



Magnitude 3D[®] 4000 Storage Family

Virtualized clustered storage systems
architected for maximum ease of use,
reliability, and adaptiveness



Data Keeps Growing

with no signs of stopping. Part of this growth is simply a matter of the way we all work today. The increased use of email and online services, for example, leads to larger mailboxes and databases. You probably also must comply with various regulatory and industry mandates that demand the retention of more data for longer periods of time. All that data is of little use, however, if you can't access it or if access takes too long.

An effective storage solution seamlessly scales to meet your organization's growing appetite for capacity, while ensuring availability and fast access. It must also be easy to manage. Even though your needs are growing, your organization's IT budget may demand that you do more with existing staff and maximize the return on your IT investments.

The Solution

Magnitude 3D 4000 Family

The Magnitude 3D 4000 family of storage area network (SAN) solutions is built on a virtualized, distributed cluster architecture. This unique system is easy to use, reliable, and adaptive to your changing needs.

- **Easy to Use:** Magnitude 3D 4000 is the first storage system to offer a server-centric view of storage management, setting a new standard in ease of use. Even novice administrators can effortlessly manage storage in the context of Windows volumes, rather than virtual disks—dramatically simplifying both storage and server management.

- **Reliable:** From its resilient design, to on-the-fly storage configuration, and a variety of replication options, Magnitude 3D 4000 systems address all the causes of downtime to keep your data and applications online and accessible.
- **Adaptive:** Magnitude 3D 4000 adapts quickly and easily to meet your changing needs. It is the first and only storage system to enable automatic provisioning without the risk of over-subscription. Its components are modular, so you can deploy them when and where they are needed. You also can easily scale capacity and utilize multiple storage tiers for information lifecycle management.

Magnitude 3D 4000 performance also adapts to your requirements, with innovations such as optimal storage virtualization, dynamic cache, and virtual disk priority. Higher productivity, faster transactions, and more responsive websites are just a few of the ways Magnitude 3D 4000 performance can benefit your bottom line.

Technical innovation isn't the end of the story. Xiotech is strongly committed to your satisfaction. We offer the tools, training, and services that help you make the most of your storage solution.

The Result

The Magnitude 3D 4000 family of SAN solutions delivers seamless scalability, fast access, and consistently available data and applications—all while lowering both capital and operating costs.

Magnitude 3D 4000 in More Detail

Unmatched Ease of Use

Because Magnitude 3D 4000 is so easy to use, existing IT staff can manage more storage, and there is no need for vendor consultants or storage specialists.

- **Easiest Storage and Server Management:** With the intuitive ICON Manager interface, creating volumes and assigning them to servers is a simple point-and-click operation from a single interface. Making changes is just as easy.
- **Automated Management:** Magnitude 3D 4000 is the first storage system to use Web Services technology for customization and automation. With ICON Services, you can automate many storage tasks and easily create custom reports.
- **Automatic Expansion:** Intelligent Provisioning lets you provision storage once, and volumes grow automatically based on the policies you set.
- **Fast, Easy Server and Software Maintenance:** No server-side software and powerful boot-from-SAN capabilities make software upgrades and server replacement fast and easy.

Maximum Reliability

Magnitude 3D 4000 eliminates most causes of downtime to keep your applications and data online, available, and ready for business.

- **No Planned Downtime:** On-the-fly configuration and changes eliminate virtually all planned downtime. You also can add disk drives and upgrade controllers on the fly.
- **Automatic Failover:** Automatic failover and fail-back within the controller and across distributed cluster components ensure continued availability in the event of local outage.
- **Comprehensive Data Protection:** Integration with Xiotech's powerful replication offerings delivers data protection to meet your organization's unique needs.
- **Remote Monitoring and Alerts:** ActiveWatch, Xiotech's remote monitoring system, alerts you of any potential issues before they affect data or application availability.

Superb Adaptability

Magnitude 3D 4000 offers tremendous flexibility and scalability, so you can easily add features as your needs change and budget allows.

- **Flexible Deployment:** Modular controllers and drive bays can be deployed when and where they are needed.
- **iSCSI and Fibre Channel:** iSCSI and Fibre Channel are available in the same system, so you can give all your servers access to Magnitude 3D virtualized storage.
- **NAS/SAN Integration:** The Magnitude Storage Services Gateway adds inexpensive file serving (NAS) for the Magnitude 3D 4000 system.
- **Optimal Capacity Utilization:** Intelligent Provisioning delivers just the capacity you need when you need it—without over-provisioning and without the risk of over-subscribing.
- **Tiered Storage:** Multiple drive options let you use the most cost-effective storage for your needs, and dynamically move data among tiers.

Optimal Performance

Magnitude 3D 4000 includes exclusive features that deliver fast, dynamic performance for your applications.

- **Utilization of All Spindles:** Storage virtualization stripes data across all disks in the system, so all spindles work together to process requests.
- **Dynamic Cache:** Application VDisk Cache lets you turn cache on or off at the virtual disk level, so applications that require increased throughput do not compete for cache with applications that do not need it.
- **Application Prioritization:** VDisk Prioritization allows you to specify which applications receive service first—unlike the first-come first-served method used with most other systems.
- **Fast Throughput:** 4 Gbps drives and interfaces provide the fastest throughput available today.

Magnitude 3D 4000 Specifications

System Highlights

| | Magnitude 3D 4000s | Magnitude 3D 4000e | Magnitude 3D 4000e Edge |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| Storage Capacity (max) | 168TB per system | 84TB per system | 84TB per system |
| RAID Levels | 0, 5/3, 5/5, 10 | 0, 5/3, 5/5, 10 | 0, 5/3, 5/5, 10 |
| Standard Host Interfaces | 4 Fibre Channel (4 Gbps) | 4 Fibre Channel (4 Gbps) | 2 Fibre Channel (4 Gbps) |
| Additional Host Interfaces (Optional) | 4 Fibre Channel (4 Gbps) or iSCSI ¹ | 4 iSCSI ¹ | 2 iSCSI ¹ |
| Server Connections (max) | 248 | 124 | 124 |
| Drives per System (max) | 224 | 112 | 112 |
| Virtual Disks per System (max) | 512 | 512 | 512 |
| Battery-Protected Memory | 2GB | 512MB | 256MB |
| Operating Systems ¹ | Microsoft® Windows®, Novell® NetWare®, VMware® ESX Server, SUSE® Linux®, Red Hat® Linux®, HP-UX, IBM® AIX®, Mac® OS, Sun™ Solaris™ | | |

Storage Tiers

All Magnitude 3D 4000 systems support Fibre Channel Enterprise, Fibre Channel Economy, and SATA tiers—with intermix of storage tiers and drive types within systems, and intermix of drive types within bays.

| Storage Tier | Enterprise | Economy | SATA |
|----------------------|----------------|----------------|----------------|
| Drive Capacity (GB) | 300, 146 | 400 | 750 |
| Drive Speed (rpm) | 15,000 | 10,000 | 7,200 |
| Drive Burst Rate | 4 Gbps | 4 Gbps | 3 Gbps |
| Drive Type | Fibre Channel | Fibre Channel | SATA-II |
| Bay Type | Storage Bay IV | Storage Bay IV | Storage Bay IV |
| Drives per Bay (max) | 16 | 16 | 16 |

Availability and Management

| Solution Type | Description |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage Management | <ul style="list-style-type: none"> • ICON Manager: Management interface providing the easiest management ever available, plus detailed control for more experienced users. • ICON Services: Automation, customized reporting, and integration with other Web Services aware applications and tools. • Intelligent Provisioning: Automatic volume growth without the risk of over-subscription. |
| Replication Solutions | <ul style="list-style-type: none"> • On-the-fly copy, mirror, and swap of volumes within a storage system. • Synchronous and asynchronous copy, mirror, and swap of volumes between systems. • Continuous data protection with recovery to any point in time (requires appliance). • Automatic writing of each volume across two locations within a distributed storage system—with automatic server redirects in case of failure in one location. • Online replication to a hosted facility. |
| Microsoft Storage Services Support | Seamless integration with Microsoft Volume Shadow Copy Service (VSS), Virtual Disk Service (VDS), and Multipath I/O (MPIO). |

¹ Some restrictions apply; please consult with your Xitech representative for additional information

ExpertCare Support

| | Magnitude 3D 4000s | Magnitude 3D 4000e | Magnitude 3D 4000e Edge |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------|
| Basic Warranty | Hardware (parts, labor) and software for the warranty periods specified below. 24x7 phone support, same business day email response, and next business day on-site support and shipment of replacement parts. | | |
| <ul style="list-style-type: none"> Hardware Warranty | Two years | One year | One year |
| <ul style="list-style-type: none"> Software Warranty | 90 days | 90 days | 90 days |
| Optional Upgrades | 4-hour on-site response and parts ² Warranty and maintenance extension options | | |

Physical Specifications

| Component | Depth (in/cm) | Width (in/cm) | Height (in/cm) | Weight (lb/kg) |
|-----------------------------|---------------|---------------|----------------|--------------------------|
| Dimensional Controller Node | 25.6 / 65.0 | 16.7 / 42.0 | 3.5 / 8.9 | 53.0 / 24.0 |
| Storage Bay IV | 21.1 / 53.2 | 19.0 / 48.3 | 5.13 / 13.4 | 81.0 / 37.0 ³ |
| ICON Management Appliance | 14.0 / 35.5 | 16.7 / 42.4 | 1.7 / 4.3 | 17.5 / 7.9 |

System Power Specifications

| Component | Voltage | Current | Power | Heat Dissipation |
|-----------------------------|-------------|---------|-------|------------------|
| Dimensional Controller Node | 100 / 240 V | 2.5 A | 500 W | 1,706 btu/hr |
| Storage Bay IV | 208 / 240 V | 3.0 A | 600 W | 1,884 btu/hr |
| ICON Management Appliance | 208 / 240 V | 0.45 A | 180 W | 614 btu/hr |

Environmental Specifications

| | |
|-----------------------|------------------------|
| Operating Temperature | 40-95°F / 4-35°C |
| Relative Humidity | 20-80% (noncondensing) |
| Maximum Altitude | 8,000 ft / 2,438 m |
| Acoustic Output | < 65 dBA |

Regulatory Approvals

| | |
|-------------------------------|--------------------------------------------------------------|
| Safety | UL 1950, IEC 60950, CB Certification and Report from UL |
| Electromagnetic Compatibility | FCC (Class A), EN55022 (Class A), EN55024 (Class A), CE Mark |

² Available in Support Zone 1 only

³ Fully populated with drives

Specifications subject to change without notice. Visit www.xiotech.com for the most up-to-date information.



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