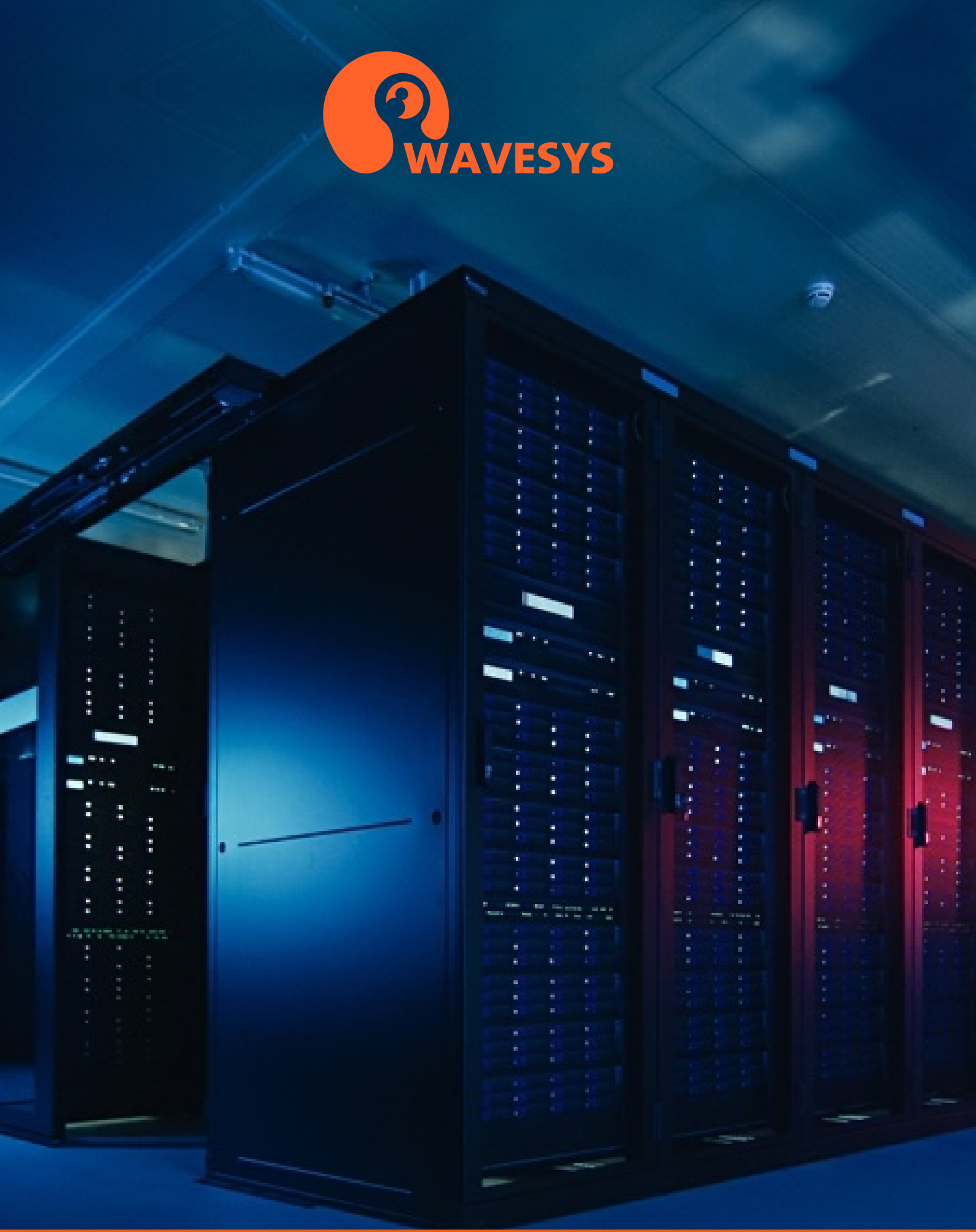

Wavesys Enterprise Storage Vault
WSME5 Specification Sheet

SPECIFICATION SHEET

WAVESYS ENTERPRISE STORAGE VAULT WSME5 SPECIFICATION SHEET

Simple, fast and affordable

Entry storage purpose-built and optimized for SAN/DAS

The, simple, fast and affordable Wavesys Enterprise Storage Vault WSME5 storage platforms are optimized to run a variety of mixed workload applications – physical and virtual – for small to medium size businesses.

Whether you need to consolidate your block storage, support applications without the need for low latency flash and NVMe, take advantage of intelligent data management or scale capacity to keep pace with data growth, then Enterprise Storage Vault WSME5 is ready to meet your growing business needs. The flexibility of Enterprise Storage Vault WSME5 offers multiple protocols, supports a wide range of drive types and capacities, scales up to 8PB1 capacity, validated with Wavesys Servers (16G ready) and is delivered to you with all-inclusive software – so you'll have the needed data services to store, manage, and protect your data.

Using fast Intel Xeon processors, Wavesys Enterprise Storage Vault WSME5 storage implements a dual-active controller architecture, 12GB/sec read and 10GB/sec write throughput and uses a 12Gb SAS backend protocol for rapid capacity expansion.

Wavesys Enterprise Storage Vault WSME5 base system and expansion models

The two non-dense WSME5 base arrays start at 2U and the dense WSME5 array starts at 5U. The base models all support dual-active controllers with each controller including 16GB of memory.

WSME5012
12 drive / 2U

WSME5024
24 drive / 2U

WSME5084
84 drive / 5U

Optional WSME5 expansion enclosures let you scale up to 336 drives or 8PB1. Enterprise Storage Vault WSME412 and WSME424 expansion enclosures can only be used with either WSME5012 or WSME5024 base arrays. The WSME484 dense expansion enclosure is supported behind any of the WSME5 base arrays. A variety of SSD, 10K and NLSAS drives (including FIPS-certified SEDs) are available.

WSME412 Expansion Enclosure
12 drive / 2U

WSME424 Expansion Enclosure
24 drive / 2U

WSME484 Expansion Enclosure
84 drive / 5U

Wavesys Enterprise Storage Vault WSME5 Specifications

Chassis Overview	
Chassis format	All-in-one: dual controllers, internal drive bays, networking and with expansion options
Rack size	2U or 5U
Controllers	2 hot-swappable per chassis (dual-active) Single/dual controller support for 2U models Dual controller support only for 5U model
Processor	Intel® Xeon Processor
Internal storage	**WSME5012:** 12 x 3.5” drive bays (2.5” drive carriers supported) **WSME5024:** 24 x 2.5” drive bays **WSME5084:** 84x 3.5” drive bays (2.5” drive carriers supported)
System memory	16GB per controller (32GB total)

Expansion Capacity	
Expansion Capacity	WSME412: 12 x 3.5” drive bays (12Gb SAS) WSME424: 24 x 2.5” drive bays (12Gb SAS) WSME484: 84 x 3.5” drive bays (12Gb SAS)
Min/Max drive count	WSME5012: 2/264 WSME5024: 2/276 WSME5084: 28/336
Max raw capacity1	**WSME5012:** 2.40PB (with 9xME412 expansion) | **WSME5012:** 1.89PB (with 9xME424 expansion) **WSME5024:** 2.34PB (with 9xME412 expansion) | **WSME5012:** 1.83PB (with 9xME424 expansion) **WSME5012:** 5.28PB (with 3xME484 expansion) | **WSME5024:** 5.22PB (with 3xME484 expansion) **WSME5084:** 6.72PB (with 3xME484 expansion)
NAS Support	Supported with NX Series Windows NAS appliance
Storage media	SAS and NL-SAS drives; different drive types, transfer rates, rotational speeds can be mixed in the same system: • NLSAS 7.2K 3.5” – 4TB, 8TB, 12TB, 16TB, 16TB FIPS, 20TB • SAS 10K 2.5” – 1.2TB, 2.4TB, 2.4TB FIPS • SSD – 960GB RI, 1.6TB MU, 1.92TB, 3.84TB, 3.84TB FIPS, 7.68TB RI • SDD and HDD: FIPS-certified SEDs

Network, Expansion Enclosure and I/O	
Host interface	FC, iSCSI (optical or BaseT), SAS
FC, iSCSI (optical or BaseT), SAS	8 per array (support auto-negotiate to 16Gb)
Max 25Gb iSCSI ports	8 SFP+ or SFP28 ports per array
Max 10Gb iSCSI ports	8 BaseT ports per array (only support auto negotiate to 1Gb)
Max 12Gb SAS ports	8 12Gb SAS ports

Max management ports	2 per array (1Gb BASE-T)
Disk expansion protocol	12Gb SAS
Disk interface expansion ports	2 x 12Gb SAS (wide-Port) per array (1 port per controller) Up to 9 2U expansion enclosures per 2U base array Up to 3 5U expansion enclosures per 2U base array Up to 3 5U expansion enclosures per 5U base array
Functional	
Array configurations	All-flash, hybrid flash, HDD only arrays
Storage format	Native block-level SAN or DAS
Management	
Management support	Enterprise Storage Vault Manager HTML5 GUI element manager, CLI, Open Manage Enterprise 3.9
Vmware vCenter	Vmware vCenter plugin to manage WSME5 arrays through vCenter.
Scripting	CLI API Redfish/Swordfish REST API
Supported host OS	Windows 2022, 2019 and 2016 RHEL 8.2 and 7.8 SLES 15.2 and 12.5 VMware 7.0 and 6.7 Citrix XenServer 8.x and 7.x
Virtualization integration	Vmware vSphere (ESXi) vCenter; SRM Microsoft Hyper-V
Physical Base System	
Rack size	WSME5012 (2U), WSME5024 (2U), WSME5084 (5U)
Base system height	**WSME5012:** 8.79 cm (3.46 inches) **WSME5024:** 8.79 cm (3.46 inches) **WSME5084:** 22.23 cm (8.75 inches)
Base system width	**WSME5012:** 48.30 cm (19.01 inches) **WSME5024:** 48.30 cm (19.01 inches) **WSME5084:** 48.30 cm (19.01 inches)
Base system depth	**WSME5012:** 61.87mm (24.36 inches) **WSME5024:** 54.78mm (21.56 inches) **WSME5084:** 981mm (38.62 inches)
Weight (max configuration)	**WSME5012:** 32.00 kg (71.00 lbs) **WSME5024:** 30.00 kg (66.00 lbs) **WSME5084:** 135.00 kg (298.00 lbs)
Weight (empty)	**WSME5012:** 4.80 kg (10.56 lbs) without drives **WSME5024:** 4.80 kg (10.56 lbs) without drives **WSME5084:** 64.00 kg (141.00 lbs) without drives

Physical Expansion Enclosure	
Rack size	WSME412 (2U), WSME424 (2U), WSME484 (5U)
Expansion height	**WSME412:** 8.79 cm (3.46 inches) **WSME424:** 8.79 cm (3.46 inches) **WSME484:** 22.23 cm (8.75 inches)
Expansion width	**WSME412:** 48.30 cm (19.01 inches) **WSME424:** 48.30 cm (19.01 inches) **WSME484:** 48.30 cm (19.01 inches)
Expansion depth	**WSME412:** 60.29 cm (23.74 inches) **WSME424:** 60.29 cm (23.74 inches) **WSME484:** 97.47 cm (38.31 inches)
Weight (max configuration)	**WSME412:** 28.00 kg (62.00 lbs) **WSME424:** 25.00 kg (55.00 lbs) **WSME484:** 130.00 kg (287.00 lbs)
Weight (empty)	**WSME412:** 4.80 kg (10.56 lbs) without drives **WSME424:** 4.80 kg (10.56 lbs) without drives **WSME484:** 64.00 kg (141.00 lbs) without drives
Base System Power	
Power/wattage	**WSME5012:** 580W **WSME5024:** 580W **WSME5084:** 2200W
Heat dissipation	**WSME5012:** 1980 BTU **WSME5024:** 1980 BTU **WSME5084:** 7507 BTU
Data Optimization	
Auto-tiering	Up to 3 primary (media-based) tiers
RAID support	RAID 1, 5, 6, 10, or ADAPT RAID; any combination of RAID levels can exist in single array
ADAPT RAID	Distributed erasure coding that reduces rebuild times when drive failures occur
Thin provisioning	Active by default on all volumes, operates at full performance across all features
Snapshots	1024 maximum re-direct-on-write snapshots per array
Data Mobility and Migration	
Replication	Asynchronous replication via FC or iSCSI – ME4 to WSME5; WSME5 to ME4; WSME5 to WSME5 Target/source relationships may be one-to-many or many-to-one
Volume copy	Copy complete standalone volumes
Voltage	**WSME5012:** 100-240 VAC **WSME5024:** 100-240 VAC **WSME5084:** 200-240 VAC
Frequency	50/60 Hz
Amperage	**WSME5012:** 7.6-3.0A (x2) **WSME5024:** 7.6-3.0A (x2) **WSME5084:** 11.07-9.23A (x2)

Expansion Power	
Power/wattage	**WSME412:** 580W **WSME424:** 580W **WSME484:** 2200W
Heat dissipation	**WSME412:** 1980 BTU **WSME424:** 1980 BTU **WSME484:** 7507 BTU
Voltage	**WSME412:** 100-240 VAC **WSME424:** 100-240 VAC **WSME484:** 200-240 VAC
Frequency	50/60 Hz
Amperage	**WSME412:** 7.6-3.0A (x2) **WSME424:** 7.6-3.0A (x2) **WSME484:** 11.07-9.23A(x2)
Environmental Operating Conditions	
Operating temperature	5°C - 35°C (41°F - 95°F, derated by 1°C per 300mm above 900m)
Non-operating temperature	-40°C to 70°C (-40 to 158°F) Maximum temperature changes in an hour: 20°C
Operating humidity ranges (non-condensing)	-12C dew point minimum, 8% to 85% maximum, non-condensing
Non-operating humidity (non- condensing)	21°C dew point maximum, 5% to 100% maximum, non-condensing
Service & Warranty	
Services	Wavesys Standard Service & Warranty including provision of On-site Support
System sizing	Wavesys Power Sizer
Data Protection, Disaster Recovery, Security	
Business continuity	Vmware Site Recovery Manager
Data-at-rest encryption	Self-encrypting drives (SEDs) in SSD or HDD formats Full Disk Encryption (FDE) based on AES-256 Drives certified to FIPS 140-2 Level 2
Key manager	Internal controller key management

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