Business-Centric Storage

Providing reliable data services more efficiently with FUJITSU Storage ETERNUS



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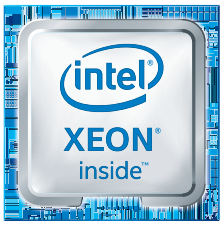
ETERNUS – Business-Centric Storage

Digitization is fundamentally transforming businesses. This transformation is resulting in digital ecosystems that blur the lines along value chains. It influences the ways employees collaborate and how businesses cooperate with customers, partners and the public. Central to this digitally evolving world is data. In contrast to traditional business, the value of data in the digital economy may increase over time. The shift in the value of data has resulted in new requirements for storage technologies, depending on the business scenario:

- For real-time business analytics, large data volumes require faster storage response times as long as the data sets are relevant.
- Storage systems for business-critical data need to be more scalable and provide stronger fault tolerance.
- Extreme growth of unstructured data triggered by data services like online archives, file sharing, video streaming, etc. drive new software-defined, hyper-scale architectures for a second storage tier.
- Furthermore, backup and archiving needs to scale to greater dimensions.

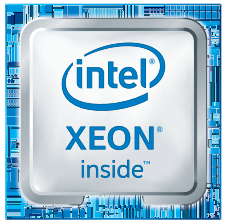
Fujitsu Business-Centric Storage under the ETERNUS brand includes solutions that help storage professionals provide the right data service levels with reduced cost per gigabyte for all business scenarios.





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The right storage solution for every purpose



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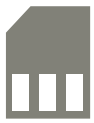
With Fujitsu's new generation of ETERNUS storage solutions, you can master any challenge arising from digital transformation. ETERNUS systems provide better business support at lower cost. They enable you to align existing storage resources with business priorities by providing features like automated quality of service. At the same time, new performance levels contribute to better system utilization, which has a direct impact on ROI.

The ETERNUS line-up is comprised of compelling solutions for all tasks ranging from applications that demand ultra-fast response times, consolidation of different types of data in a single system, and deployment of hyper-scale, software-defined storage to extremely powerful data protection solutions that can be managed very easily and efficiently.

- ETERNUS AF all-flash storage excels in recognized benchmarks by delivering incredible storage performance and extremely reliable data services at highly competitive prices.
- ETERNUS DX hybrid storage allows you to achieve a maximum of storage consolidation for structured and unstructured data by balancing speed, capacity and cost in one system.
- ETERNUS CD10000, our software-defined hyper-scale platform, is predestined for all new and classic storage tasks that do not require extremely high performance.
- ETERNUS CS data protection solutions enable you to rigorously consolidate your backup infrastructures and support the business with top service levels.
- ETERNUS LT systems perfectly meet the requirements of low-cost backup and long-term archiving in both homogeneous and heterogeneous environments.

ETERNUS Storage

High ← Data access performance/Cost of capacity → Low



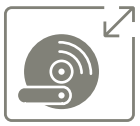
ETERNUS AF

accelerates data flows with all flash storage



ETERNUS DX

hybrid storage effectively consolidates storage infrastructures



ETERNUS CD

software-defined hyper-scale storage manages explosive data growth



ETERNUS CS

backup & archive solutions leveraging disk, deduplication and tape technologies



ETERNUS LT

backup to tape systems providing the most cost-efficient backup infrastructure

Storage for business analytics

Storage for production

Storage for backup and archiving

Accelerate data access with flash storage

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The FUJITSU Storage ETERNUS AF delivers flash performance plus seamless management integration with existing disk storage environments, thus ensuring a smooth transition of data centers to flash. Customers benefit from ultra-fast response times that set performance records thanks to sophisticated inline efficiency technologies. What's more, mirroring and transparent failover ensure nonstop operation, and automated quality of service substantially minimizes administration. In addition, ETERNUS AF cuts operational costs by reducing storage space by up to 66 percent, power consumption by 95 percent and administration costs by 40 percent.

How ETERNUS AF differs from other flash arrays

- Based on an end-to-end optimized performance architecture, ETERNUS AF storage delivers leading response times that provide large-scale data performance headroom for all types of applications.
- With selective use of data reduction technologies, automated quality of service and full management integration with ETERNUS DX hybrid systems, ETERNUS AF systems are unmatched in operational efficiency.
- ETERNUS AF provides the most comprehensive HA and DR capabilities, including mirroring, replication and transparent system failover. This works not only between different ETERNUS AF models, but also with ETERNUS DX hybrid storage to enable cost reductions at recovery sites and a smooth transition from disk to flash.

Synergy effects provided by the ETERNUS AF/DX family concept

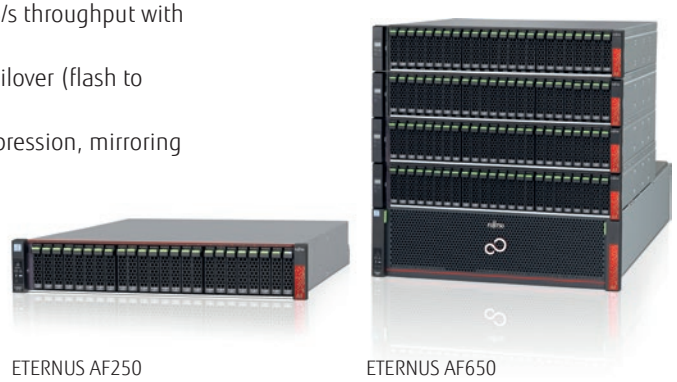
→ ETERNUS Storage Management Software **is the unified management system for the ETERNUS AF/DX family. It ensures that an IT administrator, once trained to operate a specific system, will also be able to manage the other models within the family.**

→ ETERNUS Family Concept **ensures the unified management of all ETERNUS AF/DX storage systems via the ETERNUS SF platform. And you also benefit from easy upgrade options and very efficient disaster resilience solutions, such as ETERNUS Storage Cluster.**

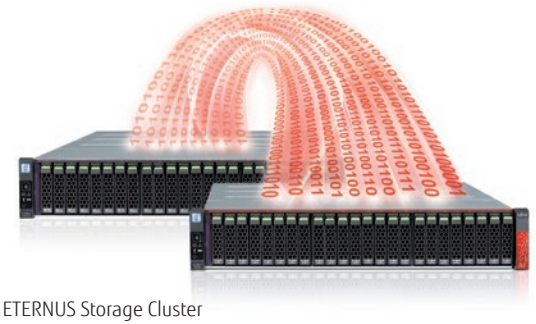
→ ETERNUS Storage Cluster **automatically executes failover in both directions and between different ETERNUS DX hybrid storage and ETERNUS AF all-flash models, thus supporting nonstop operations very efficiently.**

FUJITSU Storage ETERNUS AF – superior performance and high-availability at reasonable costs

- Performance of more than 900,000 IOPS, 23 GB/s throughput with latency of only 0.3 ms at full load
- Highest business continuity with transparent failover (flash to flash and flash to disk)
- All-inclusive management, deduplication/compression, mirroring and replication functions at no extra cost



ETERNUS AF250 ETERNUS AF650



ETERNUS Storage Cluster

Consolidate storage with hybrid storage arrays

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ETERNUS DX hybrid storage is ideal if you want host data for performance-hungry applications like virtualization, databases or OLTP alongside unstructured data, online archives and other "lukewarm" data in a single system. These systems allow you to achieve a maximum of storage consolidation for structured and unstructured data by balancing speed, capacity and cost in one system.

ETERNUS DX hybrid storage systems, with their SSD tier, deliver "all-flash-like" performance, thus allowing for a gradual transition to all-flash, while high-capacity hard disks store unstructured data at the lowest cost. The very latest automation technologies enable you to manage hybrid configurations (SSDs, SAS, Nearline SAS) with a minimum of manpower. Just define the needed response time per volume, and ETERNUS DX does the rest by assigning bandwidth and/or invoking storage tiering.

How the ETERNUS DX Storage Series differs from other hybrid storage systems

- **Performance:** ETERNUS hybrid storage offers the performance advantages of all-flash drives alongside conventional HDDs. The latest models can handle up to three times more transactions, and host 50 percent more virtual machines than before. Even the ETERNUS DX60 model, for example, delivers an outstanding 250,000 IOPS.
- **Automation:** ETERNUS DX hybrid storage offers the latest automation technologies. The systems are intelligent enough to move data between flash and disk drives, depending on usage. And automated Quality of Service management and failover take care of complex storage management tasks.
- **Mainframe class robustness:** ETERNUS DX hybrid storage provides constant data protection supported by the highest levels of built-in system security to prevent access to valuable business data. Business continuity is increased thanks to a boost in data availability of up to 99.9999 percent – which corresponds to less than one minute of unplanned downtime per year.

One consistent family – one system management service, from small to high-end



ETERNUS DX60 | ETERNUS DX100 | ETERNUS DX200 | ETERNUS DX500 | ETERNUS DX600 | ETERNUS DX8700 ETERNUS DX8900

Economy — Entry-level and midrange storage — Enterprise storage

ETERNUS SF storage management software

Boost capacity utilization up to **90** percent with no performance bottlenecks



Ensure business continuity by boosting data availability to **99.9999** percent



Hyper-scale with software-defined storage

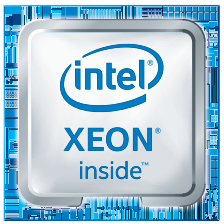
FUJITSU Storage ETERNUS CD10000 is ideal for new storage requirements which stem from big data analyses, cloud storage and software, to name but a few examples. The object storage platform, based on open standards, features unlimited scalability and is economical to manage, even in huge environments with millions of files. Thanks to the holistic concept behind ETERNUS CD10000, the platform is predestined for all new and classic storage tasks. It is delivered as a turnkey, pre-installed and completely tested solution that is supported by end-to-end maintenance from Fujitsu.

How ETERNUS CD10000 S2 differs from other hyper-scale storage solutions

- Leading and virtually limitless modular scalability for both capacity and performance: This keeps your capital investment to a minimum and makes it easy to keep the incalculable growth in data volumes under control.
- Immortal system: The system's zero-downtime architecture guarantees constant data availability, with no need for costly high availability or disaster recovery solutions. Technology refreshes can also be performed at any time, with no downtimes or migration costs.
- Ready to use right out of the box: The appliance combines Ceph open source storage software, Fujitsu management enhancements, and Fujitsu enterprise-class hardware with end-to-end maintenance service in a single complete solution.

FUJITSU Storage ETERNUS CD10000
Manage extreme data growth yourself – and with ease.





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Utilize tape libraries for long-term retention

As data volumes continue to grow at a breathtaking pace, backup and archiving can quickly become a huge challenge that may negatively impact business processes. However, with the affordable FUJITSU Storage ETERNUS LT tape libraries, it is quite easy to cope with such challenges. Offering impressive scalability, ultra-fast transfer speed and rock-solid reliability in a compact design, the systems perfectly meet the requirements of low-cost backup and long-term archiving in both homogeneous and heterogeneous environments.

How ETERNUS LT differs from other tape libraries

- Flexible connectivity – both for connection to storage systems and servers, and in the choice of media
- Highly automated, simple, and remote operation enables intuitive use without local expert skills
- Pay-as-you-grow plan and flexible scaling options help customers avoid unnecessary initial investments and respond flexibly to data growth
- Guarantees data security and fulfills compliance regulations with features like write protection, hardware encryption and partitioning

FUJITSU Storage ETERNUS LT Tape Libraries
Simplify backup and archiving



Ensure fast recovery with data protection appliances

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Data is the "new gold" in the digital world. But due to data explosion, it is incredibly difficult to implement an efficient backup, file handling and archive strategy without adding to complexity. This is different with Fujitsu's data protection solutions which make it easy to keep back-up and archiving speed, capacity and cost in balance. They offer lower total cost of ownership as opposed to traditional multiple component solutions, and they enable rigorous consolidation of backup infrastructures. Fujitsu is one of the world leaders in end-to-end data protection solutions and services, and it partners with leading software vendors to realize the most efficient fulfillment of individual customer requirements.

How Fujitsu's data protection appliances differ from other solutions

- Leading scalability and performance enable rigorous consolidation of back-up infrastructures and ensure that service levels can be reliably fulfilled with regard to capacity, speed and costs.
- Highly developed, automated high-availability and disaster recovery functions ensure an easy and efficient guarantee of backup and restore service availability.
- Appliance concept with leading backup, archiving and deduplication functions makes the management of backup and restore operations simple and efficient.

The right backup appliance for every need

ETERNUS CS8000 – DATA CENTER STORAGE SOLUTION FOR BACKUP AND ARCHIVE AUTOMATION

- In complex backup environments resources are pooled for TCO reductions of up to 40 percent
- Fully automated management of backup and archiving

ETERNUS CS800 – THE ONE-FOR-ALL BACKUP APPLIANCE FOR MEDIUM-SIZED ENVIRONMENTS

- Scalable and high-performance backup appliance supporting all major backup software suites now on the market
- Advanced deduplication technology reduces typical disk capacity requirements for disk-to-disk backup by up to 95 percent

ETERNUS CS200c Powered by Commvault® – THE ALL-IN-ONE SOLUTION WITH THE POWER OF SIMPLICITY*

- Pre-loaded and pre-configured backup and archive appliance reduces implementation time by up to 60 percent
- Protect and manage your data everywhere from a single console anywhere

Commvault HyperScale™ Appliance – ACHIEVING IT AGILITY THROUGH A SCALE-OUT INFRASTRUCTURE*

- Flexible hyper-converged solution that integrates computing, storage and full lifecycle data protection in a single platform
- Protect, access and manage all of your data across the data center and the cloud

VERITAS NETBACKUP APPLIANCES - FULLY INTEGRATED SOLUTIONS FROM ONE MOLD

- Integrated appliance with optimal backup that takes less than 30 minutes to deploy
- Embedded cyber-security detects intruder threats to mitigate risks

* only available in Europe, Middle East & Africa



Fujitsu's data protection appliances align capacity, speed, and costs – effortlessly

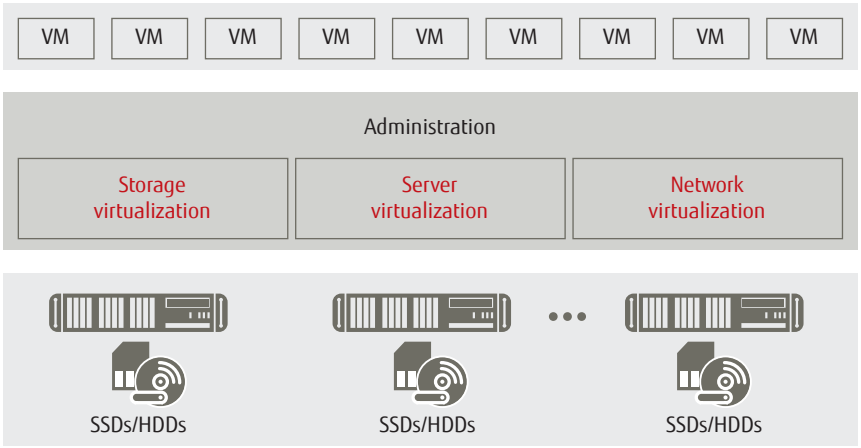
Storage as part of hyper-converged infrastructures

Hyper-converged architectures are gaining momentum as an alternative to discrete storage: Hyper-converged infrastructures embed server and storage functionalities in one building block. Storage capacity and performance can thus be increased at the same time by simply adding more building blocks. Fujitsu supports this new form of storage implementation with the PRIMEFLEX family of integrated systems.

FUJITSU Integrated System PRIMEFLEX represents a wide range of pre-defined, pre-integrated and pre-tested combinations of data center components, such as servers, storage, network connectivity and software. Since infrastructure design, component integration and testing have been completed before starting your project, the deployment of the integrated system and integration in the production environment is the only work needed to be done on-site. Fujitsu addresses highly relevant use cases with the PRIMEFLEX family. Here are two examples:

- **FUJITSU Integrated System PRIMEFLEX for VMware vSAN** is a hyper-converged system that comes with VMware vSphere and VMware vSAN pre-installed, supporting up to 64 server nodes and more than 8 petabytes of storage.
- **FUJITSU Integrated System PRIMEFLEX for Storage Spaces Direct** is a hyper-converged system based on software-defined storage technology (Storage Spaces Direct) integrated in the Windows Server 2016 Datacenter Edition. The system supports up to 16 server nodes.

→ www.fujitsu.com/global/primeflex





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Whatever storage challenge you may have, Fujitsu has the right solution for every scenario.

www.fujitsu.com/eternus

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