



SVM™ (Storage Virtualization Manager)



Technical Template:

1. High-level architecture/description, include a list of products that meet the compatibility requirements (“Approved Product(s)”) as well as a list of the IBM storage products with which the Approved Products meet the compatibility requirements (“Qualified IBM Storage Products”):

IBM validated the SVM appliance at the SPC-Israel utilizing the following IBM components: An Enterprise Storage Server (Shark) model F20, an S2109-16 fibre switch, an RS6000 / S80 running AIX 5.1 and a Netfinity 5500 with Windows2000 Advanced server, both with fibre connectivity. A StoreAge Storage Virtualization Manager Appliance was also attached to the S2109.

2. The actual testing scenario:
3. Testing level achieved: Comprehensive
4. The test environment consisted of an Enterprise Storage Server 2105F20, 820GB 8x32-73GB drives with 2 fibre cards connected to an IBM 2109 S16 switch. The switch had a single fibre connection to a QLogic QLA2200 PCI card running v7.4.3.1 installed in a Netfinity 5500 running w2000. There was an additional FC cable attached to a RS6000 s80 AIX version 5.1, through an Emulex card. The whole environment was setup through a workstation attached through the Ethernet port on the switch running StorWatch Expert. The environment was managed throughout the test by a single SVM appliance.

Until the StorWatch management software gave access to the SVM appliance as a NT or W2000 system, the SVM was unable to manage any of the disks. This is a good thing since the point of restricting access to the ESS is exactly that. I was surprised to see how transparent the SVM appliance was with the management of both the servers and the ESS. The only indication that the SVM was actively part of the fabric, was through the CLI on the 2109. I checked the switch during testing to ensure that the SVM was both connected and active. The speed with which it recognized a disruption or a reconnection was also impressive. The ease of

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management when the SVM "takes over" the LUN management for the ESS makes this a very useful tool, and enables the storage manager to really optimize his disk space, especially in a heterogeneous environment.

5. Specific versions of products included in the testing:

- IBM ESS 2105F20

Serial Number: 075-19259

WWNN: 50 05 07 63 00 C0 88 D3

Raid Level: 5

Total Usable Disk: 842 GB

2 Fibre Channel connections

I/O BAY	1	3
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Adapter Bay	1	1
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Port	A	A
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Bay 1: 50 05 07 63 00 C4 88 D3

Bay 3: 50 05 07 63 00 C8 88 D3

- IBM 2109 S16

Switch ID: fffc01

Fabric OS Version: a2.4.1c

Kernel: 5.3.1

WWN: 10.00.00.60.69.15.0F.b2

Ethernet IP Address: 172.31.1.100

- IBM Netfinity 5500

OS Version: Windows 2000 Advanced Server

1 FC connection / QLogic HBA: QLA2200 PCI v. 7.4.3.1

WWN:20.00.00.E0.8B.03.E9.E9

SVM Driver Version: V2.R2.09

- IBM RS6000 S80

OS Version: AIX 5.1

1 FC connection

Emulex 24L0023

WWN: 10.00.00.00.C9.20.D4.C1

SVM Driver Version: V2.R2.01B

- StoreAge SVM Appliance

OS Version: Embedded Windows NT

FC QLogic Chip ISP 2200A V.02.01.36

WWN:20.00.11.11.55.00.00.00

SVM Volume Manager: V2.R2.08

Embedded OS: V3R1

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The SVM appliance is extremely transparent and easy to setup. The manual goes into detail regarding setup. The validation tests ran from June 12 – 23 including setup, validation and performance checks.

Test contacts:

IBM:	Dani Blendis, IT Specialist- GTU/SPC-Israel	+972.3.918.8377
StoreAge:	Dani Naor, Director, Business Development	+972.4.820.3454
StoreAge:	Zeev Malkevich, Senior Sales Engineer	+972.4.820.3454

6. Technical Customer Support Information:

– EMEA

StoreAge Networking Technologies Ltd.
Head of the Technical Support Center: Miki Gralnik
email: gmiki@store-age.com
Tel: +972-4-820-3414
+972-4-820-3454 ext. 268
Fax: +972-4-820-3464
Mobile: +972-52-847-599
Mailing address: 63 Bar Yehuda Rd.
Nesher 36651
Israel

– US / AMERICAS

StoreAge Networking Technologies Inc.
Head of the Technical Support Center: Gene Nagle
email: gnagle@store-age.com
Tel: (949) 754-0640 ext. 105
Fax: (949) 754-0645
Mobile: (949) 981-9230
Mailing address: One Technology Drive
Building C515
Irvine, CA 92618
U.S.A.

General support email address (for both USA and ROW): support@store-age.com. Hours: 24/7 for our partners only, not end-user customers (level 3)
- by phone and email.

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