Infortrend®

Explore EonStor GS

EonStor GS SAS SSD Hybrid 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 70 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 1000B G3	GS 2000B	GS 3000B Gen2	GS 4000B Gen2
Form Factor	2U 24-bay		GS 1024**R3B/S3B**	GS 2024**RB/SB** GS 2024**RTB/STB**	-	-
	2U 25-bay		-	-	GS 3025**R2B/S2B**	GS 4025**R2B/S2B**
			Note: R: Dual redundant controllers **S**: Single upgradable to dual redundant controllers **2**: Gen2 **3**: G3 **T**: High performance **B**: 2.5" drive			
Controller			Dual redundant or single upgradable to dual redundant			
Cache Backup Technology			Super capacitor + flash module			
CPU			Intel® Pentium® 2-Core	Intel® Pentium® 2-Core Intel® Pentium® 4-Core (for **T** models)	Intel® Xeon® D 4-Core	Intel® Xeon® D 8-Core
Cache Memory	Single Controller		Default DDR4 8GB, up to 64GB		Default DDR4 8GB, up to 256GB	Default DDR4 8GB, up to 256GB
	Redundant Controllers		Default DDR4 16GB, up to 128GB		Default DDR4 16GB, up to 512GB	Default DDR4 16GB, up to 512GB
Supported Drives			• 2.5" SAS SSD • 2.5" SAS HDD • 2.5" SATA SSD (for single-controller models only)			
			Note: For the latest Compatibility Guide, refer to our official website.			
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)			2TB	3.2TB	4TB	4TB
Onboard 1GbE Ports (RJ45)			0	8	0	0
Onboard 10GbE Ports (SFP+)			0	0	8	8
Onboard SAS Expansion Ports			2	2	4	4
Host Board Slots			2	4	4	4
Host Board Options			• 16Gb/s FC x 4 • 32Gb/s FC x 2 • 32Gb/s FC x 4 • 1GbE (RJ45) x 4 • 10GbE (SFP+) x 2 • 25GbE (SFP28) x 2, RDMA • 12Gb/s SAS x 2	• 16Gb/s FC x 4 • 32Gb/s FC x 2 • 32Gb/s FC x 4 • 1GbE (RJ45) x 4 • 10GbE (SFP+) x 2 • 25GbE (SFP28) x 2 • 12Gb/s SAS x 2	• 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			8	16	16	16
Max. 1GbE Ports (RJ45)			8	24	0	0
Max. 10GbE Ports (SFP+)			4	8	16	16
Max. 25GbE Ports (SFP28)			4	8	8	8
Max. 12Gb/s SAS Ports			6	10	12	12
Expansion Enclosures (JBODs)			JB 3012**A**, JB 3016**A**, JB 3024**BA**, JB 3025**BA**, JB 3060**L**, JB 3090		JB 3012**A**, JB 3016**A**, JB 3025**BA**, JB 3060**L**, 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)			588 x 239 x 780 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	100-240VAC @10-5A			
		EU	100-127VAC @10A, 200-240VAC @5A			
	Frequency		50-60 Hz			
Safety Standards			• Electromagnetic compatibility: CE, BSMI, FCC • Safety: UL, BSMI, CB			

SOFTWARE SPECIFICATIONS

Max. Logical Drive Number		30
Max. Logical Drive Capacity		512TB
Stripe Size		16KB, 32KB, 64KB, 128KB, 256KB, 512KB, 1024KB (per logical drive)
Write Policy		Write-back or write-through (per logical drive)
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		256 (per Host-LUN connection)
Max. iSCSI Initiators		416 (per controller)
Max. Host Connection Number		128 (per FC)
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, NVMe/TCP
	Object Level	RESTful API
File Level	Max. File System Size	2PB
	Max. Number of Local Users	20000
	Max. Number of Local Groups	512
	Max. Number of Domain Users and Groups	The number depends on the memory capacity of a single controller and the system configuration. • 8GB: 50,000 • 16GB: 100,000 • 32GB: 200,000 • 64GB: 400,000 • 128GB and up: 500,000
		Note: The number of **R** models does not double.
	Max. Number of Shared Folders	• **S** models: 1024 (NFS/CIFS/FTP) | 255 (AFP) • **R** models: 2048 (NFS/CIFS/FTP) | 255 (AFP)
	Max. Number of Rsync Jobs	1024
	Max. Number of Concurrent Rsync Processes	64
	Max. Number of Connections	2048 (NFS/CIFS/AFP) | 1024 (FTP)
Management		• 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		• Immutable object storage • Hot-swappable hardware modules • Device mapper • Antivirus • Trunk group • Cache safe technology • UPS • WORM (file level only) • SMB Multichannel
Efficiency		• Block level: Offline compression, offline deduplication • File level: Inline compression, offline deduplication
Notification		• Email • SNMP traps
Applications		• Anti-virus • Backup Server • Docker • LDAP Server • Mail Server • Nextcloud • Project Server • Proxy Server • Syslog Server • VPN Server • Web Server
Supported Cloud Services		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.
		Note: For complete information about supported cloud providers, please refer to EonCloud Gateway webpage **https://www.infortrend.com/global/solutions/eoncloud**
Supported OS		Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, MacOS X, VMware, Citrix XenServer, OpenStack Cinder
		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 folder: 1024	
		Block Level	Default	Snapshot images per source volume: 64	Snapshot images per system: 128
			Optional	Snapshot images per source volume: 256	Snapshot images per system: 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: The maximum number of replication pairs per source volume is 8, whether they are remote asynchronous pairs, remote synchronous pairs, or local volume pairs	
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 3000**B**/4000**B** Gen2.	
SSD Cache		File Level	Optional	Accelerating file operations and data access performance for both read and write Max. SSD number: 8	
		Block Level	Optional	Accelerating data access in random read-intensive environments (e.g. OLTP) Max. SSD number: 4	
				Recommended DIMM capacity per controller for SSD cache pool for GS 1000**B** G3, GS 2000**B**	
				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 3000**B**/4000**B** 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 8 x 5 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 services can be upgraded to 5 years. • Upgrade: Replacement part dispatch on the next business day • Advanced service: Phone, web, and email support + onsite diagnostics on the next business day • Premium service: Phone, web, and email support + onsite diagnostics within 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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