EonStor GS Family
Cloud-Integrated Unified Storage
Witness the power of consolidated file, block, and object storage

HIGHLIGHTS

UNIFIED STORAGE
- Consolidate SAN, NAS and object storage in a single system to enjoy powerful storage features and simplify deployment and management

EFFICIENCY
- Integrated object based storage reduces the cost of deploying applications from the cloud
- EonStor GS family makes efficient use of available bandwidth and greatly speeds up data extend when uploading data to the cloud with its data reduction technology
- EonStor GS has perfectly integrated the LDAP Server function into the system, so customers do not need to construct additional LDAP Servers.

EXCEPTIONAL COST PERFORMANCE
- High Block/file level Performance, it delivers up to 450K IOPS, 11,000MB/s block and 3,300MB/s CIFS bandwidth.
- Future-proof expansion solution offers ample data capacity of up to 444 drives.
- Comprehensive data services, including SSD Cache and automated storage tiering improve performance and speed up data access.
- Support for all-flash and hybrid configurations provides flexibility of choice to meet your needs.
- Select from a wide range of product series and multiple host options.

The volume of digital data currently being produced is growing at unprecedented rates, in big part due to our increasing demand for unstructured data types such as files, images and videos, which push the boundaries of storage capacity and performance. Because of this, many organizations are making cloud storage, with its cost-effective flexibility and infinite scalability, an integral part of their strategy. Now more than ever, choosing a local storage solution that can easily integrate with cloud services is a must.

EonStor GS family is a unified storage solution that incorporates remote cloud storage into local applications to offer the best of both worlds – unlimited cloud storage and high performance local storage – as well as automatic data lifecycle management, to allow SMBs and SMEs running local SAN/NAS applications to easily and cost-effectively integrate and expand their storage architecture into cloud services.

Powerful All-around High Performance & Efficiency

Based on much improved hardware and firmware, EonStor GS family can handle file level protocols including CIFS/SMB, 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 reduces the cost of deploying applications from the cloud.

By integrating all of these protocols and harnessing the power of Intel’s multicore CPU, EonStor GS family delivers not only outstanding flexibility but also incredible performance in two configurations: all-flash and hybrid. As an all-flash system, it delivers up to 450K IOPS, 11,000MB/s block and 3,300MB/s CIFS bandwidth. Moreover, by offering hybrid features such as SSD Cache, protocol translation between local NAS/SAN and cloud storage services, and automated storage tiering, EonStor GS family guarantees exceptional performance at every level of operation.

This great performance and efficiency can also be found in our cloud storage integration thanks to deduplication and compression features, which ensure the efficient use of bandwidth to effectively extend data to the cloud and lower overall costs.

GS Portfolio

| GS 1000  | CPU: Intel Avoton 8C  | Max. RAM: 64 GB  | Two Host Boards  | Drive side: 6Gb/s SAS  | Supports up to 324 disks |
| GS 2000  | CPU: Intel Broadwell-DE 4C  | Max. RAM: 128 GB  | Four Host Boards  | Drive side: 12Gb/s SAS  | Supports up to 444 disks |
| GS 3000  | CPU: Intel Broadwell-DE 4C  | Max. RAM: 256GB  | Four Host Boards  | Drive side 12Gb/s SAS  | Supports up to 444 disks |
| GS 4000  | CPU: Intel Broadwell-DE 8C  | Max. RAM: 256GB  | Four Host Boards  | Drive side 12Gb/s SAS  | Supports up to 444 disks |

* The above specifications are based on redundant system
Cloud Ready

- The EonStor GS can integrate with cloud storage, and data can be optimally allocated between EonStor GS and Cloud through our smart algorithms, so users can enjoy the best performance and the safest storage.
- EonStor GS offers comprehensive cloud integration functions for users to choose from: Cloud Tiering, Cloud Cache and Cloud Backup.
- Support for private and public cloud services enables users to choose the option that best suits their budget or data security requirements.

Availability & Reliability

- SMB 3.0 transparent failover and multipathing support guarantee non-disruptive operations.
- Dual controllers and non-single-point-of-failure hardware design ensure system continuity in case of faults.
- Cache protection with Super capacitor and Flash to ensure data safety.
- IDR support ensures all hard drives are healthy to prevent from rebuild.

Data Protection & Security

- Whether inactive or mid transfer, data is always encrypted to ensure full protection from malicious attacks.

Simplicity

- EonOne management interface provides a single control center for system management and resources monitoring.

Infinite Storage Capacity on Cloud

One of the key benefits of cloud storage solutions is their unlimited scalability and flexible “scale on demand” model, which allows you to expand your storage capacity as needed, without upfront investment, to fit your capacity requirements as they evolve.

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 GS 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.

Comprehensive Data Protection and Security

As security is of utmost importance when it comes to data storage in the cloud, the EonStor GS family provides AES 256bit Encryption for data-in-flight and data-at-rest, as well as self-encrypting drives (SED) compatibility, ensuring data is always protected from malicious threats. Furthermore, with integrated SSL, links between server and client are also encrypted.

Security threats are by no means the only concern when it comes to safeguarding data. Unexpected disk failures, natural disasters and power outages all up the risk of data loss. EonStor GS family ensures this risk is minimal with its integrated backup functions such as Intelligent Drive Recovery (IDR), snapshot, local replication, remote replication and file-level rsync.

In case a failure is experienced, the system's integrated SMB 3.0 transparent failover and multipathing support guarantee non-disruptive operations. Also, designed with redundant dual controllers and non-single-point-of-failure hardware components, it ensures business continuity at all times.

Integration with Windows® AD and LDAP

The EonStor GS 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 GS has perfectly integrated the LDAP Server function into the system, so customers do not need to construct additional LDAP Servers.
## Physical Specifications

<table>
<thead>
<tr>
<th>Specifications (per system)</th>
<th>GS 1000&lt;sup&gt;1&lt;/sup&gt;</th>
<th>GS 1000T&lt;sup&gt;1,2&lt;/sup&gt;</th>
<th>GS 2000&lt;sup&gt;1&lt;/sup&gt;</th>
<th>GS 3000</th>
<th>GS 4000&lt;sup&gt;1&lt;/sup&gt;</th>
<th>GS 4000T&lt;sup&gt;8&lt;/sup&gt;</th>
<th>GS 4000U&lt;sup&gt;8&lt;/sup&gt;</th>
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<tr>
<td>Form factor</td>
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<td>Redundant Power Supply Unit&lt;sup&gt;5&lt;/sup&gt;</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>
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<td>CPU</td>
<td>2x Intel Avoton 4C/8C</td>
<td>2x Intel Broadwell-DE 2C/4C</td>
<td>2x Intel Broadwell-DE 4C</td>
<td>2x Intel Broadwell-DE 4C/6C/8C</td>
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<td>Cache memory&lt;sup&gt;3&lt;/sup&gt;</td>
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<td>8GB, 16GB, 32GB, 64GB, 128GB, 256GB</td>
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<td>SAS expansion ports</td>
<td>2 x 6Gb/s SAS wide ports</td>
<td>2 x 12Gb/s SAS wide ports</td>
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<td>4 x 12Gb/s SAS wide ports</td>
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<td>Onboard iSCSI ports (10Gb RJ-45)</td>
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<td>Max. 8Gb/s FC Port&lt;sup&gt;4&lt;/sup&gt;</td>
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<td>Max. 16Gb/s FC Port&lt;sup&gt;4&lt;/sup&gt;</td>
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<td>Max. 10 GbE/iSCSI (SFP +) ports&lt;sup&gt;7&lt;/sup&gt;</td>
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<td>Max. 12Gb/s SAS ports</td>
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<td>Max. 60Gb/s SAS ports</td>
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<td>Configurable stripe size</td>
<td>16KB, 32KB, 64KB, 128KB, 256KB, 512KB, or 1024KB per logical drive</td>
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<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>Max. size of Pool</td>
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<td>Max. number of Pools</td>
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<td>Max. number of logical drive per pool</td>
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<td>Max. number of volumes (per pool / per system)</td>
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<td>Max. number of LUNs Mappable</td>
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<td>Max. volume size</td>
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<td>Number of tags reserved for each Host-LUN connection</td>
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<td>Max iSCSI Initiators</td>
<td>832</td>
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<td>Max. File System Size</td>
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<td>Max. number of user accounts</td>
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<td>Max. number of user groups</td>
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<td>Max. number of folder sharing (NFS/CIFS/FTP)</td>
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<td>Max. number of Rsync jobs</td>
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<td>Max. number of Rsync concurrent processes</td>
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<td>Max. number of connections for a folder (NFS/CIFS/FTP)</td>
<td>2048 per controller</td>
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<td>File Level</td>
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<td>RAID Options</td>
<td>RAID 0, 1 (0 + 1), 5, 6, 10, 50, 60</td>
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<tr>
<td>Cloud Gateway</td>
<td>Support the integration with following cloud providers: Amazon S3, Microsoft Azure, Google Cloud Platform, Alibaba AliCloud</td>
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<tr>
<td>Green design</td>
<td>• 80 PLUS power supplies delivering more than 80% energy efficiency</td>
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<td>Regulatory</td>
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</table>

<sup>1</sup> Model name "T" means high IOPS solution
<sup>2</sup> Available on DRY16
<sup>3</sup> GS 4000/3000/2000 Default: DDR4 4GBx2 with ECC per controller, GS 1000 Default: DDR3 4GBx2 with ECC per controller
<sup>4</sup> GS 4000/3000/2000 Converged host board supports 4-port 10GbE iSCSI, 4-Port 8 Gb/s FC, 2-port 16Gb/s FC and 4-port 10GbE FCoE. GS 1000 Converged host board supports 4-port 10GbE iSCSI, 4-Port 8Gb/s FC and 2-port 16Gb/s FC.
<sup>5</sup> Power is also supplied in redundant mode, allowing full operation with half the resources.
<sup>6</sup> 8GB is for single controller models; 256GB is for redundant controller models.
<sup>7</sup> GS 4000 onboard converged host port supports 4-port 10GbE iSCSI, 4-Port 8 Gb/s FC, 2-port 16Gb/s FC and 4-port 10GbE FCoE
<sup>8</sup> Available on 2017.

*All design and specification declared are subject to change without notice in advance. All rights reserved. Please refer to Infortrend website for further information or localization updates.*
**TECHNICAL SPECIFICATIONS**

**GS 1000/1000T**

**Form Factor**
- 2U 12-bay
- *2U 12-bay*

**Model**
- GS 1012S  GS 1012R
- GS 1016S  GS 1016R
- GS 1024S  GS 1024R

**Supported drives**
- 2.5" 10K/15K RPM SAS HDD
- 2.5" SATA/SAS SSD
- 3.5" 7200 RPM NL SAS HDD
- 3.5" 7200 RPM SATA HDD
- 2.5" 10K/15K RPM SAS HDD
- 2.5" SATA/SAS SSD

**Max. drives number**
- 32
- 312

**Rack Support**
- 2U, 19-inch rackmount

**Dimensions**
- 447mm (W) x 130mm (H) x 500mm (D)
- 780mm (W) x 465mm (H) x 588mm (D)
- 780mm (W) x 338mm (H) x 588mm (D)

**Expansion enclosure (JBOD)**
- JB 3012A  JB 3060L  JB 3012B  JB 3060L
- JB 3016A  JB 3060L  JB 3024A  JB 3060L
- JB 3016B  JB 3060L  JB 3024B  JB 3060L
- JB 3016C  JB 3060L  JB 3024C  JB 3060L
- JB 3016D  JB 3060L  JB 3024D  JB 3060L

**Data Service & Support**

**Data Service**
- Local Replication:
  - Snapshot, Snapshot images per source volume
  - Volume Copy/Mirror, Source volumes per system
  - Replication pairs per source volume

**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

**Remote Replication (File Level)**
- Rsync with 128-bit SSH encryption between Infortrend EonStor GS, GSe and EonNAS

**Automated Storage Tiering**
- Two (2) or four (4) drives based on drive type

**SSD Cache**
- 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: 6GB Max SSD Cache Pool Size: 300GB
  - DRAM: 12GB Max SSD Cache Pool Size: 600GB
  - DRAM: 24GB Max SSD Cache Pool Size: 1,200GB

**Cloud-integrated Solution**
- Cloud Cache
- Cloud Tiering
- Cloud Backup

**Access right management**
- User account management
- Group management
- Quota management

**Availability and Reliability**
- Redundant, hot-swappable hardware modules
- Trunk group 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

**Service and support**
- Standard service: 3-year limited hardware warranty and 8x8 phone, web, and email support (Batteries are covered under warranty for 2 years)
- Advanced service: 24x7 phone, web, and email support + onsite diagnostics on the next business day
- Extended standard service up to 5 years

*1 optional  2 Available with Standard license and optional advanced license  3 For the latest compatibility details, refer to our official website for the latest EonStor GS Compatibility Matrix.