

DESCRIPTION PAPER

ServerView® Storage Manager V2.1 Storage Management Service (StorMan)

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Customer benefits

Feature	Benefit
Storage system and volume independent solutions	One Storage Manager based implementation fits for all supported storage models and vendors due to the complete encapsulation of storage dependencies.
Simple site preparation and configuration setup	by GUI or CLI: in addition and coexistence with existing SAN management tools
Scalability	manage from 1 LUN up to the whole data center
Flexibility	a new SAN can be set up or integration in existing SAN environments can be achieved. Optionally only a dedicated part of the SAN can be managed by Storage Manager.
Portability	There is no agent required on the server as Storage Manager acts directly with the storage system.
High Availability	Storage Manager integrates with clustering software in high availability configurations (e.g. PrimeCluster).

Solution description

Storage Manager (StorMan) is a uniform Storage Management Service that encapsulates the complexity of storage vendor specific interfaces (e.g. Fujitsu, EMC Corp., NetApp) and storage connections (e.g. FC, iSCSI) based primarily on SMI-S, the storage industries standard from SNIA. The management functions cover information, monitoring, storage provisioning, management of data replication (mirroring) and statistical information.

Its common, stable and easy to use interface (CLI) is perfectly suited for script based multi vendor storage management integration in project solutions and for 'stand alone' usage. Fujitsu Dynamic Infrastructure solutions like FlexFrame are relying on Storage Manager capabilities for their SAN storage integration and management. The Storage Manager GUI offers direct management options for the storage administrator.



Management functionalities

Virtualization and Administration Layer

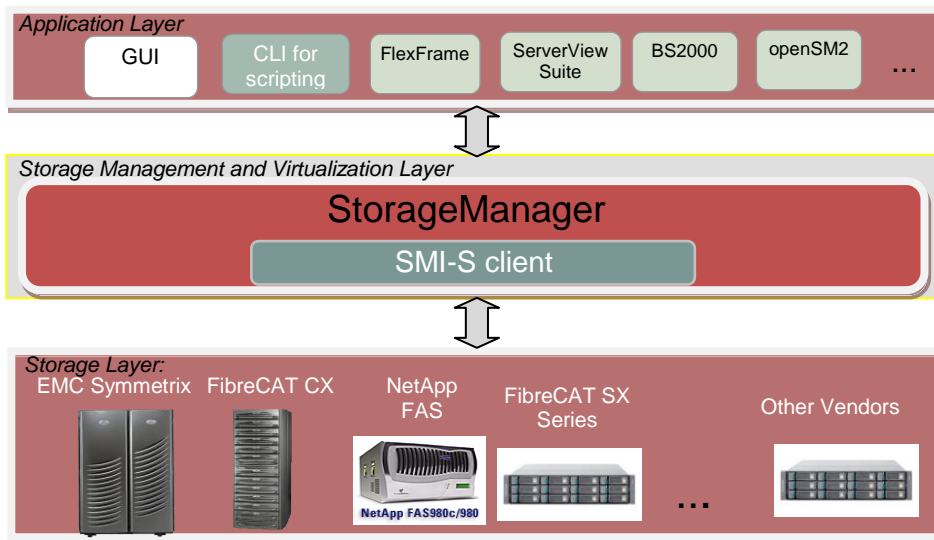
The virtualization layer offers administration of single (LUN's) and pooled storage resources decoupled from the real physical resources. The virtualization layer is fully scalable starting from a single LUN of a storage system up to the storage systems of the complete data center.

Information function

Based on its discovery function for storage systems, the Information function delivers in deep information about the storage systems configuration. It contains overall and detailed information about logical resources (like volumes, RAID groups, etc.) and physical components and FRU's (like disks, controllers, enclosures, power supplies, fans, etc.).

Monitoring

The overall availability and status of the storage system and all its components is monitored enabling an application to detect failures or degradation in the storage system. The ServerView Suite takes benefit of this capability integrating storage systems into Server Management.



Storage Provisioning

Storage Manager enables applications for the multiple real life tasks in the context of Storage Provisioning in the SAN as:

- Additional storage capacity required by an application
- Repurposing scenarios for applications migrating or expanding to other servers
- Storage consolidation scenarios

- State full provisioning based on the virtualization layer
- SAN boot: starting up a server from a SAN located boot disk

For these scenarios Storage Manager provides functions for

- LUN creation according to a specified profile (e.g. on a specified storage system or a specific RAID level)
- LUN deletion
- LUN mapping and masking to assign access to specific volumes for authorized servers only

Statistics and Performance

Statistical and performance information are provided on volume (LUN) level including IO rates differentiated by reads and writes.

Replication Services

Storage Manager supports the management of local mirroring features as Snaps and Clones in the storage system including setting up and termination of local mirror pairs. The processing cycle of splitting and resuming of local mirrors can easily be managed by Storage Manager.

Program Description

Storage Manager is primarily based on SMI-S and incorporates an SMI-S client to communicate with the respective SMI-S provider(s), software components owned and provided by the different storage vendors. The SMI-S providers can be embedded (on the storage system) or running in proxy mode (on a server communicating with the storage system).

Further information and contacts

Technical prerequisites

Hardware

Server

- All current PRIMERGY Servers
- BS2000/OSD Business Server/Business Server SX and SQ Series

Storage

- Support details are specified in the current Release Notes.
- SAN and iSCSI connected Storage is supported.
- Fujitsu Technology Solutions: ETERNUS DX Modelle DX60, DX80 und DX90 via embedded SMI-S Provider and models DX400 and DX8000 via SMI-S Provider in Proxy mode
- Fujitsu Technology Solutions: FibreCAT SX models SX60, SX80 , SX88 und SX100 by embedded SMI-S Provider
- EMC Corporation: Symmetrix-family CLARiiON CX models as supported by SMI-S Provider V4.1 and Solutions Enabler V7.2.
- NetApp: NetApp® FAS systems based on ONTAP V7.2 and higher.

Software

Operating Systems

- Microsoft Windows Server 2003 SP2, Server 2008, XP SP2
- SuSe Linux Enterprise Server (SLES) 10, 11
- Red Hat Enterprise Linux (RHEL) ES 4, 5
- BS2000/OSD-BC V8.0 or higher with POSIX-BC subsystem

SMI-S Provider

as specified in Storage Manager Release Notes according to the supported Storage System

Documentation

Storage Manager Administrator & User Guide available at:

<http://manuals.ts.fujitsu.com/softbooks/storage/us/storman.htm>

Contact

For usage of Storage Manager GUI and management features please contact <mailto:werner.guertler@ts.fujitsu.com>