

ETERNUS Hybrid Storage Systems Comparison Chart

Ver10
2023/8/23

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

			Enterprise		
			ETERNUS DX100 S5	ETERNUS DX200 S5	ETERNUS DX600 S5
			3.5 inch base unit/2.5 inch base unit	3.5 inch base unit/2.5 inch base unit	
					

Hardware Specifications

Type			Rack mount		Rack mount		Rack mount	Rack mount	Rack mount
Number of controllers			1	2	1	2	2	2 or 4	2-24
Host interface type	Fibre Channel		16Gbit/s / 32Gbit/s		16Gbit/s / 32Gbit/s		16Gbit/s / 32Gbit/s		16Gbit/s / 32Gbit/s
	iSCSI		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]
	SAS		12Gbit/s		12Gbit/s		-		-
	Ethernet (NAS)		-		1Gbit/s / 10Gbit/s		1Gbit/s / 10Gbit/s		-
Number of host interfaces	Fibre Channel 16G		2 or 4		2 - 8		4 - 16		4-32 (4-16 for Japan Only 100V model)
	Fibre Channel 32G		2 or 4		2 or 4		4 or 8		4-32 (4-16 for Japan Only 100V model)
	iSCSI		2 or 4		2 or 4		4 or 8		4-16 (4/8 for Japan Only 100V model)
	SAS		2 or 4		2 or 4		4 or 8		-
	Ethernet 1G (NAS)		-		-		8 or 16		8-32 (8/16 for Japan Only 100V model)
	Ethernet 10G (NAS)		-		-		4 or 8		4-16 (4/8 for Japan Only 100V model)
Mixed host interface			Yes		Yes		Yes		Yes
Maximum system memory			64GB		128GB		768GB		3TB(1,536GB/CE) 1,536GB(768GB/CE) (*3)
Extreme Cache (EXC)	Capacity		-		-		1.6 - 25.6 TB		1.6 - 51.2 TB
Extreme Cache Pool	Capacity		1.6TB		1.6TB		-		-
Number of Fronted Enclosure			-		-		-		1
Number of DEs(Drive Enclosure)			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. 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
Reverse cabling of DE			Yes		Yes		Yes		Yes
Number of Disk drives	per system		Max. 144		Max. 264		Max. 1056		Max. 2304
	per CE		24 / 12		24 / 12		24		24
	per 2.5 DE		24		24		24		24
	per 3.5 DE		12		12		12		12
	per High Density DE (HD-DE)		-		60		60		60
	2.5" CE/DE	SAS	900GB (15,000rpm) (*2) 600GB (15,000rpm) 300GB (15,000rpm) 2.4TB(10,000rpm, AF) 1.8TB (10,000rpm, AF) 1.2TB (10,000rpm) 600GB (10,000rpm) 300GB (10,000rpm)		900GB (15,000rpm) (*2) 600GB (15,000rpm) 300GB (15,000rpm) 2.4TB(10,000rpm, AF) 1.8TB (10,000rpm, AF) 1.2TB (10,000rpm) 600GB (10,000rpm) 300GB (10,000rpm)		900GB (15,000rpm) (*2) 600GB (15,000rpm) 300GB (15,000rpm) 2.4TB(10,000rpm, AF) 1.8TB (10,000rpm, AF) 1.2TB (10,000rpm) 600GB (10,000rpm) 300GB (10,000rpm)		900GB (15,000rpm) (*2) 600GB (15,000rpm) 300GB (15,000rpm) 2.4TB(10,000rpm, AF) 1.8TB (10,000rpm, AF) 1.2TB (10,000rpm) 600GB (10,000rpm) 300GB (10,000rpm)
		SAS (SED)	1.2TB (10,000rpm)		1.2TB (10,000rpm)		1.2TB (10,000rpm)		1.2TB (10,000rpm)
		Nearline SAS	-		-		-		-
		Enterprise SSD	30.72TB 15.36TB 7.68TB 3.84TB 1.92TB 960GB 800GB		30.72TB 15.36TB 7.68TB 3.84TB 1.92TB 960GB 800GB		30.72TB 15.36TB 7.68TB 3.84TB 1.92TB 960GB		30.72TB 15.36TB 7.68TB 3.84TB 1.92TB 960GB 400GB
		Enterprise SSD (SED)	7.68TB 3.84TB 1.92TB		7.68TB 3.84TB 1.92TB		7.68TB 3.84TB 1.92TB		7.68TB 3.84TB 1.92TB

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			ETERNUS DX100 S5		ETERNUS DX200 S5		ETERNUS DX600 S5	ETERNUS DX900 S5	Enterprise ETERNUS DX8900 S4
			3.5 inch base unit/2.5 inch base unit		3.5 inch base unit/2.5 inch base unit				
									
Supported disk drives	3.5" CE/DE	SAS	-		-		-	-	-
		Nearline SAS	18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 10TB(7,200rpm, AF) 8TB (7,200rpm, AF) 6TB (7,200rpm, AF) 4TB (7,200rpm)		18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 10TB(7,200rpm, AF) 8TB (7,200rpm, AF) 6TB (7,200rpm, AF) 4TB (7,200rpm)		18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 10TB(7,200rpm, AF) 8TB (7,200rpm, AF) 6TB (7,200rpm, AF) 4TB (7,200rpm)	18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 10TB(7,200rpm, AF) 8TB (7,200rpm, AF) 6TB (7,200rpm, AF) 4TB (7,200rpm)	18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 10TB(7,200rpm, AF) 8TB (7,200rpm, AF) 6TB (7,200rpm, AF) 4TB (7,200rpm)
		Nearline SAS (SED)	16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)		16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)		16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)
		Enterprise SSD	3.84TB 1.92TB 960GB 800GB		3.84TB 1.92TB 960GB 800GB		-	-	-
		Enterprise SSD (SED)	3.84TB 1.92TB		3.84TB 1.92TB		-	-	-
	HD-DE	Nearline SAS	-	18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	-	18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	18TB(7,200rpm, AF) 16TB(7,200rpm, AF) 14TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 6TB (7,200rpm, AF) 4TB (7,200rpm)
		Nearline SAS (SED)	-	16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	-	16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	16TB(7,200rpm, AF) 12TB(7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)	16TB(7,200rpm, AF) 12TB (7,200rpm, AF) 8TB (7,200rpm, AF) 4TB (7,200rpm)
Maximum storage capacity (with expansion, depending on drive type)			4,424 TB		8,110 TB		32,440 TB	70,778 TB	141PB
Dimensions	Width	482mm		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 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	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] HD-DE:176mm [4U]	CE: 88mm[2U] DE: 88mm [2U]	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] 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 HD-DE:100kg	CE:35kg 2.5"DE/3.5"DE:35kg	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 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 (Japan Only)/ AC200- 240V	AC200- 240V	AC200- 240V	
	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	
Maximum power consumption	AC100-120V	4,170 [W]		6,630 [W]		25,230 [W] (Japan Only)	-	-	
	AC200-240V	4,170 [W]		6,630 [W]		25,760 [W]	57,680 [W]	168,560 [W]	
Power plug type	AC100-120V	NEMA 5-15P		NEMA 5-15P		NEMA 5-15P (Japan Only)	-	-	
	AC200-240V	NEMA L6-15P NEMA L6-20P (ACS) NEMA L6-30P (ACS)		NEMA L6-15P NEMA L6-20P (ACS) NEMA L6-30P (ACS)		NEMA L6-15P NEMA L6-20P (ACS) NEMA L6-30P (ACS)	NEMA L6-15P NEMA L6-20P (ACS) NEMA L6-30P (ACS)	NEMA L6-15P NEMA L6-30P(ACS)	

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		3.5 inch base unit/2.5 inch base unit		3.5 inch base unit/2.5 inch base unit				
								

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	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	Yes
NAS Data Store	Maximum capacity	-	256TB	-	512TB	1024TB	-	-
	No. of NAS Volumes	-	4 (2 x operations, 2 x backups)	-	8 (4 x operations, 4 x backups)	16 (8 x operations, 8 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+	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 VSS Hardware Provider	ETERNUS SF AdvancedCopy Manager/ ETERNUS VSS Hardware Provider	ETERNUS SF AdvancedCopy Manager/ ETERNUS VSS Hardware Provider
Remote Advanced Copy function		REC (both SAN and copied NAS volume)		REC (both SAN and copied NAS volume)		REC (both SAN and copied NAS volume)	REC (both SAN and copied NAS volume)	REC
Copy management software		ETERNUS SF AdvancedCopy Manager		ETERNUS SF AdvancedCopy Manager		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
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 Storage Cruiser	ETERNUS SF Storage Cruiser

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		3.5 inch base unit/2.5 inch base unit		3.5 inch base unit/2.5 inch base unit				
								
Virtualization								
Thin Provisioning function		N/A	Yes	N/A	Yes	Yes	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	ETERNUS SF Storage Cruiser	ETERNUS SF Storage Cruiser
Thin Provisioning	Number of pool (Thin Provisioning Pool+Flexible Tier Sub Pool)	-	72	-	132	256	256	256
De-duplication ^{*1}		-		Yes		Yes	-	-
Compression ^{*1}		-		Yes		Yes	Yes	Yes
Automated tiering (Flexible tier)		N/A	Yes (with Storage Cruiser Optimization Option)	N/A	Yes (with Storage Cruiser Optimization Option)	Yes (with Storage Cruiser Optimization Option)	Yes (with Storage Cruiser Optimization Option)	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	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)	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
iSCSI		CHAP, Bidirectional CHAP		CHAP, Bidirectional CHAP		CHAP, Bidirectional CHAP	CHAP, Bidirectional CHAP	CHAP, Bidirectional CHAP
Authentication server	RADIUS	Yes		Yes		Yes	Yes	Yes
Role based access control		Yes		Yes		Yes	Yes	Yes
Audit log		Yes		Yes		Yes	Yes	Yes
Key management server linkage		Yes (ETERNUS SF KM, IBM Security Key Lifecycle Manager)		Yes (ETERNUS SF KM, IBM Security Key Lifecycle Manager)		Yes (ETERNUS SF KM, IBM Security Key Lifecycle Manager)	Yes (ETERNUS SF KM, IBM Security Key Lifecycle Manager)	Yes (ETERNUS SF KM, IBM Security Key Lifecycle Manager)
Serviceability								
Easy firmware upgrade		Yes(only Update & Reboot Mode)	Yes	Yes(only Update & Reboot Mode)	Yes	Yes	Yes	Yes
Hot part replace		Yes		Yes		Yes	Yes	Yes
Hot part expansion		Yes		Yes		Yes	Yes	Yes
Field model upgrade		-	Yes	-	Yes	N/A	-	-
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.
*2: HDD SAS 15,000rpm were EOL(Sep. 2022)
*3: "Maximum system memory", "Maximum SAN Cache" and "DIMM Capacity" are changed by memory EOL(Jun. 2023).