



Data Sheet

FUJITSU Storage ETERNUS CD10000

The ultimate hyperscale storage system for large enterprises



ETERNUS CD10000

The ETERNUS® CD10000 provides unlimited, modular scalability of storage capacity and performance at zero downtime for instant and cost efficient online access to extensive data volumes. Integrating open-source Ceph® software into a storage system delivered with end-to-end maintenance from Fujitsu enables IT organizations to fully benefit from open standards without implementation and operational risks. Providing hyper-scalable objects, blocks, and file storage of more than 50 PetaBytes of data in a cost optimized way ETERNUS CD10000 is the ideal storage for OpenStack® users, service providers for cloud, IT and telecommunication as well as media-broadcasting companies. Financial and public institutions with ever-growing document repositories, large scale business analytics / big data applications as well as organizations with comprehensive multimedia data can be well served by the ETERNUS CD10000 in an excellent manner.

The ETERNUS CD10000 architecture is fundamentally different from those of conventional storage systems. The scalability of capacity and performance is achieved through storage nodes, which are configured with cost- and performance-optimized industry-standard servers and storage subsystems. The system scales up.

to 200 storage nodes and manages them as a pool. Capacity and performance scales linear with each added node by using sophisticated data distribution mechanisms. A very fast interconnect between nodes and SSD caches eliminate latency in the node-to-node communication.



Features & Benefits

Main Features	Benefits
Nearly unlimited and flexible scalability of capacity and performance	<ul style="list-style-type: none">■ Pay as you grow. No unnecessary upfront investments■ No forced migration through scalability limits■ Extremely long lifecycle through technology refreshes during operation reduces maintenance efforts and costs
Fault tolerance and self-healing by design	<ul style="list-style-type: none">■ No extra costs for high availability■ Provides high service levels at lower cost levels■ Zero downtime
Based on Ceph open source storage software	<ul style="list-style-type: none">■ No vendor lock-in■ Seamless integration in OpenStack environments
Supports object, file and block storage	<ul style="list-style-type: none">■ Delivers large storage consolidation potential within one architecture
System platform with end-to-end maintenance	<ul style="list-style-type: none">■ Use of open source based storage without risks■ Highly reduced evaluation, implementation and maintenance efforts
High performance through high parallelism of read and write operations	<ul style="list-style-type: none">■ High I/O performance can be achieved at lower costs

Key characteristics

Software-defined storage

- ETERNUS CD10000 features Ceph open source storage software, one of the leading software technologies for distributed storage. It is one of the cornerstones of Open Stack, which involves IT vendors and developers worldwide working on various components for open source cloud platforms. Ceph ensures that data is evenly distributed across the nodes and hard disks of the system and redundant copies of data are stored in different physical areas for availability and instant recovery of failed nodes and disks. Unlike RAID architectures which need long rebuild times once a disk is no longer functional, data redundancy is re-established in nearly no time. Performance hot spots are avoided automatically as data are highly distributed within the system enabling high I/O performance through many parallel write and read operations. High performance levels can therefore be achieved at lower cost than high capacity disks with lower rotation speeds, providing a better price per gigabyte ratio. The system is self-managing and self-healing, enabling online maintenance and expansion, technology refreshes of nodes and it automatically adjusts itself to changes. Storage nodes of different generations can be mixed, significantly extending the system lifecycle which reduces migration costs. Fujitsu has added extra functionality enhancing the Ceph core functions in order to provide easy administration via an intuitive GUI, to monitor and manage the whole system by a single pane of glass for the auto-provision of new storage nodes which are added to the system.

Unified storage platform

- The ETERNUS CD10000 provides object, block and file system storage in a single platform allowing customers to consolidate data for very diverse usage scenarios and with heterogeneous access methodology within one architecture.

System platform with end-to-end maintenance and support

- As ETERNUS CD10000 is provided as a productized system, Fujitsu delivers full maintenance support for all hardware and software components, delivers consistent upgrades and offers pre-installation and other professional services. All parts of the system fit seamlessly together and are sized and tuned correctly to avoid operational, downtime or performance issues. Customers can thus fully benefit from open source based storage functionality without risks and with heavily reduced evaluation, implementation and maintenance efforts. The ETERNUS CD10000 makes Ceph ready for enterprise class service levels.

Technical Details

General system information

Type	Hyper-scale storage
Hardware platform	S1
Software version	V1.0
Storage management	Fujitsu GUI management console
Host connectivity options	Object, RADDS block device
Minimum configuration	4 storage nodes
Max. no. of storage nodes	224
Storage node types	Basic, Capacity and Performance (mix possible)
Max. raw capacity	56 PB
Note	Usable capacity might be reduced by the number of replicas or the usage to ensure coding
Data replication capabilities	Split-site configuration with up to 80 km (50 miles)
Application interfaces	KVM, Swift, S3, CephFS (on special release request)

Nodes types			
Storage node type	Basic Node	Capacity Node	Performance Node
Raw capacity	12.6 TB	252.6 TB	34.2 TB
SSD cache	800 GB PCIe SSD	800 GB PCIe SSD	2 x 800 GB PCIe SSD
Ports	2 x 10 GbE	2 x 10 GbE	2 x 10 GbE
Dimensions (W x D x H)	482.6 x 770 x 86.9 mm 19 x 30.3 x 3.4 inch 2 U	482.6 x 980 x 263 mm 19 x 38.6 x 10.4 inch 6 U	483 x 770 x 175 mm 19 x 30.3 x 6.9 inch 4 U
Weight	25 kg (55 lb)	73 kg (161 lb)	50 kg (110 lb)
Maximum power consumption	345 W	1115 W	575 W
Heat generation	1,242 kJ/h / 1,177 BTU/h	4,014 kJ/h / 3,805 BTU/h	2,064 kJ/h / 1,956 BTU/h

Installation specification

Power voltage	AC 100 - 120 V / AC 200 - 240 V / US: 2 supplies of 208 V (phase to phase)
Power frequency	50 / 60 Hz
Power phase	Single, Dual, or Triple
Fuse protection	Industry: 16 A per phase (fuses not coupled) US: 20 A per phase (fuses not coupled) To be cared about by the customer
Power connector options	2 x CEE 3x16A (3 phases red plug) 2-6 CEE 1x16A (1 phase blue plug) 2-6 L6-30 (US: 2 phases 208V)
Notes	Power Connection Options: Default is 2 x CEE 3x16A (best power redundancy, which is highly recommended). Each configuration will be analyzed in SysARC and the internal power distribution will be set for maximum power redundancy. A mix inside a Rack is not allowed. Each rack can be individually configured.

Environmental

Room air conditioned	Recommended, at 20° C (68° F)
Floor air supply	No
Temperature (operating)	Long term at 20° C (68° F), max. 2 hours at minimum 15° C or maximum of 35° C (59 to 95° F)
Temperature (not operating)	-20 - 40 °C (-4 -104 °F)
Humidity (operating)	Long Term at approximately 50 % RH; tolerances at 30 to 70 % RH (relative humidity, non-condensing)
Humidity (not operating)	30 - 70 % (relative humidity, non-condensing)
Altitude	3,000 m (10,000 ft.)
Sound pressure (dB/A)	<60
Operating environment	FTS 04230 – Guideline for Data Center (installation specification)
Operating environment link	http://docs.ts.fujitsu.com/dl.aspx?id=e4813edf-4a27-461a-8184-983092c12dbe

Warranty

Standard warranty	1 year
Service level	Onsite Service
Warranty terms & conditions	www.fujitsu.com/support

Maintenance and Support Services - the perfect extension

Service lifecycle	5 years after end of product life
Service weblink	www.fujitsu.com/services/product-services

Compliance

Product safety	CE, UL/CSA
Electromagnetic compatibility	CE, FCC Class A
Environmental compliance	RoHS compliant
Compliance notes	There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons can be applied for on request
Compliance link	http://globalsp.ts.fujitsu.com/sites/certificates

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Fujitsu OPTIMIZATION Services

In addition to Fujitsu ETERNUS CD10000, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio

Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

Computing Products

www.fujitsu.com/global/services/computing/

Software

www.fujitsu.com/software/

More Information

Learn more about Fujitsu ETERNUS CD10000, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website. www.fujitsu.com/eternus

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Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at: www.fujitsu.com/global/about/environment/

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