

arcstream on Dell

High Performance, Data Aware Software-Defined Storage

Highlights

High Performance Parallel File System with Limitless Scale

Ease of use, collaboration, tiering, cloud integration and relentless support – on open standard hardware – greatly reducing costs

Transparent Data Tiering to Object, Tape and the Cloud

Reserves high speed storage for work in progress, moves everything else to low cost archive, while maintaining a single view of all data

Effortless Cloud Bursting

Painlessly cloud burst onto unlimited nodes, minimising data transfer and maximising data locality

Simplified Management and Workflow Automation

Easy Python API programming interface removes complexity and provides 'DevOps' style management capabilities for systems administrators and pipeline developers – automating management and workflows

Complete Data Awareness and Lightning Fast Search

Intuitive user defined metadata harvesting, tagging and easy search for data – no more tree-walks or lost data

Advanced Analytics

Real-time performance, history and trending with statistics reporting about data and its contents through a simple and intuitive graphical interface

Multi-protocol

SMBv2/3, NFS, FTP, HTTP, S3, HDFS and POSIX parallel file system client for extreme performance

The Scientific Data Deluge

Increased sensor resolution from ever growing numbers of sequencers, cameras, microscopes, telescopes, scanners and instruments of all types – along with higher scale and fidelity simulations, are driving a deluge in scientific data that organisations are tasked to process, analyse, store, share and preserve.

Accelerating Scientific Workflows

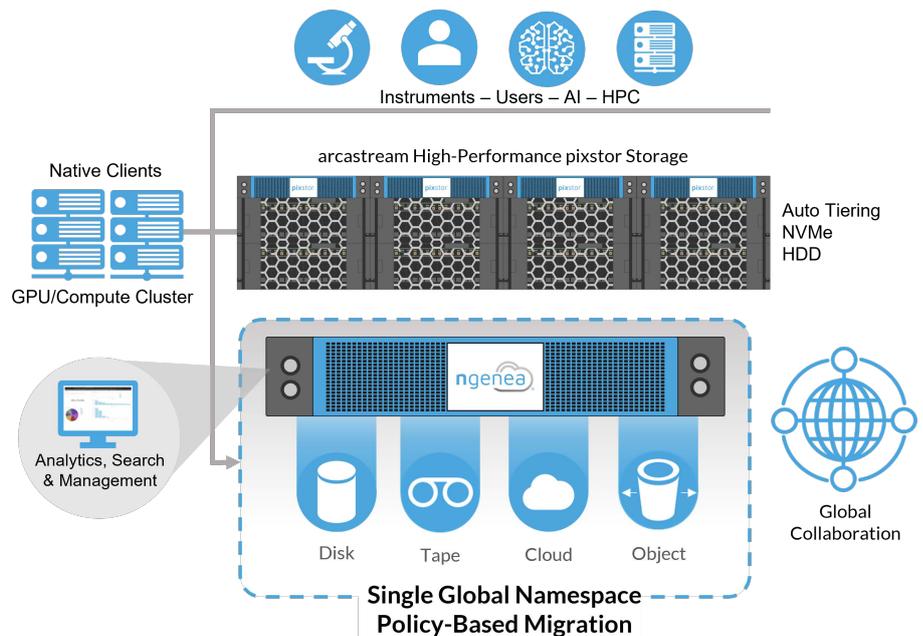
arcstream provides high performance, data aware, software-defined storage and networking solutions specifically designed to accelerate the world's most challenging scientific data workflows. arcstream's high-performance storage combines flash, disk, tape, and cloud storage into a unified system that is higher performing, limitless in scale and lower cost than traditional solutions. Data moves seamlessly through various tiers of storage – from fast flash to cost-effective, high capacity object storage, all the way out to the cloud – depending on how frequently it needs to be accessed. This allows research organisations to store valuable data more intelligently and economically.

Tightly Integrated with the Cloud

In addition to transparent data tiering to the cloud, arcstream storage facilitates effortless, highly efficient Cloud bursting onto unlimited compute nodes when needed, minimising data transfer and maximising data locality between data stored on premises and cloud computing resources. Results are automatically transferred directly back to on-premises storage with no manual intervention.

The Software Defined Economic Advantage

arcstream deploys its solution on software-defined, open standard hardware, with no vendor lock-in and standard data protection services – providing organisations with tremendous economic advantage and purchasing power, now and into the future.



arcstream on Dell End-to-end Collaborative Scientific Workflow Architecture

Advanced arcstream Software

- Centralised control of all file system components from a single interface
- Pythonic and REST-compliant toolset can be used to automate Spectrum Scale operation and create customised web interfaces
- Vastly reduced complexity for otherwise difficult to manage file system components
- Monitoring, alerting, search and analytics
- High performance tiering to object storage with full path retention so object is directly accessible by cloud applications, enhancing workflow
- Seamless cloudbursting
- Cost effective, simplified Disaster Recovery via remote arcstream asynchronous replication

Unified Services and Support

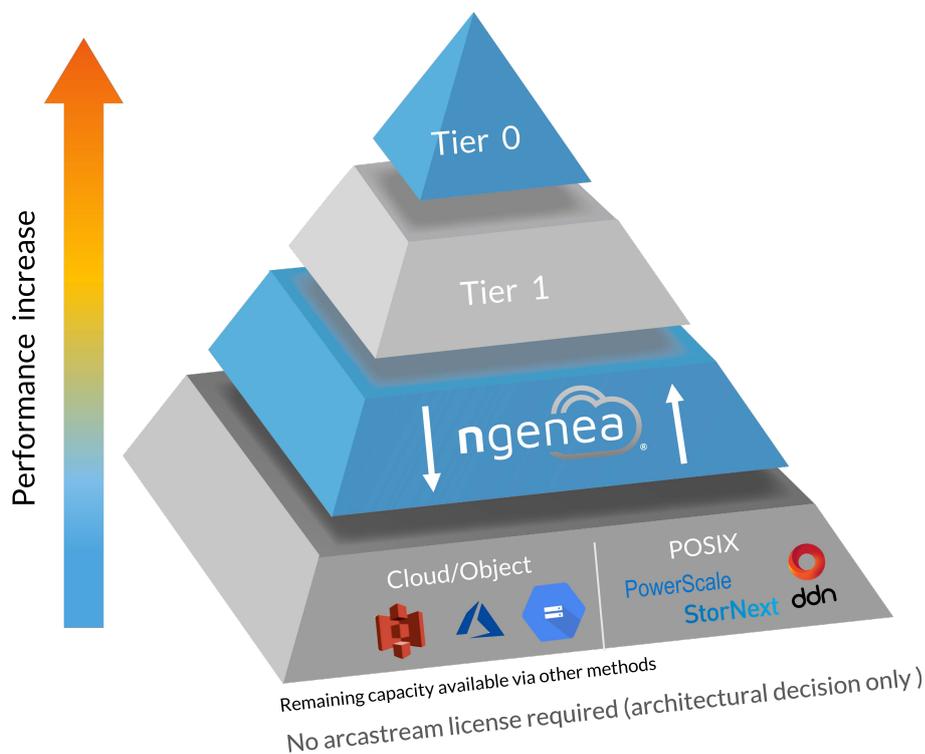
- “Disk to desktop” holistic solution understanding
- Direct access to knowledgeable expertise – no “briar patch” support
- Hybrid managed service: regular maintenance tasks such as firmware and upgrades are handled by arcstream support, rather than the customer’s technical staff
- Alerts generated by the system are proactively investigated and escalated by arcstream support
- Single point of contact multi-vendor incident management ensures SLA’s and top-quality support experience is delivered
- Automated weekly health checks

Comprehensive Solution Design

- Extensive, in-depth analysis of existing environment focusing on workflow requirements, storage, network, and applications
- Identify issues and bottlenecks
- Design solution architecture including hardware, software configuration and procurement guidance
- Integrated system build and implementation

An Industrial Strength, Robust, Easy to Manage Storage Platform

The result is an easy to manage, scalable, high performance storage system with centralised control of all file system components from a single interface employing graphical interfaces for common tasks, and Python and REST APIs for file system automation and workflow integration. arcstream storage monitoring, alerting and performance analytics are tailored to the exact needs of the administrative work-flow and empower the organisation with unprecedented insight into data usage and trends.



A Versatile Architecture that Grows with Future Needs

The arcstream architecture can scale in capacity, performance and capability, on-premise and in the cloud – linearly and independently, by simply adding components to the existing infrastructure. Because arcstream storage is software-defined on open standard hardware with no vendor lock-in, new technology like NVMe and the latest object storage or cloud integration can be easily added from multiple vendors down the road. This ensures economic architectural longevity, with adaptability that can meet the most demanding future scientific data and workflow challenges.