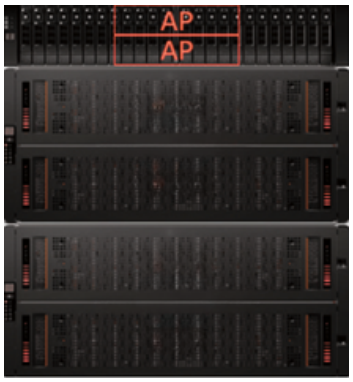
DATASHEET

An enterprise class Unified Storage platform delivering scalable, cost-effective, and high-performance storage ideal for demanding workloads such as backup, archiving and big data applications. It is designed to scale up and out, simplifying storage management within a single grid.

KUMULUS Unified Storage

Unified Storage is available in scale-up and scale out configurations across file, block, and object storage types. Knowing the initial storage capacity and planned future capacity will help determine whether a scale-out approach is recommended. Scale-out deployment offer high-performance NAS and S3-compatible object storage with scalability beyond 300PB in a single cluster. Scale-up configurations provide cost-effective SAN and NAS storage typically scaling up to 20PB per cluster.



KEY BENEFITS

Unified Storage for File, Block, and Object Data
Supports all major data types in one system, simplifying infrastructure and reducing management complexity.

Centralized Management with Storage Grid
Manage multiple systems through a single interface with Storage Grid, improving efficiency and visibility.

Enterprise-Grade Security and Compliance
Includes Active Directory, SSO support, and FIPS 140-2 certification for secure, compliant data handling.

Flexible Scale-Up and Scale-Out Architecture
Easily expand storage by scaling within a system or across systems to meet evolving business needs.

Massive Scalability from 100TB to 100PB+
Storage Grid enables seamless growth from mid-size to hyperscale environments without disruption.

Comprehensive Data Protection and File Control
Features like snapshots, replication, and failover provide strong data protection and high availability.

SECURITY FEATURES

Encryption-at-Rest: Protects stored data using strong encryption (e.g., AES-256), safeguarding it from unauthorized access if physical drives are compromised.

Encryption-on-the-Wire: Secures data during transmission using protocols like TLS or IPsec to prevent interception or tampering.

KMIP Integrated: Enables secure, centralized management of encryption keys through compatibility with enterprise key management systems.

NIST Standards Compliant: Aligns with industry best practices and regulatory requirements by following recognized NIST security guidelines.

Immutability / WORM: Prevents data from being modified or deleted for a specified period, ensuring compliance and protection against ransomware.

Audit Logging: Tracks system activity, access, and changes for security monitoring and compliance auditing.

Multi-factor / 2FA Authentication: Enhances access security by requiring multiple forms of user verification.

LDAP Integration: Enables centralized user authentication and access control through directory services like Active Directory.

INDUSTRY USE CASES

ENERGY & UTILITIES

- Store seismic data, sensor logs, and SCADA outputs
- Resilient edge storage in remote/harsh environments
- Grid-scale deployments with centralized management

FINANCIAL SERVICES

- Secure transaction record and compliance data storage
- WORM snapshots and encryption for auditability
- Supports high-frequency access and long-term retention

HIGH-PERFORMANCE COMPUTING (HPU)

- Parallel I/O for simulation, AI/ML, and research data
- NVMe & flash for low-latency, high-throughput workloads
- Grid-based collaboration across compute clusters

LAW ENFORCEMENT

- Archive and protect bodycam, dashcam, and surveillance footage
- CJIS-compliant access controls, encryption, and audit logging
- Support for portable forensic data ingest systems

LIFE SCIENCES

- Handle genome sequencing and large-scale research workloads
- Object and file access for bioinformatics pipelines
- Data tiering and replication for durability

MEDIA & ENTERTAINMENT

- Real-time file sharing for editing, VFX, and post-production
- High-speed flash pools for performance editing
- Cost-efficient object archiving for long-term storage

EDUCATION

- Centralized, multi-protocol storage for research and teaching
- Cost-effective scale for growing digital campuses
- Secure data access across users and departments

GOVERNMENT

- Retain records, CCTV, and sensitive national data securely
- Disaster recovery and multi-site replication options
- Full compliance with NIST, FIPS, and HIPAA standards

TECHNICAL SPECIFICATIONS

	FUNCTIONS	BENEFITS
Data Compression	Provides inline data compression for data reduction	Reduce the amount of storage needs to be purchased and maintained
Data Deduplication	Performs removal of redundant data	Reduce the amount of storage needs to be purchased and maintained
Bucket Object Locking	Provides WORM feature which helps to prevent objects from being deleted or overwritten	Helps to meet strict data retention regulations, ensures records are immutable, prevents malicious deletion
Thin Provisioning	Optimize storage utilization by allocating disk space to applications or virtual machines only as needed, rather than pre-allocating the entire amount requested	Reduces the need to buy and provision large volumes of physical storage in advance.
Write Log(SSD acceleration)	Dedicated SSD cache to temporarily store incoming write operations before they are written to slower, larger-capacity disks	Improved write performance especially for small random writes and applications get faster write acknowledgements
Read Caching(SSD acceleration)	SSD cache to store frequently accessed hot data	Dramatically improves read performance by serving requests from the SSD
Meta-data Offload(SSD acceleration)	Metadata is stored and managed on SSDs	Faster performance for metadata-intensive workloads, Reduces latency in file lookup
Async Replication	Performs block level incremental replication	Efficient use of WAN bandwidth and enables near-CDP type functionality, replication schedules can be set to replicate every couple of minutes
SMB bucket access	Allows the access of object storage buckets via the SMB protocol	This allows uses to mount and browse buckets like standard network drives
Snapshot Rollback	Reverting the active file system or volume to match the contents of a specific previous snapshot. All changes made after that snapshot are discarded	Instantly restores data to a known-good state to recover from accidental deletions, corruption or misconfigurations
QoS controls	Allows to allocate and manage system resources, such as IOPS and bandwidth for individual storage volumes	QoS controls prioritize and limit the amount of resources allocated to specific volumes, ensuring fair resource sharing and preventing performance bottlenecks.
Zero-touch maintenance	Automatic repair/heal on replacement of bad media	Fully automatic process without requiring any manual rebuild commands
Storage Pool Scrub	Background operation that verifies data integrity within the storage pool by scanning the data and comparing it against the stored checksum	Automatically repairs any inconsistent data blocks due to hardware failures or bit-rot
NAS Gateway to Cloud	It allows data stored on-premises in NAS systems to be backed up, archived, or tiered to the cloud transparently	Moves infrequently accessed data to cloud to free up local NAS and access data from cloud as if it is local
Copy/Move/Auto-tier to/from Object and NAS Storage	Data can seamlessly flow between NAS protocols and object storage	Reduces costs by keeping hot data local and cold data in cost effective storage tiers