

FUJITSU Software BS2000 M2000

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Release Notice

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1 General information

This Release Notice is a summary of the major extensions, dependencies and operating information about the delivery components of the FUJITSU software BS2000 M2000 V6.1A.

M2000 is running on the Management Unit (MU) which is integrated in the rack of the FUJITSU Servers BS2000 SE700, SE500 and SE300. It is used for administration, monitoring and operating of all components of the SE Server.

*1 **The contents correspond to the release level of May 2016.**

*1 Changes to release level December 2015 are marked with *1

*1 The current release corresponds to the following delivery releases:

*1	M2000 V6.1A0106	Release 04.2016
*1	StorMan V6.0.0-11	Release 06.2015

The following Release Notices must also be taken into consideration for M2000 V6.1A:

- StorMan 6.0
- HNC V6.1A (if /390 Server Units are used)
- X2000 6.1A (if x86 Server Units are used)
- ROBAR-SV V7.0 (optional)
- openSM2 V10.0 (optional)
- openUTM V6.3 (optional)

This and other current Release Notices are on the SoftBooks DVD and are also available online: <http://manuals.ts.fujitsu.com/mainframes.html>.

If one or more previous upgrades are skipped when this product version is used, then the information from the Release Notices (and README files) for these previous versions must also be taken into account.

1.1 Ordering

The software M2000 V6.1A is supplied preinstalled on the Management Unit as a component of the SE Server hardware and cannot be ordered separately.

1.2 Delivery

M2000 V6.1A is part of the basic operating software for BS2000 SE Servers. M2000 V6.1A is either supplied pre-installed on the Management Unit (MU) or will be installed on already delivered Management Units by a FUJITSU service technician.

The M2000 V6.1A files are delivered in line with the hardware delivery as DVD media.

1.3 Documentation

The following manuals are part of the SE server documentation:

- Operating Manual SE700 / SE500 / SE300 (comprising several modules)
 - FUJITSU Server BS2000 SE700 / SE500 / SE300 Basic Operating Manual
 - FUJITSU Server BS2000 SE700 / SE500 / SE300 Server Unit x86
 - FUJITSU Server BS2000 SE700 / SE500 Server Unit /390
 - FUJITSU Server BS2000 SE700 / SE500 / SE300 Additive Components, edition November 2015
- FUJITSU Server BS2000 SE700 / SE500 / SE300 Operation and Administration, edition November 2015
- FUJITSU Server BS2000 SE700 / SE500 / SE300 Security Manual
- FUJITSU Server BS2000 SE700 / SE500 / SE300 Quick Start Guide

The documentation is also available on the internet under:

<http://manuals.ts.fujitsu.com>.

Manuals displayed with an order number can be ordered as printed versions.

The current versions of this and other Release Notices are also available under

<http://manuals.ts.fujitsu.com>.

The BS2000 documentation is available on DVD, in German and English, under the title BS2000 SoftBooks.

The corresponding HW documentation is required in order to use the HW peripheral devices.

2 Software extensions

M2000 V6.1A is a further development of M2000 V6.0A and offers the following main extensions and enhancements compared to the previous version:

- **Linux operating system basis rebased to SLES 11 SP4**
- **Extended role concepts**
In addition to the existing roles administrator, service technician, operator and XenVM administrator the following new roles are available:
 - BS2000 administrator
for configuring and administering BS2000/VM2000 and corresponding functions of the SE Manager.
 - AU administrator
for managing Application Units and for embedding user defined applications in the SE Manager.
- **IP-based access control to the Management Unit**
Access to the Management Unit can be restricted to explicitly defined IP addresses and networks. For this purpose a corresponding menu is offered in SE Manager.
- **Support of Net Unit with 10 Gb switches**
The Net Unit can be optionally extended by 10 Gb switches in order to connect HNCs, Server Units x86 and Application Units via the data networks DANPU and DANPR.
- **Topology view for IP networks in SE Manager**
A graphical topology view of the SE Server's internal IP networks is offered in SE Manager. A filter function for selecting a specific logical network is included.
- **Performance of the IP networks displayed in SE Manager**
The actual throughput (MB/s) and utilization (in percent) for all ports of the Net Unit can be displayed in the SE Manager. A distinction between sent and received data is made thereby.
- **Extended BS2000 device management**
Quantities of BS2000 devices spanned over different VM device types can be assigned to or removed from a BS2000 VM based on Mnemonic list.
BS2000 disks and tape devices can be configured or removed by quantities.
- **Display of multipath disks**
Information about multipath disks connected to Management Units and Server Units x86 is displayed in SE Manager.
- **Support of additional types of Application Units x86**
In addition to PRIMERGY RX4770 M1 / M2 as HW base for AU47 the PRIMERGY modell RX2530 M1-L is supported as AU of type AU25.

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- **Release of additional operating/hypervisor systems for Application Units based on PRIMERGY**
 The following operation systems and hypervisors are supported to run on Application Unit based on PRIMERGY:
 - SUSE Linux Enterprise Server 11, 12
 - Red Hat Enterprise Linux 6, 7
 - Microsoft Windows Server 2008 R2, 2012 and 2012 R2
 - VMware vSphere® ESXi 5.x , 6.0
 - Microsoft Windows Hyper-V Server 2008 R2 and 2012 R2
 - Citrix XenServer 6.5
 - Oracle LINUX 6.6, 6.7
 - Oracle VM Server 3.3
 Additional operating systems and virtualization products can be qualified for Application Units x86 on request (special release).
 - **Support of PRIMEQUEST based Application Units**
 The PRIMEQUEST modell PQ2800E2 is supported as Application Unit of type AU87. The partitions (physical partitioning) of an AU87 are represented in SE Manager.
 The Application Unit AU87 is released for the use by hypervisor platforms.
 The following hypervisors are supported to run on AU87:
 - VMware vSphere® ESXi 5.x, 6.0
 - Microsoft Windows Hyper-V Server 2012 R2
 - Oracle VM Server 3.3
 The PRIMEQUEST PQ2800E2 can also be ordered as appliance installed and maintained by Fujitsu Technology Solutions running Oracle VM Server 3.3.2 (as AU of type DBU87). This appliance consists of an additional AU of type AU25 on which Oracle VM Manager is preinstalled and integrated in SE Manager.
 - **Extended embedding of hypervisors running on Application Units**
 In addition to VMware vSphere the hypervisors Oracle VM server, Microsoft Hyper-V Server and Citrix XenServer can be embedded in SE Manager of M2000 V6.1A.
 Hypervisor's virtual machines are displayed in SE Manager and can be administrated.
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3 Technical information

3.1 Resource requirements

M2000 is installed on the internal mirrored disks of the MU, which have a preset partitioning.

For SE Servers with a redundant Management Unit a disk/LUN with a capacity of at least 8 GB must be available as external CRD (Configuration Raw Device).

*1 Remark:

*1 For disks in an ETERNUS DX disk storage system the host response profile
*1 "BS2000" must be activated. Additional information can be found in the document
*1 " ETERNUS DX Disk Storage Systems User's Guide – BS2000/OSD Business
*1 Server Connection" which is available under
*1 <http://sp.ts.fujitsu.com/dmsp/Publications/public/dp-eternus-dx-scg-bs2-em-en.pdf>.

3.2 Software configuration

- BS2000:
 - OSD/XC V10.0
 - OSD/XC V9.5
 - OSD/XC V8.5 (VM2000 guest system only)
- VM2000 V11.0, V10.0 (in VM2000 V10.0 the new SE Server specific functionality is not available)
- HNC V6.1 (if /390 Server Units are used)
- X2000 V6.1 (if x86 Server Units are used)
- Add-on software:
 - StorMan V6.0
 - ROBAR V7.0
 - openSM2 V10.0
 - openUTM V6.4

Linux is not released for use on M2000

The Linux appliance M2000 is a scaled-down Linux system exclusively designed to run on the Management Unit of a SE Server. This is why the use of Linux on M2000 is not released for customer applications.

3.3 Product installation

The SE Server is delivered with M2000 preinstalled. Any required new correction levels for M2000 that may be required are supplied as part of the hardware service contract and are installed by the service technician responsible for you.

3.4 Product use

SE Manager

Operation takes place via a web-based graphic user interface called SE Manager. Local access is possible via a web browser that is started in M2000 on the rack console integrated in the SE rack.

Remote operation and administration takes place via PC workplaces that can access the SE Manager via a web browser.

To ensure that all SE Manager functions can be used, an up-to-date internet browser is required.

- Supported browsers:
 - Microsoft Internet Explorer as of version 10 (with or without compatibility mode)
 - Mozilla Firefox as of version 17.0 ESR
- Tolerated browsers:
 - Internet Explorer 8 & 9The following restrictions do apply:
 - Uploads and downloads are not supported.
 - XenVM-consoles are not supported.
 - Some tables and other objects are not displayed in an optimal way.
 - No graphical view of the rack and the topology of the IP networks.
- Browser settings:
 - JavaScript is permitted.
 - Cookies are permitted.
 - If you intend to open a large number of BS2000 console windows or dialog windows simultaneously, the maximum number of server connections must be configured accordingly.

REWAS as subsystem in BS2000 for BS2000 functionality in the SE Manager

The subsystem REWAS realizes the BS2000 specific functions for Server Units /390 in the SE Manager. For this purpose the subsystem REWAS must be running on each BS2000 system. If due to an error situation this is not the case, the SE Manager's functionality concerning BS2000 is restricted as follows:

- On a VM2000 monitor system without REWAS being running no administration of BS2000-VMs is possible. Only limited status information is displayed.
- On a BS2000-VM or in BS2000 native operation mode without REWAS being running, the hostname is not displayed.

As a prerequisite for the communication between REWAS and SE Manager a BCAM configuration which is based on the provided templates must be activated on the BS2000 systems and on the VM2000 monitor system.

- *1 Special note:
- *1 The minimum length for the bs2000 hostname is 4 characters (letters or digits
- *1 without special characters).

BS2000 operating using the Linux shell

In addition to the terminals which are integrated in the SE Manager, the commands bs2Console, bs2Dialog und svpConsole are available in the Linux shell of the Management Unit. If called with suitable parameters these commands open the corresponding terminal instances at the specified Server Unit.

We recommend to use the ssh-client PuTTY for accessing the shell on the Management Unit. You may use PuTTY as of version 0.63.

If you use a different tool the functionality of bs2Console, bs2Dialog and svpConsole cannot be guaranteed.

Shell commands for the roles operator and BS2000 administrator

- *1 • For accounts of the roles operator and BS2000 administrator the connection to BS2000 console, BS2000 dialog and SVP console is possible via the commands bs2Console, bs2Dialog and svpConsole which are intended to be executed as "remote command" in PuTTY (in case of operator accounts depending on the individual rights).
- *1 Please consult your service technician for additional information.
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Special note in case of operating a redundant MU

With the optional second MU a redundant SKP functionality is available.

The redundancy mainly includes the following functions:

- SVP operating
- SVP state requests (system state, power status, operation mode, ...)
- Operating of the BS2000 systems and administration of the BS2000 devices.

An automatic data replication between the MUs is not provided for all function areas of the SE Manager. The characteristics which have to be taken into account are described in the manual

FUJITSU Server BS2000 SE700 / SE500 / SE300 Operation and Administration, chapter „ Architecture and concepts“, section „Redundant Management Units“.

Special note in case of operating Application Units

As a prerequisite for embedding an AU in the SE Manager and in the remote service concept of the SE Server, ServerView components must be installed in the operating system of the AU. The required software will either be shipped with the SE Server or can be downloaded from Fujitsu's support pages via the following link: <http://support.ts.fujitsu.com>

OracleVM Server

For linking the Oracle VM Manager with the SE Manager, the FQDN (fully qualified domain name) and the port number must be entered in SE Manager by means of a user-defined management application of type OVM Manager (OVMM). For additional information see manual „FUJITSU Server BS2000 SE700 / SE500 / SE300 Operation and Administration“, section "Managing user-defined management applications".

VMware vSphere

In order to installing an ESXi Server on an AU the corresponding Fujitsu custom ISO image for ESXi must be used, because the necessary ServerView components for SE integration are already contained in this image. The Fujitsu custom ESXi image is available for download under <http://support.ts.fujitsu.com>.

- *1 Limitations concerning the use of Application Units
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- *1 • A maximum number of 7 AUs are supported per SE Server. Thereof only one AU of type AU87 or DBU87 is supported.
 - *1 • The physical partitioning into 2 partitions is supported for AU87 and DBU87. Extended partitioning is not supported.
 - *1 • The SE Manager is able to represent up to 100 virtual machines per Application Unit.
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- *1 Please consult your sales representative if you need to run a configuration which exceeds these limitations.

Uplink ports of Net Unit switch to Cisco switches

During boot of a Net Unit's Brocade switch it may happen that a Cisco switch which is connected via uplink will recognize a loop situation for a short time which results in the affected ports being deactivated. This can be avoided by disabling the monitoring function for loop recognition at the affected ports in the Cisco switch.

3.5 Obsolete (and discontinued) functions

- *1 • MTC switching is not supported anymore in M2000/X2000 as of version 6.0A. Therefore MTC-Devices at a SU x86 are not locked against parallel use in different systems. We strongly recommend to implement physical measurements or to configure LUN masking / LUN mapping or SAN zoning accordingly in order to prevent a parallel usage by other systems.

3.6 Incompatibilities

Extended concept for user-defined applications

The user defined management applications as they were available in M2000 V6.0A are executing in M2000 V6.1A as application of type "user defined link". The functional infrastructure of the SE Manager will not be changed when adding such links.

User defined management applications in M2000 V6.1A are applications with an own web interface being embedded as functional extensions in SE Manager. Oracle VM Manager, for example, serves as an extension for administering virtual machines of an AU running Oracle VM Server.

3.7 Restrictions

- The use of a redundant Management Unit is not released for the SE Server line SE500.

3.8 Procedure in the event of errors

General instructions for creating documents

For successful diagnostics and elimination of software problems, sufficient error documentation must be created or saved as soon as possible.

If possible, error report documentation should be supplied in the form of files so that it can be analyzed with diagnostic tools. For reproducible errors the user should include detailed information on how to generate the error condition.

If an error situation occurs, the generation of diagnostic data can be initiated by the administrator or operator via the SE Manager on the Management Unit by way of the "Diagnostics" tab.

Hardware -> Server (SE<model>) -> <Name> (MU) -> Service.

The administrator may download the diagnostic data archive to his PC in order to send it via email.

If errors occur in the SE Manager, hard copies should be made of the screen.

4 Hardware requirements

M2000 V6.1A is intended to be installed on Management Units of the BS2000 SE Servers solely.

*1 4.1 Supported Application Units

*1 The following Application Units are supported in M2000 V6.1A:

*1	Typ	HW basis
*1	AU20	PRIMERGY RX200 S8
*1	AU25	PRIMERGY RX2530 M1-L
*1	AU47	PRIMERGY RX4770 M1 / M2
*1	AU87	PRIMEQUEST PQ2800E2
*1	DBU87	PRIMEQUEST PQ2800E2

5 Firmware levels

The following minimum firmware levels should be used on the Management Unit. They are installed during system installation in the factory.

Any new firmware levels that may be required are provided as part of the hardware service contract and installed by the service technician responsible for you.

SE Server MU	FW-Version
BIOS	R1.9.0
iRMC	7.82F
SAS RAID Ctrl SAS 6G 5/6 512MB (D2616)	2.130.353-2727
Fibre Channel LPe12002	v2.01A12