

# V-Switch 2000

**V-Switch 2000** with integrated SANRAD StoragePro software is an open, scalable solution that provides easy, robust SAN connectivity and storage management for any physical or virtual server.

V-Switch 2000 is the most affordable V-Switch, perfect for remote offices or small enterprises. V-Switch 2000 uses a real-time operating system and network processors to deliver the performance needed for small and mid-sized enterprises.

SANRAD StoragePro software, included with the V-Switch 2000, delivers comprehensive storage pooling, virtualization and management services. Global Data Replication (GDR) software can be added to provide enterprise-class data replication and site recovery between V-Switches located at facilities connected by any local, metropolitan or wide area IP network.



## SAN CONNECTIVITY AND MANAGEMENT FOR ANY SERVER

SANRAD's unique network architecture delivers open, heterogeneous support for any storage, providing IT managers complete flexibility to leverage existing storage investments and add new storage to meet the specific cost, performance, and reliability needs of the enterprise.

SANRAD V-Switches couple FC and iSCSI connectivity with integrated storage management, virtualization, and disaster recovery services. Customers can use inexpensive iSCSI to connect and manage any storage wherever it resides, physically or virtually, regardless of geographic location. Critical tasks such as backup, data migration and replication are performed non-disruptively with no downtime to the business.

## V-SWITCH 2000 KEY FEATURES AND BENEFITS

### ▼ Open Heterogeneous System Architecture

Use any brand or type storage system directly connected or connected through a FC SAN fabric to the V-Switch to create and manage a single virtual storage pool. Leverage existing storage and combine any new storage from other vendors.

### ▼ Scalable Virtual Storage Pools

Dynamically create large storage pools by consolidating many storage systems into a centrally managed pool that can easily scale to several peta-bytes.

### ▼ Efficient Network-Based Virtualization

Create thousands of custom storage volumes across all connected storage systems within the storage pool to improve storage utilization and reduce storage costs.

### ▼ Virtual Storage Optimized for Server Virtualization

Get completely autonomous recovery of virtual servers with no need for IT intervention. Gain uninterrupted virtual machine access to data even during complete system outages, regardless of the physical location of the virtual server.

### ▼ Flexible Tiered Storage

Combine and virtualize different storage systems into the same storage pool to provide various service levels, storage costs and performance grades for different applications.

### ▼ High Availability

Use Active/Active V-Switch clustering with automatic failover, fallback and multi-pathing for uninterrupted access to data.

### ▼ Easy, Live Data Migration

Copy over 500GB of data per hour between storage systems without interrupting production to eliminate downtime and simplify storage management.

### ▼ Local Data Protection

Use local inter-campus / inter-datacenter synchronous data mirroring over FC or dedicated fiber optic cables (dark fiber), snapshot, virtual shadow copy service (VSS) and cloning to prevent data loss.

### ▼ Enterprise-Class Disaster Recovery (Sold as Option)

Get robust data replication and recovery with no disruption to IT operations. Implement unlimited data replication and site recovery between V-Switches located at facilities connected by any local, metropolitan or wide area IP network. No additional replication hardware or software is required at the server or storage level for significant cost savings.

### ▼ Storage Security

Get complete authorization control and data protection with Access Control Lists and iSCSI login authentication (CHAP, SRP).

### ▼ Simple and Centralized Management

Use a single, intuitive web-based GUI or a comprehensive CLI with SSH.

### ▼ Compact, Easy-to-Service Package Design

1 unit half-rack size, Install 2 units side by side. For ease of use, all network and storage connections are on the front panel.



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## V-SWITCH 2000 PRODUCT SPECIFICATIONS

### Storage Virtualization and Volume Management

Maximum number of servers supported: 200  
Maximum number of volumes supported: 51,200  
Maximum capacity: 2048 TB (2.048 PB)  
Maximum volume size: 64 TB

### Network Interfaces

2 Gbit iSCSI Ethernet ports:  
Copper RJ45 1000BaseT  
Storage Interfaces:  
2 FC ports

### FC Specifications

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

### Management Interface

RS232 DB-9 port

### Ethernet Standards

IEEE 802.3z  
IEEE 802.3.ab

### Internet Standards

RFC 791 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

### 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 130 WATT100-250V,  
50-60Hz Auto Switching

### Weight

7 lb (3.2 kg)

### Operating Temperature

32° to 122°F (0°-50°C)

### Storage Temperature

-40° to 75°F (-40°-167°C)

### Humidity (non-condensing)

10 to 95%

### Altitude

-500ft to -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

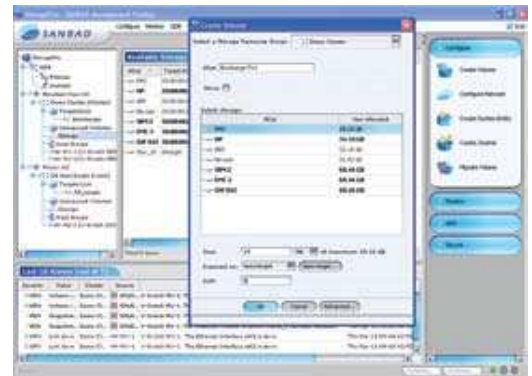
USA & CANADA: UL60950  
Japan: EN60950  
Europe and Rest of the World:  
EN60950

### Environment

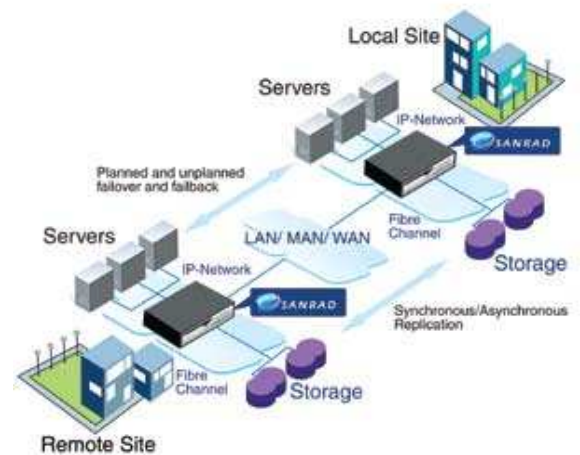
RoHS 6 Compliant  
(For V-Switch 2000 FC)  
cRoHS Compliant  
WEEE Compliant



Rear View of V-Switch



StoragePro Management GUI



Typical Installations