- amDaemon

If the monitoring function reports the *Critical* state, a corresponding alert is generated. After that a recovery task, which tries to start the failed service, is automatically run.



If the amDaemon is in *Critical* state, monitoring the RAID Subsystem is no longer possible.

When the component returns to the *OK* state, the alert is resolved and no longer displayed in the *Active Alerts* view (see [4.7.4 Active Alerts View](#)).

## 4.5 Performance Data Collection

The *Fujitsu PRIMERGY Linux 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 Linux 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 Linux Server Performance Monitoring Overrides* Management Pack all Performance Collection rules are disabled by default.

When enabled the rules collect performance data by means of Python 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.

## 4.5.1 Temperature Performance Data

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

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

## 4.5.2 Power Consumption Performance Data

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

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

## 4.6 Performance Data Collection for OMS

The *Fujitsu PRIMERGY Linux 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 Linux 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*.

## 4.7 Views

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

### 4.7.1 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

State	Name	Model	Serial Number	Operating System
Critical	TX30058-STK	PRIMERGY TX300 S8	YLNJ0000017	SUSE Linux Enterprise Server 12 SP0 V3.12.28-4-default
Warning	H49007-BX924S2	PRIMERGY BX924 S2	BX924S2267	Microsoft Windows Server 2012 Standard
Warning	esx51sw4bz200s5	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	YLVTO000098	N/A
Healthy	TX14052-STK2	PRIMERGY TX14052	YLPX001011	VMware ESXi 6.0.0 build-2494585
Healthy	RX10058-STK	PRIMERGY RX100 S8	YLN6000051	Red Hat Enterprise Linux Server 6.6 V2.6.32-504.el6.x86_64
Healthy	FK-iRMC-RX4770M4.svsnet...	PRIMERGY RX4770 M4	YMAK000000	N/A
Healthy	H49053-TX200S7	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 Linux 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.



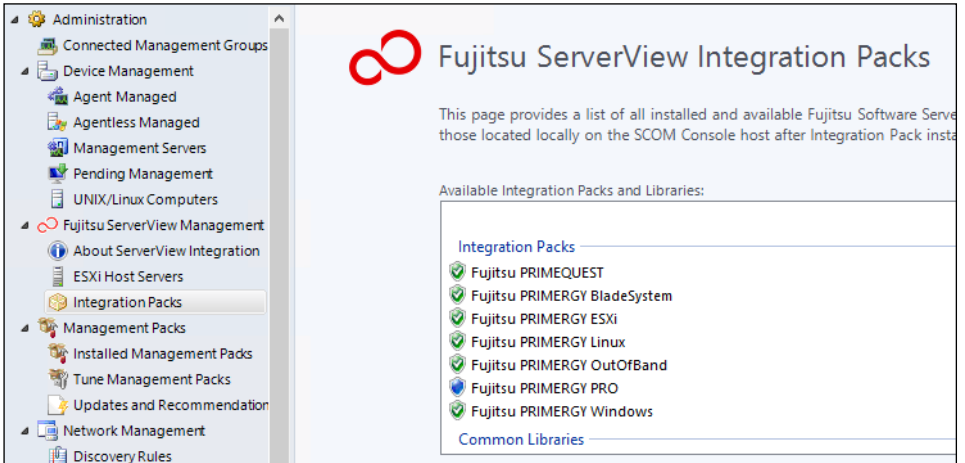


Figure 1 – Administration node defined by the Fujitsu ServerView Core Library MP

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

## 4.7.2 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 TX120	✓	✓	✓	✓	✓	✓	✓	✓	pgtr3.servwe
⚠	✖	BX92052-PST	PRIMERGY BX920 52	✓	✓	✓	✓	✓	✓	⚠	⚠	BX92052-PS
✓	✓	H50235-MX13052L	PRIMERGY MX130 52	✓	✓	✓	✓	✓	✓	✓	✓	H50235-MX1
⚠	✓	TX30054-STK2	PRIMERGY TX300 54	✓	✓	✓	✓	✓	✓	✓	✓	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 52

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-MX13052L	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 Dic
⚠	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	Path	Health
RAID Subsystem	BX92052-PST.servware.abg.fsc.net\Fujitsu.HealthCollections\RAID Subsystem	⚠ 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).

### 4.7.3 Views defined by the Fujitsu PRIMERGY Linux Servers MP

When integrating the *Fujitsu PRIMERGY Linux Servers Management Pack* a new node *PRIMERGY Linux 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 Consumption 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

State	Name	Model	Fans	Processors	Memory	Temperature Sensors	Voltage Sensors	Power Supplies	Networks	Raid Components	Other Health State	Software Components
Critical	n43006-b120a2	PRIMERGY TX120 S2	Healthy	Healthy	Healthy	Healthy	Critical	Healthy	Healthy	Healthy	Healthy	Healthy
Healthy	rx100c5-pst2	PRIMERGY RX100 S5	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy

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

## 4.7.4 Active Alerts View

The *Active Alerts* view displays all alerts which are assigned to the Fujitsu PRIMERGY Linux 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.
- An event for which a rule is defined in the Management Pack is entered in the Linux `/var/log/messages` file of a monitored 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 either a PowerShell or a Python script. These alerts remain in the display until they are explicitly closed.

By default alerts are only generated for events which have been entered in the `/var/log/messages` 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	Resolut...	Created	Last Modified	Age	Repea...
Severity: Critical (2)						
Ambient	rx100s5-ps2.servware.abg.fsc.net: subcomponent of 'Temperatures' is in failed state.	New	2016-02-19 08:09:54	2016-02-19 08:09:57	59 Minutes	0
BATT 3.0V	h49006-bx120s2.servware.abg.fsc.net: subcomponent of 'Voltages' is in failed state.	New	2016-02-18 09:14:57	2016-02-18 09:14:57	23 Hours, 54 Minutes	0

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.

## 4.7.5 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

### 4.7.6 Servers Health View

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

State	Name	Model	Processors Group	Memory Group	Fans Group	Temperature Sensors Group	Voltage Sensors Group	Power Supplies Group	Network Devices Group	Raid Components Group	Software Components Group	Other Components Group	Monitoring Agents
Critical	h4800s-h3202	PRIMERGY TX120 S2	Healthy	Healthy	Healthy	Healthy	Critical	Healthy	Healthy	Healthy	Healthy	Healthy	ServerView Linux Agents / 7.00-02
Healthy	n320s-pm2	PRIMERGY RX100 S3	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	Healthy	ServerView Linux Agents / 7.20-24

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

### 4.7.7 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).

VoltageSensors State (27)

Look for:

Find Now

Clear

State	Name	Server Name
Critical	BATT 3.0V	h49006-tx120s2
Healthy	MCH 1.25V	rx100s5-pst2
Healthy	Battery +3V	rx100s5-pst2
Healthy	Stdby 5V	rx100s5-pst2

VoltageSensors Alerts (1)

Source	Name	Resolution State	Created	Age	Repeat Count
Severity: Critical (1)					
BATT 3.0V	h49006-tx120s2.servware.abg.fsc.net: subcompon...	New	2016-04-04 15:50:47	1 Day, 23 Hours, 59 Minutes	0

Alert Details

h49006-tx120s2.servware.abg.fsc.net: subcomponent of 'Voltages' is in failed state.

Alert Description

Source: BATT 3.0V

h49006-tx120s2.servware.abg.fsc.net: An instance of the PRIMERGY Component 'Voltages' is in Critical or Warning state. Check the running status of the ServerView Agents Service.

Full Path Name: h49006-tx120s2.servware.abg.fsc.net\Fujitsu.HealthCollections\Voltages\BATT 3.0V

Alert Monitor: Fujitsu PRIMERGY Linux Server Voltages Collection Health Monitor

Created: 2016-04-04 15:50:47

### 4.7.8 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 Linux 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).

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Alerts per Server

Fujitsu PRIMERGY Linux Servers

MM	State	Alerts	Name	Model	Processors	Memory	Fans	Temperatures	Voltages	Power S
	✖	✖	h49006-tx120s2	PRIMERGY TX120 S2	✔	✔	✔	✔	✖	✔
	✔		rx100s5-pst2	PRIMERGY RX100 S5	✔	✔	✔	✔	✔	✔

Alerts per selected Server(s) (2)

Filter

Severity	Source	Maintenance Mode	Name
✖	BATT 3.0V		h49006-tx120s2.servware.abg.fsc.net: A component of the 'Voltages' subsystem of a Fujitsu
✖	h49006-tx120s2		Python script cannot enumerate CIM instance [SVISCOM_PS1_110]

Detail View

Display Name	h49006-tx120s2
Path	h49006-tx120s2.servware.abg.fsc.net\h49006-tx120s2
Health	✖ Error
Object Display Name	h49006-tx120s2
Model	PRIMERGY TX120 S2

## 4.7.9 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 Linux 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 Linux Server Group

MM	State	Alerts	Name	Model	Processors	Memory	Fans	Temperatures	Voltages	Power S
	✖	✖	h49006-tx120s2	PRIMERGY TX120 S2	✔	✔	✔	✔	✖	
	✔		rx100s5-pst2	PRIMERGY RX100 S5	✔	✔	✔	✔	✔	

Component Groups per selected Server(s)

MM	State	Name	Server	Pz
	✖	Voltages	h49006-tx120s2	h4
	✔	Storage	h49006-tx120s2	h4
	✔	Networks (Ethernet)	h49006-tx120s2	h4

Components per selected Group(s)

MM	State	Name	Server	Path
	✖	BATT 3.0V	h49006-tx120s2	h49006-
	✔	MAIN 5V	h49006-tx120s2	h49006-
	✔	ICH 1.05V	h49006-tx120s2	h49006-

Alerts (1)

Filter

Severity	Source	Maintenance Mode	Name
✖	BATT 3.0V		h49006-tx120s2.servware.abg.fsc.net: A component of the 'Voltages' subsystem of a Fujitsu

Details View

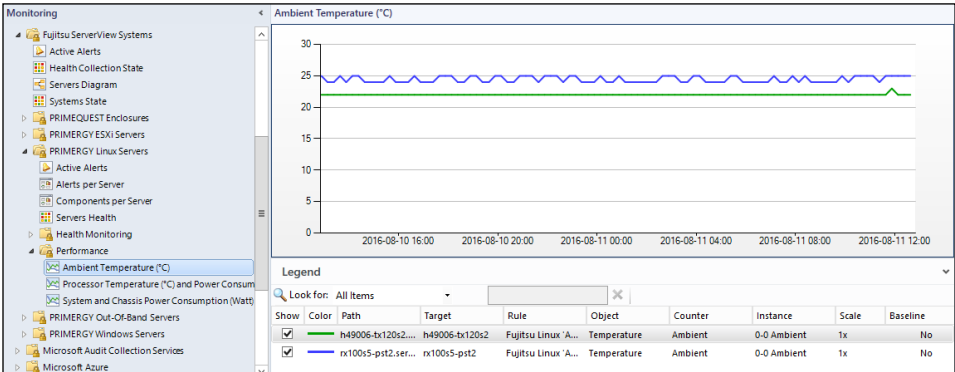
Display Name	BATT 3.0V
Path	h49006-tx120s2.servware.abg.fsc.net\Fujitsu.HealthCollections\Voltages\BATT 3.0V
Health	✖ Error

# 4.7.10 Views defined by the Performance Monitoring MP

When integrating the *Fujitsu PRIMERGY Linux Server Performance Monitoring Management Pack* a *Performance* node is created in the *Linux 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.



# 4.8 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.

## 4.9 Fujitsu PRIMERGY Linux 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 Linux Servers and server components:

- Delete PRIMERGY Server Component Inventory
- Remote Terminal
- ServerView RAID Manager
- ServerView Remote Management iRMC
- ServerView Remote Management MMB (Blade Servers only)
- ServerView System Monitor

### 4.9.1 Delete PRIMERGY Server Component Inventory

The *Fujitsu PRIMERGY Linux Servers* Management Pack keeps track of the amount of components that have been discovered for a server in the home directory of monitoring user.

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.

## 4.9.2 Remote Terminal

This task is used to start a remote terminal (using the external tool PuTTY) in order to be able to log on to the Fujitsu PRIMERGY Linux Server.

## 4.9.3 ServerView RAID Manager

This task is used to call the console of the ServerView RAID Manager.

## 4.9.4 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.

## 4.9.5 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.

## 4.9.6 ServerView System Monitor

This task is used to start the web-based ServerView System Monitor, which can be used to examine PRIMERGY Server in detail.



The web-based System Monitor is only available for PRIMERGY servers where ServerView Agents V7.01 or later are installed.

## 4.10 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 [4.7.4 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 and Python 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.MIB
- RAID.MIB

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

### 4.10.1 Enabling and disabling alerts

By default all the events with the severity *Critical* generate an alert, and all the events with the severity *Warning* 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.

## 4.11 Knowledge Base

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

There are several external Knowledge Base documents provided with Integration Pack which can be accessed from a corresponding alert. These files contain additional resolutions and problem descriptions.

## 5 Working with the ServerView Linux 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
  - Remote Terminal
  - ServerView RAID Manager
  - ServerView Remote Management iRMC
  - ServerView System Monitor

## 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
  - Remote Terminal
  - ServerView Raid Manager
  - ServerView Remote Management iRMC
  - ServerView Remote Management MMB (Blade Servers only)
  - ServerView System Monitor



## 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. 'Linux 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. 'Linux 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

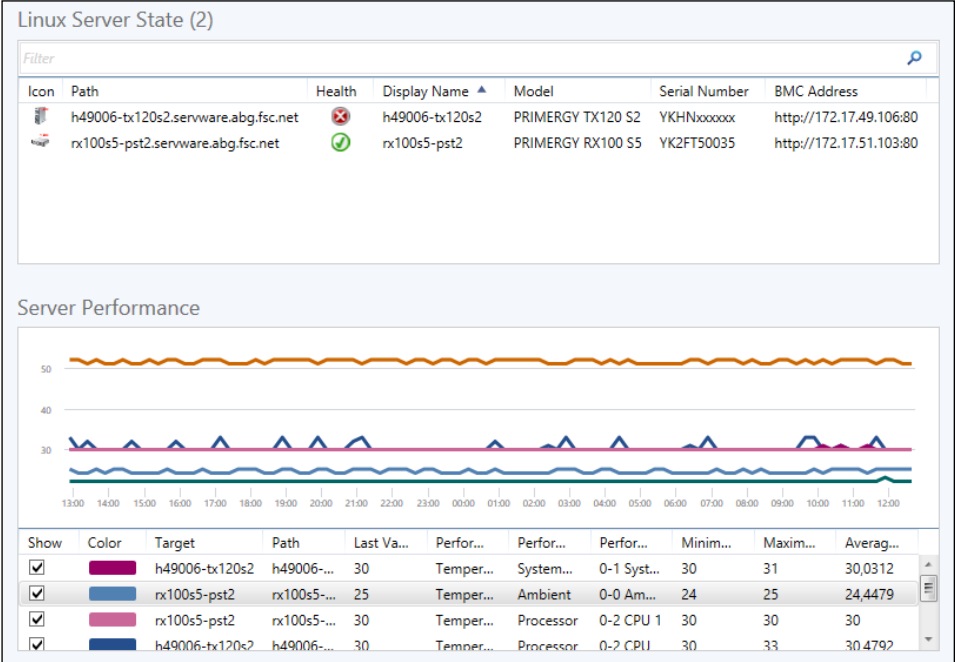
### 6.1.3.2 Configure the State Widget

- ▶ 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 'Linux Servers Group' as Object and 'Fujitsu PRIMERGY Linux Server' as Class Scope.  
Note: You can add multiple groups containing Linux 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. 'Linux Server Power Consumption'.
- ▶ Select 'Linux 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 Linux 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).

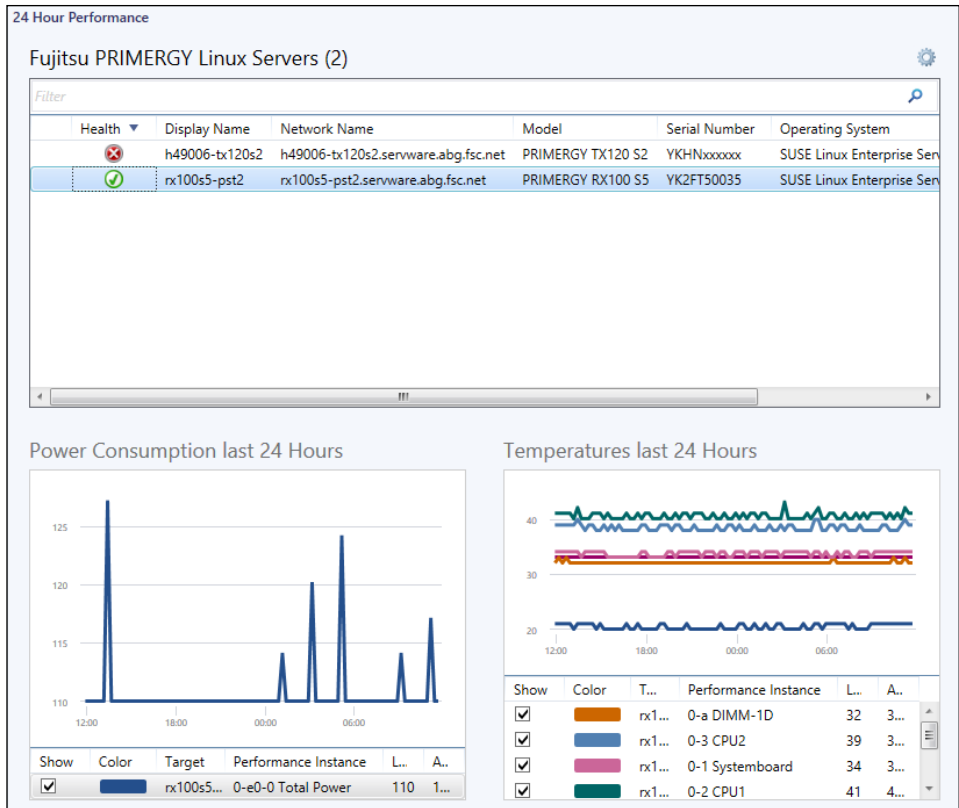


Due to the existing limitations of SCOM the 24 hour performance dashboard view is not distributed with the Linux Performance Monitoring Management Pack. An evaluation copy which will be provided 'as-is' can be requested by sending a mail to [mailto:PRIMERGY-PM@ts.fujitsu.com?Subject=Linux Performance Monitoring Add-On Management Pack](mailto:PRIMERGY-PM@ts.fujitsu.com?Subject=Linux%20Performance%20Monitoring%20Add-On%20Management%20Pack).

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://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 Linux Server Integration Pack does not itself support PRIMERGY Linux Servers but relies on ServerView Agents installed on the server to provide server hardware data. PRIMERGY support therefore depends on the Agents installed on the monitored system.

Please refer to the ServerView Agents' support list for detailed information on PRIMERGY support:

[http://download.ts.fujitsu.com/prim\\_supportcd/SVSoftware/Software/Hints\\_and\\_readmes/English/Agents/Released\\_Agents.htm](http://download.ts.fujitsu.com/prim_supportcd/SVSoftware/Software/Hints_and_readmes/English/Agents/Released_Agents.htm)

### 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-Lin* 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-LinLog.xml* in this folder. Sample copy of the file with the name *SVISCOM-LinLog.sample.xml* is generated on each server discovery in the *%TEMP%\SVISCOM\SVISCOM-Lin* folder.

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

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

- ▶ Rename *SVISCOM-LinLog.sample.xml* to *SVISCOM-LinLog.xml*.

If *SVISCOM-LinLog.xml* already exists, check that all options of *SVISCOM-LinLog.sample.xml* also exist in *SVISCOM-LinLog.xml*.

- ▶ Check the debug options (documented in detail within the *SVISCOM-LinLog.sample.xml* file) for each feature to be monitored and set to the desired value.

The following log files are created as required:

- *PRIMERGYServerDiscoveryTrace\_<servername>.log*
- *PRIMERGYComponentsMonitorTrace\_<servername>.log*
- *PRIMERGYAlertMonitorTrace\_<servername>.log*
- *PRIMERGYLogParserTrace\_<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-LinLog.xml* or change the logging options within the file.

## 7.2.2 Log files on the Linux target server

To create log files for Python scripts that are executed on the target server, open the file */<home>/<scom\_user>/sviscom/SVISCOM-LinLog.cfg* and change appropriate values to yes to enable debug mode for discovery and/or monitoring processes. The file *SVISCOM-LinLog.cfg* is created automatically by the discovery script at first run.

The following log files are created as required:

- *discovery.log*
- *monitoring.log*

## 7.2.3 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 5 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 System Monitor 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 System Monitor for closer examination.

Highlight the server and use the ServerView System Monitor task to start System Monitor.



The web-based system Monitor is only available for PRIMERGY servers where ServerView Agents V7.01 or later are installed.

### 7.3.2 Discovery does not start for Linux servers

If the discovery process doesn't start for any of the Linux servers the problem is probably caused by wrong settings of *UNIX/Linux Account* used in *UNIX/Linux Action Account* profile. Linux management pack uses SCOM native *SCXWSManProbeAction* module to execute Python scripts on monitored Linux server. If the elevation for privileged access is wrongly set in *UNIX/Linux Account* that is used for discovery and monitoring rules the *SCXWSManProbeAction* throws unexpected exception and scripts are not run. If SCOM periodically reports these kind of error in event log change *UNIX/Linux Account* to 'Do not use elevation with this account'.



Linux management pack doesn't need privileged root account set in *UNIX/Linux Action Account* profile to operate properly.

## 7.4 Hints and known issues

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