

# Data Sheet

## Fujitsu Storage ETERNUS DX500 S5 Disk System

Leading storage performance, automated quality of service

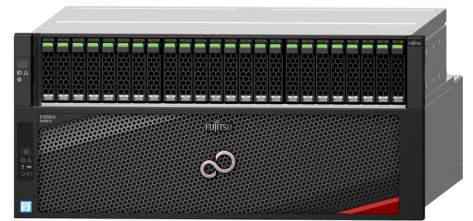
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### ETERNUS DX - Business-centric Storage

FUJITSU Storage ETERNUS DX series are the ideal hybrid storage for on-premise storage of business-critical data in data centers, branch offices and self-operated IT of SMBs, something every business can afford, with integrated and powerful features for business growth, efficiency and continuity. Latest capacity and performance optimization capabilities contribute to overall business efficiency, outstanding data-safe technologies and all-inclusive encryption guarantee uncompromised business continuity.

### ETERNUS DX500 S5

The scalable and unified Fujitsu Storage ETERNUS DX500 S5 system delivers leading storage performance and automated quality of service management, enabling maximum system utilization and contributing to a fast ROI. It is the perfect solution when consolidating data in large-scale databases, business-critical applications and business analytics / big data – all into one system. It provides ample headroom for demanding server/desktop virtualization environments and enterprise file services. The ETERNUS DX family architecture lets customers benefit from software options, such as thin provisioning, automatic storage tiering, transparent failover, quality of service management, and ensures smart operation and business continuity. The selective use of deduplication and compression completes the set of features with data efficiency options. All this makes ETERNUS DX500 S5 an ideal storage system for business-critical data.



# Features & Benefits

| Main Features                                | Benefits  |
|--|---|
| Maximum utilization and consolidation        | <ul style="list-style-type: none"><li>■ Massive scalability makes it perfect for any future requirements. Flexible combination of flash and disk media allow a broader scope of deployments, while unified SAN and NAS access drives system utilization and enhances ROI. Outstanding benchmark results with ultra-low latency and the management suite ETERNUS SF make it the ideal RAID system.</li></ul> |
| Round-the-clock Business Continuity          | <ul style="list-style-type: none"><li>■ Avoid planned or unplanned downtimes with replication and Storage Cluster. High redundancies enable business critical computing, data processing and real time data mirroring at the highest level and a system availability of up to 99.9999%. Intelligent snapshot functionality supports secure backups.</li></ul>   |
| Automated Quality-of-Service                 | <ul style="list-style-type: none"><li>■ Control application priorities according to business needs, minimize admin efforts, automate monitoring and adjustment to guarantee service levels</li></ul>  |
| Selective use of deduplication / compression | <ul style="list-style-type: none"><li>■ Use data reduction technologies at the volume level to improve storage efficiency and meet performance SLA's, and also save storage capacity in hybrid configurations</li></ul>   |

# Technical details

## General system information

| ETERNUS DX500 S5                          |   |
|---|---|
| No. of controllers                        | 2   |
| No. of host interfaces                    | 4-16 ports [FC(32Gbit/s,16Gbit/s), Ethernet(1Gbit/s)], 4/8 ports [iSCSI(10Gbit/s,1Gbit/s), Ethernet(10Gbit/s)]  |
| Maximum System Memory                     | 512 GB  |
| Extreme Cache                             | 25.6 TB   |
| Maximum Disk Drives                       | 576   |
| Max. no. of drive enclosures              | 23  |
| Note                                      | 23 with 2.5" or 3.5" DE, 8 with HD-DE or mixture of DEs up to Max. no. Drives   |
| Supported RAID levels                     | 0, 1, 1+0, 5, 5+0, 6  |
| Host Interfaces                           | Fibre Channel (16 Gbit/s, 32Gbit/s)<br>iSCSI (10Gbit/s [10GBASE-SR, 10GBASE-CR])<br>iSCSI (1 Gbit/s)<br>Ethernet (10 Gbit/s, 1 Gbit/s)  |
| Mixed host interfaces                     | Yes   |
| Max. no. of hosts                         | 4,096   |
| Supported NAS protocols                   | CIFS (SMB 3.1.1), CIFS (SMB3.0.2), CIFS (SMB 3.0), CIFS (SMB2.1), NFS (NFSv4), NFS (NFSv3), FTP, FXP  |
| Maximum Storage Capacity HDD              | 9,994 TB  |
| Maximum Storage Capacity SSD              | 17,695 TB   |
| Drive Type                                | 2.5-inch, SAS, 15,000 rpm (900 GB* / 600 GB* / 300 GB*)<br>2.5-inch, SAS, 10,000 rpm (2.4TB / 1.8TB / 1.2TB / 600GB)<br>2.5-inch, SAS (FIPS), 10,000rpm (1.2TB)<br>2.5-inch, SSD (30.72TB / 15.36TB / 7.68TB / 3.84TB / 1.92TB / 960GB)<br>2.5-inch, SSD (FIPS) (7.68TB / 3.84TB / 1.92TB)<br>3.5-inch, Nearline SAS, 7,200rpm (18TB / 16TB / 14TB / 12TB / 10TB / 8TB / 6TB / 4TB)<br>3.5-inch, Nearline SAS (FIPS), 7,200rpm (16TB / 12TB / 8TB / 4TB)<br>HDDE, Nearline SAS, 7,200rpm (18TB / 16TB / 14TB / 12 TB / 8TB / 4TB)<br>HDDE, Nearline SAS (FIPS), 7,200rpm (16TB / 12 TB / 8TB / 4TB) |
| Note                                      | *For EMEIA only available on special request<br>HDDE not available in EMEIA region  |
| 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 pairs of four-lane x 12 Gbit/s Serial Attached SCSI buses (SAS 3.0 wide)  |
| Max. no. of RAID groups per system        | 264   |
| Max. no. of LUNs per RAID group           | 128   |
| Max. no. of LUNs                          | 16,384  |
| Max. LUN capacity                         | 128 TB  |
| No. of snapshots - max.                   | 8,192   |
| Max. no. of copy generations              | 512   |
| Deduplication                             | for block   |
| Compression                               | for block   |
| Compatibility note                        | If and to the extent a list of components or certain compatibilities are specified in the product data sheet, these component lists and compatibility specifications are exhaustive. Using deviating or other system components and applications together with the product may but does not necessarily have to lead to compatibility problems. A final statement and/or commitment on the compatibility of such deviating or other system components and applications can only be provided after a corresponding verification through a dedicated compatibility testing.                           |

## Performance

|                               |  |
|-------------------------------|--|
| Latency                       | 140µsec (Read), 60µsec (Write)                       |
| Sequential access performance | 20,000 MB/s (128KB Read)<br>9,000 MB/s (128KB Write) |

**Performance**

|                           |   |
|---------------------------|---|
| Random access performance | 580,000 IOPS (8KB Read)<br>290,000 IOPS (8KB Write) |
|---------------------------|---|

|      |   |
|------|---|
| Note | To the extent that specific performance specifications for the product are indicated in the product data sheet, these are usually also dependent on the specific use and workload of the product and may therefore not be reached equally in all application situations. Such performance specifications thus do not represent a specifically agreed characteristic or feature of the product, but only serves as an orientation. The responsibility for a sufficient sizing of the overall system functionality lies solely with the user. |
|------|---|

**Performance management**

|                           |     |
|---------------------------|-----|
| Automated Storage Tiering | Yes |
|---------------------------|-----|

|                    |     |
|--------------------|-----|
| Quality of Service | Yes |
|--------------------|-----|

|                             |                                      |
|-----------------------------|--------------------------------------|
| Operation Management Client | Google Chrome 99, Microsoft Edge® 99 |
|-----------------------------|--------------------------------------|

|      |   |
|------|---|
| Note | Automation options can be activated via ETERNUS SF Software.<br>Use of browser software is subject to proactive acceptance of the respective License Agreements/ EULAs of the Software manufacturer as applicable for the relevant Software whether preinstalled or optional. |
|------|---|

**Continuity management**

|                 |     |
|-----------------|-----|
| Storage Cluster | Yes |
|-----------------|-----|

|                           |                              |
|---------------------------|------------------------------|
| Remote Copy functionality | Synchronous and asynchronous |
|---------------------------|------------------------------|

|      |   |
|------|---|
| Note | The product may in connection with and depending on the specific configuration include elements to support time- and performance-critical applications, however high availability (e.g., 99.9999%) and failsafe performance is not a standalone product feature. If and to the extent the product is to be used in such business-critical environments, it is within the sole responsibility of the user to set up the specific additional technical features (e.g., Storage Cluster), redundancies, and operational conditions as required to ensure such high availability or failsafe performance. |
|------|---|

**Information security management**

|                      |  |
|----------------------|--|
| Data confidentiality | HTTPS (SSL), SSH, CHAP, Bidirectional CHAP |
|----------------------|--|

|                |  |
|----------------|--|
| Data integrity | Data Block Guard, Data Encryption, Cache Protection, Disk Drive Patrol, Global Hot Spare, Dedicated Hot Spare, Copy back less, Drive shield, Fast Recovery |
|----------------|--|

|      |   |
|------|---|
| Note | The properties of the product provide a baseline for product security and therefore end-customer IT security. However, these properties are not sufficient on their own to protect the product from all existing threats, such as intrusion attempts, data exfiltration and other forms of cyberattacks. To customize security settings, please use the configuration options as available for the respective product. During operation, the IT security of this product is within the responsibility of the respective administrator/end-user of the product. Please note, that Fujitsu as a manufacturer does not make any policy prescriptions or advocacy statements regarding IT security best practices and/or general product operation. |
|------|---|

**Availability management**

|                                 |     |
|---------------------------------|-----|
| Non-disruptive firmware upgrade | Yes |
|---------------------------------|-----|

|                      |     |
|----------------------|-----|
| Hot part replacement | Yes |
|----------------------|-----|

**Capacity management**

|                   |     |
|-------------------|-----|
| Thin Provisioning | Yes |
|-------------------|-----|

|                |     |
|----------------|-----|
| RAID migration | Yes |
|----------------|-----|

|                    |     |
|--------------------|-----|
| Reporting function | Yes |
|--------------------|-----|

|                    |     |
|--------------------|-----|
| Hot part expansion | Yes |
|--------------------|-----|

|                                 |     |
|---------------------------------|-----|
| Non-disruptive firmware upgrade | Yes |
|---------------------------------|-----|

**Management**

|                |  |
|----------------|--|
| Administration | Web-based graphical user interface, CLI (Command Line Interface), ETERNUS SF |
|----------------|--|

**Supported OS for ETERNUS SF**

|                             |   |
|-----------------------------|---|
| Operation Management Server | Microsoft® Windows Server® 2019<br>Microsoft® Windows Server® 2016<br>Microsoft Windows Server 2012, 2012 R2<br>Solaris® 11 (11/11 or later)<br>Solaris® 10 (except ETERNUS SF Express)<br>Red Hat Enterprise Linux 8<br>Red Hat® Enterprise Linux® 7<br>Red Hat® Enterprise Linux® 6<br>Oracle Linux 6<br>VMware® vSphere® 6.0, 6.5, 6.7<br>Microsoft Windows Server 2019 Hyper-V<br>Microsoft Windows Server 2016 Hyper-V<br>Microsoft Windows Server 2012 Hyper-V, 2012 R2 Hyper-V                               |
| Operation Management Client | Google Chrome 99<br>Microsoft Edge® 99  |
| Note                        | See the ETERNUS SF datasheet for further options.<br>Use of certified or supported operating systems and virtualization software is subject to proactive acceptance of the respective License Agreements/ EULAs/ Subscription and support terms of the Software manufacturer as applicable for the relevant Software whether preinstalled or optional. The software may only be available bundled with a software support subscription which – depending on the Software - may be subject to separate remuneration. |

|                                 |   |
|---------------------------------|---|
| <b>Supported configurations</b> | All major host operating systems, servers and business applications<br>Detailed support matrix:<br><a href="http://www.fujitsu.com/global/support/products/computing/storage/disk/supported-configurations">www.fujitsu.com/global/support/products/computing/storage/disk/supported-configurations</a> |
|---------------------------------|---|

**Installation specification**

|                           |  |  |  |   |
|---------------------------|--|--|--|---|
| 19" rackmount             | Yes  |  |  |   |
| Power voltage             | AC 200 - 240 V   |  |  |   |
| Power frequency           | 50 / 60 Hz   |  |  |   |
| Power supply efficiency   | 92 % (80 PLUS Gold)  |  |  |   |
| Maximum Power Consumption | AC 200 - 240 V: 13,760W (14,020VA)   |  |  |   |
| Power phase               | Single   |  |  |   |
|                           | ETERNUS DX500 S5      2.5-inch Drive Enclosure      3.5-inch Drive Enclosure      High-Density Drive Enclosure |  |  |   |
| Dimensions (W x D x H)    | 482 x 788 x 133 mm<br>19 x 31 x 5.2 inch<br>3 U  | 482 x 540 x 88 mm<br>19 x 21.3 x 3.5 inch<br>2 U | 482 x 580 x 88 mm<br>19 x 22.8 x 3.5 inch<br>2 U | 482 x 980 x 176 mm<br>19 x 38.6 x 6.9 inch<br>4 U |
| Weight                    | 58 kg (128 lb)   | 35 kg (77 lb)                                    | 35 kg (77 lb)                                    | 100 kg (220 lb)                                   |

**Environment**

|                            |   |
|----------------------------|---|
| Maximum Heat Generation    | AC 200 - 240 V: 50,420: kJ/h  |
| Temperature (operating)    | 10 - 40 °C  |
| Humidity (operating)       | 20 - 80 %   |
| Operating environment      | FTS 04230 – Guideline for Data Center (installation specification)  |
| Operating environment link | <a href="http://docs.ts.fujitsu.com/dl.aspx?id=589915e9-1bf8-40f7-8ba4-7cac9371f2f0">http://docs.ts.fujitsu.com/dl.aspx?id=589915e9-1bf8-40f7-8ba4-7cac9371f2f0</a> |

**Compliance**

|                               |   |
|-------------------------------|---|
| Product                       | ETERNUS DX500 S5, ET DX5/600/900 S5 2.5DE, ET DX5/600/900 S5 3.5DE, ET DX 5/600 HD-DE   |
| Model                         | MG-CE, DE-25,DE-35, HD-DE   |
| Product safety                | EN 62368-1, IEC 62368-1, ANSI/UL 62368-1, 2nd Ed, CAN/CSA C22.2 No. 62368-1-14, CNS 14336-1, TP TC 004  |
| Electromagnetic Compatibility | EN 55032 Class A, EN 61000-3-2, EN 61000-3-3, FCC Part-15 Subpart B Class A, ICES-003 Class A, VCCI Class A, JIS C 61000-3-2, CNS 13438, AS/NZS CISPR 32 class A, TP TC 020, KN32 Class A, KN35                                     |
| Electromagnetic Immunity      | EN 55035  |
| CE certification              | 2014/35/EU , Low Voltage Directive, 2014/30/EU , Electromagnetic Compatibility Directive, 2011/65/EU,(EU)2015/863 as amended, Restriction of Hazardous Substances (RoHS) Directive  |
| Environmental compliance      | REACH (substance regulations in articles), WEEE (Waste electrical and electronical equipment)   |
| Compliance notes              | There is general compliance with the safety/EMC 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. |

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**Compliance**

Compliance link <https://sp.ts.fujitsu.com/sites/certificates>

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**Warranty**

Warranty period 3 years

Warranty type Onsite warranty

Warranty Terms & Conditions [www.fujitsu.com/warranty](http://www.fujitsu.com/warranty)

**Product Support - the perfect extension**

Support Pack Options Available in major metropolitan 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 at least 5 years after shipment, for details see <https://support.ts.fujitsu.com/>

Service Weblink [www.fujitsu.com/services/product-services](http://www.fujitsu.com/services/product-services)

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### Fujitsu products, solutions & services

In addition to Fujitsu ETERNUS DX500 S5, 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/](http://www.fujitsu.com/global/products/computing/)

#### Software

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

### More information

Learn more about Fujitsu ETERNUS DX500 S5, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.

[www.fujitsu.com/global/products/computing/storage/disk/eternus-dx/dx500-s5/](http://www.fujitsu.com/global/products/computing/storage/disk/eternus-dx/dx500-s5/)

### 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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### Disclaimer

Please note that the data sheet reflects the technical specification with the maximum selection of components for the named system and not the detailed scope of delivery. The scope of delivery is defined by the selection of components at the time of ordering. The product was developed for normal business use.

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2023-03-27 WW-EN