








ETERNUS Hybrid Storage Systems Comparison Chart

Ver2
2019/10/2

Legend N/A: Not Available - : Not Applicable Yes: Supported








	Entry		Mid-range		Enterprise		
	ETERNUS DX60 S5 3.5 inch base unit/2.5 inch base unit	ETERNUS DX100 S5 3.5 inch base unit/2.5 inch base unit	ETERNUS DX200 S5 3.5 inch base unit/2.5 inch base unit	ETERNUS DX500 S5	ETERNUS DX600 S5	ETERNUS DX900 S5	ETERNUS DX8900 S4
							

Hardware Specifications

Type	Rack mount		Rack mount		Rack mount		Rack mount	Rack mount	Rack mount	Rack mount	
Number of controllers	1	2	1	2	1	2	2	2	2 or 4	2-24	
Host interface type	Fibre Channel 8Gbit/s / 16Gbit/s		16Gbit/s / 32Gbit/s		16Gbit/s / 32Gbit/s		16Gbit/s / 32Gbit/s	16Gbit/s / 32Gbit/s	16Gbit/s / 32Gbit/s	16Gbit/s / 32Gbit/s	
	iSCSI 1Gbit/s [1000 BASE-T] / 10Gbit/s [10G BASE-T]		1Gbit/s [1000 BASE-T] 10Gbit/s [10GBASE-SR, 10GBASE-CR, 10GBASE-T]		1Gbit/s [1000 BASE-T] 10Gbit/s [10GBASE-SR, 10GBASE-CR, 10GBASE-T]		1Gbit/s [1000 BASE-T] 10Gbit/s [10GBASE-SR, 10GBASE-CR]	1Gbit/s [1000 BASE-T] 10Gbit/s [10GBASE-SR, 10GBASE-CR]	1Gbit/s [1000 BASE-T] 10Gbit/s [10GBASE-SR, 10GBASE-CR]	1Gbit/s / 10Gbit/s	
	SAS 12Gbit/s		12Gbit/s		12Gbit/s		-	-	-	-	
	Ethernet (NAS) -		1Gbit/s / 10Gbit/s		1Gbit/s / 10Gbit/s		1Gbit/s / 10Gbit/s	1Gbit/s / 10Gbit/s	1Gbit/s / 10Gbit/s	-	
Number of host interfaces	Fibre Channel 16G	2	4	2 or 4	4 or 8	2 - 8	4 - 16	4-16	4-32 (4-16 for Japan Only 100V model)	4-64	4-384
	Fibre Channel 32G	-	-	2 or 4	4 or 8	2 or 4	4 or 8	4-16	4-32 (4-16 for Japan Only 100V model)	4-64	4-384
	iSCSI	2	4	2 or 4	4 or 8	2 or 4	4 or 8	4 or 8	4-16 (4/8 for Japan Only 100V model)	4-32	4-192
	SAS	2	4	2 or 4	4 or 8	2 or 4	4 or 8	-	-	-	-
	Ethernet 1G (NAS)	-	-	-	8 or 16	-	8 or 16	8-16	8-32 (8/16 for Japan Only 100V model)	-	-
	Ethernet 10G (NAS)	-	-	-	4 or 8	-	4 or 8	4 or 8	4-16 (4/8 for Japan Only 100V model)	-	-
Mixed host interface	-	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Maximum system memory	16GB	64GB	128GB	512GB	768GB	3TB(1,536GB/CE)	18TB(1,536GB/CE)				
Extreme Cache (EXC) Capacity	-	-	-	1.6TB	1.6TB	1.6 - 25.6 TB	1.6 - 25.6 TB				
Extreme Cache Pool Capacity	-	-	-	-	-	-	-				
Number of Fronted Enclosure	-	-	-	-	-	-	-	1	1	1	
Number of DEs(Drive Enclosure)	Max. 3	Max. 10 (2.5+3.5DE) Only 2.5 DE: Max.5 Only 3.5 DE: Max.10	Max. 10 (2.5+3.5DE+HD-DE) Only 2.5 DE: Max.5 Only 3.5 DE: Max.10 Only HD-DE: Max.2	Max. 10 (2.5+3.5DE) Only 2.5 DE: Max.10 Only 3.5 DE: Max.10	Max. 10 (2.5+3.5DE+HD-DE) Only 2.5 DE: Max.10 Only 3.5 DE: Max.10 Only HD-DE: Max. 4	Max. 23 (2.5+3.5DE+HD-DE) Only 2.5 DE: Max.23 Only 3.5 DE: Max.23 Only HD-DE: Max.8	Max. 43 (2.5+3.5DE+HD-DE) Only 2.5 DE: Max.43 Only 3.5 DE: Max.43 Only HD-DE: Max.16	Max. 94 Only 2.5 DE: Max. 94 Only 3.5 DE: Max. 94 Only HD-DE: Max.32	Max. 180 Only 2.5 DE: Max. 180 Only 3.5 DE: Max. 180 Only HD-DE: Max.96		
Mixed 2.5/3.5/HD-DE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Reverse cabling of DE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Number of Disk drives	per system	Max. 96	Max. 144	Max. 264	Max. 576	Max. 1056	Max. 2304	Max. 6,912			
	per CE	24 / 12	24 / 12	24 / 12	24	24	24	24			
	per 2.5 DE	24	24	24	24	24	24	24			
	per 3.5 DE	12	12	12	12	12	12	12			
	per High Density DE (HD-DE)	-	-	60	-	60	-	60	60		
Supported disk drives	2.5" CE/DE	SAS	900GB (15,000rpm)	900GB (15,000rpm)	900GB (15,000rpm)	900GB (15,000rpm)	900GB (15,000rpm)	900GB (15,000rpm)	900GB (15,000rpm)	900GB (15,000rpm)	
			600GB (15,000rpm)	600GB (15,000rpm)	600GB (15,000rpm)	600GB (15,000rpm)	600GB (15,000rpm)	600GB (15,000rpm)	600GB (15,000rpm)	600GB (15,000rpm)	600GB (15,000rpm)
			300GB (15,000rpm)	300GB (15,000rpm)	300GB (15,000rpm)	300GB (15,000rpm)	300GB (15,000rpm)	300GB (15,000rpm)	300GB (15,000rpm)	300GB (15,000rpm)	300GB (15,000rpm)
		SAS (SED)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)
			1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)
			1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)
	3.5" CE/DE	Nearline SAS	600GB (10,000rpm)	600GB (10,000rpm)	600GB (10,000rpm)	600GB (10,000rpm)	600GB (10,000rpm)	600GB (10,000rpm)	600GB (10,000rpm)	600GB (10,000rpm)	
			300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	
			2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	
		Enterprise SSD	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	1.8TB (10,000rpm, AF)	
			1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	
			960GB	960GB	960GB	960GB	960GB	960GB	960GB	960GB	
HD-DE	Enterprise SSD (SED)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)	300GB (10,000rpm)		
		2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)		
		1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)		
	Nearline SAS	30.72TB	30.72TB	30.72TB	30.72TB	30.72TB	30.72TB	30.72TB	30.72TB		
		15.36TB	15.36TB	15.36TB	15.36TB	15.36TB	15.36TB	15.36TB	15.36TB		
		7.68TB	7.68TB	7.68TB	7.68TB	7.68TB	7.68TB	7.68TB	7.68TB		
Enterprise SSD (SED)	3.84TB	3.84TB	3.84TB	3.84TB	3.84TB	3.84TB	3.84TB	3.84TB			
	1.92TB	1.92TB	1.92TB	1.92TB	1.92TB	1.92TB	1.92TB	1.92TB			
	960GB	960GB	960GB	960GB	960GB	960GB	960GB	960GB			
HD-DE	Nearline SAS	800GB	800GB	800GB	800GB	800GB	800GB	800GB	800GB		
		7.68TB	7.68TB	7.68TB	7.68TB	7.68TB	7.68TB	7.68TB	7.68TB		
		3.84TB	3.84TB	3.84TB	3.84TB	3.84TB	3.84TB	3.84TB	3.84TB		
	Nearline SAS (SED)	1.92TB	1.92TB	1.92TB	1.92TB	1.92TB	1.92TB	1.92TB	1.92TB		
		2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)	2.4TB(10,000rpm, AF)		
		1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)	1.2TB (10,000rpm)		
Maximum storage capacity (with expansion, depending on drive type)	672TB		4,424 TB		8,110 TB		17,695 TB	32,440 TB	70,778 TB	141PB	

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		Entry			Mid-range		Enterprise			
		ETERNUS DX60 S5	ETERNUS DX100 S5		ETERNUS DX200 S5	ETERNUS DX500 S5	ETERNUS DX600 S5	ETERNUS DX900 S5	ETERNUS DX8900 S4	
		3.5 inch base unit/2.5 inch base unit		3.5 inch base unit/2.5 inch base unit		3.5 inch base unit/2.5 inch base unit				
										
Dimensions	Width	482mm		482mm		482mm		482mm		
	Depth	2.5" CE: 645mm 3.5" CE: 670mm 2.5" DE: 540mm 3.5" DE: 560mm	2.5" CE: 645mm 3.5" CE: 670mm 2.5" DE: 540mm 3.5" DE: 560mm	2.5" CE: 645mm 3.5" CE: 670mm 2.5" DE: 540mm 3.5" DE: 560mm HD-DE: 980mm	2.5" CE: 645mm 3.5" CE: 670mm 2.5" DE: 540mm 3.5" DE: 560mm	2.5" CE: 645mm 3.5" CE: 670mm 2.5" DE: 540mm 3.5" DE: 560mm HD-DE: 980mm	CE: 788mm 2.5" DE: 540mm 3.5" DE: 560mm HD-DE: 980mm	CE: 788mm FE: 816mm 2.5" DE: 540mm 3.5" DE: 560mm HD-DE: 980mm	CE: 788mm FE: 816mm 2.5" DE: 540mm 3.5" DE: 560mm HD-DE: 980mm	2.5" DE: 540mm 3.5" DE: 560mm HD-DE: 980mm CE: 788mm FE: 816mm
	Height	CE: 88mm[2U] DE: 88mm [2U]		CE: 88mm[2U] DE: 88mm [2U]	CE: 88mm[2U] DE: 88mm [2U] HD-DE:176mm [4U]	CE: 88mm[2U] DE: 88mm [2U] HD-DE:176mm [4U]	DE: 88mm [2U] HD-DE:176mm [4U] CE: 133mm [3U]	DE: 88mm [2U] HD-DE:176mm [4U] CE: 133mm [3U]	DE: 88mm [2U] HD-DE:176mm [4U] CE: 133mm [3U] FE: 218mm [5U]	DE: 88mm [2U] HD-DE:176mm [4U] CE: 133mm [3U] FE: 218mm [5U]
	Weight	CE:35kg 2.5"DE/3.5"DE:35kg		CE:35kg 2.5"DE/3.5"DE:35kg	CE:35kg 2.5"DE/3.5"DE:35kg HD-DE:100kg	CE:35kg 2.5"DE/3.5"DE:35kg HD-DE:100kg	CE:58kg 2.5"DE/3.5"DE:35kg HD-DE:100kg	CE:58kg 2.5"DE/3.5"DE:35kg HD-DE:100kg	CE:58kg FE: 64kg 2.5"DE/3.5"DE:35kg HD-DE:100kg	2.5"DE/3.5"DE:35kg HD-DE:100kg CE: 58kg FE: 64kg
AC power	Voltage	AC100V-120V/AC200- 240V		AC100V-120V/AC200- 240V		AC100V-120V/AC200- 240V		AC100V-120V (Japan Only)/ AC200- 240V	AC100V-120V (Japan Only)/ AC200- 240V	AC200- 240V
	Phase	Single phase		Single phase		Single phase		Single phase	Single phase	Single phase
	Frequency	50Hz or 60Hz		50Hz or 60Hz		50Hz or 60Hz		50Hz or 60Hz	50Hz or 60Hz	50Hz or 60Hz
Maximum power consumption	AC100-120V	1,990 [W]		4,170 [W]		6,630 [W]		13,330 [W] (Japan Only)	25,230 [W] (Japan Only)	-
	AC200-240V	1,990 [W]		4,170 [W]		6,630 [W]		13,760 [W]	25,760 [W]	57,680 [W]
Power plug type	AC100-120V	NEMA 5-15P NEMA L6-15P		NEMA 5-15P NEMA L6-15P		NEMA 5-15P NEMA L6-15P		NEMA 5-15P (Japan Only) NEMA L6-15P	NEMA 5-15P (Japan Only) NEMA L6-15P	-
	AC200-240V	NEMA L6-20P (ACS) NEMA L6-30P (ACS)		NEMA L6-20P (ACS) NEMA L6-30P (ACS)		NEMA L6-20P (ACS) NEMA L6-30P (ACS)		NEMA L6-20P (ACS) NEMA L6-30P (ACS)	NEMA L6-20P (ACS) NEMA L6-30P (ACS)	NEMA L6-15P NEMA L6-20P (ACS) NEMA L6-30P (ACS)

Functional Specifications

Data Protection											
RAID levels	RAID0	Yes		Yes		Yes		Yes		Yes	
	RAID1	Yes		Yes		Yes		Yes		Yes	
	RAID1+0	Yes		Yes		Yes		Yes		Yes	
	RAID5	Yes		Yes		Yes		Yes		Yes	
	RAID5+0	Yes		Yes		Yes		Yes		Yes	
	RAID6	Yes		Yes		Yes		Yes		Yes	
Data block guard	Yes		Yes		Yes		Yes		Yes		
Data encryption	-		Yes		Yes		Yes		Yes		
Cache protection	Yes		Yes		Yes		Yes		Yes		
Disk drive patrol	Yes		Yes		Yes		Yes		Yes		
Global hot spare	Yes		Yes		Yes		Yes		Yes		
Dedicated hot spare	Yes		Yes		Yes		Yes		Yes		
Fast recovery	Yes		Yes		Yes		Yes		Yes		
Storage Cluster	-		Yes		Yes		Yes		Yes		
NAS Data Store	Maximum capacity	-		256TB		-		512TB		512TB	
	No. of NAS Volumes	-		4 (2 x operations, 2 x backups)		-		8 (4 x operations, 4 x backups)		8 (4 x operations, 4 x backups)	
	Block size	-		8, 32, or 256KB		-		8, 32, or 256KB		8, 32, or 256KB	
Copy											
Advanced Copy function	Available Copy under SAN environment	EC/OPC/QuickOPC/ SnapOPC/SnapOPC+		EC/OPC/QuickOPC/ SnapOPC/SnapOPC+		EC/OPC/QuickOPC/ SnapOPC/SnapOPC+		EC/OPC/QuickOPC/ SnapOPC/SnapOPC+		EC/OPC/QuickOPC/ SnapOPC/SnapOPC+	
	Available Copy under NAS environment	-		QuickOPC/SnapOPC+		-		QuickOPC/SnapOPC+		QuickOPC/SnapOPC+	
	Copy management software	ETERNUS SF AdvancedCopy Manager/ ETERNUS SF Express (SnapOPC+only) ETERNUS VSS Hardware Provider		ETERNUS SF AdvancedCopy Manager/ ETERNUS SF Express (SnapOPC+only) ETERNUS VSS Hardware Provider		ETERNUS SF AdvancedCopy Manager/ ETERNUS SF Express (SnapOPC+only) ETERNUS VSS Hardware Provider		ETERNUS SF AdvancedCopy Manager/ ETERNUS VSS Hardware Provider		ETERNUS SF AdvancedCopy Manager/ ETERNUS VSS Hardware Provider	
Remote Advanced Copy function	Copy management software	-		REC (both SAN and copied NAS volume)		-		REC (both SAN and copied NAS volume)		REC (both SAN and copied NAS volume)	
	Copy management software	-		ETERNUS SF AdvancedCopy Manager		-		ETERNUS SF AdvancedCopy Manager		ETERNUS SF AdvancedCopy Manager	
Data Migration											
Online Storage Migration	Yes		Yes		Yes		Yes		Yes		
Offline Storage Migration	Yes		Yes		Yes		Yes		Yes		
Non-disruptive Storage Migration	Yes		Yes		Yes		Yes		Yes		

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		Entry		Entry		Entry		Mid-range		Enterprise	
		ETERNUS DX60 S5		ETERNUS DX100 S5		ETERNUS DX200 S5		ETERNUS DX500 S5		ETERNUS DX900 S5	
		3.5 inch base unit/2.5 inch base unit		3.5 inch base unit/2.5 inch base unit		3.5 inch base unit/2.5 inch base unit					
											
											
Energy saving											
Eco-mode (MAID)		Yes		Yes		Yes		Yes		Yes	
Management software for Eco-mode		ETERNUS SF Storage Cruiser/ ETERNUS SF Express		ETERNUS SF Storage Cruiser/ ETERNUS SF Express		ETERNUS SF Storage Cruiser/ ETERNUS SF Express		ETERNUS SF Storage Cruiser		ETERNUS SF Storage Cruiser	
Virtualization											
Thin Provisioning function		N/A		Yes		N/A		Yes		Yes	
Management software for Thin Provisioning		-		ETERNUS SF Storage Cruiser/ETERNUS SF Express		-		ETERNUS SF Storage Cruiser/ETERNUS SF Express		ETERNUS SF Storage Cruiser	
Thin Provisioning		-		48		-		72		-	
Number of pool (Thin Provisioning Pool+Flexible Tier Sub Pool)		-		48		-		72		-	
De-duplication ^{*1}		-		-		Yes		Yes		Yes	
Compression ^{*1}		-		-		Yes		Yes		Yes	
Automated tiering (Flexible tier)		-		N/A		Yes (with Storage Cruiser Optimization Option)		N/A		Yes (with Storage Cruiser Optimization Option)	
Dynamic configuration											
RAID migration		Yes		Yes		Yes		Yes		Yes	
Logical Device Expansion(LDE)		Yes		Yes		Yes		Yes		Yes	
LUN concatenation		Yes		Yes		Yes		Yes		Yes	
Performance											
Performance tuning		Yes		Yes		Yes		Yes		Yes	
Stripe size		Yes		Yes		Yes		Yes		Yes	
Cache partitioning		Yes		Yes		Yes		Yes		Yes	
Wide striping		Yes		Yes		Yes		Yes		Yes	
Quality of Service		-		Yes (with Storage Cruiser Quality of Service Management Option)		Yes (with Storage Cruiser Quality of Service Management Option)		Yes (with Storage Cruiser Quality of Service Management Option)		Yes (with Storage Cruiser Quality of Service Management Option)	
I/O offload		-		-		-		-		-	
Security Features											
HTTPS(SSL)		Yes		Yes		Yes		Yes		Yes	
SSH		Yes(v2 only)		Yes(v2 only)		Yes(v2 only)		Yes(v2 only)		Yes(v2 only)	
iSCSI		CHAP, Bidirectional CHAP		CHAP, Bidirectional CHAP		CHAP, Bidirectional CHAP		CHAP, Bidirectional CHAP		CHAP, Bidirectional CHAP	
Authentication server		RADIUS		Yes		Yes		Yes		Yes	
Role based access control		Yes		Yes		Yes		Yes		Yes	
Audit log		Yes		Yes		Yes		Yes		Yes	
Key management server linkage		N/A		Yes		Yes		Yes		Yes	
Serviceability											
Easy firmware upgrade		Yes(only Update & Reboot Mode)		Yes		Yes(only Update & Reboot Mode)		Yes		Yes	
Hot part replace		Yes		Yes		Yes		Yes		Yes	
Hot part expansion		Yes		Yes		Yes		Yes		Yes	
Field model upgrade		-		Yes		-		Yes		-	
System Management											
Remote installation		Yes		Yes		Yes		Yes		Yes	

This matrix is correct as of dated right above. Contents are subject to change without notice.
 *1: Deduplication/Compression is not supported when Unified function is enabled.