Infortrend®

Explore EonStor DS

EonStor DS U.2 NVMe Hybrid Flash Storage

Enterprise-Class High Reliability SAN Storage

Highlights

Extreme Performance

- Up to 1000K IOPS
- Up to 11 GB/s read and 7.5 GB/s write

Great Scalability

- Up to 488 drives via expansion

Storage Efficiency

- Auto storage tiering to balance cost with performance between SSDs and HDDs

Smart SSD Management

- Extends SSD lifespan
- Prevents simultaneous failure of multiple SSDs and resulting data loss
- Timely reminder for SSD replacement

Intuitive Management

- Web-based software SANWatch simplifies management effort

Introduction

EonStor DS U.2 NVMe hybrid flash storage is high performance SAN storage for enterprises. Equipped with U.2 NVMe SSDs, it delivers high IOPS and throughput that are especially suitable for SAN environments at a cost-effective price. With advanced data services, this series makes a perfect fit for applications requiring both performance and capacity, such as database, virtualization, and VDI.

High Performance and Scalability

Featuring the mainstream ultra-speed U.2 NVMe SSDs, EonStor DS U.2 NVMe storage delivers up to 1000K end-to-end IOPS to accelerate storage operations, with a massive sequential throughput at up to 11 GB/s read and 7.5 GB/s write. By adding expansion enclosures (JBODs) to the storage appliance, storage capacity can be flexibly scaled up with a maximum of 448 drives, including SSDs and HDDs.

Storage Efficiency with Better TCO

EonStor DS U.2 NVMe storage supports hybrid storage, and with automated storage tiering, the storage system can automatically leverage the high performance I/Os of U.2 NVMe 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 DS U.2 NVMe storage comes with offline deduplication and compression, which reduces the overall storage capacity required and thus saves further costs.

Intelligent Management of SSDs

EonStor DS 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 same time, thereby preventing the resulting data loss. In addition, as the system 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.

Flexible Choice of Host Interfaces

To satisfy the needs of different environments, EonStor DS U.2 NVMe storage supports various I/O cards called host boards, which come in Fibre Channel 16/32 Gb/s, iSCSI 10/25 Gb/s, and SAS 12 Gb/s interfaces.

Complete Data Protection and Backup

EonStor DS U.2 NVMe storage offers various data protection mechanisms to guarantee data safety. First, Infortrend's unique RAID technology ensures your data remains fully protected in case of a drive failure. With snapshot, a flexible backup tool, you can back up local data on a storage system by schedule and roll back to a previous version any time. For further security, you can back up data to a remote DS appliance using the remote replication feature, available in synchronous and asynchronous modes.

High Reliability Hardware Design

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 DS U.2 NVMe storage safe from any downtime to bring non-stop services, increased productivity, and competitiveness.

Intuitive Management Software

EonStor DS U.2 NVMe storage adopts SANWatch, the web-based management software for DS appliances, to assist customers in raising storage and service efficiency for increased productivity. With its intuitive interface design, IT administrators can easily manage multiple appliances, monitor performance and capacity usage, and complete system configurations, all from one centralized interface.

PHYSICAL SPECIFICATIONS

Product Series			DS 4000U			
Form Factor	2U 24-bay		DS 4024**UG**	DS 4024**UGT**	DS 4024**UR**	DS 4024**URT**
			Note: U: NVMe storage **G**: Single controller, not upgradable **R**: Dual redundant controllers **T**: High performance			
Controller			Single		Dual redundant	
Cache Backup Technology			Super capacitor + flash module (optional for single-controller models)			
CPU			Intel® Xeon® D 2-Core	Intel® Xeon® D 4-Core	Intel® Xeon® D 2-Core	Intel®Xeon® D 4-Core
Cache Memory			Default DDR4 4GB, up to 64GB		Default DDR4 8GB, up to 128GB	
Supported Drives			2.5" U.2 NVMe SSD (must be purchased from Infortrend)			
Max. Drive Number			448			
Onboard 10GbE Ports (SFP+)			0	2	0	4
Max. Host Board Slots			2	2	4	4
Host Board Options				• 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	8	16	16
Max. 32Gb/s FC Ports			8	8	16	16
Max. 10GbE Ports (SFP+)			4	6	8	12
Max. 25GbE Ports (SFP28)			4	4	8	8
Max. 12Gb/s SAS Ports			4	4	8	8
Expansion Enclosures (JBODs)			JB 3012, JB 3016, JB 3024**B**, 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	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			• Safety: UL, BSMI, CB • Electromagnetic compatibility: CE, BSMI, FCC			

SOFTWARE SPECIFICATIONS

Max. Logical Drive Number	32
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. Logical Volume Size	512TB
Max. Logical Volume Number	32
Max. Partition Size	512TB
Max. Partition Number	1024 (per logical volume) / 2048 (per system)
Max. Host-LUN Mapping Number	4096
Max. Reserved Tag Number	256 (per Host-LUN connection)
Max. iSCSI Sessions	416 (per controller)
RAID Options	RAID 0, RAID 1, RAID 3, RAID 5/5F, RAID 6/6F, RAID 10, RAID 30, RAID 50, RAID 60
Supported Protocols	FC, iSCSI, SAS
Management	• Web-based SANWatch management software • Terminal via RS-232C • Command-line interface (CLI) • Embedded RAIDWatch • Telnet/SSH
Availability and Reliability	• Hot-swappable hardware modules • Device mapper • Trunk group • Cache safe technology
Efficiency	• Offline compression • Offline deduplication
Notification	• Email • SNMP traps
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		Default	"Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space.	
Local Replication	Snapshot	Default	Snapshot images per source partition: 64	Snapshot images per system: 128
		Optional	Snapshot images per source partition: 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		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	
SSD Cache		Optional	Accelerating data access in random read-intensive environments (e.g. OLTP) Max. SSD number: 4	

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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