FUJITSU

FUJITSU Server BS2000

SE700 / SE500 / SE300

Quick Guide

User Guide

Valid for:

M2000 V6.0A / V6.1A
X2000 V6.0A / V6.1A
HNC V6.0A / V6.1A

Edition September 2015

Comments… Suggestions… Corrections…

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Certified documentation
according to DIN EN ISO 9001:2008

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Contents

Contents

1 Introduction

With the completely newly developed FUJITSU Server BS2000 SE Series, FUJITSU now offers a server infrastructure which consists of three server lines. Under the umbrella of this SE infrastructure, multiple application scenarios are possible in various combinations for both mainframe applications and applications of the open world. This new platform stands out on account of the unrivaled performance scalability (scale-up and scale-out), and ensures that users can manage their application workloads securely, quickly and efficiently across technological boundaries with maximum availability.

One major aim in developing the SE series was to provide a uniform management strategy which offers customers significant added value through maximum integration, and guarantees extremely cost-effective operation of their IT.

The new SE server line succeeds the tried and tested S and SQ server lines, integrating the advantages of both lines in an optimal manner. The heart of the SE series is formed by the /390-based Server Units, the x86-based Server Units, the Net Unit, and the Management Unit (MU). All components are integrated into a standard 19" rack and are supplied to customers ready to use. With its newly developed processors and appreciably higher system performance, the new generation of the SE series offers enhanced configuration options, maximum availability and, not least of all, significantly reduced power consumption.

Depending on requirements, the SE server contains all the system components needed for operation as an overall application:

– Server Unit /390 for BS2000 guest systems
– Server Unit x86 with BS2000, Linux or Windows guest systems
– Application Units x86 for operating Native or hypervisor systems (e.g. Linux, Windows, VMware, OVM, etc.)
– Shareable tape and disk periphery
– A high-speed, server-internal infrastructure to connect the components with each other and with the customer's IP and FC networks.

The SE server offers the following advantages:

– Cross-system administration with state-of-the-art, browser-based GUI (SE Manager) as a single point of operation
– Joint system monitoring of all components
– Uniform redundancy strategy
– Joint service process
– All options for consolidation through virtualization
– SE components and infrastructure are
–

SE servers consequently enable flexible and application-specific implementation which fulfills high SLAs through the use of high-end components and an end-to-end redundancy concept, and nevertheless permits cost-effective operation of the overall system with few resources thanks to its uniformity.

Intel x86-based server systems with their VMware, Linux or Windows system platforms also profit from the concepts for stable system operation tested on the mainframe:

– Selection of high-quality server components
– Redundant hardware components
– Prepared operating concepts which also include high availability
– Comprehensive tests before release
– Comprehensive service concept.

The management interface which is uniform for all SE servers, the SE Manager, permits a view of all the system components involved and, from this higher-level perspective, enables the resources to be optimized through efficient distribution of the application to the systems which are currently utilized least.

SE servers consequently permit particularly stable system operation which includes not only the mainframe platforms which have to date been known to be particularly failsafe, but also other Server Units and the infrastructure and peripherals employed by the SE server. This can be achieved with fewer resources for administration and system operation than for separate operation of different IT systems.

1.1   Objective and target groups of this manual

This Quick Guide is intended for people who operate an SE server:

● As administrator you manage the entire SE server with all its components and the operating systems which run on it. You need a good knowledge of the BS2000, Linux and Windows operating systems and of the network and peripherals.

   As administrator you can also manage the integration of the optional Application Units on which an open operating system (by default Linux) runs in Native mode or in a virtualized manner (e.g. under VMware® vSphere 5).

● For other users, roles are provided with a customized selection of functions (e.g. operator, AU administrator, etc.) to permit the assigned tasks to be performed.

This Quick Guide assumes the following:

● Customer Support provides the customer with the SE server.

● The desired BS2000 operating mode is set on each Server Unit.

● A BS2000 system is configured and fully operational.

● All necessary BS2000 devices are configured.

1.2   Summary of contents

Chapter 2 contains fundamental information which is relevant for all readers.

The chapters below describe fundamental functions which enable you to ensure the SE server is ready to operate. Detailed knowledge, as described in the "Operation and Administration" manual [5], is not required.

Detailed information on the data displayed, the dialog boxes, and operation of the SE Manager is provided in the online help of the SE Manager.

Further information is provided in related publications for the SE servers in the chapter „Related publications" auf Seite 49.

README file

For information on any functional changes or extensions to this manual, please refer to the product-specific Readme file.

In addition to the product manuals, Readme files for each product are available to you online at *http://manuals.ts.fujitsu.com*. You will also find the Readme files on the Softbook DVD.

Information under BS2000

When a Readme file exists for a product version, you will find the following file on the BS2000 system:

```
SYSRME.<product>.<version>.<lang>
```

This file contains brief information on the Readme file in English or German (<lang>=E/D). You can view this information on screen using the /SHOW-FILE command or an editor. The /SHOW-INSTALLATION-PATH INSTALLATION-UNIT=<product> command shows the user ID under which the product's files are stored.

Additional product information

Current information, version and hardware dependencies and instructions for installing and using a product version are contained in the associated Release Notice. Release Notices, in particular those relating to BS2000 OSD/XC, M2000, X2000, and HNC, are available at *http://manuals.ts.fujitsu.com*.

1.3 Notational conventions

The following notational conventions are used in this manual:

i	This symbol indicates important information and tips which you should bear in mind.
⚠	This symbol and the word CAUTION! precede warning information. In the interests of system and operating security you should always observe this information.
►	The action which you must perform is indicated by this symbol.
italics	Texts from the SE Manager (e.g. menu name, tab)
monospace	System inputs and outputs
`monospaced semibold`	Statements which are entered via the keyboard are displayed in this font.
<abc>	Variables which are replaced by values.
Key symbols	Keys are displayed as they appear on the keyboard. When uppercase letters need to be entered, the Shift key is specified, e.g. SHIFT - A for A. If two keys need to be pressed at the same time, this is indicated by a hyphen between the key symbols.

[ ]   The titles of related publications in the text are abbreviated. The complete title of each publication which is referred to by a number is listed in the Related Publications chapter after the associated number.

1.4 Names and abbreviations

Because the names are used frequently, for the sake of simplicity and clarity the following **abbreviations** are employed:

- **SE server** for the FUJITSU Server BS2000 SE Series (Server Units /390 and x86) with the following models:

    - **SE300** for FUJITSU Server BS2000 SE300 (with SU300, optionally AUs)

    - **SE500** for FUJITSU Server BS2000 SE500 (with SU500, optionally SU300 and AUs)

    - **SE700** for FUJITSU Server BS2000 SE700 (with SU700, optionally SU300 and AUs)

- **SU** for the Server Unit irrespective of the unit type
  A distinction is made between SUs depending on the unit type:

    - **SU /390** for Server Unit /390 (type of Server Unit with one or more /390 processors)

    - **SU x86** for Server Unit x86 (type of Server Unit with one or more x86 processors)

    A distinction is made between the following SUs according to models:

    - **SU300** for the Server Unit of the unit type SU x86 in SE300, optionally in SE500 and SE700

    - **SU500** for the Server Unit of the unit type SU /390 in SE500

    - **SU700** for the Server Unit of the unit type SU /390 in SE700

- **MU** for the Management Unit. The MU permits central, user-friendly and cross-system management on the SE server.

- **AU** for the Application Unit (with x86-based hardware)

- **HNC** (High Speed Network Connect) connects the SU /390 with the LAN and as a net client also permits access to the Net-Storage. HNC designates both Linux-based basic software and the hardware unit itself on which this basic software executes.

- **BS2000 server** as the generic term for all SE servers and the existing S and SQ servers. BS2000 servers are operated with the relevant BS2000 operating system.

- **BS2000** for the BS2000 OSD/BC operating system in compound nouns, e.g. BS2000 system.

2 Architecture of the SE servers and networks

2.1 Hardware

A FUJITSU Server BS2000 of the SE Series (SE server for short) consists of the following components:

- Management Unit (MU) with SE Manager
  One or two MUs with redundant SKP functionality can be installed.

- Server Units
  - A /390-based Server Unit (SU /390) enables operation of BS2000 (Native BS2000 or VM2000).
  - An x86-based Server Unit (SU x86) enables operation of BS2000 (Native BS2000 or VM2000). XenVM operation with Linux or Windows guest systems is also possible as an option.

- Application Units (AUs)
  AUs can be operated on the SE server. An AU permits operation of applications under Linux, Windows, VMware or other hypervisors.

- Net Unit
  For the SU /390 the Net Unit also contains HNCs.

- Rack console and KVM switch

- Peripherals (storage)

- Optional hardware components:
  ETERNUS JX40 (for SU x86, AU), ETERNUS LT40 S2 (for SU x86), FC switches

2.2 Architecture of SE servers

SE Server

Redundant Management Unit (MU) with SE Manager

Management Unit (MU) with SE Manager

| Server Unit /390 (SU /390) | Server Unit x86 (SU x86) | Application Unit (AU) | Peripherals |

Server Unit /390 (SU /390): BS2000, BS2000, **VM2000**

Server Unit x86 (SU x86): BS2000, Windows, Linux, **VM2000 Xen**

Application Unit (AU): Windows, Linux, **VMware, Citrix, Hyper-V, OVM ...**

Peripherals: Disk, Tape, Further optional peripherals

Net Unit

Redundant Net Unit
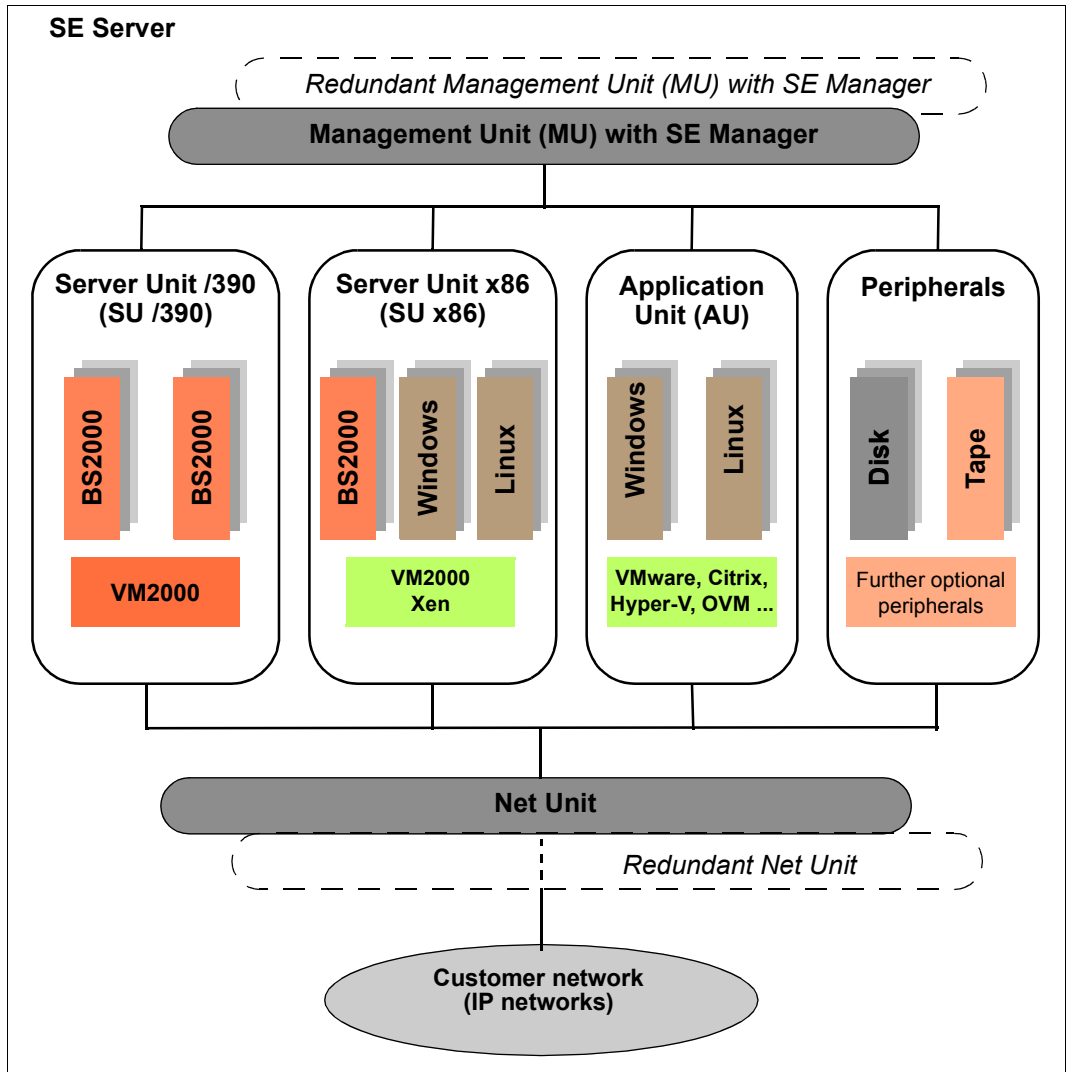
Customer network (IP networks)

Bild 1: Architecture of SE servers

The SE Manager of each MU enables you to operate and manage all components of the SE server centrally.

The Net Unit offers maximum performance and security for internal communication in an SE server and for a connection to customer networks (IP networks).

2.3 Networks

The Net Unit implements the connection of the units to the networks of the SE server and to customer networks. In addition, private networks are available for internal communication in the SE server.

The following logical networks are supported:

– Data Network Public

– Data Network Public (DANPU): when required, up to 8 additive networks DANPU<n> (where <n>= 01..08) can be configured for connecting applications to the public customer network.

– Data Network Private

– Data Network Private (DANPR): when required, up to 99 networks DANPR<n> (where <n>= 01..99) can be configured for internal private customer networks for SE servers.

– Public management networks

– Management Administration Network Public (MANPU) for administrative access to the MU, BS2000 systems and AUs

– Management Optional Network Public (MONPU): the additive administration network can be configured when required (e.g. when AIS Connect is not to be operated via MANPU but over a separate network).

– Management Network Private

– Management Control Network Local (MCNLO) for the local SE server communication

– Management Control Network Private (MCNPR) for SE server communication

– Management Optional Network Private (MONPR): when required, up to 8 additive networks MONPR<n> (where <n>= 01..08) can be configured for SE server communication.

– Management SVP Network Private (MSNPR) enables SVP communication to the SU /390 on SE700/SE500
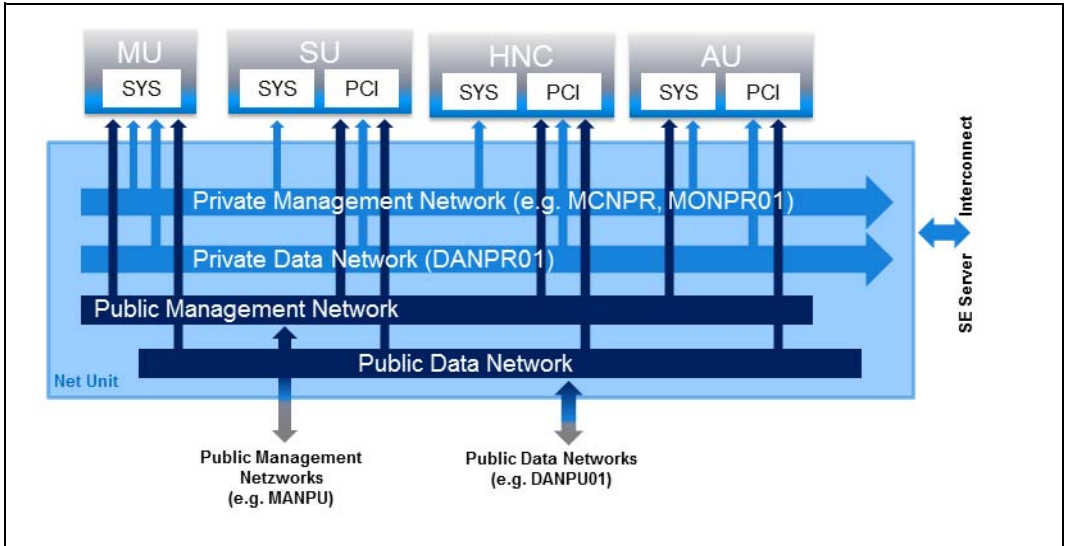
Bild 2: Block diagram of the Net Unit

The networks are protected, i.e. the use of different networks means that components of one network cannot influence the components of another network.

The services for the various networks DANPU<xx>, MANPU, MONPU, DANPR<xx> and MONPR<xx> can be further restricted at Net Unit level by means of the ACL (Access Control List).

The base operating system of the HNC and SU x86 can only be reached over the internal networks and are thus protected from the customer networks.

In addition to the connections of the units to the switches of the Net Unit (for use by the guest systems), direct cabling from the units to the customer network can also be used.

2.4 Operating the SE Manager

2.4.1 Calling the SE Manager

► Enter the address of the SE server in the address bar of the browser.

i If the browser now displays a warning about the security certificate, click *Continue to this website*.

In M2000 V6.1 and higher the administrator can grant access to the MU (applies for the SE Manager and CLI) explicitly only for specific IP addresses or networks. If your PC is not defined in the access list, access is denied.

► Press the Enter key.

The connection is set up. The login window is opened. The login window provides access to the web application. It has a different format from the other windows:

The login window is also displayed to permit you to log in again if you have logged out or the session was terminated owing to inactivity.

2.4.1.1   Logging in

Access to the SE Manager is protected. You must log in with your account and the associated password.
Exception: You can call the SE Manager help even if you are not logged in.

► Enter your account in the login window.

► Enter your password.

> **i** When the SE server is supplied, the default account *admin* exists for the administrator. The password set for this account is *admin*.

> **Change the password immediately after you have logged in for the first time.**

> As administrator you can create further accounts for the roles administrator, BS2000 administrator (in M2000 V6.1A or higher), operator, XenVM administrator, and AU administrator (in M2000 V6.1A or higher).
> The BS2000 administrator, operator, XenVM administrator, and AU administrator roles have restricted rights which are tailored to their different task areas. For an operator account, you can extend the rights for granting individual authorizations (e.g. access to particular BS2000 systems, SVP access).
> Details of managing the users, passwords, and the individual authorizations are provided in the "Operation and Administration" manual [5].

► Click *Log in*.

The *Dashboard* tab opens as the welcome page. It provides a quick overview of the systems, units, IP networks, FC networks, storage, and users of the SE server. The information displayed is described in the SE Manager help.
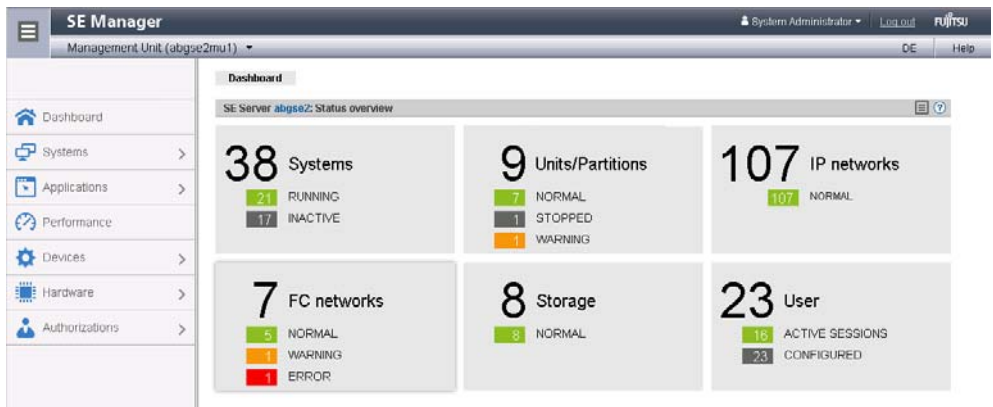
Information on the topic of "session management" is provided in the "Operation and Administration" manual [5].

2.4.1.2 Logging out

Logging out explicitly

▶ In the header area of the SE Manager main window click *Log out* to terminate the session. See section "Main window" on page 18.

The login window opens.

Logging out because of a session timeout

If you do not log out explicitly, the session terminates if there is no activity for 20 minutes, i.e. if the SE Manager registers no action in this time.

> **i** When you want to start an action in the SE Manager after a session has timed out, first the login window window appears, and you must log in again. Only after you have done this will the action be executed.

Each user can change this setting for himself/herself in the range from 5 through 60 minutes or exclude it:

▶ Click in the login information in the header area. A list containing the menu item *Individual settings* opens.

▶ Click *Individual settings*. The *Change update cycle and session timeout* dialog box opens in which you can enable/disable the session timeout and set the timeout in the range from 5 to 60 minutes.

The individual setting is stored in the SE Manager on a user-specific basis. Information on the topic of "individual settings" is provided in the "Operation and Administration" manual [5].

2.4.2 Working with the SE Manager

The section below describes the most important terms of the SE Manager interface and working with the SE Manager. Detailed information on operating the SE Manager is provided in the "Operation and Administration" manual [5].

Various window types are used in the SE Manager:

● **Login window**: a window in which you log in using your account and password. See section "Logging in" on page 16.

- **Main window**: a window which is always visible between logging in and logging out on the SE Manager; it contains the navigation elements and the workarea in which information is output and actions are initiated.
  See section "Main window" on page 18.

- **Terminal window**: Window which is opened from the SE Manager and enables access to the BS2000 console, BS2000 dialog, SVP console or the MU shell. A terminal window remains opened irrespective of the SE Manager session.
  See section "Terminal window" on page 21.

- **Dialog/Wizard**: a window which opens when an action starts and closes again after the action has been completed. It is also used to output error messages concerning the action being performed. A wizard is a utility which takes you through a task in a number of steps (dialog boxes).

- **Online help window**: a window which opens when the online help is called.
  See section "Calling the online help" on page 23.

2.4.2.1   Main window

The main window of the SE Manager opens as soon as you have logged in on the SE Manager. The next two figures provide an example to name the areas in the main window and the principle controls.

SE Manager: areas in the main window
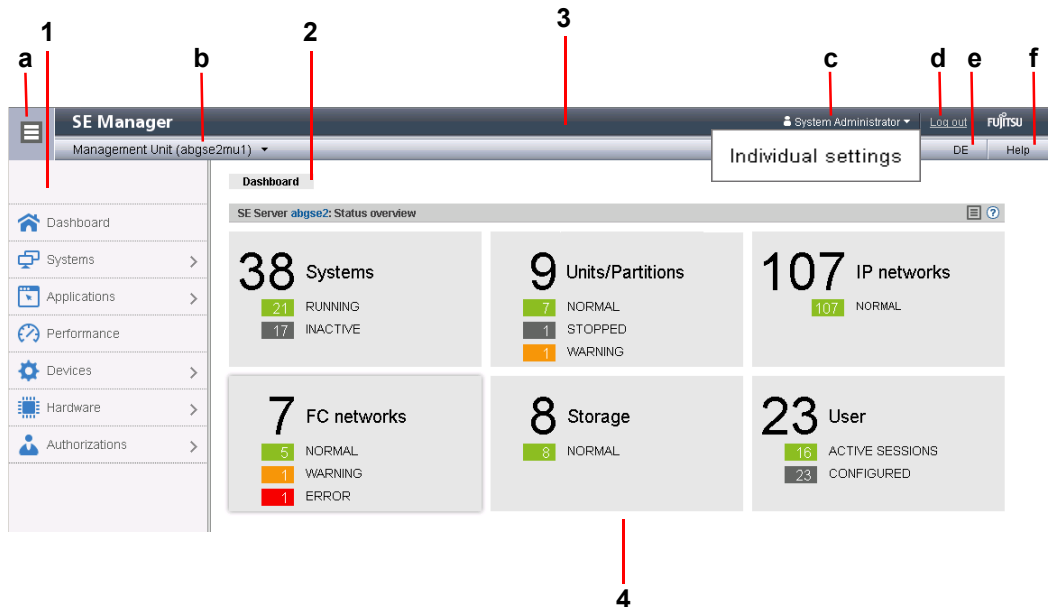
1: Tree structure

Main menus for selecting objects which are displayed in the working area

2: Tabs

Tabs for selecting objects which are displayed in the working area.

The *update* icon (rotating wheel) is displayed on the right-hand edge while the data is being updated automatically.

3: Header area

Contains general information and settings for the SE Manager:

a   Click the icon to hide or display the tree structure again.

b   *Management Unit (<unit name>) [location]* provides information about the Management Unit via which you are currently operating the SE Manager.

<unit name> is the name of the Management Unit.

If a location is configured with SYSLOCATION, *<location>* displays the entry.

If the field ends with the arrow icon, redundant Management Units are available. Click the field to obtain a list with links to the available Management Units.

c   Displays the login information: user account or, if defined, the person-related name of the user account.
Click the login information and *Individual settings* in the following pop-up. In the subsequent dialog box you can set the cycle of the automatic update and the session timeout for your user account.
A tool tip for login information displays the values currently set.

d   Click *Logout* to end the session.

e   Clicking the language option displayed (*DE* or *EN*) switches the web interface to the language selected.

f   Click *Help* to open the SE Manager help in a new tab.

4: Working area

Displays data and enables dialog boxes and wizards to be opened to execute actions.

SE Manager: elements of the main window
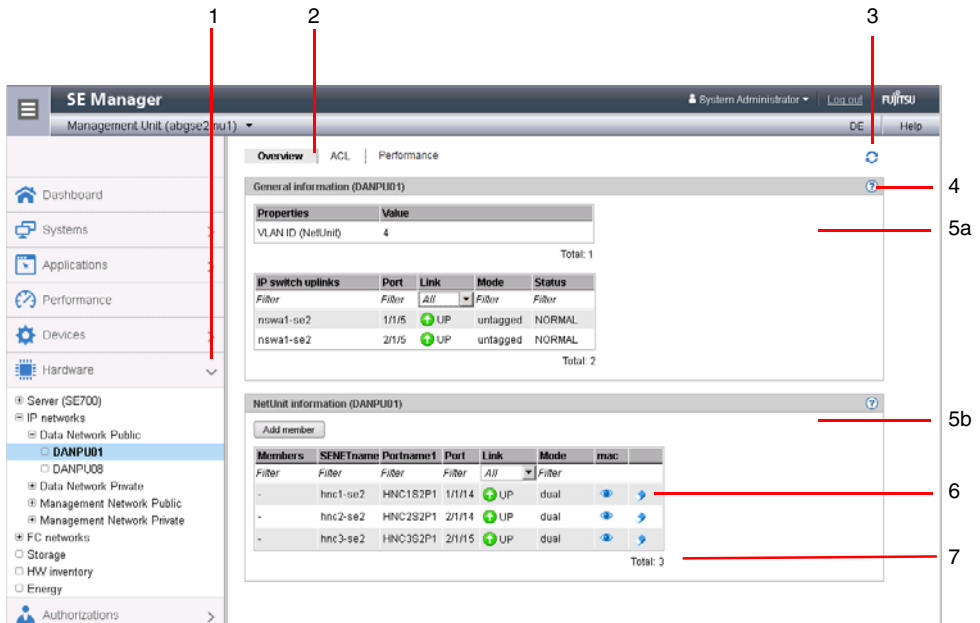
1   Active main menu of the tree structure

2   Active tab

3   *Update* icon to manually update the displayed information. This icon is displayed when the automatic update is suspended. If the automatic update is active, the rotating wheel is briefly displayed as an update icon in the rhythm of the update.

4   *Help* icon for calling the SE Manager help on a context-sensitive basis (see page 23)

5   The information is subdivided into groups (in the example above, 5a and 5b). Each group
a, b   contains one or more tables with properties of the objects displayed.

6   Icons for triggering actions

7   Number of entries in the table *Total: <n>* or *Total <objects>: <n>*

2.4.2.2   Terminal window

BS2000 console window, BS2000 dialog box, SVP console window, and shell terminal (CLI) are opened in a separate terminal window after they are called in the SE Manager. Subsequently the terminal window remains open irrespective of the SE Manager's session.

> **i** Note that for further entries you may first need to click in the window to activate it.

The terminal window and its embedding in the SE Manager have the following properties, among others:

● No further login is required when the terminal window is called.

● The size of the window can be changed flexibly.

● A virtual keyboard (matching the functionality):
  The virtual keyboard enables all required characters and function keys to be entered irrespective of the real keyboard's layout.

● Copy & paste functions:

  – Copy/paste with the context menu in the terminal window

  – Cross-window copy/paste (terminal window ↔ Windows) under Windows

    →Windows:
    Copying with *COPY* (context menu) or *CTRL+C* in the terminal window.
    Pasting with *Paste* (context menu) or *CTRL+V* in Windows.

    →Terminal window:
    Copying with *Copy* (context menu) or *CTRL+C* in Windows.
    Pasting with *PASTE* (context menu) in the terminal window or via the menu bar of Firefox (**no** *CTRL+V* is possible in the terminal window!)

● In the event of a loss of connection, the *Connect* button appears in the middle of the terminal window. When you click this button, the terminal window session is continued and you can once again make entries. A prerequisite for this is that the SE Manager session in which the terminal window was opened is still active.

> **i** If you want more than one terminal window to remain open in parallel (e.g. with BS2000 console windows), this must also be supported on the client side by the number of possible connections to a server. You must configure your browser appropriately to permit this (see "SE Manager interface" in the "Operation and Administration" manual [5]).

2.4.2.3   Calling an object or function in the SE Manager

Proceed as follows to call a function area in the SE Manager:

▶   Select an object or function in the primary navigation by clicking it.

A tab opens in the working area which enables you to manage or operate the object or function Some functions are distributed over more than one tab, and these are displayed at the top of the working area.

In the working area the content which belongs to the function area of the first tab is displayed in one or more tables. Buttons or icons may also be available to execute actions.

▶   If required, select another tab by clicking it.
Alternatively, you can also switch directly between the associated tabs in the tree structure using an object's or function's tool tip.

The content of the working area changes if you select another tab.

The selected menu item and the selected tab are highlighted by being displayed in bold black print against a blue or gray background.

Example

Hardware → Server → <unit name>(MU) → Service, *Update* tab

> **i**   The objects and functions which are displayed in the tree structure depend on the server component and the configuration.

2.4.2.4   Navigation

The navigation in the SE Manager is distributed over the main menus *Dashboard*, *Systems*, *Application*, *Performance*, *Devices*, *Hardware*, and *Authorizations*. With the exception of *Dashboard* and *Performance*, all the main menus can be expanded.

When you click a main menu, the tree structure beneath it expands. Below this you see objects and functions as links. Navigation using the main menus is also referred to as the primary navigation.

When you click a link, a tab opens in the working area which enables you to manage or operate the object or function Some functions are distributed over more than one tab, and these are displayed at the top of the working area. These tabs are also referred to as secondary navigation.

A main menu expands in the following cases:

● When you click the main menu again.

● When you click a link in another main menu.

2.4.2.5 Authorizations

The scope and thus the visibility of the functions depends on the role which is assigned to your account.

New links are created in the tree structure for the following functions:

● *Systems* main menu:

– when creating a BS2000 VM

– when creating a XenVM

– when creating a virtual machine on an Application Unit

● *IP networks* main menu:

when creating a new network

In the tree structure an operator with configured individual rights sees only the BS2000 VMs which are permitted for him/her. A XenVM administrator sees only the functions for managing the XenVMs.

The BS2000 administrator and AU administrator roles are supported in M2000 V6.1 and higher. A BS2000 administrator sees the functions which are needed to operate BS2000 systems in the tree structure and also has the BS2000-related administrator authorizations.

An AU administrator sees the functions which are needed to operate the systems on AUs in the tree structure and also has the AU-related administrator authorizations.

Overviews of the role-specific tasks and functions are provided in the "Operation and Administration" manual [5] and in the online help.

2.4.2.6 Calling the online help

The SE Manager incorporates an integrated, context-sensitive online help, the SE Manager help. You can call the SE Manager help in two ways:

● Clicking *Help* in the header area of the SE Manager calls the SE Manager help's welcome page in a new tab in the browser window.

● Clicking the *Help* icon (question mark) in a selected group displays the information on the functionality of the group in a new tab in the browser window.

Information on working with the SE Manager help is provided in the "Operation and Administration" manual [5].

3 Power-on, starting up BS2000, shutdown

This chapter describes a simple way to power on the Management Unit, to power on other units of the SE server with the SE Manager, and to start up the BS2000 operating system. Descriptions of how to shut down BS2000 and to power off the units of the SE server are also provided.

3.1 Powering on the Management Unit remotely

This section describes how you log in remotely on the iRMC (**i**ntegrated **R**emote **M**anagement **C**ontroller) of the Management Unit and power on the MU via its user interface.

► Open a browser window on your administration PC.

► Enter the IP address of the iRMC of the MU.

> **i** If the browser now displays a warning about the security certificate, click *Continue to this website*.

The browser displays the iRMC's graphical user interface with a note in the work area that it is necessary to log in on the iRMC:
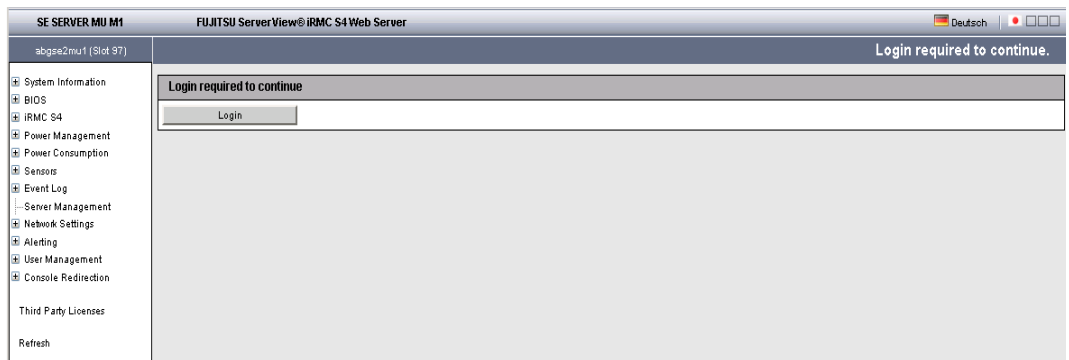
► Click *Login*.

The login window opens in the work area:

► Enter *admin* (or another administrator account) as the iRMC account.

► Enter the current password of the specified account.

> ℹ️ When the SE server is supplied, the default account *admin* is configured for the administrator on the iRMC of the MU. *admin* is set as this account's password.
>
> **Change the password immediately after you have logged in for the first time.**

► Click *OK*.

After a successful login the browser window displays the *System Overview* menu item of the iRMC's graphical user interface. The *System Status* group shows that the MU is shut down.
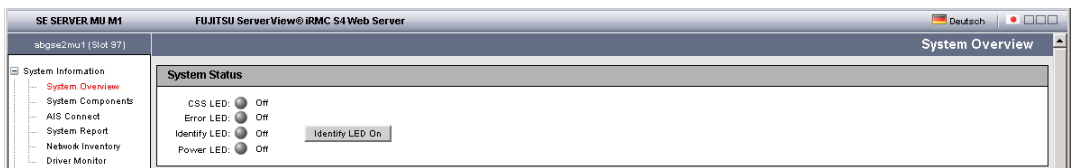
► In the navigation select *Console Redirection → Video Redirection*.

The *Advanced Video Redirection* tab is displayed.
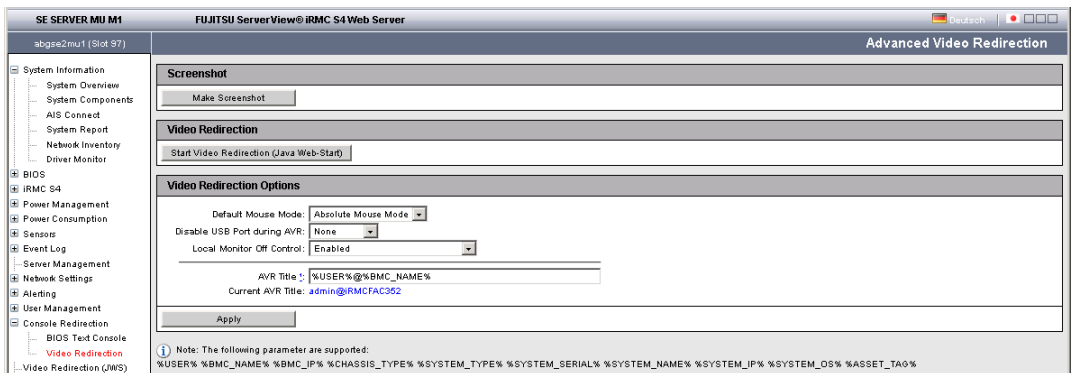
► In the *Video Redirection* content area click *Start Video Redirection (Java Web Start)*.

> **i** If the browser now displays a warning about the security certificate, click *Continue to this website*.

A window opens to display the console. As the MU has not yet been powered on, the console window is empty.

► Switch to the iRMC window.

► In the navigation select *Power Management → Power ON/OFF*.

► In the *Power Control* content area enable the *Power On option*.

► Click *Apply*.

► Answer the question *Do you really want the server to 'Power On'?* by clicking *Confirm*.

The MU powers itself on and starts up. Some minutes will pass before it is possible to log in on the SE Manager. You can see in the console window when it is possible:

► Switch to the console window.

The current progress of the startup operation is displayed here.
The appearance of a login request indicates that the system has started up.

► Close the console and log out from the iRMC Web GUI.

You can now log in on the SE Manager in order to power on the Server Units and other units (see Abschnitt „Powering on Server Units and other units" auf Seite 29).

3.2 Powering on the Management Unit via the local console

This section describes how you power on the Management Unit at the local console. You are on the server rack of the SE server.

► Open the server rack.

► Pull out the draw with the local console and flap up the screen.

► Press the Power On key on the MU.

> **i** By default the local console is attached to the MU. If the connection is attached to the Server Unit, switch over to the MU using the console switch menu (press the HOT KEY to call it).

The MU powers itself on and starts up. The startup messages are output on the local console.
As soon as the system is ready, you receive the login request.

► Enter *admin* (or another administrator account) as the account.

► Enter *admin* as the password.
admin is the password of the *admin* account when the system is supplied. If it has already been changed (or you are using a different password), you must enter the current password (see also Abschnitt „Logging in" auf Seite 16).

► Click *Log in*.

After a successful login a Gnome Desktop is loaded.

► Click *Computer* in the task bar (bottom left).

The Applications menu drops down.

► Double-click the Firefox icon to open the browser.

► Enter the IP address of the MU in the browser address bar (or alternatively *localhost*) to call the SE Manager of the MU.

You can now log in on the SE Manager in order to power on the Server Units and other units (see Abschnitt „Powering on Server Units and other units" auf Seite 29).
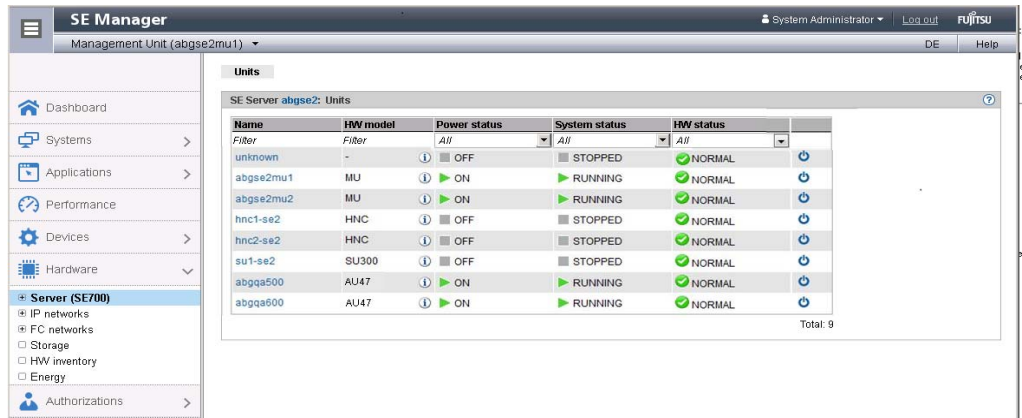
3.3 Powering on Server Units and other units

Call the SE Manager and log in, see Abschnitt „Calling the SE Manager" auf Seite 15.

You manage the units of the SE server using the menu *Hardware → Server (SE<model>)*. When you expand this menu, all the existing units are listed.

▶ Select *Hardware* and click *Server (SE<model>)*.
The example shows an SE700.

The *Units* tab displays information on Server Units, Management Units (also redundant MUs), HNCs (only for models with SU /390) and Application Units of the SE server.

Depending on the status, you use the *Units* tab to power the required units on or off or reboot them.

Switching the Server Unit on

Requirement

The unit is powered off (power status OFF).

Procedure

▶ Click the *Power on* icon by the required Server Unit and confirm the action with *Execute* in the subsequent dialog box.

The powered-off unit is powered on. As soon as the *Power status* of the unit displays the value *On*, you can start up BS2000 in accordance with the hardware.

| i | After a Server Unit has been powered on, depending on the operating mode set the Native BS2000 system or the VMs are started up if an automatic startup (auto IPL) has been configured for this purpose, see the "Operation and Administration" manual [5]. |

Powering on further units

For BS2000 operation on an SU /390m the following units should also be powered on:

● In the case of MU redundancy the second MU should also be powered on. Only in this way will it remain possible to continue operating the SVP of the SU /390 if the first MU crashes. The SE Manager on the second MU will also remain available.

● To enable the BS2000 systems to communicate over the IP network and ensure access to Net-Storage is possible, the HNC must be powered on. Redundant existing HNCs should also be powered on.

3.4 Starting up BS2000 (SU /390)

A Server Unit /390 is operated via the SVP (Service Processor) after it has been powered on.

SVP functions are operated under menu guidance on the SVP console using SVP frames.

| **i** | Some important SVP functions, for instance for IPL or IORSF, are also available directly on the SE Manager or can alternatively be called in the KVP menu of the BS2000 console, see the "Operation and Administration" manual [5]. |
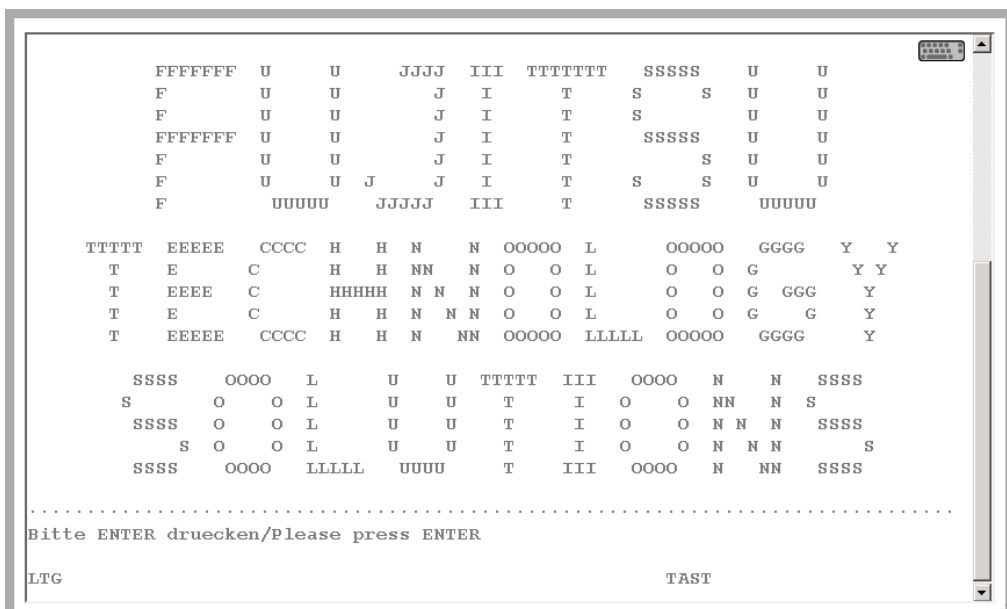
The SVP console is accessed via the SE Manager:

▶ Select *Systems → <unit>(SU</390>), BS2000 operation mode* tab.

▶ In the *SVP console* group click *Open*.

| **i** | If the browser now displays a warning about the security certificate, click *Continue to this website*. |

The SVP console window opens.

```
              FFFFFFF  U     U     JJJJ  III  TTTTTTT   SSSSS    U     U
              F        U     U        J   I      T      S    S   U     U
              F        U     U        J   I      T      S        U     U
              FFFFFFF  U     U        J   I      T       SSSSS   U     U
              F        U     U        J   I      T           S   U     U
              F        U     U  J     J   I      T      S    S   U     U
              F         UUUUU    JJJJJ   III     T       SSSSS    UUUUU

        TTTTT  EEEEE   CCCC  H   H  N    N  OOOOO  L       OOOOO   GGGG   Y   Y
          T    E       C     H   H  NN   N  O   O  L       O   O  G          Y Y
          T    EEEE    C     HHHHH  N N  N  O   O  L       O   O  G  GGG     Y
          T    E       C     H   H  N  N N  O   O  L       O   O  G    G     Y
          T    EEEEE   CCCC  H   H  N   NN  OOOOO  LLLLL   OOOOO   GGGG      Y

          SSSS    OOOO   L      U   U  TTTTT  III   OOOO   N    N   SSSS
         S       O    O  L      U   U    T     I   O    O  NN   N  S
          SSSS   O    O  L      U   U    T     I   O    O  N N  N   SSSS
              S  O    O  L      U   U    T     I   O    O  N  N N       S
          SSSS    OOOO   LLLLL  UUUU     T    III   OOOO   N   NN   SSSS

..............................................................................
Bitte ENTER druecken/Please press ENTER

LTG                                                   TAST
```

► Press the Enter key. The MODE SELECTION FRAME appears.

> **i** If the SVP has already been worked with, the last frame used will appear. You reach the MODE SELECTION FRAME by entering `FR ML` in the entry line.

```
             ----- MODE SELECTION FRAME -----          E90L01G
FUNCTION=>

- EXECUTION -            - SELECTION -           CPU SELECT=>
                                                 - 0 1 2 3 4      -
*1 CPU STOP             *LD PROGRAM LOAD         -                -
                       *ST STATUS DISPLAY
*2 INTERRUPT           *MA MANUAL OPERATION      STOP/START MODE=>
                       *AD ALTER/DISPLAY
*3 TOD ENABLE          *ME MESSAGE                *1 ALL CPU
                       *CH CH/SUBCH STATUS        >2 TARGET CPU
*4 SYSTEM RESET        *AU AUXILIARY
                       *MF MSF
*5 SYSTEM RESET CLEAR  *PA PERFORMANCE ANALYZER

*6 STORE STATUS

*7 RESTART



            CL-0       CPU-0 IOP-0        RUN


 RA                                            ACTIVE
```

You can operate the SVP console in the familiar manner using the keyboard. A virtual keyboard is also available to you for making entries on the SVP console.
(Click the keyboard icon at the top right to open the virtual keyboard. Clicking the icon again closes the keyboard.)

Enter the alphanumeric characters shown in the frame in the input fields marked by an arrow (=>).

A detailed description of how to operate the SVP is provided in the "Server Unit /390" Operating Manual [2].

▶ To load BS2000, enter FUNCTION ==> 1d and press the Enter key. The PROGRAM
LOAD FRAME: DETAIL-1 frame will appear.

```
        ----- PROGRAM LOAD FRAME: DETAIL-1 -----          E90L01G      [====]

-LOAD FUNCTION-           -IPL DEVICE-
   ==> 3                    ==> 2
   *1 START AUTO             *1 PRESET GROUP -----------------+
   *2 START FAST            >*2 CURRENT GROUP --------+       |
   *3 START DIALOG           *3 UNIT ADDRESS -+       +       +
   *4 START                               5040     5040     5420
   *5 SYSTEM DUMP                                   XXXX     XXXX
   *6 LOAD CLEAR -----+                             XXXX     XXXX
   *7 LOAD NON CLEAR -+                             XXXX     XXXX
                      |
                      +MT CONTROL-      --- DETAIL-2 STATUS ---
   PARMS=> 1            ==> 1             VM  MODE : AVM/EX
                       >*1 NL             EXA MODE : ENABLE
                        *2 SL             IPL EXEC : ENABLE
                        *3 NL-REWIND
                        *4 SL-REWIND      *ENTER  EXECUTE
                                          *PF3    GO TO BASIC FRAME
                                          *PF9    GO TO DETAIL-2

            CL-0       CPU-0 IOP-0        RUN


 RA                                                    ACTIVE
```

You can start execution of IPL with the entries in this frame.

The frame shows, among other things, the (current and preset) load device (also called
IPL or boot load device) of BS2000. As the Server Unit was rebooted, the IPL load
device from the auto IPL configuration is set. This can differ from the IPL load device of
the last IPL. If necessary, select a different load device under IPL-DEVICE.

> **i** Initial startup from the IPL load device requires a DIALOG startup. LOAD
> FUNCTION ==> 3 must be selected for this purpose.

Take note of the setting for PARMS ==>. This depends on the BS2000 operating mode
set. In VM2000 mode, PARMS ==> 1 must be set.
In Native BS2000 mode, a blank must be entered there.

▶ In VM2000 mode, switch to the PROGRAM LOAD FRAME: DETAIL-2 if necessary
using [PF9] in order to check the settings for loading the VM2000 firmware.

In VM2000 mode, VM MODE ==> 2 must be set there.

▶ For LOAD FUNCTION ==> select one of the functions LOAD or START and press the Enter
key.

► Please monitor the further procedure on the BS2000 console. Take note of the console messages and answer the question messages.

As a large number of messages are output one after the other, question messages can also quickly "disappear". The /SHOW-PENDING-MSG (or /STATUS MSG) command enables you to have all the open question messages displayed again.

As soon as the message NSI0000 displays "System ready", startup of BS2000 has already been largely completed. You can continue to observe the current BS2000 session on the console and, when necessary, react to system messages (e.g. reply to a mount message). For information on console messages which are issued by M2000/X2000, see Abschnitt „Messages on the BS2000 console" auf Seite 42.

For more extensive administration tasks in BS2000, you must log in on BS2000, see Abschnitt „Opening and terminating BS2000 dialog" auf Seite 38.

Information on working with the SE Manager in Native BS2000 and VM2000 modes is provided in the "Operation and Administration" manual [5].

3.5 Starting up BS2000 (SU x86)

BS2000 is started up on a Server Unit x86 in the KVP menu of the BS2000 console.

| i | Some important SVP functions, for instance for IPL, are also available directly on the SE Manager, see the "Operation and Administration" manual [5]. |

► Depending on the SU x86's operating mode, select the following on the SE Manager:

● In BS2000 Native mode: *Systems→ <unit>(SU<x86>) → BS2000 → MONITOR, Operation* tab

● In VM2000 mode: *Systems→ <unit>(SU<x86>) → Virtual machines → BS2000 → MONITOR, Operation* tab

Alternatively, select *Systems→ <unit>(SU<x86>), Overview* tab When you click on the name of the BS2000 system, the SE Manager switches to the *Operation* tab of the BS2000 system.

► In the *Console and dialog* group, click *Open* on the *BS2000 console* function.

| i | The console mnemonic must be configured in the BS2000/OSD/BC parameter file; in the default case, the console mnemonics *C0* and *C1* are defined. |

If the browser now displays a warning about the security certificate, click *Continue to this website*.

A BS2000 console window opens. The console is loaded. As BS2000 is not yet active, no console messages can yet be seen.

► Press the function key [F2] on your keyboard.

Alternative:
Click the function key [F2] on the virtual keyboard. (Click the keyboard icon at the top right to open the virtual keyboard. Clicking the icon again closes the keyboard.)

The KVP menu below is then displayed.

```
Main KVP Function Menu
========================================================================
0 - Exit
1 - Permit input (on)
2 - Inhibit input (off)
3 - Change password
4 - View last messages
5 - Show logging files
6 - SVP commands
7 - Programmable function keys
8 - Help
========================================================================
Please enter value:
```

► Click next to *Please enter value:* and enter *6*.

The menu with the SVP commands is then displayed:

```
SVP commands
========================================================================
0 - Back to main menu

1 - Start BS2000
2 - Start BS2000 dump IPL
3 - Dump IOH memory
4 - Report actual default parameters for IPL


========================================================================
Please enter value:
```

► Enter *1*.

The menu containing the IPL functions for starting BS2000 is then displayed:

```
Start BS2000
========================================================================

0 - Back to main menu
1 - Execute with current parameters
2 - Execute with preset parameters
3 - Execute with current parameters and save into preset parameters

Change params:                      current             preset parameters
a - IPL load device:                9908                9908
b - Consol device:                  Z0                  Z0
c - Startup mode [a|d|f]:           a                   f
d - BS2000 systemname:              ABGAFR01            ABGAFR01
e - Clear BS2000 memory [y|n]:      n                   n
========================================================================
Please enter value:
```

The menu shows, among other things, the (current and preset) load device (also called IPL or boot load device) of BS2000. As the Server Unit was rebooted, the IPL load device from the auto IPL configuration is set. This can differ from the IPL load device of the last IPL. If necessary, use menu item *a* to select a different IPL load device.

> **i** Initial startup from the IPL load device requires a DIALOG startup. For this purpose the value *d* must be set for the IPL parameter *Startup mode*. If necessary, select this value using menu item *c*.

► Enter *1*.

The settings are saved and IPL starts. The KVP is closed and the current console messages are displayed.

► Take note of the console messages and answer the question messages.

As a large number of messages are output one after the other, question messages can also quickly "disappear". The /SHOW-PENDING-MSG (or /STATUS MSG) command enables you to have all the open question messages displayed again.

As soon as the message NSI0000 displays "System ready", startup of BS2000 has already been largely completed. You can continue to observe the current BS2000 session on the console and, when necessary, react to system messages (e.g. reply to a mount message). For information on console messages which are issued by M2000/X2000, see Abschnitt „Messages on the BS2000 console" auf Seite 42.

The F3 and F4 keys enable you to scroll backward and forward in the history of the console inputs. Pressing Ctrl + d or entering *::c* terminates the console.

For more extensive administration tasks in BS2000, you must log in on BS2000, see Abschnitt „Opening and terminating BS2000 dialog" auf Seite 38.

Information on working with the SE Manager in Native BS2000 and VM2000 modes is provided in the "Operation and Administration" manual [5].

3.6 Opening and terminating BS2000 dialog

You perform administration tasks in the BS2000 system in a dialog task. To start a dialog task you require a dialog window in which you can log into the BS2000 system. You can log in on the BS2000 system as soon as BS2000's data communication system has started.

► Iconize the opened console window and switch once more to the main window of the SE Manager.

That is where the *Operation* tab of the BS2000 system which was previously started was most recently opened (take note of „Logging out because of a session timeout" auf Seite 17).

► In the *Console and dialog* group, click *Open* in the *BS2000 dialog* function.

A BS2000 dialog window opens.

```
.........................................
CN04 CONNECTED WITH MANL01$DIALOG;IND=C'::'

%  JMS0150 INSTALLATION '390SU-  700-20', BS2000 VERSION 'V190', HOST
'D020ZE01': PLEASE ENTER '/SET-LOGON-PARAMETERS' OR '?'
/set-logon-parameters ....
LTG                                                         TAST
```

After you have logged in successfully using the /SET-LOGON-PARAMETERS command, you can enter commands and perform your tasks in BS2000.
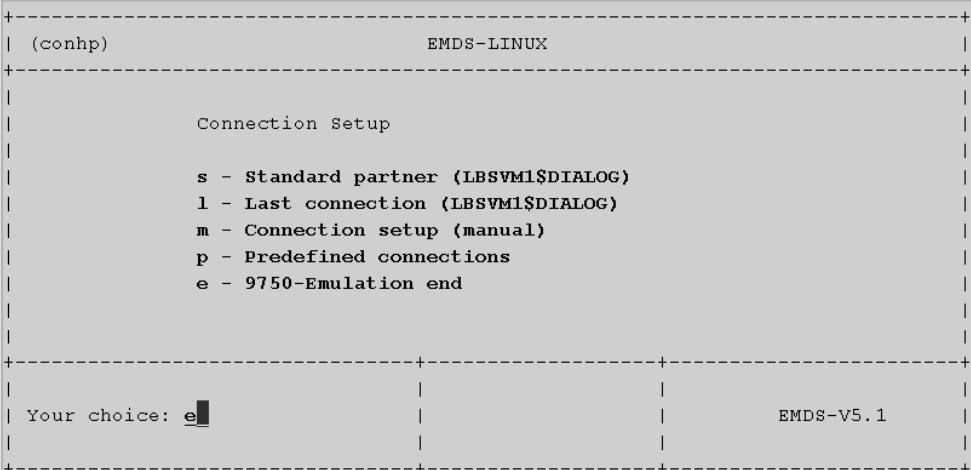
| **i** | To complete an entry, click the $\boxed{\text{DUE1}}$ key in the key panel of the virtual keyboard or press the Enter key on your keyboard. |

Terminating a BS2000 dialog and closing the dialog window

Proceed as follows to close the dialog window:

► Terminate your dialog task using the /EXIT-JOB command (or /LOGOFF).

BS2000 terminates your task and the connection to BS2000 is cleared.

► Respond to the request *PLEASE ACKNOWLEDGE* by pressing the Enter key.

► The main window of the terminal emulation opens.

```
+--------------------------------------------------------------------------+
| (conhp)                         EMDS-LINUX                               |
+--------------------------------------------------------------------------+
|                                                                          |
|              Connection Setup                                            |
|                                                                          |
|           s - Standard partner (LBSVM1$DIALOG)                           |
|           l - Last connection (LBSVM1$DIALOG)                            |
|           m - Connection setup (manual)                                  |
|           p - Predefined connections                                     |
|           e - 9750-Emulation end                                         |
|                                                                          |
|                                                                          |
+----------------------------+-----------------+-----------------------+
|                            |                 |                       |
| Your choice: e█            |                 |          EMDS-V5.1     |
|                            |                 |                       |
+----------------------------+-----------------+-----------------------+
```

► Enter *e* and press the Enter key to terminate terminal emulation.

The window is closed.

3.7   Shutting down BS2000 via the BS2000 console

This section describes how you shut down BS20000.

► In the SE Manager, select *Systems*, *Overview* tab.

The system overview lists all the systems which exist on the SE server. BS2000 systems are either of the type *Native BS2000* or of the type *VM2000.*

► Select the BS2000 system to be shut down and click on the name.

In the tree structure the SE Manager switches to the BS2000 system concerned and displays the Operation tab.

► In the *Console and dialog*, group, click *Open* in the *BS2000 console* function.

A BS2000 console window opens. The console is loaded.

► Enter the /SHUTDOWN command (if necessary with specifications for the MODE and MESSAGE operands to warn the participants in the BS2000 dialog).

► Take note of the console messages and answer any question messages which are issued.

Output of the message *EXC0557   SHUTDOWN PROCESSING COMPLETED* indicates that shutdown of BS2000 has been completed.

► Close the console window.

> **i**   When you shut down the monitor system of a Server Unit operated in VM2000 mode, VM2000 mode is also terminated, i.e. all BS2000 VMs are shut down. Provision should therefore be made beforehand in the monitor system to ensure that VM2000 operation is terminated correctly so that all guest systems can be shut down properly.

For information on console messages which are issued by M2000/X2000, see Abschnitt „Messages on the BS2000 console" auf Seite 42.

3.8 Powering off Server Units and other units

You manage the units of the SE server using the menu *Hardware → Server (SE<model>)*.
When you expand this menu, all the existing units are listed.

► Select *Hardware* and click *Server (SE<model>).*

The *Units* tab displays information on Server Units, Management Units (also redundant MUs), HNCs (SU /390), and Application Units of the SE server.

Depending on the status, you use the *Units* tab to power a unit on or off or reboot it.

Shutting down the unit or immediately powering it off

Requirement

You can power off a unit only when the unit is accessible, i.e. the *HW status* is not *NOT_ACCESSIBLE*.

Procedure

► Click the *Power off* icon by the required unit.

► In the dialog box which then appears, select the option *Shut down* or *Power off immediately* and confirm the action with *Execute.*

> **i** Only *Power off immediately* is available for the SU /390. In this case shutdown is possible only via the BS2000 console (see Abschnitt „Shutting down BS2000 via the BS2000 console" auf Seite 40).

The unit is shut down or powered off immediately. You will receive a message when the operation has been completed.

3.9 Messages on the BS2000 console

The base system M2000 or X2000 issues messages on the BS2000 console. On an SU /390 these messages are issued by the M2000 of the MU, and on an SU x86 by the X2000 of the SU. With the exception of the messages for write operations to CDROM/DVD, these messages are not issued via the BS2000 system component MIP (Message Improvement Processing) and are therefore not stored in a BS2000 message file.

Specifically, M2000/X2000 issues messages of the following message classes on the BS2000 console:

Message class	Meaning
KVP	Messages of the console distribution program (KVP)
SVR	Messages of the SVP emulation (to SU x86 only)
IOD	Messages of the I/O handler for bus devices (to SU x86 only)
HAL	Messages of the Hardware Abstraction Layer (to SU x86 only)
SNX	Messages for write operations to CDROM/DVD CDROM/DVD (SNXCDxx) or messages relating to a fault in a peripheral component which cannot be reported via an I/O to BS2000.

In BS2000 OSD/BC V10.0 and higher, you can inquire response and any meaning texts for messages of M2000/X2000 using the HTML application "System messages" (online at *http://manuals.ts.fujitsu.com* or on the "BS2000 SoftBooks" DVD).

i	In BS2000 you can only inquire the message text, meaning and response text for a message code with the HELP-MSG-INFORMATION command only if the message is stored in a BS2000 message file.

4 Setting the system time or configuring the NTP

The Management Units are available as NTP servers for all units of the server via the internal LAN. SU x86 and HNC are preconfigured with respect to NTP; AU configuration must be performed as required by the administrator responsible.

To ensure high time accuracy, you can also configure automatic time leveling with a so-called NTP server, e.g. one which supplies a time which is as accurate as a radio clock, using NTP (Network Time Protocol).

Effect on the time setting of the systems on the SE server

The time settings of the other systems are synchronized with the system time of the Management Unit. The Management Unit is the basic timer.

When changes are made to the time management which affect the Server Unit, bear in mind that the time settings in BS2000 systems and of XenVMs that are started later are also affected. Here you should in particular avoid large leaps in time which are caused by setting the time manually.

Details on BS2000 are provided in the "Synchronization of the system time" section in the "BS2000 OSD/BC System Administration" manual.

► Select *Hardware → Server (SE<model>) → <unit>(MU) → Management, System time* tab:

IP configuration | Routing & DNS | SNMP | **System time** | CLI

Management Unit **abgse2mu1**: Time synchronization with NTP server

Add NTP server

Host name	IP address	Stratum	Time difference	Status	
ns1.ts.fujitsu.com	80.70.172.154	3	-0.006000	Active	♦

Total: 1

Management Unit **abgse2mu1**: Local time

Date	2015-05-27
Time	21:11:45
Timezone	CEST (UTC+02:00)

The *System time* tab displays the NTP servers which are entered for automatic time synchronization and the local time of the MU.

Adding or removing an NTP server

► To add an NTP server, click *Add NTP server* in the *Time synchronization with NTP server* group, and after making the necessary entries confirm the action.

► To remove an NTP server from the NTP configuration, click the *Remove* icon by the required NTP server in the *Time synchronization with NTP server* group and confirm the action.

> **i** In the case of an SE server with redundant MU, the MU with the index 1 should by default be entered as an NTP server on the MU with the index2 (for details see the "Operation and Administration" manual [5].

Changing the local time

You can only change the local time if no NTP server is active.

> **i** Changes to the time can also have an effect on productive operation. See also section „Effect on the time setting of the systems on the SE server" auf Seite 43".

► In the *Local time* group click the *Change* icon, and after making the necessary entries confirm the action.

5 Application Units

As a rule an operating system of another vendor (Windows, Linux or Unix systems) runs on an Application Unit. The scope of the setting and display options thus depends on the operating system concerned. On an AU, an operating system can also be used in Native mode on the AU, on a guest system which was configured under HyperV Windows Server on the AU, or on a VM which was configured under VMware vSphere on the AU.

Application Units are displayed in the tree structure as *<unit name>(AU<model>)*.

> **i** In M2000 V6.1 and higher, AUs are also supported on the basis of PRIMEQUEST. When the AU is supported as an appliance delivery on the basis of Oracle VM Server from FUJITSU, it is displayed as a Database Unit with the short name DBU87. Otherwise the short name is displayed.
>
> In the case of an AU87 or DBU87, systems run on the individual partitions of the AU. You operate a partition via the Management Board. In the *Operation* tab, you open the web interface of the Management Board (instead of the iRMC) in the *Operation* group for this purpose.

5.1 Powering the Application Unit on and off via the iRMC

You operate a Native system via the *Operation* tab.

► In the tree structure select *Systems → <unit name>(AU<model>)*, *Operation* tab.

► Click *iRMC* and *Open* in the *Operation* tab in the *Operation* group.

The web interface of the AU's iRMC opens.

► Click *Login.*
The login window is opened in the work area.

► Enter the user name and password.

► Click *OK*.

After a successful login the browser window displays the *System Overview* menu item of the iRMC's graphical user interface. The *System Status* group shows that the AU is powered off.

► In the navigation select *Power Management → Power ON/OFF.*
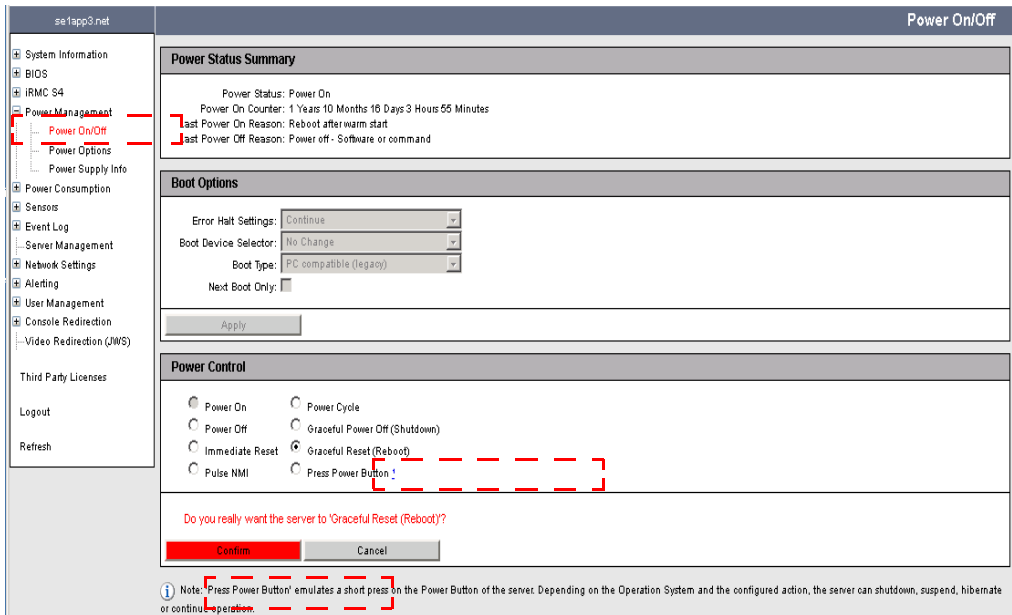
► In the *Power Control* group activate the option you require (*Graceful Reset (Reboot)* is selected in the example).

► Click *Apply*.

► Reply to the subsequent question by clicking *Confirm*.

You can observe the status of the AU in the overview of the units:

► Select *Hardware → Server (SE<model>, Units* tab.

Alternatively, depending on the status of the AU you can start up or shut down the AU's Native system in the SE Manager:

► In the *Units* icon, click the *Power on/Power off* icon, and if you want to shut down the AU select the *Shutdown* action.

You can also execute the action which is currently permissible under *Systems → <unit name>(AU<model>)* in the *Action* group of the *Operation* tab.

> **i** In M2000 V6.1 and higher, AUs are also supported on the basis of
> PRIMEQUEST. AU87 or DBU87 is displayed as the short name.
> In the case of an AU87 or DBU87, you operate the individual partitions of the
> AU via a Management Board. In the *Operation* tab, you open the web interface
> of the Management Board (instead of the iRMC) in the *Operation* group for this
> purpose.
> For an AU87 or DBU87, the various partitions are powered on/off (not the entire
> Unit).

5.2 Embedding an application or link in the SE Manager

With M2000 V6.0 you can embed independent links to any internet site in the SE Manager.
This enables you to switch directly to a web application or internet site from the SE
Manager. Each link opens in a separate tab or window of the browser. In M2000 V6.0, such
links are still called "user-defined management applications."

In M2000 V6.1 and higher, the functionality for connecting applications extends to AUs. The
independent links are then called "user-defined links" and are managed in the *User-defined
links* group. An application which can be integrated into the SE Manager infrastructure, such
as the OVM Manager, is then called a "user-defined management application" and is
managed in the *User-defined management applications* group. Each application opens in a
separate tab or window in the browser.

► Select *Applications → User-defined management applications, Administration* tab.

 The *Administration* tab displays the list of the user-defined management applications
 and the list of the user-defined links which are embedded in in the SE Manager.

► The *Change* and *Remove* icons enable you to change the properties of user-defined
 applications or links or to remove the link from the SE Manager.

► Click *Link user-defined management applications* to embed another application in the SE
 Manager.

► Click *Embed user-defined link* to embed another link in an internet site in the SE Manager.

Related publications

You will find the manuals on the internet at *http://manuals.ts.fujitsu.com*. You can order printed versions of manuals which are displayed with the order number.

In addition to this Quick Guide, the documentation for the SE servers consists of the SE700 / SE500 / SE300 Operating Manual (comprising several modules) and the User Guides "Operation and Administration" and "Security Manual".

[1]   **FUJITSU Server BS2000**
        SE700 / SE500 / SE300
        Basic Operating Manual

[2]   **FUJITSU Server BS2000**
        SE700 / SE500
        Server Unit /390
        Operating Manual

[3]   **FUJITSU Server BS2000**
        SE700 / SE500 / SE300
        Server Unit x86
        Operating Manual

[4]   **FUJITSU Server BS2000**
        SE700 / SE500 / SE300
        Additive Components
        Operating Manual

[5]   **FUJITSU Server BS2000**
        SE700 / SE500 / SE300
        Operation and Administration
        User Guide

[6]   **FUJITSU Server BS2000**
        SE700 / SE500 / SE300
        Security Manual

[7]   **FUJITSU Server BS2000**
        SE700 / SE500 / SE300
        Quick Guide

        A additional documentation is available for the SE servers. As the BS2000 OSD/XC
        software package comprises the BS2000 OSD/BC operating system and additional
        system-related software products, the documentation for BS2000 OSD/XC consists of the
        following:

        ●   The manuals on BS2000 OSD/BC, which provide the basic literature on BS2000 OSD/
            XC.

        ●   The manuals for the system-related software products which belong to the BS2000
            OSD/XC software package also apply.

        Any additions to the manuals are described in the Readme files for the various product
        versions. These Readme files are available at *http://manuals.ts.fujitsu.com* under the various
        products.

        Current information, version and hardware dependencies and instructions for installing and
        using a product version are contained in the associated Release Notice. Release Notices,
        in particular those relating to BS2000 OSD/XC, M2000, X2000, and HNC, are available at
        http://manuals.ts.fujitsu.com.

Index