EonStor DS 2000 series

Great value storage solution for SMBs that delivers outstanding IOPS up to 780K

Performance
- Up to 780K IOPS accelerate all storage-related operations
- Massive storage throughput of up to 5,500MB/s read and 1,900MB/s write
- 40% over EonStor DS 1000 series

SSD Cache
- Accelerated read performance for hot data
- Up to four SSDs per controller
- Rapid warm up and reduced wear
- Large SSD cache pool capacity: up to 3.2TB

Data services
- Optional 2-level/4-level automated storage tiering leverages the advantages of different storage media, including SSDs for high performance
- Optional secure remote replication backs up data to offsite locations to ensure disaster recovery readiness
- Compatible with self-encrypting drives (SED)
- Snapshot, volume copy/mirror, thin provisioning and more

Backup power
- Super capacitors are good for the life of the system
- Paired with flash module to cache data during outages

Modular hardware
- 12Gb/s SAS, 16Gb/s FC, and 10Gb/s iSCSI available
- Systems ship with four 1Gb/s iSCSI ports per controller
- Single or dual controllers
- Hybrid hosts for SAN/IP SAN and DAS in one

Scalability
- Up to 360 drives via JBOD expansion
- JBODs available in diverse form factors
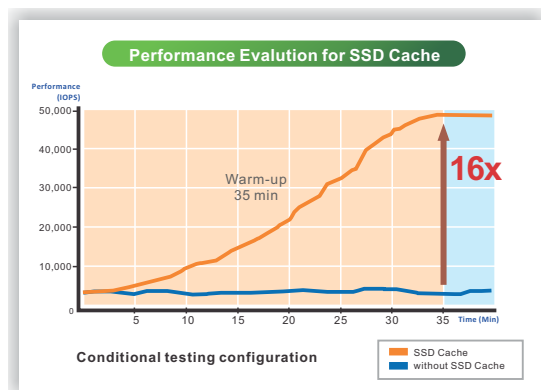- Support for high density 4U 60-bay JBOD expansion

The EonStor DS 2000 series is the most advanced entry-level product range from Infortrend. It delivers powerful performance, wide scalability, and enterprise data services. Those include SSD Cache, automated storage tiering, remote replication, and many others. The series is ideal for SAN, IP SAN, and DAS deployments with the flexibility of hybrid host interfaces and modular hardware. With uncompromising quality and reliability, these complete systems place advanced enterprise-class capabilities and services within convenient and affordable reach of small to medium businesses and enterprises.

High speed storage comes to SMB

Up to 780K IOPS accelerate all storage-related operations, including rebuild and recovery. High IOPS capability prevents bottlenecks with ample computing power, enabling greater productivity and major time savings. Massive storage throughput of up to 5,500MB/s read and 1,900MB/s write handles even very demanding workloads and delivers spectacular efficiency, over 40% improved performance compared to the EonStor DS 1000 series thanks to more advanced processing components. Better still, this performance is achieved while strictly maintaining the same cost-performance ratio!

Storage acceleration with SSD Cache

EonStor DS 2000 systems support large high speed SSD cache pools. SSD Cache speeds up read performance for priority data, and boosts cache pool capacities up to 3.2TB. 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.

Performance Evalution for SSD Cache

Conditional testing configuration

* 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.

www.infortrend.com

EonStor DS 2000 series

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 spin-down

Enterprise-class data services

Access a segment-leading range of data services, unmatched by competing models from other storage vendors. Improve security with support for self-encrypting drives (SED), and tap optional 2-level or 4-level automated storage tiering to make the most of SSD performance and NL-SAS or SATA capacity — maxing performance and utilization. Optional secure remote replication ensures disaster recovery readiness, and systems include licenses for snapshot, volume copy/mirror, and thin provisioning.

Flexible hybrid host and modular hardware

Systems ship with four 1Gb/s iSCSI ports per controller for out-of-the-box connectivity to various clients with a combination of speed and stability, but can easily transform with hybrid host interfaces. Users can mix and match different standards: options include 16Gb/s Fibre Channel, 12Gb/s SAS, and 10Gb/s iSCSI among others. Hybrid host interfaces support storage multitasking, allowing the robust bandwidth of Fibre Channel with the high speed connectivity of iSCSI or SAS, for example. Systems offered with single or dual high availability controllers. Drives are hot-swappable, as are the redundant power supplies.

Big and wide scalability drives growth

EonStor DS 2000 systems are highly scalable with compatible JBOD expansion enclosures, giving your organization added capacity as the need for more space emerges. They support up to 316 drives total and are compatible with large individual disks in capacities such as 6TB and 8TB. JBODs connect via fast and reliable 6Gb/s SAS and are offered in various form factors, including high density 4U 60-bay units.

www.infortrend.com

Technical Specifications

Model name	DS 2012R DS 2012G	DS 2016R DS 2016G	DS 2024R DS 2024G	DS 2024RB DS 2024GB
Form factor	2U 12-bay LFF	3U 16-bay LFF	4U 24-bay LFF	2U 24-bay SFF
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 (SFP + or RJ-45) 4 x 1Gb iSCSI ports 2 x 6Gb SAS ports 2 x 12Gb SAS ports			
Onboard iSCSI ports (per controller)	4			
Cache memory (per controller)	2GB, 4GB, 8GB, 16GB			
Max. drives (per system)	12	16	24	
Max. drives (via expansion enclosures)	312	316	324	360
Expansion enclosure (JBOD)	JB 2012-1 JB 2048 JB 2060	JB 2016-1 JB 2048 JB 2060	JB 2016-1 JB 2048 JB 2060	JB 2012-1 JB 2016-1 JB 2048 JB 2060 JB 2024B
SAS expansion ports (per controller)	1 x 6Gb/ SAS port			
Cache backup techniques [1]	• Super capacitor + Flash module			
Supported drives [2]	• 2.5" SATA/SAS SSD • 2.5" 10K/15K RPM SAS HDD • 3.5" 7200 RPM NL SAS HDD(DS 2012/2016/2024 only) • 3.5" 7200 RPM SATA HDD (DS 2012/2016/2024 only)			
Power & Cooling	Power supply: Two redundant 460W, Voltage and Frequency: 100-240, Vac, 50-60Hz			
	Power consumption - DS 2012R: 225.6 - DS 2012G: 158.4 Heat dissipation(BTU/hour): 584	Power consumption - DS 2016R: 224.4 - DS 2016G: 187.2 Heat dissipation(BTU/hour): 632	Power consumption - DS 2024R: 376.8 - DS 2024G: 328.8 Heat dissipation(BTU/hour): 1082	Power consumption - DS 2024RB: 283.2 - DS 2024GB: 228 Heat dissipation(BTU/hour): 971
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[3]	• Safety : UL, BSMI, CB, EAC • Electromagnetic Compatibility : CE, BSMI, FCC, KC			

Data Service

Local Replication (Standard license is defult 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
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 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:16GB 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[4]	Standard service	3-year limited hardware warranty and 8x5 phone, web, and email support (Batteries are covered under warranty for 2	
	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. EonStor DS 2000G models: super capacitor and flash module not included by default.
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.

Infortrend®

www.infortrend.com

Asia Pacific (Taipei, Taiwan)	China (Beijing, China)	Japan (Tokyo, Japan)	Americas (Sunnyvale, CA, USA)	EMEA (Basingstoke, UK)
Infortrend Technology, Inc.	Infortrend Technology, Ltd.	Infortrend Japan, Inc.	Infortrend Corporation	Infortrend Europe Ltd.
Tel:+886-2-2226-0126	Tel:+86-10-6310-6168	Tel:+81-3-5730-6551	Tel:+1-408-988-5088	Tel:+44-1256-305-220
E-mail：sales.ap@infortrend.com	E-mail：sales.cn@infortrend.com	E-mail：sales.jp@infortrend.com	E-mail：sales.us@infortrend.com	E-mail：sales.eu@infortrend.com