EonStor DS 4000 series

High-powered performance featuring 12Gb/s SAS for midrange storage market

Ultra performance - DS 4000

- Ultra high 11,000MB/s read and 5,500MB/s write stable throughput handle even the most demanding applications, including Media & Entertainment
- Extreme 750K end-to-end IOPS performance makes it the perfect all-flash/hybrid solution for IOPS-intensive applications such as VDI and Database
- 256GB DDR4 memory support per system accelerates overall performance

SSD optimized

- Automated storage tiering optimizes system performance and capacity
- SSD Cache supports 6.4TB SSD cache pool per system to increase cache hit rate and accelerate read performance

Latest 12Gb/s SAS technology

Comprehensive 12 Gb/s SAS technology doubles data transfer speed between the storage enclosure and the host server for maximized performance

Flexible interface options

- Modular dual host board controller with integrated FC, SAS, iSCSI and FCoE protocols maximizes connection versatility for hosts
- Converged host board with 4 connectivity options ensures future-proof multi-channel appliances (16Gb/s FC, 8Gb/s FC, 10Gb/s iSCSI SFP+, 10Gb/s FCoE)

Wide scalability

- Future-proof expansion solution offers ample data capacity of up to 444 drives per system
- Compatible JBODs in different form factors, including SFF 2U 24-bay, LFF 3U 16-bay and LFF 4U 60-bay make capacity expansions quick and simple.

EonStor DS 4000 systems deliver top-notch performance in their segment, bringing unrivaled power to SMBs. With their unique dual host board design and 12Gb/s SAS interfaces to internal SAS or SATA disk drives, these systems achieve a massive throughput to meet even highly demanding applications such as media editing. They are also extremely scalable and integrate advanced data services such as SSD Cache, automated storage tiering, and self-encrypting drives.

Massive performance makes EonStor DS 4000 systems perfect for media industry

Thanks to optimized design and advanced processing power, EonStor DS 4000 systems achieve unprecedented performance figures for mid-range storage and can easily handle even very intense networked storage demands. Delivering up to 750K end-to-end IOPS, 11,000MB/s sequential read throughput and 5,500MB/s sequential write throughput, they ensure users are prepared to take on IT challenges for years to come.

Leading performance turns EonStor DS 4000 systems into productivity-boosting hubs for multiple 2K resolutions and 4K resolutions streams in media industry, with no slowdown or lag experienced thanks to their ample processing power and storage bandwidth. Strong performance means smooth service to large workforces.

Fully optimized for SSD

The storage industry is moving towards high speed, reliable, and efficient solid state drives, and the EonStor DS 4000 systems is future-ready. In addition to hybrid drive trays (2.5”/3.5”), it supports a range of SSD-focused software solutions, including automated storage tiering and self-managing SSD Cache. These two functions combine to leverage the advantages of each drive type, whether SSD, SAS, NL-SAS or SATA, by sorting data based on tenure and access frequency. This allows hot data to enjoy 16X more read IOPS and 88% lower latency, while maximizing SSD utilization and protecting your investment. EonStor DS systems feature real time wear level monitoring to pre-empt potential failures and prevent data loss.

Native support for 12Gb/s SAS: host and drive side

The 12Gb/s SAS host and drive side interface offers a low latency pathway without compromising performance due to delays or bandwidth limits. It features built-in connection scaling, adapting to different capacities and adjusting actual connection bandwidth based on real time loads. With 12Gb/s SAS, users benefit from a better cost-performance ratio, improving their ROI.

EonStor DS 4000 systems feature dual host board controller

Innovative design places two host boards side by side on EonStor DS 4000 systems, unlocking higher levels of flexibility and performance by allowing different combinations of Fibre Channel (up to 16Gb/s), SAS (up to 12Gb/s), iSCSI (up to 10Gb/s), FCoE (up to 10Gb/s). Each host board can also support hybrid interfaces, effectively quadrupling connectivity.

Emergency backup power

- Super capacitors with flash module ensure data integrity during power outages
- Last through the entire lifespan of the system and are maintenance-free

Data and security services

- Secure remote replication to backup data over long distances
- Intelligent Drive Recovery(IDR) scans media and corrects errors to ensure data integrity at all times
- Features snapshot, thin provisioning, and more

User friendly

- Intuitive SANWatch, RAIDWatch interfaces and command line interface customization
- User friendly yet sophisticated UI with full access to features

Green design

- Redundant 80 PLUS power supplies
- Accommodates 2.5” and 3.5” drives (hybrid tray)
- Intelligent drive and fan spin-down reduce energy waste

Emergency backup power safeguards data

Protecting against data loss due to prolonged power outages, EonStor DS 4000 systems include super capacitors paired with a flash module. If power fails, data is written to the flash cache and kept powered by the super capacitors for extended periods of time. Super capacitors require no maintenance and last for the life of the storage system, making them a very convenient and cost effective emergency backup measure.

Comprehensive data and security services

All EonStor DS 4000 systems support self-encrypting drives (SEDs), which are factory secured against even the most direct physical intrusion. SEDs defend against data theft and misplacement and make deletion much faster than traditional methods, as invalidating the key renders all data on the drive permanently unreadable.

For disaster recovery, the EonStor DS family supports secure remote replication. Local replication is offered via snapshot and volume copy/mirror. Thin provisioning is standard, and all data is covered by smart media scan and IDR (Intelligent Drive Recovery) technology, which detects faulty sectors and quickly clones affected data to prevent loss, even due to silent errors that would go unnoticed by other storage systems. All of these features are easily accessible from our user-friendly SANWatch browser-based interface.

Performance Review

EonStor DS 4000 Series	Max. Memory /per system	IOPS End-to-end	Throughput(MB/s) Seq. Read/Write
EonStor DS 4000	256GB	750K	11,000/5,500

High IOPS Solutions

Model name	DS 4016RU	DS 4016SU
Form factor	3U 16-bay LFF	
Storage controller	Dual-redundant	Single upgradable to redundant
Max. host ports (per system)	20 ports	10 ports
Host connectivity (per controller)	**Host board 1**: 2 x 16Gb FC ports 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) 4 x 8Gb FC ports 4 x 10Gb FCoE ports 2 x 10Gb iSCSI ports (RJ45) 2 x 56Gb InfiniBand ports[3] 4 x 16Gb FC ports 2 x 40Gb iSCSI ports	
	Host board 1 + Host board 2: 2 x 16Gb FC ports + 2 x 16Gb FC ports 2 x 12Gb SAS ports + 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) + 2 x 16Gb FC ports 4 x 8Gb FC ports + 4 x 8Gb FC ports 2/4 x 10Gb iSCSI ports (SFP+) + 2/4 x 10Gb iSCSI ports(SFP+) 4 x 10Gb FCoE ports+4 x 10Gb FCoE ports	2/4 x 10Gb iSCSI ports (SFP+) + 4 x 8Gb FC ports 2 x 10Gb iSCSI ports (RJ45) + 2 x 10Gb iSCSI ports (RJ45) 2 x 56Gb InfiniBand ports+2 x 56Gb InfiniBand ports[3] 4 x 16Gb FC ports + 4 x 16Gb FC ports 2 x 40Gb iSCSI ports + 2 x 40Gb iSCSI ports
Onboard iSCSI ports (per controller)	2 x 1Gb iSCSI port	
Cache memory (per controller)	4GB, 8GB, 16GB, 32GB, 64GB, 128GB	
Max. drives (per system)	16	
Max. drives (via expansion enclosures)	436	
Expansion enclosure (JBOD)	JB 3016 JB 3060	
SAS expansion ports (per controller)	2 x 12Gb SAS port	
Cache backup techniques	Super capacitor + Flash module	
Supported drives[1]	• 2.5" SATA/SAS SSD • 2.5" 10K/15K RPM SAS HDD • 3.5" 7200 RPM NL SAS HDD	
Power & Cooling	Power supply: Two redundant 530W; Voltage and Frequency: 100-240 Vac, 50-60Hz	
	Power consumption: 338W Heat dissipation: 1259BTU/hour	Power consumption: 250W Heat dissipation: 1259(BTU/hour)
Green design	• 80 PLUS power supplies delivering more than 80% energy efficiency • Intelligent multi-level drive spin-down	
RAID configurations	• RAID level 0, 1(0+1), 3, 5, 6, 10, 30, 50, 60 • Up to 32 logical drives and 64 partitions per logical volume • Up to 2048 LUNs	
Regulatory[2]	• Safety : UL, BSMI, CB, EAC • Electromagnetic Compatibility : CE, BSMI, FCC, KC	

Model name	DS 4024RUB	DS 4024SUB
Form factor	2U 24-bay SFF	
Storage controller	Dual-redundant	Single upgradable to redundant
Max. host ports (per system)	20 ports	10 ports
Host connectivity (per controller)	**Host board 1**: 2 x 16Gb FC ports 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) 4 x 8Gb FC ports 4 x 10Gb FCoE ports 2 x 10Gb iSCSI ports (Rj45) 2 x 56Gb InfiniBand ports[3] 4 x 16Gb FC ports 2 x 40Gb iSCSI ports	
	Host board 1 + Host board 2: 2 x 16Gb FC ports + 2 x 16Gb FC ports 2 x 12Gb SAS ports + 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) + 2 x 16Gb FC ports 4 x 8Gb FC ports + 4 x 8Gb FC ports 2/4 x 10Gb iSCSI ports (SFP+) + 2/4 x 10Gb iSCSI ports(SFP+) 4 x 10Gb FCoE ports+4 x 10Gb FCoE ports	2/4 x 10Gb iSCSI ports (SFP+) + 4 x 8Gb FC ports 2 x 10Gb iSCSI ports (RJ45) + 2 x 10Gb iSCSI ports (Rj45) 2 x 56Gb InfiniBand ports+2 x 56Gb InfiniBand ports[3] 4 x 16Gb FC ports + 4 x 16Gb FC ports 2 x 40Gb iSCSI ports + 2 x 40Gb iSCSI ports
Onboard iSCSI ports (per controller)	2 x 1Gb iSCSI port	
Cache memory (per controller)	4GB, 8GB, 16GB, 32GB, 64GB, 128GB	
Max. drives (per system)	24	
Max. drives (via expansion enclosures)	444	
Expansion enclosure (JBOD)	JB 3016 JB 3024B JB 3060	
SAS expansion ports (per controller)	2 x 12Gb SAS port	
Cache backup techniques	Super capacitor + Flash module	
Supported drives[1]	• 2.5" SATA/SAS SSD • 2.5" 10K/15K RPM SAS HDD	
Power & Cooling	Power supply: Two redundant 530W; Voltage and Frequency: 100-240 Vac, 50-60Hz	
	Power consumption: 313W Heat dissipation: 761BTU/hour	Power consumption: 238W Heat dissipation: 761BTU/hour
Green design	• 80 PLUS power supplies delivering more than 80% energy efficiency • Intelligent multi-level drive spin-down	
RAID configurations	• RAID level 0, 1(0+1), 3, 5, 6, 10, 30, 50, 60 • Up to 32 logical drives and 64 partitions per logical volume • Up to 2048 LUNs	
Regulatory[2]	• Safety : UL, BSMI, CB, EAC • Electromagnetic Compatibility : CE, BSMI, FCC, KC	

1. For the latest compatibility details, refer to our official website for the latest EonStor DS Compatibility Matrix.
2. Check with your local sales representative for complete details.
3. Linux only

Model name	DS 4016R Gen2	DS 4016G Gen2
Form factor	3U 16-bay LFF	
Storage controller	Dual-redundant	Single
Max. host ports (per system)	24 ports	12 ports
Host connectivity (per controller)	**Host board 1**: 2 x 16Gb FC ports 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) 4 x 8Gb FC ports 4 x 10Gb FCoE ports	2 x 10Gb iSCSI ports (RJ45) 2 x 56Gb InfiniBand ports[3] 4 x 16Gb FC ports 2 x 40Gb iSCSI ports
	Host board 1 + Host board 2: 2 x 16Gb FC ports + 2 x 16Gb FC ports 2 x 12Gb SAS ports + 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) + 2 x 16Gb FC ports 4 x 8Gb FC ports + 4 x 8Gb FC ports 2/4 x 10Gb iSCSI ports (SFP+) + 2/4 x 10Gb iSCSI ports(SFP+) 4 x 10Gb FCoE ports+4 x 10Gb FCoE ports	2/4 x 10Gb iSCSI ports (SFP+) + 4 x 8Gb FC ports 2 x 10Gb iSCSI ports (RJ45) + 2 x 10Gb iSCSI ports (RJ45) 2 x 56Gb InfiniBand ports+2 x 56Gb InfiniBand ports[3] 4 x 16Gb FC ports + 4 x 16Gb FC ports 2 x 40Gb iSCSI ports + 2 x 40Gb iSCSI ports
Onboard iSCSI ports (per controller)	4 x 1Gb iSCSI port	
Cache memory (per controller)	4GB, 8GB, 16GB, 32GB, 64GB	
Max. drives (per system)	16	
Max. drives (via expansion enclosures)	436	
Expansion enclosure (JBOD)	JB 3016 JB 3060	
SAS expansion ports (per controller)	1 x 12Gb SAS port	
Cache backup techniques	Super capacitor + Flash module	
Supported drives[1]	• 2.5" SATA/SAS SSD • 2.5" 10K/15K RPM SAS HDD • 3.5" 7200 RPM NL SAS HDD	
Power & Cooling	Power supply: Two redundant 460W; Voltage and Frequency: 100-240 Vac, 50-60Hz	
Green design	• 80 PLUS power supplies delivering more than 80% energy efficiency • Intelligent multi-level drive spin-down	
RAID configurations	• RAID level 0, 1(0+1), 3, 5, 6, 10, 30, 50, 60 • Up to 32 logical drives and 64 partitions per logical volume • Up to 2048 LUNs	
Regulatory[2]	• Safety : UL, BSMI, CB, EAC • Electromagnetic Compatibility : CE, BSMI, FCC, KC	

Model name	DS 4024RB Gen2	DS 4024SB Gen2
Form factor	2U 24-bay SFF	
Storage controller	Dual-redundant	Single upgradable to redundant
Max. host ports (per system)	24 ports	12 ports
Host connectivity (per controller)	**Host board 1**: 2 x 16Gb FC ports 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) 4 x 8Gb FC ports 4 x 10Gb FCoE ports	2 x 10Gb iSCSI ports (Rj45) 2 x 56Gb InfiniBand ports[3] 4 x 16Gb FC ports 2 x 40Gb iSCSI ports
	Host board 1 + Host board 2: 2 x 16Gb FC ports + 2 x 16Gb FC ports 2 x 12Gb SAS ports + 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) + 2 x 16Gb FC ports 4 x 8Gb FC ports + 4 x 8Gb FC ports 2/4 x 10Gb iSCSI ports (SFP+) + 2/4 x 10Gb iSCSI ports(SFP+) 4 x 10Gb FCoE ports+4 x 10Gb FCoE ports	2/4 x 10Gb iSCSI ports (SFP+) + 4 x 8Gb FC ports 2 x 10Gb iSCSI ports (RJ45) + 2 x 10Gb iSCSI ports (Rj45) 2 x 56Gb InfiniBand ports+2 x 56Gb InfiniBand ports[3] 4 x 16Gb FC ports + 4 x 16Gb FC ports 2 x 40Gb iSCSI ports + 2 x 40Gb iSCSI ports
Onboard iSCSI ports (per controller)	4 x 1Gb iSCSI port	
Cache memory (per controller)	4GB, 8GB, 16GB, 32GB, 64GB	
Max. drives (per system)	24	
Max. drives (via expansion enclosures)	444	
Expansion enclosure (JBOD)	JB 3024B JB 3060	
SAS expansion ports (per controller)	1 x 12Gb SAS port	
Cache backup techniques	Super capacitor + Flash module	
Supported drives[1]	• 2.5" SATA/SAS SSD • 2.5" 10K/15K RPM SAS HDD • 3.5" 7200 RPM NL SAS HDD	
Power & Cooling	Power supply: Two redundant 460W; Voltage and Frequency: 100-240 Vac, 50-60Hz	
Green design	• 80 PLUS power supplies delivering more than 80% energy efficiency • Intelligent multi-level drive spin-down	
RAID configurations	• RAID level 0, 1(0+1), 3, 5, 6, 10, 30, 50, 60 • Up to 32 logical drives and 64 partitions per logical volume • Up to 2048 LUNs	
Regulatory[2]	• Safety : UL, BSMI, CB, EAC • Electromagnetic Compatibility : CE, BSMI, FCC, KC	

1. For the latest compatibility details, refer to our official website for the latest EonStor DS Compatibility Matrix.
2. Check with your local sales representative for complete details.
3. Linux only

Data Service

Local Replication (Standard license is included by default and advanced is an optional license)	Snapshot	Snapshot images per source volume Snapshot images per system	Standard License: 64 / Advanced License: 256 Standard License: 128 / Advanced License: 4096
	Volume Copy/Mirror	Source volumes per system Replication pairs per source volume Replication pairs per system	Standard License: 16 / Advanced License: 32 Standard License: 4 / Advanced License: 8 Standard License: 64 / Advanced License: 256
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 (optional license)	Replication per source volume: 16 Replication pairs per source volume: 4 Replication pairs per system: 64		
Automated Storage Tiering (optional license)	Two(2) or four(4)storage tiers based on drive types SSD supports		
SSD Cache (optional license)	• 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:4GB Max SSD Cache Pool Size: 400GB DRAM:8GB Max SSD Cache Pool Size: 800GB DRAM:16GB Max SSD Cache Pool Size: 1,600GB DRAM:32GB Max SSD Cache Pool Size: 3,200GB DRAM: 64GB Max SSD Cache Pool Size: 6,400GB DRAM:128GB Max SSD Cache Pool Size: 6,400GB DRAM: 256GB Max SSD Cache Pool Size: 6,400GB		
Availability and Reliability	Redundant, hot-swappable hardware modules Multi-pathing support (EonPath); Device mapper support Cache backup technology: protects cached data during power outage by flushing data into flash memory Port trunking / link aggregation (IEEE 802.3ad), fail-over, jumbo frame		
Management	SANWatch management suite; Embedded RAIDWatch; Terminal via RS-232C; Telnet/SSH		
Notification	Email, Fax, LAN broadcast, SNMP traps, SMS		
OS support	Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2 , Microsoft Windows Hyper-V, Red Hat Enterprise, Linux, SUSE Linux Enterprise, Sun Solaris, Mac OS X, HP-UX[2], IBM AIX[2], VMware, Citrix XenServer, OpenStack Cinder		
Service and support [1]	Standard service	3-year limited hardware warranty and 8x5 phone, web, and email support (Batteries are covered under warranty for 2 years)	
	Upgrade/extension options	Replacement part dispatch on the next business day (up to 5 years) Advanced service: 24x7 phone, web, and email support + onsite diagnostics on the next business day (up to 5 years) Premium service: 24x7 phone, web, and email support + onsite diagnostics in 4 hours (up to 5 years) Extended standard service up to 5 years	

1. All EonStor DS systems ship with standard service. Extended service terms may vary by region.
2. Limited support. Check for detailed information.

Infortrend®

www.infortrend.com

* 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.

Asia Pacific (Taipei, Taiwan)
Infortrend Technology, Inc.
Tel:+886-2-2226-0126
E-mail : sales.ap@infortrend.com

China (Beijing, China)
Infortrend Technology, Ltd.
Tel:+86-10-6310-6168
E-mail : sales.cn@infortrend.com

Japan (Tokyo, Japan)
Infortrend Japan, Inc.
Tel:+81-3-5730-6551
E-mail : sales.jp@infortrend.com

Americas (Sunnyvale, CA, USA)
Infortrend Corporation
Tel:+1-408-988-5088
E-mail : sales.us@infortrend.com

EMEA (Basingstoke, UK)
Infortrend Europe Ltd.
Tel:+44-1256-305-220
E-mail : sales.eu@infortrend.com

© 2017 Infortrend Technology, Inc. All rights reserved. • Any information provided herein is without warranties of any kind of and is subject to change without prior notice. • Infortrend, EonStor, ESVA, EonNAS, SANWatch and EonPath are registered trademarks of Infortrend Technology, Inc. • All other names, brands, or services are trademarks or registered trademarks of their respective owners.