FUJITSU

Datasheet
FUJITSU Software BS2000 ROBAR V7.5

Robot Archive Software

Automation of operation of cartridge tape archive systems in BS2000

In data centers with large data volumes there is usually a great number of magnetic media. For large-scale configurations manual methods of tape processing require an inordinate amount of time and effort for the handling and archiving of tapes.

FUJITSU Software BS2000 ROBAR manages and automates the media management on BS2000 servers in combination with the virtual archive system FUJITSU Storage ETERNUS CS and the real archive systems of QUANTUM Corp.

Green IT

Topics

Product characteristic
ROBAR as interface between the BS2000 systems and the archive system controls virtual or real archive systems in a multisystem environment with up to 110 BS2000 systems and up to 1024 (real or virtual) tape cartridge devices for an archive system. Each guest system under VM2000 counts as a separate BS2000 system.

Each BS2000 system has access to the archive system's full range of functions and is - with regard to the device quantity offered by the archive system an equal-rights customer for the archive system. ROBAR handles the ordering function for the archive system. The server-overlapping communication and coordination between the BS2000 systems and the archive system is handled via ROBAR-SV on the ROBAR server.
ROBAR controls the archive systems depending on the hardware via the SCSI interface or via the ABBA interface.

ROBAR system
ROBAR consists of the following software components which only run as a unit together:
ROBAR-CL is the system-local connection component of a BS2000 system to the ROBAR server. This processes, among other items, the primary mounting/demounting jobs of the BS2000 customer for cartridge use.
ROBAR-SV runs on a SE Server integrated as add-on on the Management Unit, on the ETERNUS CS SAS or on an own server, called ROBAR-Server, with the operating system Linux or on a Linux guest system on SQ Server.
When used in a SE Server ROBAR-SV may be installed as an add-on on the Management Unit.
On an own ROBAR server additional SW products can run irrespective of ROBAR. ROBAR-SV provides the connection between ROBAR-CL and the archive system; ROBAR-SV accepts the jobs (as messages), evaluates them using the message interpreter and forwards them for implementation to the archive system.

ROBAR control interfaces
ROBAR controls the archive systems - depending on the hardware via various interfaces, the SCSI and ABBA interface. The two interfaces are implemented in ROBAR via various program components:
SCSI interface
The archive systems with SCSI interface are connected with the Fibre Channel (FC) via a Storage Area Network (SAN).
The robotics of the archive system is controlled via Fibre Channel (FC).
ABBA interface
The archive systems with ABBA interface are connected via a TCP/IP connection (LAN) with the ROBAR server.
The robotics of the archive system is controlled via a TCP/IP connection.

Archive systems
ROBAR supports in the current version following archive systems:

Virtual archive system FUJITSU ETERNUS CS8000 (including the predecessor model FUJITSU ETERNUS CS HE) (ABBA interface):
The virtual archive system ETERNUS CS is placed before a real archive system with the real cartridge devices and volumes. The core of ETERNUS CS is a disk system as data cache that ensures not only extremely fast data access but also avoids possible and existing bottlenecks in a real tape robot system in combination with many virtual drives and logical volumes. Regarding the connected BS2000 systems the virtual archive system ETERNUS CS behaves like a real archive system with tape devices (type 3590E and as of BS2000 OSD/BC V10.0 also type LTO-4). The exact description of ETERNUS CS8000/CS HE is in the manual with the same name.
ROBAR controls ETERNUS CS with its virtual tape cartridge devices via the so-called ABBA interface with special separate ROBAR rule file. ROBAR is the communication interface between the BS2000 system and the virtual archive system. The BS2000 systems reserve the virtual tape cartridge devices. The BS2000 system has direct and exclusive access just to the virtual tape cartridge device. ETERNUS CS operates the real archive system with its devices.

Archive systems Scalar i6000 and i500 from QUANTUM Corp. (SCSI interface):
The real archive systems Scalar i6000 and Scalar i500 consist of the components robotic, cartridge storage, I/O unit and MTC device.
The (real) cartridge devices are operated by the robotic and managed by the BS2000 systems. The tape cartridge devices are reserved by the BS2000 systems. The BS2000 system has direct and exclusive access to the tape cartridge device.
ROBAR controls these closed archive systems via the SCSI interface.

Operate with ROBAR

ROBAR-SV-Manager
To manage the ROBAR-SV instances the web application ROBAR-SV-Manager is available for the ROBAR administrator respectively ROBAR operator. The functions of the menu program *robar* are fully integrated into the ROBAR-SV-Manager and a number of enhancements were implemented to increase the ease of use of the web-based user interface. These include, for example,
- an assistant to the gradual integration of instances
- the automatic restart of instances
- the filtering and sorting capability for multiple tables
- the configurable automatic updating of data on the Web-UI

Configuration file for ROBAR-SV
The ROBAR-SV parameters are set via a specific interface configuration file. For example, the tape cartridges to be managed by ROBAR, the BS2000 systems and their TNS names as well as the archive storage name must be specified in the file. The ROBAR-SV delivery scope includes sample configuration files

ROBAR rule files
In order to react to the various tape processing requirements of a data centre you can define console messages and their processing by ROBAR. Specific device type job control files (so-called ROBAR rule files - RRF) are used to define the measures which the archive system should apply in specific situations.

Multiprocessing
The parallel processing of requests avoids wait times in the archive system and improves the usage regarding tape cartridge processing. Wait times, such as clean actions, error handling and lengthy rewinds, are used by parallel processing.

ROBAR in cooperation with MAREN
It is recommended to use the media administration Fujitsu BS2000 MAREN together with ROBAR; however, the use of MAREN is only compulsory for store management.
For the data media administration MAREN has internal interfaces to the BS2000 components data management system (DVS) and device management (NDM). It determines the cartridges that are free and can be overwritten based on disable periods and issues its own mount instructions. This means that protected data cannot be overwritten by mistake.
MAREN checks access to data media. With each tape request MAREN checks whether the requesting user is allowed to actually use the requested data media.

Technical Details

Requirements

Technical Requirements Hardware	BS2000 Business Server
	supported Archiving systems:)
	 - ETERNUS CS80000 V6.0, V6.1 and V7.0, V7.1 (both from ROBAR V7.5B)
	   (Models CS8050, CS8200, CS8400, CS8800, CS900)
	 - Archiving systems of Quantum:
	   Scalar i6000, Scalar i2000 and Scalar i500
	platforms for ROBAR-SV:
	 - Management Unit (SE servers, SE-SW as of V6.1)
	 - PRIMERGY RX200 S7, S8 and RX2530 M1, M4
	 - ETERNUS CS SAS, HW base RX300 S7, S8 and RX2540 M1, M4
	 - Linux guest systems (SQ servers)

Technical Requirements Software	**SW-Configuration for ROBAR-CL (BS2000):**
	(ROBAR-CL V7.5 can be used only with ROBAR-SV as of V7.0)
	BS2000/OSD-BC as of V9.0 (on S servers) or
	 - OSD/XC as of V9.5 (on SE servers) or
	 - OSD/XC as of V9.0 (on SQ servers)
	openNetServer as of V3.5
	CRTE as of V2.9
	<u>Optional:</u>
	MAREN as of V12.0
	HSMS/ARCHIVE as of V9.0
	JV as of V15.1 (for connection monitoring between BS2000 and Linux)
	SW-Configuration for ROBAR-SV (Linux):
	(ROBAR-SV as of V7.5 can be used only with ROBAR-CL as of V7.0)
	Linux (to be ordered from Fujitsu):
	  SLES 11 SP4 for x86_64
	  SLES 12 SP3 for x86_64 (from ROBAR V7.5B)
	  SLES 12 SP4 for x86_64 (from ROBAR V7.5B) for Standalone PRIMERGY
	PCMX as of V6.0A90 (part of data carrier ROBAR-SV-SP)

Demands on the user	Knowledge of BS2000

Installation and operation

Operating mode	Interactive (dialog) and batch mode
Implementation language	C, Assembler
User interface	Commands in English, message texts and installation program in German/English (optional)
Installation	By the customer according to the User Guide

Documentation and training

Documentation	ROBAR User Guide
Training	See course offer (German)

Purchasing

Conditions	This software product can be leased by the customer in accordance with the conditions for the use of software products.
Ordering and delivery	This software product may be obtained from your local Fujitsu Technology Solutions GmbH regional office.

More information

Fujitsu products, solutions & services

Products

http://www.fujitsu.com/fts/products/
In addition to BS2000, Fujitsu offers a full portfolio of other computing products:

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More information

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