

## EonStor DS 1000 series

Next generation entry-level storage with onboard iSCSI and concurrent FC/SAS enhances performance and scalability at affordable prices

### Powerful performance made affordable

- Up to 380K IOPS ensures ample compute bandwidth for diverse applications and tasks, as well as large networks/user groups
- Throughput reaches 5,500MB/s read and 1,900MB/s write - accelerating major storage jobs and easily handling even intense workloads to enhance efficiency

### Hybrid host interconnect by default

- All systems feature four 1Gb/s iSCSI ports to ensure more than sufficient connectivity to clients, servers, and other storage arrays
- Choose from 8Gb/s or 16Gb/s Fibre Channel, 10Gb/s iSCSI, or 6Gb/s SAS to go alongside the default 1Gb/s iSCSI ports

### Multiple data protection solutions

- Hot-swappable flash module BBU (backup battery unit) stores data should the system suddenly shutdown or experience a power outage
- Super Capacitors and a flash module provide a safe and reliable power source for cached memory if main power supply is disrupted
- Choose flash BBU or Super Capacitors based on your needs and budget

EonStor DS 1000 series storage systems deliver among the best cost to performance ratios for SMB users of all currently available entry-level RAID solutions. Every model includes four 1Gb/s iSCSI ports per controller to expand networking and connectivity – an architecture created with surveillance applications in mind, which need fast interconnect to multiple clients. Up to 324 drives may be attached via JBOD enclosures to each system. With 6TB drive support, that means nearly 2PB in capacity made available.

### Outstanding performance

EonStor DS 1000 systems feature a powerful and optimized hardware configuration capable of up to 5,500MB/s sequential read and 1,900MB/s sequential write speeds, with as much as 380,000 IOPS available to users.

### High scalability

EonStor DS 1000 systems support as many as 324 drives through compatible expansion enclosures. Scalability is a much more cost-effective solution than buying additional storage systems, resulting in additional savings.

### Hybrid host interface with onboard iSCSI

EonStor DS 1000 models incorporate four 1Gb/s iSCSI ports on each controller by default, which can be added to by choosing 8Gb/s or 16Gb/s Fibre Channel, 6Gb/s SAS, or 10Gb/s iSCSI to go alongside them. As deployments strive for maximum efficiency and resource consolidation, a hybrid host interface design is of great value, as it supports better performance as well as wider connectivity.

## Affordable from the start and growing with you

- Compatible with a wide range of Infortrend JBOD expansion enclosures, including high density 4U 60-bay units
- Up to 324 disk drives per system, with support for 6TB drives – a total of nearly 2PB in capacity brings you lots of space for future storage growth

## Enterprise-class data services

- Include licenses for snapshot, volume copy/mirror, and thin provisioning
- Support features such as automated storage tiering to leverage SSD speed and enhanced remote replication disaster recovery (with optional licenses)

## Easy to use by everyone in your team

- Exclusive SANWatch 3.0 browser - based GUI features an intuitive and simple design that team members can quickly pick up and make the most of without extensive training
- User interface integrates all system functions to promote full utilization

## Environmentally-minded green design

- Energy efficient components include SoC processor and 80 PLUS power supplies
- Intelligent drive and fan spin down minimize redundant energy consumption

## BBU with flash or Super Capacitor for data protection

Hot-swappable battery backup units (BBU) with flash modules store cache data during power outages longer than 72 hours. The units are completely hot-swappable and can be easily removed and re-inserted without shutting the system down. You can also choose Super Capacitors reinforcing storage system capabilities to maintain non-stop operation despite major interruptions such as prolonged power loss.

## Comprehensive data services

While affordable for smaller businesses, the EonStor DS 1000 series offers enterprise-grade data services such as snapshot and volume copy/mirror to make multiple backups simple and quick. Thin provisioning helps with intelligent storage capacity utilization, while optional automated storage tiering is just the solution you need to leverage high speed disk drives for your most frequently-used data. Remote replication offers a secure and dependable solution for disaster recovery by creating offsite backups that stay intact and operational even if your main location has to go offline.

## Modular hardware makes life easy

EonStor DS 1000 systems share the build logic of other Infortrend products, with hot-swappable BBUs, and power supplies/fans. Components can be effortlessly installed, maintained, and upgraded without shutting down the system. They all snap into place with plug and play convenience, and do not require complex assembly.

## Green design lowers costs and safeguards the environment

The EonStor DS 1000 series features 80 PLUS power supplies plus smart disk drive and cooling fan spin-down to deliver stable, reliable, and efficient service, while its powerful and lower-draw SoC (system on a chip) processor helps users get more done in less time. The net result is storage systems that deliver top-notch performance while helping lower utility bills and minimize the ecological footprint of SMBs.



# Technical Specifications



Model name	ESDS 1012G	ESDS 1012R	ESDS 1016G	ESDS 1016R
Form factor	2U 12bay LFF		3U 16bay LFF	
Storage controller	Single	Dual redundant		Dual redundant
Host connectivity (per controller)	2 x 16Gb FC ports 4 x 8Gb FC ports 2 x 10Gb iSCSI ports (SFP+ or RJ-45) 4 x 1Gb iSCSI ports 2 x 6Gb SAS ports			
Onboard iSCSI ports (per controller)	4			
Cache memory (per controller) <sup>1</sup>	2GB, 4GB, 8GB, 16GB			
Max. drives (per system)	12	16		
Max. drives (via expansion enclosures)	312		316	
Expansion enclosure (JBOD)	JB 2012G-1 JB 2048G JB 2060G	JB 2012R-1 JB 2048R JB 2060R	JB 2016G-1 JB 2048G JB 2060G	JB 2016R-1 JB 2048R JB 2060R
SAS expansion ports (per controller)	1 x 6Gb/ SAS port			
Cache backup techniques	<ul style="list-style-type: none"> <li>• BBU (hot-swappable) + Flash module</li> <li>• Super capacitor + Flash module</li> </ul>			
Supported drives <sup>2</sup>	<ul style="list-style-type: none"> <li>• 2.5" SAS SSD - 200GB, 400GB, 800GB</li> <li>• 2.5" 10K RPM SAS - 300GB, 600GB, 900GB, 1.2TB</li> <li>• 3.5" 7200 RPM NL SAS - 1TB, 2TB, 3TB, 4TB, 6TB</li> <li>• 3.5" 7200 RPM SATA - 1TB, 2TB, 3TB, 4TB, 5TB</li> </ul>			
Power & Cooling	Power supply: Two redundant 460W Voltage and Frequency: 100-240 Vac, 50-60Hz			
Green design	<ul style="list-style-type: none"> <li>• 80 PLUS power supplies delivering more than 80% energy efficiency</li> <li>• Intelligent multi-level drive spin-down</li> </ul>			
RAID configurations	<ul style="list-style-type: none"> <li>• RAID level 0, (0+1), 3, 5, 6, 10, 30, 50, 60</li> <li>• Up to 32 logical drives and 64 partitions per logical volume</li> <li>• Up to 2048 LUNs</li> </ul>			
<b>Data Service</b>				
Local Replication  (Standard license is default included 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	
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) storage tiers based on drive types SSD supports			
Thin Provisioning (default included)	" Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space			
<b>Availability and Reliability</b>	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			
<b>Management</b>	SANWatch management suite; Embedded RAIDWatch; Terminal via RS-232C; Telnet/SSH;			
<b>Notification</b>	Email, Fax, LAN broadcast, SNMP traps, SMS, Skype			
<b>OS support<sup>1</sup></b>	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			
<b>Service and support<sup>3</sup></b>	Standard service	3-year limited hardware/software warranty and 8x5 phone, web, and email support		
	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. Options may vary by region.

2. For the latest compatibility details, please contact our sales representatives.

3. All EonStor DS systems ship with standard service. Software maintenance covers software licenses for EonStor DS systems.

# High IOPS Solutions



Model name	ESDS 1012GT <sup>4</sup>	ESDS 1012RT <sup>4</sup>	ESDS 1016GT <sup>4</sup>	ESDS 1016RT <sup>4</sup>
Form factor	2U 12bay LFF		3U 16bay LFF	
Storage controller	Single	Dual redundant		Single
Host connectivity (per controller)	2 x 16Gb FC ports 4 x 8Gb FC ports 2 x 10Gb iSCSI ports (SFP+ or RJ-45) 4 x 1Gb iSCSI ports 2 x 6Gb SAS ports			
Onboard iSCSI ports (per controller)	4			
Cache memory (per controller) <sup>1</sup>	2GB, 4GB, 8GB, 16GB			
Max. drives (per system)	12		16	
Max. drives (via expansion enclosures)	312		316	
Expansion enclosure (JBOD)	JB 2012G-1 JB 2048G JB 2060G	JB 2012R-1 JB 2048R JB 2060R	JB 2016G-1 JB 2048G JB 2060G	JB 2016R-1 JB 2048R JB 2060R
SAS expansion ports (per controller)	1 x 6Gb/ SAS port			
Cache backup techniques	<ul style="list-style-type: none"> <li>• BBU (hot-swappable) + Flash module</li> <li>• Super capacitor + Flash module</li> </ul>			
Supported drives <sup>2</sup>	<ul style="list-style-type: none"> <li>• 2.5" SAS SSD - 200GB, 400GB, 800GB</li> <li>• 2.5" 10K RPM SAS - 300GB, 600GB, 900GB, 1.2TB</li> <li>• 3.5" 7200 RPM NL SAS - 1TB, 2TB, 3TB, 4TB, 6TB</li> <li>• 3.5" 7200 RPM SATA - 1TB, 2TB, 3TB, 4TB, 5TB</li> </ul>			
Power & Cooling	Power supply: Two redundant 460W Voltage and Frequency: 100-240 Vac, 50-60Hz			
Green design	<ul style="list-style-type: none"> <li>• 80 PLUS power supplies delivering more than 80% energy efficiency</li> <li>• Intelligent multi-level drive spin-down</li> </ul>			
RAID configurations	<ul style="list-style-type: none"> <li>• RAID level 0, (0+1), 3, 5, 6, 10, 30, 50, 60</li> <li>• Up to 32 logical drives and 64 partitions per logical volume</li> <li>• Up to 2048 LUNs</li> </ul>			
<b>Data Service</b>				
Local Replication (Standard license is default included 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	
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) storage tiers based on drive types SSD supports			
Thin Provisioning (default included)	"Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space			
<b>Availability and Reliability</b>	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			
<b>Management</b>	SANWatch management suite; Embedded RAIDWatch; Terminal via RS-232C; Telnet/SSH;			
<b>Notification</b>	Email, Fax, LAN broadcast, SNMP traps, SMS, Skype			
<b>OS support<sup>1</sup></b>	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			
<b>Service and support<sup>3</sup></b>	Standard service	3-year limited hardware/software warranty and 8x5 phone, web, and email support		
	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		

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4. ESDS 1000T model will be released in Aug 2014.



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Asia Pacific (Taipei, Taiwan)  
Infortrend Technology, Inc.

Americas (Sunnyvale, USA)  
Infortrend Corporation

US Central Office

Europe (Basingstoke, UK)  
Infortrend Europe Ltd.

Germany (Munich)  
Infortrend Deutschland GmbH

China (Beijing)  
Infortrend Technology, Ltd.

Japan (日本東京)  
Infortrend Japan, Inc.

Tel: +86-2-2226-0126  
E-mail: sales.ap@infortrend.com

Tel: +1-408-988-5088  
E-mail: sales.us@infortrend.com

Tel: +1-847-984-9077  
E-mail: sales.us@infortrend.com

Tel: +44-1256-305-220  
E-mail: sales.eu@infortrend.com

Tel: +49(0)89/20 70 42-650  
E-mail: sales.de@infortrend.com

Tel: +86-10-63106168  
E-mail: sales.cn@infortrend.com

Tel: +81-3-5730-6551  
E-mail: sales.jp@infortrend.com