

Fujitsu Technology Solutions

HSMS (BS2000/OSD)  
Version 9.0A  
April 2009

Release Notice

All rights reserved, including intellectual property rights. Technical data are subject to modifications and delivery is subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner. For further information see [http://ts.fujitsu.com/terms\\_of\\_use.html](http://ts.fujitsu.com/terms_of_use.html)

Copyright © Fujitsu Technology Solutions 2009

Release Notice HSMS V9.0A

<b>1 General</b>	<b>2</b>
1.1 Ordering	2
1.2 Delivery	3
1.3 Documentation	4
<b>2 Software extensions</b>	<b>5</b>
2.1 Extensions from 8.0B to 9.0A	5
2.2 Hints for using Tape Encryption	6
<b>3 Technical information</b>	<b>7</b>
3.1 Resource requirements	7
3.2 Software configuration	7
3.3 Product installation	8
3.4 Product use	8
3.5 Discontinued functions (and functions to be discontinued)	8
3.6 Incompatibilities	9
3.6.1 Generally	9
3.6.2 SYSPAR.ARCHIVE.090	9
3.7 Restrictions	10
3.8 Procedure in the event of errors	10
<b>4 Hardware support</b>	<b>10</b>

# 1 General

HSMS (Hierarchical Storage Management System) supports the management of externally stored data (files, job variables). It operates in close conjunction with the ARCHIVE software product, which is included in HSMS delivery.

The content corresponds to release status of April 2009.

With its basic backup, long-term archiving and IMPORT/ EXPORT functions, HSMS provides the ARCHIVE range of functions via a convenient interface. In addition, HSMS provides the migration function which helps relieve the workload on high-grade, high speed disks. HSMS is a further step towards automating the computer centre.

The release notice is also supplied as a file (in upper/lower case). Customers will receive an updated version of this file if any subsequent changes are made.

The command for printing this file is:

```
/PRINT-FILE SYSFGM.HSMS.090.D,CONTROL-CHARACTER=EBCDIC  
(German)
```

or

```
/PRINT-FILE SYSFGM.HSMS.090.E,CONTROL-CHARACTER=EBCDIC  
(English)
```

Since HSMS V9.0A includes ARCHIVE V9.0A, refer also to the ARCHIVE V9.0A release notice. The command for printing this file is:

```
/PRINT-FILE SYSFGM.ARCHIVE.090.D,CONTROL-CHARACTER=EBCDIC  
(German)
```

or

```
/PRINT-FILE SYSFGM.ARCHIVE.090.E,CONTROL-CHARACTER=EBCDIC  
(English)
```

If you want to install this version of HSMS or ARCHIVE by skipping one or more previous versions, you must take care to the information contained in the corresponding Release Notices.

## 1.1 Ordering

HSMS V9.0A can be ordered from your local distributors. The ARCHIVE V9.0A software product is included in delivery. This product is subject to the general terms and conditions of the software product use and service agreement.

## 1.2 Delivery

HSMS V9.0A files are delivered via SOLIS.

The following files are included in delivery:

HSMS

----

SYSFGM.HSMS.090.D	Release note (German)
SYSFGM.HSMS.090.E	Release note (English)
SYSFHS.HSMS.090	Library with FHS masks
SYSLIB.HSMS.090	Library for program interface
SYSLNK.HSMS.090	Object module library (TU)
SYMES.HSMS.090	Message file (MSGMAKER)
SYSNRF.HSMS.090	NOREF file for HSMS subsystem
SYSPRG.HSMS.090	Load module
SYSRMS.HSMS.090	RMS delivery set
SYSSDF.HSMS.090	Syntax file (HSMS statements)
SYSSII.HSMS.090	Installation information for IMON
SYSSSC.HSMS.090	Subsystem declaration
SYSLNK.HSMS.090.TPR	load module library for the privileged part of HSMS (for /390 architecture)
SPMLNK.HSMS.090.TPR	load module library for the privileged part of HSMS (for SPARC64 architecture)
SKMLNK.HSMS.090.TPR	load module library for the privileged part of HSMS (for X86 architecture)

HSMS-API

-----

SYSLIB.HSMS-API.090	Library for program interface
SYSRMS.HSMS-API.090	RMS delivery set
SYSSII.HSMS-API.090	Installation information for IMON
SYSSSC.HSMS-API.090	Subsystem declarations
SYSLNK.HSMS-API.090	load module library for the privileged part of HSMS-API (for /390 architecture)
SPMLNK.HSMS-API.090	load module library for the privileged part of HSMS-API (for SPARC64 architecture)
SKMLNK.HSMS-API.090	load module library for the privileged part of HSMS-API (for X86 architecture)

### 1.3 Documentation

The following manuals are included in HSMS V9.0A delivery:

Title	Order No.
HSMS / HSMS-SV V9.0 Band 1 Funktionen, Verwaltung und Installation Benutzerhandbuch	! U6403-J-Z125-13
HSMS / HSMS-SV V9.0 Band 2 Anweisungen Benutzerhandbuch	! U41035-J-Z125-7
HSMS / HSMS-SV V9.0 Volume 1 Functions, Management and Installation User Guide	! U6043-J-Z125-13-76
HSMS / HSMS-SV V9.0 Volume 2 Statements User Guide	! U41035-J-Z125-7-76
HSMS / HSMS-SV V9.0 Tabellenheft	! U5136-J-Z125-13
HSMS / HSMS-SV V9.0 Ready Reference	! U5136-J-Z125-7-76

For ARCHIVE V9.0A a new user guide is not published. The user guide of ARCHIVE V6.0A and the readme file of ARCHIVE V9.0A must be used instead.

Additionally, the user guides for the BS2000/OSD version used and the user guide for the installation monitor IMON are required to avoid problems with the product installation.

The documentation is available as online user guide on

<http://manuals.ts.fujitsu.com>

or can be ordered with extra costs on:

<http://manualshop.ts.fujitsu.com>

## 2 Software extensions

### 2.1 Extensions from 8.0B to 9.0A

- Fast Remigration of files  
For files not altered since the last recall a fast remigration is issued. The last recall date is stored in the catalog entry (CE) of each file. During a remigration of such files only the position information of the previous migration is saved, the corresponding file self remains untouched, no tape action.
- IMP/CES without dierectory  
For the commands //IMPORT-FILE and //COPY-EXPORT-SAVE-FILE is now only the specification of a SFID (Safe-File-ID) necessary, according to a new interface with MAREN V12.0A. The user don't has to specify a directoty or any volumes. Only in Connection with MAREN V12.0A !!
- Fast emergency restore of a saved directory  
Irrespective of the size of a tape a fast emergency restore of a saved directory is possible. Within the end-of-tape mark the position of the last directory saved on this tape is stored. In case of an emergency restore the tape position of the directory can easily be found from the end of tape. A sequential reading of the tape is no longer necessary.

With MAREN V12.0A the new MAREN catalog field DIR-ON-VOLUME has been introduced for each volume. If a HSMS directory is saved this field oth the corresponding tape entry gets a value.

Possible values at the moment:

' ' = not used/unilised  
'Y' = volume contains a valid and updated directory  
'N' = volume contains one or more invalid directories  
(SFID was continued on several other volumes)

- Output of report as element of an existing library  
As yet in a file the HSMS report can now be stored as a P-element in an excisting library.
- Output of report as email  
As yet on printer the HSMS report can now be sent as an e-mail attachment to an email address stored within the join entry.  
Only in connection with BS2000-OSD V8.0A !!
- Usage of upper and lower case letters for Snap-Sets  
With BS2000-OSD V8.0A the number of possible Snap-Sets has been raised to 52. To identify these Snap-Sets HSMS accepts and differentiates upper and lower case letter in the according commands.  
Only in connection with BS2000-OSD V8.0A !!

- Performance enhancements for Backup and Restore  
A performance enhancement for backup and restore of small and medium sized data was achieved by reducing Write-Cats in open and close processing if the catalog entry (CE) actually was not modified.
- New possibility for deleting requests  
Instead of using the HSMS command //DELETE-REQUESTS a delete marker '/' can be set in the edit mask of the //SHOW-REQUESTS command.

## 2.2 Hints for using Tape Encryption

In connection with BS2000-OSD V8.0A, MAREN V12.0A and LT04 tape drives a customer related tape encryption is possible to avoid illegal access to "stolen" tapes. Tape encryption can easily be used by declaring a special volume type (TAPE-U4E) within HSMS.

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

## 3 Technical information

### 3.1 Resource requirements

HSMS needs the following amount of storage:

1. Virtual Adress Space.  
Less than 1 Mbyte
2. Static Disc Space  
Less than 22 Mbytes
3. Dynamic Disc Space  
Not relevant
4. Special hardware/firmware/processor type/Real memory.  
Not relevant

### 3.2 Software configuration

HSMS V9.0A is allowed to run on BS2000/OSD from V6.0A onwards.

For operating HSMS V9.0A, the following software products are required:

- ARCHIVE V9.0A with PAMINT of installed BS2000 version,
- PLAM with version V3.3A or higher
- CCOPY with version as delivered in the installed version of BS2000/OSD for Backup with Concurrent-Copy=\*Yes
- SHC-OSD with actual version and correction step as released for installed version of BS2000/OSD for use with CCOPY
- FHS for HSMS show commands with version V8.2D or newer, needed for syslst output of the 43 line masks
- SECOS with versions as released for the installed BS2000 version for function CoOnwing of Archives
  
- optional JV with version corresponding to BS2000 version for providing control JVs by HSMS,
- POSIX for work on node files with versions as released for the installed BS2000 version
- optional MAREN for tape administration from V10.0A,
- optional DAB for internal caching of directories and other HSMS metafiles with a version as released for the installed BS2000 version

### 3.3 Product installation

The installation of the product with the installation monitor IMON is mandatory, as the execution of the product requires a consistent Software Configuration Inventory (SCI).

The necessary inputs and the sequence of the installation are described in the IMON documentation.

Some important notes are written in the ARCHIVE Release Notice and should be read before beginning the installation of HSMS.

During the installation with IMON < V2.9A it is vital necessary that the following sequence of instructions is taken in account if HSMS/ARCHIVE V8.0B should be activated within the running session (dynamic SubSystem catalog):

- 1) /STOP-SUB HSMS --> HSMS, HSMS-SV and HSMS-API must not be started
- 2) Installation of Software with IMON
- 3) /STOP-SUB ARCHIVE --> ARCHIVE must not be started
- 4) /REMOVE-SUBSYSTEM SUBSYSTEM-NAME=HSMS-API,VERSION=xx.x  
/REMOVE-SUBSYSTEM SUBSYSTEM-NAME=HSMS-SV,VERSION=xx.x  
/REMOVE-SUBSYSTEM SUBSYSTEM-NAME=HSMS,VERSION=xx.x  
/REMOVE-SUBSYSTEM SUBSYSTEM-NAME=ARCHIVE,VERSION=xx.x  
whereby xx.x is the version to be replaced, e.g. 06.0
- 5) Activation of Software with IMON

If the product is not installed with the installation monitor IMON the following instructions for the product installation have to be followed in addition to the information provided in the delivery cover letter and the product documentation:  
The Release Item "SYSPRG.HSMS.090" (HSMS program) must be installed under the name "\$.HSMS".

### 3.4 Product use

None, ref. to user guide.

### 3.5 Discontinued functions (and functions to be discontinued)

None, especially not compared to previous versions V5.0A to V8.0B.

## 3.6 Incompatibilities

### 3.6.1 Generally

- Refer to the section on downgrading to earlier versions described in the HSMS user guide.  
The HSMS V9.0A control file is only upwards compatible to those of HSMS V5.0A to V8.0B. The control file has to be saved for an eventual later downgrade to the previous version and then re-installed.
- The primary allocation for a backup on disk is now of 36 PAM pages. The secondary allocation of 1 to 35 is no more allowed.
- The default value of SAVE-ACL parameter stays set to YES, although BS2000/OSD from V5 cancels ACL support and HSMS then ignores the SAVE-ACL Option.
- The default value of the operand FILE-CONVERSION in the HSMS statements RESTORE-FILES and IMPORT-FILES is changed from \*NO to \*STD.
- Save files on disk are created in a neutral NK file format, independently of the pubset format. Therefore continuation of disk save files from previous versions (less than 7.0A) is not possible.
- At loading time of the HSMS Subsystem, an invalid request file will produce the abortion of this loading instead of a switching to DEFINE-SHOW mode.

### 3.6.2 SYSPAR.ARCHIVE.090

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

The large tape blocks provide a much better tape performance. 256K tape blocks are supported as of BS2000-OSD 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-OSD as of V6.0A. Safefiles are always continued with the previously used blocking size.

The standard tape block size stored in SYSPAR.ARCHIVE.090 is always used if the HMS command or archiv definition contain no value or the value STD.

If backup tapes must be shared between BS2000-OSD 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).

### 3.7 Restrictions

None.

### 3.8 Procedure in the event of errors

If an error occurs, the following error information is required for diagnosis:

- Console logging (CONSLOG)
- Runtime log (SYSOUT protocol)
- REP files for HSMS and ARCHIVE
- HSMS report ("REPORT=FULL")
- DIRECTORY, if there are write/read or SHOW-ARCHIVE errors
- HypertapeMedia-Report, if used and HSMS-API errors
- ARCHIVE checkpoint file, if the error occurred during write or read jobs
- ARCHIVE trace of communication to HSMS-CL, trace is recorded in POSIX file system, see SYSFGM.ARCHIVE.080.E
- Dump, if any
- The SERSLOG file
- HSMS-Trace, if any

## 4 Hardware support

HSMS V9.0A as well as ARCHIVE V9.0A support all hardware configurations, i.e. all machines and periphery (disk and tape) allowed for use with the supported BS2000/OSD versions.