

FUJITSU Software BS2000 X2000

*1 Version 6.2A SP1
*1 April 2018

Release Notice

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1 General information

*1 This Release Notice is a summary of the major extensions, dependencies and operating information about the delivery components of the FUJITSU software BS2000 X2000 V6.2A SP1.

*1 Together with the Linux operating system, X2000 V6.2A SP1 serves on the Intel x86_64 architecture based Server Units SU300 and SU300B as the carrier system for BS2000.

X2000 is running on the Server Unit in a SE300 / SE300B as well as on the optional additional Server Units in SE300 / SE300B, SE500 / SE500B or SE700 / SE700B.

*1 On this Server Units (SU x86) X2000 V6.2A SP1 offers the functions for operation and administration of the hardware for the BS2000 OSD/XC operating systems.

*1 **The contents correspond to the release level of April 2018.**

*1 Changes to release level October 2017 are marked with *1

*1 The current release corresponds to the following delivery release:
X2000 V6.2A0502 Release 04.2018

*1 The following Release Notices must also be taken into consideration for X2000 V6.2A SP1:

- *1 • M2000 V6.2A SP1
- OSD/XC V10.0, OSD/XC V11.0
- VM2000 V11.0A, VM2000 V11.5A

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

*1 The software X2000 V6.2A SP1 is supplied preinstalled as a component of a SE Server with SU x86 and cannot be ordered separately.

1.2 Delivery

The software X2000 is part of a SE Server with SU x86 and is either supplied pre-installed on the Server Units or will be installed on an already delivered SU x86 by a FUJITSU service technician.

*1 The X2000 V6.2A SP1 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
- FUJITSU Server BS2000 SE700 / SE500 / SE300
Administration and Operation
- FUJITSU Server BS2000 SE700 / SE500 / SE300
Quick Start Guide
- FUJITSU Server BS2000 SE700 / SE500 / SE300
Security Manual

These manuals are on the documentation DVD of the delivered Media Set.

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 documentation for cluster configurations is available as white paper named "Fujitsu Server BS2000 SE700 / SE500 / SE300 Cluster Solutions for SE Server".

This whitepaper can be found on the Fujitsu web under

<https://sp.ts.fujitsu.com/dmsp/Publications/public/wp-se-cluster-em-en.pdf>

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

*1 X2000 V6.2A SP1 is a further development of the X2000 version V6.1A and offers the following major extensions and enhancements compared to the previous version:

- **Live Migration of BS2000 systems**
On SU x86 Live Migration is supported for native systems as well as for BS2000 VMs in VM2000 mode. For this purpose, in M2000 two Server Units are logically combined into one SU cluster.
- **Support of a new High End x86-64 system as HW base for SU300B**
A High End x86-64 server with Intel® Xeon® E7-8867 V4 processors is supported as a new HW base for SU x86 (SU model name: "SE SERVER SU300 M2").
- **Enhancement of the Net Storage support**
The NetClient supports the processing of SAM Node Files by BS2000.
- **Maximum number of real tape devices**
X2000 V6.2A supports up to 256 real tape devices.

3 Technical information

3.1 Resource requirements

Main memory requirements:

The standard main memory depends on the Server Unit x86 model and is listed in the following table.

Model type SU300

| SU x86 Model | Processors / cores | Main memory (GB) basic configuration / guest systems / BS2000 without JIT | PCIe slots |
|--------------|--------------------|---|------------|
| SU300-10A | 2 / 24 | 32 / 24 / 14,4 | 4 |
| SU300-10B | 2 / 24 | 32 / 24 / 14,4 | 4 |
| SU300-10C | 2 / 24 | 32 / 24 / 14,4 | 4 |
| SU300-10D | 2 / 24 | 32 / 24 / 14,4 | 4 |
| SU300-10E | 2 / 24 | 32 / 24 / 14,4 | 4 |
| SU300-10F | 2 / 24 | 32 / 24 / 14,4 | 4 |
| SU300-20A | 4 / 48 | 64 / 48 / 28,8 | 10 |
| SU300-20F | 4 / 48 | 64 / 48 / 28,8 | 10 |
| SU300-30F | 4 / 48 | 64 / 48 / 28,8 | 10 |
| SU300-40F | 4 / 48 | 64 / 48 / 28,8 | 10 |
| SU300-50F | 4 / 48 | 64 / 48 / 28,8 | 10 |
| SU300-60F | 4 / 48 | 64 / 48 / 28,8 | 10 |
| SU300-80F | 4 / 48 | 64 / 48 / 28,8 | 10 |
| SU300-100F | 4 / 48 | 96 / 80 / 48 | 10 |
| SU300-120F | 4 / 48 | 96 / 80 / 48 | 10 |
| SU300-160F | 4 / 48 | 96 / 80 / 48 | 10 |

Model type SU300B

| SU x86 Model | Processors / cores | Main memory (GB) basic configuration / guest systems / BS2000 without JIT | PCIe slots |
|---------------------|---------------------------|--|-------------------|
| SU300B-10A | 2 / 36 | 32 / 24 / 14,4 | 4 |
| SU300B-10B | 2 / 36 | 32 / 24 / 14,4 | 4 |
| SU300B-10C | 2 / 36 | 32 / 24 / 14,4 | 4 |
| SU300B-10D | 2 / 36 | 32 / 24 / 14,4 | 4 |
| SU300B-10E | 2 / 36 | 32 / 24 / 14,4 | 4 |
| SU300B-10F | 2 / 36 | 32 / 24 / 14,4 | 4 |
| SU300B-20A | 4 / 72 | 64 / 48 / 28,8 | 10 |
| SU300B-20F | 4 / 72 | 64 / 48 / 28,8 | 10 |
| SU300B-30F | 4 / 72 | 64 / 48 / 28,8 | 10 |
| SU300B-40F | 4 / 72 | 64 / 48 / 28,8 | 10 |
| SU300B-50F | 4 / 72 | 64 / 48 / 28,8 | 10 |
| SU300B-60F | 4 / 72 | 64 / 48 / 28,8 | 10 |
| SU300B-80F | 4 / 72 | 64 / 48 / 28,8 | 10 |
| SU300B-100F | 4 / 72 | 96 / 80 / 48 | 10 |
| SU300B-120F | 4 / 72 | 96 / 80 / 48 | 10 |
| SU300B-160F | 4 / 72 | 96 / 80 / 48 | 10 |

The required main memory depends on the customer's configuration, especially for the used applications and the number of guest systems.

Calculation base for computing the main memory needed for BS2000 guest systems:

Approximately 25% of the memory, limited by a maximum of 16 GB is occupied by the firmware of the SU x86. The remaining memory can be used for BS2000 guest systems, whereof approx. 40% is required by JIT. Thus the net memory available for BS2000 is about 45% of the total memory.

3.2 SW configuration

- BS2000 native
 - OSD/XC V11.0
 - OSD/XC V10.0 and OSD/XC V9.5 as of correction package 2017
- VM2000 V11.5
 - OSD/XC V11.0 as monitor system
 - OSD/XC V11.0 or OSD/XC V10.0 (as of correction package 2017) as guest system
- VM2000 V11.0
 - OSD/XC V11.0 or OSD/XC V10.0 (as of correction package 2017) as monitor system
 - OSD/XC V11.0, OSD/XC V10.0 or OSD/XC V9.5 (as of correction package 2017) as guest system
- Precondition for Live Migration (LM):
 - OSD/XC V11.0 or OSD/XC V10.0 (as of correction package 2017)
 - VM2000 V11.5 if using VM2000
 - openNet Server V4.0A
- Released Xen guest systems for the Server Unit x86:
 - SUSE Linux Enterprise Server 11 and 12
 - RedHat Enterprise Linux 6.5, 6.6 and 7.0
 - Windows Server 2008 R2, 2012 and 2012 R2

Linux is not released for use on X2000

The Linux appliance X2000 is a scaled-down Linux system. This is why the use of Linux on X2000 is not released for customer applications. Instead, Xen virtual machines can be configured in parallel with BS2000 on a SU x86.

3.3 Product installation

The SE Server is delivered with X2000 pre-installed on the Server Units x86. Any new correction versions of X2000 that may be required are provided as part of the hardware service contract and are installed by the service technician responsible for you.

3.4 Product use

- Swapping from SQ-Servers: it is advisable to export the configuration of the external BS2000 disks and tapes on the SQ Server and to import it on the SU x86 of the SE Server (commands `export_bs2conf` and `import_bs2conf`; support by a service technician is necessary).
- The operation of X2000 takes place via a web-based GUI called SE Manager running on the Management Unit of the SE Server. The remote operation and administration takes place via PC workplaces that can access the SE Manager on the Management Unit via a web browser.

For information about supported browsers see release notice for M2000 V6.2A SP1.

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- Additionally to the terminals integrated in SE Manager, the connection to BS2000 console, BS2000 dialog and SVP console for accounts of the roles operator and BS2000 administrator is possible via the commands bs2Console, bs2Dialog and svpConsole. These commands are intended to be executed as "remote command" in the SSH client PuTTY. See manual "FUJITSU Server BS2000 SE700 / SE500 / SE300 Administration and Operation" for additional information.
- 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.
- The following maximum configuration is supported for a SU x86 in a SE Server:
 - a maximum of 2048 LUNs on one HBA port
 - a maximum of 2048 LUNs on one RAID controller port
 - a maximum of 8192 BS2000 disks
 - a maximum of 16384 paths may be visible
 - a maximum of 256 MTC devices
 - a maximum of 8 tape devices emulated on file/CD/DVD
 - a maximum of 2048 virtual devices for Linux / Windows guest systems
 - an overall maximum of 16384 SCSI LUNs per sever unit

Hints:

- In order to avoid the maximum of 8192 BS2000 disks or 16384 visible paths respectively being exceeded, disks that are not required should be made invisible in the ETERNUS or Symmetrix system by LUN masking / LUN mapping.
- Disks and tapes should be connected to different HBA ports of the SU x86.
- Using BS2000 disks of an ETERNUS disk storage system needs the host response profile "BS2000" being activated. Additional information can be found in the document " ETERNUS DX Disk Storage Systems User's Guide – BS2000/OSD Business Server Connection" which is available under <http://sp.ts.fujitsu.com/dmsp/Publications/public/dp-eternus-dx-scg-bs2-em-en.pdf>.
- On the tabs for administering BS2000 devices the number of available licenses is displayed. Detailed license information is displayed in a tool tip.

3.5 Obsolete (and discontinued) functions

None

3.6 Incompatibilities

SW Configuration:

- OSD/XC V8.5 is no longer supported.
- VM2000 V10.0 is no longer supported.

3.7 Restrictions

- During a Live Migration, no actions via SHC-OSD must be performed in the system under migration.
- IP/IPv6 multicast registrations are not carried over to the target system during a Live Migration.

3.8 Procedure in the event of errors

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.

Creating diagnostic data

In X2000:

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> (SU300) -> Service -> Diagnostics

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

Additionally, for problems that are visible in the SE Manager, screenshots should be created.

In BS2000:

- SLED (in case of BS2000 system crash or if the BS2000 system locks up)
- for input/output problems or device error messages HERSFILE and possibly IOTRACE

4 Hardware requirements

- *1 X2000 V6.2A SP1 is released for the x86 core technology based Server Units SU300 and SU300B of the SE Server series.

5 Firmware levels

The following minimum firmware levels should be used on the Server Units x86 in BS2000 SE Servers. 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.

| | SU300 | FW-Version |
|----|--|-----------------------|
| | BIOS | Release 1.36.0 |
| | iRMC Firmware / sdr | 8.84F / 3.46 |
| *1 | SAS PRAID EP400i (Cougar4) | 4.660.00-8175 - 1.0.0 |
| | RAID-Controller SAS 6Gb LSI SAS 9286CV-8e | 3.460.15-5052 |
| | SAS-Controller LSI SAS 9200-8e | 16.00.00.00 |
| *1 | FibreChannel LPe12002 | 2.02A3 |
| *1 | FibreChannel LPe16002 | 11.2.210.13 |

| | SU300B | FW-Version |
|----|-----------------------|-----------------------|
| *1 | BIOS | 1.15.0 |
| | iRMC Firmware | 8.84F / 3.19 |
| *1 | SAS PRAID EP420i | 4.660.00-8175 - 1.0.0 |
| *1 | SAS PRAID EP420e | 4.660.00-8175 - 1.0.0 |
| *1 | PSAS CP400e FH | 11.00.00.00 |
| *1 | FibreChannel LPe12002 | 2.02A3 |
| *1 | FibreChannel LPe16002 | 11.2.210.13 |
| *1 | FibreChannel LPe31002 | 11.2.210.13 |