Fujitsu Software BS2000 M2000
Version 6.6A SP1
March 2025

Release Notice

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
*1 BS2000 M2000 V6.6A SP1.
M2000 is running on the Management Unit (MU) which is integrated in the rack of the Fujitsu Servers BS2000 SE740, SE730/B, SE710, SE340, SE330/B, SE320 and SE310. It is used for administration, monitoring and operating of all components of the SE Server.

*1 **The contents correspond to the release level of March 2025.**

*1 Changes to release level October 2024 are marked with *1

The current release corresponds to the following delivery releases:

*1	M2000 V6.6A0203	Release 03.2025
*1	StorMan V10.3.1-0	Release 11.2024

The Release Notice is shipped on the docu CD.

The following Release Notices must also be taken into consideration for M2000
*1 V6.6A SP1:

StorMan 10.3
*1 HNC V6.6A SP1 (if /390 Server Units are used)
*1 X2000 V6.6A SP1 (if x86 Server Units are used)
ROBAR-SV V7.7C (optional)
openSM2 V21.0 (optional)
openUTM V7.0 (optional)
*1 NUX V1.1 (optional)

This and other current Release Notices are available online:
https://bs2manuals.ts.fujitsu.com/

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

*1 The software M2000 V6.6A SP1 is supplied preinstalled on the Management Unit as a component of the SE Server hardware and cannot be ordered separately.

1.2 Delivery

*1 M2000 V6.6A SP1 is part of the basic operating software for BS2000 SE Servers.
*1 M2000 V6.6A SP1 is either supplied pre-installed on the Management Unit (MU) or will be installed on already delivered Management Units by Fujitsu service.

*1 The M2000 V6.6A SP1 files are delivered along with the hardware delivery as DVD media.

1.3 Documentation

The following manuals are part of the SE server documentation:

- SE specific manuals which describe concepts and the operation of a server of the SE series:
  - Fujitsu Server BS2000 SE Series Administration and Operation
  - Fujitsu Server BS2000 SE Series Quick Start Guide
  - Fujitsu Server BS2000 SE Series Security Manual

- White paper
  - Fujitsu Server BS2000 SE Series Cluster Solutions for SE Server

- Operating manual Fujitsu Server BS2000 SE series comprising the following modules
  - Fujitsu Server BS2000 SE Series Basic Operation Manual
  - Fujitsu Server BS2000 SE Series Operation Manual Server Unit /390
  - Fujitsu Server BS2000 SE Series Operation Manual Server Unit x86
  - Fujitsu Server BS2000 SE Series Operation Manual Additive Components

The documentation is available on the Internet at

*1 https://bs2manuals.ts.fujitsu.com/psSESERIESINFRASTRUCTUREV66en/.

There you will find both individual manuals and (under the "Softbooks" tab) the ISO image of a DVD with the entire inventory.

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

2 Software extensions

*1 M2000 V6.6A SP1 is a further development of M2000 V6.5A SP2 and offers the following main extensions and enhancements compared to the previous version:

- **Rebasing on SLES 15 SP5**
  The basic system of the Linux appliance M2000 was rebased on SUSE Linux Enterprise Server 15 SP5.

- **New server line SE740**
  The new server line SE740 is supported with a new hardware basis for Server Unit (SU740), Management Unit (MU M6), HNC (HNC M6) and NetUnit (Juniper EX3400-48T).
  Highlights of SU740:
  - 64 Gbit/s connectivity FC module
  - up to 126 channels
  - up to 4 path HNC connection

- **New server line SE340**
  The new server line SE340 is supported, which is equipped with a new server Unit generation SU340 with increased monoprocessor performance and a new hardware basis for Management Unit (MU M6) and NetUnit (Juniper EX3400-48T).

- **Entry-level model SE340 with SSDs for BS2000 disks**
  As an entry-level model, the SU340 is also offered with internal SSD disks for
*1 BS2000 disks. These disks are emulated in so-called EMDISC files. No external disk peripherals for BS2000 are required for this entry-level model.
*1 The administration of these BS2000 disks takes place via the new SEM window
*1 "Hardware -> Units (SEnnn) -> <SU> -> Information -> EMDISC files".
*1 The BS2000 disks based on it are managed in the existing SEM window "Devices ->
*1 Disks"

- **Display of the storage configuration in the SE Manager**
  The StorMan add-on has been restructured and integrated into the SE Manager (no separate GUI).

- **Logging of teleservice incidents**
  Teleservice incidents are displayed in SEM's event logging (only in case of AIS direct connection): Both automatically generated service calls due to HW/SW faults and alive messages are logged as events of type TSCall in the alarm management. Notification of events can be sent via email and SNMP traps.

- **Support of SNMPv3 trap receivers**
  SNMPv3 trap receivers can now also be configured in alarm management and HW
*1 monitoring. The SNMP Engine ID of the MU is displayed in the SE Manager.

- **New basic role in SE Manager**
  In SE Manager, the new basic role Remote Service Administrator is available for
*1 managing the remote service functions. In addition, the role Shell Access is an auxil-
*1 iary role that, in conjunction with one of the non-administrator roles, provides access
*1 to the MU's Linux shell.

- **Security improvement: System-specific service password**
  A system-specific password is set for Fujitsu Service access to the SE server.
*1 This password can only be administered by Fujitsu Service.

- **Support of port mirroring**
  At the Net Unit of SE740, SE730(B), SE330(B) and SE340, redundant lines can be configured as port mirror for network analysis by the customer.

*1 - **Display of BS2000 system information**
*1 The SE Manager displays the installed service pack and the SYSID for the BS2000
*1 systems

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 resp. in a SE Cluster configuration a disk/LUN with a capacity of at least 8 GB must be available as external configuration disk.

Remark:
For disks in an ETERNUS DX disk storage system the host response profile "BS2000" must be activated. Additional information can be found in the document "Fujitsu Storage ETERNUS DX, ETERNUS AF Configuration Guide -Server Connection-" which is available under
https://sp.ts.fujitsu.com/dmsp/Publications/public/p3am-5672-en.pdf

3.2 Software configuration

SW base SE Server

*1 • HNC V6.6A SP1 (if /390 Server Units are used)
*1 • X2000 V6.6A SP1 (if x86 Server Units are used)

• Add-on software:
*1 ○ STORMAN V10.3.1-0 (storage manager)
○ ROBAR V7.7C00-1.0 (ROBAR-SV server)
*1 ○ OPENSM2 V21.0.7-0 (openSM2 - performance monitor)
*1 ○ OPENUTM V7.0A27-5.0 (openUTM-server administration)
○ SEHABASIS V1.2.1-0.0 with SEHAMONITOR V1.1.1-0.1 (implementation of a monitoring solution as part of a service offering)
*1 ○ NUX V1.1.0-3.0 (Extension of the Net Unit by CISCO lan switches)
*1 ○ SEFW V1.0A04-0.0 (Firmware for MU, SUx86 and HNC)

BS2000 system versions native and VM2000 mode

- BS2000 native
  - BS2000 OS DX V1.0B
- VM2000 V12.0B
  - BS2000 OS DX V1.0B as monitor or guest system
- Prerequisites for Live Migration (LM):
  - BS2000 OS DX V1.0B
  - VM2000 V12.0 in VM mode (LM on SU /390 in VM mode only)

The support of OSD/XC V11.0B is supplied for SE740 as of service pack SP24.1 and for SE710, SE730(B), SE310, SE320, SE330(B) and SE340 as of SP23.2.

In BS2000, the REPs for A0618386 and A0618389 must also be installed on SU740, and the REPs for A0618376 and A0618377 must be installed on SU340.
*1 These REPs have been integrated in service pack SP24.2 and do not need to be installed
*1 separately.

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, including add-on STORMAN. Any new correction levels for M2000 that may be required are supplied as part of the hardware service contract and are installed by Fujitsu service.

*1 The installation of V6.6A SP1 on an existing customer system is possible with the initial
*1 version V6.5A SP2 or V6.6A.

3.4 Product use

SE Manager

Operation takes place via a web-based graphic user interface called SE Manager (SEM). 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 web browser is required.

- Supported browsers:
  *1
  - Mozilla Firefox as of version 128.5.1 ESR
  - Google Chrome
  - Microsoft Edge

- 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.

- Global Session
  The following prerequisites must be met in order to establish a global session covering multiple MUs:
  - The MUs are embedded in an external DNS within the same net domain.
  - The domain configured on the MU is the same as the external one.
  - The connection to the SE Manager has been made by entering MU's DNS name in browser.

- Device configuration of a SU /390:
  If the I/O configuration has been changed in BS2000 (IORSF file is changed), the IORSF file list must be actualized in SE Manager in order to be able to assign new devices to the BS2000 VMs.

SE Cluster: Automatic configuration merge

The configuration of a Management Cluster will be done by the service.
When the Cluster is set up, the configuration regarding accounts, alarm management, and FC networks will be merged into the central cluster configuration. As a preparation phase for this, the configuration should be made unambiguous.
An instruction for this is contained in the white paper
"Fujitsu Server BS2000 SE Cluster Solutions for SE Server" (see chapter 1.3).

Inhomogeneous SE Cluster: Restrictions

For the servers SE710, SE730(B) and SE740, inhomogeneous SE clusters are released
*1 with one server in V6.4A SP4 (SE700B), one server in V6.5A SP2 (SE710, SE730(B)) or
*1 one server in V6.6A (SE710, SE730(B), SE740).

For x86-based servers SE310, SE320, SE330(B), inhomogeneous SE clusters are only temporarily released for server innovation and SE SW upgrades with one server in V6.5A
*1 SP2 or V6.6A.

*1 The administration of devices and units should in an inhomogeneous cluster be done via
*1 a MU of the local SE server.

Due to the changed role concept, there are severe limitations in operation in a cross-MU session when changing from a V6.6A MU to a V6.4A MU via the menu in the SEM header area. Therefore, switching to a remote MU in a SEM session is not recommended. Before switching to the remote MU, the session should be ended by logging off.

On a V6.4A MU, only accounts with the Administrator role may be set up.

Accounts of roles other than Administrator that were set up on a V6.6A MU cannot be used on a V6.4A MU.

*1 Accounts of role Remote service administrator and Shell access cannot be used on a V6.5A MU.

*1 No configuration data backup (CSR archive) may be restored on a V6.6A, V6.5A or V6.4A MU.

*1 It is generally recommended to configure configurations in the SEM session on an MU of the corresponding SE server.

Application Units: Supported operating systems

The following native operation systems and hypervisors are supported to run on PRIMERGY based Application Units (AU25, AU47):

- Microsoft Windows Server (version upon request)
- Microsoft Windows Hyper-V Server (version upon request)
- SUSE Linux Enterprise Server 12, 15
- VMware vSphere® ESXi 7.0U3, 8.0

The following hypervisor platforms are supported to run on PRIMEQUEST based Application Units (AUQ38E, DBU38E):

- Microsoft Windows Hyper-V Server (version upon request)
- VMware vSphere® ESXi 7.0U3, 8.0

Additional operating systems and virtualization products can be qualified for Application Units upon request.

Application Units: Embedding in the SE Manager

Hints concerning PRIMEQUEST AUs:

- If an already configured PRIMEQUEST AU is extended by an additional partition, the AU must be registered again in SE Manager. Please ask your service technician for support.
- In SE Manager the access to MMB's WEB-UI is linked via the unencrypted HTTP protocol. This link can only be used if access via HTTP protocol is enabled in MMB's configuration.

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: https://support.ts.fujitsu.com
See the online help of the SE Manager for further information.

VMware vSphere
In order to install an ESXi server on an AU the corresponding Fujitsu Custom ISO image for ESXi should be used, because the necessary ServerView components for SE integration are already contained in this image. Information about Fujitsu Custom ISO images can be viewed on the internet pages of Fujitsu Support (https://support.ts.fujitsu.com).

Application Units: Limitations:

- A maximum number of 255 Application Units are supported per SE Server with NUX configuration. Thereof up to 5 PRIMEQUEST models (PQ3800E) are supported.
- The physical partitioning into up to 4 partitions is supported for PRIMEQUEST AUs. Extended partitioning is not supported.
- The SE Manager is able to represent up to 1500 virtual machines running on Application Units.

Please consult your sales representative if you need to run a configuration which exceeds these limitations.

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

The subsystem REWAS realizes the BS2000 specific functions for Server Units in the SE Manager. For this purpose the subsystem REWAS must be running on each BS2000 system. 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.

Special note regarding the BS2000 hostname

The minimum length for the BS2000 hostname is 4 characters.
The following special characters are supported in principle: # @
We recommend not to use special characters.

BS2000 operating using the Linux shell

In addition to the terminals which are integrated in the SE Manager, the commands bs2Console, bs2Dialog and svpConsole (for server with SU /390) 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 0.72.
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:

- For accounts of the roles BS2000 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). This also applies to the operator and BS2000 administrator roles as sub roles of a user-defined role.

The use of PuTTY is described in the manual "Fujitsu Server BS2000 SE Administration and Operation".

Connecting the NetUnit to the customer LAN

For the uplink ports of the public networks (e.g. MANPU, DANPU<nn>) no spanning tree protocol should be configured at the switch on customer site.

3.5 Obsolete (and discontinued) functions

- none -

3.6 Incompatibilities

- none -

3.7 Restrictions

*1 **- none -**

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 analysed 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 in menu
Service -> Units (SEnnn) -> <Name> (MU) -> Diagnostics.

The file can either be downloaded or sent directly via File Transfer by a member of Fujitsu Service using AIS Connect.

In case of problems which are visible in SE Manager depending on the situation the following diagnostic data should be created:

- meaningful screenshots
- Relevant output at browser's console (text copy or screenshot)

Hints regarding browser consoles:

Browser	Keyboard shortcut
Firefox 63	Ctrl+Shift+I, F12
Chrome	F12
Edge	F12

4 Hardware requirements

*1 M2000 V6.6A SP1 is intended to be installed only on Management Units of the BS2000 SE Servers.

4.1 Supported Application Units

*1 The following Application Units are supported in M2000 V6.6A SP1:

AU model	HW basis
AU25	PRIMERGY RX2530 M4 PRIMERGY RX2540 M4 [1)] / M5 / M6 / M7
AU47	PRIMERGY RX4770 M3 / M5 / M6 / M7 [1)]
AUQ38E / **DBU38E**	PRIMEQUEST PQ3800E

[1)] Upon special release

5 Firmware levels

Firmware levels of the Management Unit (minimum 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 Fujitsu service.

MU M3 with HW base RX2530 M5

	Component	FW version
*1	BIOS	V5.0.0.14 - R1.41.0
*1	iRMC	03.60P_SDR03.31
	SAS RAID Ctrl PRAID EP420i	4.680.00-8561
	SAS RAID Ctrl PRAID EP520i	5.230.00-3817
*1	Fibre Channel LPe 31002	14.2.673.40
	LAN-Contr. PLAN EP X710-DA4 / -T4 (10Gb SFP+ / 10GBASE-T)	9.30 / 9.30

MU M4 with HW base RX2530 M6

	Component	FW version
*1	BIOS	V1.0.0.0 - R1.27.0
*1	iRMC	03.60P_SDR03.51
*1	SAS RAID Ctrl PRAID EP680i	5.280.02-3981
*1	Fibre Channel LPe 31002	14.0.673.40
	LAN contr. PLAN EP X710- DA4 / -T4 (10Gb SFP+ / 10GBASE-T)	9.30 / 9.30

MU M5 with HW base RX2530 M7

	Component	FW version
*1	BIOS	V1.0.0.0 - R2.7.0
*1	iRMC	02.57S_SDR03.83
*1	SAS RAID Ctrl PRAID EP680i	5.260.02-3981
*1	Fibre Channel LPe 31002	14.2.673.40
	LAN contr. PLAN EP X710- DA4 / -T4 (10Gb SFP+ / 10GBASE-T)	9.30 / 9.30
*1 *1	LAN-Contr. PLAN EP E810-XXVDA2 / - XXVDA4 (25Gb SFP+)	4.30 / 4.30

Firmware levels of the Net Unit

The following firmware levels are delivered with M2000 V6.5A SP2. Any new firmware levels that may be required are provided as part of the hardware service contract and installed by Fujitsu service.

Switch	FW version
Juniper EX3400-48T 1 Gbit LAN Switch	32.23.1R1.13
Brocade ICX7450 1 Gbit LAN Switch	SPR08090j.bin
Brocade ICX7750-48F 10 Gbit LAN	SWR08090j.bin

Recommended firmware levels of Application Units

PRIMERGY based Application Units:

	AU model	HW base	BIOS	iRMC / sdr
*1	AU25	PY RX2530 M4	R1.63.0	3.60P_sdr03.56
*1		PY RX2540 M4	R1.63.0	3.60P_sdr03.87
*1		PY RX2540 M5	R1.41.0	3.60P_sdr03.31
*1		PY RX2540 M6	R1.27.0	3.60P_sdr03.51
*1		PY RX2540 M7	R2.7.0	2.57S_sdr03.83
*1	AU47	PY RX4770 M6	R1.22.0	3.60P_SDR03.44
*1		PY RX4770 M7	R2.7.0	2.57S_SDR03.25

PRIMEQUEST based Application Units

	AU-Modell	HW base	Unified Firmware Version
*1	AUQ38E / DBU38E	PQ PQ3800E	PA24-09-1