

IBM TotalStorage SAN Volume Controller



Errata

Version 2.1.0

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Chapter 1. Introduction

This document includes corrected versions of topics that appear in different SAN Volume Controller publications.

These topics correctly reflect that the SAN Volume Controller 2.1.0 support the following:

- 64 hosts
- 128 host ports

Table 1 provides the topics included in this document and the publications in which these topics appear.

Table 1. Corrected topics and the corresponding publications

Topic	Publications affected
Maximum configuration	<i>IBM TotalStorage SAN Volume Controller: Planning Guide, IBM TotalStorage SAN Volume Controller: Configuration Guide</i>
Supported host attachments	<i>IBM TotalStorage SAN Volume Controller: Planning Guide</i>
Support for open-systems hosts	<i>IBM TotalStorage SAN Volume Controller: Host Attachment Guide</i>

Chapter 2. Corrected publication topics

This section provides the corrected version of topics that appear in the SAN Volume Controller 2.1.0 publications.

Maximum configuration

Ensure that you are familiar with the maximum configurations of the SAN Volume Controller.

Table 2 shows the maximum configuration values to consider when you are planning the SAN Volume Controller installation.

Table 2. SAN Volume Controller maximum configuration values

Objects	Maximum number	Comments
Cluster Properties		
Nodes	8	Arranged as four I/O groups.
I/O groups	4	Each containing two nodes.
MDisk group	128	---
MDisks	4096	Represents an average of 64 per controller.
Object MDisks per MDisk group	128	---
MDisk size	2 TB	Defined by 32-bit LBA limit.
Addressability	2.1 PB	Maximum extent size 512 MB, arbitrary limit of 2^{22} extents in map.
LU size	2 TB	Defined by 32-bit LBA limit.
Concurrent SCSI tasks (commands) per node	10000	---
Concurrent commands per node	2500	Assumes a backend latency of 100 ms.
Concurrent commands per FC port	2048	---
SDD	512 SAN Volume Controller vpaths per host	One vpath is created for each VDisk mapped to a host. Although the SAN Volume Controller permits 512 VDIsks to be mapped to a host, the SDD limit can be exceeded by either: <ul style="list-style-type: none">• Creating two (or more) host objects for one physical host and mapping more than 512 VDIsks to the host using the multiple host objects.• Creating two (or more) clusters and mapping more than 512 VDIsks to the host using the multiple clusters. Note: Both of these operations are unsupported.

Table 2. SAN Volume Controller maximum configuration values (continued)

Objects	Maximum number	Comments
VDisks per MDisk Group		Cluster limit applies.
Front-end Properties		
SAN ports	256	Maximum size of fabric, including all SAN Volume Controller nodes.
Fabrics	2	Dual fabric configurations.
Host IDs per cluster	64	A host ID is associated with a map table that associates SCSI LUNs with VDIs. It is also associated with one or more host worldwide port names.
Host ports per cluster	128	Up to 128 distinct host worldwide port names are recognized.
Host LUN size	2 TB	Defined by 32-bit LBA limit.
Virtual disks (VDIs)	4096	Includes managed-mode VDIs and image-mode VDIs.
VDIs per I/O group	1024	-- --
VDIs per host ID	512	The limit may be different based on host operating system.
VDIs-to-host mappings	20 000	-- --
Maximum persistent reservation keys	132 000	-- --
Back-end Properties		
Managed Disks (MDisks)	4096	Represents an average of 64 per worldwide node name.
Back-end Storage WWNNs	64	Maximum number of device fabric worldwide node name.
Back-end Storage WWPNNs	256	16 ports per controller
LUs per back-end WWNN	4096	Maximum of 512 LUs presented for each worldwide node name.
WWNNs per subsystem	4	-- --
WWPNNs per WWNN	16	The maximum number of ports per worldwide node name.
Preferred ports per subsystem	4	
Copy Services Properties		

Table 2. SAN Volume Controller maximum configuration values (continued)

Objects	Maximum number	Comments
Metro Mirror relationships per cluster	1024	-- --
Metro Mirror consistency groups	32	-- --
Metro Mirror VDisk per I/O group	16 TB	-- --
FlashCopy [®] mappings	2048	Supports up to 512 FlashCopy mappings per consistency group.
FlashCopy consistency groups	128	-- --
FlashCopy VDisk per I/O group	16 TB	-- --

Supported host attachments

The IBM Web site provides up-to-date information about the supported host attachment operating systems.

For a list of supported host attachment operating systems, see the SAN Volume Controller Web site at:

<http://www-1.ibm.com/servers/storage/support/virtual/2145.html>

The SAN Volume Controller provides heterogeneous host attachments so that you can consolidate storage capacity and workloads for open systems hosts. The SAN Volume Controller supports a maximum of 64 separate hosts and a maximum of 128 host fibre-channel ports, identified by their worldwide port numbers (WWPNs).

Hosts are attached to the SAN Volume Controller using a switched, fibre-channel fabric.

Support for open-systems hosts

You can attach the SAN Volume Controller to fibre-channel (SCSI-FCP) open-systems hosts.

Hosts are attached to the SAN Volume Controller using a switched fibre-channel fabric. The SAN Volume Controller supports up to 64 separate hosts and up to 128 host fibre-channel ports, identified by their worldwide port numbers (WWPNs). Each SAN Volume Controller fibre-channel adapter has two ports.

You can configure the ports to operate with the SCSI-FCP upper-layer protocol. Fibre-channel adapters that are configured for SCSI-FCP (fibre-channel protocol) provide the following support:

- A maximum of 128 host logins per fibre-channel port
- A maximum of 512 SCSI-FCP host logins or SCSI-3 initiators per SAN Volume Controller
- A maximum of 4096 logical unit numbers (LUNs) per target (one target per host adapter), depending on host type
- Switched fabric topology

The SAN Volume Controller supports the following host systems for shortwave fibre-channel attachment and longwave fibre-channel attachment:

- Hewlett-Packard servers that run HP/UX operating systems
- IBM[®] RS/6000[®], pSeries[™], RS/6000 SP[™], and pSeries SP servers that run IBM AIX[®] operating systems
- Intel-based servers that run Linux, Microsoft[®] Windows[®] 2000, Windows 2003, and Windows NT operating systems
- Sun servers that run Solaris operating systems
- VMware servers that run on various guest operating systems
- Novell NetWare servers that run NetWare operating systems

For the most current information about host systems, operating system levels, host bus adapters, cables, and fabric that IBM supports, see the following IBM Web sites:

<http://www.ibm.com/servers/storage/software/virtualization/svc>

<http://www-1.ibm.com/servers/storage/support/virtual/2145.html>

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