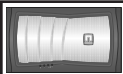




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NetApp Hardware Universe – Storage Controllers – RC-0032-1111 – Side A – 11-08-2011

Fabric-Attached Storage (FAS), V-Series, and Storage Acceleration (SA) Controllers																
Model	FAS/V6280 SA620	FAS/V6240	FAS/V6210	FAS/V6080 SA600	FAS/V6040	FAS/V3270 SA320 ¹	FAS/V3240 ¹	FAS/V3210	FAS/V3170	FAS/V3160	FAS/V3140	FAS2240-4	FAS2240-2	FAS2040		
Front View																
Max Capacity ² (7.3.x / 8.0.x / 8.1.x)	- / 4320TB ³ / 4320TB ³	- / 4320TB ³ / 4320TB ³	- / 3600TB ³ / 3600TB ³	1176TB / 3528TB ³ / 3528TB ³	840TB / 2520TB ³ / 2520TB ³	960TB / 2880TB ³ / 2880TB ³	600TB / 1800TB ³ / 1800TB ³	240TB / 720TB ³ / 720TB ³	840TB / 2520TB ³ / 2520TB ³	672TB / 2016TB ³ / 2016TB ³	420TB / 1260TB ³ / 1260TB ³	- / - / 432TB	- / - / 374TB	136TB / 408TB ³		
Max Aggregate ⁴ (7.3.x / 8.0.x / 8.1.x)	- / 100TB / 162TB	- / 100TB / 162TB	- / 70TB / 162TB	16TB / 100TB / 162TB	16TB / 70TB / 105TB	16TB / 70TB / 105TB	16TB / 50TB / 90TB	16TB / 50TB / 75TB	16TB / 70TB / 105TB	16TB / 50TB / 90TB	16TB / 50TB / 75TB	- / - / 60TB	- / - / 60TB	16TB / 30TB / 30TB		
Max FlexVol Size (7.3.x / 8.0.x / 8.1.x)	- / 100TB / 100TB	- / 100TB / 100TB	- / 70TB / 70TB	16TB / 100TB / 100TB	16TB / 70TB / 70TB	16TB / 70TB / 70TB	16TB / 50TB / 50TB	16TB / 50TB / 60TB	16TB / 70TB / 70TB	16TB / 50TB / 50TB	16TB / 50TB / 50TB	- / - / 60TB	- / - / 60TB	16TB / 30TB / 30TB		
Max Shelves (DS2446 / DS4243 / DS14)	60 / 60 / 84	60 / 60 / 84	50 / 50 / 72	49 / 49 / 84	35 / 35 / 60	40 / 40 / 40	25 / 25 / 42	10 / 10 / 17	35 / 35 / 60	28 / 28 / 48	17.5 / 17.5 / 30	5 / 5 / 6	5 / 5 / 6	4 / 4 / 8		
Max Drive Quantity	1440	1440	1200	1176	840	960	600	240	840	672	420	144 (24 Int + 120 Ext)	144 (24 Int + 120 Ext)	136 (12 Int + 124 Ext)		
V-Series Specifications	Max Backend LUNs	1440	1440	1200	1176	840	960	600	100 ⁹	840	672	420	No V-Series Models			
	V-Series Supported Arrays	EMC CLARION EMC Symmetrix HDS USP/USPv HDS AMS HDS SANRISE (Japan Only)									IBM DS8x00 IBM DS5020/5x00 IBM XIV HP XP HP EVA			Fujitsu Eternus Sun STK 99xx 3PAR InServ		No V-Series Models
Environmental HA Pair / Single Controller	Height (HA / Single)	12U / 6U	12U / 6U	6U / 6U	12U / 6U	12U / 6U	6U / 3U	6U / 3U	3U / 3U	6U / 6U	6U / 6U	6U / 6U	4U / 4U	2U / 2U	2U / 2U	
	Weight (HA / Single)	251.4 (114 kg) 125.7 lbs (57 kg)	251.4 (114 kg) 125.7 lbs (57 kg)	130.1 lb (59 kg) 99.2 lb (45 kg)	244 lb (110.6 kg) 122 lb (55.3 kg)	244 lb (110.6 kg) 122 lb (55.3 kg)	149 lb (67.6 kg) 74.5 lb (33.8 kg)	149 lb (67.6 kg) 74.5 lb (33.8 kg)	79.5 lb (36.1 kg) 67.3 lb (30.5 kg)	121 lbs (54.9 kg) 102 lbs (46.3 kg)	121 lbs (54.9 kg) 102 lbs (46.3 kg)	121 lbs (54.9 kg) 102 lbs (46.3 kg)	107.1 lbs (48.7 kg) 102 lbs (46.4 kg)	55.4 lbs (25.2 kg) 50.4 lbs (22.9 kg)	66 lb (29.9 kg) with drives	
	AC Power ⁵ (HA / Single)	13.8A / 6.9A @100V 7A / 3.5A @200V	13.2A / 6.6A @100V 6.6A / 3.3A @200V	- / 4.5A @100V 4.1A / 2.3A @200V	14.5A / 7.2A @100V 7.8A / 3.9A @200V	11.4A / 5.7A @100V 6.2A / 3.1A @200V	8.2A / 4.1A @100V 4.2A / 2.1A @200V	7.4A / 3.7A @100V 3.9A / 1.9A @200V	4.6A / 3A @100V 2.3A / 1.6A @200V	8.1A / 4.7A @100V 4A / 2.3A @200V	7.7A / 4.5A @100V 3.8A / 2.3A @200V	5.9A / 3.7A @100V 2.9A / 1.9A @200V	5.52A / 4.85A @100V 2.79A / 2.5A @200V	3.6A / 2.7A @100V 1.76A / 1.4A @200V	4.6A / 3.9A @100V 2.3A / 2A @200V	
	BTU/hr ⁶ (HA / Single)	4540 / 2270 @100V 4404 / 2202 @200V	4268 / 2314 @100V 4198 / 2099 @200V	- / 1468 @100V 2594 / 1417 @200V	4802 / 2401 @100V 4726 / 2363 @200V	3796 / 1898 @100V 3690 / 1845 @200V	2786 / 1393 @100V 2718 / 1359 @200V	2512 / 1256 @100V 2458 / 1229 @200V	1577 / 1021 @100V 1536 / 1000 @200V	2761 / 1602 @100V 2686 / 1564 @200V	2594 / 1502 @100V 2577 / 1535 @200V	2026 / 1272 @100V 1981 / 1249 @200V	1861 / 1646 @100V 1813 / 1598 @200V	1215 / 919 @100V 1157 / 895 @200V	1558 / 1319 @100V 1524 / 1288 @200V	
Platform Specifications HA Pair / Single Controller	Processor (HA / Single)	4 / 2 64-bit six-core	4 / 2 64-bit quad-core	4 / 2 64-bit quad-core	8 / 4 64-bit dual-core	4 / 2 64-bit	4 / 2 64-bit dual-core	2 / 1 64-bit quad-core	2 / 1 64-bit dual-core	4 / 2 64-bit dual-core	4 / 2 64-bit dual-core	2 / 1 64-bit dual-core	2 / 1 64-bit quad-core	2 / 1 64-bit quad-core	2 / 1 32-bit dual-core	
	Memory (HA / Single)	192GB / 96GB	96GB / 48GB	48GB / 24GB	64GB / 32GB	32GB / 16GB	32GB / 16GB	16GB / 8GB	8GB / 4GB	32GB / 16GB	16GB / 8GB	8GB / 4GB	8GB / 4GB	8GB / 4GB	8GB / 4GB	
	NVRAM (HA / Single)	8GB / 4GB	8GB / 4GB	8GB / 4GB	4GB / 2GB	1GB / 512MB	4GB / 2GB NVMEM	2GB / 1GB NVMEM	1GB / 512MB NVMEM	4GB / 2GB onboard	4GB / 2GB onboard	1GB / 512MB onboard	4GB / 2GB NVMEM	4GB / 2GB NVMEM	1GB / 512MB NVMEM	
	Exp Slots (HA / Single)	24 / 12 PCIe	24 / 12 PCIe	8 / 4 PCIe	10 / 5 PCIe 6 / 3 PCI-X	10 / 5 PCIe 6 / 3 PCI-X	12 / 6 PCIe	12 / 6 PCIe	4 / 2 PCIe	8 / 4 PCIe	8 / 4 PCIe	8 / 4 PCIe	2 / 1 mezzanine	2 / 1 mezzanine	-	
	Ethernet (HA / Single)	4 / 2 GbE RJ45 8 / 4 10GbE SFP+	4 / 2 GbE RJ45 8 / 4 10GbE SFP+	4 / 2 GbE RJ45 8 / 4 10GbE SFP+	12 / 6 GbE RJ45	12 / 6 GbE RJ45	4 / 2 GbE RJ45	4 / 2 GbE RJ45	4 / 2 GbE RJ45	4 / 2 GbE RJ45	4 / 2 GbE RJ45	4 / 2 GbE RJ45	8 / 4 GbE RJ45 0-4 / 0-2 10GbE	8 / 4 GbE RJ45 0-4 / 0-2 10GbE	8 / 4 GbE RJ45	
	FC Ports (HA / Single)	8-32 / 4-16 8Gb SFP+ ⁷	8-32 / 4-16 8Gb SFP+ ⁷	8-16 / 4-8 8Gb SFP+ ⁷	16 / 8 4Gb SFP	16 / 8 4Gb SFP	4 / 2 4Gb SFP	4 / 2 4Gb SFP	4 / 2 4Gb SFP	8 / 4 4Gb SFP	8 / 4 4Gb SFP	8 / 4 4Gb SFP	0-4 / 0-2 8Gb SFP+	0-4 / 0-2 8Gb SFP+	4 / 2 4Gb SFP	
	SAS Ports (HA / Single)	0-24 / 0-12 6Gb QSFP ⁸	0-24 / 0-12 6Gb QSFP ⁸	0-8 / 0-4 6Gb QSFP ⁸	-	-	4 / 2 6Gb QSFP	4 / 2 6Gb QSFP	4 / 2 6Gb QSFP	-	-	-	4 / 2 6Gb QSFP	4 / 2 6Gb QSFP	2 / 1 3Gb QSFP	
	Data ONTAP ⁹ (Min Release)	8.0.1 / 8.1	8.0.1 / 8.1	8.0.1 / 8.1	7.2.4 / 7.3 8.0 / 8.1	7.2.4 / 7.3 8.0 / 8.1	7.3.5 / 8.0.1 8.0 / 8.1	7.3.5 / 8.0.1 / 8.1	7.3.5 / 8.0.1 / 8.1	7.2.5 / 7.3 8.0 / 8.1	7.2.5 / 7.3 8.0 / 8.1	7.2.5 / 7.3 8.0 / 8.1	8.1	8.1	7.3.2 / 8.0 / 8.1	

Please recycle after use. Feedback and questions can be sent to xdl-hardwareuniverse@netapp.com.

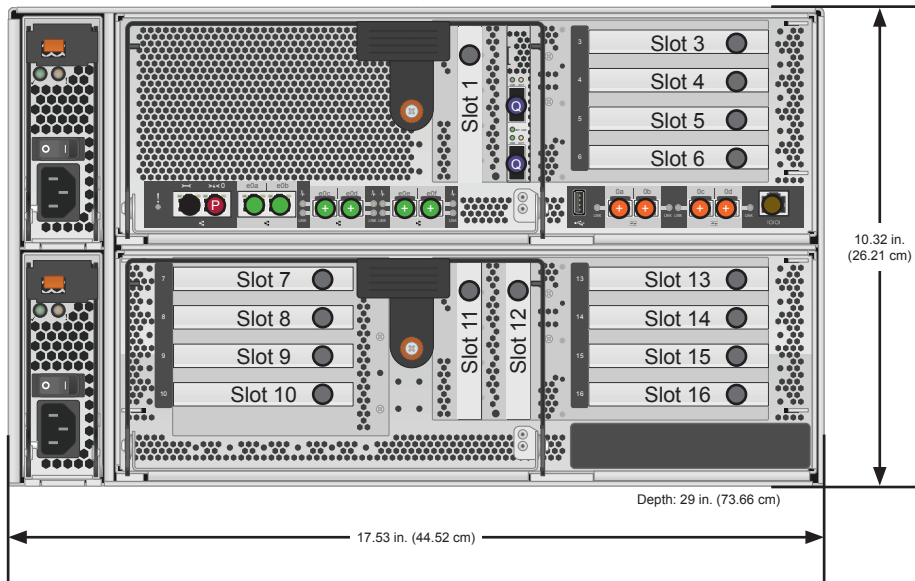


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NetApp Hardware Universe – Storage Controllers – RC-0032-1111 – Side B – 11-11-2011

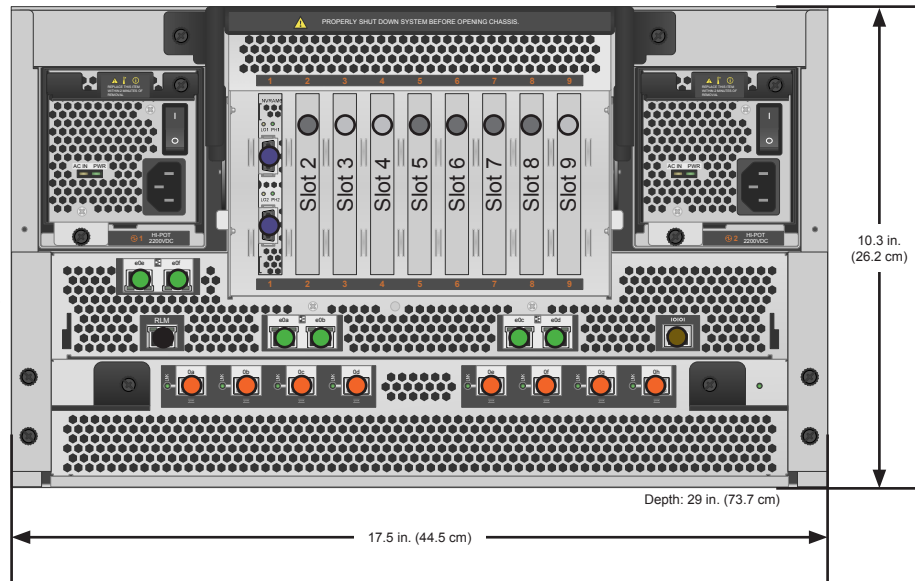
NVRAM8 adapter is placed in slot 2 in a FAS6200 series controller (as shown). FAS6210 model does not support IOXM.

FAS/V6200 and SA620
(Single controller shown)

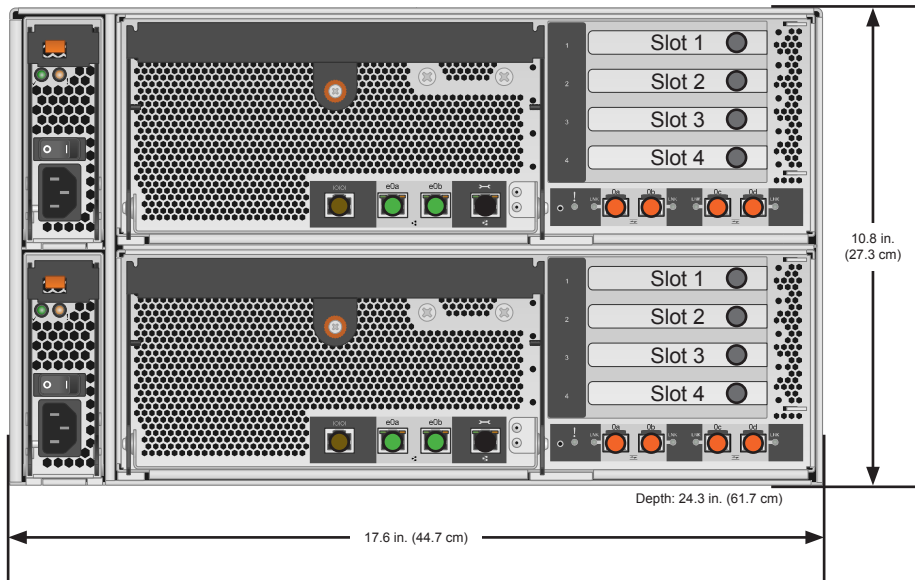


NVRAM6 adapter is placed in slot 1 in a FAS6000 and V6000 HA configuration (as shown).

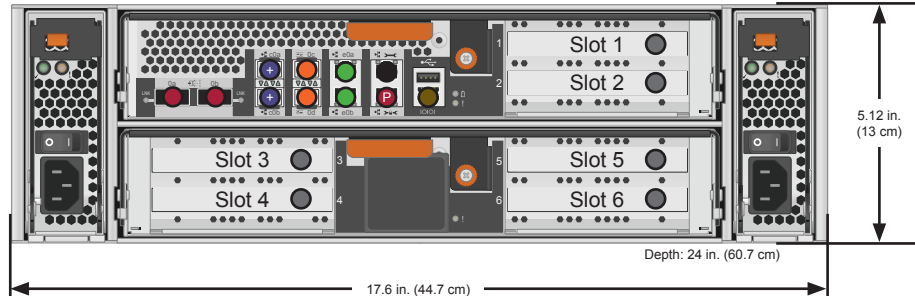
FAS/V6000 and SA600
(Single controller shown)



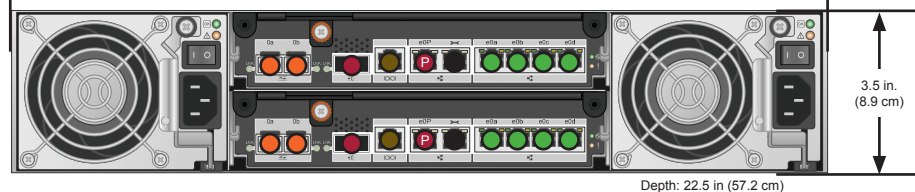
FAS/V3100
(HA configuration shown)



FAS/V3200 & SA320
(Single controller shown)



FAS2040
(HA configuration shown)



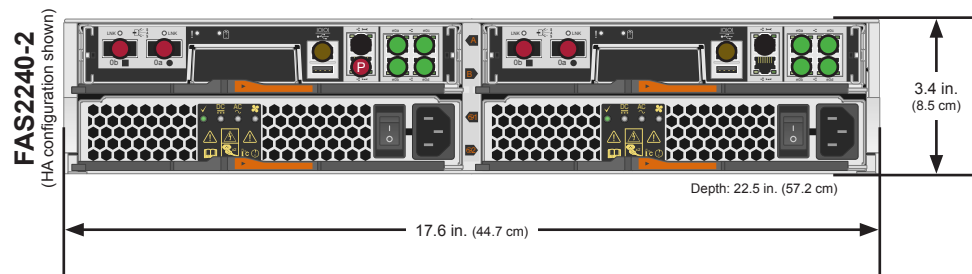
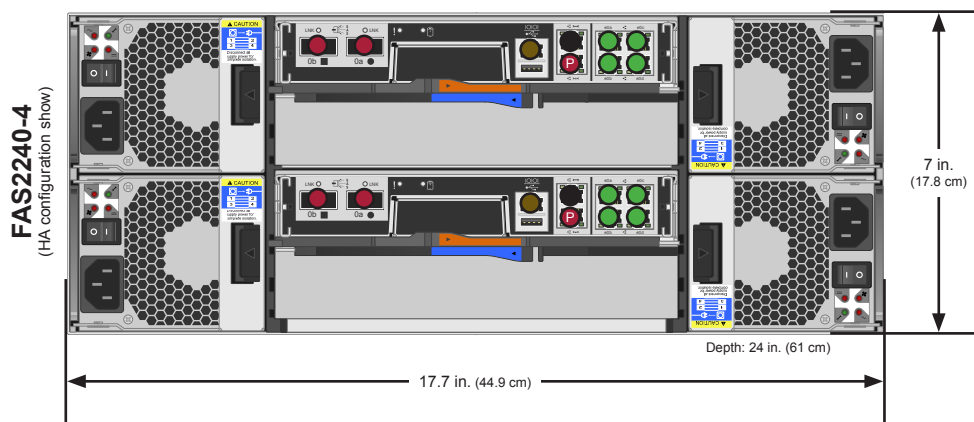
PCIe Expansion	●	Gigabit Ethernet RJ45	●	4Gb Fibre Channel SFP	●	Serial-Attached SCSI QSFP	●	Serial Console RJ45	●	HA Interconnect IB4X	●
PCI-X Expansion	●	10 Gigabit Ethernet SFP+	●	8Gb Fibre Channel SFP+	●	Alternate Control Path RJ45	●	Remote LAN Management RJ45	●	HA Interconnect QSFP	●
										HA Interconnect SFP+	●

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NetApp Hardware Universe – Storage Controllers – RC-0032-1111 – Side C – 11-08-2011



PCIe Expansion		Gigabit Ethernet RJ45		4Gb Fibre Channel SFP		Serial-Attached SCSI QSFP		Serial Console RJ45		HA Interconnect IB4X	
PCI-X Expansion		10 Gigabit Ethernet SFP+		8Gb Fibre Channel SFP+		Alternate Control Path RJ45		Remote Management RJ45		HA Interconnect QSFP	
										HA Interconnect SFP+	

ACP – Alternate Control Path

BTU – British Thermal Unit

Cu – Copper Connector

FAS – Fabric-Attached Storage

FCP – Fibre Channel Protocol

FC – Fibre Channel

GbE – Gigabit Ethernet

HA – High Availability

IB4X – InfiniBand 4X

LUN – Logical Unit Number

NIC – Network Interface Card

NVRAM – Nonvolatile RAM

Op – Optical Connector

PSU – Power Supply Unit

QSFP – Quad Small Form-Factor Pluggable

RLM – Remote LAN Module

SAS – Serial-Attached SCSI

SATA – Serial ATA

SFP – Small Form-Factor Pluggable

¹ HA values shown reflect a Controller+IOXM (CI) configuration.

² System capacity is calculated using base 10 arithmetic (1TB=1,000,000,000 bytes) and is derived based on the type, size, and number of drives.

³ Max capacity shown can only be achieved using 3TB drives under Data ONTAP 8.0.2 or greater.

⁴ Maximum aggregate size is calculated using base 2 arithmetic (1TB = 240 bytes).

⁵ AC Power values shown are based on typical system values with 2 power supply units. Please refer to the Site Requirements Guide on the NOW site for worst-case values.

⁶ Thermal dissipation values shown are based on typical system values. Please refer to the Site Requirements Guide on the NOW site for worst-case thermal dissipation values.

⁷ FAS6200 embedded Fibre Channel ports and Fibre Channel ports on the vertical FC boards, all are considered as on-board ports, can be set as target or initiators and support operation at 2, 4, or 8Gb speeds. Operation at 1Gb speeds is not supported.

⁸ The number of onboard SAS ports differs based on the configuration.

⁹ 100 LUNs from one array using one array LUN group. Combined LUN and NetApp disk can total 240 devices.

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RC-0032-1111

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