FUJITSU Software BS2000 StorMan

Version V7.0
November 2016

Release Notice

1   General

StorMan (Storage Management) provides dynamic management of Storage Resources and their dynamic assignment to servers with Storage provisioning, Storage information and monitoring, Statistics and performance and Replication functions.

This Release Notice is a summary of the major extensions, dependencies and operating information with respect to StorMan V7.0.

*1   The release level is that of: November 2016.

*1   Changes to release level June 2016 are marked with *1

*1   The contents have been modified with respect to the release level V7.0.0-9.
*1   It corresponds to the correction level V7.0.1-0: November 2016

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 also be noted.

1.1   Ordering

StorMan V7.0 is a component of

-   the product SHC-OSD for integration in BS2000/OSD
-   the Management Unit (MU) on SE Series Business Server integrated as an Add-on pack
-   the Management and Remote Service Console (MARS) on SQ Series Business Server integrated as an Add-on package
-   Server Management software (ServerView Operations Manager, openSM2)
-   customer specific projects

and cannot be ordered separately.

1.2   Delivery

Delivery of files for StorMan on CD-ROM/DVD as part of the software delivery for the product SHC-OSD, SE Server, SQ Server or a Server Management Software.

1.3   Documentation

The documentation is available in English as part of the software delivery for the product SHC-OSD, SE Server, SQ Server or a Server Management Software.

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.

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:

StorManReadme.pdf   (file with English text)

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

2 Software extensions

Only the extensions and improvements over the previous version StorMan V6.0 are described in the following section.

2.1 StorMan WebUI

2.1.1 Additional information about the storage system

The information about the storage system is extended for ETERNUS DX.

2.1.2 Information about the storage pools

The information about storage pools is added for ETERNUS DX.

2.1.3 Extended information about the storage volumes

Additional information about volumes and about the BS2000 attributes BS2MN, BS2VSN and BS2CATID (if available) is added in some lists for ETERNUS DX.

2.1.4 Pagination

All Volume lists do support pagination in order to provide a better overview and easy navigation.

2.1.5 SE cluster support

Display SE attributes for the management cluster provided by M2000 as of V6.2.

2.2 Support of Storage Systems

2.2.1 Storage System Monitoring

StorMan V7.0 provides extended information about HW components.

2.2.2 Statistics and performance tasks

The statistical and performance data has been extended for front end ports of ETERNUS DX storage systems.

2.2.3 Support for ETERNUS DX8700 S3

Support of the storage system ETERNUS DX8700 S3 with enhancements in discovery process.

2.2.4 Support for EMC VMAX3

Support of the storage system EMC VMAX3.

*1   ### 2.2.5   Support for ETERNUS DX S3

*1   - Consistent split for local mirrors

*1   A consistent split over the complete list of full local mirror pairs is provided by
*1   SMI-S provider for ETERNUS DX S3 as of FW V10L60 for full local mirrors (EC).

*1   An extension of stormirror CLI of StorMan provides the option for the caller.

*1   **Syntax**

*1   ```
            stormirror -suspend ... -consistent
            ```

*1          **Parameters**

*1          -consistent

*1          Option to perform a consistent suspend over all mirror pairs specified by the list.
*1          The consistency is assured by SMI-S provider. The parameter is only supported
*1          for ETERNUS DX S3 for the combination of -replica local and -mirrortype full.

*1          A maximum number of 800 replication pairs can be consistently suspended by
*1          one call.

*1          Return code 'STORMAN_INV_PARAMETERS' is returned if the maximum
*1          number is exceeded.


*1      ### 2.2.6   Support for EMC Symmetrix / VMAX

*1          StorMan V7.0.1-0 supports EMC Symmetrix Storage as of EMC SMI-S Provider
*1          V8.3. Please refer to details in the Release Notes of EMC SMI-S Provider V8.3.

*1          For EMC VMAX3 the eManagement feature is used, if activated on the system.
*1          Therefor no external (proxy) SMI-S Provider is required any longer for StorMan
*1          support of EMC VMAX3.


# 3   Technical information


## 3.1   Resource requirements

StorMan V7.0 requires up to 25 MB space on Windows and up to 40 MB on Linux (+ minimum 50 MB space for trace files).

The minimum memory requirement amounts up to 100 MB (configuration with 2 ETERNUS DX).


## 3.2   Software configuration

**Platforms**

StorMan is released for use on servers with:
- Windows Server 2008
- Windows Server 2012
*1
- Windows Server 2016
- SuSe Linux Enterprise Server (SLES) 11
- SuSe Linux Enterprise Server (SLES) 12
- Red Hat Enterprise Linux (RHEL) ES 6.x
- Red Hat Enterprise Linux (RHEL) ES 7.x
- as of M2000 V6.0
- as of MARS V2.0A0801

**Browser for WebUI**

Internet Explorer V10.0 and V11.0, Firefox as of V17 (ESR)


**SMI-S Provider**

ETERNUS DX Storage

Models DX60 S2:
As the SMI-S Provider for the models is 'embedded', it is delivered by default with the storage array as part of the microcode and enabled by default. This support is available as of version V20L10.

Models DX80 S2, DX90 S2:
As the SMI-S Provider for the models is 'embedded', it is delivered by default with the storage array as part of the microcode and enabled by default. This support is available as of version V10L13.

Models DX410 S2, DX440 S2, DX8700 S2:
As the SMI-S Provider for the models is 'embedded', it is delivered by default with the storage array as part of the microcode and enabled by default. This support is available as of version V10L60.

Models DX60 S3:
As the SMI-S Provider for the models is 'embedded', it is delivered by default with the storage array as part of the microcode and enabled by default. This support is available as of version V10L25.

Models DX100 S3, DX200 S3, DX500 S3, DX600 S3:
As the SMI-S Provider for the models is 'embedded', it is delivered by default with the storage array as part of the microcode and enabled by default. This support is available as of version V10L50/V10L51.

Models DX8700 S3:
As the SMI-S Provider for the models is 'embedded', it is delivered by default with the storage array as part of the microcode and enabled by default. This support is available as of version V10L52.


EMC Storage

Models Symmetrix VMAX, VMAX3:
SMI-S Provider as of V8.1 for SMI-S V1.5 and higher from EMC Corporation.
SMI-S Provider is part of the EMC Solutions Enabler.
*1          Models Symmetrix VMAX, VMAX3, VMAX All Flash:
*1          SMI-S Provider as of V8.3 is supported by StorMan V7.0.1-0.

For further details of supported Symmetrix models, please refer to the EMC Support Matrix (ESM) and to EMC Solutions Enabler as of Version 8.1 Release Notes available at https://support.emc.com/,

The following operating systems are supported (as of EMC Support Matrix):
− Microsoft Windows Server 2008 (R2), 2012 (R2)
− Red Hat Enterprise Linux (RHEL) ES 5.x, ES 6.x
− SuSe Linux Enterprise Server (SLES) 10 and 11.

### 3.3 Product installation

The delivery of StorMan is made on DVD-ROM. On the DVD-ROM there are packages for installation on Linux and Windows environments.
For installation on Linux use the rpm command, on Windows execute the setup file (see Chapter 5 in the StorMan manual).
On SE Server StorMan Server and StorMan GUI are completely automatically installed as Add-on pack on the Management Unit (MU) by using the SE Manager.
On SQ Server StorMan Server and StorMan GUI are completely automatically installed as Add-on package on the Management and Remote Service Console (MARS) by using the SQ Manager.

### 3.4 Product use

All product use activities for StorMan V7.0 are described in the StorMan V7.0 manual and in the Help System.

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

The following functions are no longer supported as of this version:

Storage systems Symmetrix DMX, CLARiiON CX and Netapp FAS are no longer supported. The function storemc and the parameter interface are removed.

The function to create and delete volumes is deprecated for all storage systems.

The attributes Target OS type and Resource type of Pools are removed.

The -extended option for storage system information is no longer supported.

SuSe Linux Enterprise Server (SLES) 10 and Red Hat Enterprise Linux (RHEL) ES 5.x are no longer supported.

### 3.6 Incompatibilities

For system name the unique serial number is used for all supported storage systems of all vendors.

StorMan V7.0 does no longer support the embedded EMC SMI-S Provider V4.7.x on the EMC Symmetrix VMAX systems. Upgrading from StorMan V6.0 to StorMan V7.0 requires an upgrade of the EMC SMI-S Provider and a change from embedded to an external (proxy) SMI-S provider.

The Device ID is used without leading zeros.

### 3.7 Restrictions

None

### 3.8 Procedure in the event of errors

If an error occurs, the following error documents are needed for diagnostics (see chapter 8.6 "Diagnostic aids" in the StorMan V7.0 manual):

A detailed description of the error condition, indicating whether and how the error can be reproduced.

To have the best possible support in case of encountering problems during the usage of StorMan it is recommended to recreate the occurred problem if possible after setting the highest debug level on the StorMan server for the duration of recreation.

To provide the current configuration data please use the StorMan CLI
stormandb -dump.

Afterwards please collect the following files situated in directory /var/opt/SMAWstor/StorMan for Linux environments and in %PROGRAM-FILES%\...\StorMan for Windows environment and transmit them to your support organization:

- StorMan logging files stormanTraceyyyy-mm-dd.txt in the directory ./log for the concerned day(s).

- configuration file of the StorMan server smserver.ini in the directory ./config.

- StorMan database StorMan.db in the directory ./repository.
  saved StorMan database files AddData.sql  and AddTables.sql (created by stormandb –dump) in the directory ./backup.

On Linux, M2000 and MARS you may also get all diagnostic information as a g-zipped tar archive by using the StorMan CLI storadmin getlogs.
The resulting file is located at /tmp/StorManLogs.tar.gz for Linux/MARS and /home/service/StorManLogs.tar.gz for M2000.


**SMI-S Provider**

For general diagnostic information support of SMI-S Providers please refer to the Release Notes of the specific vendor.

# 4   Hardware requirements

## 4.1   Server

StorMan V7.0 supports all current PRIMERGY servers including the Management
Unit on SE Server and the Management and Remote Service Console on SQ Server.

## 4.2   Disk Storage

ETERNUS DX Storage

| Model | Function |
|---|---|
| DX60 S2, DX80 S2, DX90 S2 | Information and monitoring |
| DX410 S2, DX440 S2, DX8700 S2 | Information and monitoring, statistic and performance, provisioning, replication |
| DX60 S3, DX100 S3, DX200 S3 | Information and monitoring |
| DX500 S3, DX600 S3, DX8700 S3 | Information and monitoring, statistic and performance, provisioning, replication |

ETERNUS JX Storage (SE Server only)

| Model | Function |
|---|---|
| JX40, JX40 S2 | Information and monitoring |

EMC Storage

| Model | Function |
|---|---|
| Symmetrix VMAX VMAX3 VMAX All Flash | Information and monitoring, Statistic and performance, replication |
| Symmetrix VMAX | Provisioning |

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## 4.3   Tape Storage (SE Server only)

Fujitsu Storage

| Model | Function |
|---|---|
| ETERNUS LT40/60 S2 | Information and monitoring |
| ETERNUS CS HE / CS8000 / CS50/CS800 | Information and monitoring |

Quantum Storage

| Model | Function |
|---|---|
| Scalar i500/i2k/i6k/i10K | Information and monitoring |

# 5  Firmware levels

ETERNUS DX Storage

| Model | Supported |
|---|---|
| DX80 S2, DX 90 S2 | V10L13 |
| DX60 S2 | V20L10 |
| DX410 S2, DX440 S2, DX8700 S2 | V10L60 |
| DX60 S3 | V10L25 |
| DX100 S3, DX200 S3, DX500 S3, DX600 S3 | V10L50/V10L51 |
| DX8700 S3 | V10L52 |

EMC Storage

| Model | Supported |
|---|---|
| Symmetrix VMAX | Enginuity 5876 |
| VMAX3 | HYPERMAX OS 5977 |
| VMAX3 | HYPERMAX OS 5977 SR2/16 |
| VMAX All Flash | by StorMan V7.0.1-0 |

*1 VMAX3
*1 VMAX All Flash