PRODUCT BRIEF

SAN Mirroring

Appliance-based High Availability and Continuous Data Protection Solution for data centers and storage systems

Key Features

High Availability

Clustered, dual active-active appliance provides enterprise-quality storage solutions for business-critical applications.

Continuous Data Protection

Embedded hardware mirroring protects data continuously with no CPU overhead.

Open and Scalable

Universal compatibility; works with any mix of storage systems, OS drivers, or switches.

Appliance-based design requires no host software installation, or proprietary device drivers required.

Modular scalability allows multi-node clustering of up to 4 engines.

Easy to Manage

Simple, centralized operation and administration, with no host software required. Administration performed using intuitive GUI from local or remote client.

Vicom's SAN Mirroring Appliance is a purpose-built Fibre Channel appliance that transparently and synchronously mirrors data across SAN-based storage systems using high-performance hardware mirroring. Using a modular expandable appliance foundation, Vicom SAN Mirroring solution scales upward in both performance and availability: The appliances come in dual-engine for high availability and single-engine configurations for continuous data protection.

SAN Mirroring is designed for easy operation with open storage systems and multi-vendor operating systems. Mirroring and failover is managed automatically by SAN Mirroring, fully transparent to host system operations. To connected hosts, SAN Mirroring-protected storage appears as an unbreakable volume, impervious to component outages. No host software or drivers are required, reducing administration and eliminating CPU overhead.

High Availability Made Easy

Vicom's SAN Mirroring provides continuous, mirrored protection of data by simultaneously writing to two storage systems' LUNs. All data written by the host systems s sent synchronously to the two logical units by the SAN Mirroring appliance. Each LUN is an identical, block-for-block twin, ensuring that if one of the LUNs becomes unavailable, the appliance can fail over to the alternate LUN without affecting host system operation. Because the SAN Mirroring appliance accomplishes this via high-speed, hardware logic, failover is both instantaneous and transparent to the host systems.

As viewed from the host system over a FC connection, a dual-engine SAN Mirroring appliance connected to two storage RAID arrays behaves as a single, multi-port active-active storage system. From a physical standpoint, SAN Mirroring-protected RAID arrays may be placed in different physical locations – providing an added benefit of disaster protection. Each dual-engine pair, whether in a single appliance or two separate appliances connected via FC, doubles throughput, and provides a second, fully redundant data path, thereby ensuring that no single point of failure can cause downtime.

In the unlikely event a LUN fails, failover from primary to mirrored storage proceeds uninterrupted, by reading from a single, rather than two LUNs. Failover is near instantaneous and storage outage is imperceptible to host operation.

In the event LUN rebuild is required, SAN Mirroring appliance continues to provide access to the mirrored storage until the process is completed. When the primary storage is fully restored, the appliance shifts I/O access back to the original mirrored operation.

LUN failover, rebuild and restore are performed automatically by the appliance and fully transparent to connected hosts, requiring no operator intervention or scripting, and no installation of mirroring software or special proprietary drivers is required.

Specification

Models	SM4x4-1. Single-engine appliance with 4 4Gb/s FC ports SM4x4-2. Two-engine appliance with 8 4Gb/s FC ports
OS Support	Windows, Linux, Solaris, VMware, HP-UX, AIX, Mac OS X
Fibre Channel Connectivity	Quad 4Gb/sec Fibre Channel ports (SFP) per engine module ANSI/ISO Protocol/Topology Standards: ANSI Fibre Channel (FC-PH, FC-PH-2, FC-PH-3, FC-PLDA, FC-FLA) ANSI Fibre Channel Arbitrated Loop (FC-PLDA, FC-AL, FC-AL-2) ANSI Fibre Channel Fabric (FC-FLA, FC-GS-2) Classes of Service: Class 3 Data Transfer Rate: 1, 2, or 4 Gb/sec Port Type: N(L)_Port
Serial Port Connectivity	Protocol: Serial Transmission Speed: 115200 baud Connector DB-9
Ethernet Port Connectivity	Dual 1Gb/sec Ethernet ports Protocol: Transmission Control Protocol - Internet Protocol (TCP-IP) Speed: 10/100/1000Base-T Connector RJ-45 Compatible Vicom SAN Mirroring Console management software package (Windows GUI & CLI), Telnet, FTP
Operating Environment	Operating Voltage 100 to 240 VAC; 50 to 60 Hz 2 A at 110 - 120 VAC and 1 A at 220 - 240 VAC Power Usage 56W maximum continuous power Operating Temperature +5C to +40°C (41 to 104°F) Humidity 8% to 80% (non-condensing)
Mechanical	Weight SM4x4-1: 8.9 pounds (4.04 kg) SM4x4-2: 12.8 pounds (5.81 kg) Dimension 1U rack-optimized 1.75 inches (4.445 cm) high 17.7 inches (44.96 cm) wide 13.25 inches (33.66 cm) deep Integrated power supply with dual fan per engine module Front-to-back air pattern
Maximum Throughput	SM4x4-1 – 1000 MB/sec SM4x4-2 – 2000 MB/sec
Safety Standards	UL 60950 IEC 60950 EN 60950
Emission Standards	FCC Part 15, Class A ICES-003 Class A VCCI Class A EN 55022 Class A

VICOM SYSTEMS

Vicom Systems is a privately held company in Redwood City, California. Vicom specializes in the delivery of transparent, wire speed data services for systems and storage. Vicom delivers on the long-standing promise of SANs: seamless consolidation, any-to-any connection, simplified management, and high availability. Vicom products and services have been selected by OEMs including IBM, Sun Microsystems, and Hewlett-Packard. Enterprise and video customers include Deutsche Bank, Bloomberg, Caterpillar Tractor, NFL Films, and Korea Broadcasting.

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