

Datasheet

Fujitsu Software BS2000

SHC-OSD V15.0

Storage Host Component for BS2000

Storage management for BS2000

The SHC-OSD software product is the storage host component for the management of the main functions of the Fujitsu Storage ETERNUS DX and ETERNUS AF systems. It provides commands and information services for controlling the replication functions Equivalent Copy, QuickOPC, Remote Equivalent Copy (synchronous and asynchronous) and SnapOPC+ of the ETERNUS AF/DX storage systems and supports the ETERNUS functionalities Storage Cluster Options, Advanced Storage Tiering and Thin Provisioning.

SHC-OSD allows the use and control of functions for local and remote replication of storage systems via BS2000 command interfaces. Control of these mirroring functions can be integrated into procedures. This results in a high level of automation and reliable processing in critical operating situations.



Topics

Functions

Information Function

A global Show function provides selected information about the configuration, of the ETERNUS DX/AF, their external ports, Storage Cluster and Thin pools. The device-specific Show function provides information about device names, device type, status, RAID mode, volume size, etc. The Show functions to the mirrored pairs allow the administrator to call up information about the status of local clone pairs and remote mirrored volumes. A Snap Show function displays the current processing status of snap pairs.

This functionality is not restricted to the volumes defined on the local BS2000 system. That means, for example, that volumes of multiple VM2000 or other systems as well as remote volumes can be shown centrally from one BS2000 system without the need for additional I/O paths (particularly relevant with mirroring over long distances). In addition to the information output at the interactive interface, information is also set in S variables.

Monitor Function

SHC-OSD provides for ETERNUS DX/AF systems a monitoring function for the storage subsystem, Storage Cluster, for individual volumes and their active data mirroring. When status changes are detected, descriptive messages are output to the console, enabling manual or automatic responses to be made.

Local mirroring with QuickOPC

QuickOPC is a local replication function comparable to EC. A local mirror volume of the same size, called Clone-Unit, is also assigned to an original volume. QuickOPC creates consistent copies of the original data on another volume, which are active immediately after creation and directly accessible by the server.

A new status of the originals can be updated to the clone units at any time. The Clone Units are then available directly with the new status.

QuickOPC is integrated into the HSMS function Concurrent Copy, that means that the backup data can be read by split clone units

Local mirroring with Equivalent Copy (EC)

Equivalent Copy (EC) provides local, continuous mirroring on a volume basis with separable mirrors additive to QuickOPC. A local mirror volume of identical size is allocated to an original volume and after initial synchronization is also carried as a mirror. The copy, referred to as clone unit, is available directly after its activation. Together, the original and clone unit form the clone pair, which is administrated via Equivalent Copy.

Equivalent Copy is integrated in the HSMS Concurrent Copy function, i.e. backup data can be read from split-off Clone units.

Local Snapshots with SnapOPC+

The function SnapOPC+ of ETERNUS DX/AF storage systems offers the possibility to create one or multiple snapshots of a logical unit on base of 'copy-on-first-write'. The snapshot, which is also called a snap unit, is a logical copy of the original unit at a specific point in time. Whereas the data on the original unit is subsequently changed, the snap unit retains the state of the data at the time the snapshot was created.

Any Thin volumes and / or AST volumes can be used as snap-units.

Synchronous remote mirroring with Remote Equivalent Copy (REC)

It supports mirroring on a volume basis with separable mirrors between 2 or more ETERNUS DX/AF systems. A mirror volume of identical size is allocated to a local original volume in the remote ETERNUS DX/AF and after initial synchronization is also carried as a mirror. A maximum of 4 simultaneous REC mirrors are supported by SHC-OSD for one original (concurrent remote copy).

Asynchronous remote mirroring with Remote Equivalent Copy

SHC-OSD supports the asynchronous Remote Replication for long-distance replication and for disaster recovery scenarios. Two different modes are available for the user: In addition to a Consistency Mode, that ensures consistency in the remote storage system, a Stack Mode with delayed transmission for example for migration purposes is also supported.

The administration of asynchronous REC pairs is carried out via SHC-OSD commands and information functions.

Cascaded and Concurrent Remote Copy

The functions Cascaded and Concurrent Remote Copy form the basis for combined HA/DR configurations and offer a significant extension of the configuration options. With Cascaded Remote Copy the target unit of a synchronous REC pair is simultaneously also the source unit of a cascaded remote copy replication (synchronous or asynchronous) on a further target unit via remote connection. Concurrent Remote Copy describes the simultaneous mirroring (synchronous or asynchronous) on multiple target units.

Thin Provisioning

Thin provisioning helps to avoid unused, cost-intensive memory and to improve performance. It is based on Thin Provisioned Volumes (TPV), i.e. volumes which are configured from a server point of view with a capacity that is larger than its actually existing capacity and Thin Provisioned Pools (TPP), i.e. pre-defined pools of physical disks for the provision of physical storage space. From a server point of view, a TPV does not differ from a normal volume.

SHC-OSD supports Thin Provisioning with the information and monitoring functions and so enables the operator to use for BS2000 applications in a safe and integrated way.

Automated Storage Tiering

The Automated Storage Tiering functionality always offers between different storage tiers within one ETERNUS DX/AF optional performance and resource utilization, even with changing performance requirements. SHC-OSD integrates Automated Storage Tiering for BS2000 by providing information and monitoring functions for monitoring the AST volumes and pools and by active management of replication functions (EC, QuickOPC, REC, SnapOPC+).

Storage Cluster Options

The Storage Cluster Option (SCO) combines two ETERNUS AF/DX storage systems to a failsafe storage cluster. SHC-OSD supports SCO with following functions:

- Output of information and monitoring of the storage cluster
- Control of the additive replication functions supported for SCO, including ContinuousCopy
- Manual failover and failback for Storage Cluster

Architecture

The ETERNUS AF/DX for BS2000 is managed with SHC-OSD via StorMan on the Management Unit (MU) of the SE Server, with StorMan integrating the storage systems.

The SMI-S provider used by StorMan is part of the ETERNUS AF/DX firmware and provides the complete management functionality.

StorMan is supplied with SE and SHC-OSD by default.

StorMan is integrated into the SE server as an add-on on the management unit and in SEM.

Innovations with SP 23.2:

SHC-OSD V15.0C: Linking of storage systems in the StorMan interface via their DNS names instead of the IP address.

Technical details

Requirements

Technical requirements Hardware	<p>Fujitsu Server BS2000 SE Serie, SE-SW as of V6.4</p> <p>Fujitsu Storage ETERNUS systems</p> <ul style="list-style-type: none"> - ETERNUS AF650 S2 / S3 - ETERNUS DX500/DX600 S4 / S5 / S6 - DX900 S5 (from SHC-OSD V15.0A01 / SP 21.2) / S6 - ETERNUS DX8900 S4 / S6 <p>For the use of „Thin Provisioning“, „Automated Storage Tiering“ and „Storage Cluster Option“ the corresponding hardware licenses of ETERNUS storage system are required.</p> <p>For the use of replication functions all ETERNUS storage systems require the “Hardware Advanced Copy” license.</p>
Technical requirements Software	<p>BS2000 OS DX V1.0 and OSD/XC V11.0B as of SP 21.1</p> <p>StorMan V10 (release unit of SHC-OSD V15.0)</p> <p>optional: SDF-P (if S variables are used)</p>
Requirements for the user	<p>Knowledge of BS2000</p>

Installation and operation

Operating mode	<p>Dialog and batch operation</p>
Implementation language	<p>C, SPL, Assembler</p>
User interface	<p>Commands english, message texts german/english</p>
Installation	<p>By the customer according to the Release notice</p>

Documentation and training

Documentation	<p>The manual and Release Notice for SHC-OSD and StorMan are available on the manual server.</p>
Training	<p>See course offer (German)</p>

Reference and delivery

Conditions	<p>This software product can be leased by the customer in accordance with the conditions for the use of software products.</p>
Ordering and delivery information	<p>The software product can be obtained from your local Fujitsu regional office.</p>

Contact

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