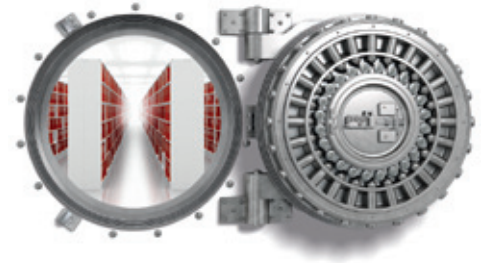# Data Sheet
Fujitsu ETERNUS DX90 S2 Disk Storage System

The Flexible Data Safe for Dynamic Infrastructures

ETERNUS DX S2 Disk Storage Systems

The second generation of ETERNUS® DX disk storage systems from Fujitsu, the ETERNUS DX S2, are the Flexible Data Safe for Dynamic Infrastructures. Redundant components, RAID protection and build-in data protection provide the highest system reliability to ensure that business continuity is maintained.

ETERNUS DX S2 models are comprehensive disk storage platforms with superior scalability to address the demands of intensive data growth and highest performance. Free choice of modular disk storage and state-of-the-art connectivity across the entire model range delivers maximum configuration flexibility allowing choice in performance and TCO. Data-in-place upgrade options are also available throughout the system's lifecycle to ensure maximum investment protection.

The unified ETERNUS SF storage management software enables single point administration, easy data protection and efficient operation across the entire ETERNUS DX range. In virtualized IT environments in particular, ETERNUS SF perfectly integrates the powerful ETERNUS DX disk storage with minimal administration effort.

ETERNUS DX90 S2

The ETERNUS DX90 S2 with Intel® Xeon® processors is a reliable and flexible disk storage system for small and medium-sized IT environments. It provides an outstanding price/performance ratio and is easy to manage. In order to cope with enormous data growth yet maintain flexibility, it offers remarkable scalability with storage capacity of up to 360 TB, thus offering enough headroom for future growth. The flexible support of different network connectivity and disk types (SAS, Nearline SAS and SSD) provides a choice between cost and performance optimization. The ETERNUS DX90 offers Thin Provisioning as a standard feature enabling a more cost-efficient use of storage capacity right from the start. Data-in-place upgrades lead seamlessly to the next higher ETERNUS DX system, thus ensuring flexibility and investment protection. The enclosed ETERNUS SF Express software reduces administration work and provides data safety functionality. The excellent ETERNUS DX90 data center functionality is based on storage-based replication which protects valuable data assets against site outages.

Green IT

SUPER Green Product
This product has the top-level environmental factor in the comparison with our previous product or product in market

Features and Benefits

Main features	Benefits
Data center functionality already in the Entry class	■ Flexible configuration of drives and connectivity; enables flexible balancing of performance, capacity and costs ■ Ensures data safety and high availability through comprehensive features like encryption, redundancy, copy functions and snapshots ■ Efficient operations through technologies such as Tiering, Thin Provisioning and Eco-mode
Comprehensive disaster recovery functionality	■ Supports flexible disaster recovery concepts between remote locations at any distance
Unique and consistent family concept	■ Seamless and fully compatible product family of disk storage systems with uniform system components and unified management software ■ Family concept reduces operations, maintenance, migration and training efforts as well as costs ■ Migration path to the next bigger model

Technical details

General Specifications		2.5" Base Model		3.5" Base Model	
		Single Controller	**Dual Controller**	**Single Controller**	**Dual Controller**
RAID Levels		0, 1, 1+0, 5, 5+0, 6			
Host Interfaces		Fibre Channel (16/8/4/2 Gbit/s)			
		FCoE (10 Gbit/s)			
		iSCSI (10 Gbit/s) or iSCSI (1 Gbit/s)			
		SAS (6/3 Gbit/s)			
Number of controllers		1	2	1	2
Number of host interfaces		2/4 ports	4/8 ports	2/4 ports	4/8 ports
Number of hosts		Max. 1024			
Cache memory capacity		4 GB	8 GB	4 GB	8 GB
Number of drive enclosures		Max. 9			
Number of drives		Max. 240		Max. 120	
Storage capacity	Physical capacity	Max. 360.0 TB			
	Logical capacity	Max. 267.0 TB			
Drives 3.5-inch	SAS disk drives	600 GB/450 GB/300 GB (15,000 rpm)			
	Nearline SAS disk drives	3TB/2 TB/1 TB (7,200 rpm)			
	SSD (Solid State Drives)	800 GB/400 GB/200 GB/100 GB			
- Notes		3.5" drives are available only for 3.5" drive enclosures.			
2.5-inch	SAS Non-Encrypting drives	900 GB/600 GB/450 GB/300 GB (10,000 rpm), 300 GB (15,000 rpm)			
	SSD Self-Encrypting drives	900 GB/600 GB/450 GB/300 GB (10,000 rpm)			
	Nearline SAS disk drives	1 TB (7,200 rpm)			
	SSD (Solid State Drives)	800 GB/400 GB/200 GB/100 GB			
- Notes		2.5" drives are available only for 2.5" drive enclosures.			
Drive interface		Serial Attached SCSI (6 Gbit/s)			
Back-End Disk Connectivity		1 pair of four-lane x 6 Gbit/s Serial Attached SCSI buses (SAS 2.0 wide)			
Redundancies	RAID Controller	No	Yes	No	Yes
	Fan	Yes	Yes	Yes	Yes
	Power Supply	Yes	Yes	Yes	Yes
Number of LUN		Max. 4096			
LUN capacity		Max. 128 TB			
Number of Snapshots	Standard (built-in)	8			
	Maximum (option)	2048			
- Note		Snap/Clone License must be purchased to maximize the number of snapshots			
Number of copy generations		256			
Remote Copy feature		Yes			
- Note		Remote Copy Licenses must be purchased for each system			

Installation Specification		2.5" Base Model	3.5" Base Model
Dimensions (W x D x H)	Standard	CE: 482 × 645 × 88 mm (2U)	CE: 482 × 670 × 88 mm (2U)
		CE: 19 × 25.4 × 3.5 inch (2U)	CE: 19 × 26.4 ×3.5 inch (2U)
		DE: 482 × 540 × 88 mm (2U)	DE: 482 × 555 × 88 mm (2U))
		DE: 19 × 21.3 × 3.5 inch(2U)	DE: 19 × 21.9 × 3.5 inch (2U)
Service Area	Front	800 mm (31.5 inch) or more	
	Rear	800 mm (31.5 inch) or more	
Maximum Weight		350 kg (35 kg per single enclosure)	
		770 lb (77 lb per single enclosure)	

Technical details

Installation Specification (Continued)			2.5" Base Model	3.5" Base Model
Power	Voltage		AC 100 – 120 V / AC 200 – 240 V	
	Phase		Single	
	Frequency		50 Hz / 60 Hz	
Maximum Power Consumption	AC 100 - 120V	CE	630 W (640 VA)	620 W (630 VA)
		DE	570 W (580 VA)	550 W (560 VA)
		Max	5,760 W(CE+2.5"DEx9)	5,570 W (CE+3.5"DEx9)
			5,860 VA(CE+2.5"DEx9)	5,670 VA(CE+3.5"DEx9)
	AC 200 - 240V	CE	630 W (640 VA)	610 W (620 VA)
		DE	570 W (580 VA)	550 W (560 VA)
		Max	5,760 W(CE+2.5"DEx9)	5,560 W (CE+3.5"DEx9)
			5,860 VA(CE+2.5"DEx9	5,660 VA(CE+3.5"DEx9)
Maximum Heat Generation	AC 100 - 120V		21,200 kJ/h (20,200 BTU/h)	20,300 kJ/h (19,300 BTU/h)
	AC 200 - 240V		21,200 kJ/h (20,200 BTU/h)	20,200 kJ/h (19,200 BTU/h)
Environmental Conditions	Temperature		10 – 40℃ (Operating)	
			50 – 104°F (Operating)	
	Humidity		20 – 80% RH (Operating)	
Altitude			3,000 m	
			10,000 ft.	

Supported RAID Levels	
RAID 0	Data striping on several disk drives, not recommended
RAID 1	Mirrored disk drives
RAID 1+0	Data mirroring, then striping of the data over several disk drives
RAID 5	Striping with distributed parity
RAID 5+0	RAID 5 arrays, striped again over several drives
RAID 6	Striping with distributed double parity

Management	
Interfaces	Ethernet (1000 Base-T / 100 Base-TX / 10 Base-T)
Supported protocols	SNMP (version1, 2C, 3), SMI-S 1.4
Administration	Web-Environment, CLI (Command Line Interface), ETERNUS SF Express

Supported OS For ETERNUS SF Express	
Operation Management Server	Microsoft® Windows Server®2008 Standard (32-bit) (64-bit) including R2
	Microsoft® Windows Server® 2008 Enterprise (32-bit) (64-bit) including R2
	Microsoft® Windows Server® 2008 Datacenter (32-bit) (64-bit) including R2
Operation Management Client	Microsoft® Windows® 7 Home Premium
	Microsoft® Windows® 7 Professional
	Microsoft® Windows® 7 Ultimate
	Windows Vista® Home Basic
	Windows Vista® Home Premium
	Windows Vista® Business
	Windows Vista® Enterprise
	Windows Vista® Ultimate
	Windows® XP Home Edition
	Windows® XP Professional
	Microsoft® Windows Server®2008 Standard (32-bit) (64-bit)
	Microsoft® Windows Server® 2008 Enterprise (32-bit) (64-bit)
	Microsoft® Windows Server® 2008 Datacenter (32-bit) (64-bit)

Options	
License	ETERNUS SF Local Copy License

Technical details

Noise Emission	2.5" Base Model	3.5" Base Model
Sound Power Level (LWAd)	6.6 B	
Sound Pressure Level (LpAm)	49 dB(A)	
- Notes	measured with single enclosure according to ISO7779 and declared according to ISO9296	
Warranty		
Global Factory Warranty	3 years	
Compliance With Standards		
Product safety	UL60950-1, CSA-C22.2 No. 60950-1, EN60950-1, IEC60950-1, GOST-R	
Electromagnetic Compatibility	CNS13438(C6357) Class A, FCC CFR47 part 15 Class A, ICES-003 Class A, EN55022 Class A, VCCI Class A, AS/NZS CISPR22 Class A	
Electromagnetic Immunity	EN55024	
CE certification	Electromagnetic Compatibility Directive 2004/108/EC Low Voltage Directive 2006/95/EC	
Environmental compliance	RoHS-compliant (Restriction of hazardous substances) WEEE-compliant (Waste electrical and electronical equipment)	
- Notes	There is general compliance with the safety requirements of all North American and European countries. National approvals required in order to satisfy regulations or for other reasons can be applied for on request.	

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For more information, please visit: http://solutions.us.fujitsu.com/ and http://twitter.com/fujitsuamerica

Fujitsu platform solutions

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Dynamic Infrastructures

With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure-as-a- Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

Computing products

www.fujitsu.com/global/services/computing/

- PRIMERGY: Industrial standard server
- SPARC Enterprise: UNIX server
- PRIMEQUEST: Mission-critical IA server
- ETERNUS: Storage system

Software

www.fujitsu.com/software/

- Interstage:
  Application infrastructure software
- Systemwalker:
  System management software

More information

Learn more about Fujitsu ETERNUS DX90 S2, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.
http://solutions.us.fujitsu.com

Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at:
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