

# iSAN<sup>®</sup> 1000 Series

Dual Controller SAN Storage



Cybernetics' iSAN<sup>®</sup> 1000 Series SAN storage solution is the ideal choice for businesses seeking maximum data protection, and performance, within a single solution. It provides maximum performance, and the redundancy of hardware level mirroring, with automatic failover, within a single dual controller solution. Ideal for Virtual Environments, the iSAN<sup>®</sup> 1000 Series is loaded with onboard data protection features like snapshot backup, portable disk backup, tape backup and encrypted and deduplicated WAN replication. Virtual disk snapshots can be performed, on-demand anytime, on a timed schedule as often as every 5 minutes, or when data changes reach a threshold that you set. Backups execute per virtual disk as a background task with minimal operational impact, and can be scheduled to occur after hours or on-demand at any time, including during business hours. Offload copying starts immediately, so there is no "backup window". Replication can be performed either as snapshots occur or on a separate schedule, if desired. Data at the remote site is available for immediate use with no need to perform a restore function.

**Up to 200 MB/s**

**Up to 100,000 IOPS**

**Up to 24 disk drives, per unit**

**Scalable, up to 2 expansion units**

**256 snapshots per virtual disk, expandable**

**Site-to-site replication**

**Available 10 GbE**

**CYBERNETICS**

Powerful Data Storage Solutions

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## Better Engineering. Budget friendly.

Since 1978, Cybernetics has been combining storage, features, performance and pricing. We have helped tens of thousands of small-to-medium sized businesses implement Enterprise data center solutions for a fraction of the cost associated with overpriced and under-engineered brand name storage.

## Performance

Sustainable high speed access is built into every Cybernetics' SAN.

To ensure data is moved to and from the SAN quickly, multiple connectivity

ports and protocols are supported. Choose from 1/10GbE iSCSI, Direct-Attached SAS and 8/16Gb FC. The iSAN<sup>®</sup> 1000 supports all of these protocols and connections simultaneously; along with Multi-path redundancy, load balancing and Jumbo frames. Cybernetics also employs an advanced, self-tuning, optimized caching algorithm; 30X faster than SSD. This was originally developed to eliminate latency with slower rotating disk drives while providing the performance needed for high demand applications. Today, the same caching technology is deployed with SSD based storage. It provides faster-than-SSD performance, eliminates "write-cliffs" with SSD and provides sustained performance throughout the entire capacity of the array. It also extends the endurance of the SSD drives.



## Features

Built-in data protection keeps your data safe using multiple technologies while reducing the overhead of processing, storage and management. Snapshots provide automated, instant, deduplicated backups that can be mounted and used as restore points.

Using a very granular block size, these backups do not waste valuable storage, providing more usable capacity. Automated snapshot tiering makes efficient use of mixed storage, balancing performance, capacity and cost. Cybernetics' native replication technology uses snapshots to reduce the bandwidth necessary to keep sites synchronized and provide site redundancy. USB, eSATA and SAS ports are included which allow removable disk drive and tape drive support, including encryption. These built-in automated protection policies can be configured with just a few mouse clicks.

With our easy-to-use interface, installation and daily administration is extremely simple. Real time monitoring provides hardware status, performance metrics for cache, processors, LUNs, IOPS and more. Cybernetics' Call Home feature ensures a speedy and proactive response.

Dual controller units provide hardware redundancy for automatic fail-over within one chassis. Separate chassis' can be live mirrored with Cybernetics' High Availability feature, ensuring no single point of failure at the controller, chassis or drive pool layer. Controllers are hot-swappable and upgradeable – without downtime or data migration; ensuring an easy and affordable path to future performance, if required.

## Storage

Cybernetics storage solutions support NL-SAS, SAS and SSD drives. Drives can be mixed using the same chassis and multiple RAID sets can be defined, even with similar drive types. RAID sets can be dynamically expanded and converted without downtime. Expansion cabinets can be added for more capacity. Tightly integrated with the caching system, expansions, conversions and rebuilds can be accomplished without sacrificing performance.



CYBERNETICS



Available with  
SATA, SSD,  
and SAS  
Hard Disks

iSAN® 1000 Series

**iSAN® 24 Disk Bay Models**



**iSAN® 16 Disk Bay Models**



**Dual Controller**

Disk Drive bays	24 - 2.5" Bays	16 - 3.5" Bays
Scalable	1 head unit plus 2 expansion units	
Transfer Rate	200 MB/s	
Disk Drives	SATA, SAS, SSD	
RAID Levels	0, 1, 5, 6, 10	
Hot Swap/Redundant	Controllers, Power Supplies, Disk Drives	
Controllers	1, or 2, Upgradeable	
Dedicated I/O Cache	4 or 8 GB per controller, expandable	
System Type	17.2"W x 28.5"L ( Standard 2U Rackmount )	17.9"W x 24.2"L ( Standard 3U Rackmount )
Network Interface	Two (2) or Four (4) 1 GbE Ports per controller, upgradeable	
Power Supply	Dual 1000w @ 100-140VAC	Dual 1200w @ 180-240VAC
Electrical	50-60 Hz 11.5-8A	50-60 Hz 8-5.5A
Power Consumption	264 watts average	323 watts average
Heat Output	901.1 BTU/HR average	1,102.8 BTU/HR average
Operating Temperature	+5° C to +55° C ( +41° F to +131° F )	
Non-Operating Temperature	-40° C to +70° C ( -40° F to +158° F )	
Max. Ambient Temperature	< +30° C ( < +86° F )	
Altitude	10,000 feet	
Weight	( one controller - 55 lbs.) ( two controllers - 64 lbs. )	( one controller - 75 lbs.) ( two controllers - 84 lbs. )

- Fast transfer rates – Up to 200 MB/s.
- Exceptional performance – Up to 100,000 IOPS.
- Scalable – Supports up to 2 expansion units in a single SAN for expanding capacity.
- Dynamic Storage Provisioning – Expand virtual disk space anytime.
- Reliable – Hardware level mirroring and automatic failover, with dual controllers
- Flexible – Configure with your choice of SATA, SSD, SAS hard drives - even mixed in same chassis.
- Unlimited Snapshots – Mountable points for recovery or rollback.
- Connectivity – GbE, USB and eSATA ports standard. 10 GbE and Fibre Channel available. Unlimited Snapshots – Mountable points for recovery or rollback.
- WAN Replication - Automated, deduplicated, and encrypted multi-site replication, per volume.
- High Availability – Hardware level mirroring and automatic failover with no single point of failure.
- Secure Access - Control volume access by IP address and/or user.
- Integrated – Backup to attached portable disk or tape devices directly from the iSAN® 1000 Series, with no backup server or software required.
- Flexible Control - Backups and replication can be performed in alignment with snapshots, executed on-demand, or can be on a separate schedule.



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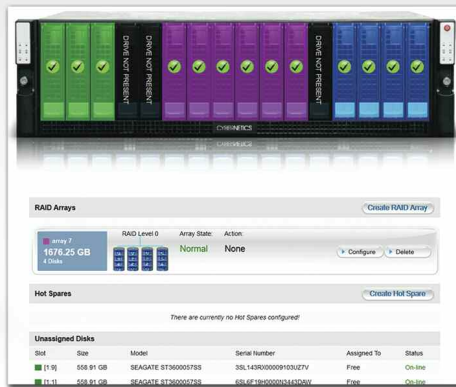
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## Powerful GUI Simplifies Management

Cybernetics' powerful GUI will simplify your SAN storage management with secure access to settings and features of your SAN storage unit from any IP address you allow. Configure storage settings, add virtual disks and virtual disk users conveniently and quickly through easy to navigate options.



It's easy to add disk capacity, upgrade disk drives, create new and separate RAID sets, convert existing RAID sets to different RAID levels -- all with zero user interruption and downtime.

Visual physical status performance metrics, notifications, including temperature, fan speed, disks and connections.

### Compatibility

#### Operating System Compatibility

- AIX 5.3 and higher
- HPUX 11.11 and higher
- Linux
- Netware 6.5 SP6+
- MAC OS (with initiator)
- Solaris 10.X and higher
- Windows 7, 2000, 2003, 2008, XP, or above

#### Special Applications Compatibility

- VMware ESX Server 3.5, 4.X, 5.X
- vSphere 4, 5
- Xen
- HyperV
- SQL Database
- Oracle Database
- Microsoft Exchange

#### iSCSI Initiator Compatibility

- Microsoft iSCSI Software Initiator
- Linux Open-iSCSI Initiator
- Novell iSCSI Initiator for Netware
- Apple Macintosh iSCSI Initiator.

Cybernetics makes choosing the right SAN storage system for your growing data demands easy as...

1. Determine The Capacity And Performance To Best Suit Your Data Storage Needs.
2. Take Advantage Of Powerful Features With No Hidden Fees.
3. Get A Higher Quality And Performance Data Storage Solution For Less.

Founded in 1978 and headquartered in Yorktown, Virginia, Cybernetics is a privately held corporation specializing in the design and manufacture of high performance disk, tape, and virtual tape storage solutions. Our product line features cutting edge technologies which have been rigorously tested to deliver seamless compatibility and solid reliability, along with innovative – and exclusive – features that provide greater functionality, data accessibility, and return on investment than any other storage solutions provider.



Call Today! 757-833-9000

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