



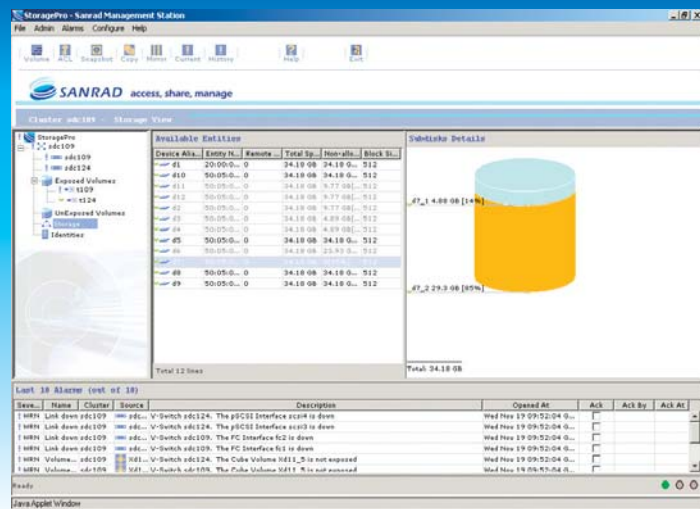
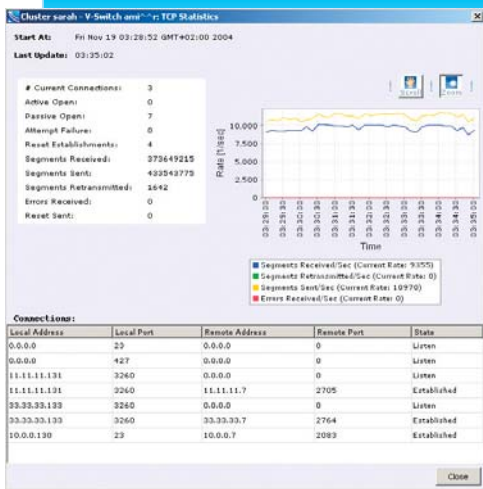
Total
iSCSI SAN

V-Switch 2000

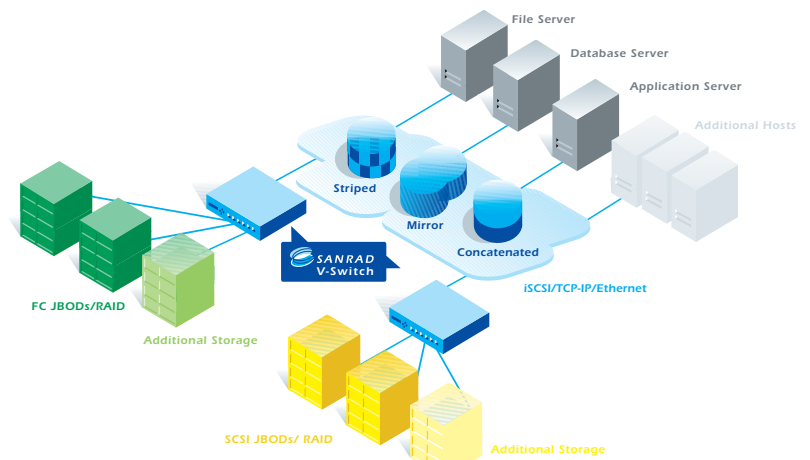
SANRAD V-Switch 2000™ introduces all-in-one IP-SAN for mid range and large departmental environments requiring full availability, serviceability and performance. V-Switch 2000 combines a truly interoperable multi-port, multi-protocol storage switch platform with comprehensive onboard StoragePro™ Services.

SANRAD StoragePro Services operate within the V-Switch providing intelligent storage services, protocol conversion and data replication that enable IT professionals to build an all-in-one iSCSI IP SAN. SANRAD StoragePro Management provides an easy way to centrally manage a single V-Switch, a V-Switch cluster or multiple V-Switches simultaneously, providing a comprehensive and highly scalable IP-SAN.

StoragePro Management provides a simple and unified interface for configuring iSCSI SANs



Rear of V-Switch 2000



StoragePro Services gather all storage resources connected to the V-Switch into a single pool. From these pooled resources, administrators can define policies and services independent of the attached storage systems brand, type, or protocol. Network administrators can define new logical volumes from the pooled storage resources. Logical volumes can take almost any shape and size and are created independent of physical barriers such as RAID enclosures, physical disks, protocols, and distance.

V-Switch 2000 Key Features and Benefits

Cost effective IP SAN solutions for mid-range organizations.	Ideal for configurations of up to 10TB and 2-20 hosts.
Optimized for mid-range and departmental applications.	Effective and easy to manage IP SANs for Email, File servers and Databases.
LAN/ MAN/ WAN iSCSI connectivity and data replication.	Shared storage and data resources with other offices.
Easy scalable performance.	Clustered multiple V-Switch 2000 systems increase performance to meet mid-range to enterprise performance requirements.
High availability for fault tolerant access to data.	Active/ Active clustered V-Switch failover, failback and multi-pathing ensure continuous data availability for diverse business applications. Integrated realtime data mirroring and replication across storage systems including volume based snapshot for continuous data replication.
Network-based storage pooling and virtualization with volume management for capacity management across enclosures.	Storage pooling, Volume Spanning, Resizing and Striping enable the creation of custom storage volumes across physical disks and enclosures, for optimal performance of applications, maximum utilization of storage resources and cost effective service growth.
Open iSCSI storage bridging and switching platform.	Standardized connectivity across Ethernet environments, linking servers with any storage system for cost effective creation of mid-range departmental SANs, using heterogeneous storage infrastructure including FC, SCSI, iSCSI, FC Fabric and SCSI or FC systems using ATA /SATA or IDE drives.
1U/ 1/2 RACK width (1U/full rack width for cluster).	Compact size saves you precious rack space.

SANRAD StoragePro Management System Key Features and Benefits

Manage and view storage using remote management and web-based GUI for centralized control	StoragePro can be managed by a SANRAD browser based GUI for simple administration of one or many V-Switches. A complete CLI can also be used for customizing or automating StoragePro operations to synchronize with server applications. StoragePro also supports Telnet.
Administer the IP SAN from a centralized interface	Easily manage a global infrastructure of SANRAD V-Switches from a single interface to allocate storage capacity from any device, anywhere, anytime.
Monitor performance and traffic on the V-Switch	Monitor traffic statistics on each storage and network interface to increase application performance. Monitor counters and generate reports defined by standard MIBs including TCP/ IP, FC, SCSI and iSCSI interfaces
Check system health to ensure uninterrupted storage services	Have a single view of V-Switch fans, power supplies and temperature. Monitor error levels for network and storage interfaces, TCP/IP layers, iSCSI sessions and connections.
Understand your iSCSI topology	Review server connections to specific storage volume
Utilize your capacity intelligently	Precisely allocate your storage resources as needed and manage unallocated capacity to improve storage efficiency.
Detect and troubleshoot faults	SNMP generates alarms and logs for user defined events. StoragePro generates email messages for real-time tracking and monitoring of both SANRAD V-Switch and StoragePro.

Technical Specifications

Storage Virtualization and Volume Management:

- Maximum no. of servers supported: 200
- Maximum no. of volumes supported: 51,200
- Maximum capacity: 2048 TB (2.048PB)
- Maximum volume size: 64 TB

Storage Interfaces:

- 2 FC or 2 SCSI ports

FC Specifications:

- 1 or 2 Gb/s auto speed detection
- Pluggable SFP connectors
- L or N or NL ports

Parallel SCSI

Specifications:

- Up to 160 MB/s
- LVD or SE transceiver modes
- VHDCI 68 pin connectors

Network Interfaces:

- 2 Gbit iSCSI Ethernet ports: Copper RJ45 1000BaseT

Management Interface:

- RS232 DB-9 port

Ethernet Standards:

- IEEE 802.3z
- IEEE 802.3.ab

Internet Standards:

- RFC791 IP v4
- RFC 793 TCP; RFC 894 IP/Ethernet
- RFC 1042, IP/802
- RFC 1517
- RFC 792 ICMP, 950 ISSP
- RFC 3720 - iSCSI

Fibre Channel ANSI

Standards:

- FC-PH-3
- FC-AL-2
- FC-PLDA
- FC-FLA
- FCP

Management Standards:

- SNMP V2
- RFC 854 Telnet
- RFC 2863
- RFC 2011
- RFC 2012
- RFC 2013
- ID SCSI MIB 05
- ID iSCSI MIB 09

SCSI Standards:

- Ultra 3 SCSI 160
- Wide Ultra2 SCSI 80
- Ultra2 SCSI 40
- SCSI 3

Dimensions:

1.75" H x 8.4" W x 17.8" D (4.4 cm H x 21.4 cm W x 45.4 cm D)
Standard half 19-inch EIA rack or standalone

Power:

Power Supply 200 WATT
100-250V, 50-60Hz Auto Switching

Weight: 7 lb (3.2 kg)

Operating Temperature: 32° - 122° F (0° - 50° C)

Storage Temperature: -40° - 167° F (-40° - 75° C)

Humidity (non-condensing): 10% to 95%

Altitude: -500ft - 10,000ft; (-152m - 3050m)

Regulatory Compliance:

EMC (Emission):

USA & CANADA: FCC part 15 Class A

Europe and Rest of the World: EN55022 Class A

Immunity: EN55024

Safety:

USA & CANADA: UL60950

Japan: EN60950

Europe and Rest of the World: EN60950

SANRAD

US Tel: +1-866-301-8155
International Tel: +972-3-767-4800
info@sanrad.com

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