



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 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 changes eliminate virtually all planned downtime.
- **Automatic Failover:** Automatic failover and failback within the controller and across cluster components ensure continued availability in the event of local outage.
- **Full Spectrum Data Protection:** Magnitude 3D 4000 integrates effortlessly with XioTech's powerful software and replication systems to address your organization's unique business continuity requirements, including data protection, data availability, and budget.
- **Remote Monitoring and Alerts:** ActiveWatch, XioTech's remote monitoring system, alerts you of any potential issues before they affect data or application availability.

- **Optimized System Usage:** Storage Monitor software (optional) provides reporting, monitoring, and automation to help you optimize availability and usage of your system. Storage Monitor integrates with ICON Services so you can easily customize monitoring and reporting to meet your specific needs.

Superb Adaptability

Magnitude 3D 4000 offers tremendous flexibility and scalability. You can easily increase capacity and add features as your needs change and budget allows.

- **Flexible System Deployment:** Modular controllers and drive bays can be deployed when and where they are needed—in a single rack or distributed across campus.
- **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.
- **Cost-Effective Storage:** Tiered storage options let you use the most cost-effective drives for your needs, and dynamically move data among tiers.
- **Capacity Sharing Across Systems:** Virtual links enable you to connect Magnitude 3D 4000 and 3000 systems to share capacity and data.

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 those applications that don't need it.
- **Application Prioritization:** VDisk prioritization allows you to specify which applications receive service first—unlike most other systems in which read and write requests are serviced on a first-come first-served basis.
- **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)	1 68TB 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)	None	None
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	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.¹

Storage Tier	Fibre Channel Enterprise	Fibre Channel Economy	SATA
Drive Type	Fibre Channel	Fibre Channel	SATA-II
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
Bay Type	Storage Bay IV	Storage Bay IV	Storage Bay IV
Drives per Bay (max)	16	16	16

Availability and Reliability

	Magnitude 3D 4000s & 4000e	Magnitude 3D 4000e Edge
Controllers and Chassis	Dual controller Physically independent controller chassis and drive bays	Single controller Physically independent controller chassis and drive bays
System Failover	Intra-controller & cross-cluster failover No host software required	Intra-controller failover No host software required
Capacity Upgrades	Nondisruptive drive bay and capacity addition options	Nondisruptive capacity addition
Hot-Swappable Components	Redundant, hot-swappable controllers, drives, and power supplies	Hot-swappable drives & power supplies
Controller and Software Upgrades ²	Nondisruptive controller & software upgrade options	Incremental upgrade to Magnitude 3D 4000e & 4000s
Data Replication	Multiple replication options, including synchronous, asynchronous, and CDP	

¹ Upgrades are available for Magnitude 3D 1000 and Magnitude 3D 3000 customers. Please see Support Matrix on www.xitech.com for list of compatible equipment for Magnitude 3D 4000 systems.

² Some restrictions apply; 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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