

ARCHIVE (BS2000/OSD) Version V8.0 (A,B)

Issue June 2006

Pages 3

Logical File Backup System in BS2000

ARCHIVE offers users and system administrators alike a powerful file backup system that is optimized for ease of use. The high performance of ARCHIVE makes it suitable for logical backup of high volumes of data. ARCHIVE can also be used to transfer files to other BS2000 systems (data exchange). ARCHIVE is a disk- and tape-oriented product, i.e. disk files from public or private volumes can be saved to and restored from other disks or magnetic tapes. ARCHIVE operates in both interactive and batch mode.

ARCHIVE provides the following functions:

- File backup/restore
- File transfer between BS2000 systems
- Maintenance of backup directories
- Restart capabilities
- Optional linkup with the MAREN magnetic media management system
- Data compression for backup operations
- Support for key/non-key conversion
- Cooperation with HSMS

ARCHIVE is available as stand alone-product or bundled with HSMS.

File backup function (SAVE/RESTORE)

Files are copied from public or private disk volumes onto magnetic tape cassettes or other disk volumes and restored as required. This implies a number of subfunctions, e.g.:

- Flexible selection of the files to be backed up, by a combination of:
 - user Ids
 - partially qualified file names
 - volume identification
 - file-specific backup identifier
- Backup of all files thus defined (full backup) or only those files which have been updated since the last backup run (incremental backup). Different storage combinations are possible, e.g. storing the incremental backup on disk and the full backup on tape with a directory.
- In the case of large files (only with BLKCTRL = DATA or PAMKEY or PLAMLIB), updated PAM pages can be saved; in this case the system automatically ensures that they are reintegrated into the complete file at restore time.
- By means of user-controlled, file-specific backup identifiers in the catalog entry, user files are included in the periodic backup runs done by the system administrator (thus avoiding duplication of backup runs).
- File selection during restoration (RESTORE) is made more flexible by the automatic management of backup files in directories.
- Files can be renamed during restoration and during export (without a directory).
- Files which have not been used for a certain number of days can be swapped out.
- If required, files can be restored to predefined storage areas on disk.
- For data backup, data compression and continuation of data volumes at the next scheduled backup run are supported. This means a considerable reduction in the number of required backup volumes.
- For catalog reconstruction, there is the option of saving and restoring only catalog entries from private volumes (private disks/tapes).
- Support of job variables with flexible selection facilities for backup and restore.
- File generations are supported.
- In order to improve performance, parallel backup to several tape units is possible, the data paths being optimized by the system.
- Support for direct positioning on MTCs during restore/recall.
- Backup of open files is also possible for UDS and SESAM databases

- ARCHIVE can also back up and restore very large files (over 32 GB) – as supported by BS2000/OSD V5.0 or higher.
- With the release of BS2000/OSD-BC V6.0, the PTAM and BTAM tape access methods have been extended in order to support larger tape blocks. Accordingly, ARCHIVE, too, has been extended in version V7.0B in order to support these (max. 256-Kbyte) tape blocks. (selectable in the backup statements). This supplementary version has been released together with BS2000/OSD V6.0 and replaces ARCHIVE version V7.0A.
- The benefit of large tape blocks is a significant throughput improvement in BACKUP activities in combination with high speed tape or MTC devices supported by BS2000/OSD V6.0. Backup runs to MTC are shortened by about 10% (dependent on file size and disk attachment).

File transfer function (EXPORT/IMPORT)

This function means that ARCHIVE can be used to exchange files and/or JVs on the selected volumes between different BS2000 installations.

Backup Directories

ARCHIVE maintains administration information on all backup runs in the form of files. System administrator directories are differentiated from user directories.

The directory function provides the user/system administrator with a wide range of options for recalling and selecting files and/or JVs from previous backup runs. Furthermore, the backup tapes are administered with regard to file allocation and reusability after the expiry of retention periods.

Restart function

Restart facilities are offered for the commands of the SAVE/RESTORE function, thereby avoiding time-consuming reruns in the event of a system breakdown.

User convenience – Ease of use

High priority was given to the optimization of ease of use in the development of ARCHIVE, as exemplified by the following functions:

- Flexible syntax for the selection of files/JVs.
- HELP command to explain the command syntax and the individual operands to the user.
- Default values permit simple handling by the user. A parameter file can be used to store and change default values on an installation-specific basis. The parameter file is activated when ARCHIVE is loaded.
- The user can get the system to check and, if necessary, correct the syntax of commands prior to execution.
- Standard BS2000 access protection for files/JVs, plus password protection for backup versions and directories.

- Online backup of the user catalog (replaces SRPSAVE). A new backup concept has been introduced for the user catalog of pubsets (incl. System Managed Pubsets). The SRPSAVE program has been replaced by an ARCHIVE-based backup and restore procedure.
- Simplified reorganization of pubsets and migration to SMS thanks to the DIRCONV utility. DIRCONV can dramatically reduce volume handling in a reorganization (transfer of userids from one pubset to another), as the changes can be made directly in the ARCHIVE directory. The DIRCONV functions are:
 - Mixing different directories
 - Renaming catids
 - Deleting catids
 - Deleting non-cataloged files from a directory

Holistic Design

The main target of ARCHIVE used in combination with HSMS is to support the Information Life Cycle Management (ILM) of BS2000/OSD-data, especially the support of the **System Managed Storage** (SMS, as of BS2000/OSD V3.0) concept. This functionality is delivered via HSMS interfaces. SMS is a concept for data management by the system. Key aspects are complexity reduction and lowest TCO via the automation of the data management both for the system administrator and for the end user. Separation of the logical and physical view of the data is the underlying principle (virtualization). In practice, this is achieved by formulating a logical description relating to the description of certain structural, availability and performance requirements of files. BS2000/OSD-BC as of V3.0 extends the BS2000 pubset concept. Complementing the well-known Single Feature pubsets, new System Managed pubsets (SM pubsets) have been introduced. These consist of several volume sets and can thus offer the end user several types of service (structure, availability, performance). ARCHIVE supports the same range of functions for SM pubsets as for SF pubsets, while HSMS offers additional functionality for SM pubsets. *ARCHIVE V8.0B is able to multiplex I/O-streams and to exploit high speed LTO-devices.*

HSMS/ARCHIVE-benefits to the customer:

- Efficient and autonomous data management
- Flexible configuration
- System support for the data administrator
- Optimum utilization of the various storage media forming a SM pubset
- Private volumes replaceable with the aid of System Managed pubsets
- TCO-advantages

Supplementary data on ARCHIVE

Hardware

- BS2000/OSD business server Sxxx
- Business server SX1xx

Software

- General release ARCHIVE V8.0A as of I/2006 ; ARCHIVE V8.0B as of mid 2007
- BS2000/OSD-BC V5.0 or higher

Operating mode

Interactive and batch mode

Implementation language

Assembler

User interface

Commands in English

Message texts in German or English

Installation

See Release Notice

Documentation

The documentation is available in the form of online manuals at <http://manuals.fujitsu-siemens.com/> or can be ordered in the form of printed manuals for an additional payment at <http://fsc-manualshop.com/>.

Demands on the user

Knowledge of data management and data backup in BS2000

Conditions

This software product is supplied to the customer under our conditions against a single payment or installments.

Warranty

Class: A

Delivery format: Machine language

Ordering and delivery

This software product may be obtained from your local Fujitsu Siemens Computers regional office.