EXAScaler Product Family

Artificial Intelligence (AI), Analytics and High-Performance Computing (HPC) enable organizations everywhere to gain insights from their data with unprecedented velocity and accuracy. Data-intensive workflows put storage infrastructure squarely in the critical path—driving requirements for extreme, dependable performance that scales easily to meet evolving workload requirements on premise and in the cloud.

▶ EXA6: The World's Most Advanced Parallel Filesystem

Developed and optimized using the latest advances in filesystem software technology, EXA6 delivers extreme performance, scalability, capability, reliability and simplicity.

Augmented with feature-rich enhancements, EXA6 delivers a true global data platform capable of enabling and accelerating a wide-range of data-intensive workflows, at any scale. Fully-integrated DDN EXAScaler appliances combine the world's fastest hyperconverged data storage platform with a truly parallel filesystem software in a package that's easy to deploy, managed and backed by the leaders in data at scale.

EXA6 is fully-optimized to deliver data with high-throughput, low-latency and massive concurrency using a shared parallel architecture that can scale flexibly bringing dramatic performance and economic benefits. Building on over a decade of experience deploying parallel filesystem solutions in the most demanding environments around the world, DDN delivers unparalleled performance, capability and flexibility for users looking to manage and gain insights from massive amounts of data.
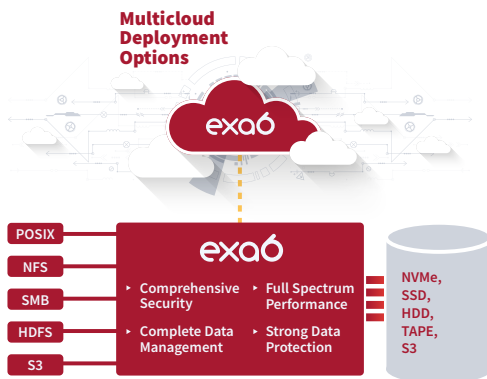
▶ Data Management: Automated, Optimized, and Secure

EXAScaler includes new data management and integrity filesystem features developed by DDN and only available in its appliances and cloud offerings. Stratagem is a powerful data orchestration engine that gives users comprehensive data residency controls using policy-based placement.

Hot Nodes capability accelerates data access further, by automatically caching data on the local NVMe of GPU systems, reducing IO latency and traffic by avoiding network round trips, and freeing up infrastructure to serve additional workloads.

Hot Pools intelligently moves data between high-performance flash and large capacity disk and ensures efficient use of storage. A native T10DIF implementation ensures that data is handled with full integrity from application to disk.

EXAScaler enables organizations everywhere to create, analyze and manage more data than ever before, accelerating time-to-insight with unequalled performance for the most demanding workloads on premise and in the cloud.

The Next Generation Parallel Filesystem Solution

- GLOBAL DATA PLATFORM
- SCALES EFFORTLESSLY
- FASTEST
- DENSEST
- FLEXIBLE ARCHITECTURE
- DEEP GPU INTEGRATION
- MOST EXPERIENCE

Multicloud Deployment Options

exa6

POSIX	exa6		NVMe, SSD, HDD, TAPE, S3
NFS	▸ Comprehensive Security	▸ Full Spectrum Performance	
SMB			
HDFS	▸ Complete Data Management	▸ Strong Data Protection	
S3			

▶ DELIVERING FEATURES AND FUNCTIONALITY YOU CAN'T GET ANYWHERE ELSE

EMBEDDED/CONVERGED: Realize the lowest TCO with simple and efficient EXAScaler appliances.

DEPLOYMENT TOOLS: Simplify EXAScaler adoption with data migration and configuration tools.

EXASCALER STRATAGEM: Streamline data management and orchestration with this policy-based and API driven data integration tool.

ENCRYPTION: Ensure data security with encryption in-flight and at-rest.

DATA INTEGRITY: Transparently assure accuracy and consistency of data with end-to-end verification.

AUDITING: Meet legal and regulatory requirements with a complete picture of who made changes, and when.

QUOTAS: Maintain control of the filesystem with use, project, and directory quotas.

AI-OPTIMIZED: Quickly spin up new AI and deep learning applications through full interoperability with common frameworks and GPU integration.

FLEXIBLE PROTOCOLS: Supply data ingest and access facilities with standard file and object protocols.

WORKLOAD ANALYTICS: Gain deep understanding of filesystem and hardware utilization, and monitor performance at node and job-levels.

HOT NODES: Automatically cache data on local NVMe of GPU systems, reducing IO latency and traffic, freeing up infrastructure to serve additional workloads, such as ingest, labelling and archive.

HOT POOLS: Optimize flash utilization and long- term data retention with automated policy and API-based data movement.

CONTAINER SUPPORT: Get high performance parallel access for containerized applications.

MULTICLOUD READY: Deploy one data management architecture on-premises and in commercial clouds with cloud native deployment.

MIGRATION AND SYNCHRONIZATION: Protect, move and share data, and facilitate MultiCloud workloads with integrated data movement tools.

MULTITENANCY: Maintain secure, isolated access to data for multiple users or organizations.

APPLICATION ACCELERATION: Deliver the highest throughput and IOPS performance with the lowest latency via the EXAScaler client.

DEEP GPU INTEGRATION: Produce better application run times with the most efficient data path via support for NVIDIA GPUDirect technology.

TECHNICAL SPECIFICATIONS

ES200NVX2®   **ES400NVX2®**   **ES7990X®**   **ES18K®**

PROTOCOLS	EXAScaler Parallel Clients, NFS/SMB, S3 Gateways, and CSI Driver
VERSION	DDN EXA6, based on Lustre 2.14
PERFORMANCE	Up to 90GB/s per appliance
STORAGE CONFIGURATION	Supports embedded metadata servers on DDN SFA Appliances, or external scale-out metadata server using Lustre DNE
HOST CONNECTIVITY	EDR/HDR InfiniBand and 40/100GbE (number of connections varies by appliance)

ABOUT DDN

PRODUCT SPECIFICATIONS SUBJECT TO CHANGE