Dell PowerScale Archive Family

PowerScale OneFS is the operating system powering the industry's leading scale-out NAS platforms that enables you to innovate with your data. The PowerScale Archive family includes PowerScale platforms and the Isilon platforms configured with the OneFS operating system. OneFS provides the intelligence behind the highly scalable, high–performance modular storage solution that can grow with your business. A OneFS powered cluster is composed of a flexible choice of storage platforms including all-flash, hybrid and archive nodes. These solutions provide the performance, choice, capacity, efficiency, flexibility, scalability, security and protection for you to store massive amounts of unstructured data within a cluster. The PowerScale archive platforms co-exist seamlessly in the same cluster with your existing Isilon nodes to drive your traditional and modern applications.

PowerScale A300 and A3000

Isilon A200 and A2000

The PowerScale family offers several highly efficient and massively scalable archive storage solutions. These nodes use a modular architecture while dramatically reducing cost and complexity and both platforms utilize a dense hardware design that provides four nodes within a single 4U chassis

- **PowerScale A300:** is an ideal active archive storage solution that combines high performance, near-primary accessibility, value, and ease of use. The A300 provides between 120 TB to 1.2 PB per chassis and scales to 75 PB in a single cluster. The A300 includes inline compression and deduplication capabilities

- **PowerScale A3000:** is an ideal solution for high performance, high density, deep archive storage that safeguards data efficiently for long-term retention. The A3000 stores up to 1.6 PB per chassis and scales to 100 PB in a single cluster. The A3000 includes inline compression and deduplication capabilities

- **Isilon A200:** is an ideal active archive storage solution that combines near-primary accessibility, value, and ease of use. The A200 provides between 120 TB to 960 TB per chassis and scales to 60 PB in a single cluster.

- **Isilon A2000:** A2000 is an ideal solution for high density, deep archive storage that safeguards data efficiently for long-term retention. The A2000 stores up to 1280 TB per chassis and scales to 80 PB in a single cluster.

Embedded, integrated, or attached OEM versions are available for PowerScale archive nodes as either de-branded or re-branded solutions.

PowerScale A300 Archive Specifications

A300 ATTRIBUTES & OPTIONS	2 TB HDD	4 TB HDD	8 TB HDD	12 TB HDD	16 TB HDD	20 TB HDD
Chassis capacity	120 TB	240 TB	480 TB	720 TB	960 TB	1.2 PB
HDD drives (3.5") per chassis	60					
Self-encrypting drive (SED HDD) FIPS 140-2 compliant option	Yes, except 20 TB drives					
Operating system	OneFS 9.2.1 or later					
Number of nodes per chassis	4					
ECC memory (per node)	96 GB					
Cache (per node) solid state drives (800GB, 1.6TB, 3.2TB, 7.68 TB)	1 or 2 Capacity and number of SSDs determined by HDD size and count[2]					
Front-end networking (per node)	2 x 100 GbE (QSFP28) or 2 x 25GbE (SFP28)					
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or 2 X 100 GbE (QSFP28) or 2 X 25GbE (SFP28)					
Max Power Consumption @ 200~240v (per chassis)[1]	1070 Watts (@25°C)					
Typical thermal rating	3651 BTU/hr					

[1]Values at <25° C are reflective of more steady state maximum values during normal operation
[2]Some versions of A300 default with just one 800GB and will only support L3 cache configuration

PowerScale A3000 Archive Specifications

A3000 ATTRIBUTES & OPTIONS	12 TB HDD	16 TB HDD	20 TB HDD
Chassis capacity	960	1.28 PB	1.6 PB
HDD drives (3.5") per chassis	80		
Self-encrypting drive (SED HDD) FIPS 140-2 compliant option	Yes, except 20 TB drives		
Operating system	OneFS 9.2.1 or later		
Number of nodes per chassis	4		

ECC memory (per node)	96 GB
Cache (per node) solid state drives (800GB[2], 3.2TB, 7.68 TB)	1 or 2 Capacity and number of SSDs determined by HDD size and count[3]
Front-end networking (per node)	2 x 100 GbE (QSFP28) or 2 x 25GbE (SFP28)
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or 2 X 100 GbE (QSFP28) or 2 X 25GbE (SFP28)
Max Power Consumption @ 200~240v (per chassis)[1]	1230 Watts (@25°C)
Typical thermal rating	4197 BTU/hr

[1] Values at <25° C are reflective of more steady state maximum values during normal operation
[2] Some versions of A3000 default with just one 800GB and will only support L3 cache configuration
[3] 20TB drive version of A3000 default with one 7.68TB cache drive while 12 and 16TB drive versions default with two 3.2TB Cache drives

Isilon A200 Archive Specifications

A200 ATTRIBUTES & OPTIONS	2 TB HDD	4 TB HDD	8 TB HDD	12 TB HDD	16 TB HDD
Chassis capacity	120 TB	240 TB	480 TB	720 TB	960 TB
HDD drives (3.5") per chassis	60				
Self-encrypting drive (SED HDD) FIPS 140-2 compliant option	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				
ECC memory (per node)	16 GB or 64 GB				
Cache (per node) solid state drives (400 GB SSD for 2, 4 and 8 TB HDD and 800 GB SSD for 12 TB HDD)	1 or 2				
Front-end networking (per node)	2 x 10GbE (SFP+) or 2 x 25GbE (SFP28)				
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or 2 X 10GbE (SFP+)				
Max Power Consumption @ 200~240v (per chassis)[1]	1060 Watts (@25°C)				
Typical thermal rating	3600 BTU/hr				

[1]Values at <25° C are reflective of more steady state maximum values during normal operation

Isilon A2000 Archive Specifications

A2000 ATTRIBUTES & OPTIONS	10 TB HDD	12 TB HDD	16 TB HDD
Chassis capacity	800 TB	960	1.28 PB
HDD drives (3.5") per chassis	80		
Self-encrypting drive (SED HDD) FIPS 140-2 compliant option	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		
ECC memory (per node)	16 GB or 64 GB		
Cache (per node) solid state drives (400 GB SSD for 2, 4 and 8 TB HDD and 800 GB SSD for 12 TB HDD)	1 or 2		
Front-end networking (per node)	2 x 10GbE (SFP+) or 2 x 25GbE (SFP28)		
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or 2 X 10GbE (SFP+)		
Max Power Consumption @ 200~240v (per chassis)[1]	1120 Watts (@25°C)		
Typical thermal rating	3800 BTU/hr		

[1]Values at <25° C are reflective of more steady state maximum values during normal operation

CLUSTER ATTRIBUTES	A200	A2000	A300	A3000
Number of chassis	1 to 63			
Number of nodes	4 to 252			
Cluster capacity	120 TB to 60.4 PB	800 TB to 80.6 PB	120 TB to 75 PB	960 TB to 100 PB
Rack units	4 to 252			

PowerScale Attributes

PRODUCT ATTRIBUTES

Scale-out architecture	Distributed fully symmetric clustered architecture that combines modular storage with OneFS operating system in a single volume, single namespace and single filesystem
Modular design	Four self-contained Isilon and PowerScale nodes include server, software, HDDs and SSDs in a 4U rack-mountable chassis. 1U or 2U Rack-mountable PowerScale all-flash node that integrates into existing PowerScale and Isilon clusters with backend Ethernet or InfiniBand connectivity
Operating system	PowerScale OneFS distributed file system creates a cluster with a single file system and single global namespace. It is fully journaled, fully distributed, and has a 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	A cluster can scale up to 252 nodes. Minimum number of Isilon and PowerScale nodes per cluster is four. Minimum number of PowerScale all-flash nodes per cluster is three. Add nodes to scale performance and 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 two-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 and STIG hardening to improve security and control of your storage infrastructure and address regulatory compliance requirements
Efficiency	SmartDedupe data deduplication option, which can reduce storage requirements. Inline data reduction and compression available on F200, F600, F900, F810, H5600, H700, H7000, A300, and A3000 nodes
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, S3, ADS, NIS reads/writes
Data replication	SyncIQ fast and flexible one-to-many file-based asynchronous replication between clusters. SmartSync provides efficient file to file and file to object data movement

ENVIRONMENTAL SPECIFICATIONS – POWER

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.

For max power consumption information during unexpected environmental conditions, please refer to the "Site Preparation and Planning Guide".

A200, A2000, A300 and A3000: Dual-redundant, hot-swappable 1050W (low line) 1100W (high line) power supplies with power factor correction (PFC); rated for input voltages 90 - 130 VAC (low line) and 180-264 VAC (high line)

Power factor and efficiency rate for **A200, A2000, A300 and A3000**

System Load	Efficiency	PF
10%	86.00%	0.918
20%	92.95%	0.967
30%	93.93%	0.970
40%	94.41%	0.972
50%	94.49%	0.981
60%	94.11%	0.986
70%	94.04%	0.990
80%	93.86%	0.992
90%	93.63%	0.995
100%	93.25	0.996

CFM – Volume of airflow; cubic feet/minute
A2000 and A3000: each Node 60CFM, total chassis 240CFM (max.)
A200 and A300: each Node 70CFM, total chassis 280CFM (max)

OPERATING ENVIRONMENT	Compliant with ASHRAE A3 data center environment guidelines

DIMENSIONS / WEIGHT:

A200 and A300:
- 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);

A2000 and A3000:
- Height: 7" (17.8 cm); Width: 17.6" (44.8 cm);
- Depth: (front NEMA rail to rear 2.5" SSD cover ejector): 40.4" (102.6 cm);
- Depth: (front of bezel to rear 2.5" SSD cover ejector): 42.2" (107.1 cm);

The following max weights per Chassis/node:
- A200: 240 lbs. (108.9 kg)
- A2000: 285 lbs. (129.3 kg)
- A300: 252.2 lbs (114.4 kg)
- A3000: 303 lbs. (137.4 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 and product safety regulations/standards required by the countries in which the product is sold. Compliance is based on FCC part 15, CISPR22/CISPR24 and EN55022/EN55024 standards, including applicable international variations. 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 http://support.dell.com under the Safety & EMI Compliance Information tab.

Take the next step

Contact your Dell sales representative or authorized reseller to learn more about how Isilon scale-out NAS storage can benefit your organization.

Learn more about Dell Technologies Storage

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