



**WAVESYS GLOBAL**



**WAVESYS MULTIPROTOCOL STORAGE**

# SPECIFICATION SHEET

## WAVESYS MULTIPROTOCOL STORAGE

The Wavesys Multiprotocol Storage offers a cost-effective way to manage both frequently accessed data (active archive) and long-term backups (cold archive).

The Multiprotocol Storage family includes Multiprotocol Storage and Isilon scale-out file storage, both powered by the intelligent Multiprotocol Storage OneFS operating system. OneFS delivers a high-performance, scalable storage solution that grows with your business. It allows you to build clusters using a variety of storage platforms, including all-flash, hybrid, and archive nodes. This flexibility ensures you have the performance, capacity, security, and data protection needed to store massive amounts of unstructured data.

Wavesys Multiprotocol Storage archive platforms are built on a modular design, offering significant cost and complexity reductions. They utilize a dense hardware design that packs four storage nodes into a single, compact unit. Furthermore, Multiprotocol Storage seamlessly integrates all-flash and hybrid platforms within the same cluster, allowing you to run both traditional and modern applications alongside your existing storage infrastructure.

Here's a closer look at the available archive node options:

### Multiprotocol Storage WS-A300

This is a perfect solution for active archives, balancing high performance, affordability, and ease of use. It offers capacities ranging from 120 TB to 1.2 PB per chassis, scaling up to 75 PB in a single cluster. The WS-A300 also includes built-in compression and deduplication for optimized storage efficiency.

### Multiprotocol Storage WS-A3000

This option caters to deep archive needs, providing high-performance, high-density storage for long-term data retention. The WS-A3000 holds up to 1.6 PB per chassis and scales to 100 PB within a cluster. Like the WS-A300, it features inline compression and deduplication.

### Multiprotocol Storage WS-A300 Archive Specifications:

WS-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					

WS-A300 ATTRIBUTES & OPTIONS	2 TB HDD	4 TB HDD	8 TB HDD	12 TB HDD	16 TB HDD	20 TB HDD
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 <sup>2</sup>
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) <sup>1</sup>						1070 Watts (@25°C)
Typical thermal rating						3651 BTU/hr

<sup>1</sup> Values at <25° C are reflective of more steady state maximum values during normal operation.

<sup>2</sup> Some versions of WS-A300 default with just one 800GB and will only support L3 cache configuration.

## Multiprotocol Storage WS-A3000 Archive Specifications:

WS-A3000 ATTRIBUTES & OPTIONS	12 TB HDD	16 TB HDD	20 TB HDD
Chassis capacity	960 TB	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 <sup>2</sup> , 3.2TB, 7.68 TB)			1 or 2 Capacity and number of SSDs determined by HDD size and count <sup>3</sup>
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) <sup>1</sup>			1230 Watts (@25°C)
Typical thermal rating			4197 BTU/hr

<sup>1</sup> Values at <25° C are reflective of more steady state maximum values during normal operation

<sup>2</sup> Some versions of WS-A3000 default with just one 800GB and will only support L3 cache configuration

<sup>3</sup> 20TB drive version of WS-A3000 default with one 7.68TB cache drive while 12 and 16TB drive versions default with two 3.2TB Cache drives.

CLUSTER ATTRIBUTES	WS-A300	WS-A3000
Number of chassis		1 to 63
Number of nodes		4 to 252
Cluster capacity	120 TB to 75 PB	960 TB to 100 PB
Rack units		4 to 252

## Multiprotocol Storage Attributes:

PRODUCT ATTRIBUTES	
Scale-out architecture	Expand your storage effortlessly. Distribute data across multiple nodes for seamless scaling of performance and capacity. A single cluster can hold up to a massive 186PB of raw data.
Modular Design	Simplify storage deployment. Four self-contained storage nodes combine server, software, HDDs and SSDs in a 4U rack-mountable chassis. Easily integrate these nodes into existing Multiprotocol storage and Isilon clusters with backend Ethernet or InfiniBand connectivity
Scalability	A cluster can support up to 252 nodes. Multiprotocol Storage requires a minimum of three all-flash nodes per cluster, while Isilon requires four. Add more nodes to increase performance and capacity. A single cluster can provide up to 186 PB raw capacity.
High Availability	no single point of failure. The self-healing design guards against disk or node failures and provides back-end intra-cluster failover.
Operating system	Multiprotocol Storage The OneFS distributed file system configures a cluster with a single file system and a single global namespace. It is entirely journaled and distributed, with a globally coherent write/read cache.
Data Protection	FlexProtect file-level striping supports N+1 through N+4 and mirrored data protection techniques.
2-way NDMP	Supports two Fibre Channel (8G) ports, allowing for two-way NDMP connections, and two ports of regular 10GbE connectivity.
Data Retention	SmartLock policy-based retention and protection against accidental deletion
Security	File system auditability and STIG hardening to improve security and control of your storage infrastructure and fulfil regulatory compliance needs.
Efficiency	The SmartDedupe data deduplication option can help minimise storage requirements. Inline data reduction and compression is offered on the F200, F600, F900, F810, H700, H7000, A300, and A3000 nodes.
Automated storage tiering	Policy-based automatic tiering options, such as SmartPools and CloudPools software, are available to optimise storage resources and reduce 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 provides quick and versatile one-to-many file-based asynchronous replication between clusters. SmartSync enables efficient file-to-file and file-to-object data transferring.

## ENVIRONMENTAL SPECIFICATIONS - POWER

Power factor is a measure of how efficiently you use electricity. The power factor of an AC electrical power system is the ratio of the real power absorbed by the load to the apparent power

flowing in the circuit. It is a dimensionless number inside the closed interval of -1 to 1. A power factor of less than one implies that the voltage and current are out of phase, lowering the instantaneous product of the two.

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

WS-A300 and WS-A3000: Dual-redundant, hot-swappable power 1050W (low line) and 1100W (high line) supply 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, WS- A300 and WS-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  
 WS-A3000: each Node 60CFM, total chassis 240CFM (max.)  
 WS-A300: each Node 70CFM, total chassis 280CFM (max)

**OPERATING ENVIRONMENT** Compliant with ASHRAE A3 data center environment guidelines

**DIMENSIONS / WEIGHT:**

**WS-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);

**WS-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:**

- WS-A300: 252.2 lbs (114.4 kg)
- WS-A3000: 303 lbs. (137.4 kg)

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