



Emprise™ 7000 Storage Family

Virtual SAN systems that deliver maximum reliability, scalability, and value



Reliable, Fast Access to Data

is critical to your organization's success, so you must carefully choose the storage foundation for that data. At the same time, you must be sure to get the most for every IT dollar you spend, especially in today's economy.

Disk-based systems have been a storage mainstay for years, but most suffer from common shortcomings. First and foremost, disks fail. It's inevitable. Replacing failed disks consumes valuable time and puts your data at risk. Failures also cost you money—in terms of hot spare drives and expensive maintenance fees.

Traditional storage systems also can end up being a lot more expensive than they initially appear. For true total cost of ownership (TCO), you need to consider the *usable* capacity of the system, how much disk you need to meet your application's performance needs, the warranty period and maintenance renewal charges, and ease of operation.

The Solution: Emprise 7000

Xiotech's Emprise 7000 family of storage area network (SAN) solutions is based on Xiotech's patented Intelligent Storage Element (ISE™) technology and proven virtualized, distributed cluster architecture.

ISE is a tightly integrated storage environment that maximizes reliability, performance, and scalability. Rather than individual disk drives, ISE uses sealed *DataPacs* (one or two per ISE enclosure). Each DataPac combines the capacity and processing power of 10 to 20 drives, while eliminating the time, risk, and expense of disk replacements.

In addition, dual *Managed Reliability Controllers* locally manage cache, data recording processes, and more—

leaving storage controllers free to concentrate on high-level storage and replication processes.

This unique design, along with Xiotech's innovative management software, delivers the reliability, performance, and scale you need—while dramatically lowering your capital and operating expenses.

Emprise 7000 Highlights

- **High Availability:** Patented ISE diagnostics and self-healing capabilities **significantly reduce storage-related service events**. With its distributed cluster architecture and replication options, Emprise 7000 addresses all the causes of downtime to keep your data and applications online and accessible.
- **Modular Scalability:** Emprise 7000 flexibly **scales from a terabyte to a petabyte**. As you add ISE, you not only gain capacity, you also add cache and processing power for faster performance.
- **Lowest TCO:** Emprise 7000 is architected to **lower both your capital and operating expenses**:
 - » 100 percent usable storage capacity for the lowest cost per usable terabyte.
 - » Industry-leading performance efficiency.
 - » Dramatically simplified storage provisioning and management with ICON Manager.
 - » Efficient utilization of power, cooling, and space.
 - » An exclusive five-year hardware warranty.



Emprise 7000 in More Detail

High Availability

Emprise 7000 minimizes downtime and service events to keep your data and applications online and available.

- **No Disk Maintenance:** ISE technology dramatically improves reliability, while eliminating the need for you to ever touch a drive.
 - » Reconditioning and error-detection processes fix potential problems before failure occurs.
 - » Self-healing capabilities enable recovery from most failures.
 - » Automatic self-sparing eliminates the need for service if there is a failure.
- **No Planned Downtime:** On-the-fly storage provisioning and changes eliminate virtually all planned downtime.
- **Automatic Failover:** Automatic failover and failback within the system and across clustered components ensure continued availability.
- **Efficient Data Protection:** Optional TimeScale® software provides local and remote copy, snapshot, and volume protection across distributed components—all managed from the same console you use to manage storage.

Modular Scalability

With Emprise 7000, you can add capacity, performance, and features as your needs change and budget allows.

- **One Terabyte to One Petabyte:** ISE technology enables incremental scaling to one petabyte with the fewest number of managed components.
- **Scalable Performance:** As capacity grows, so does performance. Each ISE brings more cache and an impressive boost in processing power.
- **Flexible Deployment:** You can deploy controllers and ISE modules when and where you need them—in a rack or distributed across campus.
- **Tiered Storage:** You can mix DataPac types within the system to provide cost-effective storage for your needs: from high capacity to high performance.
- **Capacity Sharing:** With TimeScale GeoRep software (optional) you can share capacity and data across Emprise 7000 and Magnitude 3D® systems.

Lowest TCO

Emprise 7000, with its ISE technology and easy management provides the best value in storage today.

Lowest Cost per Usable Terabyte

With some systems, you may get to use as little as 45 percent of the storage you buy because of hot spares (which sit idle most of the time) and capacity held back for storage processes. Some vendors also recommend that you use only a portion of your available capacity because performance typically degrades as disk utilization increases.

With Emprise 7000, you can use all available storage capacity—and performance remains strong even as capacity utilization reaches 100 percent. You get to use everything you buy, which means you can buy a lot less.

Industry-Leading Performance Efficiency

With typical systems, storage controllers must manage RAID, cache, and other processes, leaving little headroom for application processing. Similarly, you often must buy disks solely to maintain adequate performance.

Emprise 7000 gives you the performance you need with much less hardware than other systems, delivering the processing power of up to 40 disks in just 3U. ISE technology also frees storage controllers from managing cache and low-level disk processes, while eliminating compatibility issues between disks, enclosures, and controllers.

Half the Operational Costs

- **Five-Year Hardware Warranty:** Emprise 7000 comes with an industry-exclusive five-year hardware warranty. This can save you tens of thousands of dollars over other systems' shorter warranties followed by high-priced renewals.
- **Efficient Resource Utilization:** Emprise 7000 enables you to meet capacity and performance needs with fewer disks, so you use less power and space. It also features dense packaging and improved cooling to reduce data center footprint.
- **Easiest Administration:** ICON Manager, built on an industry-standard Web Services foundation, dramatically simplifies and speeds storage and storage-related server administration. For instance, you can create and provision storage for servers and virtual machines with just a few clicks from a single interface. (See the *ICON Manager data sheet for details on this innovative management tool.*)

Emprise 7000 Specifications

System Highlights

Description	Emprise 7000	Emprise 7000 Edge
Controller Configuration	Dual	Single
Storage Capacity	1.2 to 1,024TB	1.2 to 160TB
ISE per System (max)	64	10
Data Recording	ISE protected RAID, Emprise 7000 mirroring	ISE protected RAID, Emprise 7000 mirroring
Standard Host Interfaces	4 Fibre Channel (4 Gbps)	2 Fibre Channel (4 Gbps) or 2 iSCSI
Additional Host Interfaces (optional)	4 Fibre Channel (4 Gbps) or 4 iSCSI	2 Fibre Channel (4 Gbps) or 2 iSCSI
Server Connections (max)	248	248
Storage Volumes (max)	1,024	1,024
Cache (max)	64GB (1GB per ISE)	10GB (1GB per ISE)
Operating System Support ¹	Microsoft® Windows®, VMware® ESX, Novell® NetWare®, SUSE® Linux Enterprise Server, Red Hat® Enterprise Linux®, HP-UX, IBM® AIX®, Sun™ Solaris™, Mac OS®	

Storage Tiers

DataPac Types	Capacity ²	Weight (lb/kg)
High-Performance Tier DataPac	1.2TB	14.90 / 6.76
Performance Tier DataPac	1.2TB	19.65 / 8.90
Balanced Tier DataPac	2.4TB	19.65 / 8.90
	3.6TB	20.80 / 9.44
Capacity Tier DataPac	4.8TB	20.50 / 9.30
	8.0TB	20.35 / 9.23

Reliability, Availability, and Management

Parameter	Description
Self-Healing Technology	Patented diagnostic and reconditioning processes prevent issues and repair components in place, avoiding disk-related service events
Data Replication	Local and remote replication, snapshot
Storage Management	<ul style="list-style-type: none"> • ICON Manager: Management interface providing the easiest administration 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
Controllers and Chassis	Physically independent controller chassis and ISE modules
Capacity and System Upgrades	<ul style="list-style-type: none"> • Nondisruptive ISE and DataPac addition options • Nondisruptive controller and software upgrade options^{1,3}
System Failover	Intra-controller failover, cross-cluster failover ³ , no host software required
Hot-Swappable Components	Redundant, hot-swappable controllers ³ and power supplies

¹ Some restrictions apply; consult your XioTech account representative for details

² 1TB = one trillion bytes

³ Dual-controller systems only

ExpertCare Support

Support Type	Hardware (Parts, Labor)	Software	Response
Basic Warranty	Five years	90 days	<ul style="list-style-type: none"> • 24x7, four-hour on-site support and shipment of replacement parts⁴ • 24x7 toll-free phone support • Same business day email response
Optional Upgrades	Warranty and maintenance extensions		



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
Intelligent Storage Element	28.5 / 72.39	17.5 / 44.45	5.2 / 13.2	71.0 / 32.2 ⁵
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 (Max)	Power (Max)	Heat Dissipation (Max)
Dimensional Controller Node	100-240 V	2.5 A / 5.0 A	500 W	1,705 btu/hr
Intelligent Storage Element	100-240 V	3.3 A / 6.6 A	600 W (typical)	2,388 btu/hr
ICON Management Appliance	100-240 V	0.5 A / 1.0 A	100 W	341 btu/hr

Environmental Specifications

Component	Operating Temperature	Operating Humidity	Maximum Altitude	Acoustic Output
Emprise 7000 System	50–95° F 10–35° C	20–80% (noncondensing)	8,000 ft 2,438 m	< 65 dBA

Regulatory Approvals

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

⁴ Support Zone 1 only

⁵ Weight without DataPacs

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



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