# FUJITSU Server PRIMEQUEST 2000 Series

# Linux Operation Guide

# -Red Hat Enterprise Linux-

CA92344-0702-02

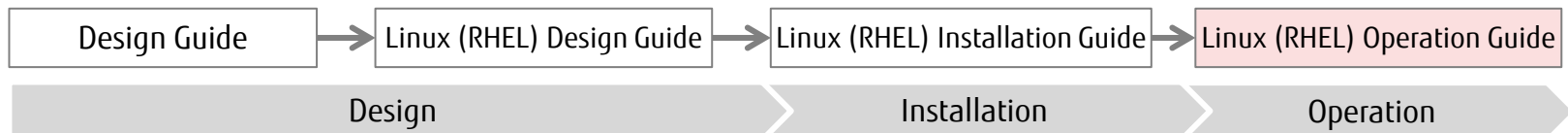# Table of Contents

# Preface

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## ■ About This Manual

### ■ Contents of This Manual

This manual describes an outline for operation and maintenance and notes for those who want to install and use Red Hat Enterprise Linux (RHEL) on the PRIMEQUEST 2000 series. For details about the operation method, refer to the PRIMEQUEST 2000 series unit manual and RHEL manual.

### ■ Organization of the Manuals

The following figure shows the organization of manuals for the PRIMEQUEST 2000 series (for RHEL).

| Design Guide | → | Linux (RHEL) Design Guide | → | Linux (RHEL) Installation Guide | → | Linux (RHEL) Operation Guide |
|---|---|---|---|---|---|---|

| Design | Installation | Operation |
|---|---|---|

### ■ Symbol in This Manual

The following table shows the meaning of the symbol used in this manual.

| Symbol | Meaning |
|---|---|
| 👉 | Indicates the page or document to refer to. |

# Preface

## ■ Abbreviations in This Manual

| Name | Abbreviation | |
|---|---|---|
| PRIMEQUEST 2400E2 | PRIMEQUEST 2000 series PRIMEQUEST | |
| PRIMEQUEST 2400E3 | | |
| PRIMEQUEST 2800B2 | | |
| PRIMEQUEST 2800B3 | | |
| PRIMEQUEST 2800E2 | | |
| PRIMEQUEST 2800E3 | | |
| Management Board | MMB | |
| Baseboard Management Controller | BMC | |
| Red Hat® Enterprise Linux® 6 (for Intel64) | RHEL6 | RHEL Linux |
| Red Hat® Enterprise Linux® 7 (for Intel64) | RHEL7 | |
| PRIMEQUEST 2000 Series General Description | General Description | |
| PRIMEQUEST 2000 Series User Interface Operating Instructions | User Interface Operating Instructions | |
| PRIMEQUEST 2000 Series Administration Manual | Administration Manual | |
| PRIMEQUEST 2000 Series Tool Reference | Tool Reference | |
| PRIMEQUEST 2000 Series Design Guide | Design Guide | |
| PRIMEQUEST 2000 Series Linux Design Guide -Red Hat Enterprise Linux- | Linux (RHEL) Design Guide | |
| PRIMEQUEST 2000 Series Linux Installation Guide -Red Hat Enterprise Linux- | Linux (RHEL) Installation Guide | |

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# 1. Operation Status Monitoring

This chapter describes the monitoring of the operation status.

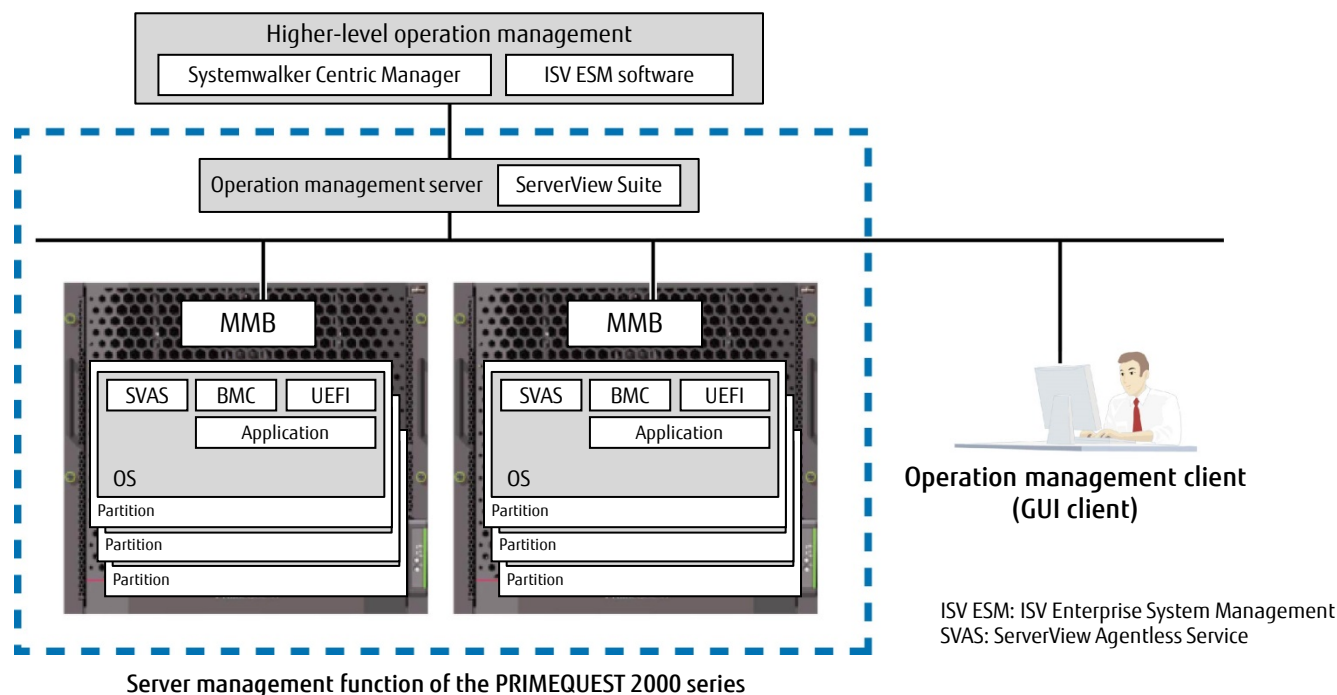For details, refer to the manuals below.

- ■ "Administration Manual"
- ■ "User Interface Operating Instructions"
- ■ "Tool Reference"

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## ■ Overall Overview of System Management

If an error occurs, an error message is output to the system log.

| Error source | Type of error | Log output location |
|---|---|---|
| Hardware such as the CPU, memory, or hard disk | Hardware error | MMB and management tool |
| OS | OS error | OS and management tool |
| Memory management, process management, file system, hardware control error, etc. | Kernel error or device driver error | OS |
| Applications and commands cannot continue normal operation. | Application error or command error | OS |



**Server management function of the PRIMEQUEST 2000 series**

ISV ESM: ISV Enterprise System Management
SVAS: ServerView Agentless Service

# 1.1 System Monitoring Overview (2/2)

## ■ Types of System Monitoring Mechanisms

The following types of system monitoring mechanisms monitor the system's status.

| System monitoring mechanism | Monitored content | Interface for the system administrator | Monitoring target |
|---|---|---|---|
| MMB | ■ Links with UEFI and BMC and controls the whole system<br>■ All cabinet hardware | Web-UI, CLI | 1 cabinet |
| ServerView Agentless Service | ■ Operates within the OS on each partition and controls the operation of each partition<br>■ Notifies the OSC of hardware error information and hardware configuration information that the OS on each partition detects via the MMB firmware<br>■ Links with the MMB firmware to enable the MMB Web-UI to be displayed and operated on a Web browser via the MMB even if the partition has no Web server function | Web-UI, CLI | 1 partition |
| Systemwalker Centric Manager | Centrally manages the system and network in accordance with the system operation life cycle | Web-UI | Multiple systems |

## ■ Central Monitoring of Multiple Systems

- General configuration
  - Monitoring agents that monitor system logs for each individual system
  - Monitoring server that sorts reports from the monitoring agents and notifies the administrator of these sorted reports
  - Network that connects the monitoring agents to the monitoring server
- Merits
  - The system administrator only has to pay attention to notifications from the monitoring server, not each individual system
  - No attention needs to be paid to the difference between platforms of the monitored systems
  - Remote systems can be monitored
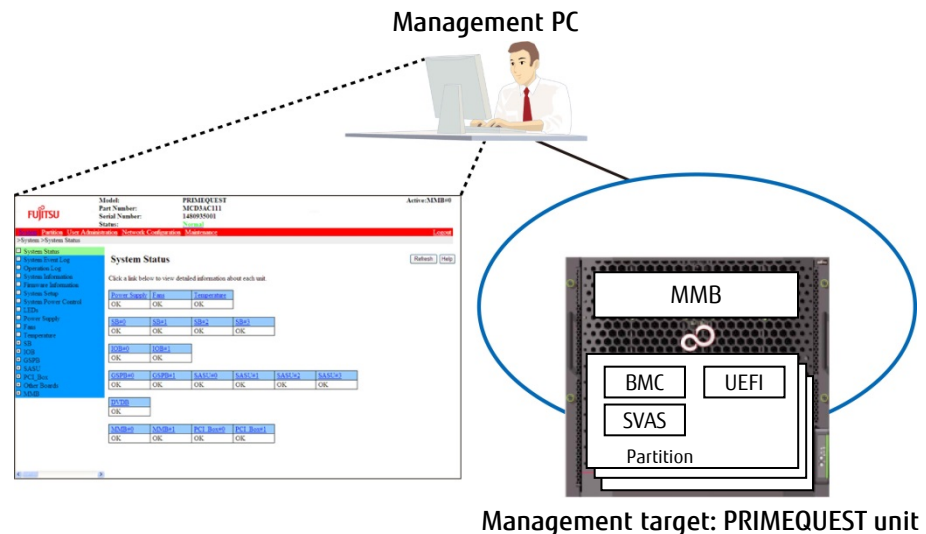
# 1.2 Cabinet Monitoring Features With MMB

**MMB links with UEFI and BMC and controls the whole cabinet.**

- **Architecture based on Intelligent Platform Management Interface (IPMI)**

- **Monitors the whole cabinet and reports events to the administrator and maintenance engineer**

  Can manage operation of hardware status monitoring, partition configuration management, user management, and power operation, etc.

- **Can perform remote settings with the Web-UI/CLI function**

- **Can perform partition settings and flexible I/O settings**

- **Can link to the MMB from outside as a single access point**

  Simple Network Management Protocol (SNMP) and Remote Management Control Protocol (RMCP) can be used for access.

**Management PC**



**Management target: PRIMEQUEST unit**

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ServerView Suite is software for monitoring multiple servers. This software is bundled with the hardware as standard.

- **Offers default support for the system life cycle management function**
  - Inventory management function (Management of the server's hardware and software version)
  - Archive management function (Record of the server status)
  - System resource usage monitoring (Performance management function)

- **Can centrally receive error notifications that occur in managed systems through the alarm service**

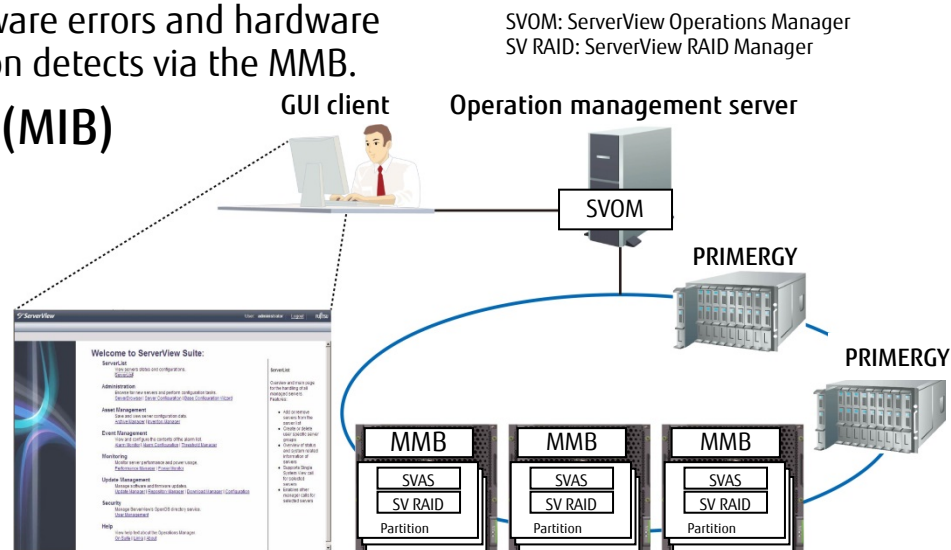- **Provides an agentless monitoring environment**

  ServerView Agentless Service notifies the OSC of hardware errors and hardware configuration information that the OS on each partition detects via the MMB.

- **Provides Management Information Base (MIB)**

  Use of ServerView Agent makes it possible to link with ServerView Resource Orchestrator or Systemwalker Service Quality Coordinator.
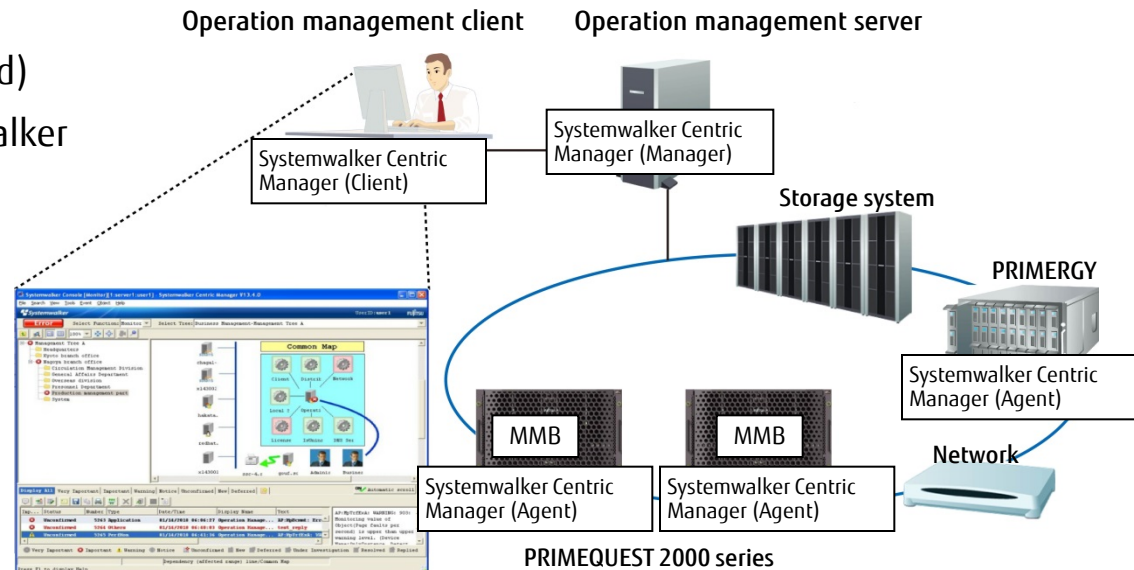
- **ServerView option**

  Use of Resource Orchestrator V3 delivers integrated management (including different models).

SVOM: ServerView Operations Manager
SV RAID: ServerView RAID Manager

GUI client    Operation management server

SVOM

PRIMERGY

PRIMERGY

Welcome to ServerView Suite:

| MMB | MMB | MMB |
| SVAS | SVAS | SVAS |
| SV RAID | SV RAID | SV RAID |
| Partition | Partition | Partition |

**Management target: Multiple PRIMEQUEST and PRIMERGY devices**

# 1.4 System Monitoring Features With Systemwalker Centric Manager

Systemwalker Centric Manager is a middleware software that manages multiple systems and networks with different platforms.

- ■ Has a management function that manages the system information and the network configuration information

- ■ Has a monitoring function that monitors the performance, operation, and failures of the systems and networks, as well as monitoring application operations on the systems

- ■ Automatic function for handling problems

- ■ Monitoring agents

  - ■ Net-snmp agent software (OS bundled)

  - ■ Agent software provided by Systemwalker

**Operation management client**     **Operation management server**



Systemwalker Centric Manager (Client)

Systemwalker Centric Manager (Manager)

**Storage system**

**PRIMERGY**

Systemwalker Centric Manager (Agent)

MMB     MMB

Systemwalker Centric Manager (Agent)     Systemwalker Centric Manager (Agent)

**Network**

**PRIMEQUEST 2000 series**

**Management target: All resources**

# 1.5 Key Points for Security Operations

Take the following measures.

## ■ OS Security Measures

☞ For details, refer to "Security Guide". To access this guide, go to the Red Hat Customer Portal (https://access.redhat.com/), and then click [Products & Services]. Under [Documentation], click on [Red Hat Enterprise Linux].

## ■ Applying Modifications

☞ For applying modifications, refer to "2.2 Key Points for Applying OS Modifications".

 * For information about the security software (ISV product), contact your sales representative.

# 2. Maintenance

This chapter describes key points and notes for maintenance.

For details, refer to the manuals below.

- "Administration Manual"
- "General Description"
- Related RHEL manuals provided by Red Hat

# 2.1 Key Points for Power Control of Cabinets and Partitions

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## Power Control for the Whole System

Use the MMB Web-UI's [System Power Control] screen for operation.

## Power Control for Partitions

Supports power control for each partition.

👉 For details about power control, refer to "Chapter 11 System Startup/Shutdown and Power Control" in "Administration Manual".

## Key Points During Maintenance

👉 For details about power control during maintenance, refer to "Chapter 3 Component Configuration and Replacement (Add, Remove)" in "Administration Manual".

# 2.2 Key Points for Applying OS Modifications

## Applying Modifications

### Preventive maintenance

Always apply the latest modifications for stable system operation.

- Apply minor release updates
- Apply modification files, such as errata

### Download and apply modification files from Red Hat's website

Access the Red Hat Customer Portal for detailed information.

# 2.3 Key Points for Backup and Restoration

Periodic backups are necessary in case of an emergency, such as system breakdowns or operation mistakes.

## ■ Backup targets

- ■ Hardware configuration information
- ■ System volume
- ■ Data volume

## ■ Backup of hardware configuration information

☞ For details, refer to "Chapter 10 Backup and Restore" in "Administration Manual".

## ■ Backup and restoration of the system volume and data volume

☞ For details, refer to the related RHEL manuals provided by Red Hat and the manual for each tool.

## ■ Backup for the file system

☞ For details, refer to "Linux (RHEL) Design Guide".

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## ■ Four methods available for adding devices

The following methods can be performed regardless of the system configuration (single or cluster) that is used.

- Hot addition

- Cold partition addition

- Cold addition for all partitions

- Cold addition

☞ For details, refer to "Chapter 3 Component Configuration and Replacement (Add, Remove)" in "Administration Manual".

## ■ Reconfiguring the OS environment after adding or removing hardware

Reconfiguring the OS environment is dependent upon the device and its purpose.

- I/O device

  Measures are necessary to prevent device name conflicts.

  > If measures are not taken, data may be damaged.

☞ For details, refer to "Administration Manual".

## ■ FC Card Used for the sadump Dump Device

After a hot replacement, HBA UEFI and the expansion BIOS needs to be set again with the system shut down.

## ■ Hot Replacement of Disks with sadump Dump Devices

Backup all of the disks, including any dump devices.

\* If the sadump environment is set in the UEFI menu, unique identification information is written to the dump devices to identify them. Restore the backed up data to recover the unique identification information after disks are hot replaced.

## ■ Hot Replacement or Hot Removal for the PCI Card

If performing a hot replacement or hot removal, temporarily stop the software (ServerView RAID service, etc.) that uses the PCI card or remove the card from the software's control targets before maintenance.

> Only PCI card hot replacements in the PCI Box are possible.

☞ For details, refer to "Chapter 4 Hot Maintenance in Red Hat Enterprise Linux 6" or "Chapter 5 Hot Maintenance in Red Hat Enterprise Linux 7" in "Administration Manual".

## ■ Reconfiguring the OS Environment After Replacing Hardware

Reconfiguring the OS environment is dependent upon the device and its purpose.

### ■ I/O device

Measures are necessary to prevent device name conflicts.

> If measures are not taken, data may be damaged.

# Revision Record

| Date | Revised location | Description |
|------|-----------------|-------------|
| 2014-02-18 | - | Created the first edition |
| 2014-08-30 | All | Added RHEL7 information |
| 2015-05-06 | Preface | Added new models |
| 2016-04-19 | All | Added new models<br>Updated with the latest information |

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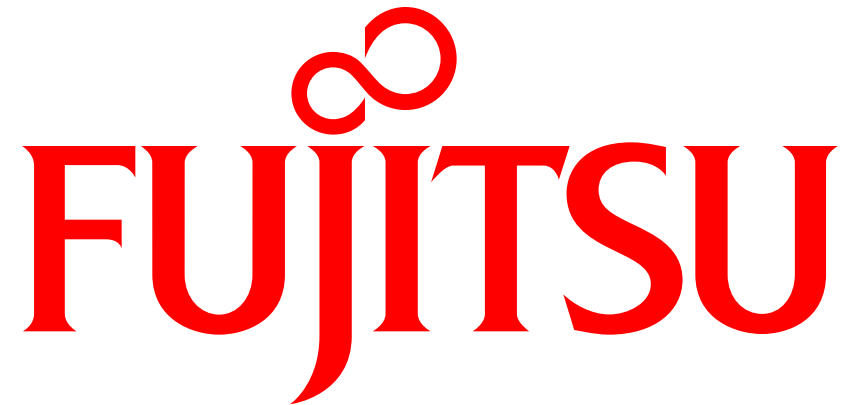For more information on this product or to contact us, refer to the following URL:
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