FUJITSU

DATASHEET
FUJITSU ETERNUS DX90 DISK STORAGE SYSTEM

THE DATA SAFE

ETERNUS DX60/DX80/DX90 entry level disk storage systems are reliable and secure Data Safes. ETERNUS DX90 supports asynchronous and synchronous storage-based replication between two sites for business continuity. This model can be equipped with 12x 3.5" drives per 2U shelf. ETERNUS DX90 scales from 2 to 120 disk drives.

ETERNUS DX60/DX80/DX90 integrate well with multi-vendor infrastructures and backup solutions. Different drive types can be mixed and matched, secured by monitored RAID levels and features to ensure data integrity. Administrators can dynamically move data, spin drives down to save energy or encrypt data to prevent unauthorized access. In the event of power outages, the content of the cache is secured to flash memory. A backup copy is always at hand via snapshots and clones. The storage management software ETERNUS SF Express simplifies operation and maintenance.

Green Policy Innovation

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

Green IT

FEATURES AND BENEFITS

MAIN FEATURES	BENEFITS

QUALITY AND RELIABILITY

- Redundant RAID controllers, fans and power supplies that are hot swappable
- Cache Protector uses capacitor technology to better protect RAID controller cache during power outages
- Redundant Copy rebuilds a disk automatically as soon as the first signs of failure appear
- Data Block Guard appends check codes to every data block and verifies them at multiple checkpoints
- RAID Migration enables LUNs to be moved dynamically between different RAID groups and hard disks without interrupting operations
- Mixed SAS, Nearline SAS disk drives and SSD
- Eco-mode spins down disk drives

- For highest 99.99% availability
- Returns the array to high performance mode within minutes following restore
- Dramatically reduces recovery times and minimizes the risk of permanent data loss during recovery
- Helps to ensure maximum data integrity on disk, in cache and in between
- Allows different service levels to be provided, matched to access frequency and data importance
- Fulfills all main performance and capacity requirements
- Reduces energy consumption and heat dissipation

INNOVATION AND FLEXIBILITY

- Latest technologies and improved RAID Controller
- Fibre Channel host connection
- 15,000 rpm SAS, 7,200 rpm Nearline SAS disk drives and Solid State Drives (SSD)
- Storage based replication via 8 Gbit/s Fibre Channel and 8 snapshots (standard) upgradeable to 1,024

- For highest flexibility

- For business continuity and improved data protection

EASE-OF-USE

- Intuitive web interface
- Storage management software ETERNUS SF Express is bundled

- Easy to install and use
- Simplifies storage operation and maintenance

VERSATILITY AND INTEROPERABILITY

- A wide range of Operating Systems, servers as well as applications are supported

- Versatility in use for databases, storage consolidation, clustering, tiered storage, backup-to-disk and many other high value storage functions

TECHNICAL DETAILS

GENERAL SYSTEM INFORMATION

Type	Single controller version	Dual controller version
Host interface	Fibre Channel (8/4/2 Gbit/s)	
Number of controllers	1 (field upgradeable to 2)	2 (for redundancy)
Number of host interfaces	4	8
Number of connectable hosts Fibre Channel	Max. 128	Max. 256
Cache memory	2 GB	4 GB
CPU frequency	1.2 GHz	
RAID level	0, 1, 1+0, 5, 5+0, 6	
Storage capacity - physical	Max. 120 TB	
Storage capacity - logical	Max. 88.5 TB	
Number of hard disk drives	2-120	
Maximum capacity of base unit (FC)	3.5": 12 drives	
Maximum capacity per drive enclosure (FC)	3.5": 12 drives	
Drives	Nearline SAS, 1 TB, 7200 rpm, 3.5-inch	
	Nearline SAS, 750 GB, 7200 rpm, 3.5-inch	
	SAS, 600 GB, 15000 rpm, 3.5-inch	
	SAS, 450 GB, 15000 rpm, 3.5-inch	
	SAS, 300 GB, 15000 rpm, 3.5-inch	
	SSD (Solid State Drives), 200 GB, 3.5-inch	
	SSD (Solid State Drives), 100 GB, 3.5-inch	
Drive Interface	Serial Attached SCSI (3 Gbit/s)	

INSTALLATION SPECIFICATION

Dimension (W x D x H) - standard	483 x 650 x 88 mm (2U)
Dimension (W x D x H) - maximum	483 x 650 x 889 mm (20U)
Service Area	Front: 800 mm or more, Rear: 800 mm or more
Weight	350 kg (w. 35 kg per single enclosure)
Power voltage	AC 100V - 120V / AC 200V - 240V
Power frequency	50 Hz / 60 Hz
Power phase	Single
Maximum Power Consumption	AC 100V - 120V : 3,760 W (3,780 VA)
	AC 200V - 240V : 3,740 W (3,790 VA)
Maximum Heat Generation	AC 100V - 120V : 13,536 kJ/h
	AC 200V - 240V : 13, 464 kJ/h

ENVIRONMENTAL

Temperature (Operating)	5 - 40°C
Humidity (Operating)	20 - 80 % (relative humidity)

NOISE EMISSION (SINGLE ENCLOSURE)

Noise notes / description	measured according to ISO7779 and declared according to ISO9296
Sound power (LWAd; 1B = 10dB)	5.9 B
Sound pressure (LpAm)	42.0 dB(A)

SUPPORTED RAID LEVELS

RAID 0: Data Striping on several disk drives
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), SMI-S
Administration	Web-Environment, CLI (Command Line Interface), ETERNUS SF Express

OPTIONS

	Hot-plug drives (SAS, Nearline SAS and SSD, mixing is possible) Up to 9 expansion shelves cascaded with the base unit Upgrade to 1024 snapshots Storage based replication for business continuity

SUPPORTED CONFIGURATIONS

	A wide range of host operating systems, servers as well as applications are supported. For a detailed support matrix check http://ts.fujitsu.com/products/storage/matrixEP.html

COMPLIANCE WITH STANDARDS

Product safety	UL 60950-1, CSA 60950-1, EN 60950-1, IEC 60950-1, GOST
Electromagnetic Compatibility	FCC Part-15 Class A, ICES-003 Class A, EN 55022 Class A, VCCI Class A, AS/NZS CISPR22 Class A, CNS13438(C6357) Class A, C-Tick, BSMI
Electromagnetic Immunity	EN 55024
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)
Compliance notes	There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons can be applied for on request.
Compliance link	Compliance link: https://sp.ts.fujitsu.com/sites/certificates/default.aspx

FUJITSU PLATFORM SOLUTIONS

In addition to Fujitsu ETERNUS DX90 disk storage system, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

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 Infrastructureas-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/

Software
www.fujitsu.com/software/

MORE INFORMATION

Learn more about Fujitsu ETERNUS DX90 disk storage system, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
http://www.fujitsu.com/eternus_dx

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
http://www.fujitsu.com/global/about/environment/

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