



# Xiotech® Deduplication Storage

High-speed, inline deduplication and storage from Xiotech and Data Domain



## Data Backups and Retention

can get out of hand. Data continues to grow and must be kept for extended periods of time—often mandated by government or industry regulations. Traditionally, organizations have backed up their data to tape, but that means the data is not immediately accessible should the need arise.

Alternately, organizations may utilize disk-to-disk backup. While that offers quick access to data, it may be financially out of reach for some. Neither solution fully addresses the growing volumes of data.

## The Solution: Xiotech Deduplication Storage

The Xiotech Deduplication Storage solution enables you to back up more data and keep it for longer—all in a much smaller space. The solution combines high-speed inline deduplication from Data Domain with Xiotech's Intelligent Storage Element (ISE) technology—for incredibly fast, cost-effective data backups and nearline storage.

Data Domain has revolutionized disk backup and remote office data protection with patented high-speed, inline deduplication. Backup data can be reduced in size by an average of 20x. When combined with Xiotech's Emprise 5000 storage system, built on patented ISE technology, disk backup and archiving become cost-effective and easy for long-term, onsite retention and highly efficient for offsite replication to disaster recovery (DR) sites.

## Solution Features

- Massive data reduction to cost-effectively store more data, for longer periods.
- Industry's highest-performance backup and storage, so you can back up and recover more data in less time.
- Easy installation and operation for lower administrative costs.
- Seamless integration into IT environments, so you can use the IT infrastructure you have today.
- Network-efficient replication for affordable, multi-site DR.
- Continuous data verification to ensure data integrity and reliable recovery.
- Unmatched reliability for consistently available data without administrative intervention.
- Flexible scalability to meet your organization's growing needs.

## The Result

With the Xiotech Deduplication Storage solution, you can affordably back up all your data and keep it as long as required, while ensuring it is readily accessible online should you need to access it.

# Xiotech Deduplication Storage in More Detail

- **Massive Data Reduction:** The Xiotech Deduplication Storage solution offers an average of 10-30x data reduction, enabling cost-efficient data retention on disk. Now you can store more backups in a smaller space and keep those backups longer—without straining your budget or data center floorspace.
- **Industry's Highest Performance:** Both the Data Domain Gateway and Emprise 5000 storage system are built for speed, giving you the fastest nearline backup available. The gateway offers the industry's highest throughput (1.4TB/hour), while Emprise 5000 is one of the fastest storage systems available for the price—proven by the Storage Performance Council (SPC) testing.<sup>1</sup>

And Xiotech's Deduplication Storage solution performance scales linearly; thus, two systems provide double the speed of one.

- **Easy Installation and Operation:** The Xiotech Deduplication Storage solution is easy to install and manage, resulting in lower administrative and operational costs. In addition, automatic call-home system reporting enables proactive support and service without administrator intervention, further simplifying ongoing management.
- **Seamless Integration into IT Environments:** The Xiotech Deduplication Storage solution is qualified with leading enterprise backup and archive software, from vendors such as Symantec and CommVault. The solution easily integrates into your existing IT infrastructure without requiring changes to your data center or remote offices.
- **Efficient Replication for DR:** The Xiotech Deduplication Storage solution reduces the bandwidth required to replicate backup and archive data by 95-99 percent, so you can replicate more data, faster, to single or multiple DR locations. Simply connect the gateway to your backup software's media server as either a file server or virtual tape library. It takes just minutes to start backing up and recovering data.

The solution enables you to efficiently replicate data from multiple remote sites to a central data center.

The solution also offers the most efficient snapshots available, enabling you to implement a local backup for archive data and extended retention at the DR site

- **Ultra-Safe Storage for Reliable Recovery:** The Xiotech Deduplication Storage solution continuously verifies data integrity, detecting and protecting against potential issues during initial backup and throughout the data life cycle. This ensures the data can be recovered if ever needed.

Optional Data Domain Retention Lock software eliminates the risk of inadvertent or malicious deletion of critical data. This software helps you meet strict government and industry regulations for retention and protection of data.

- **Unmatched Reliability:** The Emprise 5000 storage system utilized in the deduplication solution is based on Xiotech's exclusive ISE technology, which extends storage reliability far beyond that of a single disk—by 100 times or more.

With such reliability, Emprise 5000:

- » Eliminates the time and risk of replacing failed disk drives.
- » Provides significant cost savings with an unprecedented five-year hardware warranty.

Other high-availability features include multipath connectivity with automatic path failover, load balancing, on-the-fly storage expansion, and active-active controllers.

- **Flexible Scalability:** The Xiotech Deduplication Storage solution enables you to scale the solution to meet your changing needs. You can start with a single gateway attached directly to one Emprise 5000 system. When you need more capacity or throughput, simply add gateways and connect to multiple Emprise 5000 systems via a Fibre Channel fabric. You can independently grow capacity and throughput—up to 25 petabytes of logical capacity and 22 terabytes per hour throughput. The gateway even serves as a deduplicating NAS system, enabling you to back up and store millions of CIFS/NFS files.

<sup>1</sup> Best protected disk array price/performance for SPC-1 I/Os per Second (IOPS); industry-leading price/performance for SPC-2 Megabytes per Second (MBps)—composite mirroring and large file mirroring—as of May 12, 2008. Audited reports are available at: [www.storageperformance.org/results/benchmark\\_results\\_spc1#a00064](http://www.storageperformance.org/results/benchmark_results_spc1#a00064) and [www.storageperformance.org/results/benchmark\\_results\\_spc2#b00031](http://www.storageperformance.org/results/benchmark_results_spc2#b00031).

# Xiotech Deduplication Storage Solution Specifications

## System Highlights: Data Domain DD690g Gateway

Description	Details
DD690g Host Interfaces	2 1Gb copper Ethernet ports  Optional: Dual-port 1Gb copper Ethernet module or dual-port 10Gb copper Ethernet Module, dual-port 4Gb FC HBA with VTL software
DD690g Host Protocols	NFS v3 over TCP, CIFS, NDMP v2, Symantec OpenStorage (OST), tape library emulation (VTL) over Fibre Channel
Software	Data Domain Operating System (DD OS) 4.5 or later  Global Compression, Data Invulnerability Architecture including end-to-end verification (ongoing), snapshots, telnet, FTP, SSH, email alerts, scheduled capacity reclamation, Ethernet failover and aggregation, multipath storage connectivity.  Optional: Data Domain Replicator and Retention Lock software
DD690g Management	Data Domain Enterprise Manager, GUI, SNMP, CLI

## Xiotech Deduplication Storage Solution Offerings

Description	Single Node – Direct Configuration	Single Node – Fabric Configuration	Multiple Node – Fabric Configuration
Data Domain DD690g Gateways	1	1	1-16
Emprise 5000 Storage Systems	1-2	1-3 <sup>2</sup>	1-48 <sup>3</sup>
Raw Capacity <sup>4</sup>	16-32TB	16-48TB	16-768TB
Usable Capacity	11.4-22.8TB	11.4-34.2TB	11.4-547.2TB
Logical Capacity <sup>5</sup>	228-456TB	228-684TB	228TB-10.9PB
Inline Dedupe Throughput (max)	1.4TB/hour	1.4TB/hour	22.4TB/hour
Interfaces	NAS (CIFS, NFS)	NAS (CIFS, NFS), VTL -FC (optional)	NAS (CIFS, NFS), VTL-FC (optional)
Connection Type – Storage	Direct via 4 FC ports	FC SAN Fabric	FC SAN Fabric
FC Fabric Type	N/A	Brocade or Cisco	Brocade or Cisco

## Reliability and Availability

Parameter	Description
ISE Self-Healing Technology	Patented diagnostic and reconditioning processes prevent issues and repair storage components in place, avoiding most service events
ISE Hot-Swappable Components	Controllers (dual active-active), DataPacs, power supplies, cooling fans, batteries
Data Domain Data Invulnerability Architecture	End-to-end verification at backup time, continuous data recovery verification, file system recoverability
Data Domain Data Replication	Local snapshot, optional remote replication

<sup>2</sup> Currently available with 1-2 Emprise 5000 storage systems; 3-system configuration available 1H'09.

<sup>3</sup> Currently available with 1-32 Emprise 5000 storage systems; 48-system configuration available 1H'09.

<sup>4</sup> 1TB = one trillion bytes

<sup>5</sup> Based on 20x average data reduction (deduplication)

## Support

	Hardware (Parts, Labor)	Software	Response
Basic Solution Warranty	One year <sup>6</sup>	One year	<ul style="list-style-type: none"> <li>• 24x7, four-hour on-site support<sup>7</sup></li> <li>• 24x7 toll-free phone support</li> <li>• Same business day email response</li> </ul>
Optional Upgrades	Warranty and support extensions to two or three years		

## Physical Specifications

Component	Depth (in/cm)	Width (in/cm)	Height (in/cm)	Weight without Datapacs (lb/kg)
Emprise 5000 System	28.5 / 72.39	17.5 / 44.45	5.2 / 13.2	71.0 / 32.2
Data Domain DD690g Gateway	29 / 73.7	19 / 48.3	4.46 / 8.8	51.0 / 23.0

## System Power Specifications

Component	Voltage	Current (max)	Power (typical)	Heat Dissipation
Emprise 5000 System	100 / 240 V	6.0 / 3.0 A	600 W	2,050 btu/hr
Data Domain DD690g Gateway	115 / 230 V	4.9 / 2.4 A	559 W	1,908 btu/hr

## Environmental Specifications

Component	Operating Temperature	Operating Humidity	Maximum Altitude
Emprise 5000 System	50–95° F / 10–35° C	20–80% (noncondensing)	10,000 ft / 3,048 m
Data Domain DD690g Gateway	41–95° F / 5–35° C	20–80% (noncondensing)	

## Regulatory Approvals

Approval Type	Emprise 5000	Data Domain DD690g Gateway
Safety	UL 60950-1:2003, CAN/CSA C22.2 No. 60950-1-03, IEC 60950-1	UL 60950-1, CSA 60950-1, EN 60950-1, IEC 60950-1, SABS, GOST, IRAM
Electromagnetic Compatibility, Emissions, and Immunity	EN 61000, EN 55022 (Class B), EN 55024, FCC (CFR 47, Part 15, CISPR 22), CSA C108.8-M1983 (CISPR 22), EC Directive 89/336/EEC, EMC Directive	FCC Class A, EN 55022, CISPR 22, VCCI, BSMI, RRL, EN55024, CISPR 24

<sup>6</sup> Basic hardware warranty for Emprise 5000 is 5 years

<sup>7</sup> Support Zone 1 only.

Specifications subject to change without notice. Visit [www.xiotech.com](http://www.xiotech.com) for the most up-to-date information.



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