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HPE 3PAR StoreServ 8000 Storage - Specifications

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System specifications

Specifications	3PAR StoreServ 8200	3PAR StoreServ 8400	3PAR StoreServ 8440	3PAR StoreServ 8450
Number of controller nodes	2	2 or 4	2 or 4	2 or 4
HPE 3PAR Gen5 ASICs	2	2 or 4	2 or 4	2 or 4
Processors	2 x 6 Core 2.2 GHz	2-4 x 6 Core 2.2 GHz	2-4 x 10 Core 2.4 GHz	2-4 x 10 Core 2.4 GHz
Total cache	832 GiB	1664 GiB	8384 GiB	384 GiB
Flash cache (Optional)	768 GiB	1536 GiB	8000 GiB	NA
On-Node cache	64 GiB	128 GiB	384 GiB	384 GiB
Total cache per node pair	832 GiB	832 GiB	4192 GiB	192 GiB
Flash cache per node pair	768 GiB	768 GiB	4000 GiB	NA
On-node cache per node pair	64 GiB	64 GiB	192 GiB	192 GiB
Maximum host ports	12 Ports	24 Ports	24 Ports	24 Ports
32 Gb/s fibre channel host ports ¹⁰	0 - 4 Ports	0 - 8 Ports	0 - 8 Ports	0 - 8 Ports
16 Gb/s fibre channel host ports	4 - 12 Ports	4 - 24 Ports	4 - 24 Ports	4 - 24 Ports
10 Gb/s iSCSI host ports	0 - 4 Ports	0 - 8 Ports	0 - 8 Ports	0 - 8 Ports
10 Gb/s FCoE host ports	0 - 4 Ports	0 - 8 Ports	0 - 8 Ports	0 - 8 Ports
1 Gb/s Ethernet adapter	0 - 8 Ports	0 - 16 Ports	0 - 16 Ports	0 - 16 Ports
10 Gb/s Ethernet adapter	0 - 4 Ports	0 - 8 Ports	0 - 8 Ports	0 - 8 Ports
Maximum initiators supported	2048	4096	4096	4096
Built-in 1 GbE ports ¹	2	2 - 4	2 - 4	2 - 4
2U controller node drive capacity	24	24	24	24
Number of disk drives ²	6 - 240	6 - 576	6 - 960	NA
Number of SSD	6 - 120	6 - 240	6 - 480	6 - 480
Max raw capacity (approx.) ³	750 TiB ⁴	2400 TiB	3000 TiB	1843 TiB
Max raw capacity (SSD only)	838 TiB	1676 TiB	3351 TiB	3351 TiB
Usable file capacity ⁵	2 - 128 TiB	2 - 256 TiB	2 - 256 TiB	2 - 256 TiB
Capacity details				
RAID Levels	RAID 0, 1, 5, 6	RAID 0, 1, 5, 6	RAID 0, 1, 5, 6	RAID 0, 1, 5, 6

Specifications	3PAR StoreServ 8200	3PAR StoreServ 8400	3PAR StoreServ 8440	3PAR StoreServ 8450
RAID 5 Data to parity ratios	2:1 - 8:1	2:1 - 8:1	2:1 - 8:1	2:1 - 8:1
RAID 6 Data to parity ratios	4:2, 6:2, 8:2, 10:2, 14:2	4:2, 6:2, 8:2, 10:2, 14:2	4:2, 6:2, 8:2, 10:2, 14:2	4:2, 6:2, 8:2, 10:2, 14:2
Drive capacities(SSDs) ⁶	<ul style="list-style-type: none"> • 400GB SSD • 480GB SSD • 920GB SSD • 480GB Non AFC SSD • 1.92TB SSD • 3.84TB SSD • 7.68TB SSD • 15.36TB SSD 	<ul style="list-style-type: none"> • 400GB SSD • 480GB SSD • 920GB SSD • 480GB Non AFC SSD • 1.92TB SSD • 3.84TB SSD • 7.68TB SSD • 15.36TB SSD 	<ul style="list-style-type: none"> • 400GB SSD • 480GB SSD • 920GB SSD • 480GB Non AFC SSD • 1.92TB SSD • 3.84TB SSD • 7.68TB SSD • 15.36TB SSD 	<ul style="list-style-type: none"> • 400GB SSD • 480GB SSD • 920GB SSD • 480GB Non AFC SSD • 1.92TB SSD • 3.84TB SSD • 7.68TB SSD • 15.36TB SSD
Drive capacities (HDD)	<ul style="list-style-type: none"> • 300 15K SAS ⁷ • 600 15K SAS • 600 10K SAS • 1200 10K SAS • 1800 10K SAS • 2000 7.2K NL ⁸ • 4000 7.2K NL • 6000 7.2K NL • 8000 7.2K NL 	<ul style="list-style-type: none"> • 300 15K SAS ⁷ • 600 15K SAS • 600 10K SAS • 1200 10K SAS • 1800 10K SAS • 2000 7.2K NL ⁸ • 4000 7.2K NL • 6000 7.2K NL • 8000 7.2K NL 	<ul style="list-style-type: none"> • 300 15K SAS ⁷ • 600 15K SAS • 600 10K SAS • 1200 10K SAS • 1800 10K SAS • 2000 7.2K NL ⁸ • 4000 7.2K NL • 6000 7.2K NL • 8000 7.2K NL 	NA
Number of add-on drive enclosures ⁹	0 - 9 Enclosures	0 - 22 Enclosures	0 - 38 Enclosures	0 - 18 Enclosures

NOTE:

- Two built-in 1 GbE ports per node pair can be used either for Remote Copy (RCIP) or for file persona
- Not applicable to HPE 3PAR StoreServ 8200 All - Flash starter kit and HPE 3PAR StoreServ 8400 All - Flash starter kit
- Maximum raw capacity currently supported with any and all drive types. The minimum supported raw capacity is equal to 8 min drive size available
- For storage capacity, 1 GiB = 2³⁰B and 1 TiB = 1,024 GiB
- Usable file capacity supported for HPE 3PAR file persona software suite
- SSDs are Solid State Drives (SSD)
- SAS drives are serial access SCSI drives
- NL drives are nearline (7200 rpm) enterprise SAS drives
- Each drive enclosure holds up to 24 drives in 2U for Small Form Factor (SFF) (2.5 in) drives and 4U for Large Form Factor (LFF) (3.5 in) drives
- 32Gb FC host support requires 3PAR OS 3.3.1 Technology Release T05. Check HPE Spock for latest supported 3PAR software and connectivity

Physical specifications

Products	Dimensions (H x W x D)	Weight
36U 1075 mm Intelligent series rack	1748.6 x 597.9 x 1125.2 mm (68.84 x 23.54 x 44.3 in)	195 kg (428 lb)
42U 1075 mm Intelligent series rack	2006.6 x 597.9 x 1125.2 mm (79 x 23.54 x 44.3 in)	205 kg (451 lb)
42U 1200 mm Intelligent series rack	2006.6 x 597.9 x 1300.2 mm (79 x 23.54 x 51.19 in)	241 kg (531 lb)
47U 1075 mm Intelligent series rack	2248.7 x 597.9 x 1125.2 mm (88.53 x 23.54 x 44.3 in)	220 kg (483 lb)
HPE 3PAR StoreServ 8200 2N storage base(No host adapters, no drives)	87.95 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 2U	21.6 kg (47.7 lb)
HPE 3PAR StoreServ 8200 2N storage base(With two host adapters, no drives)	87.95 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 2U	22.1 kg (48.7.8 lb)
HPE 3PAR StoreServ 8400 2N storage base(No host adapters, no drives)	87.95 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 2U	21.6 kg (47.7 lb)
HPE 3PAR StoreServ 8400 2N storage base(With two host adapters, no drives)	87.95 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 2U	22.1 kg (48.7.8 lb)

Products	Dimensions (H x W x D)	Weight
HPE 3PAR StoreServ 8400 4N storage base(No host adapters, no drives)	175.9 x 483 x 676.1 mm (6.925 x 19 x 26.6 in) 4U	44.4 kg (97.8 lb)
HPE 3PAR StoreServ 8400 4N storage base(With four host adapters, no drives)	175.9 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 4U	45.3 kg (99.8 lb)
HPE 3PAR StoreServ 8440 2N storage base(No host adapters, no drives)	87.95 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 2U	21.6 kg (47.7 lb)
HPE 3PAR StoreServ 8440 2N storage base(With two host adapters, no drives)	87.95 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 2U	22.1 kg (48.7 lb)
HPE 3PAR StoreServ 8440 4N storage base (No host adapters, no drives)	175.9 x 483 x 676.1 mm (6.925 x 19 x 26.6 in) 4U	44.4 kg (97.8 lb)
HPE 3PAR StoreServ 8440 4N storage base (With four host adapters, no drives)	175.9 x 483 x 676.1 mm (6.925 x 19 x 26.6 in) 4U	45.3 kg (99.8 lb)
HPE 3PAR StoreServ 8450 2N storage base (No host adapters, no drives)	87.95 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 2U	21.6 kg (47.7 lb)
HPE 3PAR StoreServ 8450 2N storage base (With two host adapters, no drives)	87.95 x 483 x 676.1 mm (3.46 x 19 x 26.6 in) 2U	22.1 kg (48.7 lb)
HPE 3PAR StoreServ 8450 4N storage base (No host adapters, no drives)	175.9 x 483 x 676.1 mm (6.925 x 19 x 26.6 in) 4U	44.4 kg (97.8 lb)
HPE 3PAR StoreServ 8450 4N storage base (With four host adapters, no drives)	175.9 x 483 x 676.1 mm (6.925 x 19 x 26.6 in) 4U	45.3 kg (99.8 lb)
HPE 3PAR StoreServ 8000 Small Form Factor (SFF) (2.5 in) SAS drive enclosure (Without drives)	87.95 x 483 x 630.7 mm (3.46 x 19 x 24.8 in) 2U	15.2 kg (33.5 lb)
HPE 3PAR StoreServ 8000 Large Form Factor (LFF) (3.5 in) SAS drive enclosure (Without drives)	175 x 483 x 631.4 mm (6.89 x 19 x 24.9 in) 4U	19.5 kg (42.9 lb)
SFF SAS Drive with carrier	86.85 x 19.9 x 227.7 mm (3.42 x 0.78 x 8.96 in)	0.32 kg (0.7 lb)
LFF SAS Drive with carrier	30.0 x 110.84 x 220.26 mm (1.18 x 4.36 x 8.67 in)	0.86 kg (1.9 lb)
Service processor	-	17 kg (37.48 lb)

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Environment specifications

Feature	Description
Operating temperature	41° - 104°F (5° - 40°C) - Reduce rating by 1°F for each 1000 ft altitude (1.8° C/1,000 m)
Shipping temperature	-30° - 60°C (-22° - 140°F). Maximum rate of change is 20° C/hr (36° F/hr)
Altitude	3,048 m (10,000 ft)
Shipping altitude	12,192 m (40,000 ft)
Humidity	10% - 90% Non-condensing
Shipping humidity	10% - 90% Non-condensing
Operating vibration	0.25 G, sine, 5 - 500 Hz, 0.1 g, Random 10 - 100 Hz
Non-operating vibration	0.5 G, 5 - 500 Hz, sine
Operating shock	2 G, 11 ms, Half-sine
Non-operating shock	10 G, 11 ms, Half-sine
Maximum air flow	<ul style="list-style-type: none"> Storage base and upgrade node pair - 109 cfm per enclosure 8000 SFF (2.5 in) SAS Drive enclosure - 105 cfm 8000 SFF (2.5 in) SAS Drive enclosure - 109 cfm

Acoustics sound pressure level

Acoustics sound pressure level measured per ISO 7779 specs during normal operating fan conditions, from a minimum of 3,000 rpm to a maximum of 10,000 rpm.

Fan Speed (rpm)	8200/84002N StorageBase	8400 4N StorageBase	8440 2N StorageBase	8440 4N Storage Base	8000 2U SAS Drive Enclosure	8000 4U SAS Drive Enclosure
Minimum	63.8	67.2	72	74	62.6	61.3
Maximum	93.4	96.5	93	97	85.4	88

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Electrical specifications

Feature	Description	
	Idle (W / BTU/hr)	Transactional (W / BTU/hr)
Input voltage	100 - 240 V ac	100 - 240 V ac
Frequency	50 - 60 Hz	50 - 60 Hz
Node pair (8200 or 8400), no drives, no add-on host adapters	236/803	398/1357
Node pair (8440 or 8450),no drives, no add-on host adapters	344/1173	363/1238
4-port 16 Gb/s Fibre Channel adapter	18.61/63.5	19.13/65.3
2-port 10 Gb/s iSCSI/FCoE adapter	34/115.8	40/136.4
2-port 10 Gb/s Ethernet adapter	5.69/19.4	5.71/19.5
4-port 1 Gb/s Ethernet adapter	1.97/6.7	1.97/6.7
8000 SFF (2.5 in) SAS Drive enclosure, no drives	150/512 (Average)	150/512 (Average)
8000 LFF (3.5 in) SAS Drive enclosure, no drives	164/559 (Average)	164/559 (Average)
300GB 15K SFF HDD	6.7/22.9	6.9/23.1
600GB 15K SFF HDD	7.0/24.0	7.3/25.1
600 GB 10K SFF HDD	6.3/21.4	7.4/25.2
1.2TB 10K SFF HDD	6.2/21.1	8.2/27.9
1.8TB 10K SFF HDD	7.3/24.8	7.5/25.6
1TB 7.2k SFF NL HDD	2.95/10.1	2.95/10.1
2TB 7.2K SFF NL HDD	6.1/20.8	7.2/24.6
2TB 7.2K LFF NL HDD	7.5/25.6	10.6/36.1
4TB 7.2K LFF NL HDD	9.1/31.1	13.1/44.6
6TB 7.2K LFF NL HDD	11.9/40.7	14.3/48.74
8TB 7.2K LFF NL HDD	10.8 / 36.8	14.9 / 50.7
400GB SFF SSD	3.3/11.3	5.8/19.8
480GB SFF SSD	2.2/7.5	5.5/18.7
480GB SFF nonAFC SSD	3.2/11	7.1/24.4
480GB LFF nonAFC SSD	1.8/6.1	6.7/22.9
920GB SFF FIPS SSD	2.2/7.5	5.5/18.7
1920GB SFF SSD	3.5/11.9	8.9/30.5
3840GB SFF SSD	3.4/11.6	11.0/37.5
7680GB SFF SSD	3.4/11.6	13.7/46.74

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Safety certifications

Feature	Description
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Feature	Description
Safety	<ul style="list-style-type: none"> • IEC 60950-1:2005 (2nd Edition); Am 1:2009 • EN 60950-1:2006 +A11:2009+A12 • EN 62479:2010 • CNS 14336-1 2nd Edition • UL 60950-1 2nd Ed. • CAN/CSA C22.2 No. 60950-1
Certifications/Markings	<ul style="list-style-type: none"> • cTUVus Mark • TUV T-mark (EN 60950) • CE Mark • FCC Class A • IC Class A • VCCI Class A • BSMI Class A • KCC • GOST-R • C-Tick • WEEE China RoHS • EU RoHS
Electromagnetic compatibility	<ul style="list-style-type: none"> • CISPR 22:2008/ EN55022:2010 Class A • CISPR 24:2010/ EN 55024:2010 • IEC 61000-3-2:2005/ EN 61000-3-2:2006 +A1:2009 +A2:2009 • IEC/ EN 61000-3-3:2008 • AS/NZS CIPSR 22: 2009 Class A • CNS 13438:2006 Class A • 47 CFR Part 15 Subpart b Class A • ICES-003 Issue 5 Class A • V-3/2014.04 • RRA Notice No. 2014-8 (2014.06.23) & 2014-37 (204.06.23) Class A • RRA Notice No. 2014-9 (2014.06.23) & 2014-38 (2014.06.23)

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