

Dell EMC Isilon Scale-Out NAS Product Family

At-a-Glance

Dell EMC Isilon scale-out NAS powered by the OneFS operating system is the ideal platform to store, manage, secure, protect and analyze unstructured data efficiently while supporting a wide range of applications and workloads.

Key advantages include:

- **Simple to manage:** Single file system, single volume, global namespace
- **Massively scalable:** Start with 10s of terabytes and scale easily to 10s of petabytes in a single cluster of up to 252 nodes
- **Extreme performance:** Support your most demanding file workloads with solutions that deliver up to 15.8 million IOPS and up to 945 GB/s aggregate throughput on a single cluster
- **Highly efficient:** Up to 80% storage utilization; data deduplication option to further reduce storage requirements by up to 30%; and in-line data compression on the F810 all-flash platform with up to 3:1 compression ratios depending on the dataset
- **Ultra-dense hardware design:** Provides four nodes in a single 4U chassis and reduces data center space requirements and related costs
- **Storage tiering:** Optimize resources with policy-based, automated storage tiering to move data automatically to lower cost tiers, including public and private cloud storage with a choice of cloud providers
- **Operational flexibility:** Support a wide range of file workloads on a single platform with built-in multi-protocol capabilities including NFS, SMB, HTTP, FTP and HDFS
- **Enterprise data protection:** OneFS powered storage platforms are highly resilient, with up to N+4 redundancy and offer proven enterprise-grade back-up and disaster recovery options
- **Robust security options:** RBAC, Access Zones, SEC 17a-4 WORM compliance, File System Auditing, File blocking, SMB3 encryption, Data At Rest Encryption with SEDs, STIG hardening, Multi-factor authentication, HDFS transparent data encryption, CAC/PIV Smartcard authentication and FIPS 140-2 validation
- **Powerful big data analytics:** Maximize data capital with in-place analytics that seamlessly integrate with leading vendors like Pivotal, Cloudera, Hortonworks and Splunk to drive workloads in Artificial Intelligence, Machine Learning or Deep Learning

OneFS operating system

The OneFS operating system provides the intelligence behind the scale-out storage systems. It combines the three layers of traditional storage architectures—file system, volume manager and data protection—into one unified software layer, creating a single intelligent file system that spans all nodes within a cluster. OneFS is a single file system, single volume architecture, which makes it extremely easy to manage, regardless of the number of nodes in your cluster. The storage systems powered by OneFS are simple to install, manage and scale.

Dell EMC Isilon hardware

Attribute	F800	F810	H600	H5600	H500, H400	A200	A2000
Rack Units	4U	4U	4U	4U	4U	4U	4U
Nodes per Chassis	4	4	4	4	4	4	4
Chassis Capacity	96 - 924 TB	230 - 924 TB	72 - 144 TB	800 - 960 TB	120 to 720 TB	120 to 720 TB	800 - 960TB
Storage Media per Chassis	60 SSDs	60 SSDs	120 SAS drives	120 SATA drives	60 SATA drives	60 SATA drives	80 SATA drives
Storage Media Capacity Options	1.6 TB, 3.2 TB, 3.84 TB, 7.68 TB or 15.36 TB SSDs	3.84 TB, 7.68 TB or 15.36 TB SSDs	600 GB or 1.2 TB SAS drives	10 TB or 12 TB SATA drives	2 TB, 4 TB, 8 TB or 12 TB SATA drive	2 TB, 4 TB, 8 TB or 12 TB SATA drives	10TB or 12 TB SATA drives
Cache per Chassis (SSDs)	0	0	4 – 8 (1.6 TB or 3.2 TB)	4 – 8 (1.6 TB or 3.2 TB)	4 – 8 H400: (800 GB, 1.6 TB or 3.2 TB) H500: (1.6 TB or 3.2 TB)	4 - 8 (400 GB)	4 - 8 (400 GB)
ECC Memory per Node	256 GB	256 GB	256 GB	256 GB	H400: 64 GB H500: 128 GB	16 GB	16 GB
Front End Networking	2 x 10GbE (SFP+) or 2 x 40GbE (QSFP+)	2 x 10GbE (SFP+) or 2 x 40GbE (QSFP+)	2 x 10GE (SFP+) or 2 x 40GbE (QSFP+)	2 x 40GbE (QSFP+)	H400: 2 x 10GE (SFP+) or H500: 2 x 10GE (SFP+) or 2 x 40GbE (QSFP+)	2 X 10 GbE (SFP)	2 X 10 GbE (SFP+)
Infrastructure (Back End) Networking	2 InfiniBand connections supporting QDR links or 40GbE (QSFP+)	2 x 40GbE (QSFP+)	2 InfiniBand connections supporting QDR links or 40GbE (QSFP+)	2 40GbE (QSFP+)	H400: 2 InfiniBand connections supporting QDR links or 2 X 10 GbE (SFP+) H500: 2 InfiniBand connections supporting QDR links or 2 X 40GbE (QSFP+)	2 InfiniBand connections supporting QDR links or 2 X 10GbE (SFP)	2 InfiniBand connections supporting QDR links or 2 X 10GbE (SFP+)

Attribute	F800	F810	H600	H5600	H500, H400	A200	A2000
CPU	Intel® Xeon® Processor	Intel® Xeon® Processor	Intel® Xeon® Processor	Intel® Xeon® Processor	Intel® Xeon® Processor	Intel® Pentium® Processor D1508	Intel® Pentium® Processor D1508
OneFS version	OneFS 8.2.1	OneFS 8.2.1	OneFS 8.2.1	OneFS 8.2.1	OneFS 8.2.1	OneFS 8.2.1	OneFS 8.2.1

OneFS software modules

InsightIQ	No charge software that maximizes the performance of your scale-out storage system with performance management, monitoring and reporting capabilities
ClarityNow	Locate, access and manage data in seconds, no matter where it resides – across file and object storage, on-prem or in the cloud. Gain a holistic view across heterogeneous storage systems with a single pane of glass, effectively breaking down data trapped in siloes
SmartConnect	Enable client connection load balancing and the dynamic NFS failover and failback of client connections across storage nodes to optimize the use of cluster resources
SmartQuotas	Assign and manage quotas that seamlessly partition and thin provision storage into easily managed segments at the cluster, directory, subdirectory, user and group levels
SnapshotIQ	Protect data efficiently and reliably with secure, near-instantaneous snapshots, while incurring little to no performance overhead and speed the recovery of critical data with near-immediate on-demand snapshot restores
SyncIQ	Replicate and distribute large mission-critical data sets to multiple shared storage systems in multiple sites for reliable disaster recovery capability and use push-button failover and failback simplicity to increase the availability of mission-critical data
SmartLock	Protect your critical data against accidental, premature, or malicious alteration or deletion with our software-based approach to WORM and meet stringent compliance and governance needs, such as SEC 17a-4 requirements
SmartDedupe	Increase efficiency and reduce storage capacity requirements by up to 35 percent with deduplication of redundant data across multiple sources
SmartPools	Implement a highly efficient, automated tiered storage strategy to optimize storage performance and efficiency
CloudPools	Seamless tiering of infrequently accessed data to public or private cloud storage options including Microsoft Azure, Amazon AWS, Google Cloud, Alibaba Aliyun, Virtustream, Dell EMC ECS or Dell EMC Isilon

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