
Fujitsu Technology Solutions

MAREN (BS2000/OSD)
Version 12.0B
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Release Notice

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1 General

This Release Notice is a summary of the major extensions, requirements and operating information with regard to MAREN V12.0B under the BS2000/OSD(*) operating system.

The release level is that of 12.0B00 from October 2009.

The Release Notice is shipped on the product delivery medium.

This and other current Release Notices are shipped on the SoftBooks DVD and are available online at <http://manuals.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

MAREN V12.0B can be ordered from your local distributors and is subject to the general terms and conditions of the software product use and service agreement.

1.2 Delivery

The MAREN V12.0A files are supplied via SOLIS.

The following delivery components are required regardless of the HSI:

SIPLIB.MAREN.120	Library with privileged interfaces for MAREN
SYSDAT.MAREN.120.CATALOG	Empty MAREN catalog in NK-ISAM format
SYSENT.MAREN.120.MARENUCP	Start job for MARENUCP
SYSENT.MAREN.120.RFA.MARENCNP	Start job for MARENCNP in RFA mode
SYSENT.MAREN.120.SPD.MARENCNP	Start job for MARENCNP in SPD mode
SYSFHS.MAREN.120.D	FHS format library (German)
SYSFHS.MAREN.120.E	FHS format library (English)
SYSFGM.MAREN.120.D	Release Notice (German)
SYSFGM.MAREN.120.E	Release Notice (English)
SYSLIB.MAREN.120	MAREN-GC library that also contains the MARENU and MAREN1U modules
SYSLNK.MAREN.120	Library with the LLMs for MAREN / MARENADM / MARENCNP / MARENUCP / MARENLM / MARARCH
SYSMES.MAREN.120	Message file
SYSNRF.MAREN.120	MAREN-NOREF file
SYSPRC.MAREN.120	Procedures for starting MARENCNP in a HIPLEX-AF environment
SYSPRG.MAREN.120.ARCHIVE	MAREN link to ARCHIVE
SYSPRG.MAREN.120.MAREN	User program MAREN (prephase)
SYSPRG.MAREN.120.MARENADM	Administration program MARENADM (prephase)
SYSPRG.MAREN.120.MARENCNP	Control program MARENCNP (prephase)
SYSPRG.MAREN.120.MARENUCP	Automatic free tape assignment MARENUCP (prephase)

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SYSRMS.MAREN.120	RMS delivery set
SYSSDF.MAREN.120	SDF syntax file
SYSSDF.MAREN.120.USER	(Optional) SDF user syntax file for /START-MARENADM for system without SECOS.
SYSSII.MAREN.120	Structure information for IMON
SYSSPR.MAREN.120	Library with SDF-P procedures (required for starting MARENADM From the user syntax file
SYSSSC.MAREN.120	Subsystem declaration

The following delivery items are only needed on /390 servers:

SYSLNK.MAREN.120.TPR	Library with MAREN subsystem LLM
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The following delivery items are only needed on SX servers:

SPMLNK.MAREN.120.TPR	Library with MAREN subsystem LLM
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The following delivery items are only needed on SQ servers:

SKMLNK.MAREN.120.TPR	Library with MAREN subsystem LLM
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The current file and volume attributes are listed in the SOLIS2 delivery letter.

1.3 Documentation

The following documentation is available for MAREN V12.0B:

MAREN V12.0 Band 1:	Grundlagen der MBK-Verwaltung	U2106-J-Z125-12
MAREN V12.0 Band 2:	Benutzerschnittstellen	U4146-J-Z125-11
MAREN V12.0 Vol 1:	Basics of MTC Management	U2106-J-Z125-12-76
MAREN V12.0 Vol 2:	User Interfaces	U4146-J-Z125-11-76

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

The documentation is also available in the form of online manuals at <http://manuals.ts.fujitsu.com> or can be ordered at extra cost at <http://manualshop.ts.fujitsu.com>. In the manual shop only manuals are available for products which are still orderable.

The manuals are shipped as PDF files on the product medium.

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.MAREN.120.D	(file with German text)
SYSRME.MAREN.120.E	(file with English text)

2 Software extensions

Only the extensions and enhancements over the previous version MAREN V11.0A are described below.

2.1 Software extensions as of MAREN 12.0A

2.1.1 Encryption of volume contents with LTO-4/5

Drives that are equipped with the hardware feature 'Tape Encryption' are supported for the first time with LTO-4/5 in BS2000 as of OSD V8.0A. The key encryption as well as the control of encryption and decryption are implemented with MAREN V12.0A

MARENEKM (Encryption Manager)

The administration program MARENEKM (MAREN Encryption Key Manager) is used by the MAREN administrator as a central utility routine for the administration of the encryption keys, with which the hardware feature 'Tape Encryption' can be used by LTO-4/5 drives.

The statements of MARENEKM are permitted under all IDs that have the new system privilege TAPE-KEY-ADMINISTRATION. As standard this privilege is assigned to the system ID SYSMAREN and can also be issued to other IDs via SECOS. The privilege TAPE-KEY-ADMINISTRATION is supported as of OSD V8.0A.

The following MARENEKM statements are provided:

CREATE-ENCRYPTION-KEY	creates an encryption key and enters it in the key box
ADD-ENCRYPTION-KEY	enters an encryption key in the key box.
SET-WRITE-ENCRYPTION-KEY	sets an encryption key for encryption
REMOVE-ENCRYPTION-KEYS	removes encryption keys from the key box
SHOW-ENCRYPTION-KEYS	shows the encryption keys of a key box
COPY-ENCRYPTION-KEYS	copies encryption keys into another key box
DELETE-KEY-BOX	deletes a key box
REPAIR-KEY-BOX	repairs a key box
EXPORT-KEY-BOX	creates a transfer key box for another domain
IMPORT-KEY-BOX	imports a transfer key box into a domain
MODIFY-VOLUME-ENCRYPTION-ATTR	updates the encryption attributes of an encrypted volume
SHOW-VOLUME-ENCRYPTION-ATTR	shows encryption attributes of volumes

Note:

MAREN V12.0A only supports the function 'Tape Encryption' as of BS2000/OSD V8.0, because LTO-4/5 devices are not supported by the operating system in older OSD versions.

The encryption management program (MARENEKM) can only be started on servers as of OSD V8.0. A key box for encryption is only set up on remote servers, on which versions as of OSD V8.0 and MAREN V12.0 run.

'Tape Encryption' is supported on /390 and SQ servers, but not on SX servers. To perform encryption on /390 and SQ servers it is prerequisite to connect to an LTO-4/5 devices. For example 'Tape Encryption' is not effective when a CentricStor is connected.

2.1.2 Initialization of new volumes

The initialization of new volumes has been simplified. When entering free volumes using //ADD-FREE-VOLUMES, simultaneous writing in an output file (Init-File) and the use of the extended operand INITIALIZATION in MAREN V12.0 can make the interim step via //FREE-VOLUMES no longer applicable. The tapes can re-initialized by directly using the statement //INIT-VOL and the created Init-File.

2.1.3 Inheritance of administrator rights to batch tasks

The //ENTER-MAREN-PROCEDURE statement is used to start an ENTER procedure, in which the current MAREN rights (MARENADM, ALL-DOMAIN-ADMIN) are inherited. Thus it is no longer necessary to specify the administrator password and authentication as an All-Domain Administrator in the procedure. The //ENTER-MAREN-PROCEDURE statement supports a subset of the parameters of the command ENTER-PROCEDURE. It is only possible to inherit rights under the same user ID and during the same session.

2.1.4 Immediate effectiveness when the MARENUCP parameter is changed

Up to MAREN V11.0A the MOUNT-CHECK-INTERVAL and RESERVATION-SEQUENCE parameters were defined in the enter procedure at the start of MARENUCP. With MAREN V12.0A they are included in the host-specific parameter record and can be changed in accordance with the other host-specific parameters using //MODIFY-MAREN-PARAMETERS. The set values are output with //SHMP when the parameters are displayed.

When MARENUCP is started for the first time in MAREN V12.0, the parameter values contained in the ENTER procedure are transferred. Then they are ignored. The parameters INIT, PROPOSE and UCON-USER-ID are not included in the host-specific parameter record.

To ensure compatibility the UCON-USER-ID parameter continues to be evaluated at the start of MARENUCP, because non-specification of the parameter means that the administrator must define an operator role. INIT and PROPOSE are no longer evaluated.

2.1.5 The name of the operator role can be freely defined

In MAREN V11.0A an operator role was introduced with the stipulated name SYSMAREN. If this operator role is assigned to an ID, then the latter is entitled to execute specific MAREN components / functions. In *MAREN V12.0A* the name of the operator role can be freely allocated. For this purpose the host-specific parameter OPERATOR-ROLE (with the default 'SYSMAREN') has been introduced with the statement

//MOD-MAREN-PARAMETERS. The set value is output with //SHMP when the parameters are displayed.

2.1.6 Output files in csv format and sending output files by e-mail

In order to enable improved follow-up processing, output files from MARENADM (previous operand OUTPUT-FILE) can also be created in csv format (comma separated value). You can use the parameter SEND-BY-MAIL to define whether a created file is to be sent by e-mail. The e-mail address that is assigned to the user ID of the caller is used as the recipient address.

Supported MARENADM statements:

```
//PRINT-VOLUME-ATTRIBUTES
//RESERVE-FREE-VOLUME
//SHOW-FREE-VOLUMES
//SHOW-VOLUME-ATTRIBUTES
```

Supported MAREN statements:

```
//PRINT-VOLUME-ATTRIBUTES
//RESERVE-FREE-VOLUME
//SHOW-VOLUME-ATTRIBUTES
```

The previous operand "OUTPUT-FILE" is renamed in the above statements (and also in the statement //SHOW-VSNS) to "OUTPUT". OUTPUT-FILE continues to be supported for reasons of compatibility to the prior version.

Note:

The sending of CSV files by e-mail is only supported in versions from BS2000/OSD V8.0 because the basic function SEND-MAIL of the operating system is not provided in older systems. Although a CSV file can be created in older OSD versions, it cannot be sent.

2.1.7 Definition of the All-Domain-Admin authorization as a standard for the administrator

Introduction of a host-specific parameter DEFAULT-ADMIN-SCOPE (with default *OWN-DOMAIN). This defines the value for the administration scope (*OWN-DOMAIN/*ALL-DOMAIN), which an administrator receives after calling up MARENADM. The parameter DEFAULT-ADMIN-SCOPE can be modified with //MODIFY-MAREN-PARAMETERS and displayed with //SHOW-MAREN-PARAMETERS (Note: The parameter is only displayed if the user is ADA or if domain protection is disabled (behavior as with the parameter ADA-ALLOWED)).

2.1.8 Replacement of the program MARENADM.ARCHIVE with the MARENADM statement

The function of the program MARENADM.ARCHIVE, used to transfer data from an ARCHIVE or HSMS directory, is integrated in MARENADM (statement //UPDATE-MAREN-CATALOG).

Note:

The transfer of the data from HSMS is only supported as of HSMS V7.0. For HSMS < V7, the transfer must still be effected with MARENADM.ARCHIVE. For reasons of compatibility to the prior version the program MARENADM.ARCHIVE is to be delivered (but for the last time)!

2.1.9 (Automatic) Continuation of dialog tasks after temporary failure of MARENCP

If MARENCP fails, dialog tasks in predecessor versions "MAR0084 WAITING TIME RUNOUT FOR MAREN TRANSACTION PROCESSING" and "MAR0061 CONTROL PROGRAM MARENCP NOT LOADED ON LOCAL HOST" are output after SYSOUT and abort the statement. The user must then repeat the statement. MAR0090 is also output as a question as of MAREN V12.0A. The user can then decide for himself whether he wants to abort the transaction and thus his statement or whether the transaction should be repeated and his statement therefore continued. In procedure mode the old behavior is retained.

For batch tasks the solution had already been implemented (retroactively) in MAREN V11.0 as a source correction and has been already released with correction package 1/07.

2.1.10 Logging of cross-host administrator actions

If a MAREN administrator makes status changes to the MAREN system (stopping MARENCP and MARENUCP and changing logging files, etc.) not only for his own processor but also for other processors in the MAREN network, then information about status changes and their causes are output on consoles on the respective processors.

2.1.11 Improvement when updating the MAREN catalog with logging files

A backup version of the MAREN catalog can be updated through the inclusion of MAREN logging files. Several logging files can be specified simultaneously in MAREN V12.0A, the Operand LOGGING-FILE of the statement //UPDATE-MAREN-CATALOG has been extended by the details of a list (up to 99 files). With a MAREN network the logging files of the individual processors first had to be mixed using SORT in previous versions; as of MAREN V12.0 this is now no longer necessary.

2.1.12 Display of ADA-ALLOWED

In MAREN V11 information was only output for your own processor with //SHOW-MAR-PAR. In MAREN V12 the information is also output in the host list from //SHOW-MAR-PAR.

In both cases the information is only output if the user is ADA or if the domain protection is disabled and the administrator is therefore always ADA.

2.1.13 Improved interface to ARCHIVE/HSMS

2.1.13.1 IMPORT-FILE and COPY-EXPORT-SAVE-FILE without directory

With ARCHIVE/HSMS V9.0A a new interface is introduced for IMPORT-FILE and COPY-EXPORT-SAVE-FILE when a Save-File-ID (SFID) is specified. A directory or the respective volumes then no longer need to be specified. MAREN then supplies to HSMS all the volumes that belong to a Save-File, sorted according to volume sequences, via the TPR interface.

Note:

Only in conjunction with ARCHIVE/HSMS from V9.0A.

2.1.13.2 Directory indicator in MAREN

As a form of disaster control (i.e. reconstruction of the archive directory from the volume in case of an emergency) ARCHIVE offers to back up the current directory at the end of the volume so that - if the directory on the disk is lost - it can be restored from this volume via a simple ARCHIVE/HSMS interface.

With ARCHIVE/HSMS V9.0A and MAREN V12.0A a volume receives a new identifier when backing up the directory in the MAREN catalog. This provides information as to whether the volume has a directory.

This is displayed for an individual volume with //SHOW-VOLUME-ATTR. Selection can be made according to this identifier by extending the parameter DIRECTORY-NAME with "DIRECTORY-ON-VOLUME = *ANY / *YES". When output in a list, the Save-File and new identifier are output in addition to VSN and Directory.

Note:

Only in conjunction with ARCHIVE/HSMS from V9.0A.

2.1.13.3 Implicit purge in HSMS

As of HSMS V8 it is possible to make "obsolete" volumes re-usable more quickly. Instead of an explicit purge with deletion of SaveFiles and release of volumes, an implicit purge can be performed during backup so that obsolete SaveFiles can be deleted and your volumes released before the actual backup (after Retpd). In an ideal case, the released volume can be directly reused as a scratch volume during the following backup.

After a purge the MAREN administrator previously had to explicitly release the volumes with //FREE-VOLUMES so that they were once again available for use as scratch volumes.

If MAREN is informed by HSMS/ARCHIVE that an implicit purge is to be performed, then as of MAREN V12.0A the volume is released immediately, unless:

- the MAREN administrator or the user has used //MOD-VOL-ATTR FREE-DATE= or EXPIRATION-DATE= to change the release date of the volume or file when it was being reserved or written. This must be interpreted by MAREN in such a way that the volume is no longer subject to the normal cycle.
- the MAREN administrator or the user has used //MOD-VOL-ATTR INIT=ERASE to define that the volume must be deleted after release. This can only be done using the MARENADM statement //INIT-VOL.

Note:

Only in conjunction with HSMS from V8.0A.

2.2 Software extensions as of MAREN 12.0B

2.2.1 Support of LTO-6

Since MAREN 12.0B magnetic tape drives LTO-6, including encryption, will be supported with BS2000-OSD as of V9.0, but only in /390-environment (same support as magnetic tape drives LTO-4/5). See also 2.1.1.

3 Technical information

3.1 Resource requirements

Virtual address space	12 MB, memory classes: 3/4/5
Static disk storage space	Less than 12 MB
Dynamic disk storage space	Approximately 20 MB
Special hardware/firmware/processor type/main memory:	n/a

3.2 SW configuration

The following must be noted when using MAREN V12.0B:

- MAREN V12.0B will run under BS2000 as of version 15.0, i.e. BS2000/OSD-BC as of V6.0.
- In an inhomogeneous network of multiple hosts, the host environments must match each other. This means in particular that **at least MAREN V11.0A14 or MAREN V10.0A29** must be in use.

The following (optional) software products are required for particular MAREN functions:

ARCHIVE	>=	V07.0A	
	>=	V09.0A	- DIR-ON-VOLUME attribute is set
CSC	>=	V06.1A	
HSMS	>=	V07.0A	
	>=	V08.0A	- Implicit purge in HSMS
	>=	V09.0A	- IMP/CES without directory - DIR-ON-VOLUME attribute is set
JV	>=	V15.0A	
LMS	>=	V03.3A	LMS is used internally for executing the //PRINT-VOLUMES-ATTRIBUTES statement.
HIPLEX/MSCF	>=	V03.0A	For state changes in the MAREN network.
PROP-XT	>=	V01.1A	
RFA	>=	V14.0A	
RSO	>=	V03.2A	
SDF-P	>=	V02.2A	
SORT	>=	V07.8A	- For creating printer lists - For the specification of several logging files (UPDATE-MAREN-CATALOG)
TLS	>=	V01.2A	
PERCON	>=	V02.7A	
ROBAR	>=	V05.0A	
RAV	>=	V05.0A	
AVAS	>=	V05.0A	
BS2000/OSD	>=	V8.0	- Sending of output files by e-mail - MARENEKM program for the administration of the keys - Support of the LTO-4 devices - Support of the privilege TAPE-KEY-ADMINISTRATION
SECOS	>=	V5.2A	- SAT events for MARENEKM

The currently released SOLIS delivery levels must be used for each software product.

3.3 Product installation

Installation of the product MAREN with the installation monitor IMON is mandatory. 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 with IMON are described in the IMON documentation.

3.4 Product use

If ROBAR is used, ROBAR-CL must be terminated and restarted after exchanging the MAREN version.

Courses for MAREN are offered by Fujitsu Technology Solutions (<http://www.ts.fujitsu.com/services>).

3.5 Obsolete functions (and those to be discontinued)

The library system 3594-L10 and 3594-L12 and their corresponding product TLS will be no longer supported as of BS2000/OSD-BC V7.0.

3.6 Functions supported for the last time

The MARENADM.ARCHIVE program is terminated and supplied for the last time with MAREN V12.0B. Its functionality is already supported with MAREN V12.0B in the extended statement //UPDATE-MAREN-CATALOG (see 2.1.8).

3.7 Incompatibilities

3.7.1 MARENUCP parameters

The MARENUCP parameters MOUNT-CHECK-INTERVAL, RESERVATION-SEQUENCE, INIT and PROPOSE are no longer supported
INIT and PROPOSE are deleted without any replacement, because they no longer need to be supported.
MOUNT-CHECK-INTERVAL and RESERVATION-SEQUENCE are to be included in the host-specific parameter record (see 2.1.4).

3.7.2 Replacement of the operand OUTPUT-FILE by OUTPUT

The renaming of the operand OUTPUT-FILE in OUTPUT is done to increase flexibility when it comes to choosing the output medium. In particular, the fact that no output on SYSOUT is received for output into an S variable can be controlled.
The operand has been renamed for the following statements:

MAREN statements:

PRINT-VOLUME-ATTRIBUTES
RESERVE-FREE-VOLUME
SHOW-VOLUME-ATTRIBUTES

MARENADM statements:

PRINT-VOLUME-ATTRIBUTES
REMOVE-USER-VOLUMES
RESERVE-FREE-VOLUME
SHOW-FREE-VOLUMES
SHOW-VOLUME-ATTRIBUTES

For compatibility reasons all possible details/abbreviations of the old operand OUTPUT-FILE are supported as alias names.

If the statements SHOW-VOLUME-ATTRIBUTES, RESERVE-FREE-VOLUME or SHOW-FREE-VOLUMES implicitly accept the presetting for OUTPUT[-FILE], output is then effected compatibly to *SYSOUT as before. However, if OUTPUT[-FILE] = *NONE is explicitly specified, a change in conduct results as the output in this case no longer goes to *SYSOUT as of MAREN V12.0.

If the value OUTPUT[-FILE] = *NONE is specified for the statement REMOVE-USER-VOLUME, this is then rejected with a syntax error as of MAREN V12.0 because this operand value is no longer supported. However, if the presetting is used, conduct remains compatible.

If output is in a file for the above statements, additional output to *SYSOUT is dropped as of MAREN V12.0, as was in part the case to date.

3.7.3 Extension of the operand INITIALIZATION=*YES for the statement ADD-FREE-VOLUMES

With the ADD-FREE-VOLUMES statement it is possible for the MAREN administrator to specify an INIT-FILE for the operand INITIALIZATION=*YES as of MAREN V12.0. If no further specifications are made with INITIALIZATION=*YES, INIT-FILE = MARENADM.INIT-FILE is valid as the presetting, as is also the case for FREE-VOLUMES and INITIALIZE-VOLUMES.

In the previous version no INIT-FILE was created in this case. The creation of the INIT-FILE could only be performed with the statement FREE-VOLUMES, which then had to be selected for this purpose.

Please note that each one of the statements ADD-FREE-VOLUMES and FREE-VOLUMES overwrites an already existing file.

3.8 Restrictions

none.

3.9 Procedure in the event of errors

If an error occurs, the following error documentation will be required for diagnostic purposes:

- A detailed description of the error situation
- Information as to whether and how the error can be reproduced
- CONSLOG und SYSOUT of the task concerned
- Dump, if available

If MARENUCP is involved, job switches 1 through 11 in the MARENUCP task should be set in order to write additional diagnostic information to the SYSOUT file.

If MARENCP is involved, job switches 1, 2 and 9 through 11 in the MARENCP task should be set in order to write additional diagnostic information to the SYSOUT file.

4 Hardware support

MAREN V12.0B will run on all central units and devices supported by BS2000-OSD as of V6.0.