EonStor GSe Family

A Scalable and Converged Unified Storage for SMBs

Providing a reliable, easily managed, and cloud-ready unified storage solution for SMBs and comprehensive business applications

HIGHLIGHTS

PERFORMANCE

• Consolidate block, file and object level storage in a single system
• All-flash and hybrid configurations provide flexibility of choice
• Multi-core CPU for enhanced performances
• Supports up to 128GB RAM

FLEXIBLE INTERFACE OPTIONS

• Modular dual host board controller with integrated FC, SAS, iSCSI, and FCoE protocols maximizes connection versatility for hosts
• Converged host board with 4 connectivity options ensures future-proof multi-channel appliances (16GB/s FC, 8GB/s FC, 10GB/s iSCSI SFP+, 10GB/s FCoE)

APPLICATIONS & DATA PROTECTION

• Easy integration with existing environments through Windows® AD & LDAP
• Integrated full-featured RAID protection
• Integrated backup functions such as snapshot, volume copy, mirror, rsync, IDR and local / remote replication
• Supports SED hard drives for better data protection

The EonStor GSe Family, including its 1000, 2000, and 3000 Series, offers unified storage solutions that incorporate full-featured NAS and SAN with enterprise level data services and RAID protection to deliver the best storage of the highest standards without sacrificing affordability. Moreover, with the option of cloud-integration, EonStor GSe Family allows SMBs and SMEs running local SAN/NAS applications to easily and cost-effectively integrate and expand their storage architecture into cloud services.

Unified Storage System

The EonStor GSe Family enables businesses to cost-effectively manage data and reduce total cost of ownership by integrating file-level and block level storage into one unified storage system.

Based on improved hardware and firmware, EonStor GSe Family can handle file level protocols including CIFS, NFS, AFP and FTP; block level protocols such as Fiber Channel, iSCSI and SAS; and object level protocols, which allow users to access files directly via browsers through the file’s unique URL and extend or backup data to cloud.

By integrating these protocols and harnessing the power of Intel’s multi-core CPU, the EonStor GSe Family delivers not only outstanding flexibility but also incredible performance in either all-flash or hybrid configurations. It delivers up to 230K IOPS, 5800MB/s for read, and 4000MB/s for write. Moreover, by offering hybrid features such as SSD Cache, automated storage tiering to accelerate performance and optimize utilization of HDDs, SSDs, and RAID levels to enhance ROI, the EonStor GSe Family guarantees great performances at every level of operation.

GSe Portfolio

GSe 1000

• Max. RAM: 32 GB
• One Host Board
• Drive side: 6Gb/s SAS
• Supports up to 316 disks

GSe 2000

• Max. RAM: 64 GB
• Two Host Boards
• Drive side: 12Gb/s SAS
• Supports up to 436 disks

GSe 3000

• Max. RAM: 128 GB
• Two Host Boards
• Drive side: 12Gb/s SAS
• Supports up to 436 disks

www.infortrend.com
**Comprehensive Business Applications & Data Protection**

1. **Integration with Windows® AD and LDAP**

   The EonStor GSe Family provides easy integration with existing business network environments through Windows® AD and LDAP directory services, which allow MIS to easily configure access rights of every user account in a share folder through ACL. Furthermore, EonStor GSe has perfectly integrated the LDAP Server function into the system, so customers do not need to construct additional LDAP Servers.

2. **Comprehensive Data Service**

   The EonStor GSe Family minimizes the risk of data loss from unexpected disk failures, natural disasters and power outages thanks to its integrated backup functions such as Intelligent Drive Recovery (IDR), snapshot, local / remote replication, and file-level rsync.

3. **Complete cloud functions**

   By integrating Intelligent Cloud Gateway Engine and supporting a wide range of both private cloud and public cloud services, including Amazon, Azure, and Google, the EonStor GSe offers various cloud functions such as Cloud Tiering, Cloud Cache and Cloud Backup to make the most of cloud’s advantages. These functions perfectly combine local and cloud storage, automatically and optimally allocating data, while saving setup and maintenance costs in the process.

**Reliability & Availability**

The EonStor GSe Family has been thoroughly designed to operate with high data availability, such as dual power supplies and dual cooling fans. This design keeps data alive at all times, while Super-capacitor with Flash also ensure the data is not lost.

**System Scalability**

“Scale as needed” flexibility allows users to accommodate tomorrow’s applications while satisfying current needs. The EonStor GSe Family can connect with expansion enclosures to provide maximum capacity across 436 drives.

**Connectivity and Simple Administration Effort**

The EonStor GSe Family features a modular design, such as hot-swappable fans and power supplies, to simplify maintenance and ensure uninterrupted operations.
# TECHNICAL SPECIFICATIONS

## EonStor GSe Series

### Specifications (per system)

<table>
<thead>
<tr>
<th></th>
<th>GSe 1000</th>
<th>GSe 1000T</th>
<th>GSe 2000</th>
<th>GSe 2000T</th>
<th>GSe 3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form factor</td>
<td>2U 12-bay</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2U 24-bay</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td></td>
<td>3U 16-bay</td>
<td>√</td>
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</tr>
<tr>
<td></td>
<td>4U 24-bay</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Storage controller</td>
<td></td>
<td>Single Controller</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Drives</td>
<td>316</td>
<td>436</td>
<td>436</td>
<td>436</td>
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<tr>
<td>Max SSD Cache Pool</td>
<td>800GB</td>
<td>1.6TB</td>
<td>3.2TB</td>
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<td></td>
</tr>
<tr>
<td>Cache backup techniques</td>
<td>Super capacitor + Flash module</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redundant Power Supply Unit</td>
<td>Power supply: Two redundant 460W. Voltage and Frequency: 100-240 Vac, 50-60Hz</td>
<td>Power supply: Two redundant 530W. Voltage and Frequency: 100-240 Vac, 50-60Hz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>1x Intel Avoton 4C/ 6C</td>
<td>1x Intel Broadwell-DE 2C/4C</td>
<td>1x Intel Broadwell-DE 4C</td>
<td></td>
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<tr>
<td>Cache memory</td>
<td>8GB, 16GB, 32GB</td>
<td>8GB, 16GB, 32GB, 64GB</td>
<td>8GB, 16GB, 32GB, 64GB, 128GB</td>
<td></td>
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<tr>
<td>Max. number of host board</td>
<td>1</td>
<td>2</td>
<td>2</td>
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</tr>
<tr>
<td>SAS expansion ports</td>
<td>1 x 60Gb/s SAS wide ports</td>
<td>1 x 12Gb/s SAS wide ports</td>
<td>2 x 12Gb/s SAS wide ports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. FE(front end) Ports</td>
<td>8</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Onboard iSCSI ports (10Gb Rj-45)</td>
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<td>0</td>
<td>2</td>
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<tr>
<td>Onboard iSCSI ports (1Gb Rj-45)</td>
<td>4</td>
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<tr>
<td>Max. 8Gb/s FC Ports</td>
<td>4</td>
<td>8</td>
<td>8</td>
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<td></td>
</tr>
<tr>
<td>Max. 16Gb/s FC Ports</td>
<td>2</td>
<td>4</td>
<td>4</td>
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<td></td>
</tr>
<tr>
<td>Max. 1 GbE/iSCSI Ports</td>
<td>8</td>
<td>12</td>
<td>10</td>
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<tr>
<td>Max. 10 GbE/iSCSI (SFP +) Ports</td>
<td>4</td>
<td>8</td>
<td>8</td>
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<tr>
<td>Max. 10 GbE/iSCSI (RJ45) Ports</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Max. 12Gb/s SAS Ports</td>
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<td>4</td>
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<tr>
<td>Max. 6Gb/s SAS Ports</td>
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</tr>
<tr>
<td>Max. number of logical drives</td>
<td>2</td>
<td>2</td>
<td>32</td>
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<td></td>
</tr>
<tr>
<td>Max. logical drive capacity</td>
<td>512TB</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Configurable stripe size</td>
<td>16KB, 32KB, 64KB, 128KB, 256KB, 512KB, or 1024KB per logical drive</td>
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<tr>
<td>Configurable Write Policy</td>
<td>Write-Back or Write-Through per logical drive. This policy can be modified.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Max. size of pool</td>
<td>2PB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of Pools</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of logical drive per pool</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of volumes (per pool/ per system)</td>
<td>1024</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of LUNs Mappable</td>
<td>2048</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. volume size</td>
<td>2PB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of tags reserved for each Host-LUN connection</td>
<td>Up to 256</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Initiators</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>File System Size</td>
<td>2PB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of user accounts</td>
<td>20000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of user groups</td>
<td>512</td>
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<td></td>
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</tr>
<tr>
<td>Max. number of folder sharing (NFS/CIFS/FTP)</td>
<td>1024</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of Rsync jobs</td>
<td>1024</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of Rsync concurrent processes</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of connections for a folder (NFS/CIFS/FTP)</td>
<td>2048 per controller</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### RAID Options

| RAID | RAID 0, 1 (0+1), 5, 6, 10, 50, 60 |

### Protocol Support


### Cloud Gateway

Support the integration with following cloud providers: Amazon S3, Microsoft Azure, Google Cloud Platform, Alibaba AliCloud

### Green design

- 80 PLUS power supplies delivering more than 80% energy efficiency
- Intelligent multi-level drive spin-down

### Regulatory

- Electromagnetic Compatibility: CE, BSMI, FCC, KC
- Safety: UL, BSMI, CB, EAC

1. Model name “T” means high IOPS solution
2. Available on Q4Y16
3. GSe 3000/2000 Default: DDR4 4GBx2 with ECC per controller, GSe 1000 Default: DDR3 2GBx2 with ECC 4GBx2 per controller.
4. GSe 3000/2000 Converged host board supports 4-port 10Gb iSCSI, 4-Port 8 Gb FC, 2-port 16Gb FC and 4-port 10Gb FC/e. GSe 1000 Converged host board supports 4-port 10Gb iSCSI, 4-Port 8 Gb FC and
2-port 16Gb FC
5. Power is also supplied in redundant mode, allowing full operation with half the resources.

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### TECHNICAL SPECIFICATIONS

#### EonStor GSe Series

<table>
<thead>
<tr>
<th>GSe 3000/2000/2000T Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>Supported drives</td>
</tr>
<tr>
<td>Max. drives number</td>
</tr>
<tr>
<td>Rack Support</td>
</tr>
<tr>
<td>Dimensions</td>
</tr>
<tr>
<td>Package Dimensions</td>
</tr>
<tr>
<td>Expansion enclosure</td>
</tr>
</tbody>
</table>

#### GSe 1000/1000T Series

<table>
<thead>
<tr>
<th>GSe 1000/1000T Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
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<tr>
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</tr>
<tr>
<td>Package Dimensions</td>
</tr>
<tr>
<td>Expansion enclosure</td>
</tr>
</tbody>
</table>

### Data Service & Support

#### Data Service

- **Local Replication**
  - Snapshot: 16
  - Volume Copy/Mirror: Source volumes per system
  - Replication pairs per system: Replication pairs per system
  - Thin Provisioning (default included):
    - Just-in-time capacity allocation optimizes storage utilization and eliminates allocated but unused storage space

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

#### Remote Replication

- **Block level**
  - Replication per source volume: 16
  - Replication pairs per source volume: 4
  - Replication pairs per system: 64

- **File level**
  - Rsync with 128-bit SSH encryption between Infortrend EonStor GS, GSe and EonNAS

#### Automated Storage Tiering

- Two (2) or four (4) storage tiers based on drive types
- SSD supports
  - 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: 128GB
    - Max SSD Cache Pool Size: 3,200GB
  - DRAM: 32GB
    - Max SSD Cache Pool Size: 800GB
  - DRAM: 8GB
    - Max SSD Cache Pool Size: 300GB
  - DRAM: 16GB
    - Max SSD Cache Pool Size: 400GB
  - DRAM: 64GB
    - Max SSD Cache Pool Size: 1,600GB
  - DRAM: 256GB
    - Max SSD Cache Pool Size: 10,240GB

#### Cloud-integrated Solution

- Cloud Cache
- Cloud Tiering
- Cloud Backup

#### Access right management

- User account management
- Group management
- Integration with Windows AD and LDAP

#### Availability and Reliability

- User account management
- Group management
- Folder management - folder access control
- Trunk group support
- Redundant, hot-swappable hardware modules
- CacheSafe technology
- Device mapper support
- Multi-pathing support

#### Management

- Web-based EonOne management software
- Automated cache flush and caching mode operation per enclosure status
- Telnet and SSH system monitoring via Ethernet
- Module status LED indicators: component presence detection & thermal sensors via I2C bus
- Storage Resource Management to analyze history records of resource usage
- Automatic repeatable management tasks by flexible workflow

#### Notification

- Email, Fax, LAN broadcast, SNMP traps, SMS

#### OS support


#### Service and support

- Standard service
  - 3-year limited hardware warranty and 5x8 phone, web, and email support (Batteries are covered under warranty for 2 years)
- Upgrade/extension options
  - Replacement part dispatch on the next business day (up to 5 years)
  - Extended standard service up to 5 years

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1. Available with Standard license and optional advanced license
2. Quota management
3. Integration with Window AD and LDAP
4. Web-based EonOne management software
5. Accelerating data access for random read-intensive environments, such as OLTP
6. Supports up to four SSDs per controller
7. Recommended DIMM capacity for SSD Cache pool:
   - DRAM: 128GB
   - Max SSD Cache Pool Size: 3,200GB
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   - Max SSD Cache Pool Size: 400GB
   - DRAM: 64GB
   - Max SSD Cache Pool Size: 1,600GB
   - DRAM: 256GB
   - Max SSD Cache Pool Size: 10,240GB

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