



Hewlett Packard Центр поддержки HPE
Enterprise

HPE MSA 2050 SAN Storage - Specifications

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Product specifications

Specifications	Description
Array	
Access type	Block
Form factor	2U Small Form Factor (SFF) or Large Form Factor (LFF)
Number of controllers per array	2
Number of host ports per array	8
FC Host connectivity	8/16Gb
iSCSI Host connectivity	1Gb or 10Gb
SAS Host connectivity	6Gb or 12Gb
Cache, per array	
Max read cache per array	8TB
Data (Read/write) cache + system memory per array	16GB
Pool capacity (With large pool support)	562TB (512TiB)
RAID Levels supported: Virtual mode	RAID 1, 5, 6, 10
Enclosures	
Expansion drive enclosures	0-7 Enclosures
LFF/SFF Array/enclosure mixing	Supported
Maximum number of drives per array enclosure	24 SFF / 12 LFF
Maximum number of drives per drive enclosure	24 SFF / 12 LFF
Drive enclosure interface type	6Gb SAS
Drives	
Maximum total Hard Disk Drives (HDDs) per array	192 SFF / 96 LFF
Maximum total Solid State Drives (SSDs) per array	192 SFF / 96 LFF
Max raw capacity per array enclosure	76.8TB SFF / 120TB LFF
Max raw capacity per drive enclosure	76.8TB SFF / 120TB LFF
Max raw capacity per array	614.4TB SFF / 960TB LFF
Drive capacities	
SFF SSDs	<ul style="list-style-type: none"> • 800GB • 960GB • 1.6TB • 1.92TB • 3.2TB
LFF SSDs	<ul style="list-style-type: none"> • 800GB • 960GB • 1.92TB

Specifications	Description
SFF HDDs	<ul style="list-style-type: none"> • 15K: <ul style="list-style-type: none"> ◦ 600GB ◦ 900GB • 10K: <ul style="list-style-type: none"> ◦ 600GB ◦ 1.2TB ◦ 1.8TB ◦ 2.4TB • 7.2K: <ul style="list-style-type: none"> ◦ 1.0TB ◦ 2.0TB
LFF HDDs	<ul style="list-style-type: none"> 7.2K: <ul style="list-style-type: none"> • 4TB • 6TB • 8TB • 10TB • 12TB • 14TB
SEDs	<ul style="list-style-type: none"> • SSDs: <ul style="list-style-type: none"> ◦ 800GB ◦ 1.6TB • 10K HDDs: <ul style="list-style-type: none"> ◦ 1.2TB (SFF) • 7.2K HDDs: <ul style="list-style-type: none"> ◦ 4TB (LFF)
Software features	
Thin technologies	<ul style="list-style-type: none"> • Thin provisioning • Space reclamation • Thin rebuild
Tiering	<ul style="list-style-type: none"> • Performance tier, • Standard tier • Archive tier
Replication	<ul style="list-style-type: none"> • Snapshots (512) • Volume copy • Remote snaps
Quality of Service (QoS)	Virtual tier affinity
Additional features	
Maximum number of volumes	512
Maximum number of snapshots	512
Maximum number of hosts	512
Maximum number of initiators	1024
End user self-installable	Yes
End user self-repairable	Yes
End user self-upgradeable	Yes
File services	Yes with HPE Storage File Controller

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Physical specifications

Specifications	Description
Height	8.9 cm (3.5 in)
Depth (Excluding cables) (Back of ear to back of controller handle)	<ul style="list-style-type: none"> • SFF 24 Bay array: 49.5 cm (19.5 in) • LFF 12 Bay array: 57.2 cm (22.5 in)
Width (Body only)	44.7 cm (17.6 in) (w/ ears 48.26 cm (19 in))
Weight (Includes chassis and 2 controllers no drives)	<ul style="list-style-type: none"> • LFF Chassis: 18.4 kg (40.6 lb) • SFF Chassis: 17.6 kg (38.7 lb)

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Electrical specifications

Specifications	Description		
	Voltage	Current	Power
Input power requirements (Typical-Running I/O) SFF/LFF arrays	110 V ac	3,32 A	344 - 390 W
	220 V ac	1,61 A	374 - 432 W
Max input power	100 - 240 V ac	4,5 - 1,9 A	-
	48 - 60 V dc	10,4/ 8,3 A	-

Environmental specifications

Specifications	Description
Heat dissipation	1622 BTU/hr
Operating temperature	5° to 40°C (41° to 104°F)
Shipping temperature	-40° to 70°C (-40° to 158°F)
Operating humidity	10% to 90% RH @ 40°C (104°F) non-condensing
Non-Operating humidity	Up to 93% RH @ 40°C (104°F)
Declared acoustic noise level	
Sound power	A weighted sound power: LWAd=6,75 B
Sound pressure	A weighted sound pressure: LpAm - 55 dB
Shock and vibration	
Shock, operational	3G's for 11 ms
Shock, non-operational	15G 11 ms Half sine
Vibration, operational	5 - 500 Hz, 0.14 g shaped
Vibration, non-operational	3 - 365 - 3 Hz, 1.22 g, z-axis, 0.85 g, X and Y axis shaped spectrum

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Safety certifications

Specifications	Description
Safety	<ul style="list-style-type: none"> UL 60950-1 (USA) CAN/CSA-C22.2 No.60950-1-03 (Canada) EN 60950-1 (European Union) GS mark (Germany) IEC 60950-1 (International) CCC Mark (Power supply only, China PRC)
Electromagnetic compatibility	<ul style="list-style-type: none"> VCCI:2008-04 Class A (Japan) FCC 15:109(g) Class A (USA) ICES-003:2004 Class A (Canada) EN55022 : (European Union Class A); CISPR 22 (International class A) EN61000-3-2 : (Harmonics) (European Union) EN61000-3-3 : (Flicker) (European Union) EN 55024 (European Union, Immunity, Class A);CISPR 24 (International Immunity, Class A) AS/NZS CISPR 22, Class A (Australia, New Zealand) CNS 13438 Taiwan, Class A (Taiwan) KN22 Class A (Emissions Class A); KN24 (Immunity) (S Korea)
RoHS and WEEE	<ul style="list-style-type: none"> China RoHS, WEEE RoHS-6/6 Compliance
Country approvals	<ul style="list-style-type: none"> United States Australia/New Zealand Canada China (PRC) European Union Germany (GS Mark) Japan South Korea Taiwan

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