Infortrend®

Explore EonStor GS

EonStor GS U.2 NVMe Hybrid Flash Storage

Scale-out Unified Storage with High Availability for Enterprises

Highlights

Extreme Performance

- Up to 1100K IOPS to accelerate storage operations
- Massive sequential throughput of up to 24GB/s read and 12GB/s write

Cost-Effective Storage

- U.2 NVMe SSD to deliver better performance at lower costs
- Automated storage tiering to fully utilize SSD and HDD

Flexible Scalability

- Scale-out and scale-up expansions to easily expand performance and capacity to more than 70PB

Easy to Use and Manage

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

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 U.2 NVMe hybrid flash storage is a high performance storage solution for enterprises. Equipped with U.2 NVMe SSD, it delivers higher IOPS and throughput at a cost-effective price. This unified storage series supports both SAN and NAS services, provides block-level and file-level scale-out expansions to linearly increase performance and capacity, and comes with complete data protection that allows IT staff to focus on higher value projects. It thus makes a perfect fit for applications such as HPC, M&E, virtualization, and database.

End-to-End High Performance with U.2 NVMe SSD

Supporting PCIe 4.0, NVMe U.2 SSD, and 100GbE connectivity with RDMA, GS U.2 NVMe storage delivers a higher speed with a lower latency, providing up to 24GB/s read and 12GB/s write in throughput and 1100K on a single appliance.

Cost-Effectiveness and High Storage Efficiency

U.2 NVMe SSD is becoming the mainstream in the market as it combines the advantages of SAS and SATA SSDs, allowing enterprises to enjoy higher performance at a competitive price.

EonStor GS U.2 NVMe storage supports hybrid storage, and with automated storage tiering, the storage system can automatically leverage the high throughput and low latency of U.2 NVMe SSDs for frequently accessed data, while using HDDs on expansion enclosures as data backup media, thereby boosting system performance at a reduced total cost of ownership.

EonStor GS U.2 NVMe storage also comes with inline compression and offline deduplication, which reduces the required storage capacity and thus saves storage costs. The inline compression feature compresses raw files in real-time, which greatly shrinks the data size and reduces the transfer time. To deal with repeated files saved by manual backups or archiving, offline deduplication helps you automatically remove duplicate data from the cluster to free up storage space.

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 environments. When one storage appliance is no longer able to provide enough performance or capacity, you can simply add more appliances to form a cluster—with a maximum of 4 appliances.

Through scale-up expansion, each storage appliance can be connected to JBOD expansion enclosures to add up to 896 drives. Together with scale-out expansion, EonStor GS U.2 NVMe storage supports more than 3000 drives in total.

Easy Data Access for Users 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.

Smart Management of SSD

EonStor GS U.2 NVMe storage 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 U.2 NVMe 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 U.2 NVMe 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 U.2 NVMe storage 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, controllers, to host boards, the modular design of all these hardware components lowers maintenance complexity and provides fast, precise technical support and RMA services, keeping EonStor GS U.2 NVMe storage safe from any downtime to maintain nonstop services, increase productivity, and enhance competitiveness.

In addition, EonStor GS U.2 NVMe storage 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

GS U.2 NVMe storage 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 2000U	GS 3000U	GS 3000UT	GS 4000U
Form Factor	2U 24-bay		GS 2024**UR**	GS 3024**UR**	GS 3024**URT**	GS 4024**UR**
	4U 48-bay		-	-	GS 3048**URT**	GS 4048**UR**
			Note: U: NVMe storage **R**: Dual redundant controllers **T**: High performance			
Controller			Dual redundant			
Cache Backup Technology			Super capacitor + flash module			
CPU			Intel® Xeon® D 2-Core	Intel® Xeon® D 4-Core	Intel® Xeon® D 4-Core	Intel® Xeon® D 6-Core
Cache Memory			Default DDR4 16GB, up to 128GB		Default DDR4 48GB, up to 384GB	
Supported Drives			2.5" U.2 NVMe SSD (must be purchased from Infortrend)			
			Note: For the latest compatibility details, refer to our official website for the latest Compatibility Guide.			
Max. Drive Number	Via Expansion Enclosures, per Appliance		896	896	896	896
	Via Scale-out with Other Series of Appliances, per Cluster		3584	3584	3584	3584
Max. SSD Cache Pool (Block Level)			4TB			
Onboard 10GbE Ports (SFP+)			0	4	0	0
Onboard 25GbE Ports (SFP28)			0	0	4	0
Host Board Options			• 16Gb/s FC x 4 • 32Gb/s FC x 2 • 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 • 100GbE (QSFP28) x 1, RDMA • 100GbE (QSFP28) x 2, RDMA • 12Gb/s SAS x 2	
			Note: 1. One 100GbE x 2 host board delivers a maximum throughput of 100Gb/s. 2. At least 24GB memory is required per controller to use 100GbE RDMA. 3. 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			16	16	16	16
Max. 32Gb/s FC Ports			16	16	16	16
Max. 10GbE Ports (SFP+)			8	8	8	8
Max. 25GbE Ports (SFP28)			8	8	8	8
Max. 100GbE Ports (QSFP28)			0	0	4	4
Max. 12Gb/s SAS Ports			8	8	8	8
Expansion Enclosures (JBODs)			JB 3012A, JB 3016A, JB 3024BA, JB 3025BA, JB 3060L, JB 3090			
Dimensions (Without Chassis Ears and Protrusions) (W x H x D)			449 x 88 x 500 mm		• 2U 24-bay: 449 x 88 x 530 mm • 4U 48-bay: 449 x 176 x 530 mm	
Package Dimensions (W x H x D)			• 2U 24-bay: 780 x 338 x 588 mm • 4U 48-bay: 780 x 423 x 588 mm			
Power Supply Unit	Power Supplies (Redundant and Hot-swappable)	Global	• 2U 24-bay: 530W x 2 (80 PLUS Bronze) • 4U 48-bay: 1300W x 2 (80 PLUS Titanium)			
		EU	• 2U 24-bay: 800W x 2 (80 PLUS Titanium) • 4U 48-bay: 1300W x 2 (80 PLUS Titanium)			
	AC Voltage	Global	• 2U 24-bay: 100-240VAC @10-5A • 4U 48-bay: 100-127VAC @10A, 200-240VAC @8.5A			
		EU	• 2U 24-bay: 100-127VAC @10A, 200-240VAC @5A • 4U 48-bay: 100-127VAC @10A, 200-240VAC @8.5A			
	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		832
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
	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
	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 • Backup Service
Efficiency		• Inline compression • Offline deduplication
Notification		• Email • SNMP traps
Applications	M&E	• Project Server • ResouceSpace
	Data Backup	• Object Storage
	File Sharing and Syncing	• Nextcloud
	Productivity	• Mail Server • Web Server • ONLYOFFICE
	Management	• Proxy Server • LDAP Server • Syslog Server • VPN Server
	Security	• Anti-virus
	Utility	• File Explorer • Docker
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
		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 not available on GS 2000**U**.	
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	
				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: 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: phone, web, and email support + onsite diagnostics on the next business day • Premium service: 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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