FUJITSU Software BS2000 ROBAR-SV

Version 7.6A
*1 January 2020

Release Notice

Release Notice ROBAR-SV V7.6A

1 General

This Release Notice contains a summary of the major expansions, interdependencies and application notes pertaining to ROBAR-SV V7.6A.

*1   The release level is that of January 2020.

*1   Changes to release level November 2019 are marked with *1.

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

ROBAR controls the library systems with two different interfaces:

- ABBA-interface
  ETERNUS CS[1]

- SCSI-interface
  Scalar i500 and Scalar 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 with release date 11.2019.

For the installation of the Add-on Product on SE Management Unit (MU) the directory …/M2000 includes the image file MV.ROBAR-76A02-1.0.iso.

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

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

https://bs2manuals.ts.fujitsu.com/

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

This Release Notice is available online under

https://bs2manuals.ts.fujitsu.com/   (Storage and Backup-Management)

2   Software-extensions

2.1   ROBAR-SV V7.6A

- WEB UI: Unify host alias and partner name (CMX)
  - host aliases are not needed anymore in instance creation dialog
- WEB UI: Instance creation dialog hints
  - Configuration parameter hints are added
- WEB UI: CMX configuration upload/download and backup (change request)
  - CMX configuration upload/download and backup now possible just like for ROBAR configuration files
- WEB UI: Automatic restart option in instance configuration wizard
  - It is possible to set automatic restart option during initial instance setup
- WEB UI: Tables rework
  - New approach allows using table filters
  - Common scrollbar for multiple tables (change request)
- Additional instance statuses
  - STARTING
  - STOPPING
  - CLEANING (when running RECOVER_DISK_FULL)
- Suppress warning messages at instance startup (change request)
  - To control those messages MSG_LOG_LEVEL variable in gen_env_vars can be set

3 Technical information

3.1 Resource requirements

ROBAR-SV V7.6A has no increased requirement of resources with respect to the previous version.

3.2 Software configuration

3.2.1 Necessary environment

1. BS20000 OSD/XC as of V10.0

2. ROBAR-CL as of V7.5 on BS2000

3. Linux
   For Standalone:
   SUSE Linux Enterprise Server 12 with Service Pack 4 for x86_64.

   For SE-Manager:
   as of M2000 V6.2A.

4. required software
   PCMX as of V6.0B34 included on installation CD.

5. Graphical user interface Internet Explorer, Firefox, Chrome
   Internet Explorer as of Version 10
   Mozilla Firefox Version 52 (ESR) and higher

3.3 Product installation

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

The Add-on Package for the installation of ROBAR-SV on MU is included on the ROBAR–SV CD.
The installation steps are the following:

1. Insert ROBAR-SV V7.6A 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 "Units*" 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
     Select the file MV.ROBAR-(*version)*.iso in the directory M2000 of the CD and upload it.

4. Now you can click the button "*install*" in the table "add-on pack" for the entry ROBAR-(*version)*.

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

3.3.1.1   Save of configuration files on SE Manager

Configuration files of ROBAR and CMX can be saved into a backup archive. There are also upload and download functions. This functionality 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 and CMX backup archives containing the current ROBAR configuration files and the CMX configuration will automatically be created / restored. Already existing ROBAR or CMX backup archives will be overwritten.

3.3.2   Installation on a ROBAR standalone server

3.3.2.1   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 setup 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.

The network configuration must be set up so that the ROBAR server has a LAN connection to the BS2000 host as well as to the ABBA interface of the archive system.

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-MPM
apache2-mod_perl
bind-utils
gawk
grep
diffutils
findutils
openssl
sg_utils
sudo
/usr/bin/lsscsi
perl-URI
perl-gettext
perl-TimeDate
perl-Net-Daemon
perl-HTML-Parser
perl-libwww-perl
perl-Class-Container
perl-Class-Data-Inheritable
perl-Devel-StackTrace
perl-Error
perl-JSON-XS
perl-HTML-Mason
perl-Log-Any
perl-Cache-Cache
perl-Apache-Session
perl-Authen-PAM
perl-Crypt-RC4
perl-Exception-Class
perl-Params-Validate
yast2-http-server

These required components should be installed from the SLES installation CD/DVD
before the installation of ROBAR-SV V7.6A 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.

3.3.2.2   Installation of ROBAR-SV

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. Insert ROBAR-SV V7.6A 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 V7.6 should be installed, then all installed packages of ROBAR-SV (concerning all versions) must be deinstalled before.

3.4   Product use

3.4.1   ROBAR-SV Rule-Files

Only the ROBAR rule files delivered with ROBAR-SV V7.6 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 the configuration file ~/.profile of the ROBAR user 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

3.6   Incompatibilities

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 i6000 and Scalar i500.

*1   -   <u>ETERNUS CS8000 V7.1[1] and V8.0[2]</u>
                 ETERNUS CS8050, CS8200, CS8400, CS8800
                 ETERNUS CS900 Entry

                 1)   as of ETERNUS CS V7.1 SP00 P03
*1   2)   is released
            (see more information in the manual ETERNUS CS and in the release notice)

4.1.2   Discontinued support

<u>ETERNUS CS High End (ETERNUS CS HE)</u>
ETERNUS CS500, CS500 DL, CS1000, CS1500,
CS1500 DL, CS2000, CS3000, CS4000, CS5000
ETERNUS CS50

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

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-4

SCSI-interface:
- Scalar i6000 (with fibre channel)
  -LTO-5
  -LTO-6
- Scalar i500 (with fibre channel)
  -LTO-5
  -LTO-6
  -LTO-7   as of OSD/XC V11.0B, X2000/M2000 as of V6.3A403

Scalar i6000 and Scalar i500 are not supported with Server Units SU310 and SU710.

The devices are supported without stacker.
A FC-switch is assumed for Scalar i6000 and Scalar i500.

Scalar i6000: LTO-5 devices are supported directly (without I/O Blade) and with I/O Blade.
Scalar i6000: LTO-6 devices are only supported directly (without I/O Blade).

If the Scalar i6000 is being rebooted during usage with SE Server (only with SU x86), the device knots are lost in the server. Therefor the device knots must be reactivated by the Service with the command on the server

    scanPciSlot –v –scan port=<*port*> lun=0-256
    <*port*>   PCI device ID shown with command
                         scanPciSlot –show controller

4.2.2   Discontinued support

MB archive systems
- Quantum Scalar i2000/i6000 with LTO-2, LTO-3, LTO-4 (channel type FC)

4.3   ROBAR-Server

Hardware platforms supported:

- Installation for SE Server
  - Management Unit(MU) with M2000 as of V6.2 SP1

- Installation for SE Server
  - standalone server (native/VM):
        PRIMERGY Server models same as MU

4.3.1   Discontinued support

- SAS computer in ETERNUS CS

5 Firmware levels

Library and tape firmware

Scalar i500   Library Firmware: as of 710G.GS007
Drive (IBM) LTO-5 Firmware as of E6Q6
Drive (IBM) LTO-6 Firmware as of E6R6
Drive (IBM) LTO-7 Firmware as of HB80

Scalar i6000   Library Firmware: as of 656Q-GS01501
Drive (IBM) LTO-5 Firmware as of E6Q6
Drive (IBM) LTO-6 Firmware as of F3J8