FUJITSU

FUJITSU Software BS2000 ARCHIVE

Version V11.0A

*2   June 2019

Release Notice

1   General

This Release Notice is a summary of major extensions, requirements and operating information with regard to ARCHIVE V11.0A under the BS2000 OSD/BC operating system.

*2   This release level is that of June 2019.

*1   Changes to release level June 2017 are marked with *1

*2   Changes to release level October 2017 are marked with *2

*2   The documentation is also available on the internet at
*2   https://bs2manuals.ts.fujitsu.com.

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

*2   ARCHIVE V11.0A is part of the software product HSMS V11.0A and cannot be
*2   ordered separately.
*2
HSMS V11.0A can be obtained from your local distribution company.

1.2   Delivery

HSMS V11.0A files are supplied via SOLIS.

*2   The following release units belong to the delivery scope of HSMS V11.0A:

*2   HSMS   V11.0A
*2
*2   ARCHIVE   V11.0A

2

*2   The current file and volume characteristics are listed in the SOLIS2 delivery cover letter.

1.3   Documentation

The OSD/BC documentation is available in German and English on DVD with the title BS2000 SoftBooks.

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

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

*2   The following documentation is available for HSMS V11.0A:
*2
*2
*2
*2   HSMS V11.0 Band 1, Funktionen, Verwalten und Installation   U6043-J-Z125-16
*2
*2   HSMS V11.0 Volume 1, Functions, Management and Installation   U6043-J-Z125-16-76
*2
*2   HSMS V11.0 Band 2, Anweisungen   U41035-J-Z125-10
*2
*2   HSMS V11.0 Volume 2, Statements   U41035-J-Z125-10-76
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*2   The manuals may be supplemented with README files. These contain changes and extensions to the manual of the product concerned. The file names are made up as follows:

SYSRME.HSMS.110.D   (file with German text)

SYSRME.HSMS.110.E   (file with English Text)

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The following documentation is available for <u>ARCHIVE V11.0A</u>:

Since no new user guides are published for ARCHIVE 11.0A, the previous user guides for ARCHIVE V09.0A must be used instead in conjunction with the RE-ADME files of ARCHIVE V10.0A end eventually V11.0A. For product installation see also the handbooks of the BS2000 version used. They may be helpful and the user guide of the installation monitor IMON as well.

ARCHIVE V9.0 Benutzerhandbuch   U3292-J-Z125-7

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

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The manuals may be supplemented with README files. These contain changes and extensions to the manual of the product concerned. The file names are made up as follows:

*2
*2
*2f

SYSRME.ARCHIVE.110.D.pdf   (file with German text)

SYSRME.ARCHIVE.110.E.pdf((file with English text)

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 statement /MOUNT-NET-STORAGE) can be saved and restored with ARCHIVE.

The new switch "STORAGE-TYPE" for ARCHIVE, residing in SYS-PAR.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 in-troduced. 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=<u>64</u>

*

See also 3.6.2.3

<u>Behavior of ARCHIVE with new parameter MEMORY-POOL-SIZE</u>

- During the ARCHIVE startup

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

  In case of erroneous values for MEMORY-POOL-SIZE are entered in parameter file the following messages is displayed on console during ARCHIVE startup:

  ARC0433   INVALID VALUE '11111' FOR PARAMETER 'MEMORY-POOL-SIZE' IN AR-
             CHIVE PARAMETER FILE. ANALYSIS CONTINUES

  ARC0436   INVALID ARCHIVE PARAMETER FILE. ARCHIVE LOADING ABORTED

  In this case a correct value must be entered in parameter files and the Sub-System ARCHIVE resp. HSMS restarted.

- During normal processing

  When the size of the memory pool is set too small 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 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 into account (64 MB for approx. 320.000 files, 256 MB for approx. 1.200.000 files, …).

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SHOW-DEFAULT

With ARCHIVE as of 10.0A the statement 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 calculated new according to the BLKSIZE of the corresponding file.

2.3   Extensions from ARCHIVE 10.0A to 11.0A

Support of SAM-Node-Files on Net-Storage with SE-Server

With ARCHIVE 11.0A SAM-NODE-Files on Net-Storage can be saved and restored either

*1
*1
with or without saving the files SAM structure (*on SE-Server only in connection with BS2000 OSD/BC V11.0A*).

A backup without saving the Sam structure saves the data exactly how the data is placed on Net-Storage, this means the data will not be converted. Therefor the backup is very performant. Without saving the SAM structure a restore is solely possible on Net-Storage. If Net-Storage is no longer available the corresponding files can't be restored any more.

The backup of SAM-Node-Files with SAM structure take a lot more time as the files are converted and the SAM blocks edited. If the SAM structure of the files has been saved the files can be restored as SAM-Node-Files on Net-Storage, as SAM files of type BS2000 on Net-Storage or as SAM files on public space.

Improved Error Recovery

Several tasks led to an improved error recovery in relationship with Backup-Server environment, in synchronisation of ARCHIVE subtasks and in accessing ARCHIVE directories in Backup-Server environment.

2.4   Hints for using Tape Encryption

In connection with BS2000 OSD/BC 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 V12.5A 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 V11.0A requires BS2000 OSD/BC as of V10.0A.
- HSMS V11.0A is required for HSMS operation with ARCHIVE V11.0A.
- 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 Con-figuration Inventory (SCI). The information concerning installation in the delivery cover letter and in the product documentation must be followed as well as the in-formation 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 V11.0A can be found in the ARCHIVE V09.0A user guide. ARCHIVE V11.0A should be used to replace earlier ARCHIVE versions under BS2000 OSD/BC as of V10.0A. For HSMS operation there is a fixed coupling with HSMS V11.0A.

3.5   Obsolete functions (and those to be discontinued)

- SPARC HSI is no longer supported, corresponding libraries are no longer delivered.

*1
- ARCHIVE V11.0A will be no longer delivered for the SQ hardware range.

3.6 Incompatibilities

3.6.1 General

ARCHIVE V11.0A is fully compatible to ARCHIVE from V04.3A to V10.0A, re-garding both operations and the directories and save files.

Forward compatibility is also assured. Backups made with ARCHIVE V11.0A 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 >= V7.0B and BS2000 OSD/BC as of V7.0A.

-   Net-Storage files can only be used with ARCHIVE >= V9.0B and BS2000 OSD/BC as of V9.0A.

-   Net-Storage files of file type *NODE-FILE can only be used with ARCHIVE >= V10.0A and BS2000 OSD/BC as of V10.0A.

-   SAM-Node-Files on Net-Storage (file type *NODE-FILE) can only be used with ARCHICE >= V11.0A and BS2000 OSD/BC as of V11.0A.

3.6.2 SYSPAR.ARCHIVE.xxx

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.090 represented by the parame-ter

BLOCK-SIZE-T-C (BLOCK-SITE-T-C=BIG).

The large tape blocks provide a much better tape performance, thus smaller tape blocks should not be used (possible with TAPE-C4 but not recommended). With LTO drives ARCHIVE uses 256k blocks only, despite the settings within the pa-rameter file. Save files will be continued with the previously used block size.

The standard tape block size stored in parameter file is always used if the AR-CHIVE statement or archive definition contains no value or the value 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 statement) were made, files form 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 intro-
duced to control the size of the memory pool used.

* MEMORY-POOL-SIZE | <u>64</u> / 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 it obsolete.

3.7   Restrictions

There are no restrictions for HSMS/ARCHIVE V11.0A.

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 *SYNCRONIZATION or
  *PLAM or *MEMORY or *DIRECTORY / default: *ALL)
- /MODIFY-ARCHIVE-TRACE(*ALL or list possible: *DEVICE or *MULTIPLEXING or *PACKET or *SYNCRONIZATION or
  *PLAM or *MEMORY or *DIRECTORY / default: *ALL)
- /STOP-ARCHIVE-TRACE

4   Hardware support

ARCHIVE V11.0A can be used on all systems supported by BS2000 OSD/BC as
of V10.0A and supports all disk and tape types that are supported by BS2000
OSD/BC as of V10.0A.