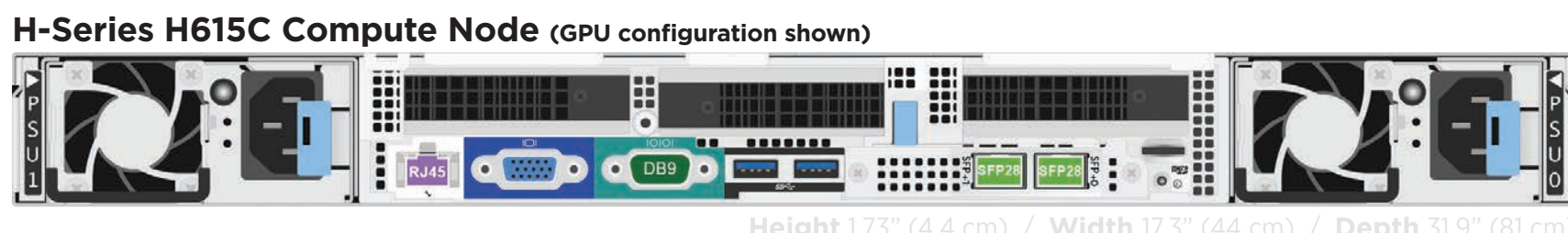


ALL FLASH (EF-SERIES)			
	EF600	EF570	EF280
DUPLEX SPECIFICATIONS (ACTIVE-ACTIVE DUAL CONTROLLER)			
Raw Capacity Maximum Base-10 Base-2	360TB 327.4TiB	18PB 1.6PiB	1.5PB 1.33PiB
Storage Network Supported Protocols	FC, NVMe/FC, NVMe/IB, NVMe/RoCE	FC, iSCSI, InfiniBand (SRP, iSER), NVMe/IB, NVMe/RoCE, SAS	FC, iSCSI, SAS
Dynamic Disk Pools Maximum Quantity	20 Pools	20 Pools	20 Pools
DDP Volumes Maximum Quantity	2048 Volumes	2048 Volumes	512 Volumes
DDP Volume Maximum Size	2 PiB	2 PiB	2 PiB
SSD Quantity Maximum	24	120	96
Rack Units	2 RU	2 RU	2 RU
Weight English Metric	60.4 lb 27.4 kg	50.6 lb 22.9 kg	50.6 lb 22.9 kg
Processor	2x 64-bit 24 total cores	2x 64-bit 24 total cores	2x 64-bit 16 total cores
Memory	128GB 32GB	128GB 32GB	64GB 16GB
I/O Expansion Available Slots	2	2	2
Host Network Onboard Ports	N/A	4x 10GbE 16Gb FC SFP+	4x 10GbE 16Gb FC SFP+ or 4x 10GbE RJ45
SAS Expansion Onboard Ports	N/A	4x 12Gb SAS miniSAS HD	4x 12Gb SAS miniSAS HD
Minimum OS Version	SANtricity 11.60	SANtricity 11.40	SANtricity 11.40.2



DRIVE SHELVES (ALL PLATFORMS)				
	DS212C/DE212C	DS224C/DE224C	DS460C/DE460C	NS224
Max Drives Per Enclosure	12 Drives	24 Drives	60 Drives	24 Drives
Drive Form Factor	3.5" large form factor	2.5" small form factor	3.5" and 2.5"	2.5" small form factor
Power Supply Part Number	913W AC X3726A / X-5726A-00	913W AC X3726A / X-5726A-00	2325W AC X3726A / X-5726A-00	1600W AC X3726A
I/O Module Part Number	IOM12 X3720A / E-X3720A	IOM12 X3720A / E-X3720A	IOM12 X3720A / E-X3720A	NSM100 X37200A
Rack Units	2 RU	2 RU	4 RU	2 RU
Empty Weight English Metric	17.4lb 7.9kg	17.4lb 7.9kg	134.5lb 61kg	19.8lb 9kg
Loaded Weight English Metric	63.27lb 28.7kg	53.8lb 24.4kg	246.9lb 112kg	66.6lb 30.2kg
Drive Type Supported	SAS SSD NL-SAS HDD	SAS SSD SAS HDD	SAS SSD SAS HDD NL-SAS HDD	NVMe SSD
Drive Encryption Supported	NSE AES-256, FIPS 140-2	NSE AES-256, FIPS 140-2	NSE AES-256, FIPS 140-2	SED AES-256, FIPS 140-2
Platforms Supported	FAS Series E-Series	AFF A-Series FAS Series EF-Series E-Series	FAS Series E-Series StorageGRID	AFF A-Series A800, A400, A320
Minimum OS Version	ONTAP 9.0 SANtricity 8.30	ONTAP 9.0 SANtricity 8.30	ONTAP 9.1 SANtricity 11.30.1	ONTAP 9.6

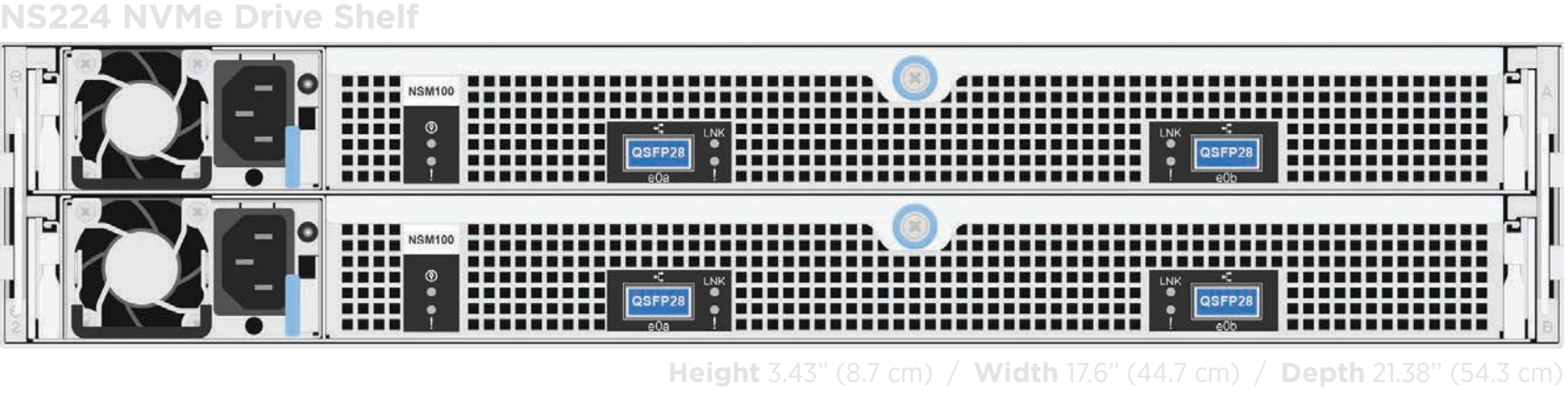
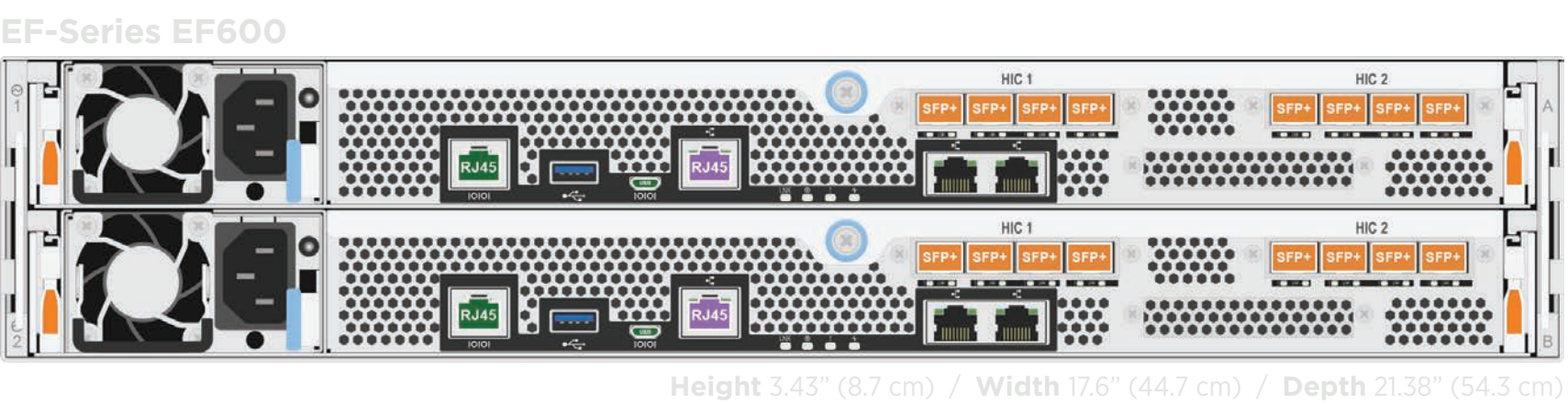
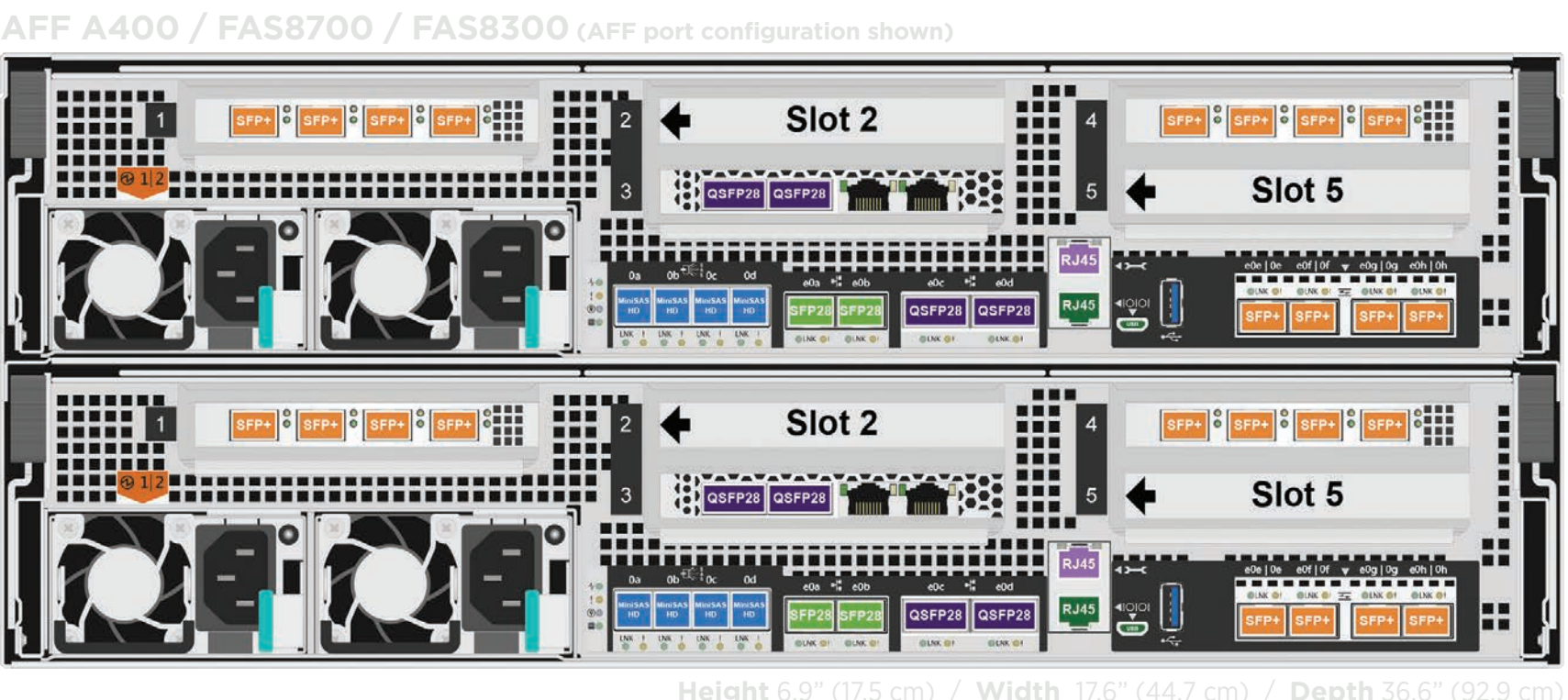
SYSTEM CABINET			
SPECIFICATIONS			
Total Rack Space English Metric	42 Rack Units 1 Rack Unit = 17.5"	Empty Weight English Metric	400lb 181kg
Height English Metric	79.3" 201.4cm	Loaded Static Weight¹ English Metric	2700lb 1224.7kg
Width English Metric	24" 60.9cm	Front Service Clearance English Metric	47.2" 120cm
Depth English Metric	50.4" 128cm	Rear Service Clearance English Metric	30" 76.3cm

AVAILABLE POWER CONFIGURATIONS			
NEMA 30A Single-Phase	X8712C-R6	NEMA L6-30P 4x input cords	IEC 60320 C13 24x outlets
NEMA 30A 3-Phase Delta	X8719A-R6	NEMA L15-30P 2x input cords	IEC 60320 C13 24x outlets
NEMA 30A 3-Phase Delta	X8720A-R6	NEMA L21-30P 2x input cords	IEC 60320 C13 24x outlets
IEC 32A Single-Phase	X8713C-R6	IEC60309 32A 3P+N+E 4x input cords	IEC 60320 C13 24x outlets
IEC 32A 3-Phase Wye	X8718A-R6	IEC60309 32A 3P+N+E 2x input cords	IEC 60320 C13 24x outlets
IEC 32A 3-Phase Wye International	X87250A	IEC60309 32A 3P+N+E 2x input cords	IEC 60320 C13 12x outlets IEC 60320 C19 12x outlets
IEC 60A 3-Phase Delta Domestic	X87251A	IEC60309 60A 3P+3E 2x input cords	IEC 60320 C13 12x outlets IEC 60320 C19 12x outlets
AUS/NZ 32A Single-Phase	X8714A-R6	Clipal 56P532 4x input cords	IEC 60320 C13 24x outlets
AUS/NZ 32A 3-Phase	X8722A-R6	Clipal 56P532 2x input cords	IEC 60320 C13 24x outlets

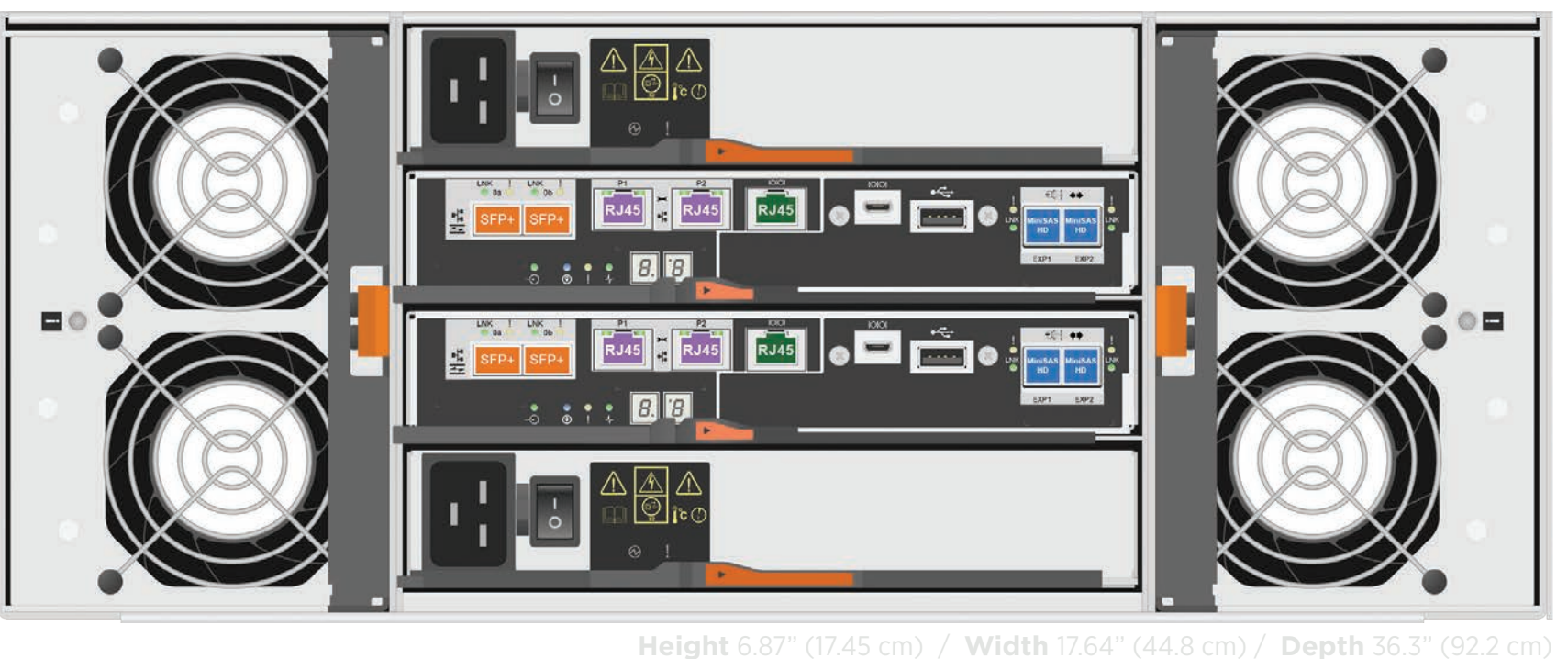
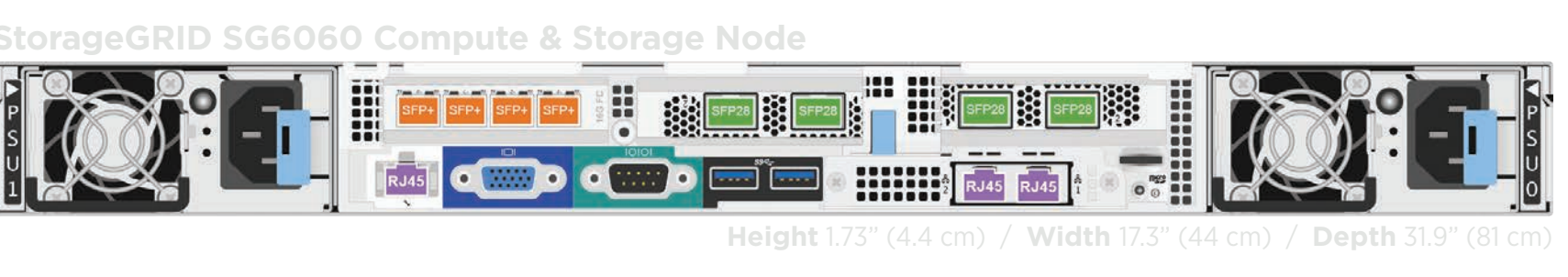
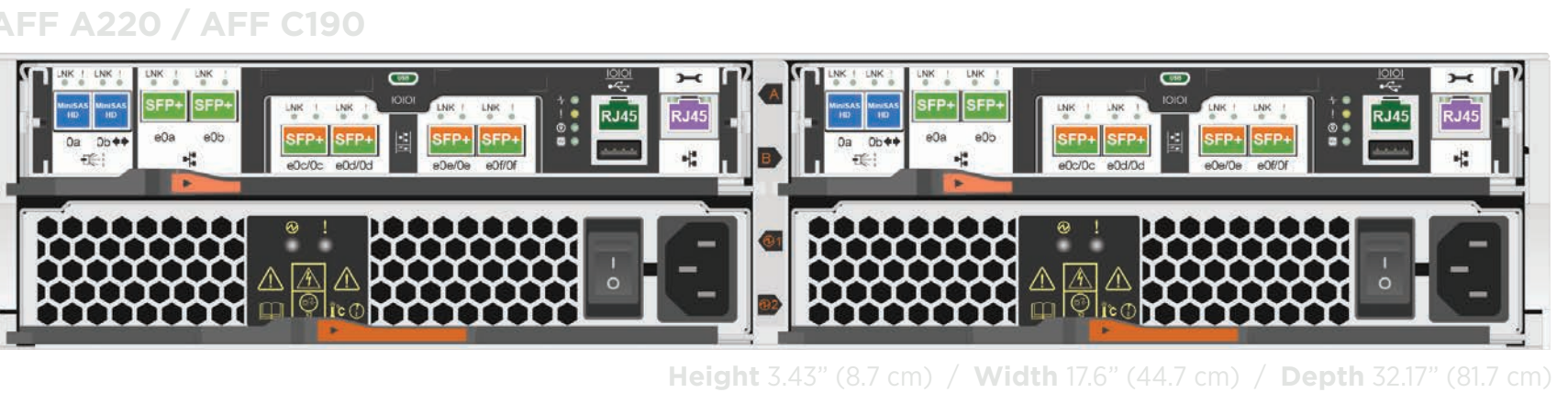
CLOUD VOLUMES SERVICE AND CLOUD VOLUMES ONTAP

	STANDARD	PREMIUM	EXTREME	EXPLORE	STANDARD	PREMIUM/BYOL ⁴
Cloud Partners Platforms	Amazon Web Services Azure NetApp Files Google Cloud Platform	Amazon Web Services Azure NetApp Files Google Cloud Platform	Amazon Web Services Azure NetApp Files Google Cloud Platform	Amazon Web Services Microsoft Azure Google Cloud Platform ¹	Amazon Web Services Microsoft Azure Google Cloud Platform ¹	Amazon Web Services Microsoft Azure Google Cloud Platform ¹
Storage Network Protocols	NFS, SMB	NFS, SMB	NFS, SMB	NFS, SMB, iSCSI	NFS, SMB, iSCSI	NFS, SMB, iSCSI
Maximum Size Per Cloud Volume	100TB	100TB	100TB	Up to 2TB	Up to 10TB	Up to 368TB
Performance IOPS per TB	4000 IOPS 4K IO Size	16000 IOPS 4K IO Size	32000 IOPS 4K IO Size	HA Pair ¹ Single Node	HA Pair ¹ Single Node	HA Pair ¹ Single Node
Throughput MB/sec per TB	16 MB/second	64 MB/second	128 MB/second	Snapshot Clones Replication Inline encryption In-place encryption	Snapshot Clones Replication Inline encryption In-place encryption	Snapshot Clones Replication Inline encryption In-place encryption
Data Management Key Services	Snapshots Instant Copy	Snapshots Instant Copy	Snapshots Instant Copy	Enterprise Workloads SaaS Applications Disaster Recovery Backup and Archive File Services Analytics Dev Ops Database	Enterprise Workloads SaaS Applications Disaster Recovery Backup and Archive File Services Analytics Dev Ops Database	Enterprise Workloads SaaS Applications Disaster Recovery Backup and Archive File Services Analytics Dev Ops Database

ALL FLASH (AFF A-SERIES and C-SERIES)						
	AFF A800	AFF A700	AFF A400	AFF A300	AFF A220	AFF C190
PER HA PAIR SPECIFICATIONS (ACTIVE-ACTIVE DUAL CONTROLLER)						
Max Raw Capacity Base-10 Base-2	6.6PB 5.8PiB	14.6PB 13.0PiB	14.6PB 13.0PiB	11.7PB 10.4PiB	4.0PB 3.6PiB	23.04TB 20.95TiB
Effective Capacity² Base-10 Base-2	26.4PB 23.4PiB	58.6PB 52.0PiB	58.6PB 52.0PiB	46.9PB 41.6PiB	16.6PB 14.3PiB	92TB 82PiB
Storage Network Supported Protocols	NVMe/FC, FC, iSCSI, NFS, pNFS, SMB	NVMe/FC, FC, FCoE, iSCSI, NFS, pNFS, SMB	NVMe/FC, FC, iSCSI, NFS, pNFS, SMB	NVMe/FC, FC, FCoE, iSCSI, NFS, pNFS, SMB	FC, FCoE, iSCSI, NFS, pNFS, SMB	FC, iSCSI, NFS, pNFS, SMB
Data Aggregate Maximum Size	800TiB	800TiB	800TiB	800TiB	800TiB	800TiB
Flexible Volume Maximum Size	100TiB	100TiB	100TiB	100TiB	100TiB	100TiB
FabricPool Maximum Capacity	16.4PiB per aggregate	16.4PiB per aggregate	16.4PiB per aggregate	16.4PiB per aggregate	16.4PiB per aggregate	16.4PiB per aggregate
FabricPool Supported Capacity Tiers	Amazon Web Services S3 Alibaba Cloud Object Storage Microsoft Azure Blob Google Cloud Storage IBM Cloud Object Storage NetApp StorageGRID	Amazon Web Services S3 Alibaba Cloud Object Storage Microsoft Azure Blob Google Cloud Storage IBM Cloud Object Storage NetApp StorageGRID	Amazon Web Services S3 Alibaba Cloud Object Storage Microsoft Azure Blob Google Cloud Storage IBM Cloud Object Storage NetApp StorageGRID	Amazon Web Services S3 Alibaba Cloud Object Storage Microsoft Azure Blob Google Cloud Storage IBM Cloud Object Storage NetApp StorageGRID	Amazon Web Services S3 Alibaba Cloud Object Storage Microsoft Azure Blob Google Cloud Storage IBM Cloud Object Storage NetApp StorageGRID	Amazon Web Services S3 Alibaba Cloud Object Storage Microsoft Azure Blob Google Cloud Storage IBM Cloud Object Storage NetApp StorageGRID
Cluster Nodes Maximum NAS SAN	24 12 Nodes	24 12 Nodes	24 12 Nodes	24 12 Nodes	24 12 Nodes	24 12 Nodes
Drive Quantity Maximum	240 SSD 48 ex-NVMe + 192 external	480 SSD external	48 NVMe 480 SSD external	384 SSD external	144 SSD 24 internal + 120 external	24 SSD internal
Rack Units Maximum Configuration	4 RU	10 RU 8 RU + 2 RU shelf	6 RU 4 RU + 2 RU shelf	5 RU 3 RU + 2 RU shelf	2 RU	2 RU
Processor	4x 64-bit 96 total cores	4x 64-bit 72 total cores	4x 40Gbit 40 total cores	2x 64-bit 32 total cores	2x 64-bit 24 total cores	2x 64-bit 16 total cores
Memory	128GB	1024GB	256GB	256GB	64GB	64GB
I/O Expansion Available Slots	20x Slots PCIe Gen3	20x Slots IO Modules	8 Slots PCIe Gen3	4 Slots PCIe Gen3	-	-
Ethernet Maximum Ports	20x 100/40GbE 16x 25GbE 32x 10GbE	32x 40GbE 64x 10GbE	20x 25GbE 32x 10GbE	8x 40GbE 24x 10GbE	12x 10GbE	12x 10GbE
Fibre Channel Maximum Ports	32x 32Gb FC 32x 16Gb FC	64x 32Gb FC 64x 16Gb FC	24x 32Gb FC 32x 16Gb FC	8x 16Gb FC	8x 16Gb FC	8x 16Gb FC
SAS Maximum Ports	32x 12Gb SAS	64x 12Gb SAS	30x 12Gb SAS	24x 12Gb SAS	4x 12Gb SAS	4x 12Gb SAS
Minimum OS Version	ONTAP 9.4	ONTAP 9.1	ONTAP 9.7	ONTAP 9.1	ONTAP 9.4	ONTAP 9.6



HYBRID FLASH (FAS)					
	FAS9000	FAS8700	FAS8300	FAS2750	FAS2720
PER HA PAIR SPECIFICATIONS (ACTIVE-ACTIVE DUAL CONTROLLER)					
Raw Capacity Maximum Base-10 Base-2	11.5PB 10.2PiB	14.6PB 13.0PiB	14.6PB 13.0PiB	1.2PB 1.1PiB	1.44PB 1.3PiB
Storage Network Supported Protocols	FC, FCoE, iSCSI, NFS, pNFS, SMB	FC, iSCSI, NFS, pNFS, SMB	FC, iSCSI, NFS, pNFS, SMB	FC, FCoE, iSCSI, NFS, pNFS, SMB	FC, FCoE, iSCSI, NFS, pNFS, SMB
NVMe Flash Cache Maximum Onboard	16TB	2TB	2TB	2TB	2TB
Flash Pool Maximum Onboard	144TiB	144TiB	144TiB	24TiB	24TiB
Data Aggregate Maximum Size	400TiB	400TiB	400TiB	400TiB	400TiB
Flexible Volume Maximum Size	100TiB	100TiB	100TiB	100TiB	100TiB
Cluster Nodes Maximum NAS SAN	24 12 Nodes	24 12 Nodes	24 12 Nodes	24 12 Nodes	24 12 Nodes
Drive Quantity Maximum	1440 HDD 480 SSD external	1440 HDD 480 SSD external	720 HDD 480 SSD external	144 HDD 144 SSD 24 internal + 120 external	144 HDD 144 SSD 24 internal + 132 external
Rack Units	8 RU	4 RU	4 RU	2 RU	2 RU
Weight English Metric	214.5lb 97.3kg	108.6lb 49.4kg	108.2lb 49.2kg	58.64lb 26.6kg	61.95lb 28.1kg
Processor	4x 64-bit 72 total cores	4x 64-bit 64 total cores	4x 64-bit 40 total cores	2x 64-bit 24 total cores	2x 64-bit 24 total cores
Memory	1024GB	512GB	256GB	64GB	64GB
NVRAM	64GB	32GB	32GB	8GB	8GB
I/O Expansion Available Slots	20x Slots IO Modules	10 Slots PCIe Gen3	10 Slots PCIe Gen3	-	-
Ethernet Maximum Ports	32x 40GbE 64x 10GbE	16x 100/40GbE 24x 25GbE 32x 10GbE	16x 100/40GbE 24x 25GbE 32x 10GbE	12x 10GbE	12x 10GbE
Fibre Channel Maximum Ports	64x 32Gb FC 64x 16Gb FC	32x 32Gb FC 40x 16Gb FC	32x 32Gb FC 40x 16Gb FC	8x 16Gb FC	8x 16Gb FC
SAS Maximum Ports	64x 12Gb SAS	40x 12Gb SAS	40x 12Gb SAS	4x 12Gb SAS	4x 12Gb SAS
Minimum OS Version	ONTAP 9.1	ONTAP 9.7	ONTAP 9.7	ONTAP 9.4	ONTAP 9.4



Active IQ
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- Achieve simple and secure visibility into the health of your NetApp systems
- Utilize predictive analytics to expose risk factors and prevent problems before they affect your business.
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COMMON CABLES

COPPER CONNECTORS

OPTICAL CONNECTORS

HYBRID FLASH (E-SERIES)					
	E5760	E5724	E2860	E2824	E2812
DUPLEX SPECIFICATIONS (ACTIVE-ACTIVE DUAL CONTROLLER)					
Raw Capacity Maximum Base-10 Base-2	5.8PB 5.15PiB	5.4PB 4.8PiB	2.2PB 1.95PiB	1.5PB 1.33PiB	1.2PB 1.07PiB
Storage Network Supported Protocols	FC, iSCSI, InfiniBand (SRP, iSER), NVMe/IB, NVMe/RoCE, SAS	FC, iSCSI, InfiniBand (SRP, iSER), NVMe/IB, NVMe/RoCE, SAS	FC, iSCSI, SAS	FC, iSCSI, SAS	FC, iSCSI, SAS
Dynamic Disk Pools Maximum Quantity	20 Pools	20 Pools	20 Pools	20 Pools	20 Pools
DDP Volumes Maximum Quantity	2048 Volumes	2048 Volumes	512 Volumes	512 Volumes	512 Volumes
DDP Volume Maximum Size	2 PiB	2 PiB	2 PiB	2 PiB	2 PiB
Drive Quantity Maximum	480	444	180	96	84
Rack Units	4 RU	2 RU	4 RU	2 RU	2 RU
Weight English Metric	239.2lb 108.5kg	50.6lb 22.9kg	238.3lb 108.1kg	50.6lb 22.9kg	60.2lb 27.3kg
Processor	2x 64-bit 16 total cores	2x 64-bit 16 total cores	2x 64-bit 4 total cores	2x 64-bit 4 total cores	2x 64-bit 4 total cores
Memory	128GB 32GB	128GB 32GB	64GB 16GB	64GB 16GB	64GB 16GB
I/O Expansion Available Slots	2	2	2	2	2
FC/iSCSI Network Onboard Ports	4x 10GbE 16Gb FC SFP+	4x 10GbE 16Gb FC SFP+	4x 10GbE 16Gb FC SFP+ or 4x 10GbE RJ45	4x 10GbE 16Gb FC SFP+ or 4x 10GbE RJ45	4x 10GbE 16Gb FC SFP+ or 4x 10GbE RJ45
SAS Expansion Onboard Ports	4x 12Gb SAS miniSAS HD	4x 12Gb SAS miniSAS HD	4x 12Gb SAS miniSAS HD	4x 12Gb SAS miniSAS HD	4x 12Gb SAS miniSAS HD
Minimum OS Version	SANtricity 11.40	SANtricity 11.40	SANtricity 11.30.1	SANtricity 11.30	SANtricity 11.30

OBJECT STORAGE (STORAGEGRID)						
	SG6024	SG6060	SG5760	SG5712	SG1000	
STORAGE SPECIFICATIONS						
Raw Capacity Maximum Base-10	19.2TB 800GB SSD 38.4TB 1.6TB SSD (FIPS) 91.2TB 3.6TB SSD 182.4TB 7.2TB SSD 364.8TB 14.4TB SSD	712TB 4TB HDD 1424TB 8TB HDD 1788TB 10TB HDD (FIPS) 2186TB 12TB HDD	240TB 4TB HDD 480TB 8TB HDD 600TB 10TB HDD 720TB 12TB HDD	48TB 4TB HDD 96TB 8TB HDD 120TB 10TB HDD 144TB 12TB HDD	The StorageGRID SG1000 is a services appliance which functions as Gateway & Admin node to the StorageGRID appliance family.	
Drive Quantity Maximum	24	58 (with base SG6060) 118 (base + 1 exp shelf) 178 (base + 2 exp shelves)	60	12		
Controller Redundancy	Duplex	Duplex	Simplex	Simplex		
Processor	2x 64-bit 2.0 GHz 16 total cores	2x 64-bit 2.2 GHz 4 total cores	1x 64-bit 2.2 GHz 2 total cores	1x 64-bit 2.2 GHz 2 total cores	2x 64-bit 2.0 GHz 4 total cores	
Memory	128GB DDR4	64GB	8GB	8GB	192GB DRAM	
Interconnect Onboard Ports	4x 16Gb FC SFP+	4x 16Gb FC SFP+	2x 16Gb FC SFP+	2x 16Gb FC SFP+	N/A	

COMPUTE SPECIFICATIONS			
Processor	2x 64-bit 2.4 GHz, 40 total cores	2x 64-bit 2.4 GHz, 40 total cores	1x 64-bit 2.0 GHz, 8 total cores
Memory	192GB DRAM	192GB DRAM	64GB
Grid			