



FUJITSU Software BS2000 ARCHIVE

Version 10.0A
November 2015

Release Notice

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1 General

This Release Notice is a summary of major extensions, requirements and operating information with regard to ARCHIVE V10.0A under the BS2000* operating system.

This release level is that of November 2015

The documentation is also available on the internet at <http://manuals.ts.fujitsu.com>. Manuals which are displayed with an order number can also be ordered in printed form.

If one or more previous versions are skipped when this product version is used, the information from the Release Notices (and README files) of the previous versions must be taken in account as well.

1.1 Ordering

ARCHIVE V10.0A can be ordered from your local distributors.

This software product is supplied subject to a single payment or payment by installations.

1.2 Delivery

ARCHIVE V10.0A files are supplied via SOLIS.

| | |
|----------------------------|---|
| SYSPRG.ARCHIVE.100 | Load module (TU program) |
| SYSFGM.ARCHIVE.100.D | Release Notice (German) |
| SYSFGM.ARCHIVE.100.E | Release Notice (English) |
| SYSLIB.ARCHIVE.100 | Macro library with ARCHIVE macro |
| SYSLNK.ARCHIVE.100 | Load module library for non-privileged part of ARCHIVE |
| SYSPAR.ARCHIVE.100 | Parameter file with defaults for the main operands |
| SYSPRG.ARCHIVE.100.DIRCONV | Conversion program for directory files |
| SYSTEMS.ARCHIVE.100 | Message file |
| SYSMESH.ARCHIVE.100 | ISAM file with help texts |
| SYSNRF.ARCHIVE.100 | NOREF file for REP processing when loading the ARCHIVE Sub-System |
| SYSRME.ARCHIVE.100.D | README file (German), if any |
| SYSRME.ARCHIVE.100.E | README file (English), if any |
| SYSRMS.ARCHIVE.100 | Object corrections RMS format |
| SYSSDF.ARCHIVE.100 | Sub-System syntax file with START-ARCHIVE |
| SYSSII.ARCHIVE.100 | IMON structure and installation information file |
| SYSSSC.ARCHIVE.100 | Sub-System declarations |

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The following delivery components are only required on S- and SE-Servers (SE500/SE700):

| | |
|------------------------|--|
| SYSLNK.ARCHIVE.100.TPR | Object module library for loading the ARCHIVE modules (/390-HSI) |
|------------------------|--|

The following delivery components are only required on SQ- and SE-Servers (SE300):

| | |
|------------------------|---|
| SKMLNK.ARCHIVE.100.TPR | Object module library for loading the ARCHIVE modules (X86-HSI) |
|------------------------|---|

1.3 Documentation

Since no new user guide will be published for ARCHIVE V10.0A, the previous user guide for ARCHIVE V09.0A must be used instead in conjunction with the README file of ARCHIVE V10.0A. For product installation the manuals of the BS2000 version used may be a help and the user guide of the installation monitor IMON as well.

The following documentation is available for ARCHIVE V10.0A:

| | |
|-------------------------------|-------------------|
| ARCHIVE V9.0 Benutzerhandbuch | U3292-J-Z125-7 |
| ARCHIVE V9.0 User Guide | U3292-J-Z125-7-76 |

| | |
|----------------------|--------------------------|
| SYSRME.ARCHIVE.090.D | (file with German text) |
| SYSRME.ARCHIVE.090.E | (file with English test) |

and eventually

| | |
|----------------------|--------------------------|
| SYSRME.ARCHIVE.100.D | (file with German text) |
| SYSRME.ARCHIVE.100.E | (file with English test) |

The BS2000 documentation is available in German and English on DVD with the title BS2000 Softbooks.

The handbooks may be supplemented with README files. These contain changes and extensions to the handbooks of the product concerned. The README files are available on the SoftBooks-DVD on online on <http://manuals.ts.fujitsu.com> .

The documentations are shipped as PDF files on the SoftBooks-DVD.

2 Software extensions

2.1 Extensions from ARCHIVE 9.0A to 9.0B

NetStorage Support

With implementation of NetStorage support files from mounted UFS files server (BS2000 command /MOUNT-NET-STORAGE) can be saved and restored with ARCHIVE.

The new switch "STORAGE-TYPE" for ARCHIVE, residing in SYSPAR.ARCHIVE.100, was introduced to control the type of files to be handled.

```
*
* STORAGE-TYPE      | ANY / PUBLIC-SPACE
*
STORAGE-TYPE=ANY
*
```

See also 3.6.2.2

2.2 Extensions from ARCHIVE 9.0B to 10.0A

MEMORY-POOL-SIZE

For ARCHIVE 10.0A a new global ARCHIVE parameter MEMORY-POOL-SIZE has been introduced. It gives ability to customize the memory pool size (64, 128, 256, 512 MB) via a SYSPAR parameter in ARCHIVE.

```
*
* MEMORY-POOL-SIZE  | 64 / 128 / 256 / 512
*
MEMORY-POOL-SIZE=64
*
```

See also 3.6.2.3

Behavior of ARCHIVE with new parameter MEMORY-POOL-SIZE

- During the ARCHIVE startup
If the value of MEMORY-POOL-SIZE parameter is correct the Sub-System ARCHIVE starts normally.

In the case of erroneous values entered in SYSPAR.ARCHIVE.100 the following messages are displayed on the console during ARCHIVE startup:

```
ARC0433 INVALID VALUE '11111' FOR PARAMETER 'MEMORY-POOL-SIZE' IN
ARCHIVE PARAMETER FILE. ANALYSIS CONTINUES
ARC0436 INVALID ARCHIVE PARAMETER FILE. ARCHIVE LOADING ABORTED
```

In this case a correct values must be entered in SYSPAR.ARCHIVE.100 and the Sub-System ARCHIVE resp. HSMS restarted.

- During normal processing
When the size of memory pool is run out during save/restore processing the following message is displayed in the report file:

**ARC0291 NOT ENOUGH SPACE AVAILABLE FOR 'MRC4AL' MEMORY REQUEST.
NO MEMORY ALLOCATED**

In this case the size of the memory pool must be increase via the SYSPAR parameter file, Sub-System ARCHIVE stopped and started again and the request restarted. Especially when copying large save file the MEMORY-POOL-SIZE has to be taken in account (64 MB for approx. 320.000 files, 256 MB for approx. 1.200.000 files, ...).

SHOW-DEFAULT

With ARCHIVE 10.0A the command SHOW-DEFAULT shows the size of the memory pool as well.

```
*****  S H O W - D E F A U L T  C O M M A N D  R E P O R T  *****
PARAMETER FILE : :B10S:$TSOS.SYSPAR.ARCHIVE.100
DIRSAVE       : NO
DIR-S-PO-PU   : ARCHIVE.DIR
DIR-E-I-L     : NONE
DIR-R-Q       : $TSOS.ARCHIVE.DIR
CATID        : NO          CNS          : YES          DESTROY       : NO
OLS          : NO          OPERATOR     : NO          RESTART      : YES
SNR          : YES        STREAM       : YES        UNLOAD       : NO
WRCHK        : NO
NOW          : YES        MEMORY-POOL-SIZE: 64      TIME          : 00000
LIST-INQUIRE : TASK-TYPE-DEPENDING    LIST-OTHERS   : SYSLST
DEVICE-TAPE-T-C: TAPE-C4  CHECK-PUB-SPACE: NO      VOLUME       : POOL
PRIMARY       : 00000576  SECONDARY      : 00192      DUPLICATE    : YES
BLOCK-SIZE-DISK: MAX     BLOCK-SIZE-TAPE: STD    BLOCK-SIZE-T-C : BIG
COMPRESS      : NO       RETPD         : 00000     SAVE-ACL     : YES
SHARE-EXPORT  : YES     SHARE-SAVE    : NO       UNUSED      : 00000
BACKUP        : D       CHANGED        : YES
SPACE         : REORG   CONSIST.-CHECK : NO
TYPE          : LATER   TARGET-ARC-VER : FROM-V26B
ERLIST       : NO      FGERASE      : NO      SHUPDW      : 0600
STORAGE-TYPE  : ANY
```

Support of Last-Byte-Pointer (LBP)

With ARCHIVE 10.0A it is now possible to save and restore PAM files with LBP. The corresponding LBP is kept in any cases. While converting a file from KEY to NONKEY the LBP is new calculated according to the BLKSIZE of the corresponding file.

2.3 Hints for using Tape Encryption

In connection with BS2000 as of V8.0A and MAREN as of V12.0A and LTO4/5/6 tape drives a customer related tape encryption is possible to avoid illegal access to "stolen" tapes. Tape encryption can be easily used by declaring a special volume type (TAPE-U4E/U5E/U6E) within ARCHIVE.

Further information concerning tape encryption can be obtained from the MAREN V12.0A user manuals.

3 Technical information

3.1 Resource requirements

The following storage space is required for ARCHIVE operation:

- | | |
|--|-----------------|
| 1. Virtual address space (memory class 5): | more than 64 MB |
| 2. Static disk storage space: | less than 10 MB |
| 3. Dynamic disk storage space: | less than 10 MB |
| 4. Special hardware/firmware/ processor/real main memory: | not relevant |

3.2 Software configuration

- ARCHIVE V10.0A requires BS2000/OSD-BC as of V08.0A.
- HSMS V10.0A is required for HSMS operation with ARCHIVE V10.0A.
- If MAREN is used for tape administration, MAREN as of V12.0A is required.
- For LMS, a version as of V3.4A is needed.
- PAMINT of the corresponding BS2000-Version

3.3 Product installation

The installation of the product ARCHIVE with the installation monitor IMON is mandatory, as the execution of the product requires a consistent Software Configuration Inventory (SCI). The information concerning installation in the delivery cover letter and in the product documentation must be followed as well as the information given below. The necessary inputs and the sequence of the installation are described in the IMON documentation.

3.4 Product use

Information how to use ARCHIVE V10.0A can be found in the ARCHIVE V09.0A user guide. ARCHIVE V10.0A should be used to replace earlier ARCHIVE versions under BS2000 as of V7.0A. For HSMS operation there is a fixed coupling with HSMS V10.0A.

3.5 Obsolete functions (and those to be discontinued)

No functions have been discontinued since the previous version ARCHIVE V8.0B.

3.6 Incompatibilities

3.6.1 General

ARCHIVE V10.0A is fully compatible to ARCHIVE from V04.3A to V09.0B, regarding both operations and the directories and save files.

Forward compatibility is also assured. Backups made with ARCHIVE V10.0A can be restored with earlier ARCHIVE versions, apart from backups using large tape blocks and Net-Storage.

- Backups with large tape blocks can only be used with ARCHIVE \geq V7.0B and BS2000 as of V7.0A.
- Net-Storage files can only be used with ARCHIVE \geq V9.0B and BS2000 as of V9.0A.
- Net-Storage files of file type *NODE-FILE can only be used with ARCHIVE \geq V10.0A and BS2000 as of V10.0A.

3.6.2 SYSPAR.ARCHIVE.100

3.6.2.1 ARCHIVE 9.0A

The default setting of the tape-block-size for MBK of currently 32K or STD has been altered with ARCHIVE V9.0A to 256K or BIG. The default value is stored in the ARCHIVE parameter file SYSPAR.ARCHIVE.100 represented by the parameter BLOCK-SIZE-T-C (BLOCK-SITE-T-C=BIG).

The large tape blocks provide a much better tape performance. 256K tape blocks are supported as of BS2000 V6.0A. ARCHIVE automatically uses 32K tape blocks for devices which does not support 256K blocking (long tapes or TAPE-C1, TAPE-C2). ARCHIVE always uses 256K blocking for devices supported with BS2000 as of V6.0A. Safe files are always continued with the previously used blocking size.

The standard tape block size stored in SYSPAR.ARCHIVE.100 is always used if the ARCHIVE command or archive definition contains no value or the value STD.

If backup tapes must be shared between BS2000 as of 6.0A and lower version or backup tapes are exchanged with other localities the customer manually must modify the ARCHIVE parameter file and change BLOCK-SIZE-T-C to 32K blocking (BLOCK-SIZE-T-C=STD).

3.6.2.2 ARCHIVE 9.0B

The new switch "STORAGE-TYPE" for ARCHIVE, residing in SYSPAR file, was introduced to control the type of files to be handled.

* STORAGE-TYPE | ANY / PUBLIC-SPACE

Meaning:

STORAGE-TYPE=ANY

If no input restrictions (operand FROM within FILE command) were made, files from public disk, private disk and NetStorage are processed (standard).

STORAGE-TYPE=PUBLIC-SPACE

Files from Net-Storage are excluded from processing, only the catalogue entries will be saved.

3.6.2.3 ARCHIVE 10.0A

The new switch "MEMORY-POOL-SIZE" for ARCHIVE, residing in SYSPAR file, was introduced to control the size of the memory pool used.

* MEMORY-POOL-SIZE | 64 / 128 / 256 / 512

Meaning:

The size of the memory pool can be set to 64, 128, 256, 512 MB with 64 MB as default. With this new parameter the optional rep correction A0504121 is obsolete.

3.7 Restrictions

There are no restrictions for HSMS/ARCHIVE V10.0A.

3.8 Procedure in the event of errors

Im Fehlerfall werden folgende Unterlagen zu Diagnosezwecken benötigt:

- ARCHIVE statement log
- A detailed description of the error condition, stating whether and how the error can be reproduced.
- ARCHIVE report
- ARCHIVE checkpoint file in the case of PROCESS
- ARCHIVE directory file, if used and needed
- Input tapes in case of, for instance, ARC0180, ARC0777, ARC0778, ARC1001, ARC1002
- ARCHIVE Rep file
- Dump (if available)
- Console logging (CONSLOG)
- If necessary a trace can be ordered by the development department:
 - /START-ARCHIVE-TRACE (*ALL or list possible: *DEVICE or *MULTIPLEXING or *PACKET or *SYNCHRONIZATION or *PLAM or *MEMORY or *DIRECTORY / default: *ALL)
 - /MODIFY-ARCHIVE-TRACE (*ALL or list possible: *DEVICE or *MULTIPLEXING or *PACKET or *SYNCHRONIZATION or *PLAM or *MEMORY or *DIRECTORY / default: *ALL)
 - /STOP-ARCHIVE-TRACE

4 Hardware support

ARCHIVE V10.0A can be used on all systems supported by BS2000/OSD-BC as of V8.0A and supports all disk and tape types that are also supported by BS2000/OSD-BC as of V8.0A.