ETERNUS DX - Business-centric Storage
Combining leading performance architecture with automated quality of service management the Fujitsu Storage ETERNUS DX series aligns storage resources with business priorities, thus enabling higher system utilization and delivering increased system consolidation capabilities and a faster ROI. Unified scalable entry-level and midrange systems, seamless family concept enabling system upgrades and ETERNUS SF, the unified management suite across the product line, reduce operational and migration costs. ETERNUS SF provides enterprise-class functionalities in the entry and midrange class and allows flexible disaster recovery and business continuity concepts for the different model sizes, thus decreasing investment costs.

ETERNUS DX8700 S3
The ETERNUS DX8700 S3 disk storage system is purpose-built for large enterprises and ideal for the data management of business-critical core applications and the consolidation of large-scale data centers. ETERNUS DX8700 S3 provides non-disruptive capacity upgrades with up to 1536 disk drives, just by adding disks or complete drive enclosures. Performance in the million IOPS range is provided by configurations based on 2 to 8 controllers and a maximum of 128 front-end ports for host connectivity. For simultaneous connection to different network types, FC, FCoE and iSCSI host interfaces can operate in mixed configurations. Tiered storage optimization using a range of SAS, Nearline SAS and SSD drive options lowers the overall total cost of storage. The challenges of data exposure protection are addressed by self-encrypting drives (SED). Flexible and automated management across different quality of service profiles, using different drive types for each application scenario, ensures efficient assignment of system resources matched to the performance priorities of different applications. Highest availability and seamless business continuity is guaranteed by redundant interconnections to the storage array and internal redundant components and completed by transparent failover which ensures uninterrupted operation in case of an outage.
# Features & Benefits

<table>
<thead>
<tr>
<th>Main Features</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| **Flexible scalability in capacity and performance** | - Future-oriented scale-out architecture and upgrade options meet today's and tomorrow's business requirements  
                     - Low cost of growth ensures investment protection  
                     - Superior system utilization  
                     - Large scale storage consolidation  
                     - Leading performance by design |
| **Automation to manage unpredictable data growth** | - Automatically aligned storage performance with business priorities  
                     - Minimized manual tuning efforts  
                     - Optimized service level fulfillment |
| **Zero downtime for business critical data**   | - Predictable and reliable operation through end-to-end redundancy, comprehensive high-availability and disaster resilience functions  
                     - Multi-level disaster recovery with various snapshot concepts and remote replication between different models and generations  
                     - Highest business continuity by transparent failover and non-disruptive maintenance as well as upgrade capabilities |
Models and architecture

ETERNUS DX8000 S3 Series
- The massively scalable Fujitsu Storage ETERNUS DX8000 S3 series, the flagship systems of the ETERNUS DX family are purpose-built for behemoth data centers which require outstanding storage performance and huge capacity paired with enterprise-class resiliency and 99.9999% availability. Its automated quality of service management features guarantee maximum system utilization and contribute to a fast ROI.
- It is the perfect solution when consolidating data in OLTP and large-scale databases, file services, business-critical applications and business analytics / big data – all into one system. It provides ample headroom for any demanding virtualization environments. Extensive high-availability and disaster recovery capabilities make ETERNUS DX8000 S3 the ideal storage systems for all business-critical data and fit perfectly in private and public cloud environments of large-scale enterprises and service providers.
Technical details

General system information

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of controllers</td>
<td>2 - 8</td>
</tr>
<tr>
<td>No. of host interfaces</td>
<td>128 (FC), 64 (iSCSI/FCoE)</td>
</tr>
<tr>
<td>Maximum System Memory</td>
<td>1,024 GB</td>
</tr>
<tr>
<td>Extreme Cache</td>
<td>22.4 TB</td>
</tr>
<tr>
<td>Extreme Cache Pool</td>
<td>12.8 TB</td>
</tr>
<tr>
<td>Maximum Disk Drives</td>
<td>1,536</td>
</tr>
<tr>
<td>Max. no. of drive enclosures</td>
<td>64</td>
</tr>
<tr>
<td>Supported RAID levels</td>
<td>0, 1, 1+0, 5, 5+0, 6</td>
</tr>
<tr>
<td>Host Interfaces</td>
<td>Fibre Channel (16 Gbit/s) iSCSI (10 Gbit/s, 1 Gbit/s) FCoE (10 Gbit/s)</td>
</tr>
<tr>
<td>Mixed host interfaces</td>
<td>Yes</td>
</tr>
<tr>
<td>Max. no. of hosts</td>
<td>8,192</td>
</tr>
<tr>
<td>Maximum Storage Capacity</td>
<td>23,593 TB</td>
</tr>
</tbody>
</table>
| Drive Type                    | 2.5-inch, SAS, 15,000 rpm (900 GB / 600 GB / 300 GB)  
2.5-inch, SAS, 10,000 rpm (2.4 TB / 1.8 TB / 1.2 TB / 1.6 TB / 0.9 GB / 0.8 GB / 0.3 GB) 
2.5-inch, SAS (self-encrypting), 10,000 rpm (2.4 TB / 1.2 TB / 0.9 GB) 
2.5-inch, SSD (15.36TB / 7.68TB / 3.84TB / 1.92TB / 0.96TB / 0.48TB / 0.24TB / 0.12TB / 0.06TB / 0.03TB) 
2.5-inch, SSD (self-encrypting) (3.84 TB / 1.92 TB / 1.6 TB / 0.8 GB) 
2.5-inch, Nearline SAS, 7,200 rpm (2 TB / 1 TB) 
3.5-inch, Nearline SAS, 7,200 rpm (12 TB / 10 TB / 8 TB / 6 TB / 4 TB / 2 TB) 
3.5-inch, Nearline SAS (self-encrypting), 7,200 rpm (12 TB / 8 TB / 4 TB / 2 TB) 
3.5-inch, SSD (3.84 TB / 1.92 TB / 0.96 TB / 0.48 TB / 0.24 TB / 0.12 TB / 0.06 TB / 0.03 TB) 
3.5-inch, SSD (self-encrypting) (3.84 TB / 1.92 TB / 1.6 TB / 0.8 GB) |
| Note                          | 2.5-inch drives are available only for 2.5-inch drive enclosures and 3.5-inch drives are available only for 3.5-inch drive enclosures. 6 TB/ 8 TB Nearline SAS and 1.8 TB SAS drives are Advanced Format drives. |
| Max. no. of SSDs              | unlimited                                    |
| Mixed 2.5 inch/ 3.5 inch drive enclosures | Yes                                           |
| Drive interface               | Serial Attached SCSI (12 Gbit/s)              |
| Back-end disk connectivity    | 4 pair of four-lane x 12 Gbits Serial Attached SCSI buses (SAS3.0 wide) / Controller Enclosure |
| Max. no. of LUNs              | 65,535                                       |
| Max. LUN capacity             | 128 TB                                       |
| No. of snapshots - max.       | 32,768                                       |
| Max. no. of copy generations  | 512                                          |
| Eco-mode                      | Yes                                          |

Performance

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random access performance</td>
<td>1M IOPS</td>
</tr>
</tbody>
</table>

Performance management

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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<tbody>
<tr>
<td>Automated Storage Tiering</td>
<td>Yes</td>
</tr>
<tr>
<td>Quality of Service</td>
<td>Yes</td>
</tr>
<tr>
<td>Automated QoS</td>
<td>Yes</td>
</tr>
<tr>
<td>Wide striping</td>
<td>Yes</td>
</tr>
<tr>
<td>Note</td>
<td>Automation options can be activated via ETERNUS SF Software</td>
</tr>
</tbody>
</table>

Continuity management

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Cluster</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Continuity management
Remote Copy functionality
Synchronous and asynchronous
Note
Options can be activated via ETERNUS SF Software

Information security management
Data confidentiality
Self-Encrypting Disk, Controller based Encryption, HTTPS (SSL), One Time Password, RADIUS, SSH
Data integrity
Cache Protection, Data Block Guard, Disk Drive Patrol

Availability management
Fast Recovery
Yes
Non-disruptive maintenance
Dedicated Hot Spare, Global Hot Spare
Non-disruptive firmware upgrade
Yes
Redundancy
RAID Controller, Power supply, Fan
Hot part replacement
Yes

Capacity management
Thin Provisioning
Yes
RAID migration
Yes
LUN online expansion w/o interruption
Yes
Reporting function
Yes
Hot part expansion
Yes

Management
Supported protocols
SNMP (version1, 2C, 3), SMI-S 1.6
Administration
Web-based graphical user interface, CLI (Command Line Interface), ETERNUS SF
Remote Support
Event notification (E-mail / SNMP / Syslog), Remote maintenance

Supported OS for ETERNUS SF
Operation Management Server
Microsoft® Windows Server® 2016
Microsoft Windows Server 2012, 2012 R2
Microsoft Windows Server 2008, 2008 R2
Solaris® 10
Red Hat® Enterprise Linux® 7
Red Hat® Enterprise Linux® 6
Red Hat® Enterprise Linux® 5
VMware® vSphere® 6.0, 6.5
VMware® vSphere® 5.1/5.5
Microsoft Windows Server 2016 Hyper-V
Microsoft Windows Server 2012 Hyper-V, 2012 R2 Hyper-V
Microsoft Windows Server 2008 Hyper-V, 2008 R2 Hyper-V
Hyper-V 2.0

Operation Management Client
Internet Explorer® 9, 10, 11
FireFox® ESR 17, 24, 31, 38, 45, 52
Microsoft Edge® 25
Chrome® 60
Chrome® 47, 50 (Android®)
Safari 8, 9 (iOS)

Supported configurations
All major host operating systems, servers and business applications
Detailed support matrix:
www.fujitsu.com/global/support/products/computing/storage/disk/supported-configurations

Installation specification
19” rackmount
Yes
Service Area
Front: 850 mm (33.5 inch) or more
Rear: 850 mm (33.5 inch) or more
Power voltage
AC 200 - 240 V / AC 200 - 240 V
Power frequency
50 / 60 Hz
Power supply efficiency
92 % (80 PLUS gold)
Maximum Power Consumption
AC 200 - 240 V: 32,770 W (33,520 VA)
Installation specification

Power phase
- Single

Dimensions (W x D x H)
- Frontend Enclosure: 482 x 795 x 222 mm (19 x 31.3 x 8.7 inch)
- Controller Enclosure: 482 x 809 x 133 mm (19 x 31.9 x 5.2 inch)
- 2.5-inch Drive Enclosure: 482 x 540 x 88 mm (19 x 21.3 x 3.5 inch)
- 3.5-inch Drive Enclosure: 482 x 560 x 88 mm (19 x 22 x 3.5 inch)

Weight
- Frontend Enclosure: 64 kg (141 lb)
- Controller Enclosure: 54 kg (119 lb)
- 2.5-inch Drive Enclosure: 35 kg (77 lb)
- 3.5-inch Drive Enclosure: 35 kg (77 lb)

Maximum Power Consumption (AC 200 - 240 V)
- Frontend Enclosure: 450 W (480 VA)
- Controller Enclosure: 1,200 W (1,220 VA)
- 2.5-inch Drive Enclosure: 430 W (440 VA)
- 3.5-inch Drive Enclosure: 340 W (350 VA)

Environment

Maximum Heat Generation
- AC 200 - 240 V: 121,350 kJ/h

Temperature (not operating)
- 0 - 50 °C

Humidity (operating)
- 20 - 80 % (relative humidity, non-condensing)

Humidity (not operating)
- 8 - 80 % (relative humidity, non-condensing)

Altitude
- 3,000 m (10,000 ft.)

Sound pressure (LpAm)
- 59.5dB(A)

Noise notes
- Measured with single enclosure according to ISO 7779 and declared according to ISO 9296

Operating environment
- Site Planning Guide

Type
- Frontend Enclosure
- Controller Enclosure
- 2.5-inch Drive Enclosure
- 3.5-inch Drive Enclosure

Maximum Heat Generation
- Frontend Enclosure: 1,630 kJ/h
- Controller Enclosure: 4,330 kJ/h
- 2.5-inch Drive Enclosure: 1,600 kJ/h
- 3.5-inch Drive Enclosure: 1,300 kJ/h

Compliance

Product safety
- CSA 60950-1, CSA 60950-1, EN 60950-1, IEC 60950-1

Electromagnetic Compatibility
- CNS 13438, FCC Part-15 Subpart B Class A, ICES 003 Class A, EN55032, VCCI Class A, AS/NZS CISPR 32 class A

Electromagnetic Immunity
- EN 55024

CE certification
- 2014/30/EU, 2014/35/EU, 2011/65/EU

Approvals
- CB, CE, C-Tick, FCC, EAC, GS, VCCI

Environmental compliance
- RoHS compliant, WEEE compliant

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
- https://sp.ts.fujitsu.com/sites/certificates

Warranty

Warranty period
- 3 years

Warranty type
- Onsite warranty

Warranty Terms & Conditions
- www.fujitsu.com/support

Product Related Services - the perfect extension

Support Pack Options
- Available in major business areas:
  - 9x5, Next Business Day Onsite Response Time
  - 9x5, 4h Onsite Response Time (depending on country)
  - 24x7, 4h Onsite Response Time (depending on country)

Recommended Service
- 24x7, Onsite Response Time: 4h

Service Lifecycle
- 5 years after end of product life

Service Weblink
- www.fujitsu.com/services/product-services
In addition to FUJITSU ETERNUS DX8700 S3, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio
Built on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offerings. This allows customers to select from alternative sourcing and delivery models to increase their business agility and to improve their IT operation’s reliability.

Computing Products
www.fujitsu.com/global/products/computing/

Software
www.fujitsu.com/software/

Learn more about Fujitsu ETERNUS DX8700 S3, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
www.fujitsu.com/eternus

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 contribute to the creation of a sustainable environment for future generations through IT. Please find further information at http://www.fujitsu.com/global/about/environment

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