



Isilon All-Flash Scale-Out NAS

Dell EMC Isilon all-flash storage platforms, powered by the OneFS operating system, provide a powerful yet simple scale-out storage architecture to speed access to massive amounts of unstructured data, while dramatically reducing cost and complexity. With a highly dense design that contains 4 nodes within a single 4U chassis, all-flash platforms deliver extreme performance and efficiency for your most demanding unstructured data applications and workloads. The all-flash platforms are available in 2 product lines:

- Isilon F800:** Provides massive performance and capacity. It delivers up to 250,000 IOPS and 15 GB/s aggregate throughput in a single chassis configuration and up to 15.75M IOPS and 945 GB/s of aggregate throughput in a 252 node⁵ cluster. Each chassis houses 60 SSDs with a capacity choice of 1.6 TB, 3.2 TB, 3.84 TB, 7.68 TB or 15.36 TB per drive. This allows you to scale raw storage capacity¹ from 96 TB to 924 TB in a single 4U chassis and up to 58 PB⁵ in a single cluster.
- Isilon F810:** Provides massive performance and capacity along with inline data compression and deduplication capabilities to deliver extreme efficiency. The F810 delivers up to 250,000 IOPS and 15 GB/sec aggregate throughput in a single chassis configuration and up to 15.75M IOPS and 945 GB/s of aggregate throughput in a 252 node cluster². Each F810 chassis houses 60 SSDs with a capacity choice of 3.84 TB, 7.68 TB or 15.36 TB per drive. This allows you to scale raw storage capacity from 230 TB to 924 TB in a 4U chassis and up to 58 PB of raw storage in a single cluster. Depending on your specific dataset and workload, F810 inline data compression and deduplication delivers up to a 3:1 reduction in storage requirements, this increasing the effective capacity up to 138 PB per cluster.

Efficiency: Isilon scale-out storage delivers up to 80 percent storage utilization versus about 50 percent for traditional NAS platforms. SmartDedupe data deduplication software enhances storage efficiency to reduce your physical storage requirements by up to 35 percent. A policy-based, automated tiering option allows you to optimize storage resources and further lower costs. In addition to these advantages that apply to all Isilon platforms, F810 all-flash offers inline data compression and data deduplication to further reduce data storage infrastructure requirements, increase density and lower costs.

Flexibility: Powered by the OneFS operating system, Isilon all-flash storage supports all major protocols and data access methods including NFS, SMB, HDFS, HTTP, and FTP. This means that you can support a wide range of unstructured data applications and workloads on a single storage platform.

Data protection: All-flash platforms are highly resilient and offers N+1 through N+4 redundancy. With OneFS you may also choose from a variety of efficient and proven enterprise data backup and disaster recovery options.

Security: All-flash platforms offer a broad range of robust security options including FIPS 140-2 level 2 self-encrypting drives, role-based access control (RBAC), secure access zones, SEC 17a-4 compliant WORM data immutability, and file system auditing support.

¹ Usable capacity will be lower than the raw capacity reflected in this specification sheet.

² Performance with compression will vary by data set.

Isilon F800 All-Flash Specifications

F800 ALL-FLASH CHASSIS ATTRIBUTES & OPTIONS	1.6 TB SSD	3.2 TB SSD	3.84 TB SSD	7.68 TB SSD	15.36 TB SSD
CHASSIS CAPACITY (RAW) ³	96 TB	192 TB	230 TB	460 TB	924 TB
SSD DRIVES (2.5") PER CHASSIS	60	60	60	60	60
SELF-ENCRYPTING DRIVE (SED SSD) FIPS 140-2 COMPLIANT OPTION	Yes	Yes	Yes	Yes	Yes
OPERATING SYSTEM	OneFS 8.1 or later except for self-encrypting drive options which require OneFS 8.1.0.1 or later				
NUMBER OF NODES PER CHASSIS	4	4	4	4	4
CPU TYPE (PER NODE)	Intel® Xeon® Processor E5-2697A v4				
ECC MEMORY (PER NODE)	256 GB				
FRONT-END NETWORKING (PER NODE)	2 x 10GbE (SFP+) or 2 x 25GbE (SFP28) or 2 x 40GbE (QSFP+)				
INFRASTRUCTURE NETWORKING (PER NODE)	2 InfiniBand connections supporting QDR links or 2 x 40GbE (QSFP+)				
TYPICAL POWER CONSUMPTION @ 240V (PER CHASSIS)	1300 Watts (@25°C)				
MAXIMUM POWER CONSUMPTION @ 240V (PER CHASSIS)	1800 Watts				
TYPICAL THERMAL RATING	4,440 BTU/hr				

Isilon F810 All-Flash Specifications

ISILON F810 ALL-FLASH CHASSIS ATTRIBUTES & OPTIONS	3.84 TB SSD	7.68 TB SSD	15.36 TB SSD
CHASSIS CAPACITY (RAW) ³	230 TB	460 TB	924 TB
SSD DRIVES (2.5") PER CHASSIS	60	60	60
SELF-ENCRYPTING DRIVE (SED SSD) FIPS 140-2 COMPLIANT OPTION	Yes	Yes	Yes
OPERATING SYSTEM	OneFS 8.1.3 or later		
NUMBER OF NODES PER CHASSIS	4	4	4
CPU TYPE (PER NODE)	Intel® Xeon® Processor E5-2697A v4		
ECC MEMORY (PER NODE)	256 GB		
FRONT-END NETWORKING (PER NODE)	2 x 10GbE (SFP+) or 2 x 25GbE (SFP28) or 2 x 40GbE (QSFP+)		

INFRASTRUCTURE NETWORKING (PER NODE)	2 x 40GbE (QSFP+)
TYPICAL POWER CONSUMPTION @ 240V (PER CHASSIS)	1300 Watts (@25°C)
MAXIMUM POWER CONSUMPTION @ 240V (PER CHASSIS)	1800 Watts
TYPICAL THERMAL RATING	4,440 BTU/hour

CLUSTER ATTRIBUTES	F800 ALL-FLASH	F810 ALL-FLASH
NUMBER OF CHASSIS ⁵	1 to 63	1 to 63
NUMBER OF NODES ⁵	4 to 252	4 to 252
RAW CLUSTER CAPACITY ³	96 TB to 58 PB ⁵	230 TB to 58 PB
EFFECTIVE CLUSTER CAPACITY ⁴	77 TB to 46.5 PB ⁵	184 TB up to 138 PB
RACK UNITS ⁵	4 to 252	4 to 252

³ Usable capacity will be lower than the raw capacity reflected in this specification sheet.

⁴ Effective capacity is based on an 80% storage utilization rate. Actual storage utilization will vary by configuration. For Isilon F810, effective capacity is also based on a data compression ratio and data deduplication of up to 3:1. The actual data reduction ratio will vary by dataset.

⁵ Maximum cluster size running OneFS is 252 nodes or 63 fully populated chassis.

PRODUCT ATTRIBUTES

SCALE-OUT ARCHITECTURE	Distributed, fully symmetric clustered architecture that combines modular storage with OneFS operating system
MODULAR DESIGN	4 self-contained nodes include server, software, and SSDs in a 4U rack-mountable chassis; integrates easily into existing clusters
OPERATING SYSTEM	Eighth generation of OneFS distributed file system: creates a cluster with a single file system and single global namespace; fully journaled, fully distributed, globally coherent write/read cache
HIGH AVAILABILITY	No single point of failure; self-healing design protects against disk or node failure; includes back-end intra-cluster failover
SCALABILITY	F800 scales from 4 to 252 nodes in a single cluster with up to 58 PB capacity (raw). F810 scales from 4 to 252 nodes in a single cluster with up to 58 PB capacity (raw) and up to 138 PB of effective storage capacity.
DATA PROTECTION	FlexProtect file-level striping with support for N+1 through N+4 and mirroring data protection schemes
2-WAY NDMP	Supports two ports of Fibre Channel (8G) that allows for 2-way NDMP connections, and two ports of standard 10GbE connectivity.
DATA RETENTION	SmartLock policy-based retention and protection against accidental deletion
SECURITY	File system audit capability to improve security and control of your storage infrastructure and address regulatory compliance requirements
EFFICIENCY	SmartDedupe data deduplication option, which can reduce storage requirements by up to 35 percent
AUTOMATED STORAGE TIERING	Policy-based automated tiering options including SmartPools and CloudPools software to optimize storage resources and lower costs
NETWORK PROTOCOL SUPPORT	NFSv3, NFSv4, NFS Kerberized sessions (UDP or TCP), SMB1 (CIFS), SMB2, SMB3, SMB3-CA, Multichannel, HTTP, FTP, NDMP, SNMP, LDAP, HDFS, ADS, NIS reads/writes
DATA REPLICATION	SynclQ fast and flexible file-based asynchronous replication

ENVIRONMENTAL SPECIFICATIONS

POWER SUPPLY	<p>Power factor is a measure of how effectively you are using electricity. The power factor of an AC electrical power system is defined as the ratio of the real power absorbed by the load to the apparent power flowing in the circuit, and is a dimensionless number in the closed interval of -1 to 1. A power factor of less than one indicates the voltage and current are not in phase, reducing the instantaneous product of the two.</p> <p>F800 and F810: Dual-redundant, hot-swappable 1450W power supplies with power factor correction (PFC); rated for input voltage 180 – 265 VAC (optional rack mount step-up transformer for 90-130 VAC input regions)</p> <p>Power factor and efficiency rate for F800 and F810 PSU</p>
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System Load	Efficiency	PF
10%	89.74%	0.933
20%	94.28%	0.982
30%	95.02%	0.990

40%	95.19%	0.994
50%	95.11%	0.996
60%	94.77%	0.997
70%	94.50%	0.998
80%	94.13%	0.998
90%	93.66%	0.998
100%	92.93%	0.998

CFM – Volume of airflow; cubic feet/minute

F800 and F810, each Node 70CFM, total chassis 280CFM (max)

OPERATING ENVIRONMENT	Compliant with ASHRAE A3 data center environment guidelines
DIMENSIONS/WEIGHT	<p>The following specifications apply to F800 and F810:</p> <ul style="list-style-type: none"> • Height: 7" (17.8 cm); • Width: 17.6" (44.8 cm); • Depth (front NEMA rail to rear 2.5" SSD cover ejector): 35.8" (91.0 cm); • Depth (front of bezel to rear 2.5" SSD cover ejector): 37.6" (95.5 cm) • Weight: 170 lbs. (77.1 kg)
MINIMUM SERVICE CLEARANCES	Front: 40" (88.9 cm), rear: 42" (106.7 cm)

Safety and EMI Compliance

Statement of Compliance

This Information Technology Equipment is compliant with the electromagnetic compatibility (EMC) and product safety regulations/standards required by the countries in which the product is sold. EMC compliance is based on FCC part 15, CISPR22/CISPR24 and EN55022/EN55024 standards, including applicable international variations. EMC compliant Class A products are marketed for use in business, industrial, and commercial environments. Product Safety compliance is based on IEC 60950-1 and EN 60951-1 standards, including applicable national deviations.

This Information Technology Equipment is in compliance with EU RoHS Directive 2011/65/EU.

The individual devices used in this product are approved under a unique regulatory model identifier that is affixed to each individual device rating label, which may differ from any marketing or product family name in this datasheet.

For additional information see <https://support.emc.com> under the Safety & EMI Compliance Information tab.

Take the next step

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