

# FlashNAS™ ZFS

# ZX-3U16 Series

## Redundant Controller 3U NAS - Supports HDD to 8 TB - Expands to 2,048 TB Enterprise-Class Data Availability and Integrity For Any Size Organization

### FlashNAS ZFS 3U Storage System

Winchester Systems combines durable, redundant hardware technology with OpenSolaris and the ZFS file system to provide Enterprise-level data protection and reliability at down-to-earth prices.

Sporting controllers, power supplies and fans that are modular, redundant and hot-swappable, the FlashNAS ZFS hardware platform is *purpose-built* for continuous availability and long-term durability.

The revolutionary ZFS file system adds end-to-end error detection and correction, self-healing, and advanced SSD optimization features for unsurpassed protection of data integrity throughout the storage system. Building on this foundation, Winchester Systems FlashNAS ZFS adds advanced enterprise-grade functions such as storage-pool mirroring, remote replication, anti-virus scanning, and NDMP backup and migration software compatibility.

All of these capabilities are combined into a single integrated system with an easy-to-use, web based management interface. And there are no hidden, or “extra” costs to enable specific features. *All functionality is available for the base system price.*



*FlashNAS ZFS ZX-3U16 is expandable to 256 disks up to 8 TB each. Perfect as a filer or as a remote backup target.*

### FlashNAS ZFS-3U16 Advantages

#### Enterprise Class - Not the Cost

- Redundant Controllers in a ZFS NAS
- ZFS end-to-end integrity protection detects and repairs silent data errors
- Snapshots, Mirroring, Replication, Anti-Virus, Data Compression, Disk Roaming, Thin Provisioning, Storage Pool Expansion, SSD Caching, MPIO, LUN Masking, WORM volumes, RAID data protection
- Hot-Swap Components
- Hot Spare Disks

#### Compatibility

- CIFS/SMB V1; NFS V2, V3, V4; NDMP V2, V3, V4; LDAP V2, V3; HTTP/HTTPS; AFP V2.2.2 and older; iSCSI; SMTP; SNMP V1, V2C, V3; NTP, ICAP, FTP; FTPS; Secure FTP
- Active Directory; LDAP V2, V3; NIS V2
- Windows, UNIX, Linux, Mac OS X, Solaris, AIX, HP-UX
- VMware 5.x certified

#### Management and Support

- Easy and intuitive web GUI
- CLI interface
- Ethernet, SNMP, E-Mail Alerts

#### Warranty and Service

- Three year factory warranty and toll-free hotline during business hours
- Optional on-site service, spares, advance parts replacement, installation and 24x7 service

### FlashNAS ZFS ZX-3U16 Durability, Availability & Protection

**Enterprise Class:** True enterprise functionality included in a simple to deploy storage system.

**Redundant Controllers:** Redundant active-active failover controllers, with automatic fail-back, deliver enterprise-class uptime.

**End-to-End Data Integrity:** Self healing architecture detects and repairs silent data errors using independent multi-level checksums.

**ZFS RAID Levels:** 0, 1, 5, 6, 50, 60.

**MPIO:** Multi-pathing data access for automated failover and load balancing.

**Hot-Swap Components:** Hot-swap controllers, disks, power supplies and fans.

**Hot-Spare Disks:** Standby disks that are ready to be automatically rebuilt to replace failed disks - and disks that are signalling imminent failure.

**Expandable Storage Pools:** Created from multiple RAID sets and easily expanded.

**Unlimited Snapshots:** Snapshots take no additional space until contents of a file share or volume change. The number of snapshots is limited only by disk capacity.

**SSD Cache Data Acceleration:** SSDs can be used as high speed cache to accelerate read and write performance.

**Data Compression:** Algorithms use variable size blocks based on data characteristics and results in typical data compression of 2x to 5x.

**Remote Replication:** Asynchronous replication between two FlashNAS ZFS systems via optional-ly encrypted link.

**Backup Software Integration:** Easy integration with standard backup software and NDMP compliant applications.

**WORM:** Protects files against deletion or tampering to meet regulatory data-retention and archiving requirements.

**Anti-Virus Scanning:** Supports ICAP anti-virus engines to detect and quarantine viruses before they are accessed.

**CIFS/NFS/AFP Unified Security Model:** Seamlessly share files across OS platforms.

**Pool Mirroring:** Synch and asynch mirroring of storage pools between FlashNAS ZFS systems.

**Thin Provisioning:** Create large virtual volumes and auto-allocate physical space as needed.

**Disk Roaming:** Disks can be removed and reinstalled in any order - especially handy for initializing a disaster recovery site.

**Mixed NAS & SAN:** Supports iSCSI and FC volumes with LUN masking for data protection on same storage systems as NAS volumes.

**Simple GUI and CLI:** Manage RAID sets, storage pools, snapshots, mirrors, replication, compression and more via web browser or command line interface.

**Enterprise Class Service:** Includes 24x7 US staffed call center and next-day on-site service.

**On-Site Installation:** Reasonably priced on-site installation by factory trained professionals.

**All Inclusive Pricing:** Enterprise class file server with enterprise class features all included in the base price - no hidden upgrade fees.

**2 FlashNAS ZFS ZX-3U16 with 8 60-drive expansion shelves**



**FlashNAS ZFS ZX-3U16 Configurations**

FlashNAS ZX-3U16 is easily configured and scales to very large capacities. The unit shown is a full data center rack using two separate FlashNAS ZFS ZX-3U16 redundant controller systems, each with 256 six-terabyte disk drives. This is a high performance, high resiliency configuration in a single rack that supports 3,072 TB and still has space for two UPS systems.

Contact us for a no obligation consultation to meet your requirements.

**FlashNAS ZFS ZX-3U16 “Hot Swap” Components**

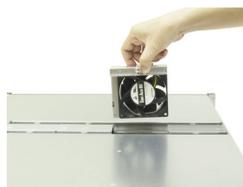


FlashNAS controllers easily swap out while system continues to run.

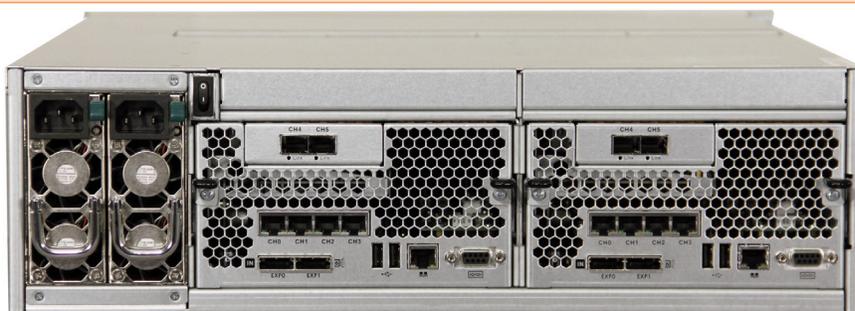
Hot-swap power supplies also permit continuous operation and avoid downtime.



Fans are also easily hot-swapped for non-disruptive service.



**FlashNAS ZFS ZX-3U16 Rear View**



FlashNAS ZFS ZX-3U16 rear view, showing 8 iSCSI 1GbE and 4 iSCSI 10GbE ports.

**FlashNAS ZFS ZX-3U16 Summary Specifications**

Dimensions (WxDxH)	3U Chassis: 17.6" x 25.6" x 5.2"
Controller	Dual-Redundant Controllers
Maximum Memory	32 GB per controller, standard
iSCSI 1GbE Ports	8 x 1GbE ports included, 8 x 1GbE ports optional
iSCSI 10 GbE ports	4 x 10GbE (SFP+ or RJ45) ports optional
Fibre Channel 16 Gb ports	4 x 16 Gb ports optional
Internal SAS Disk Bays	16
Max. Disks - 4U Shelves	256 (4 x EX-4U60: 60-bay shelves)
Max. Disks - 3U Shelves	240 (14 x EX-4U16: 16-bay shelves)
Max. Disks - 2U Shelves	232 (9 x EX-4U24: 24-bay shelves)
Disk Drives - 7,200 rpm	2, 3, 4, 6 & 8 TB
Disk Drives - 10K rpm	600, 900 GB & 1.2 TB
SAS SSDs	200, 400, 800 GB MLC
Power Supplies	Redundant 750W AC
AC Power	Dual 90-264VAC, 47-63 Hz
Cooling	4 redundant, hot-swap, temperature-driven fans
Front Panel	Removable with dust filter
Weight	81 pounds fully loaded
Operating Temp.	5 to 35°C (32° F to 95° F)
Non-Operating Temp.	-40° to 60° C
Altitude	0 - 10,000 feet
Operating Humidity	5% to 80%, non-condensing

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