FUJITSU

FUJITSU Software BS2000 M2000

*1   Version 6.2A SP1
*1   April 2018

Release Notice

1   General information

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This Release Notice is a summary of the major extensions, dependencies and operating information about the delivery components of the FUJITSU software BS2000 M2000 V6.2A SP1.
M2000 is running on the Management Unit (MU) which is integrated in the rack of the FUJITSU Servers BS2000 SE700, SE500, SE300 and SE300B. It is used for administration, monitoring and operating of all components of the SE Server.

*1   **The contents correspond to the release level of April 2018.**
*1   Changes to release level October 2017 are marked with *1

The current release corresponds to the following delivery releases:
*1   M2000 V6.2A0503   Release 04.2018
*1   StorMan V8.0.1-0   Release 04.2018

The following Release Notices must also be taken into consideration for M2000
*1   V6.2A SP1:
*1   StorMan 8.0
*1   HNC V6.2A SP1 (if /390 Server Units are used)
*1   X2000 6.2A SP1 (if x86 Server Units are used)
                             ROBAR-SV V7.5 (optional)
                             openSM2 V11.0 (optional)
                             openUTM V6.4 (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

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The software M2000 V6.2A 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 V6.2A SP1 is part of the basic operating software for BS2000 SE Servers.
*1   M2000 V6.2A SP1 is either supplied pre-installed on the Management Unit (MU) or
            will be installed on already delivered Management Units by a FUJITSU service
            technician.

*1   The M2000 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), draft version January 2017
    - 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
  Security Manual
- FUJITSU Server BS2000 SE700 / SE500 / SE300
  Quick Start Guide

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 or-
dered as printed versions.

The documentation for cluster configurations is available as a 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 peri-
pheral devices.

2   Software extensions

*1   M2000 V6.2A SP1 is a further development of M2000 V6.1A and offers the follow-
            ing main extensions and enhancements compared to the previous version:

- **SE Cluster (Management Cluster)**
  Two SE servers can be connected together and configured to form a so called
  SE cluster which is also called Management Cluster. All management
  functions are available on any MU of the Management Cluster identically.

- **SU Cluster for Live Migration**
  A SU Cluster is a logical connection of two Server Units (SUs) of the same
  type within a SE Cluster or inside one SE Server.
  Within an SU Cluster Live Migration of BS2000 systems is supported. On SU
  x86 Live Migration is supported for native systems as well as for BS2000 VMs
  in VM2000 mode. On SU /390 Live Migration is only supported in VM2000
  mode for BS2000 VMs.

- **Centralized audit logging**
  The centralized audit Logging of the SE Server protocols every action that is
  performed on a Unit (MU, SU HNC) through the GUI (SE Manager and add-on
  packs) This way, an administrator can always check who has performed which
  action on which unit with what success.

- **Event logging and alarm management**
  In SE Server's event logging events are stored which have been created by
  several SW components e.g. at status change. Events can be displayed in the
  SE manager, filtered by priority, unit, component or period of time.
  Via the alarm management the user can define so called alarms: These are
  mails or SNMP traps to be sent when some events with given weight occur.

- **Global sessions for SE Manager**
  In a SE Server with a redundant MU the SE Manager session is global and
  valid on all MUs. A change from SE Manager on one MU to SE Manager on
  the other MU is possible without a second login. The global session applies
  also to the add-ons. In a Management Cluster a session is globally valid on all
  MUs of the cluster.

- **Central administration of authorizations**
  Accounts of the SE Manager are created and administrated only once on any
  MU and are valid on all MUs of the SE Server or Management Cluster.

- **Support of LDAP accounts**
  LDAP accounts which are managed by an external LDAP server can be used
  to login to the SE Manager in addition to the local accounts.
  In case of an SE cluster the LDAP configuration can be globally or server spe-
  cific.

- **BS2000 devices: Display of license information**
  On the tabs for administering BS2000 devices the number of available licens-
  es is displayed. Detailed license information is displayed in a tool tip.

- **Application Units: OVM consoles**
  In SE Manager console windows for Oracle VMs running on Application Units can be opened (analogous to the consoles for Xen VMs).

- **Uniform tables in SE Manager**
  SE Manager's tables have been given a uniform shape and behavior regarding filtering, sorting and paging.

- **BS2000 boot device for /390 on local MU disks**
  With M2000 V6.2A an internal boot disk for SU /390 is introduced (to be used as a standby emergency system or for a first installation). This disk is created on the MU as a device of type EMDISK with the WWPN "00:00:00:00:00:00:00:00".

- **Support of Primergy RX2530 M1-L as HW base for MU**
  The PRIMERGY model RX2530 M1-L is supported as a new HW base for Management Units (MU model name: "SE Server MU M2")

- **New SE Server models SE300B, SE500B and SE700B**
  With M2000 V6.2A the new SE Server generations SE300B, SE500B and SE700B are supported, equipped with one or two MU M2.
  SE300B contains a SU x86 based on a new generation of high end Intel processor based servers (SU300B) and one or two MU M2.

*1   - **Support of Primergy RX2530 M4 as HW base for AU25**
*1   The PRIMERGY modell RX2530 M4 is supported as a new HW base for
*1   Application Units of type AU25.

*1   - **Support of PRIMEQUEST PQ3800E als AU**
*1   The PRIMEQUEST model PQ3800E is supported as Application Unit of type
*1   AUQ38E. Analogous to DBU87 which is based on model PQ2800E2, the
*1   PQ3800E can be ordered as appliance installed and maintained by Fujitsu
*1   Technology Solutions running Oracle VM Server 3.4 (as AU of type
*1   DBU38E).

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 Configuration Guide -Server Connection-" which is available under
http://sp.ts.fujitsu.com/dmsp/Publications/public/dp-eternus-dx-scg-bs2-em-en.pdf.

3.2   Software 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 mode (LM on SU /390 only possible in VM2000 mode)
  - openNet Server V4.0A

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- HNC V6.2 SP1 (if /390 Server Units are used)

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- X2000 V6.2 SP1 (if x86 Server Units are used)

- Add-on Software:
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  - StorMan V8.0
  - ROBAR V7.5
  - openSM2 V11.0
  - openUTM V6.4
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  - SEHABASIS V1.0

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 web browser is required.

- Supported browsers:
    - Microsoft Internet Explorer 11
    - Microsoft Edge
    - Mozilla Firefox as of version 45 ESR

- 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:
    - 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 SEM calls are made via DNS name and not via IP address.

  Important notice:
  *1   It is not possible to administrate in parallel MUs with M2000 V6.2A SP1 and M2000 V6.1A/6.0A located in the same net domain within the same browser addressing them via their DNS name.

  Changed device configuration of a SU /390:
  If the I/O configuration has been changed in BS200 (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.

Application Units: Supported operating systems

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The following operation systems and hypervisors are supported to run on Application Units x86 based on PRIMERGY (AU20, AU25, AU47) with the exception of the newly in V6.2A SP1 supported AU25 based on RX2530-M4:
- o SUSE Linux Enterprise Server 11, 12
- o Red Hat Enterprise Linux 6, 7
- o Microsoft Windows Server 2008 R2, 2012, 2012 R2, 2016
- o VMware vSphere® ESXi 5.x , 6.0, 6.5
- o Microsoft Windows Hyper-V Server 2008 R2, 2012 R2 , 2016
- o Citrix XenServer 6.5
- o Oracle LINUX 6.6, 6.7, 7.2
- o Oracle VM Server 3.3, 3.4

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The following operating systems and hypervisors are supported to run on AU25 based on PRIMERGY model RX2530-M4:
- o SUSE Linux Enterprise Server 11 SP4, 12 SP3
- o Red Hat Enterprise Linux 6.9, 7.3, 7.4
- o Microsoft Windows Server 2012 R2, 2016
- o VMware vSphere® ESXi 6.0, 6.5
- o Microsoft Windows Hyper-V Server 2012 R2 , 2016
- o Citrix XenServer 7.1, 7.4
- o Oracle LINUX 7.3, 7.4
- o Oracle VM Server 3.4

The following hypervisor platforms are supported to run on an Application Unit of Type AU87 which is based on PRIMEQUEST model PQ2800E2:
- o VMware vSphere® ESXi 5.x, 6.0, 6.5
- o Microsoft Windows Hyper-V Server 2012 R2
- o Oracle VM Server 3.3, 3.4

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The following hypervisor platforms are supported to run on an AU of Type AUQ38E which is based on PRIMEQUEST model PQ3800E:
- o VMware vSphere® ESXi 6.5
- o Microsoft Windows Hyper-V Server 2012 R2, 2016
- o Oracle VM Server 3.4

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The PRIMEQUEST PQ3800E can also be ordered as appliance installed and maintained by Fujitsu Technology Solutions running Oracle VM Server 3.4 (as AU of type DBU38E). On an additional AU of type AU25 the Oracle VM Manager is preinstalled and integrated in the SE Manager.

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Additional operating systems and virtualization products can be qualified for Application Units on request (special release).

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Hints concerning PRIMEQUEST AUs:
- o 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.
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- o 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.

Application Units: Embedding in the SE Manager

As a prerequisite for embedding an AU in the SE Manager and in the remote ser-vice 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

See the online help of the SE Manager for further information.

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 addi-tional information see manual „FUJITSU Server BS2000 SE700 / SE500 / SE300 Operation and Administration", section "Managing user-defined management appli-cations".

VMware vSphere
In order to install 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.

Application Units: Limitations:

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- A maximum number of 7 AUs are supported per SE Server. Thereof up to 5 PRIMEQUEST models (PQ2800E2 or 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 /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 administra-tion 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.

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 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:
- 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).
  The use of PuTTY is described in the manual "FUJITSU Server BS2000 SE700 / SE500 / SE300 Administration and Operation".

Automatic merge during configuration of a SE Cluster

The configuration of a Management Cluster will be done by your service technician. When the Cluster is set up, the configuration regarding accounts, alarm management, FC networks and user-defined applications will be merged into the central cluster configuration. As a preperation phase for this, the configuration should be made unambiguous.
An instruction for this is contained in the whitepaper
"Fujitsu Server BS2000 SE700 / SE500 / SE300 Cluster Solutions for SE Server" (see Chapter 1.3)

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

SW configuration:
   o   OSD/XC V8.5 is no longer supported.
   o   VM2000 V10.0 is no longer supported.

3.6   Incompatibilities

- User management:
  When migrating to version V6.2A, the user administration is switched from local to central. The accounts are set up again automatically, but the passwords must be set again after the migration.

  Due to the central user administration on SE Servers with MU redundancy it's not possible to set up different accounts on the MUs.

- Automatic update of SEM pages:
  On some main pages, the automatic update of data in the SE Manager is no longer supported. The online help contains a list of the main pages with automatic update.

3.7   Restrictions

- Event Logging:
  Events of the components Sys-Mgmt, M2000, HNC and X2000 inform only partially about error conditions:
  - Component Sys-Mgmt:
    In addition to events due to administration activities (weight always NOTICE) the eventing for system management BS2000 VMs and Xen-VMs only reports the following error events (weight ERROR):
    The crash of a Xen VM and the crash (SETS) of a BS2000 VM or of the native BS2000.

  - Components M2000, HNC and X2000:
    The units MU, HNC and SU x86 only log the successful activation / deactivation of M2000, HNC and X2000 in the frame of the orderly startup / shutdown as an event (weighting always NOTICE). Error states on these units do not lead to the generation of an event.

  The online help contains the list of possible events.

- Audit Logging:
  - Operations of the service technician (account service) are partially not logged in the SE Manager.

- No support for Symmetrix systems with Solutions Enabler as of version 8.3 in the display functions of the SE Manager.

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, screenshots should be provided.

4   Hardware requirements

*1   M2000 V6.2A SP1 is intended to be installed on Management Units of the BS2000
            SE Servers solely.

4.1   Supported Application Units

*1   The following Application Units are supported in M2000 V6.2A SP1:

Type	HW basis
AU20	PRIMERGY RX200 S8
AU25	PRIMERGY RX2530 M1-L / M4
AU47	PRIMERGY RX4770 M1 / M2 / M3
AU87	PRIMEQUEST PQ2800E2
DBU87	PRIMEQUEST PQ2800E2
AUQ38E	PRIMEQUEST PQ3800E
DBU38E	PRIMEQUEST PQ3800E

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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 M1 (RX200-S8)	FW-Version
BIOS	R1.16
iRMC / sdr	8.86F / 3.61
SAS RAID Ctrl PRAID EP420i	2.130.403-4660
Fibre Channel LPe12002	v2.02A1

*1 (iRMC / sdr row)

SE Server MU M2 (RX2530-M1)	FW-Version
BIOS	R1.34
iRMC / sdr	8.86F / 3.12
SAS RAID Ctrl PRAID EP420i	4.660.00-8175-1.0.0
Fibre Channel LPe12002	v2.02A3

*1 (BIOS row)
*1 (iRMC / sdr row)
*1 (SAS RAID Ctrl PRAID EP420i row)
*1 (Fibre Channel LPe12002 row)