EonStor DS Family
Enterprise-Class High Availability
SAN Storage

Highlight

PERFORMANCE
• Up to 750K end-to-end IOPS to accelerate all storage operation.
• Massive sequential throughput of up to 11,000MB/s read and 5,500MB/s write.
• EonStor DS 3024B has the excellent IOPS per dollar ratio (US$0.24/IOPS) by delivering an impressive and reliable performance score of 218K IOPS.
• EonStor DS 4024B is ranked no.1 in SPC-2 price/performance ratio (US$6.80 dollars per MB/s) in 2017.

EFFICIENCY
• SSD cache accelerates read performance for hot data.
• A super capacitor with a flash drive ensures data integrity during power outage.

FLEXIBLE SCALABILITY
• Holding up to 448 drives with expansion enclosures.
• Expansion enclosures come in diverse form factors (e.g. SFF 2U 24-bay, LFF 3U 16-bay, and LFF 4U 60-bay) to simplify storage expansion.

USER-FRIENDLY MANAGEMENT
• The exclusive SANWatch web-based interface allows easy management via a web browser
• Proprietary RAIDWatch provides RAID protection and powerful management.

Introduction

EonStor DS is a high-availability SAN storage solution designed for enterprises. Its hardware design features multiple form factors, symmetric active-active controllers, flexible host boards to choose from, and reliable modular design with high expandability. The management software comes with complete data services and an easy-to-use management interface. EonStor DS is ideal for all SAN environments and enterprise applications (e.g. database, virtualization, video editing, backup, and surveillance) to meet your performance or budget needs.

Smart data protection against power failures
EonStor DS has a built-in smart data-saving mechanism that reacts immediately to power failures. When a power failure strikes, EonStor DS continues being powered on by the super capacitor, a long-enduring electricity container that requires no maintenance, and immediately writes unsaved data to a flash drive module to avoid potential data loss. Once the power supply is back, the system starts retrieving and integrating data from the flash drive, ensuring maximum data integrity and availability.

Intuitive management interface
Clear and easy-to-act-upon system status messages make troubleshooting simple even without elaborate IT support. Additionally, integrated smart media scan prevents data errors and corruption. It works in the background at all times without affecting system performance, keeping a close tab on your data to ensure its integrity.

Effortless management with proprietary tools
SANWatch is the proprietary web-based management interface that gives you full control over EonStor DS and its storage environment. You can directly access the system configurations and information just with a web browser. RAIDWatch is another proprietary utility application that allows you to enhance the RAID performance of EonStor DS.
Furthermore, with a complete set of command lines, you can reach the system’s lower layer and fine-tune its configurations and behavior for optimal efficiency.
## PHYSICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product Series</th>
<th>DS 1000 Gen2</th>
<th>DS 2000 Gen2</th>
<th>DS 3000U</th>
<th>DS 4000 Gen2</th>
<th>DS 4000U</th>
</tr>
</thead>
<tbody>
<tr>
<td>2U 12-bay</td>
<td>DS 101GZ/DZ</td>
<td>DS 101GZ/R2C/R2L</td>
<td>DS 201GZ/R2C</td>
<td>DS 301GZ/R2C/R2L</td>
<td>-</td>
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<td>2U 24-bay</td>
<td>DS 102GZ/DZ</td>
<td>DS 102GZ/R2C/R2L</td>
<td>DS 202GZ/R2C</td>
<td>DS 302GZ/R2C/R2C</td>
<td>DS 402GZ/R2C/R2CB</td>
</tr>
<tr>
<td>3U 16-bay</td>
<td>DS 101GZ/DZ</td>
<td>DS 101GZ/R2C/R2L</td>
<td>DS 201GZ/R2C</td>
<td>DS 301GZ/R2C/R2L</td>
<td>DS 401GZ/R2C</td>
</tr>
<tr>
<td>4U 24-bay</td>
<td>DS 102GZ/DZ</td>
<td>DS 102GZ/R2C/R2L</td>
<td>DS 202GZ/R2C</td>
<td>DS 302GZ/R2C/R2C</td>
<td>-</td>
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</table>

**Form Factor**
- 2U 12-bay: DS 1012G2, DS 1012/R2C/R2L
- 2U 24-bay: DS 1024G2, DS 1024/R2C/R2CB
- 3U 16-bay: DS 1016G2, DS 1016/R2C/R2L/R2NH
- 4U 24-bay: DS 1024G2, DS 1024/R2C/R2L/R2CB

**Note:**
- **G:** Single controller
- **S:** Single controller (Upgradable to dual controller)
- **R:** Redundant controller
- **C:** Super capacitor
- **L:** BBU
- **B:** 2.5” form factor
- **NH:** non host board
- **2:** Gen2
- **U:** Ultra performance

### Controller
- Single or Dual-redundant
- Single or Dual-redundant or Single upgradable to redundant
- Dual-redundant or Single upgradable to redundant

### Cache Backup Techniques
- Super capacitor + Flash module
- Super capacitor + Flash module
- BBU + Flash module

### Cache Memory
- Default DDR3 2GB
- Expandable up to 16GB
- Default DDR4 4GB
- Expandable up to 64GB
- Default DDR4 4GB
- Expandable up to 128GB

### Supported Drives
- 2.5” SAS or SATA SSD
- 2.5” 12Gb/s SAS 10,000 or 15,000 RPM HDD
- 3.5” 12Gb/s SAS 7,200 RPM HDD
- 3.5” 6Gb/s SATA 7,200 RPM HDD

**Note:** For the latest compatibility details, refer to our official website for the latest Compatibility Matrix.

### Max. Drive Number
- 448

### Max. SSD Cache Pool
- 2TB
- 2TB
- 4TB
- 4TB
- 4TB

### Onboard SAS Expansion Port
- 2
- 2
- 2
- 2
- 4

### Onboard 1GbE Ports (RJ-45)
- 8
- 8
- 8
- 8
- 4

### Max. Host Board Slots
- 2
- 2
- 4
- 4
- 4

### Host Board Options

<table>
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<tr>
<th>Capacity</th>
<th>16Gb/s FC x 4</th>
<th>32Gb/s FC x 2</th>
<th>10GbE (RJ-45) x 4</th>
<th>10GbE (SFP+) x 2</th>
<th>25GbE (SFP28) x 2</th>
<th>40GbE (QSFP+) x 2</th>
<th>12Gb/s SAS x 2</th>
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**Note:**
1. The two controllers must have identical slot settings.
2. Fibre channel supports point-to-point and switch mode.

### Max. 16Gb/s FC Ports
- 8
- 8
- 16
- 16
- 16

### Max. 32Gb/s FC Ports
- 4
- 4
- 16
- 16
- 16

### Max. 1 GbE Ports
- 16
- 16
- 24
- 24
- 20

### Max. 10GbE Ports (RJ-45)
- 4
- 4
- 8
- 8
- 8

### Max. 10GbE Ports (SFP+)
- 4
- 4
- 8
- 8
- 8

### Max. 25GbE Ports (SFP28)
- 4
- 4
- 8
- 8
- 8

### Max. 40GbE Ports (QSFP+)
- 4
- 4
- 8
- 8
- 8

### Expansion Enclosure (JBOD)
- JB 3012, JB 3016, JB 3024B, JB 3025B, JB 3060L

### Dimensions (without chassis ears and protrusions) (W x H x D)
- 2U 12-bay: 449 x 88 x 500 mm
- 2U 24-bay: 449 x 88 x 500 mm
- 3U 16-bay: 449 x 130 x 500 mm
- 4U 24-bay: 449 x 174.4 x 500 mm

### Package Dimensions (W x H x D)
- 2U 12-bay: 780 x 379 x 588 mm
- 2U 24-bay: 780 x 338 x 588 mm
- 3U 16-bay: 780 x 423 x 588 mm
- 4U 24-bay: 780 x 465 x 588 mm

### Power Supply Unit
- **Power Supplies (Redundant and hot-swappable)**
  - 460W x 2 (80 PLUS Bronze)
  - 530W x 2 (80 PLUS Bronze)
- **Power Supply (with PFC (auto-switching))**
  - 100Vac @10A to 240Vac @5A
- **Frequency**
  - 50-60 Hz

**Note:** Power is also supplied in redundant mode, allowing full operation with half the resources.

### Safety Standard
- Electromagnetic Compatibility: CE, BSMI, FCC
- Safety: UL, BSMI, CB
SOFTWARE SPECIFICATIONS

Max. Logical Drive Number: 32
Max. Logical Drives Capacity: 512TB
Configurable Stripe Size: 16KB, 32KB, 64KB, 128KB, 256KB, 512KB, or 1024KB per logical drive
Configurable Writes Policy: Write-Back or Write-Through per logical drive. This policy can be modified
Max. Logical Volume Number: 32
Max. Logical Volume Size: 512TB
Max. Partition Number: 2048/1024
Max. Partition Size: 512TB
Max. Host LUN Mapping Number: 4096
Max. Reserved Tag Number: 416
Max. iSCSI Sessions (per controller): 416
RAID Options: RAID 0, RAID 1, RAID 3, RAID 5, RAID 6, RAID 10, RAID 30, RAID 50, RAID 60
Protocol Support: FC, iSCSI, SAS

Management:
• Web-based SANWatch management software
• Embedded RAIDWatch
• Terminal via RS-232C

Availability and Reliability:
• Redundant, hot-swapable hardware modules
• Device mapper support
• Cache Safe technology

Notification:
• Email
• SNMP traps


Note: For OS version support, please refer to the compatibility matrix

DATA SERVICE

Self-encrypting Drives
Unique factory encryption secures data plus makes deletion simple and complete

Thin Provisioning (Block-Level) (default included)
*Just-in-time* capacity allocation optimizes storage utilization and eliminates allocated but unused storage space

Local Replication

Snapshot
Snapshot images per source volume
Standard License: 64 / Advanced License: 256
Snapshot images per logical volume
Standard License: 128 / Advanced License: 4096

Volume Copy/Mirror
Replication pairs per source volume
Standard License: 4 / Advanced License: 8
Replication pairs per system
Standard License: 16 / Advanced License: 256

Remote Replication (Block level)(optional)
Replication pairs per source volume: 8
Replication pairs per system: 64

Automated Storage Tiering (optional)
2 or 4 storage tiers based on drive types

SSD Cache(optional)
Accelerating data access for random read-intensive environments, such as OLTP
Supports up to four SSDs per controller
Recommended DIMM capacity for SSD Cache pool:
DRAM: 8GB
Max SSD Cache Pool Size: 1,000GB
DRAM: 16GB
Max SSD Cache Pool Size: 2,000GB
DRAM: 32GB and up
Max SSD Cache Pool Size: 4,000GB

WARRANTY AND SERVICE

Standard Service
3-year limited hardware warranty and 8x5 phone, web, and email support (batteries are covered under warranty for 2 years)

Service and Support

Upgrade or Extension Options
Warranty extension: Can extended standard service up to 5 years
The following Service can be upgraded to 5 years
• Upgrade: Replacement part dispatch on the next business day
• Advanced service: 24x7 phone, web, and email support + onsite diagnostics on the next business day
• Premium service: 24x7 phone, web, and email support + onsite diagnostics in 4 hours

Technical Support
Get information on system installation and maintenance, download technical documents and software, or issue a support ticket

Product Services
Register products, download firmware, apply for licensing services, create product repair tickets, or check product repair status

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