



EonStor DS 3000 Series

High speed flexible storage delivers robust reliability and management

Turbo charged storage – DS 3000U

- **Up to 1M IOPS(all cache hit) and 450K IOPS(End to end) and 6,500 MBps read throughput**
- **High IOPS solutions ideal for database and VDI applications, while bandwidth enhances media editing and playback**

Fully featured storage systems for SAN and DAS environments, offered in diverse form factors from compact 2U to high density 4U. Make the most of high availability with dual controller models, and grow with powerful yet simple to deploy SMB and enterprise services. Fast performance, modular components, strong data integrity, friendly management, and extensive software bundles make these truly total solutions.

SSD optimized

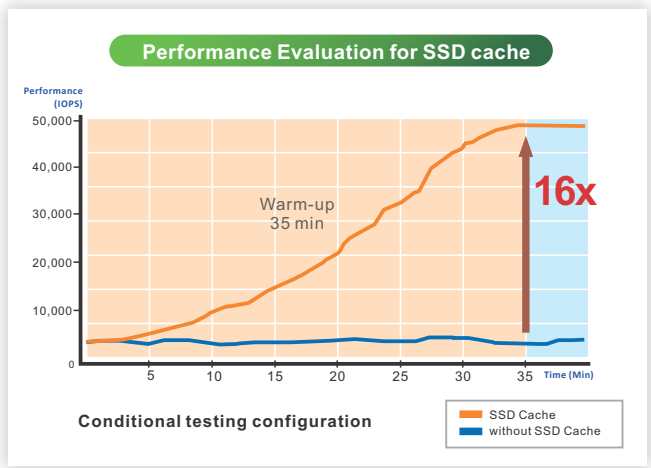
- SSD cache and automated storage tiering
- Small form factor models for all-SSD arrays
- SSD drive wear indication

Ready for an SSD future

EonStor DS 3000 systems are designed for all-SSD storage and support large high speed SSD cache pools. SSD Cache speeds up read performance for priority data, and boosts cache pool capacities up to 6.4TB. As many as four SSDs per controller can be used, including SATA disks. In addition to faster read speeds, SSD cache reduces performance impact compared to spin-drive caches with rapid warm up and less drive wear. Configuring and managing SSD Cache pooling is easy via the intuitive SANWatch UI.

Data services

- Optional secure remote replication backs up data to offsite locations to ensure disaster recovery readiness
- Snapshot, volume copy/mirror, thin provisioning and more
- Compatible with self-encrypting drives (SED)
- Intelligent Drive Recovery (IDR) technology, including RAID 6, smart media scan and detect-clone-replace



* SSD cache speeds up read performance by up to 16 times for frequently-accessed data stored in the cache pool.
 * Actual performance gains can vary depending on customer applications.

High availability

- Dual controllers and redundant power supplies
- Fast failover performance and assured high data availability

Automated storage tiering optimizes storage performance and increases ROI by leveraging high speed SSD for expedited access to hot data while using affordable drives such as NL-SAS for archiving purposes.

Intuitive system messages

- Tiered and easily actionable system notifications keep you informed and in control

To protect SSDs and the vital data they store, EonStor DS 3000 systems offer SSD wear level indication that provides users with accurate real time SSD health info.

DS 3000 Series



Multiple host options

- Choose from 8Gb/s or 16Gb/s Fibre Channel, 1Gb/s, 10Gb/s or 40Gb Ethernet or 6Gb/s or 12Gb/s SAS or 56Gb/s InfiniBand based on your needs and budget
- Hybrid host interfaces for diverse environments on one system lead to greater utility
- Optional onboard iSCSI ports can be added to any host interface type
Modular components mean easy maintenance and future-proof upgrades
- Converged host board with 4 connectivity options to choose from (16Gb/s FC, 8Gb/s FC, 10Gb/s FCoE and 10Gb/s iSCSI SFP+)

User friendly management

- Exclusive SANWatch 3.0 browser-based interface makes management accessible from a single front end
- Proprietary RAIDWatch 3.0 provides RAID protection and powerful best practice facilities
- Support for intricate CLI editing

Energy saving design

- Efficient 80 PLUS power supplies
- Intelligent drive spin-down reduces energy draw by up to 60% while extending drive lifespan

High speed performance and flexible scalability

Discover new standards of storage performance with up to 450K IOPS and 6,500 MB/s throughput. EonStor DS 3000 systems are excellent platforms for database and VDI applications thanks to ample computing power, and their massive bandwidth serves to enhance media editing and surveying jobs, freeing you from bottlenecks. When looking to expand storage, up to an extra 444 drives can be connected easily using JB 3000 enclosures for DS 3000.

Advanced backup data integrity and storage services

Every EonStor DS 3000 system arrives with a full suite of premium data services. Thin provisioning augments your storage utilization from an average 30% to 80% so you get more room on your disk drives. For on demand backups, 128-target snapshot is included (upgradable to 4096 targets), alongside 64 replication pair volume mirror/copy (upgradable to 256). Remote replication ensures prompt and secure disaster recovery to offsite backup locations.

Infotrend IDR technology detects and repairs faulty sectors on drives before they progress into serious media errors, so that disastrous failures are avoided before they can potentially take down an entire storage network.

Easy upgrade modular host interface

Based on your needs and budget, select from 8Gb/s or 16Gb/s Fibre Channel, 1Gb/s, 10Gb/s or 40Gb/s Ethernet or 6Gb/s or 12Gb/s SAS, 56Gb/s InfiniBand host interfaces. The wide choice offers great performance in more applications, with hybrid host interfaces available to deliver support for diverse environments on one system, for example Fibre Channel/SAS and onboard iSCSI. Host interface modules can be easily swapped and upgraded, making EonStor DS 3000 systems very future-proof.

User friendly maintenance

Clear and easy to act upon system status messages make troubleshooting simple even without elaborate IT support. Additionally, integrated smart media scan prevents data errors and corruption. It works in the background at all times without affecting system performance, keeping close tabs on your data to ensure its integrity.

Effortless management with exclusive tools

Proprietary SANWatch 3.0 browser-based user interface gives you a consolidated and highly accessible storage management front end. It is complemented by RAIDWatch 3.0, another exclusive Infotrend utility that allows you to implement best practices to enhance RAID array performance. Systems also ship with extensive CLI and command editing to ensure you get full supervision and oversight capabilities.



Technical Specifications



Model name	DS 3012RU DS 3012GU	DS 3016RU DS 3016GU	DS 3024RU DS 3024SU	DS 3024RUB DS 3024SUB
Form factor	2U 12-bay LFF	3U 16-bay LFF	4U 24-bay LFF	2U 24-bay SFF
Storage controller	Single or dual-redundant		Dual-redundant/ single upgradable to redundant	
Max. host ports (per system)	R:24 ports S/G: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 GbE ports (per controller)	4 x 1Gb iSCSI ports			
Cache memory (per controller)	4GB, 8GB, 16GB 32GB or 64GB			
Max drives (per system)	12	16	24	24
Max drives (via expansion enclosure)	432	436	444	444
Expansion enclosure (JBOD)	JB 3012 JB 3060 JB 3060L	JB 3016 JB 3060 JB 3060L	JB 3024 JB 3060 JB 3060L	JB 3024B JB 3060 JB 3060L
SAS expansion ports (per controller)	1 x 12Gb/s SAS wide port			
Cache backup technologies²	Super capacitor + flash module			
Supported drives³	<ul style="list-style-type: none"> 3.5" 7200 RPM NL SAS HDD 3.5" 7200 RPM SATA HDD 2.5" 10K/15K RPM SAS HDD 2.5" SATA/SAS SSD 			
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			
Max. number of partitions supported	Up to 2048(LUNs)			
Max. mappable LUNs per system	4000			
Regulatory⁴	<ul style="list-style-type: none"> Safety : UL, BSMI, CB, EAC Electromagnetic compatibility : CE, BSMI, FCC, KC 			
	Snapshot	Snapshot images per source volume Snapshot images per system	Standard license: 64 / advanced license: 256 Standard License: 128 / advanced license: 4096	
	Local replication ⁵	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	"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 ⁶	Replications per source volume: 16 Replication pairs per source volume: 4 Replication pairs per system: 64		
	Automated storage tiering ⁶	Two (2) or four (4) storage tiers based on drive types SSD support Automated data migration with scheduling options		
	SSD cache (optional license)	<ul style="list-style-type: none"> Accelerating data access for random read-intensive environments, such as OLTP Supports up to four SSDs per controller Minimum requirements: 4GB per controller Recommended DIMM capacity for SSD Cache pool: DRAM:4GB Max. SSD cache Pool size: 400GB DRAM:16GB Max. SSD cache Pool size: 1,600GB DRAM:64GB Max. SSD cache Pool size: 6,400GB DRAM:8GB Max. SSD cache Pool size: 800GB DRAM:32GB Max. SSD cache Pool size: 3,200GB DRAM:128GB Max. SSD cache Pool size: 6,400GB		
Availability and reliability	Redundant, hot-swappable hardware modules Multi-pathing support (EonPath), device mapper support CacheSafe technology: protects cached data during power outages by flushing data into flash memory Port trunking / link aggregation (IEEE 802.3ad), failover, jumbo frame			
Management	SANWatch management suite, embedded RAIDWatch, terminal via RS-232C, telnet/SSH, LCD keypad panel			
Notification	Email, SNMP traps			
OS support³	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			
	Standard service	3-year limited hardware/software warranty and 8x5 phone, web, and email support (Batteries are covered under warranty for 2 years)		
Service and support⁷	Upgrade/extension Options	Replacement part dispatch on the next business day (up to 5 years) Advanced service: 9x5 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. Default: DDR4 4GBx1 with ECC per controller

2. R/S model: default, G model: optional.

3. For the latest compatibility details, refer to our official website for the latest Compatibility Matrix.

4. Check with your local sales representative for complete details.

5. Standard functions come default with EonStor DS systems. Advanced functions are available with optional licenses.

6. Remote replication and automated storage tiering functions are available with optional license.

7. All EonStor DS systems ship with standard service. Extended service terms may vary by region.

Technical Specifications



Model name	DS 3060R DS 3060G		DS 3060RT DS 3060GT	
Form factor	4U 60-bay LFF			
Storage controller	Single or dual-redundant			
Host connectivity (per controller)	2 x 16Gb FC ports 4 x 8Gb FC ports 2 x 10Gb iSCSI ports (RJ-45) 2/4 x 10Gb iSCSI ports (SFP+)		4 x 1Gb iSCSI ports 2 x 6Gb SAS ports 2 x 12Gb SAS ports 2 x 40Gb iSCSI ports	
Onboard GbE ports (per controller)	2 x 1Gb iSCSI ports			
Cache memory (per controller)	2GB, 4GB, 8GB or 16GB			
Max drives (per system)	60			
Max drives (via expansion enclosure)	360			
Expansion enclosure (JBOD)	JB 2060			
SAS expansion ports (per controller)	1 x 6Gb/s SAS 4x wide port			
Cache backup technologies¹	BBU + flash module			
Supported drives²	<ul style="list-style-type: none"> • 2.5" SAS SSD • 2.5" SATA SSD (DS 3048GT/3060GT only) • 2.5" 10K RPM SAS HDD 		<ul style="list-style-type: none"> • 2.5" 15K RPM SAS HDD • 3.5" 7200 RPM NL SAS HDD • 3.5" 7200 RPM SATA HDD (DS 3048GT/3060GT only) 	
Power & cooling	Power supply: Two redundant 1600W Voltage and frequency: 200-240VAC, 47-63Hz		Power consumption - DS 3060RT: 977W - DS 3060GT: 891W	
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			
Max. number of partitions supported	Up to 2048(LUNs)			
Max. mappable LUNs per system	4000			
Regulatory⁴	<ul style="list-style-type: none"> • Safety : UL, BSMI, CB, EAC • Electromagnetic compatibility : CE, BSMI, FCC, KC 			
Data services	Snapshot	Snapshot images per source volume Snapshot images per system	Standard license: 64 / advanced license: 256 Standard license: 128 / advanced license: 4096	
	Local replication ³	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	
	Volume copy/mirror			
	Thin provisioning	" 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 ⁶	Replication per source volume: 16 Replication pairs per source volume: 4 Replication pairs per system: 64		
	Automated storage tiering ⁶	Two (2) or four (4) storage tiers based on drive types SSD supports Automated data migration with scheduling options		
	SSD cache (optional license)	<ul style="list-style-type: none"> • Accelerating data access for random read-intensive environments, such as OLTP • Supports up to four SSDs per controller • Minimum requirements: 4GB per controller • Recommended DIMM capacity for SSD Cache pool: DRAM:4GB Max. SSD cache Pool size: 400GB DRAM:16GB Max. SSD cache Pool size: 1,600GB 		
		DRAM:8GB	Max. SSD cache Pool size: 800GB	
		DRAM:32GB	Max. SSD cache Pool size: 3,200GB	
Availability and reliability	Redundant, hot-swappable hardware modules Multi-pathing support (EonPath), device mapper support CacheSafe technology: protects cached data during power outages by flushing data into flash memory Port trunking / link aggregation (IEEE 802.3ad), failover, jumbo frame			
Management	SANWatch management suite, embedded RAIDWatch, terminal via RS-232C, telnet/SSH, LCD keypad panel			
Notification	Email, SNMP traps			
OS support²	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 support⁵	Standard service	3-year limited hardware/software 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: 9x5 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. EonStor DS 3000G models: BBU + flash module optional and not included by default.
2. For the latest compatibility details, refer to our official website for the latest Compatibility Matrix.
3. Standard functions come default with EonStor DS systems. Advanced functions are available with optional licenses.

4. Check with your local sales representative for complete details.
5. All EonStor DS systems ship with standard service. Extended service terms may vary by region.
6. Remote replication and automated storage tiering functions are available with optional license.



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