



# AssuredSAN®

## 3004 - 4 Port Fibre Channel and iSCSI Storage Systems

### BENEFITS



#### RealStor™ Storage OS

- SSD Read-cache
- Autonomic real-time tiering for HDDs
- Thin Provisioning
- Data Protection with Virtual Snapshots
- Rapid RAID Rebuild

#### Scalable Performance

- 3300 MB/s sequential reads, 2400 MB/s sequential writes, 40,000 IOPS from disk
- SimulCache™ - Low latency cache mirroring
- Data rates up to:
  - 16Gb/sec. FC or 10Gb/sec. iSCSI, 12Gb SAS
- Up to 3 expansion units per system
- Support for SAS, Nearline SAS
- Max 96 SFF drives, or Max 48 LFF drives

#### Built in Redundancy

- Dual RAID controller
- Redundant, hot swap components
- RAID 0, 1, 3, 5, 6, 10, 50

#### Certifications

- Microsoft, VMware certified

#### Green Features

- Energy Star certified
- EcoStor™ battery-free cache backup
- RoHS-6 and WEEE compliant

#### Rugged Chassis

- NEBS Level 3 Compliant
- MIL STD 810G Compliant (Storage Requirements)
- European Telco Compliant

### CAPACITY AND PRICEPOINT

The 3004 models feature next-generation host connection speeds, the RealStor™ storage operating system and high capacity drives. These models support the following host connection types: 8Gb Fibre Channel, 16Gb Fibre Channel, 12Gb SAS, 1Gb iSCSI or 10Gb iSCSI, giving customers many options to adapt to networking and applications requirements.

The AssuredSAN® 3004 models are designed for value and flexibility both for today's storage needs and future upgrades.

AssuredSAN arrays with data protection are ideal for IT applications such as email, databases, file sharing and video editing. Benefiting from fast host connections, these systems readily support server backup, virtual server environments and small workgroup video editing.

#### RealStor™ Storage Operating System

The RealStor storage operating system allows customers to create the next generation of hybrid storage solutions that leverage the power of SSDs to increase storage performance. RealStor offers a range of options to boost performance of any workload requirement.

#### Storage Virtualization Features for Hybrid Storage and SANs

- Autonomic Real-time Tiering (for HDDs)
- RealCache™ - SSD Read-Cache
- RealThin™ - Thin Provisioning
- RealPool™ - Autonomic Pooling
- RealQuick™ - Rapid RAID Rebuild
- RealSnap™ - Virtualized Snapshots



# AssuredSAN<sup>®</sup> 3004



## Management Interfaces

AssuredSAN arrays are easy to configure and manage with either management interface:

- The Storage Management Console (above) can manage all array functions without the need for host based software, including the advanced RealStor features: HDD tiering, SSD read-cache, rapid RAID rebuild, thin provisioning, and virtualized snapshots.
- RAIDar 2.0 is a web based interface that provides storage setup and monitoring without the need for host based software. RAIDar 2.0 saves time with configuration and installation wizards, schedulers and the administration of DMS data protection software.

## AssuredSAN Architecture

### Rugged Storage Features and Redundancy

The 3004 Series ensures that there is no “single point of failure.” Additionally, automatic failover mechanisms facilitate the highest levels of data protection, service and disaster recovery. The 3004 Series is suitable for mobile applications with NEBS Level 3 and MIL-STD 810G shock and vibration compliance in the 2U12 chassis.

### Environmentally Responsible

Utilizing Dot Hill’s patented EcoStor™ technology, these systems have completely eliminated cache batteries, using instead super capacitors and flash memory to provide infinite cache backup during a power loss, all while being environmentally friendly.

The AssuredSANs also feature energy saving drive spin-down.

### Enhanced Performance

The storage systems leverage patented SimulCache™ technology that instantly and simultaneously mirrors cache between RAID controllers, leading to significant performance improvements over traditional implementations.

### Language Support

Localization for Arabic, Brazilian Portuguese, Dutch, French, German, Italian, Japanese, Korean, Russian, Spanish, Simplified Chinese, and Traditional Chinese

## models

Models - 3824 Fibre Channel and iSCSI, 3524 SAS

### With twenty four 2.5” Drives

Drives per array: up to 24  
Max capacity per chassis: 48TB

#### PHYSICAL

Depth (excluding cables): 20.46 inches / 51.9 cm  
Height: 3.5 inches / 8.9 cm  
Width: 17.6 inches / 44.7 cm  
Width w ear mounts: 18.99 inches / 48.24 cm  
Chassis weight: 43 lb / 19.5 kg  
Chassis weight with drives: 56lb / 25.5 kg

Models - 3834 Fibre Channel and iSCSI, 3534 SAS

### With twelve 3.5” Drives

Drives per array: up to 12  
Max capacity per chassis: 96TB

#### PHYSICAL

Depth (excluding cables): 20.57 inches / 52.25 cm  
Height: 3.43 inches / 8.71 cm  
Width: 17.6 inches / 44.7 cm  
Width w/ ear mounts: 18.99 inches / 48.24 cm  
Chassis weight: 43 lb / 19.5 kg  
Chassis weight with drive: 62 lb / 28 kg



# AssuredSAN<sup>®</sup> 3004

## support Warranty

AssuredSANs come with a three year standard hardware warranty, a 90 day software warranty and Bronze level support, which provides expert 24x7 technical telephone support, access to online support and the Customer Resource Center containing articles, product documentation and firmware upgrades.

## Gold and Platinum Support Programs

Gold and Platinum levels of support offer maximum responsiveness. These programs include options for same day advance shipment, parts depot access, next business day and 4-hour onsite service. Extended hardware warranties and extended software support packages are also available.

## ordering information

Channel models described in this datasheet ship with the array, disk drives, a rail kit, cables, Installation Guide and Bronze support. They come with AC Power. A DC power option is available in the drive-less chassis.

Dot Hill SFPs are required for iSCSI and Fibre Channel and are available in 4-packs. One (1) 4-pack is needed for each RAID unit. Choose from 1G iSCSI, 10G iSCSI, 8G Fibre Channel, or 16G Fibre Channel.

For assistance, call **(800) 872-2783** extension **3575**.

## OEM Models

OEM models are available for volume OEM customers. For specific information on models, availability and power supplies, contact our OEM sales team.



**For more information visit:**  
**[www.dothill.com](http://www.dothill.com)**



# AssuredSAN® 3004

## Features

### HOSTS

External Ports 2 per controller/4 maximum

### Fibre Channel

Host speed 16Gb, 8Gb Fibre Channel  
Interface Type SFP+

### iSCSI Models

Initiators 10Gb NIC or 1Gb, 10Gb iSCSI  
Interface Type SFP+

### SAS

Initiators 12Gb, 6Gb SAS 3.0 (Serial-attached SCSI)  
SAS models support 8 total host ports with an optional host port expansion cable.

Interface Type Mini-SAS HD (8643/8644)

### DRIVE SUPPORT

3824, 3524 SAS, Nearline SAS  
3834, 3534 Nearline SAS

\* For most current drive support information visit <http://www.dothill.com/storage-arrays/drive-options/>

### EXPANSION

J6G12 (2U12) (1 RAID, 3 JBOD) 48 DRIVES  
J6G24 (2U24) (1 RAID, 3 JBOD), 96 DRIVES

### HIGH-AVAILABILITY FEATURES

Redundant Hot-Swap Controllers  
Redundant Hot-Swap Disk, Fans, Power  
Dual Power Cords  
Hot Standby Spare  
Automatic Failover  
Multi-Path Support

### PROTOCOLS AND STANDARDS

IP (RFC, 894, 1092) SCSI-2 and SCSI-3

### SUPPORT

Software Warranty 90 days  
Standard Hardware Warranty 3 years

### RAID

Levels Supported 0, 1, 3, 5, 6, 10 and 50

### SYSTEM CONFIGURATION

Cache Memory 6GB per controller  
Virtual disks per System 32  
Volumes per System 1024  
Mirrored Cache Yes - SimulCache™  
Super Capacitor Cache Backup Yes  
Cache Backup to Flash Yes - Non-volatile

### MANAGEMENT

Interface Types 10/100/1000 Ethernet, Mini USB  
Protocols Supported SNMP, SSL, SSH, SMTP, SMI-S Provider, HTTP(S)

Management Consoles WEB GUI, CLI  
Management Software RealStor Storage Management Console  
Remote Diagnostics  
Non-disruptive Updates  
Volume Expansion

### COMPLIANCE AND STANDARDS

NEBS Level 3, MIL SPEC 810G  
IP (RFC, 894, 1092) SCSI-2 AND SCSI-3

Note: Subject to change at any time.

## Detailed Specifications

### POWER REQUIREMENTS - AC INPUT

Input Power Requirements 100-240VAC 50/60Hz  
Max Input Power 375W maximum continuous - 3834  
Max Input Power 400W maximum continuous - 3824  
Heat Dissipation 1488 BTUs/hour

### Bronze Rated - high efficiency

82 percent @ 20 percent load  
86 percent @ 80 percent load  
85 percent @ 100 percent load

### POWER REQUIREMENTS - DC INPUT

Voltage -39 to -72VDC, -48/-60V nominal  
Max Input Power 500W maximum continuous  
Heat Dissipation 1706 BTU/hour

### TEMPERATURE AND HUMIDITY RANGES

Operating Temperature 41 °F to 104 °F (5 °C to 40 °C)  
Shipping Temperature -40 °F to 158 °F (-40 °C to 70 °C)  
Note: Derate 2 °C for every km, up to 3000 meters

Operating Humidity 10% to 90% RH @ 104 °F (40 °C), non-condensing  
Non-Operating Humidity Up to 93% RH @ 104 °F (40 °C), non-condensing

### DECLARED ACOUSTIC NOISE LEVELS

Sound Power LWAd=6,75 B  
Sound Pressure LpAm - 55dB<sub>A</sub>

### SHOCK AND VIBRATION

Shock, Operational 3G's for 10 ms, half sine  
Shock, Non-Operational 10G 11ms, half sine  
Vibration, Operational 5Hz to 500Hz, 0.21Grms flat spectrum  
Vibration, Non-Operational 3-365-3Hz, 1.22 Grms, z-axis, 0.85 Grms, X&Y axis shaped spectrum

Note: Dot Hill AssuredSAN disk array chassis, power supplies and controllers support NEBS, ETSI, and MIL-STD-810G shock and vibration standards. Hard disk drive selection may alter ability to achieve full compliance with these specifications as HDDs have varying S&V performance characteristics.

### REGULATORY

Safety UL 60950-1, 2nd edition (USA)  
CAN/CSA-C22.2 No.60950-1 2nd edition (Canada)  
EN 60950-1 (European Union)  
IEC 60950-1 (International)  
EN 60950-1 (GS Mark, Germany)  
CCC Mark China PRC)

### Electromagnetic Compatibility

Emissions CFR 47 Part 15 Subpart B Class A (United States)  
ICES-003 Class A (Canada)  
EN 55022 Class A (EU)  
EN 300 386 Class A (EU Telco)  
AS/NZS CISPR 22 Class A (Australia, New Zealand)  
VCCI Class A (Japan)  
GOST R 51318.22 Class A (Russia)  
KN 22 Class A (S. Korea)  
CNS 13438 Class A (Taiwan)

### Harmonics

Flicker EN61000-3-2 (EU)  
Immunity EN 61000-3-3 (EU)  
EN 55024 (EU)  
EN 300 386 (EUTelco)  
GOST R 51318.24 (Russia)  
KN 24 (S. Korea)

RoHS and WEEE RoHS-6/6 Compliance, China RoHS, WEEE

### Country Approvals

United States, Canada, European Union (EU), Australia/New Zealand, Japan, China (PRC), Russia, Mexico, Germany, South Korea, Taiwan, India

