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Dternity NAS Datasheet

Highlights

- Simple-to-deploy NAS solution
- Cost-effective storage utilizing LTFS
- Tunable performance
- Online access to all data
- Built-in data protection
- Non-proprietary, vendor neutral

Long-Term Preservation

Tackle the data explosion with ultra-scalable and fully protected long-term storage.

Alleviate Backup Challenges

Remove fixed data from your backup process. Store and protect it with Dternity.

Overview

Massive data growth requires scalable, protected and resilient storage

Data is exploding across the digital universe, putting pressure on already overburdened budgets and IT resources. In order to meet the ever-growing challenges driven by today's needs for keeping data available, online and protected in a cost-effective and sustainable manner, users must seek out new ways to better manage and protect their data.

Dternity NAS

The most cost-effective solution for long-term data preservation

Fujifilm Dternity NAS is a network-attached storage (NAS) appliance that is purpose-built to provide online data access, low-cost scalability and data protection for unstructured, fixed content. What makes Dternity NAS unique is its policy engines for embedded data protection and performance tuning that provide data availability to meet specific business requirements.

Dternity NAS presents itself as one or more CIFS/NFS shares, and each share is customizable to meet users' defined data protection and performance requirements. Dternity NAS enables users to automatically create one or more copies of files, and export files on tape or over the LAN/WAN for offsite protection. Dternity NAS has embedded file and media-based health checks to ensure the long-term resiliency of your data. With this intrinsic data protection, files stored in Dternity are secure for long-term data preservation, yet always accessible.

By utilizing Linear Tape File System (LTFS) tape technology along with the intelligent disk cache, Dternity NAS delivers the performance of disk with the economics of tape in one simple and massively scalable solution.

Cost-efficient scalability for long-term preservation

Dternity NAS allows you to take advantage of the low power and maintenance costs of tape, without sacrificing performance. In fact, Dternity can reduce power costs by up to 95 percent, compared to disk-only storage. Likewise, a single Dternity NAS appliance can seamlessly scale to more than 35 petabytes.

Data availability to meet business needs

Dternity NAS empowers you to access data when and where you need it. The intelligent disk cache with policy-based performance tuning reduces tape latency and provides instantaneous access to files. You can adjust data availability to match business requirements while files are always protected on tape. File access is seamless and transparent; end-users never even know they are accessing data from tape.

Simple to deploy and use

Dternity NAS presents itself as a standard file system that appears like a network drive and is easily accessed by applications or users. Access is as simple as familiar "drag-and-drop" from a standard file system.

Intrinsic data protection for the file and physical media

While storing data is fundamental, reliably retrieving data in time of need is crucial to a successful preservation strategy. Dternity NAS never alters or changes a file; data is always stored and accessed in its original state. Purpose built to meet data protection requirements, Dternity NAS can meet the need for multiple copies on separate media with the option to export physical media for offsite vaulting.

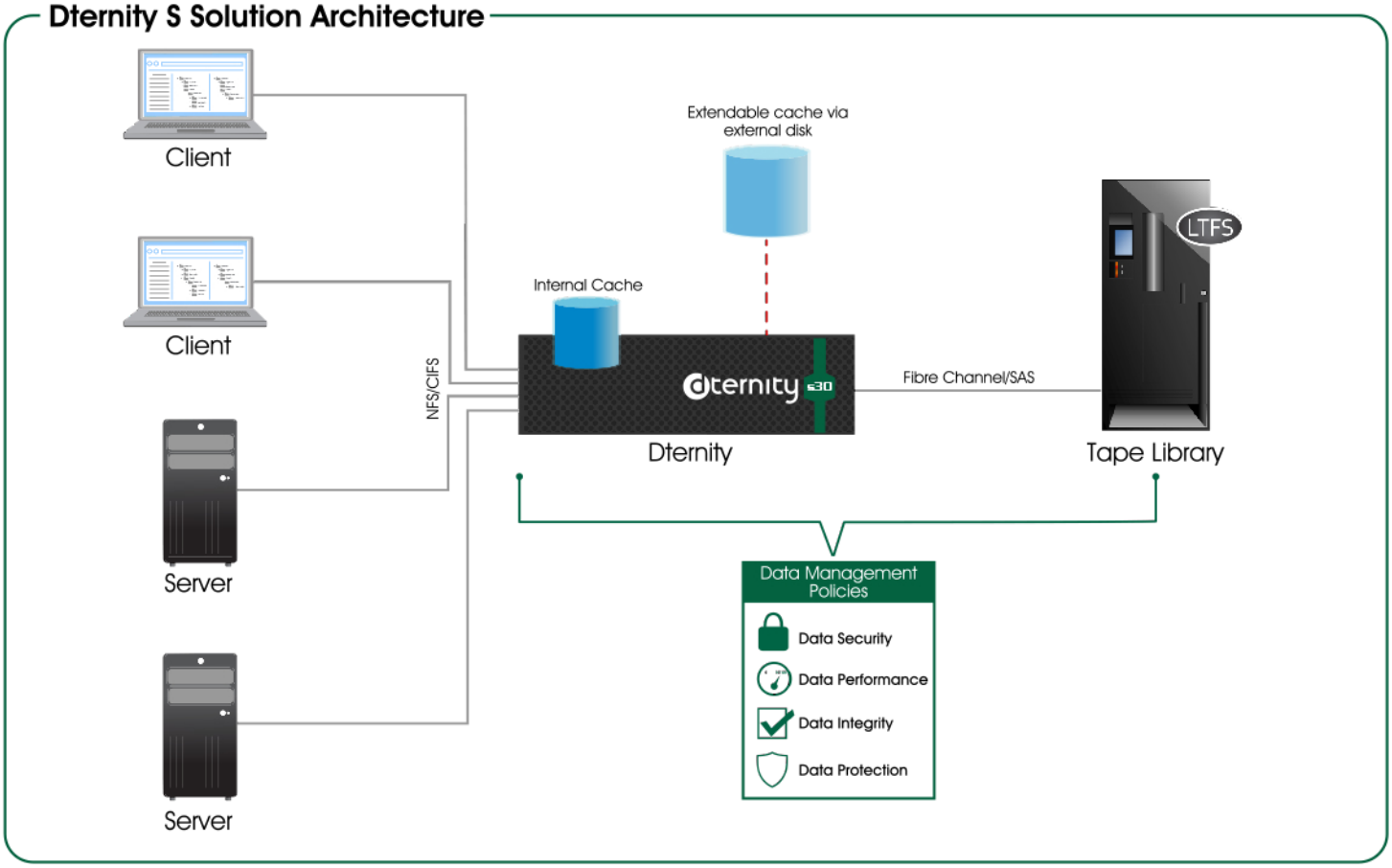
Dternity NAS provides additional data protection through tape encryption with built-in key management. Data can also be protected at a remote site via secure, encrypted WAN optimized asynchronous replication. Additionally, Dternity NAS provides file-level integrity checks so that you can be confident that data written will be the data read.

Unique tape analysis technology provides automated reporting on the health and use of tapes, drives and disk subsystems, ensuring that hardware and media components are operating efficiently.

The Bottom Line

Dternity NAS is a NAS appliance purpose-built to lower the costs of long-term data retention while providing built-in data protection, full file accessibility, and simplified management for unstructured, fixed content.

Dternity S Solution Architecture



Dternity S Series

Dternity NAS is available in three flexible, scalable platforms to meet your specific business needs.

- Ideal for SMBs, managing up to 500 terabytes of usable storage (100 million files)
- Efficient internal disk cache with 5.7 TB RAID 5
- Support for up to 4 LTO 5/6 or IBM TS1140 LTFS tape drives

s10

- The affordable configuration for fast-growing data centers, supporting up to 800 million files
- Expanded internal disk cache with 12 TB RAID 6 for added performance
- Support for up to 8 LTO 5/6 or IBM TS1140 LTFS tape drives

s20

- The most robust Dternity model, ideal for the enterprise data center, offering managed capacity to more than 35 PBs or 1.6 billion files
- Powerful performance with 21 TB of internal disk cache
- Support for 16 LTO 5/6 or IBM TS1140 tape drives

s30

Dternity NAS Technical Features and Configuration

Appliance Connectivity

Dternity NAS is delivered as an appliance with three hardware configurations: 1U, 2U or 3U. Connecting to the local network via 1 Gb or 10Gb Ethernet, data transfers are managed under standard Network File System (NFS) or Common Internet File System (CIFS) protocols. Dternity NAS provides a unique storage tier with performance tuning and embedded data protection. As a plug-and-play NAS appliance, Dternity NAS brings simplicity to tape for cost-effective scalability while eliminating the traditional complexities of data protection. Dternity NAS supports most vendors' tape libraries and LTFS tape drives (LTO 5, LTO 6 and IBM TS1140) as well as external RAID systems for expanded online capacity.

System Features

Dternity NAS is equipped with unique features that deliver robust, flexible performance while ensuring data integrity, protection and preservation.

Data performance and accessibility with tunable policy-based management

- The configurable **delayed action period** allows users to retain files on the disk cache, providing faster access to files and a window of opportunity for file modification as needed. The files will be write-protected and written to tape once the delayed action period has expired.*
- Dternity NAS retains a **placeholder file** on disk to provide tunable data performance that ensures seamless file access.
- The **file retention policy** (configurable up to 365 days) allows you to retain entire files on the cache for access as needed without having to recall the files from tape.
- The **internal cache can be extended** via external disk to meet performance requirements while keeping power and maintenance costs low. *

Cross-technology integration

- Following the LTFS standard, Dternity NAS makes no modifications to files. Data written by Dternity NAS can be read by any LTFS- compatible drive.
- As a vendor-neutral solution, Dternity NAS supports most industry-leading tape libraries, allowing you to deploy Dternity NAS with an existing library or providing the flexibility for you to choose the components that best fit your environment.
- The Dternity NAS application programming interface (API) makes it simple to integrate existing software with the Dternity system.
- Using the API, users may create customized tuning for access performance, such as prefetching files to the disk cache so they are instantly delivered once recalled.
- To facilitate project-based storage and retrieval, the API allows you to archive all project files as a container and reference entire projects with a unique identifier. This feature improves project-based workflows that include Dternity NAS and Media Asset Management (MAM) applications.

Data Protection

- Multi-copy allows you to create multiple copies of data on separate pieces of media, enabling both a local copy for access plus remote copies for offsite protection.
- With tape export, physical tape media can be ejected from the library for distribution or shipping to an offsite protection facility.
- WAN asynchronous replication helps meet data protection requirements by enabling secure data transfers to one or more sites.*

Data integrity and reliability

- Unique SHA512 hash codes are verified on every file read request to ensure that data written is data read.
- Automated tamper checking and alerting ensures that data on media removed from the library was not altered.

Data security

- Data can be grouped by share with secure user or group access with active directory authentication.
- Private shares can be created to isolate access control by tying an IP address to a specific share for data confidentiality.
- Files may be encrypted (per share) for additional security of data written to tape. Built-in key management functionality and key forwarding allows encrypted files to be restored by both the original system as well as other associated Dternity NAS systems.*

System optimization

- When a tape becomes empty, Dternity NAS automatically designates the empty tape as "scratch media," allowing it to be reintroduced as a blank tape and reused.
- The simple user interface provides users with one consolidated point for data management, reporting and configuration.
- Dternity NAS automatically checks, analyzes and reports on system use to ensure efficiency and resource optimization.
- System monitoring ensures that there are no potential issues with the disk or tape subsystems or media.

** Denotes an optional feature available for an additional cost.*

Dternity S Series Techinical Specifications

System Specifications	*Dternity s10*	*Dternity s20*	*Dternity s30*
IP Services	NFS v3 – Unix/ LinuxCIFS SMB1 - Windows	NFS v3 – Unix/LinuxCIFS SMB1- Windows	NFS v3 – Unix/LinuxCIFS SMB1- Windows
Files Supported	Up to 100 million files	Up to 800 million files	Up to 1.6 billion files
File Shares Supported	128	128	128
Sustained Transfer Rate	Up to 160 MB/s (network shared performance)	Up to 320 MB/s (network shared performance)	Up to 600 MB/s (network shared performance)
Disk Cache	5.7 TB (RAID 5)	12 TB (RAID 6)	21 TB (RAID 6)
Connectivity	Standard: Quad Gigabit Ethernet ports for data with Single Gigabit Ethernet port for management Storage Options: (for libraries and external RAID): Dual port 6 Gb/s SAS, Dual port 8 Gb/s FC	Standard: Single Gigabit Ethernet for management Option: 1 or 2 Quad port Gigabit Ethernet for data Storage Options (for libraries and external RAID): 1-3 Dual port 6 Gb/s SAS, 1-3 Dual port 8 Gb/s FC	Standard: Single Gigabit Ethernet for management Option: 1 or 2 Quad port Gigabit Ethernet or 1 Dual port 10 Gigabit Ethernet for data Storage Options (for libraries and external RAID): 1 or 2 Quad port 6 Gb/s SAS, 1 or 2 Quad port 8 Gb/s FC
Format Compatibility	LTFS – 4 drives LTO 5 & LTO 6 IBM TS1140	LTFS – 8 drives LTO 5 & LTO 6 IBM TS1140	LTFS – 16 drives LTO 5 & LTO 6 IBM TS1140
Physical Specifications			
Form Factor	1U Server	2U Server	3U Server
AC Power	100-240 VAC auto-sensing, 50/60 Hz, 2.72 amps	100-240 VAC auto-sensing, 50/60 Hz, 4.13 amps	100-240 VAC auto-sensing, 50/60 Hz, 5.67 amps
Width	17.2 in. (437 mm)	17.2 in. (437 mm)	17.2 in. (437 mm)
Depth	25.6 in. (650 mm)	25.5 in. (648 mm)	25.5 in. (648 mm)
Height	1U - 1.7 in (43 mm)	2U - 3.5 in (89 mm)	3U- 5.2 in. (132 mm)
Weight	46 lbs. (20.9 kg)	58 lbs. (26.4 kg)	72 lbs. (32.7 kg)
Environmental Specifications			
Operating Temperature	10 to 35° C	10 to 40° C	10 to 40° C
Operating Humidity Range	8-90% non-condensing	8-90% non-condensing	8-90% non-condensing
Heat	1126 BTUs	1675 BTUs	2322 BTUs

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