



EonStor GS SAS SSD All-Flash Storage

*Scale-out High Availability
Unified Storage for Enterprises*

Highlights

High Performance and Scalability

- Up to 900K IOPS to accelerate storage operations
- Massive sequential throughput of up to 11GB/s read and 8GB/s write per appliance
- Scale-out and scale-up expansions, providing more than 70PB in a single GS cluster

Easy to Use and Manage

- Single namespace for easier data access
- Auto-balancing to reduce the burden of storage management for IT staff

Lower Total Cost of Ownership

- Automated tiering to balance cost with performance between SSDs and HDDs

Nondisruptive Operations

- HA service ensures non-stop operations with a near-zero RTO (recovery time objective) by deploying two storage devices to provide services from two separate sites.

Introduction

EonStor GS SAS SSD storage series is a unified storage solution built for enterprises to handle large amounts of I/O and file transfers under high workloads. Supporting hybrid environments adopting SAN, NAS, and cloud integration, this series is perfect for those who require performance and capacity, while at the same time ideal for budget-conscious applications as it can easily meet general storage needs.

High Performance

EonStor GS provides both high IOPS and high throughput to handle large amounts of I/O and file transfers, even under heavy workloads. The GS SAS SSD storage series, which features high-speed transmission interfaces and protocols, delivers up to 900K IOPS, 11GB/s read and 8GB/s write in throughput on a single appliance.

Flexible Scalability with Scale-out and Scale-up

Through scale-out expansion, you can linearly increase performance and capacity for both block-level and file-level data. When one GS unit is no longer able to provide enough performance or capacity, you can simply add more GS appliances to form a cluster—with a maximum of 4 GS units.

Through scale-up expansion, each GS unit can be connected to JBOD expansion enclosures to add up to 896 drives. Together with scale-out expansion, GS supports more than 3000 drives with over 50 PB storage capacity.

Easy Data Access and Simple IT Management

Users can access shared folders in a single root directory under a single namespace, without having to worry about where the data is stored. Auto-balancing is also supported to achieve load balancing, which relieves the burden of manual planning and configuration for IT personnel.

Storage Efficiency with Better TCO

EonStor GS supports hybrid storage, and with automated storage tiering, the storage system can automatically leverage the high performance I/Os of SSDs for frequently accessed data, and use NL-SAS/SATA HDDs on expansion enclosures for massive data archive, thereby boosting system performance at a reduced total cost of ownership (TCO).

In addition, EonStor GS comes with inline compression and offline deduplication, which reduces the overall storage capacity required and thus saves further costs.

Smart Management of SSD

EonStor GS uses an intelligent algorithm to handle data writes and optimize SSD usage. The algorithm not only extends SSD lifespan by reducing the total amount of writes on an SSD but also prevents multiple SSDs from failing at the time and causing data loss. Moreover, as EonStor GS storage monitors SSD status in real time, it estimates the remaining lifespan of each SSD and sends the administrator a reminder to replace the SSD that is about to fail.

Complete Data Protection and Backup

EonStor GS offers various data protection mechanisms to guarantee data safety. First, Infortrend's unique RAID technology ensures your data remains intact even in case of a drive failure. With snapshot, a flexible backup tool, you can back up local resources on a storage system by schedule, including volumes and shared folders, and roll back to a previous version when needed. For further protection, you can back up data to a remote GS appliance using the remote replication feature, or to a public cloud with EonCloud Gateway.

Immutable object storage, another crucial feature for data protection, safeguards data against ransomware attacks. It retains data with WORM (write once read many) storage protection, where data gets "locked" and therefore cannot be modified, deleted, overwritten, or even encrypted by ransomware. By setting a retention period, you can easily follow government compliance requirements or company policies on data retention.

For companies requiring an easy-to-use and reliable storage solution for file backup, EonStor GS can be utilized as a backup appliance, allowing you to leverage its backup service to back up PC folders, file servers, and public cloud through a GUI interface. Additionally, you can set options such as a backup schedule and a retention period to best fit your needs.

New Level of High Availability

From power supplies, cooling fans, to controllers, the EonStor GS appliance is built in a modular, redundant, and hot-swappable hardware design, which reduces maintenance complexity and ensures uninterrupted services, whether during a regular system upgrade or even in an unplanned maintenance event due to a component failure.

In addition, EonStor GS offers HA service to deliver continuous availability with a near-zero RTO (recovery time objective) and a zero RPO (recovery point objective). With two storage devices deployed at near sites, the HA service provides block-level active-active storage and file-level active-passive storage for business-critical applications that have an extremely low tolerance for downtime. Featuring synchronous remote replication and auto-failover, this solution ensures identical and complete copies of data are stored on both storage devices and avoids service downtime due to planned or unexpected events. Auto-failback is available in block-level HA service, allowing a storage device to resume services without switching manually.

Intuitive Management Software

EonStor GS adopts EonOne, a web-based management software tool, to assist customers in raising storage and service efficiency for increased productivity. With its intuitive interface design, IT administrators can easily manage a cluster and multiple appliances, monitor performance and capacity usage, and complete system configurations, all from one centralized interface.

PHYSICAL SPECIFICATIONS

Product Series		GS 1000 Gen2	GS 2000	GS 3000 Gen2	GS 4000 Gen2
Form Factor	2U 24-bay	GS 1024 R2B/S2B	GS 2024 RB/SB GS 2024 RTB/STB	-	-
	2U 25-bay	-	-	GS 3025 R2B/S2B	GS 4025 R2B/S2B
Note: S : Single upgradable to dual redundant controllers R : Dual redundant controllers 2 : Gen2 T : High performance C : Super capacitor					
Controller	Dual redundant or single upgradable to dual redundant				
Cache Backup Technology	Super capacitor + flash module				
CPU	Intel® Atom® 4-Core	Intel® Pentium® 2-Core Intel® Pentium® 4-Core (for high performance models)	Intel® Xeon® D 4-Core	Intel® Xeon® D 8-Core	
Cache Memory	Single Controller	Default DDR3 8GB, up to 16GB	Default DDR4 8GB, up to 64GB	Default DDR4 8GB, up to 256GB	Default DDR4 8GB, up to 256GB
	Redundant Controllers	Default DDR3 16GB, up to 32GB	Default DDR4 16GB, up to 128GB	Default DDR4 16GB, up to 512GB	Default DDR4 16GB, up to 512GB
Supported Drives	<ul style="list-style-type: none"> • 2.5" SAS SSD • 2.5" SAS HDD • 2.5" SATA SSD 				
Note: For the latest compatibility details, refer to our official website for the latest Compatibility Guide.					
Max. Drive Number	Via Expansion Enclosures, per Appliance	448	896	896	896
	Via Scale-out with Other Series of Appliances, per Cluster	3136	3584	3584	3584
Max. SSD Cache Pool (Block Level)		1TB	3.2TB	4TB	4TB
Onboard 1GbE Ports (RJ45)		8	8	0	0
Onboard 10GbE Ports (SFP+)		0	0	8	8
Onboard SAS Expansion Ports		2	2	4	4
Max. Host Board Slots		2	4	4	4
Host Board Options		<ul style="list-style-type: none"> • 16Gb/s FC x 4 • 32Gb/s FC x 2 • 1GbE (RJ-45) x 4 • 10GbE (SFP+) x 2 • 25GbE (SFP28) x 2 • 12Gb/s SAS x 2 	<ul style="list-style-type: none"> • 16Gb/s FC x 4 • 32Gb/s FC x 2 • 32Gb/s FC x 4 • 1GbE (RJ-45) x 4 • 10GbE (SFP+) x 2 • 25GbE (SFP28) x 2 • 12Gb/s SAS x 2 	<ul style="list-style-type: none"> • 16Gb/s FC x 4 • 32Gb/s FC x 2 • 32Gb/s FC x 4 • 10GbE (SFP+) x 2 • 25GbE (SFP28) x 2 • 12Gb/s SAS x 2 	
	Note: It is strongly recommended that you refer to the latest Host Board and Memory Guide on our website for complete information, including supported combinations and important notes, before purchasing any host board for your model.				
Max. 16Gb/s FC Ports		8	16	16	16
Max. 32Gb/s FC Ports		4	16	16	16
Max. 1GbE Ports (RJ45)		8	16	0	0
Max. 10GbE Ports (SFP+)		4	8	8	8
Max. 25GbE Ports (SFP28)		4	8	8	8
Max. 12Gb/s SAS Ports		4	8	8	8
Expansion Enclosures (JBODs)		JB 3012A, JB 3016A, JB 3024BA, JB 3025BA, JB 3060L, JB 3090		JB 3012A, JB 3016A, JB 3025BA, JB 3060L, JB 3090	
Dimensions (Without Chassis Ears and Protrusions) (W x H x D)	449 x 88 x 500 mm				
Package Dimensions (W x H x D)	780 x 338 x 588 mm			780 x 340 x 588 mm	
Power Supply Unit	Power Supplies (Redundant and Hot-swappable)	Global	460W x 2 (80 PLUS Bronze)		530W x 2 (80 PLUS Bronze)
		EU	800W x 2 (80 PLUS Titanium)		
	AC Voltage	Global	100VAC @10A to 240VAC @5A		
		EU	100-127VAC @10A, 200-240VAC @5A		
Frequency	50-60 Hz				
Safety Standards	<ul style="list-style-type: none"> • Electromagnetic compatibility: CE, BSMI, FCC • Safety: UL, BSMI, CB 				

SOFTWARE SPECIFICATIONS

Max. Logical Drive Number	30	
Max. Logical Drive Capacity	512TB	
Stripe Size (per Logical Drive)	16KB, 32KB, 64KB, 128KB, 256KB, 512KB, or 1024KB	
Write Policy (per Logical Drive)	Write-back or write-through	
Max. Pool Size	2PB	
Max. Pool Number	30	
Max. Volume Size	2PB	
Max. Volume Number	1024	
Max. Host LUN Mapping Number	4096	
Max. Reserved Tag Number (per Host-LUN Connection)	256	
Max. iSCSI Sessions (per Controller)	416	
Max. Host Connection Number (per FC)	128	
RAID Options	RAID 0, RAID 1, RAID 3, RAID 5/5F, RAID 6/6F, RAID 10, RAID 30, RAID 50, RAID 60	
Supported Protocols	File Level	CIFS/SMB (version 2.0/3.0), NFS (version 2/3/4), AFP (version 3.1.12), FTP/FXP (vsftp 2.3.4), WebDAV (httpd package 2.4.6)
	Block Level	FC, iSCSI, SAS
	Object Level	RESTful API
File Level	Max. File System Size	2PB
	Max. Number of User Accounts	20000
	Max. Number of User Groups	512
	Max. Number of Shared Folders	2048 (NFS/CIFS/FTP) 255 (AFP)
	Max. Number of Rsync Jobs	1024
	Max. Number of Concurrent Rsync Processes	64
Management	Max. Number of Connections	2048 (NFS/CIFS/AFP) 1024 (FTP)
	Management	<ul style="list-style-type: none"> • Web-based EonOne management software • User account management • Group management • Folder management - folder access control • Quota management • Folder encryption with AES • Integration with Microsoft Active Directory (AD) and Linux LDAP • Storage Resource Management to analyze history of resource usage • Multi-factor authentication login mechanism • File-level QoS (network traffic control) • SMI-S standard interface for hypervisor management applications
Availability and Reliability	Availability and Reliability	<ul style="list-style-type: none"> • Immutable object storage • Hot-swappable hardware modules • Device mapper • Antivirus • Trunk group • Cache safe technology • UPS • WORM (file level only) • SMB Multichannel • Backup Service
	Efficiency	<ul style="list-style-type: none"> • Inline compression • Offline deduplication
Notification	<ul style="list-style-type: none"> • Email • SNMP traps 	
Applications	M&E	<ul style="list-style-type: none"> • Project Server • ResouceSpace
	Data Backup	<ul style="list-style-type: none"> • Object Storage
	File Sharing and Syncing	<ul style="list-style-type: none"> • Nextcloud
	Productivity	<ul style="list-style-type: none"> • Mail Server • Web Server • ONLYOFFICE
	Management	<ul style="list-style-type: none"> • Proxy Server • LDAP Server • Syslog Server • VPN Server
	Security	<ul style="list-style-type: none"> • Anti-virus
Supported Cloud Services	Utility	<ul style="list-style-type: none"> • File Explorer • Docker
	Supported Cloud Services	<p>EonCloud Gateway supports integration with the following cloud providers: Amazon S3, Microsoft Azure, Alibaba Cloud, OpenStack, Baidu Cloud, Google Cloud, Tencent Cloud, Wasabi Cloud, etc.</p> <p>Note: For complete information about cloud provides support, please refer to EonCloud Gateway webpage https://www.infortrend.com/global/solutions/eoncloud</p>
Supported OS	Supported OS	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, macOS X, VMware
	Supported OS	Note: For supported OS versions, please refer to the Compatibility Guide.

DATA SERVICES

Thin Provisioning	Block Level	Default	"Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space.		
Local Replication	Snapshot	File Level	Optional Snapshot images per source partition: 1024		
		Block Level	Default	Snapshot images per source partition: 64	Snapshot images per pool: 128
	Optional		Snapshot images per source partition: 256	Snapshot images per pool: 4096	
	Volume Copy/Mirror	Default	Replication pairs per source volume: 4	Replication pairs per system: 16	
		Optional	Replication pairs per source volume: 8	Replication pairs per system: 256	
Remote Replication	File Level	Default	Support Rsync with 128-bit SSH encryption		
	Block Level	Optional	Replication pairs per source volume: 8	Replication pairs per system: 64	
Note: 1. The maximum number of replication pairs per source volume is 8, whether they are remote asynchronous pairs, remote synchronous pairs, or local volume pairs 2. 16Gb FC x 4, 32Gb FC x 2, and 32Gb FC x 4 host boards do not support Remote Replication.					
Automated Storage Tiering		Optional	Storage tiers per pool: 4		
Scale-out	File Level	Default	Appliances per cluster: 1		
		Optional	Appliances per cluster: 4		
	Block Level	Default	Appliances per cluster: 4		
HA Service	File Level	Optional	Delivering continuous availability and eliminating downtime for mission-critical workloads that require non-stop operations		
	Block Level		Note: HA service is available on GS 3000B/4000B Gen2.		
SSD Cache	File Level	Optional	Accelerating file operations and data access performance for both read and write Max. SSD number: 8		
			Accelerating data access in random read-intensive environments (e.g. OLTP) Max. SSD number: 4		
	Block Level	Optional	Recommended DIMM capacity per controller for SSD cache pool for GS 1000B Gen2, GS 2000B		
			DRAM: 8GB	Max SSD cache pool size: 0.4TB	
			DRAM: 16GB	Max SSD cache pool size: 0.6TB	
			DRAM: 32GB	Max SSD cache pool size: 1TB	
			DRAM: 64GB	Max SSD cache pool size: 1.6TB	
			DRAM: 128GB and up	Max SSD cache pool size: 3.2TB	
			Recommended DIMM capacity per controller for SSD cache pool for GS 3000B/4000B Gen2		
			DRAM: 8GB	Max SSD cache pool size: 0.5TB	
			DRAM: 16GB	Max SSD cache pool size: 1TB	
			DRAM: 32GB	Max SSD cache pool size: 2TB	
DRAM: 64GB and up	Max SSD cache pool size: 4TB				

WARRANTY AND SERVICE

Service and Support	Standard Service	3-year limited hardware warranty and 8x5 phone, web, and email support (batteries are covered under warranty for 2 years)	
	Upgrade or Extension Options	Warranty extension: Standard service can be extended up to 5 years. The following service can be upgraded to 5 years.	
		<ul style="list-style-type: none"> • 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 	
	Note: Options may vary by region. For more details, please contact our sales representatives.		
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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