

PRIMERGY Management ServerView® Operations Manager V4.70/71

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ServerView® Operations Manager

ServerView Operations Manager monitors and analyzes PRIMERGY servers and associated storage extension units in the network. Operations Manager helps cut administration costs and so reduce total cost of ownership (TCO). In addition, user satisfaction can be improved through increased server availability.

ServerView Operations Manager runs on Windows- or Linux-based servers and enables management of servers running Windows, Linux and VMware by means of SNMP agents.

The software features a Web-based GUI. In addition, certain Operations Manager components provide a scriptable command line interface.



Operations Manager features

- **Health monitoring**
Status monitoring of the server and display of the server components' status
- **Event Management**
Easy-to-configure alarm management with reliable and flexible alarm forwarding. Monitoring of thresholds via ServerView Threshold Management
- **Power Management**
In addition to power on and off physical and virtual servers ServerView Power Management offers monitoring and control of power consumption
- **Asset Management**
Creation and comparison of server inventory snapshots
Creation, export and sending of inventory reports
- **Update Management**
Automatic check of managed servers for possible updates and automatic download of required files
Distribution and installation of updates in the network
- **Performance Management**
Performance management for monitoring utilization of the CPU, hard disks, memory and LAN cards with integrated report functions
- **RAID Management**
Monitoring and Management of RAID controllers embedded in PRIMERGY Servers
- **Online diagnostics**
Component stress tests for managed servers
- **Integration**
Simple integration in enterprise management systems via special integration modules.
Integration in DeskView

- **Prefailure detection**
Preventive prefailure detection for hard disks, fans, batteries, memory and CPUs via Prefailure Detection and Analysis (PDA)

New product features

- Discovery of servers using multiple SNMP communities
- Support of a Remote SQL database (Microsoft SQL DB)
- Management of Flexframe Infrastructure
- XEN support (Novell SUSE Linux 10 with XEN)
- Enhancements of Event Manager, SCU and Power Monitoring
- PRIMECollect for Linux
- Installation via YAST and YUM (as of V4.71)

Operations Manager functions

Health monitoring

Operations Manager provides detailed information on the status of:

- PRIMERGY rack and tower servers
- PRIMERGY blade servers
- FlexFrame Infrastructure
- PRIMERGY BladeFrame systems
- Diverse FSC storage subsystems
- APC PowerNet UPS

The systems are presented in a clearly structured server list. For convenience of handling, especially for larger configurations, servers may be organized in groups. Filtering provides a better overview in larger networks.

The Discovery of servers is SNMP or IPMI based and allows the recognition of servers and introduction into the serverlist by means of installed agents or an available BMC.

Prefailure detection

Prefailure Detection and Analysis technology (PDA) used in PRIMERGY servers works for fans, CMOS batteries, CPUs, memory modules and hard disks (S.M.A.R.T. standard). It generates warnings before a failure happens. Preventive maintenance increases the reliability of the system.

Automatic server recovery (ASR&R)

Automatic Server Reconfiguration and Restart (ASR&R) reduces downtime by removing a defective processor or defective memory module automatically from the configuration. This allows a server to resume operation at reduced performance until a repair can be undertaken. Operations Manager controls the setting for server recovery after a failure.

Event management

The configurable alarm management system ensures fast and reliable information on system statuses. It permits rapid response and fault rectification. Alarm messages are received, assessed, filtered and logged.

Depending on the type and seriousness of a failure Event Management delivers messages reliably to the right receiver via:

- E-mail (SMTP)
- SMS (Short Message Service) to mobile
- Numeric and alphanumeric paging
- To other management stations

Asset Management

Inventory Manager

Operations Manager delivers a precise and structured compilation of the inventory data of one or all servers that are connected to the network.

The data obtained can be monitored on the console. It can also be displayed and saved as a .csv file in Access or Excel for later analyses. The inventory data can be forwarded immediately to other persons with the integrated e-mail function.

Archive Manager

Operations Manager can make snapshots of the hardware and software configurations. The built-in comparative techniques make it possible to analyze and document the snapshots of servers or blade servers as regards changes in the configuration. This function is very helpful with regard to failure analysis.

Performance Management

The integrated tool monitors the CPU, memory, file system and network loads. Reports are generated and displayed in

user-defined formats. Threshold management provides information when load limits have been reached. The search for peak values and the correlation of these values with running processes enables rapid identification and an analysis of resource bottlenecks. Individual reports can be created and presented graphically. An export function allows for reports and their data to be transferred in CSV format.

Update Management

The integrated ServerView Update Manager permits updating of all important system components with regard to BIOS/ firmware, associated drivers/add ons and agents. Updates can be carried out locally on the server or remotely over the network.

Local update

For local updating of the servers there is a bootable update CD for updating the firmware and BIOS.

Remote update

The Download Manager integrated in Operations Manager is supported by the built-in version control and can automatically download the latest firmware, BIOS versions, SNMP agents and drivers on the Central Management Station.

The also integrated Update Manager distributes the updates to all the servers in the network and takes care of installation, the time of which can be adjusted.

Additionally a command line interface (CLI) is offered so that updates can be carried out by scripts.

Operations Manager Update Management significantly simplifies the maintenance process and is an important factor in cutting costs.

Power Management

Power Control

The integrated Power Management can be used on one of the servers chosen from the server list. Functions like power on, power off and shutdown are applicable on physical servers as well as on virtual servers. For safety reasons, use of these functions is protected by a dedicated user management facility.

Power Consumption Control

This function enables to restrict power consumption of servers. The use of this function may limit the performance of the server.

Power Monitoring

The Power Monitor enables for analysis of power consumption of a single or multiple servers. The consumption data can be logged for settable periods.

ServerView RAID Manager

The integrated ServerView RAID Manager enables the monitoring and management of RAID controllers installed in PRIMERGY servers. It can be operated via a graphical interface or command line interface. The graphical interface can be used via ServerView Operations Manager.

Online Diagnostics

This function enables stress tests for memory, CPUs, hard disks, or optical drives for managed servers running ServerView agents. The tests can be centrally controlled and monitored via a dedicated control panel of the management user interface.

Management of virtual servers

Operations Manager enables the management of virtual servers (VMware). In this, all the components of a virtual server (host and guest machine, including VMware names) are automatically combined in one group and displayed in the server list.

There are special SNMP agents available for the host operating system (VMware ESX). The operating system being

run and its SNMP agents can be used on the guest machine.

The call of additional management tools of VMware for the virtual server is possible and is integrated into the solution. Novell SUSE Linux 10 with XEN is supported as of version V4.70. The respective servers are visualized per XEN icon in the server list. Grouping of hosts and VMs takes place according to hosts and VMs registered in the server list.

Management of Flexframe Infrastructure and PRIME-POWER Servers

PRIMERGY BladeFrame systems and PRIMERGY BX600 (with ServerView PAN Manager) are integrated in Operations Manager management; e.g. event management and asset management. Hardware monitoring covers all its components: cBlades, sBlades, pBlades. For extended platform-specific management PAN Manager is integrated in ServerView Operations Manager.

PRIMERPOWER servers are integrated in health monitoring and event management and are shown in the server list with their states. Events are accordingly listed on the Operations Manager alarm console. PRIMEPOWER Management can be started from the server list for detailed management tasks.

ServerView SQL database

Windows based central management station

For internal data storage Operations Manager uses the Microsoft MSDE database. The database is included in the shipment of Operations Manager. An update to Microsoft SQL-Server is possible.

As of version V4.70 it is possible to use a Microsoft SQL-database in the network (remote SQL DB)

Linux based central management station

On Linux platforms Operations Manager uses a PostgreSQL database; this database is also included in the Operations Manager Shipment.

Customer Self Service

In case of failure this function provides an overview on all components which can be self-ordered and self-exchanged by the user.

Security functions

Depending on the model, PRIMERGY servers offer a variety of security functions, from the password-protected BIOS to alarm messages upon attempts at intrusion, such as when the front door is opened. Operations Manager parameters such as agent value settings and server shutdown times are protected by password.

Web-based communication within Operations Manager is secured by SSL connections.

Uninterruptible power supply (UPS)

ServerView Operations Manager integrates APC's uninterruptible power supplies, since APC's USPs also support the SNMP standard. The APC traps are integrated into Operations Manager and can be managed and forwarded via ServerView Event Manager.

The user interface of the UPS management card can be launched from ServerView Operations Manager.

Integration in management systems

ServerView Operations Manager can be integrated in enterprise management systems.

Integration modules for the enterprise management systems as CA Unicenter or Microsoft Operations Manager (MOM) are supplied with ServerView Operations Manager. More integration modules for IBM Tivoli, IBM NetView, HP OpenView Network Node Manager and HP OpenView Operations are also optionally available. See the "ServerView Integration" datasheet.

Operations Manager can integrate systems and devices produced by other manufacturers in compliance with the SNMP standards. Event and trap notices can be analyzed on the heterogeneous net.

Maintenance

PrimeCollect

PrimeCollect (Windows only) is a tool to collect information about the inventory, the operating system, sensor data (e.g. temperature values) and different logs (e.g. System Event Log). All information is automatically added to a .zip file which can be sent to a service engineer. So, PrimeCollect enables the support engineer to analyze customer problems and speed up the time for a solution/workaround. PrimeCollect is integrated in ServerView Installation Manager and can also be used offline with a limited function set. A necessary prerequisite for PrimeCollect are the ServerView Agents V4.60.

Integration of optional components

Optional components such as ServerView Deployment Manager, advanced ServerView Remote Management or ServerView Integration Packs for enterprise management integration can be integrated.

Technical requirements

Management console

- Standard PC, LAN and http access
- Microsoft Windows with Microsoft Explorer V6/V7
- Red Hat Linux: Mozilla Firefox 1.5
- SuSE Linux Mozilla Firefox 1.5
- HTML V3.2 and JavaScript V1.1 or higher

Central Management Station

- **Hardware**
Industry Standard Server, processor with at least 2x2GHz; at least 4GB RAM, LAN; at least 10 GB available disk space; graphics 1280x1024
- **Software**
ServerView Operations Manager
for Microsoft® Windows® Server 2000 Server, Microsoft® Windows® Server™ 2003, Microsoft® Windows® Server™ 2003 R2, Microsoft® Windows® Server™ 2008 or Novell SUSE Linux SLES9, SLES10 or RedHat RHEL4, RHEL5
ServerView Operations Manager Web Server
Web-Server
for Windows 2003/2008: MS Internet Information Server or (included in delivery) or Apache WebServer für Linux: Apache Web Server
Java Virtual Machine
Java Virtual Machine (JVM) 1.5

Managed server nodes

- **Hardware**
Industry Standard Server with LAN and http access, at least 10 GB free disk space
- **Software**
Installed ServerView agents, as available for:
Microsoft Windows® Server™ 2003, Microsoft® Microsoft Windows® Server™ 2003 R2, Microsoft Windows® Server™ 2008 und Microsoft Windows® Server™ 2008 core.
Novell SUSE Linux SLES 9/10,
Red Hat Linux ES 4/5
VMware ESX Server V2.5 or 3.5

Provision and installation

The ServerView Operations Manager software comes with each new PRIMERGY server. Installation can be carried out via the Software CD included in the PRIMERGY ServerStart package. Installation can be also done via internet: http://download.fujitsu-siemens.com/prim_supported/start.html

In addition the software is available via abonnement of the ServerView Suite package.

Information regarding ServerView Suite

The ServerView Suite package covers a manual DVD containing all relevant informationen regarding ServerView Suite and PRIMERGY servers

The ServerView Suite Software CD contains a link collection that offers online access to all manuals and FSC download sites, user forum, help desks and much more.

Options for PRIMERGY server management (charged)

- RemoteView Service Board (RSB)
- Certain options of the integrated Remote Management Controller (iRMC)
- ServerView Deployment Manager
- ServerView Integration Packs für IBM Tivoli, IBM NetView, HP OpenView Network Node Manager, HP OpenView Operations, BMC Patrol

Requirements for users

Knowledge of operating systems, especially Windows and Linux, and of system administration is required.

Training

Fujitsu Siemens Computers and its training partners offer courses on PRIMERGY server management for service technicians and administrators.

Licenses

For usage no licenses are required.

Restrictions and where to find more details

Depending on the server or operating system used, some Operations Manager functions may differ or may not be implemented:

- Support of controllers and storage subsystem depends on the operating system (see the separate datasheets)
- High availability support (hot-plug, RAID, fail-over, cluster) depends on the operating system and controller (see the separate datasheets)
- Service processor hardware is required for some functions (e.g. temperature display, fan monitoring).
- The use of the Power Consumption Control function and Power Monitoring is restricted to servers with iRMC S2.