FUJITSU

Data Sheet
FUJITSU Storage ETERNUS CD10000 S2

The hyper-scale, software-defined storage system for the cloud

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ETERNUS CD10000 S2

The cloud wave is transforming today's IT at an unpredictable speed.

ETERNUS CD10000 S2 is a hyperscale, software-defined storage system designed to manage vast amounts of data.

A configuration can start small and grow in line with the business, minimizing the need for upfront investments, re-engineering and disruption to production systems. Keeping pace with changes makes agile storage infrastructure very attractive for OpenStack users, cloud service providers, research institutes, telecommunication and media-broadcasting companies.

ETERNUS CD10000 offers new levels of scalability in capacity and performance by supporting flexible configurations from 4 up to 224 nodes. The architecture allows individual storage nodes to be added, exchanged and upgraded without downtime. This makes the entire system - and its data – immortal. ETERNUS CD10000, powered by Ceph, integrates open source innovation in a complete and fully supported solution from Fujitsu - without implementation and operational risk.

Features & Benefits

Main Features	Benefits
Open standards at enterprise-class service levels	■ Dramatic reduction of integration costs and risks ■ Seamless management for Ceph and the entire system hardware ■ Consistent lifecycle management reduces maintenance workloads ■ One support partner mitigates operational risks
Unlimited scalability of capacity and performance	■ Scalability on demand reduces investment in unused capacity ■ Standard storage nodes balance speed, costs and space ■ Constant high performance for maintaining service levels ■ Supporting all data formats enables high consolidation results
Zero downtime architecture	■ Uninterrupted operations ensure access to data at any time ■ Minimum tuning required – always the right service level ■ No downtime for maintenance tasks or system enhancements
Immortal system	■ Three times extended lifecycle compared to conventional systems ■ Stable and consistent service levels ■ Dramatic migration cost savings
Extremely low total cost of ownership (TCO)	■ Cost savings for evaluation, implementation and operations ■ Predictable costs even in light of unpredictable growth ■ Lower TCO per gigabyte than conventional high-capacity systems

Key characteristics

Software-defined storage
- The CD10000 is a software-defined and hyper-scale storage system. It provides a scale-out architecture enabling customers to start with a capacity of a few terabytes and to scale up to 50 petabytes and more by just adding storage nodes. Such extreme scalability enables IT organizations and service providers to manage exponential and unpredictable data growth. The internal architecture is based on the open source storage software Ceph and server technology from Fujitsu. Regarding Ceph we work together with Red Hat and their distribution. Around the software and the hardware we have wrapped a unified management system creating a single system image as users know from conventional storage systems. The complete solution is sold as an appliance integrating all hardware and software elements. This includes complete maintenance and support services. The customer is thus buying a complete storage system with end-to-end quality assurance and support.

Reduce costs of exponential data growth
- Storage node costs, capacity and performance can be optimally balanced for every system application.
- Storage nodes that offer very high capacities within a minimum of space are ideal for realizing space-saving scenarios that are low in cost.
- Scalability levels are now more precise so that customers can minimize possible up-front investments in capacities that are not in current use.
- Fujitsu has optimized the Ceph erasure code and provided it to the open stack community. Customers benefit from optimized erasure coding because they can reduce the cost of creating data redundancy by up to two-thirds when compared with the first generation.
- New management and monitoring functions reduce the administration workload – for example, with automatic integration of new nodes or simpler software deployment.

Provide business continuity for mass data
- A system can be expanded across two spatially dispersed sites to support flexible disaster recovery.
- Asynchronous replication between two spatially dispersed clusters is possible with gateway nodes without any compromises in performance.
- Backup-in-the-box is a new feature for pool-based or object-based backup.

Shorten time to production with validated solutions
- The holistic approach of the ETERNUS CD10000 S2 also applies to the planning and deployment phases. Best practices and validated solutions are constantly derived from customer projects – customers profit from this in the form of faster implementation, consistently high levels of quality and declining costs. Some examples of validated solutions are: OpenStack, Enterprise File Sync & Share, Online Archives/Content Depots and Cloud Backup.

Technical details

General system information

Type	Hyper-scale storage
Hardware platform	S2
Storage management	Fujitsu's GUI management console
Host connectivity options	CEPH Object, CEPH block device
Minimum configuration	4 Storage nodes
Max. no. of storage nodes	224
Storage node types	Flex Nodes
Max. raw capacity	42 PB
Note	Usable capacity might be reduced by the number of replicas or the usage of erasure coding
Data replication capabilities	split-site configuration
Application interfaces	KVM, Swift, S3, CephFS (on special release request), OpenStack

Storage Nodes

Node type	Flex Node	Flex Node	Flex Node	Flex Node
Raw capacity	44 TB	92 TB	140 TB	188 TB
SSD Cache	up 2 x 800 GB PCIe SSD	up 2 x 800 GB PCIe SSD	up 2 x 800 GB PCIe SSD	up 2 x 800 GB PCIe SSD
Ports	2 x 10 GbE	2 x 10 GbE	2 x 10 GbE	2 x 10 GbE
Dimensions (W x D x H)	482.4 x 770 x 88.6 mm 19 x 30.3 x 3.5 inch 2 U	482.4 x 770 x 177.6 mm 19 x 30.3 x 7 inch 4 U	482.4 x 770 x 265.2 mm 19 x 30.3 x 10.4 inch 6 U	482.4 x 770 x 354.4 mm 19 x 30.3 x 14 inch 8 U
Weight	25 kg (55 lb)	60 kg (132 lb)	95 kg (209 lb)	130 kg (287 lb)
Maximum Power Consumption	330W	495W	660W	825 W
Heat generation	1,188 kj/h / 1,126 BTU/h	1,782 kj/h / 1,689 BTU/h	2,376 kj/h / 2,252 BTU/h	2,970 kj/h / 2,815 BTU/h

Infrastructure Nodes

Node type	Gateway Node	Monitor Node
Dimensions (W x D x H)	483 x 770.7 x 43 mm 19 x 30.3 x 1.7 inch 1 U	483 x 770.7 x 43 mm 19 x 30.3 x 1.7 inch 1 U
Weight	16 kg (35 lb)	16 kg (35 lb)
Maximum Power Consumption	73 W	73 W
Heat generation	263 kj/h / 249 BTU/h	263 kj/h / 249 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.

Environment

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 minimut 15° C or maximum of 35° C (59 to 95° F)
Temperature (not operating)	-20 - 40 ℃

Environment

Humidity (operating)	Long Term at appr. 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

Warranty period	1 year
Warrenty type	Onsite warranty
Warranty Terms & Conditions	www.fujitsu.com/support

Product Support Services - the perfect extension

Recommended Service	24x7 Onsite Service
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

Fujitsu OPTIMIZATION Services

In addition to Fujitsu ETERNUS CD10000 S2, 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/products/computing/

Software

www.fujitsu.com/software/

More information

Learn more about Fujitsu ETERNUS CD10000 S2, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
www.fujitsu.com/eternus

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 contribute to the creation of a sustainable environment for future generations through IT. Please find further information at http://www.fujitsu.com/global/about/environment

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