MatrixStore.

The Trusted Nearline Storage Platform

ObjectMatrix

Scalable Nearline Storage for All Digital Content

MatrixStore is an object based storage appliance that is trusted by the world's largest broadcasters, banks and telecommunications companies to keep their digital information available and protected with minimal administrative effort. Taking advantage of commodity storage hardware, it provides a secure, scalable and searchable repository for your digital assets. Based on object storage technology, MatrixStore is more than just a resilient storage device. It provides a proven digital preservation platform that supports both internal and external business rules and puts your content where you need it, when you need it.

Used across industry verticals, MatrixStore features most heavily in the video production, broadcast and distribution markets. Markets that require resilient platforms that just work. They also require that new technology solutions tightly integrate into existing, incumbent, workflows with the minimum of disruption. With its open and powerful API and industry standard interfaces MatrixStore provides non-disruptive workflow integration coupled with completely disruptive economics. MatrixStore has been integrated with leading media workflow tools from many manufacturers to provide further return on your investment.

If you are facing growing storage management challenges MatrixStore is the highly affordable disk-based solution to meet your organisation's on-going ingest, nearline or deep archive needs. MatrixStore is suited to the storage of small and large files alike. It is particularly suited to supporting video production and preservation workflows, MatrixStore is the perfect platform for ensuring data is available in re-purposing, re-versioning, distribution and VOD (Video On Demand) applications. MatrixStore puts your data where you need it, when you need it. MatrixStore allows you to put everything you have ever created into a trusted and proven platform that provides instant access as and when you need it.

MatrixStore Benefits

- Trusted object based storage
- Cost-effective and highly resilient
- Proven digital preservation platform
- Supports data capture, nearline & deep archiving workflows
- Search, find your data instantly
- Reduces management overheads & processes
- Self-healing & self-managing ensuring data always protected
- Fully scalable in capacity and performance
- Secure access to all content with automated off site protection
- Low Total Cost of Ownership (TCO)

- Resilient. Provides 99.999% data availability
- Open API for integration with 3rd party applications
- MatrixStore PiP (Process in Place) uses the power of the cluster to process content or enrich metadata where the content lives
- Integrates with Avid Interplay, Vidispine, GLOOKAST, Signiant, Aspera, Content Agent , Cantemo, ASG and many others
- Future proof. Migrates data to new technology platforms
- Migrates content to offline media (LTO & Optical)
- Access via SMB, FTP, Local Drive, DropSpot and many more
- Scales to multiple petabytes with little management effort

Product Highlights

- **Distributed Index and Search:** Data and metadata is protected so you can find your data instantly.

- **Self Healing Clustered Architecture:** Automatically re-protects the data in the event of hardware failure.

- **Enhanced Metadata Support**: Keep the metadata for the asset alive, update it, enrich it and search for it at any time.

- **Business Rules and Regulation Compliance Ready:** Option to ensure data is protected from accidental or malicious deletion.

- **Scalable Capacity & Performance**: Grow your MatrixStore cluster as your data grows. More nodes = more performance.

- **MatrixStore PiP** (Process in Place): Use the power of the cluster to process content or enrich metadata where the content lives

- **Self Managing :** MatrixStore manages the location, availability and protection of the data so you don't have to.

- **99.999% Data Availability:** Hardware and data redundancy providing fail-over at every level.

- **Fully Integrates with a full range of workflows:** MAMs, DAMs & PAMs, transcoding & ingest platforms, WAN accelerators & LTO/optical providers for deep archive.

- **Favourable TCO:** Lowest possible Total Cost of Ownership

- **Non-Proprietary:** Off-the-shelf hardware, standard operating systems, file systems and file formats.

- **MatrixStore API:** Open & powerful API (C and Java) for tight workflow integration.

MatrixStore Clusters, Nodes and Vaults

MatrixStore Cluster: A cluster consists of 3 or more MatrixStore nodes providing the highest levels of data resilience. Nodes communicate with each other using an internal network to ensure data is protected and available for use 24/7. Each node is responsible for the protection and availability of its own data whilst also working with other nodes in the cluster to ensure you have a highly scalable storage platform that always protects your data at the provisioned levels.

MatrixStore Node: A node consists of commodity hardware components (CPU, Enterprise SATA disks, redundant system drives, GigE/10GigE, RAID), a commonly available Linux distribution and layered on top is MatrixStore software from Object Matrix. Access to MatrixStore is via Gigabit or 10 Gigabit Ethernet. Each MatrixStore node has two client facing GigE/10GigE ports which means that each time a new node is added to a MatrixStore cluster the performance improves.

MatrixStore Vault: A vault is a virtual storage space within a MatrixStore cluster that allows data to be treated independently of other vaults that have been created. Each vault has its own user security and data management policies thus allowing different departments, or workflows, to securely share the storage. Vaults automatically make use of newly added storage, regardless of capacity, without any manual intervention providing a scalable, and future proof, digital preservation platform. Accessing a vault is via a local file system, a network share, an FTP server, or via applications such as Avid's Interplay, Cantemo Portal or any application integrated with the MatrixStore API.

Accessing MatrixStore

It is possible to access content in MatrixStore using a wide variety of applications via the FTP, SMB or MatrixStore API interfaces. Below are three options that the vast majority of Object Matrix customers use on a daily basis even if they have incumbent asset management solutions.

DropSpot

Dropspot is a simple yet surprisingly powerful asset management application that allows you to quickly copy data between any storage device and MatrixStore. Dropspot also supports enriching digital content with meta-data thus enabling search and discovery workflows.

- Simple archive with powerful search
- Customisable meta-data capture forms
- Free to use and supported on Linux, Mac & Windows

MXFS

The MatrixStore File System is a locally mounted file system representation of a MatrixStore Vault. Installed on one, or many, clients MXFS removes the bottleneck of a file system gateway:

- Browse content in the nearline before moving the data to first tier storage
- Works out of the box with most 3rd party applications
- Supported on Linux, Mac and Windows.

hub

The hub is a powerful gateway server platform enabling access to MatrixStore vaults as a standard network share. The Linux based platform provides access to MatrixStore vaults using a SMB interface that does not require the installation of software on client machines.

- Enables content to be shared across platforms and teams
- Access data from a wide array of applications out of the box

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Where is MatrixStore Used?

Since 2006 MatrixStore has been protecting digital content for national broadcasters, post-production facilities, production companies, banks, visual effects companies, utilities companies, content delivery networks, video on-demand providers, content creators and global content distributors. Within those organisations is it used simultaneously for multiple workflows and across many departments such is the flexibility and reliability of the solution. Please ask your local Object Matrix representative for our customers and workflows documents to learn how MatrixStore is trusted by the world's largest organisations to protect their treasured digital assets in tightly integrate workflows.

"The MatrixStore manages itself, we just manage the data on and off the system."

Rhodri James
Technical Director
Gorilla

Contact Object Matrix

Contact us to find out how Object Matrix can help you and your organisation to resolve your storage challenges:

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- twitter.com/Object_Matrix
- facebook.com/nearline
- linkedin.com/company/object-matrix

Storage Bundle Offers
www.matrixstore.net/petabyte

- 280 usable terabytes for £99k
- 528 usable terabytes for £175k
- 1008 usable terabytes for £250k

GigE or 10GigE nearline clusters that include first year support, spares & all Object Matrix plugins. Terms & conditions apply

Product Specification

Product	MatrixStore Enterprise	MatrixStore Quattro
Capacity	15TB to Petabytes	24TB to 128TB
Node Capacity (Terabytes)	12, 24, 36, 48, 96 or 144 TB	6 or 8 TB
Number of Drives per Node	12,24,36 (plus redundant system SSDs)	3 (1 system drive, 2 data drives)
Minimum Configuration	From 3 MatrixStore Nodes	1 MatrixStore Quattro (4 nodes)
Number of Copies	Single, Dual (local and remote)	Single, Dual (local and remote)
RAID Protection	RAID6	None
Node Power	Dual (2u 920W, 4u 1280W)	Dual (Redundant, 1620W)
Node Connectivity	Dual GigE/10GigE	GigE
Number of Ports Required on Client Network (Per Node)	2	2
Supported Network Connectivity	RJ45, SFP+	RJ45
Dimensions (12, 36, 48 terabyte nodes)	2u (d 67.5cm, w: 48.26 cm, h: 9cm)	2u (d: 74cm ,w: 48.26 cm, h: 9cm)
Dimensions (96 & 144 terabyte nodes)	4u (d: 67.5cm w: 48.26 cm, h: 18cm)	
Operational Temperature and Humidity	2u (10°C - 35°C, 50°F-95°F, 8% - 90% non-condensing) 4u (5°C - 35°C , 41°F-95°F, 8% - 90% non-condensing)	

Node Size (raw)	Power Consumption (Reboot)	Power Consumption (Idle)	Power Consumption (Load)	Thermal Rating (Typical)	Thermal Rating (Maximum)
12TB	218 Watt	195 Watt	208 Watt	708 BTU/hr	921 BTU/hr
24TB	232 Watt	215 Watt	237 Watt	809 BTU/hr	1023 BTU/hr
36TB	282 Watt	240 Watt	282 Watt	962 BTU/hr	1204 BTU/hr
48TB	286 Watt	242 Watt	284 Watt	969 BTU/hr	1242 BTU/hr
96TB	545 Watt	260 Watt	294 Watt	1003 BTU/hr	2200 BTU/hr
144TB	550 Watt	280Watt	304 Watt	1063 BTU/hr	1740 BTU/hr