

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

# Latest SAS 3.0 technology for expandability and performance

- 12Gb/s SAS interface on client and drive sides
- 12 Gb/s SAS doubling the previous 6Gb/s transfer speed

#### **Leading performance**

- 11,000MB/s seq. read
- 4,200MB/s seq. write
- Up to 1.5M IOPS
- Massive throughput gets you ready for 4K media and beyond

#### Flexible interface options

- Dual host boards per controller, for extra connectivity
- Mixed FC, SAS, iSCSI and FCoE
- Massive performance gain

#### Wide scalable

- Connection with SAS 12Gb/s JBOD
- Dual SAS 12Gb/s expansion ports to maximize throughput
- Up to 436 drives per system
- Compatible JBODs in different form factors

#### SSD optimized

- SSD Cache and automated storage tiering
- SSD drive wear indication

#### **Emergency backup power**

- Super capacitors with flash module
- Cache data backup to flash module during power outage
- Long lasting and maintenance-free

EonStor DS 4000 systems deliver top-notch performance in their segment, bringing unmatched power to businesses and enterprises. With their unique dual host board design and 12Gb/s SAS interfaces to internal SAS or SATA disk drives, EonStor DS 4000 systems reach a massive throughput accommodating even highly demanding storage network workloads such as media editing. At the same time, EonStor DS 4000 systems maintain strict backwards compatibility with legacy interconnects for easy deployment in diverse environments. They are extremely scalable and provide access to advanced data services such as SSD Cache, automated storage tiering, and self-encrypting drives.

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

The 12Gb/s SAS interface offers a low latency pathway without compromising performance due to delays or bandwidth limits. On EonStor DS 4000 systems, 12Gb/s SAS has been implemented for client interfacing and importantly for drives. It features built-in connection scaling, adapting to different capacities and adjusting actual connection bandwidth based on real time loads. Users benefit from a better cost-performance ratio with 12Gb/s SAS, gaining improved return on investment.

## Massive performance makes EonStor DS 4000 system perfect for media industry

Thanks to optimized design and advanced processing power, EonStor DS 4000 systems can easily handle even very intense networked storage demands. They are capable of up to 1.3M IOPS, with a sequential read throughput of up to 11,000MB/s and a sequential write throughput of as much as 4,200MB/s. These are unprecedented performance figures for mid-range storage, and ensure users are prepared to take on IT challenges for years to come without frequent hardware replacement.

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.

#### EonStor DS 4000 system features dual host boards per controller

Innovative design places two host boards side by side on EonStor DS 4000 systems, unlocking higher levels of flexibility and performance. Whereas most storage systems feature a single host board, the EonStor DS 4000 series multiplies connectivity, versatility, and performance with two host boards. It enables different combinations of Fibre Channel (up to 16Gb/s), SAS (up to 12Gb/s), and iSCSI (up to 10Gb/s). Each host board can also support hybrid interfaces, effectively quadrupling connectivity. This groundbreaking feature is very unique for mid-range enterprise storage and offered at extremely competitive pricing.

### EonStor DS 4000 series

#### Data and security services

- Compatible with selfencrypting drives (SEDs)
- Secure remote replication
- Intelligent Drive Recovery (IDR) media scan and error correction
- Snapshot, thin Provisioning, and more

#### **User friendly**

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

#### Green design

- Redundant 80 PLUS power supplies
- Accommodate 2.5" and 3.5" drives (hybrid tray)
- Intelligent drive and fan spindown

#### Wide scalability with support for 12Gb/s JBOD connections

EonStor DS 4000 products feature two 12Gb/s SAS ports for connecting to compatible Infortrend JBOD expansion enclosures. The 12Gb/s SAS interface doubles connection speeds to JBODs compared to previous generation EonStor DS systems, and having two ports makes connecting multiple enclosures easier and less messy in terms of cabling. Due to the doubled connectivity and high performance of the EonStor DS 4000 series, users can have up to 436 drives per system.

#### Fully optimized for SSD

The storage industry is moving to high speed, reliable, and efficient solid state drives, and the EonStor DS 4000 series is future-ready. In addition to hybrid drive trays (2.5"/3.5"), systems support a range of SSD-focused software solutions. Self-managing SSD Cache autonomously allocates the hottest data to a high speed cache pool with up to 16X more read IOPS and 88% lower latency. SSD Cache has no performance penalty. It is complemented by automated storage tiering (up to 4-level), which also sorts data and places it in different tiers based on tenure and access frequency. Tiering leverages the advantages of each drive type: SSD and SAS speed for essential data, NL-SAS and SATA capacity for archived media. To protect investment in SSDs, systems feature intelligent SSD wear level indication with real time health monitoring. Users can keep an eye on drives and pre-empt possible failure, thus avoiding data loss.

#### **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 products support self-encrypting drives, or SEDs, which arrive 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 4000 series 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. Every feature is easily accessible from the user friendly SANWatch browser-based interface.











## Technical Specifications

Model name	DS 4016R	DS 4016S	
Form factor		3U 16-bay LFF	
Storage controller	Dual-redundant	Single upgradable to redundant	
Max. host ports (per system)	20 ports	10 ports	
	Host board 1:	2 x 16Gb FC ports 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) <sup>1</sup> 4 x 8Gb FC ports <sup>1</sup> 4 x 10Gb FCoE ports <sup>1</sup>	
Host connectivity (per controller)	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+) <sup>1</sup> + 2 x 16Gb FC ports 4 x 8Gb FC ports <sup>1</sup> + 4 x 8Gb FC ports <sup>1</sup> 2/4 x 10Gb iSCSI ports (SFP+) <sup>1</sup> + 2/4 x 10Gb iSCSI ports(SFP+) <sup>1</sup> 4 x 10Gb FCoE ports <sup>1</sup> + 4 x 10Gb FCoE ports <sup>1</sup> 2/4 x 10Gb iSCSI ports (SFP+) <sup>1</sup> + 4 x 8Gb FC ports <sup>1</sup>	
Onboard iSCSI ports (per controller)		2 x 1Gb/ iSCSI port	
Cache memory (per controller)		2GB, 4GB, 8GB, 16GB	
Max. drives (per system)		16	
Max. drives (via expansion enclosures)		436	
Expansion enclosure (JBOD)		JB 3016 JB 3060 ⁵	
SAS expansion ports (per controller)	2 x 12Gb/ SAS port		
Cache backup techniques		Super capacitor + Flash module	
Supported drives <sup>2</sup>	<ul> <li>2.5" SATA/SAS SSD</li> <li>2.5" 10K/15K RPM SAS HDD</li> <li>3.5" 7200 RPM NL SAS HDD</li> </ul>		
	Power supply: Two redun	dant 530W; Voltage and Frequency: 100-240 Vac, 50-60Hz	
Power & Cooling	Power consumption: 338 Heat dissipation(BTU/hour	Power consumption: 250 ): 1259 Heat dissipation(BTU/hour): 1259	
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 par titions per logical volume  Up to 2048 LUNs		
Regulatory <sup>3</sup>	Safety: UL, BSMI, CB, EAC     Electromagnetic Compatibility: CE, BSMI, FCC, KC		
Data Service			
Local Replication		napshot images per source volume Standard License: 64 / Advanced License: 256 napshot images per system Standard License: 128 / Advanced License: 4096	
(Standard license is defult included and advanced is an optional license)	Volume Copy/Mirror S	ource volumes 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 a	llocation 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 licesne)	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 s SSD supports	tiers based on drive types	
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 per controller for SSD Cache pool:  DRAM:2GB Max SSD Cache Pool Size:150GB 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		
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, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder		
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/extension option	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. 4-port 10Gb iSCSI, 4-port 8Gb FC, 2-port 160 in Q4 2015) 2.For the latest compatibility details, refer to our		<ol> <li>All EonStor DS systems ship with standard service. Extended service terms may vary by region</li> </ol>	

### High IOPS Solutions

Max. host ports (per system)    Most board 1	4016ST		DS 4016RT	Model name	
Max. host ports (per system)  Post beard 1  2 1 16th FC ports 2 1 175th SAS ports 3 1 175th SAS ports 4 x 80B FC ports 2 x 175th SAS ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 4 x 80B FC ports (SFP+)* 2 x 175th SAS ports 5 x 175th SAS port (SFP+)* 2 x 175th SAS ports 5 x 175th SAS p		3U 16-bay LFF		Form factor	
## Host board 1	idable to redundant	Si	Dual-redundant	Storage controller	
Host board 1 2/4 x 106b 15C61 ports (SFP +) 1 4 x 86b FC ports + 2 x 166b FC ports 1 4 x 106b FC62 ports + 2 x 166b FC ports 2 2 x 166b FC ports + 2 x 166b FC ports 4 4 x 166b FC62 ports + 2 x 166b FC ports 4 4 x 166b FC62 ports + 2 x 166b FC ports 4 4 x 166b FC62 ports + 2 x 166b FC ports 4 4 x 166b FC62 ports + 2 x 166b FC ports 4 4 x 166b FC62 ports + 2 x 166b FC ports 4 4 x 166b FC62 ports + 2 x 166b FC ports 4 4 x 166b FC62 ports + 2 x 166b FC ports 4 4 x 166b FC62 ports + 4	10 ports		20 ports	Max. host ports (per system)	
Host board 1  2x 126b SAS ports + 2x 126b SAS ports 4x 160b SCS ports (SPP+) + 2x 160b FC ports 4x 60b FC ports + 4x 80b FC ports + 4x 80b FC ports 4x 160b FC ports + 4x 160b		2 x 12Gb SAS ports  2/4 x 10Gb iSCSI ports (SFP+) <sup>1</sup> 4 x 8Gb FC ports <sup>1</sup>			
Cache memory (per controller)  Max. drives (per system)  Max. drives (via expansion enclosures)  Sexpansion enclosure (JBDD)  SAS expansion ports (per controller)  Cache backup techniques  Supported drives'  Supported driv	2 x 12Gb SAS ports + 2 x 12Gb SAS ports  2/4 x 10Gb iSCSI ports (SFP+) <sup>1</sup> + 2 x 16Gb FC ports  4 x 8Gb FC ports <sup>1</sup> + 4 x 8Gb FC ports  2/4 x 10Gb iSCSI ports (SFP+) <sup>1</sup> + 2/4 x 10Gb iSCSI ports(SFP+) <sup>1</sup> 4 x 10Gb FCoE ports <sup>1</sup> + 4 x 10Gb FCoE ports <sup>1</sup>			Host connectivity (per controller)	
Max. drives (per system)  Max. drives (via expansion enclosures)  Expansion ports (per controller)  SAS expansion ports (per controller)  Cache backup techniques  Supported drives 2  Supported drives 3  Supported drives 3  Supported drives 4  Power Scooling  Power & Cooling  Power & Cooling  Power Consumption: 338  Head dissipation (330 W. Voltage and Frequency: 100-240 Vac, 50-60Hz)  Power consumption: 338  Head dissipation (330 W. Voltage and Frequency: 100-240 Vac, 50-60Hz)  Power consumption: 338  Head dissipation (330 W. Voltage and Frequency: 100-240 Vac, 50-60Hz)  Power consumption: 338  Head dissipation (330 W. Voltage and Frequency: 100-240 Vac, 50-60Hz)  Power consumption: 338  Head dissipation (340 W. Voltage and Frequency: 100-240 Vac, 50-60Hz)  Power consumption: 338  Head dissipation (340 W. Voltage and Frequency: 100-240 Vac, 50-60Hz)  Power consumption: 338  Head dissipation (340 W. Voltage and Frequency: 100-240 Vac, 50-60Hz)  Power consumption: 338  Head dissipation (340 W. Voltage and Frequency: 100-240 Vac, 50-60Hz)  Power consumption: 338  Power consumption: 339 W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power supply: Two redundant 50W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 338  Power consumption: 338  Power consumption: 338  Power consumption: 338  Power consumption: 339 W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 338  Power consumption: 339 W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 338  Power consumption: 338  Power consumption: 339 W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 338  Power consumption: 339 W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 338  Power consumption: 339 W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 339 W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 339 W. Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consu		2 x 1Gb/ iSCSI port		Onboard iSCSI ports (per controller)	
Expansion enclosure (JBOD)  SAS expansion ports (per controller)  Cache backup techniques  Supported drives 2  Cache backup techniques  Supported drives 3  Power a Cooling Power & Cooling Power supply: Two redundant 530W; Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 338 Heat dissipation: 338 Heat		· · · · · · · · · · · · · · · · · · ·			
Expansion enclosure (JBOD)  SAS expansion ports (per controller)  Cache backup techniques  Supported drives '					
Expansion percisure (uBU)  SAS expansion ports (per controller)  Cache backup techniques  Supported drives 2  Supported drives 2  Power & Cooling  Power & Cooling  Power & Cooling  Power aupply: Two redundant 530W; Voltage and Frequency: 100-240 Vac, 50-60Hz  Power supply: Two redundant 530W; Voltage and Frequency: 100-240 Vac, 50-60Hz  Power consumption: 338 Heat dissipation(BTU/hour): 1259  Power consumption: 338 Heat dissipation(BTU/hour): 1259  RAID configurations  RAID configurations  Power supplies delivering more than 80% energy efficiency Intelligent mutil-level drive spin-down  RAID level 0, 1 (0+1), 3, 5, 6, 10, 30, 50, 60  Up to 23 logical drives and 64 par titlens per logical volume  Up to 2048 LUNs  Regulatory 3  Satety: UL, BSMI, CB, EAC Electromagnetic Compatibility: CE, BSMI, FCC, KC   Data Service  Sapphot Snapshot images per source volume Sapphot images per system Standard License: 64 / Advanced Snapshot images per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per source volume Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system Standard License: 64 / Advanced Replication pairs per system: 64 Replication pairs per system:				Max. drives (via expansion enclosures)	
SAS expansion ports (per controller)  Cache backup techniques  Supported drives  Supported drives  Supported drives  Supported drives  Supported drives				Expansion enclosure (JBOD)	
Supported drives * Supported drives * \$ .2.5 S ATA,SAS SSD * .2.5 S ATA,SAS SSD * .2.5 S ATA,SAS SSD * .3.5 7200 RPM NL SAS HDD *					
Supported drives 2 2.5" SATA/SAS SSD 2.2" 10K/15K RPM SAS HDD 3.5" 7200 RPM NL SAS HDD 4.3" 7200 RPM NL SAS HDD 5.3" 7200 RPM NL SAS HDD 5.3" 7200 RPM NL SAS HDD 6.3" 7200 RPM NL SAS HDD 6.3" 7200 RPM NL SAS HDD 7.3" 7200 RPM RPM NL SAS HDD 7.3" 7200 RPM NL SAS HDD 7.3" 7200 RPM NL SAS HDD 7.3" 7200 RPM NL SAS HDD 7.3" 7200 RPM RPM NL S		· · · · · · · · · · · · · · · · · · ·			
Power consumption: 338 Heat dissipation(BTU/hour): 1259	• 2.5" SATA/SAS SSD • 2.5" 10K/15K RPM SAS HDD				
Green design  All Devel of 1 (10+1), 3, 5, 6, 10, 30, 50, 60  BAID configurations  Begulatory 3  Begulatory 3  Begulatory 4  Begulatory 5  Bashot 5  Sapshot 5  Sapshot 5  Sapshot 5  Sapshot 5  Sapshot 1 Sapshot 1 Sapshot 1 Sapshot 1 Sandard License: 64 / Advanced 5  Sapshot 1 Sapshot 1 Sapshot 1 Sapshot 1 Sandard License: 128 / Advanced 3 and advanced is an optional license is defult included and advanced is an optional license 1 Self-encrypting drives  Bell-encrypting drives  Automated Storage Tiering (optional license)  Automated Storage Tiering (optional license)  Availability and Reliability  Management Management  Management  Management  Management  OS support  Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2, Microsoft Windows Myper-V, Red Hat Enterprise, Sun Solaris, Marc OS X, HP-Ux, IBM AIX, Mware, Citrix Xeasers, One, and emails in Gatards in Caresing Americans in Standard service (Batteries are covered under warranty for 2 years)  Standard License: 64 / Advanced Standard License: 66 / Advanced Standard License: 66 / Adv		530W; Voltage and Frequency: 100-240 Vac, 50-60Hz	Power supply: Two redu		
### Standard License: 16 / Advanced Standard License: 17 / Advanced Standard License: 18 / Advanced Standard License: 19 / Adv				Power & Cooling	
RAID configurations RAID configurations Particle Regulatory Regulatory Safety: UL, BSMI, CB, EAC Electromagnetic Compatibility: CE, BSMI, FCC, KC  Data Service  Snapshot Snapshot images per source volume Snapshot images per system Standard License: 64 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Snapshot images per system Standard License: 128 / Advanced Standard License: 14 / Advanced Standard License: 14 / Advanced Standard License: 64 / Advanced Standard License: 64 / Advanced Standard License: 14 / Advanced Standard License: 64 / Advanced Standard License: 128 / Advanced Standar	ition(B10/nour): 1259	• 80 PLUS power supplies delivering more than 80% energy efficiency		Green design	
- Safety: UL, BSMI, CB, EAC - Electromagnetic Compatibility: CE, BSMI, FCC, KC  Data Service  Snapshot Snapshot images per source volume Standard License: 64 / Advanced Standard License: 128 / Advanced and advanced is an optional license)  Thin Provisioning (default included and advanced is an optional license)  Self-encrypting drives  Remote Replication (optional license)  Remote Replication (optional license)  Automated Storage Tiering (optional license)  SSD Cache (optional license)  SSD Cache (optional license)  Availability and Reliability  Availability and Reliability  Management  Management  Management  Notification  OS support  Safety: UL, BSMI, CB, EAC - Electromagnetic Compatibility: CE, BSMI, FCC, KC  Snapshot Snapshot images per source volume Snapshot images per source volume Standard License: 64 / Advanced Standard License: 16 / Advanced Standard License: 16 / Advanced Standard License: 4 / Advanced Stan	RAID level 0, 1 (0+1), 3, 5, 6, 10, 30, 50, 60  Up to 32 logical drives and 64 par titions per logical volume			RAID configurations	
Snapshot		Regulatory <sup>3</sup>			
Snapshot images per system   Standard License: 128 / Advance			·	Data Service	
Availability and Reliability  Availability and Reliability  Management  OS support  Management  Manage				Local Replication	
Self-encrypting drives  Remote Replication (optional licesne)  Automated Storage Tiering (optional license)  SSD Cache (optional license)  Availability and Reliability  Availability and Reliability  Management  Management  Management  Management  Mostification  OS support  Standard service  Standard service  Multi-path norading support (Bank) Appear	nced License: 8	cation pairs per source volume Standard License		,	
Replication per source volume: 16 Replication pairs per source volume: 4 Replication pairs per system: 64  Two(2) or four(4)storage tiers based on drive types SSD supports  **Nocelerating data access for random read-intensive environments, such as OLTP **Supports up to four SSDs per controller **Recommended DIMM capacity per controller for SSD Cache pool: DRAM:2GB Max SSD Cache Pool Size:150GB DRAM:4GB Max SSD Cache Pool Size DRAM:8GB Max SSD Cache Pool Size:800GB DRAM:16GB Max SSD Cache Pool Size 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 me Port trunking / link aggregation (IEEE 802.3ad), fail-over, jumbo frame  **Management**  **Notification**  **OS support**  Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2 , Microsoft Windows Hyper-V, Red Hat Enterprise, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  **Standard service**  **Sundard service**  **Sundard service**  Replication pairs per source volume: 4 Replication pairs per system: 64  **Two(2) or four (4) storage tiers based on drive types  **SD Support**  **Accelerating data access for random read-intensive environments, such as OLTP  **Support**  **Accelerating data access for random read-intensive environments, such as OLTP  **Support**  **Accelerating data access for random read-intensive environments, such as OLTP  **Support**  **Accelerating data access for random read-intensive environments, such as OLTP  **Support**  **Accelerating data access for random read-intensive environments, such as OLTP  **Support**  **Accelerating data access for random read-intensive environments, such as OLTP  **Accelerating data access for random read-intensive environments.*  **Accelerating data acces for random read-intensive environments, such as OLTP  **Accelera	used storage space	" Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space			
Replication pairs per source volume: 4 Replication pairs per system: 64  Automated Storage Tiering (optional license)  SSD Cache (optional license)  Availability and Reliability  Availability and Reliability  Management  Management  Management  OS support  Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2 , Microsoft Windows Hyper-V, Red Hat Enterprise, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  Standard service  Automated Storage Tiering (optional license)  Two (2) or four (4) storage tiers based on drive types SSD supports  Accelerating data access for random read-intensive environments, such as OLTP  Supports up to four SSDs per controller for SSD Cache pool: DRAM:2GB Max SSD Cache Pool Size: 50GB DRAM:4GB Max SSD Cache Pool Size 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 me Port trunking / link aggregation (IEEE 802.3ad), fail-over, jumbo frame  SANWatch management suite; Embedded RAIDWatch; Terminal via RS-232C; Telnet/SSH  Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2 , Microsoft Windows Hyper-V, Red Hat Enterprise, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  3-year limited hardware warranty and 8x5 phone, web, and email si (Batteries are covered under warranty for 2 years)		ures data plus makes deletion simple and complete	Unique factory encryptic	Self-encrypting drives	
(optional license)  SSD supports  Accelerating data access for random read-intensive environments, such as OLTP  Supports up to four SSDs per controller Recommended DIMM capacity per controller for SSD Cache pool: DRAM:2GB Max SSD Cache Pool Size:150GB DRAM:4GB Max SSD Cache Pool Siz DRAM:8GB Max SSD Cache Pool Size:800GB DRAM:16GB Max SSD Cache Pool Size  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 me Port trunking / link aggregation (IEEE 802.3ad), fail-over, jumbo frame  SANWatch management suite; Embedded RAIDWatch; Terminal via RS-232C; Telnet/SSH  Motification  SANWatch management suite; Embedded RAIDWatch; Terminal via RS-232C; Telnet/SSH  Email, Fax, LAN broadcast, SNMP traps, SMS  Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2, Microsoft Windows Hyper-V, Red Hat Enterprise, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  Standard service  Standard service  Sandard service	Replication per source volume: 16 Replication pairs per source volume: 4				
* Accelerating data access for random read-intensive environments, such as OLTP  * Supports up to four SSDs per controller * Recommended DIMM capacity per controller for SSD Cache pool: DRAM:2GB Max SSD Cache Pool Size:150GB DRAM:4GB Max SSD Cache Pool Siz DRAM:8GB Max SSD Cache Pool Size:800GB DRAM:16GB Max SSD Cache Pool Siz  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 me Port trunking / link aggregation (IEEE 802.3ad), fail-over, jumbo frame  **Management**  **Notification**  **Motification**  **Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2 , Microsoft Windows Hyper-V, Red Hat Enterprise, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  **Standard service**  **Standard service**  **Accelerating data access for random read-intensive environments, such as OLTP  **Support Support Support Controller  **Cache Pool Siz* **DRAM:4GB Max SSD Cache Pool Siz* **DRAM:4GB	Two(2) or four(4)storage tiers based on drive types				
Availability and Reliability  Multi-pathing support (EonPath); Device mapper support Cache backup technology: protects cached data during power outage by flushing data into flash me Port trunking / link aggregation (IEEE 802.3ad), fail-over, jumbo frame  SANWatch management suite; Embedded RAIDWatch; Terminal via RS-232C; Telnet/SSH  Notification  Email, Fax, LAN broadcast, SNMP traps, SMS  Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2, Microsoft Windows Hyper-V, Red Hat Enterprise, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  Standard service  3-year limited hardware warranty and 8x5 phone, web, and email st (Batteries are covered under warranty for 2 years)		SSD Cache			
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, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  Standard service 3-year limited hardware warranty and 8x5 phone, web, and email so (Batteries are covered under warranty for 2 years)	h memory	Availability and Reliability			
OS support  Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2 , Microsoft Windows Hyper-V, Red Hat Enterprise, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  3-year limited hardware warranty and 8x5 phone, web, and email so (Batteries are covered under warranty for 2 years)				Management	
Enterprise, Sun Solaris, Mac OS X, HP-UX, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder  Standard service  3-year limited hardware warranty and 8x5 phone, web, and email so (Batteries are covered under warranty for 2 years)		Notification			
Standard service (Batteries are covered under warranty for 2 years)	Microsoft Windows Server 2008 / 2008 R2 / 2012 / 2012 R2 , Microsoft Windows Hyper-V, Red Hat Enterprise, Linux, SUSE Linux			OS support	
(batteries are covered under warranty for 2 years)	ail support		Standard service		
Service and support 4  Upgrade/extension options Upgrade/extension options Upgrade/extension options Upgrade/extension options Upgrade/extension options Extended standard service up to 5 years	ite diagnostics on the next business day	Replacement part dispatch on the next business day Advanced service: 24x7 phone, web, and email supp (up to 5 years) Premium service: 24x7 phone, web, and email suppo		Service and support <sup>4</sup>	

<sup>1. 4-</sup>port 10Gb iSCSI, 4-port 8Gb FC, 2-port 16Gb FC and 4-port four-in-one host board. (FCoE will be released in Q4 2015)
2. For the latest compatibility details, refer to our official website for the latest EonStor DS Compatibility Matrix.
3. Check with your local sales representative for complete details.
4. All EonStor DS systems ship with standard service. Extended service terms may vary by region.
5. Available in Q3 2015.

## High IOPS Solutions

Model name	DS 4024RTB	DS 4024STB		
Form factor		2U 24-bay SFF	F	
Storage controller	Dual-redundant		Single upgradable to redundant	
Max. host ports (per system)	20 ports		10 ports	
	Host board 1	2 x 16Gb FC ports 2 x 12Gb SAS ports 2/4 x 10Gb iSCSI ports (SFP+) <sup>1</sup> 4 x 8Gb FC ports <sup>1</sup> 4 x 10Gb FCoE ports <sup>1</sup>		
Host connectivity (per controller) <sup>5</sup>	Host board 1 + Host board 2	$2 \times 16 \text{Gb FC ports} + 2 \times 16 \text{Gb FC ports}$ $2 \times 12 \text{Gb SAS ports} + 2 \times 12 \text{Gb SAS ports}$ $2/4 \times 10 \text{Gb iSCSI ports} (\text{SFP}+)^1 + 2 \times 16 \text{Gb FC ports}$ $4 \times 8 \text{Gb FC ports}^1 + 4 \times 8 \text{Gb FC ports}$ $2/4 \times 10 \text{Gb iSCSI ports} (\text{SFP}+)^1 + 2/4 \times 10 \text{Gb iSCSI ports} (\text{SFP}+)^1$ $4 \times 10 \text{Gb FCoE ports}^1 + 4 \times 10 \text{Gb FCoE ports}^1$ $2/4 \times 10 \text{Gb iSCSI ports} (\text{SFP}+)^1 + 4 \times 8 \text{Gb FC ports}^1$		
Onboard iSCSI ports (per controller)		2 x 1Gb/ iSCSI po	ort	
Cache memory (per controller)		2GB, 4GB, 8GB, 1	6GB	
Max. drives (per system)		24		
Max. drives (via expansion enclosures)	444			
Expansion enclosure (JBOD)	JB 3016 JB 3024B JB 3060 <sup>5</sup>			
SAS expansion ports (per controller)		2 x 12Gb/ SAS po	ort	
Cache backup techniques		Super capacitor + Flas	h module	
Supported drives <sup>2</sup>	• 2.5" SATA/SAS SSD • 2.5" 10K/15K RPM SAS HDD			
Power & Cooling	Power supply: Two redundar Power consumption: 313 Heat dissipation(BTU/hour): 7	nt 530W; Voltage and Frequency: 100	0-240 Vac, 50-60Hz  Power consumption: 238  Heat dissipation(BTU/hour): 761	
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 par titions per logical volume • Up to 2048 LUNS			
Regulatory <sup>3</sup>	• Safety: UL, BSMI, CB, EAC • Electromagnetic Compatibility: CE, BSMI, FCC, KC			
Data Service				
Local Replication		pshot images per source volume pshot images per system	Standard License: 64 / Advanced License: 256 Standard License: 128 / Advanced License: 4096	
(Standard license is defult included and advanced is an optional license)	Rep	rce volumes per system lication pairs per source volume lication 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 allo	cation optimizes storage utilization a	and eliminates allocated but unused storage space	
Self-encrypting drives	Unique factory encryption s	ecures data plus makes deletion sim	ple and complete	
Remote Replication (optional licesne)	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 per controller for SSD Cache pool:  DRAM:2GB Max SSD Cache Pool Size:150GB 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			
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, IBM AIX, VMware, Citrix XenServer, OpenStack Cinder			
Service and support <sup>4</sup>	Standard service	3-year limited hardware warranty (Batteries are covered under warr	and 8x5 phone, web, and email support	
	Upgrade/extension options	Replacement part dispatch on the Advanced service: 24x7 phone, w (up to 5 years)	e next business day (up to 5 years) reb, and email support + onsite diagnostics on the next business day reb, and email support + onsite diagnostics in 4 hours (up to 5 years)	
1. 4-port 10Gb iSCSI, 4-port 8Gb FC, 2-port 160	Gb FC and 4-port four-in-one host bo	· · · · · · · · · · · · · · · · · · ·	n your local sales representative for complete details.	

 <sup>4-</sup>port 10Gb iSCSI, 4-port 8Gb FC, 2-port 16Gb FC and 4-port four-in-one host board be released in 03 2015.
 For the latest compatibility details, refer to our official website for the latest EonStor DS Compatibility Matrix.

<sup>3.</sup> Check with your local sales representative for complete details.
4. All EonStor DS systems ship with standard service. Extended service terms may vary by region.
5. Available in Q3 2015. (Except for 16Gb FC host board)





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

