

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 initial-izing 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.

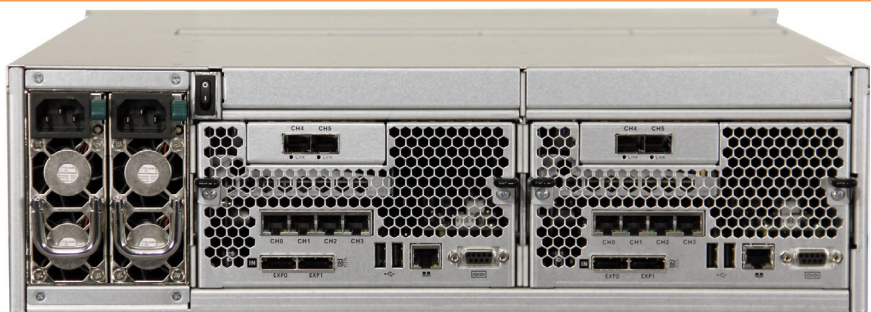
Hot-swap power supplies also permit continuous operation and avoid downtime.



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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