

# Technical Solutions

## Scalability and Performance

- Guaranteed Performance up to 99% capacity utilisation
- Maximum Capacity:  $2^{99}$  Bytes
- Maximum Number of Files and Directories:  $2^{64}$
- Max Throughput Performance Per Storage Server: 20GB/s each
- Max Throughput Performance Per Gateway Node: 10GB/s each
- Max IOPS Performance Per Storage Server: 250,000 4K Random
- Maximum Number of SAS Attached Storage Arrays Per 4 Storage Servers: 8, plus expansions
- Native Clients available for: Linux | Windows
- Max Performance per Native Client: Linux: 20GB/s | Windows: 4GB/s
- Max Performance Per NAS Client: NFS (Linux) | 1GB/s (with 10Gb NIC) | 1.5GB/s (with 25Gb)
- SMB (Windows): 1GB/s (with 10Gb NIC) | 1.5GB/s (with 25Gb)
- SMB (OSX): 1GB/s (with 25Gb NIC) | 1.5GB/s (with 25Gb NIC)
- Support DiskTypes : NL SAS, SAS, SSD, NVMe
- Local Read Only Cache: SSD/ NVMe drives in Linux Native Clients and Gateway nodes that significantly reduce access latency for applications such as Houdini. Up to 10X increase in simultaneous renders.
- RDMA over Converged Ethernet Support (Linux Native Client): Ultra Low latency connectivity for line rate bandwidth, minimal cpu overhead and a small number of application threads.
- bandwidth, minimal cpu overhead and a small number of application threads
- NVMeOF : Support Remotely hosted NVMe drives delivered over commodity 40, 50, 100 and 200Gb
- Ethernet with no loss in performance delivered direct to Linux and Windows Native Client.
- Memory Caching: Storage and Gateway node support up to 1TB of memory based cache
- No separate metadata services required each storage node acts as a metadata server
- Node based Quality of Service for limiting the impact of either management or user based activity on the system
- Network level bandwidth shaping for preventing over subscription from ingest, data movement and render based tasks
- Large block size support (up to 8MB) without sacrificing capacity or small file performance



Media Lab, pixitmedia, headquarters

## Collaboration and Data Sharing

- Remote caching functionality for data sharing across large geographical distances
- “Reverse stubbing” for publishing data to remote pixstor installations from both pixstor and 3rd Party NAS solutions such as Isilon and Qumulo - both on prem and in the cloud with ngenea
- Pre-migration with ngenea for pushing data to remote cloud, object and NAS solutions, including geo-replication (AWS, GCS, Azure)
- Cloud bursting support
- Multi-cluster support provides secure, remote mounting of file systems between multiple pixstor clusters

## Cloud

- Full push-button deployable in the Cloud
- Data can be cached, ingested and shared with on-premise resources
- Available for AWS, GCP, Azure
- Data-tiering from cloud-based block storage to GCS or S3 to reduce capacity costs (ngenea)
- Back up to cloud with versioning support and automated tiering to cloud archives (ngenea)

## Data Management and Protection

- Up to 7 pools of storage in every pixstor namespace (for a maximum total capacity of  $2^{99}$  bytes), each with their own unique capacity and performance characteristics
- Automated data placement, migration, replication, extended attribute (tags) and deletion policies, with no-tree-walk candidate selection
- Synchronous Replication, both at a granular level and for the entire namespace
- Asynchronous Replication and Disk-Based Backups with pixstor Sync
- Fileset functionality, providing “filesystem within a filesystem” granularity for data placement, snapshots and quotas
  - Up to 256,000 “Copy-on-Write” Snapshots
  - Automated snapshot creation and deletion
  - Snapshots tightly integrated with Windows Previous Versions for self service user restores across SMB
  - File clones for writeable snapshots
  - User, Group and Fileset Directory Quotas
- Immutability and WORM support
- Automated Compression Policies with transparent decompression
- Duplicate File Identification for identifying wasted capacity
- Transparent migration and recall of data to third party cloud, object, tape and NAS resources with PixStor and ngenea
  - Capable of migrating data to multiple external targets simultaneously
- Data migration from legacy services with ngenea Reverse Stubbing technology
- Back up to cloud with versioning support and automated tiering to cloud archives (Ngenea)

### Current Support For

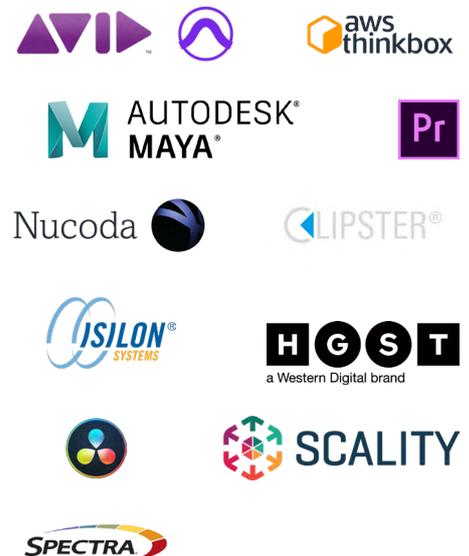
- Amazon S3
- Caringo Swarm
- Ceph (S3 GW)
- EMC ECS
- Google Cloud Storage
- HGST Active Archive
- IBM Cloud Object Store
- Microsoft Azure Blob Storage
- NetApp Storage Grid
- Scalify
- Spectra Logic Black Pearl
- SwiftStack S3
- Wasabi

### NFS Based Storage Shares

- EMC Isilon
- Nexenta
- NetApp FAS
- Qumulo
- StorNext

and more...

### Certified Applications Include



### Scale out NAS

- N+Many Active NFSv3, NFSv4, SMB2, SMB3, FTP, S3 and SFTP services across servers and network interfaces
- Industry Leading OSX/macOS support for SMB (AAPL Samba Extensions)
- Scales out with pixstor Gateway nodes
- Granular configuration down to the individual client for workload-specific tuning without compromise
- Multiple Subnet and Tagged VLAN support
- Unified NAS and Object support

### Systems Management & Programmability

- Web-Based administration, performance and health dashboards
- CLI-based administration, performance and health scripts
- Email and Slack-based Alerts
- Event/Response engine for automatically performing tasks based on file system events (node loss, file system mount, disk failure, etc)
- Web-Based Capacity Analytics for determining how, who, what and where capacity is being consumed, including data that has been migrated by ngenea
- InfluxDB hosted metrics for easy access from 3rd party monitoring and graphing tools
- Ethernet Switch Telemetry with granular metrics on thousands of different sensors, directly in the pixstor interface
- Customisable performance dashboards
- Salt-based configuration management, deployment and upgrade automation
- Python API for majority of filesystem management operations, allowing tight integration of the pipeline/workflow with the storage
- REST API for common filesystem, snapshot and share management activities
- Python-wrapped C API for performance intensive scan and update tasks

### Search

- Web-based UI for searching through assets, using “human” search terms
- Directed search filters for targeted, granular searches
- Automated indexing of data with deep metadata inspection
- Automated proxy and thumbnail generation
- Plugin based architecture for rapid generation of new metadata inspection, proxy generation and front-end functionality
- REST API
- Desktop integration for opening results directly on the desktop (Chrome support)
- File list exports based on search results for import into third party applications (BIN generation, etc)
- Integration with popular AI tools such as Machine Box and Microsoft AI
- Migration and recall of data directly from Search interface with ngenea
- Scale out architecture for large deployments and ingests

### Certified Applications Include



## Security and User Management

- Windows, NFSv4 and POSIX ACL Support
- Active Directory, LDAP and Local User Authentication
- Pluggable ID mapping
  - AD/LDAP Source
  - Repeatable Cross-Platform RID-based ID mapping
  - Autogenerated Mapping
- Multi-tenancy and share isolation via Container Support (Control Plane/Data Plane Separation)
- Server-side Firewall Protection
- Sudo-wrapped filesystem communication
- Optional SSL-Encrypted transfers for cross-cluster communication
- SSL encrypted data transfers to supported ngenea object targets
- Kerberized NFSv4, SMB signing and encryption
- OAuth2 compliance for all web-based and REST services
- "Air-gapped" upgrade capabilities
- Encryption at rest (pixstor Advanced license only)
- Self encrypting drive support
- Cluster and Protocol wide Audit Logging (pixstor Advanced License only)
- Simple web-based user and group management for "local account requirements"

### Why not experience pixstor in a real-world production environment?

The pixitmedia Lab at our UK headquarters is a dedicated facility showcasing the complete pixstor ecosystem, where you can test, collaborate and train with us in a real-world production environment.

We've invested in a full complement of legacy, current and leading-edge hardware, applications and tools to support a wide range of contexts and workflows for Media Production, Post Production, Visual FX, Broadcast and Remote Editing, integrated with major Cloud services including Google Cloud, Amazon Web Services and Azure.

## Certified Applications Include



## About pixitmedia

pixitmedia delivers seamless collaboration to enable the power of ideas.

Our purpose-built, software-defined storage and data solutions simplify the flow of data to connect an increasingly complex world.

Our aim is to deliver beyond expectations throughout all areas of our operation. We devise solutions that give customers both choice and freedom, our restless innovation constantly pushes boundaries and the unrivalled care and knowledge of our team ensure optimum performance and value. Customer success is at the heart of our business.

We have a dedicated in-house lab facility to guarantee the effectiveness of our solutions.

pixitmedia is privately-owned and headquartered in the UK, with offices in the USA and Germany.

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