Pixit Media and NetApp E-Series Storage

Take control of your media workflows with a storage solution that delivers speed, simplicity, and low TCO

Key Benefits

Accelerate Workloads

- Support uncompressed 4K or 8K multiuser workflows with consistent, high-performance storage arrays that are not affected by fragmentation or capacity usage.
- Eliminate bottlenecks with nonblocking switches from Mellanox Technologies.

Simplify Media Management

- Find, view, edit, and archive content directly from the PixStor Search web interface.

Reduce Operational Costs

- Automatically move data into the "right cost" tier of storage with Ngenea.
- Save up to 60% over proprietary, media-specific storage solutions.

Solution Components

- Pixit Media PixStor software, storage nodes, and gateway nodes
- NetApp® E-Series or EF-Series storage systems
- NetApp StorageGRID® object storage
- Mellanox Technologies Ethernet connectivity components
- 24/7 world-class global support

The Challenge

As a media and entertainment company, you don't get paid for buying storage and networking appliances. Your job is to capture, create, and deliver digital content, on budget and on time—whether your clients are internal or external. To be successful, you need a robust infrastructure that delivers the high speed and easy media access your business requires, without breaking the budget or introducing management complexities.

The Solution

Pixit Media ushers in a new era of media storage by judiciously combining open, mature IT infrastructure components with extensive media expertise and the company's own modern approach to media storage analytics and data movement. PixStor, Pixit's software-defined storage solution, with NetApp E-Series arrays at the foundation, combines what were once costly items—massive sustained video bandwidth, high-performance data caching, tiering, snapping, backup, analytics functionality, and high-speed Ethernet connectivity—into surprisingly cost-effective configurations. It's a combination of industry-leading IT technology with the invention of tools and APIs that are specific to the challenges of media production and delivery workflows.

The PixStor and NetApp E-Series joint storage solution brings together modular, high-bandwidth storage arrays with a full-featured parallel file system, nonblocking Ethernet connectivity, and a truly modern analytics layer. Because the NetApp and Pixit open ecosystem enables seamless migration from one generation of technology to the next, there's no need to worry about equipment lock-in or compatibility issues. 24/7 world-class global support from Pixit Media and NetApp helps keep your solution up and running with quick resolution to any problems or concerns that might arise.

With PixStor and NetApp E-Series, you can get the right balance of what you need, including fast, reliable performance; easy media management; the ability to control hardware costs; and partners who understand media workflows and applications. To help your IT staff focus more on innovation and growing your business, you can engage Pixit Media professional services experts to take on software management and hardware maintenance.
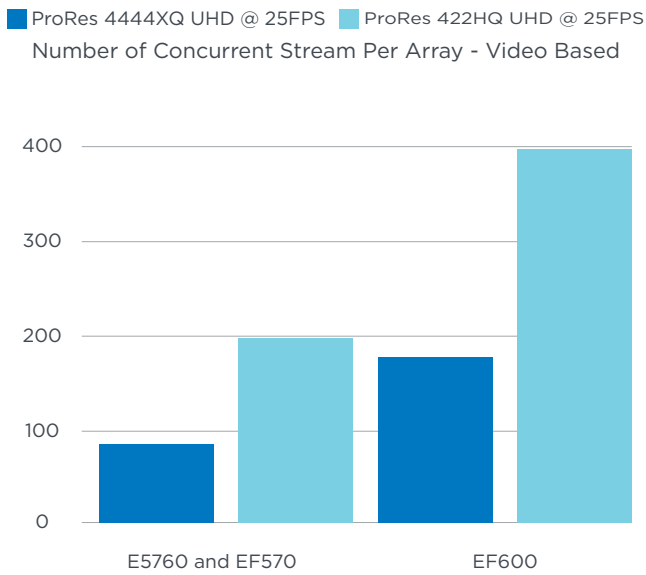
NetApp®

pixitmedia

ProRes 4444XQ UHD @ 25FPS ■ **ProRes 422HQ UHD @ 25FPS**
Number of Concurrent Stream Per Array - Video Based

Figure 1) NetApp E-Series storage concurrent streams per array.

Accelerate Workloads

Whether you are working with uncompressed 4K or 8K files, or compressed broadcast and delivery streams, PixStor with NetApp E-Series storage provides flexible scalability and predictable performance to keep your workflows running.

Highly reliable and cost-effective E-Series storage systems easily meet the performance and capacity requirements of media workflows. With 99.999% reliability, these arrays are preferred by large broadcast production workgroups and boutique high-end facilities. Granular yet scalable modular building blocks provide up to 50 uncompressed 4K frame-based video streams per array in a footprint as small as 2U (Figure 1). Individual arrays scale from a few terabytes to over 5.5 petabytes of capacity.

Deliver Consistent Performance and Nonstop Availability

Unlike other media storage solutions that suffer from the effects of fragmentation at utilization levels as low as 60%, the PixStor and NetApp solution does not require overprovisioning to keep media workflows running efficiently. A media-aware file layout design minimizes data file fragmentation. PixStor also allows content creators and distributors of any size to efficiently and granularly manage expansion and data retention costs as workflows change.

And with E-Series storage, you can choose between RAID 5, RAID 6, or Dynamic Disk Pools technology, which dramatically reduces disk rebuild time, provides more consistent performance, and eliminates the need for hot or cold spares. You get nondisruptive operation, even during capacity and performance expansion. A "phone-home" feature alerts you of potential disk failures before a hard disk fails, encouraging replacement of drives before any impact on media workflows occurs.

Integrated data protection features provide accelerated asynchronous replication, efficient NetApp Snapshot™ copies, and asynchronous backup to file, object, and cloud storage to help keep your media files available when and where you need them. Secure multitenancy support helps you meet challenging requirements for security and industry certifications.

Multiple E-Series and EF-Series arrays with different performance and capacity profiles can be mixed and aggregated within a single PixStor namespace. This approach offers a hybrid, multipurpose solution without complicated media management workflows. By using flash in hybrid arrays, operations can optimize support for ancillary transcoding and for rendering workflows, even when they run concurrently with real-time edit clients.

Customizable web-based management with performance and capacity analytics dashboards helps maintain optimal performance.

Eliminate Bottlenecks

By using industry-standard, high-performance Ethernet networking, PixStor provides the bandwidth to the desktop that is typically associated with Fibre Channel SANs. Even high-bandwidth uncompressed production clients can concurrently access files by using standard protocols, such as SMB, NFS, FTP/SFTP, and even NVMe-oF.

The Mellanox Technologies Spectrum series of nonblocking switches gives PixStor and NetApp E-Series solutions an IP-based Ethernet interconnect that removes the complexity and proprietary nature of SANs without sacrificing performance. By combining industry-leading bandwidth efficiency and ultra-low latency, Mellanox Spectrum switches deliver lossless video, audio, and image content. And with the Mellanox NEO graphical fabric manager included, Mellanox Spectrum Ethernet fabrics can be deployed and managed with minimal training and significant ease.

Figure 2) PixStor Search simplifies media management with an intuitive web interface that enables users to easily find, view, edit, and archive content.

Simplify Media Management

With single projects consisting of tens of thousands of files, having easy access to them helps to boost productivity and accelerate production. PixStor Search provides an elegant and intuitive web interface for searching across all datasets in the global namespace, making it quick and easy to find and recall assets from across all storage tiers based on user and application metadata harvested directly from images, video clips, sequences, and documents.

Because the solution is designed to deliver a seamless experience for all, users can open located files or directories in desktop applications directly via their high-speed connection to PixStor. The ability to view, edit, and even archive discovered content directly from the interface streamlines collaborative workflows and enhances productivity, without the need to "guess" where data is located. Proxies enable quick browsing and result validation. Integration with popular AI platforms enhances asset discovery and monetization.

Reduce Operational Costs

As the number and size of files increase, so can the cost of storage. Having a cost-efficient media storage solution is critical to being able to take on additional projects. PixStor with NetApp E-Series offers dense storage building blocks, automated tiering from primary to archive storage, easy connection to cloud resources, and chargeback capabilities to help your media operations cut costs by up to 60% over traditional media-specific storage solutions.

With Pixit Media's Ngenea, you can transparently migrate, recall, and transport data to external NAS (NetApp FAS), cloud storage (Amazon S3, Google Cloud Storage, Azure Blob), and object storage targets (NetApp StorageGRID)—without breaking the single view of data. Automatically moving data into the "right cost" tier of storage according to value and usage as teams and business demand can significantly lower your storage costs by reducing the amount of expensive tier 1 storage you need. Users and applications access data without ever having to worry about exactly where their content is physically located. Integration with PixStor Search enables quick and easy access to assets from across all storage targets. End-to-end checksumming helps maintain data protection and integrity to the highest industry standards.

Ngenea supports the following use cases:

- Hierarchical storage management and archive
- Multisite collaboration
- Disaster recovery
- Burst render, transcode, and compute
- Remote ingest
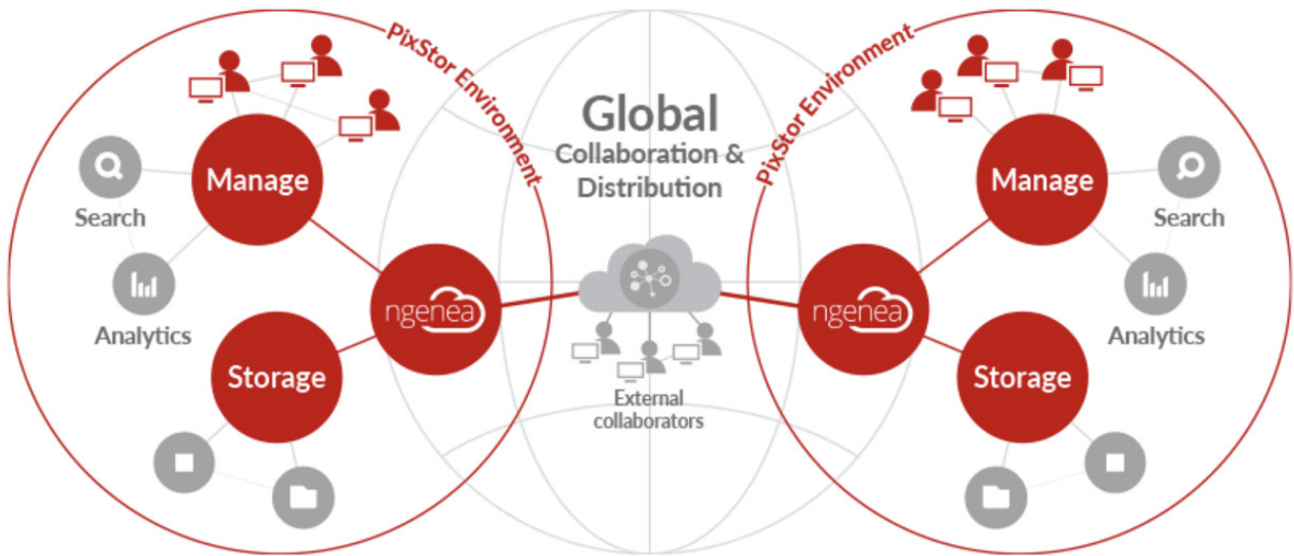- Content distribution
- NAS acceleration

Figure 3) Ngenea automatically moves data to the "right cost" storage without breaking the single view of data for users.

About Pixit Media

Pixit Media provides purpose-built software-defined storage and data management solutions for the Media and Entertainment industries. Pixit Media solutions help clients overcome data-driven challenges and escape the limitations of today's technology while reducing cost and complexity. The company's mission is to give clients the freedom to work how they want, to do more and thrive. Pixit Media prides itself in always pushing boundaries, delivering innovation and a customer experience beyond expectations. Learn more at **https://pixitmedia.com/**.

About NetApp

NetApp is the leader in cloud data services, empowering global organizations to change their world with data. Together with our partners, we are the only ones who can help you build your unique data fabric. Simplify hybrid multicloud and securely deliver the right data, services, and applications to the right people at the right time. Learn more at **www.netapp.com**.