

FUJITSU Software BS2000 ROBAR-SV

Version 7.5B
April 2019

Release Notice

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1 General

*1 This Release Notice contains a summary of the major expansions, interdependencies and application notes pertaining to ROBAR-SV V7.5B.

*3 The release level is that of April 2019.

*3 Changes to release level January 2019 are marked with *3.

*2 Changes to release level April 2018 are marked with *2.

*1 Changes to release level December 2016 are marked with *1.

ROBAR consists of a client part for BS2000 (ROBAR-CL) and a server part for Linux platforms (ROBAR-SV).

ROBAR controls the library systems with two different interfaces:

- ABBA-interface
ETERNUS CS¹
- SCSI-interface
Scalar i500 and Scalar i2000/i6000

Refer to the ROBAR-CL Release Notice for more information on the client part of ROBAR.

1.1 Ordering

ROBAR-SV can be ordered from your local distributors.

ROBAR-SV is subject to the general terms and conditions of the software product use and service agreement.

1.2 Delivery

The files for ROBAR-SV are delivered on a CD ROBAR-SV as Add-On Product with pre-defined structure.

*1 The Release Date is 04.2018 and contains the following:

.../

Signatures and licenses:

- * COPYING (GNU General Public License V2)
- * COPYING.de (GNU General Public License V2 (German))
- * COPYRIGHT (GNU Copying and Licenses)
- * COPYRIGHT.de (GNU Copying and Licenses (German))
- * EULA_de.TXT (End User License Agreement (German))
- * EULA_en.TXT (End User License Agreement)
- * gpg-pubkey-fd4fae40-49b790ea.asc (public key)

¹ The term ETERNUS CS includes explicitly all up to now supported predecessor-models of ETERNUS CS and all named ETERNUS systems in Chapter 4.1.1.

Information about the add-on product with signature and key files (used by YaST):

- * content (contains all product-specific data)
- * content.asc
- * content.key
- *1 * ROBAR-SV_V75B02-00 (empty file, product, version)

Information about the M2000 directory structure:

- .../M2000:
- *1 * MV.ROBAR-75B02-1.0.iso image file for the installation on SE Management Unit as
Add-on product

Information about the media directory structure:

- * directory.yast

The media.1 directory includes basic information about the add-on media set:

- .../media.1:
- * directory.yast
- * media (contains a media description for identification purposes)
- * products (contains the directory names for each product contained on the media)
- * license.zip (license in different languages)
- * products.asc
- * products.key

The rpm directory stores all RPM packages of add-on product sorted into subdirectories by the architecture for which they are delivered:

- .../rpm/x86_64: (for the 64-bit Intel architectures)
- *1 * PCMX-6.0B30-00.x86_64.rpm
- *1 * robar_abba-7.5B02-1.0.x86_64.rpm
- *1 * robar_common-7.5B02-1.0.x86_64.rpm
- *1 * robar_scsi-7.5B02-1.0.x86_64.rpm
- *1 * perl-Authen-PAM-0.16-4.1.x86_64.rpm
- *1 * perl-Authen-PAM-sl11-0.16-4.1.x86_64.rpm
- *1 * perl-Crypt-RC4-2.02-23.1.x86_64.rpm
- *1 * perl-Crypt-RC4-sl11-2.02-23.1.x86_64.rpm
- *1 * perl-IPC-ShareLite-0.17-3.1.x86_64.rpm
- *1 * perl-IPC-ShareLite-sl11-0.17-3.1.x86_64.rpm
- *1 * perl-Params-Validate-1.24-49.1.x86_64.rpm
- *1 * perl-Params-Validate-sl11-0.95-1.1.x86_64.rpm
- *1 * shellinabox-2.14-1.0.x86_64.rpm

.../rpm/noarch: (for architecture-independent packages)

- *1 * robar_ui-7.5B02-1.0.noarch.rpm
- *1 * robar_ui-manual-7.5B02-1.0.noarch.rpm
- *1 * perl-Apache-Session-1.93-39.2.noarch.rpm
- *1 * perl-Apache-Session-sl11-1.93-39.15.noarch.rpm
- *1 * perl-Cache-Cache-1.08-17.1.noarch.rpm
- *1 * perl-Cache-Cache-sl11-1.08-17.1.noarch.rpm
- *1 * perl-Class-Container-0.12-28.1.noarch.rpm
- *1 * perl-Class-Container-sl11-0.12-28.1.noarch.rpm
- *1 * perl-Class-Data-Inheritable-0.08-139.1.noarch.rpm
- *1 * perl-Class-Data-Inheritable-sl11-0.08-139.1.noarch.rpm
- *1 * perl-Devel-StackTrace-2.01-35.1.noarch.rpm
- *1 * perl-Devel-StackTrace-sl11-2.01-35.1.noarch.rpm
- *1 * perl-Error-sl11-0.17022-35.4.noarch.rpm
- *1 * perl-Exception-Class-1.40-32.1.noarch.rpm
- *1 * perl-Exception-Class-sl11-1.40-32.13.noarch.rpm
- *1 * perl-HTML-Mason-1.56-1.1.noarch.rpm
- *1 * perl-HTML-Mason-sl11-1.56-1.18.noarch.rpm
- *1 * perl-Log-Any-1.042-30.1.noarch.rpm
- *1 * perl-Log-Any-sl11-1.042-30.1.noarch.rpm

.../rpm/src: (for source packages)
 * shellinabox-2.14-1.0.src.rpm

.../rpm/setup/descr: (contains the dependencies, size, MD5 checksums, and package descriptions of all packages in the installation source, as well as patterns for installation by YAST pattern)
 * directory.yast
 * packages
 * packages.DU
 * packages.en
 * patterns
 * ROBAR-SV.x86_64.pat

The RPM-package robar_ui uses the public Software from the GNU-Project. Therefore all needed GNU-licenses are also on the ROBAR-CD.

licence_gpl_v3 (GNU GENERAL PUBLIC LICENSE Vers. 3)
 licence_lgpl_v3 (GNU LESSER GENERAL PUBLIC LICENSE Vers.3)

The RPM-packages are delivered with a signature.

Check signature validity.

The validity of signatures can be checked with rpm --checksig, e.g.:
 rpm --checksig .../robar/noarch/robar_ui-7.5B02-1.0.noarch.rpm

*1

The signature is implicitly checked by YAST.

1.3 Documentation

The manual for ROBAR is

ROBAR V7.5 Controlling MTC Archive Systems

The documentation is also available in the form of online manuals at

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

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

This Release Notice is available online under

<http://manuals.ts.fujitsu.com/> (mainframes)

2 Software-extensions

2.1 ROBAR-SV V7.5A

1. New configuration parameter

New configuration parameter INIT_RESTART_OPTION was added in the interface-specific configuration files.

2. Changes in the ROBAR-SV Manager

- Direct selection of tabs using tool tips in the objects and functions.
- The range of VSNs is now displayed in the *BS2000 hosts & Library* tab.
- In the *Operation* tab a distinction is made between operating actions and configuration actions. Instances can also be restarted and reset.
- In the *BS2000 hosts & Library* tab the BS2000 host status has been supplemented by additional information.
- The logging files are sorted according to their date – from youngest to oldest.
- The size of the dialog window for the display and edit functions can be set.
- The display and edit functions for ROBAR rule files and logging files have colored markings.
- When a CMX partner is created, ROBAR can generate an associated local name automatically.

3. Changes in SE Manager

Installation and audit logging information for the ROBAR-SV Manager is displayed in the SE Manager as of M2000 V6.2. (The customer support for M2000 V6.2 will probably be in 10/2017).

2.2 ROBAR-SV V7.5B

1. Support of SLES12 SP3 for Stand-alone installation

2. WEB UI changes

- WEB UI: search functionality in edit/show dialogs
There are 3 additional modes: regexp, case sensitive and whole word search, All found results can be highlighted.
- WEB UI: drop-down filter for Device Type in Devices & Media table
The device type can be chosen by drop-down function
- WEB UI: TSN column in Devices & Media table
TSN column was added to Devices and Media table
- WEB UI: Highlighting of incorrect VSN
Incorrect VSNs are now highlighted in red in UI
- WEB UI: improvements in configuration wizards
Now in CMX configuration dialogs entered data is not lost in case of an error

3. Unicode support in file names

- Configuration file
- Configuration backup files
- Support instance template name, (the instance name must be changed afterwards)

4. Access rights for ROBAR processes and files were partly changed according to system hardening

2.3 Fixed Problems

Correction	Description
PM A0611998	The scsi interface with SLES12 SP3 does not create the directory /dev/rob correct
PM A0612019	No messages are displayed in window when instance is stopped
PM A0612034	For manual commands in web_ui the device_mn is not shown
PM A0612035	In manual command for unload the system parameter is too short (6 character)
PM A0612050	ROBAR loops in case of error on tape and only one drive is attached
PM A0612186	Cannot access /etc/robar/links/externalLinks when config is restored
PM A0612238	CMX: partner-name and t-selector should begin with digit
PM A0612254	M2000 V6.1 Instance Management Terminal closes immediately
PM A0612321	After start of ROBAR-CL, the device A01A is not attached
PM A0612350	ROBAR-SV op_lock_file -1 and parallel message ROB0048 is shown

3 Technical information

3.1 Resource requirements

Please note the configuration regulations and special technical notes in the release notice of ETERNUS CS system.

3.2 Software configuration

3.2.1 Necessary environment

1. S-Server :BS2000/OSD-BC as of V9.0A
 SQ-Server: OSD/XC as of V9.0
 SE Server: OSD/XC as of V9.5.
 LTO-U6 are supported with S-Server as of BS2000/OSD-BC V9.0A with KP 2/2013.
 LTO-U6 are supported with SE Server as of OSD/XC V9.5.
 LTO-U6 are supported with SQ-Server as of SQ-Enhancement X2000 V5.3A0705

2. ROBAR-CL V7.5A on BS2000
 ROBAR-CL V7.0A on BS2000

3. Linux

For Standalone:

- SUSE Linux Enterprise Server 11 with Service Pack 4 for x86_64.
- SUSE Linux Enterprise Server 12 with Service Pack 3 for x86_64.
- SUSE Linux Enterprise Server 12 with Service Pack 4 for x86_64.

*1
*3

For SE-Manager:

as of M2000 V6.1A.

ROBAR specific packets needed for SAS Server (as of ETERNUS CS V6.1) can be found on the SAS-DVD.

With SLES11 SP4 and SLES12 SP3 supported.

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4. required software
 PCMX as of V6.0B30 included on installation CD.

*1

5. Graphical user interface Internet Explorer, Firefox, Chrome
 Internet Explorer as of Version 10
 Mozilla Firefox Version 17 (ESR) and higher

3.3 Product installation

3.3.1 Installation on a ROBAR standalone server or SAS-computer

3.3.1.1 Installation of Linux before the product installation

A standard installation of Linux (obtainable/subscription via Novell) on the hardware released or recommended for the ROBAR server is carried out. The SUSE SLES versions as named in the chapter Software configuration, necessary environment Linux can be installed.

Mirror disks should be configured on the ROBAR server if possible. The set up must be performed in BIOS. The procedure is described in the documentation for PRIMERGY models.

During disk partitioning, select system type "ext3" as the file type for the Linux partition(s). An adequately sized swap area (1 to 2 GB) must be reserved.

Network configuration: A physical LAN connection to the BS2000 host as well as to the ABBA interface of the archive system has to be configured.

Providing there are no security aspects, it is recommended to permit the function "Administration from a remote processor" in "Network services", and in "Network services (xinetd)"

sftp
login
shell
ssh
vnc1
vnchttpd1

can also be activated (by clicking "Toggle status(On or Off)").

The prerequisites for RPM package robar_ui are:

apache2
apache2-mod_perl
perl
perl-URI
perl-gettext
perl-TimeDate
perl-Net-Daemon
perl-HTML-Parser
perl-libwww-perl

openssl
sg_utils
diffutils
/usr/bin/lsscsi (in SLES 11 lsscsi provides it)
gawk
grep
syslog
sudo
pwdutils
bind-utils

*1 These required components should be installed from the SLES installation CD/DVD before the installation of ROBAR-SV V7.5B Add-On.

If the firewall is activated, the services ssh and https must be allowed as services.

Note:

The services must be activated and allowed before the apache2 is started.

3.3.1.2 Installation of ROBAR-SV

Starting from version V7.5 the ROBAR-SV software is distributed as Add-On Product, which is installed by the configuration and installation tool for the SUSE Linux Enterprise distributions - YaST.

The installation steps are as follows:

*1 1. Insert ROBAR-SV V7.5B Add-on CD into the CD drive or produce an ISO image from this CD and copy it to a directory of the ROBAR-SV server.

2. Use the YaST Control Center (as superuser) and choose menu option “*Software*” and “*Add-On Products*”
 - choose “*Add*”
 - choose either the “*CD*” and “*Next*” then “*Continue*”
 or
 - choose “*Local ISO Image*” and “*Next*” then type the directory path to the ISO image and “*Next*”
3. Agree to the License Agreement and click “*Next*”
4. Choose “*Robar Server*” in the Archive Software category and click “*ACCEPT*”
5. The installation process is shown, all rpm packages are installed.
6. optional start script
 During installation of the ROBAR-SV software an automatic start script for ROBAR-SV is installed in the directory /etc/init.d. In the file /etc/robar.conf all ROBAR-instances (the instance-name) for the automatic restart must be included (root authorization required).

insserv robar	(enable the robar script)
chkconfig robar on/off	(activate/ deactivate the robar script)
service robar start/stop	(start/stop of robar-instances)

For deinstallation of packages use YaST Control Center (root authorization required)

1. Use the YaST Control Center (as superuser) and choose menu option “*Software*” and “*Software Management*”.
2. In the field Filter choose “*Patterns*” Now all installed robar packages are shown.
3. Here you can deinstall robar partly or completely.

After the deinstallation of the robar_common the file /etc/robar.conf is saved in the file /etc/robar.conf.rpmsave, if the file /etc/robar.conf was changed before. After the installation of robar_common the file /etc/robar.conf.rpmsave can be copied for further use on the file /etc/robar.conf.

Note:

If ROBAR V7.5 should be installed, then all installed packages of ROBAR-SV (concerning all versions) must be deinstalled before.

3.3.2 Installation of ROBAR-SV on SE Management Unit (MU) of SE Server

*1 The Add-on Package for the installation of ROBAR-SV on MU is included on the ROBAR V7.5B02 CD.

The installation steps are the following:

- *1 1. Insert ROBAR-SV V7.5B Add-on CD into the DVD drive of the Management Unit (MU) or in the drive of your PC.
2. Use the graphical user interface of the SE Manager (as service) and choose the menu option “*Hardware*”.
 - Choose “*Server*” then “*...(MU)*” then “*Service*”
3. Now you can copy the ROBAR package into the SE Manager with the button
 - “*Transfer update from CD/DVD to system*” if the CD is in DVD drive of the MU or
 - “*Upload add-on pack*” within the table “*Add-on packs*” if the CD is in the DVD drive of your PC

*1 Select the file MV.ROBAR-75B02-1.0.iso in the directory M2000 of the CD and upload it.
- *1 4. Now you can click the button “*install*” in the table “*add-on pack*” for the entry ROBAR-75B02-1.0.

Further details for installation of ROBAR-SV on SE Management Unit can be found in the online-help or in the manual.

3.3.2.1 Save of configuration files on SE Manager

Configuration files of ROBAR can be saved into a ROBAR backup archive. There are also upload and download functions. This function is also available for an installation on a ROBAR server.

Upon a configuration save/restore of the SE Management Unit using CSR function a ROBAR backup archive containing the current ROBAR configuration files will automatically be created / restored. An already existing ROBAR backup archive will be overwritten.

3.4 Product use

3.4.1 ROBAR-SV Rule-Files

Only the ROBAR rule files delivered with ROBAR-SV V7.5 are covered by the Fujitsu maintenance warranty in the framework of the supported functions and hardware/software configuration. Customers may modify ROBAR responses in the files "message_file", "message_resp" and "message_xref" to suit their requirements according to the inline comments in these files. Such modifications are covered by Fujitsu maintenance warranty.

Support of customized ROBAR Rule Files can be offered by Fujitsu within the context of a consultancy contract or a dedicated project outside the standard Fujitsu maintenance support and product scope.

Malfunctions caused by modified rule files are neither diagnosed nor corrected in the framework of the standard Fujitsu maintenance warranty. Only malfunctions that occur with the standard rule files are covered by the standard Fujitsu maintenance warranty. Other malfunctions must be diagnosed and corrected by the author of the modification.

If rule files of software suppliers other than Fujitsu are installed, Fujitsu has no liability for robot malfunctions caused by these rule files. The customer must make sure that the related warranties are included in the contract with the separate software suppliers.

Additional support can be offered by Fujitsu for non-official rule files within the context of a dedicated customer project or consultancy contract.

3.4.2 Settings

At parameterization, the environment variable LANG can be set correctly in ROBAR user file .profile for the language support. The first two characters must be 'de' or 'en'. If LANG 'C' is used, then the English language is chosen.

3.4.3 Old ROBAR-SV configuration file

The ROBAR-SV config files of older version can be uploaded in graphical user interface and afterwards a new instance is created with this config file.

3.5 Discontinued functions

none

3.6 Incompatibilities

none

3.7 Restrictions

1. ROBAR-SV is not suitable for running on a platform where realtime software has been installed or a heavy load is running. If heavy load is running there might be delays resulting in the job processing of ROBAR.
2. The run of MBK devices with equal device types but different usage of media requires their assignment to different locations (BS2000 and MAREN). For that purpose ROBAR-SV needs different instances (one for each location).
3. More than 99 devices cannot be defined by numeric reference (“numbered topologic form”). This leads to an undefined result.
If more than 99 devices are configured in ROBAR-SV, they must be defined in the archive system and in ROBAR with the mnemonic device name defined in BS2000.
4. Messages for ROBAR FREEPOOL (belongs to ABBA-interface)
The BS2000 console messages processed by ROBAR for the support of the FREEPOOL function are restricted to the messages described in the ROBAR User Guide.
The support of application-specific messages must be managed and programmed by the customer in the ROBAR Rule files. These extensions are not covered by Fujitsu in the framework of a customer-specific project.
5. Support of tape drives by ROBAR
Error of hardware and software components which are not –or cannot- be reported by BS2000 console messages, cannot be handled by ROBAR either. Such errors must be recovered by the operator and/or reported to Fujitsu (e.g. tape subsystems, BS2000/OSD-BC software subsystems), if an applicable maintenance warranty exists.
The support of MBK-devices with BS2000 outside the archive system
The support of a device by ROBAR requires that the combination of the hardware, firmware and software components has reached the appropriate level of reliability to support continuous robot operation without interruption of the tape processing.
Therefore the Fujitsu warranty only covers robot configuration with tape devices which are explicitly announced as supported by ROBAR.
6. Multiprocessing
If several devices are operated simultaneously it is useful to have as many cleaning cartridges as devices.
7. Scalar i6000 features not supported
Only functions in Scalar i6000 are supported that are supported by IBM drives.
 - MeDIA Test Report is not supported as the required LTO drives are not released for BS2000.
 - Storage Networking is not supported as the required LTO drives are not released for BS2000.
8. Naming for ROBAR configuration file
If the file name contains characters with a special meaning for a command shell (*, -, \$, #, &, |, ', ", etc), some ROBAR processes (robar_abba, robar_mon, robar_nbs2, robar_vbs2, varying in different cases) fail to start properly and are forced to terminate. The name is limited with alphanumeric characters and ‘_’, ‘.’, ‘@’ symbols.

3.8 Procedure in the event of errors

If an error occurs, the following error documents are needed for diagnostics:

- Diagnostic data from BS2000 system concerning ROBAR-CL
- Diagnostic data from ROBAR server concerning ROBAR-SV
- Diagnostic data from TCP/IP connection (ABBA interface)

How to produce the documentation relevant for diagnosis is described in the ROBAR Manual Controlling MTC Archive Systems.

For errors which occur during device control, additional diagnostic information from BS2000 must be delivered (see Release notice of ROBAR-CL)

4 Hardware requirements

4.1 Archive systems

4.1.1 Supported MTC archive systems:

- QUANTUM Corp. Systems Scalar i2000, Scalar i6000 and Scalar i500.

ETERNUS CS High End (ETERNUS CS HE) V5.0 and V5.1

ETERNUS CS500, CS500 DL, CS1000, CS1500,
CS1500 DL, CS2000, CS3000, CS4000, CS5000
ETERNUS CS50

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ETERNUS CS8000 V6.0, V6.1, V7.0 and V7.1¹⁾

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ETERNUS CS8050, CS8200, CS8400, CS8800
ETERNUS CS900 Entry

(see more information in the manual ETERNUS CS and in the release notice)

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¹⁾ as of ETERNUS CS V7.1 SP00 P03

4.1.2 Discontinued support

CentricStor Virtual Tape Appliance VTA-xxxx-
CentricStor Virtual Tape Controller VTC
CentricStor Smart Backup Unit SBU-BS2

4.2 Tape devices

4.2.1 Supported tape devices

Tape devices supported by ROBAR in MTC archive systems (BS2000 terms). See more information about the supported tape devices in the release notice for BS2000.

ABBA-interface:

- ETERNUS CS

-3590-E

- LTO-U4 as of BS2000/OSD-BC V10.0 with S-Servers
as of OSD/XC V10.0 with SE Servers

SCSI-interface:

- Scalar i2000 (with fibre channel)

-LTO-U2 up to BS2000/OSD-BC V9.0A with S-Servers
up to OSD-XC V9.0 with SQ-Servers

-LTO-U3 with S- and SQ-Servers

-LTO-U4 with S- and SQ-Servers

- Scalar i6000 (with fibre channel)

-LTO-U3

-LTO-U4

-LTO-U5

-LTO-U6 as of BS2000/OSD-BC V9.0 with S-Servers
as of OSD/XC V9.0 with SQ-Servers >= X2000 V5.3A07
as of OSD/XC V9.0 with SE Servers >= X2000 V6.0A

- Scalar i500 (with fibre channel)
 - LTO-U3
 - LTO-U4
 - LTO-U5
 - LTO-U6 as of BS2000/OSD-BC V9.0 with S-Servers
 - as of OSD/XC V9.0 with SQ-Servers >= X2000 V5.3A07
 - as of OSD/XC V9.0 with SE Servers >= X2000 V6.0A

The devices are supported without stacker.

A FC-switch is assumed for Scalar i2000/i6000 and Scalar i500.

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LTO-5 devices are supported directly (without I/O Blade) and with I/O Blade in Scalar i6000.

LTO-6 devices are only supported directly (without I/O Blade) with Scalar i6000.

If the Scalar i6000/i2000 is being rebooted during usage with SQ-Server or SE Server (only with SU x86), the device knots are lost in the server. Therefore the device knots are reactivated with the command in the server with user service

```
scanPciSlot -v --scan port=<port> lun=0-32
<port>          PCI device ID shown with command
scanPciSlot --show controller
```

4.3 ROBAR-Server

Hardware platforms supported:

- Installation for SE Server
 - Management Unit(MU) with M2000 as of V6.1 of SE Server
- Installation for SE, S- and SQ-Server
 - standalone server (native):
 - PRIMERGY RX200 S7
 - PRIMERGY RX200 S8
 - PRIMERGY RX2530 M1-L
 - PRIMERGY RX2530 M4
 - SAS-computer in ETERNUS CS:
 - (details see ETERNUS CS Release Notice (Linux))
 - Hardware-basis RX300 S7, RX300 S8, RX2540 M1 and RX2540 M4

5 Firmware levels

Tested library and tape firmware

*1

Scalar i500 Library Firmware: 710G.GS007
 Drive (IBM) LTO-U3 Firmware 93GM
 Drive (IBM) LTO-U4 Firmware C7QH
 Drive (IBM) LTO-U5 Firmware E6Q6
 Drive (IBM) LTO-U6 Firmware E6R6

Scalar i6000 Library Firmware: 656Q-GS01501
 Drive (IBM) LTO-U3 Firmware M69Z
 Drive (IBM) LTO-U4 Firmware C7QH
 Drive (IBM) LTO-U5 Firmware F990
 Drive (IBM) LTO-U6 Firmware F3J8