EonStor CS Family

Scale-out Shared Storage with High Performance and Scalability

EonStor CS is a scale-out shared storage system with high performance and capacity expansion capabilities. With the support of multiple nodes, you can easily integrate data from multiple nodes into a single namespace system architecture via CIFS/NFS protocols, effectively reducing data management hassles and cost. Furthermore, EonStor CS supports flexible storage deployment to meet different application requirements, whether it is throughput-intensive high-performance computing (HPC), multimedia applications, or capacity-intensive workloads, such as surveillance, backup, and archive.

High Performance

- Performance scales linearly as you add new nodes
- Single node performance up to 4.1/3.1 GB/s (Read/Write)
- Single cluster performance up to 100 GB/s
- Auto-balancing function evenly distributes data across all nodes and improves data access performance

High Scalability

- Supports online capacity expansion
- Scale-out expansion with up to 144 nodes per cluster
- Scale-up expansion with up to 120 hard disks per node
- Single cluster capacity up to 100PB

High Storage Efficiency

- Hybrid storage (SSD and HDD) to meet diverse application requirements
- Automated tiering to easily make the best use of SSD and HDD
- SSD cache to boost the access of small files

Data Protection

- Infortrend RAID technology protects data from drive damages and simultaneous failure of multiple SSDs
- Replica and Erasure Code to protect data from node failure
- Self-healing function to restore data from faulty nodes
- Rsync (Folder Remote Replication) to provide remote file-level backup

Intelligent Drive Management

- Intelligent algorithm to improve SSD lifespan
- Estimates remaining SSD lifespan and notifies of the SSD that is about to fail for timely replacement

Easy to Manage and Deploy

- Built-in wizard simplifies cluster deployment procedures
- Web-based tool EonOne provides centralized management
- Client-side utility EonView allows easy access to shared folders
- Eliminates data islands by storing data under a single namespace

High Performance

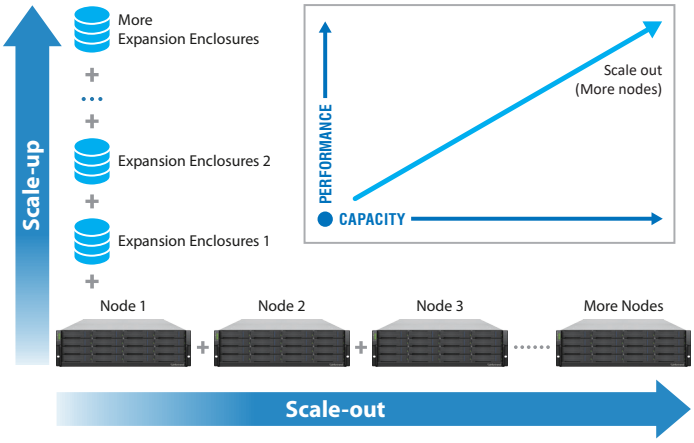
EonStor CS delivers up to 100+ GB/s throughput that best suits large file applications. The high-end U.2 NVMe all-flash series provides better performance at a lower latency with up to 4.1 GB/s read and 3.1 GB/s write speeds per node.

By clustering multiple nodes under a single namespace and automatically balancing data across different nodes, CS solves the problem of single node performance limitations and effectively improves access efficiency.

High Scalability

EonStor CS brings scale-out expansion to help manage the ever-increasing data. To enhance performance and capacity, you simply add extra CS appliances (or "nodes") to your cluster system, whether during or after the initial setup. This flexible scaling option connects up to 144 CS nodes together, and delivers a read/write speed of 100 GB/s with 100 PB of storage.

Scale-up expansion is also available where you increase capacity by connecting external expansion enclosures (or "JBODs") to a single CS node, with a maximum of 120 drives in total.



High Storage Efficiency

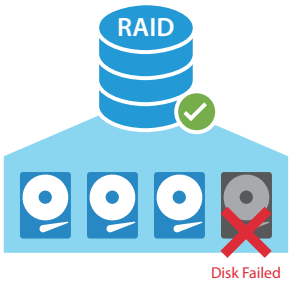
EonStor CS cluster supports hybrid storage that allows SSD and HDD to reside in a system to satisfy the versatile applications' workloads requirements. Based on the hybrid architecture, EonStor CS can leverage SSDs' advantage as cache to deliver faster performance for frequently accessed data, while making better use of HDDs in the other node or expansion enclosure as the data archiving media, thereby boosting system performance and reducing the total cost of ownership.

In addition, EonStor CS supports automated tiering, which helps you automatically move data between SSDs and HDDs based on data access frequency. With this feature, you can easily leverage SSDs for high-performance I/Os and HDDs for massive data archives to optimize storage efficiency.

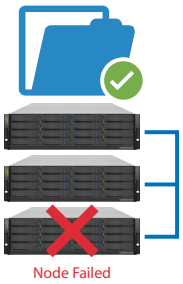
Data Protection

EonStor CS offers full data protection from drives, nodes, to system backup, providing enterprises with continuous services while easing data management stress.

At the drive level, EonStor CS incorporated Infortrend's unique RAID technology which helps the system to run normally while ensuring your data is fully protected even when a hard disk gets damaged. In terms of node protection, EonStor CS supports Replica and Erasure Code protection mechanisms to generate redundant data across all nodes.



Disk Protection



Node Protection

Intelligent Drive Management

EonStor CS uses an intelligent algorithm to not only reduce the total amount of the write times to SSD to prolong SSD lifespan but also prevent a simultaneous failure of multiple SSD that causes data loss. In addition, EonStor CS monitors and estimates SSD's remaining lifespan and sends out a notification to remind the administrator to replace the SSD which is about to fail.

Easy to Manage and Deploy

EonStor CS comes with a cluster deployment wizard that facilitates system initialization within 30 minutes, after which the cluster will be ready to go.

EonStor CS provides EonOne, a web-based user interface for centralized management of multiple systems, monitoring performance and capacity usage, and configuring all related system settings. On the user side, EonStor CS provides the EonView utility that simplifies shared folder access.

A CS cluster stores dozens of PB of data under a single namespace, allowing IT personnel to centrally manage all the data, thus eliminating data islands.

PHYSICAL SPECIFICATIONS

Product Series		CS 2000	CS 3000	CS 4000
Form Factor (per node)	2U 14-bay	-	-	CS 4014**UG** New U.2
	2U 25-bay	-	-	CS 4025**GB**
	3U 16-bay	-	CS 3016**G**	CS 4016**G**
	4U 24-bay	-	CS 3024**G**	CS 4024**G**
	4U 60-bay	CS 2060**G**/2060**D**	CS 3060**G**/3060**D**	CS 4060**G**/4060**D**
		Note: **G**: Single controller, not upgradable **D**: Dual independent controllers **B**: 2.5" drive **U**: U.2 NVMe storage		
Node		**G** model: Single node **D** model: Dual nodes		
Number of Nodes		1 to 144		
CPU (per Node)		Intel® Xeon® D - 4 Core	Intel® Xeon® D - 8 Core	Intel® Xeon® D - 12 Core
Cache Memory (per Node)		Default DDR4 64GB, expandable up to 256GB		
Supported Drives		2U 14-bay supports: 2.5" U.2 SSD 2U 25-bay supports: 2.5" SAS 2.5" SATA SSD(**G** models only) The other form factors support: 3.5" 12Gb/s SAS 7,200 RPM HDD 3.5" 6Gb/s SATA 7,200 RPM HDD(**G** models only)		
		Note: For the latest compatibility details, refer to our official website for the latest Compatibility Matrix.		
Max. Drives		**G** model: 120 **D** model: 180 **UG** model: 89		
		Note: The maximum drive number varies with models.		
Onboard SAS Expansion Ports		**G** model: 2 **D** model: 4		
Management Port (per Node)		1 x 1GbE port (RJ-45)		
Network Types	Front-end	10GbE (SFP+) x 2 or 10GbE (SFP+) x 4 or 25GbE (SFP28) x 2 or 40GbE (QSFP+) x 2		
	Internal	10GbE (SFP+) x 2 or 25GbE (SFP28) x 2 or 40GbE (QSFP+) x 2		
Network Types Combinations		Combination 1: Front-end (Onboard 10GbE x 2) + Internal (Onboard 10GbE x 2) Combination 2: Front-end (Onboard 10GbE x 4) + Internal (Host Board 25GbE x 2) Combination 3: Front-end (Onboard 10GbE x 4) + Internal (Host Board 40GbE x 2) Combination 4: Front-end (Host Board 25GbE x 2) + Internal (Host Board 25GbE x 2) Combination 5: Front-end (Host Board 40GbE x 2) + Internal (Host Board 40GbE x 2) Combination 6: Front-end (Onboard 10GbE x 4 + Host Board 25GbE x 2) + Internal (Host Board 25GbE x 2) Combination 7: Front-end (Onboard 10GbE x 4 + Host Board 40GbE x 2) + Internal (Host Board 40GbE x 2)		
Expansion Enclosures (JBODs)		2U 14-bay, 2U 25-bay: JB 3016, JB 3025B, JB 3060L 4U 60-bay: JB 3060L Others: JB 3016, JB 3060L		
Dimensions (Without Chassis Ears and Protrusions) (W x H x D)		2U 14-bay and 2U 25-bay: 449 x 88 x 500 mm 3U 16-bay: 449 x 130 x 500 mm	4U 24-bay: 449 x 174.4 x 500 mm 4U 60-bay: 447.6 x 176 x 840.9 mm	
Package Dimensions (W x H x D)		2U 14-bay and 2U 25-bay: 780 x 340 x 588 mm 3U 16-bay: 780 x 423 x 588 mm	4U 24-bay: 780 x 465 x 588 mm 4U 60-bay: 620 x 460 x 1140 mm	
Power Supply Unit	Power Supplies (Redundant and Hot-swappable)	4U 60-bay: 1600W (80 PLUS Platinum) Others: 530W (80 PLUS Bronze)		
	AC Voltage	4U 60-bay: 200-240VAC @9.6A Others: 100VAC @10A, 240VAC @5A		
	Frequency	4U 60-bay: 47-63 Hz Others: 50-60Hz		
Safety Standards		• Electromagnetic Compatibility: CE, BSMI, FCC • Safety: UL, BSMI, CB		

SOFTWARE SPECIFICATIONS

File System	Infortrend Distributed File System (IDFS)
Max. Disk Pool Size	100+ PB
Supported Protocols	• CIFS/SMB (Version 2.0/3.0) • NFS (Version 3) • FTP
Max. File Size	800TB
Max. Number of User Accounts	20000
Max. Number of User Groups	512
Max. Number of Shared Folders	1024 (NFS/CIFS/FTP)
Max. Number of Rsync Jobs	1024
Max. Number of Concurrent Rsync Processes	64
Max. Number of Concurrent Connections	2048 (NFS/CIFS/AFP) | 1024 (FTP)
Management	• Web-based EonOne management software • ACL control • User account management • Microsoft Active Directory (AD), Linux LDAP and NIS authentication • Quota management • Storage Resource Management to analyze history records of resource usage
Availability and Reliability	• Self-healing • SMB Multichannel
Data Protection	Disk protection: RAID 5, RAID 6 Node protection: Erasure code (2+1 or 4+1 or 4+2 or 8+1 or 8+2) or Replica (x2 or x3) Cluster protection: Rsync
Notification	• Email • SNMP traps

DATA SERVICES

Self-encrypting Drives	Default	Unique encryption mechanisms secure data on drives and make data deletion simple and complete.
SSD Cache	CS leverages high speed and low latency of SSDs to deliver faster read performance while accessing vital data under high frequency and demand.	
	Default	1 SAS/SATA SSD per node as cache
	Optional	2, 4, 6, or 8 SAS/SATA SSDs per node as cache
DNS Load Balance	The DNS server can use more intelligent policies to automatically balance the traffic between the cluster nodes and the clients.	
	Default	Round Robin
	Optional	Connection number, network throughput, CPU usage
Data Lock	Optional	Users can specify a pool in the CS cluster as a WORM domain. All data within this domain is secured and won't be tampered or deleted from any accident or unauthorized operation.
Automated Tiering	Optional	Storage tiers per system: 2 (SSD tier and HDD tier)

WARRANTY AND SERVICE

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 or Extension Options	Warranty extension: Standard service can be extended up to 5 years. The following service can be upgraded to 5 years. • Upgrade: Replacement part dispatch on the next business day • Advanced service: 24x7 phone, web, and email support + onsite diagnostics on the next business day • Premium service: 24x7 phone, web, and email support + onsite diagnostics in 4 hours
		Note: Options may vary by region. For more details, please contact our sales representatives.
	Technical Support	Get information on system installation and maintenance, download technical documents and software, or issue a support ticket
	Product Services	Register products, download firmware, apply for licensing services, create product repair tickets, or check product repair status

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