



Resilient Data Platforms: the key value for your IT

Fujitsu Storage
ETERNUS DX
Hybrid Storage



What are the essentials when consolidating vast amounts of data into a single storage system? Swift response times are crucial for virtualization, databases, and Online Transaction Processing (OLTP). Additionally, you require ample, cost-effective capacity to handle the increasing deluge of unstructured data. These present significant technological and effort-related challenges.

ETERNUS DX hybrid storage is the ideal solution to tackle these challenges. It harmonizes speed, capacity, and cost within a single system. Its comprehensive automation significantly reduces operational workloads. ETERNUS DX systems, equipped with an SSD tier, provide performance akin to all-flash, facilitating a smooth transition to all-flash. Meanwhile, high-capacity hard disks offer cost-effective storage for unstructured data. Intelligent automation allows for efficient management of diverse storage tiers (SSDs, SAS, Nearline SAS) with minimal manpower. Simply specify the required response time per volume, and ETERNUS DX takes care of the rest by allocating bandwidth and/or implementing storage tiering. Implementing disaster resilience has never been more straightforward and cost-effective with ETERNUS DX.

Consolidate your storage landscape efficiently and reliably with ETERNUS DX!

ETERNUS DX – key values

The perfect consolidation engine

- Balancing speed and cost in one storage solution
- Making the management of diverse storage tiers easier

Seamless design

- Easy upgrade options due to consistent design of hardware and software components
- Easy administration via one management platform: ETERNUS SF

Leading performance architecture

- Competitive all-flash performance on the SSD tier
- Flexible combination of nearline SAS, SAS and SSDs
- Hardware accelerated deduplication and compression
- Lean and unified stack without dedicated hypervisor
- Data availability and accessibility supported by ETERNUS Active-Active Cluster
- Highest storage efficiency & performance supported by Multi-Flash Tiering

Service levels adjusted to business needs

- Automated Quality of Service
- Automated Storage Tiering (AST)

Business continuity with efficient disaster resilience

- ETERNUS Storage Cluster – transparent failover
- Fast recovery – minimizes the time needed for rebuilding new RAID groups

Start out with performance by design



The ETERNUS DX performance architecture, equipped with Multi-Flash Tiering, delivers top-tier I/O performance, bandwidth, and response time, rivaling that of all-flash-arrays thanks to its SSD tier. These scalable systems utilize the latest multi-core, multi-thread processors, and the ETERNUS operating system provides extensive parallel processing. The incorporation of NVMe SSDs for secondary cache and high-speed interfaces further boosts the overall I/O performance. This enables businesses to process more transactions for a larger user base and achieve quicker response times for business analyses. Moreover, administrators can manage both types of workloads on a single system.

- Process data from more applications on one system
- Reduce the complexity of storage operations
- Improve overall ROI

ETERNUS DX provides advanced hardware accelerated data reduction technologies in combination with flexible configuration options. By offloading the compression and/or deduplication process to the Storage Acceleration Engine (SAE), it achieves faster compression/deduplication than traditional methods. Utilizing deduplication, compression, and thin provisioning, the required storage capacities can be significantly reduced - for instance, SSD capacity can be reduced by an average factor of five for common use cases! Additionally, different types of hard disks (SAS, Nearline SAS, SSD) can be combined in a single system, balancing performance and cost while optimizing data center space. In essence, ETERNUS DX provides all configuration options and the flexibility to fine-tune robust data reduction technologies based on storage volumes, enabling you to balance performance and cost in line with application SLAs.

- Increase capacity with inline data reduction and compression without performance impact
- Balance capacity and performance on demand

Use best-in-class data reduction technologies



Guarantee service levels and optimize storage operations



As data traffic increases in a storage system, more and more applications are competing for the resources that are available. Unlike other solutions that necessitate complex tuning to address performance issues, ETERNUS DX simplifies this process. It allows for the setting of priority and desired response times for specific applications, and handles the rest with its Automated Quality of Service. Furthermore, Automated Quality of Service can be paired with Automated Storage Tiering (AST) to provide extra leverage when performance demands conflict among applications in a system. In such instances, Automated Quality of Service activates AST to shift the data from higher-priority applications to faster hard disks or SSDs within the system.

- Orchestrate storage resources according to business priorities
- Ensure stable response times automatically
- Keep performance, capacity and costs in balance

Simplify storage management and administration



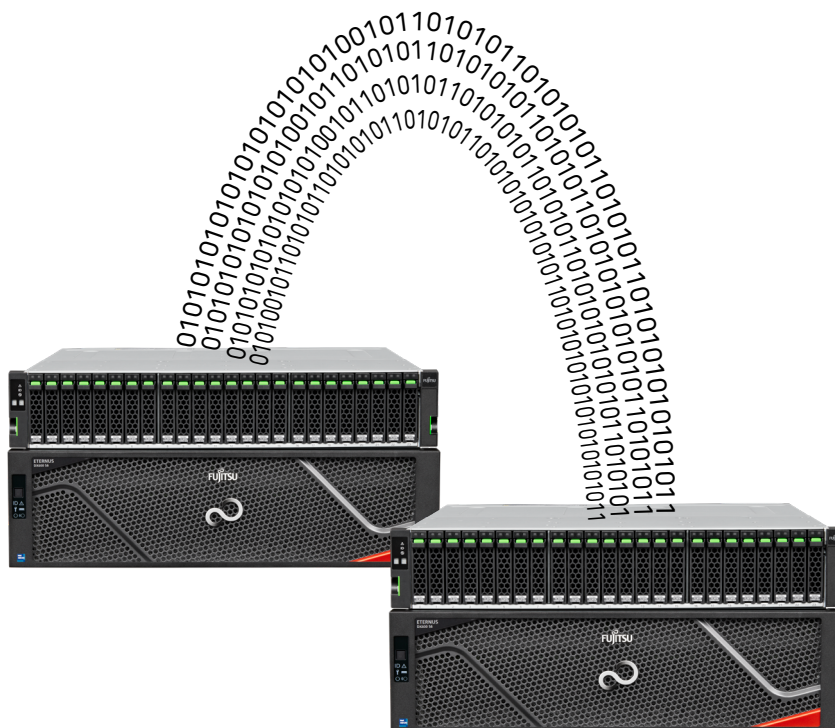
The ETERNUS DX series, in concert with ETERNUS SF storage management software, ensures a high degree of freedom when it comes to realizing storage strategy. The reason: ETERNUS DX is a system family based on a consistent design, from midrange systems, and culminating in the high-end storage systems. The ETERNUS SF storage management software features an intuitive web GUI. Simple, optimized user interface with useful wizards, system data visualization, powerful performance monitoring features and automated routine administration tasks help reduce the monitoring and management workload.

- Scale and upgrade easily from one model level to the next
- Reduce complexity and cost of administration
- Protect investments in technologies and know-how

Configurations that guarantee the high availability of mission-critical data are seen as expensive and complex, causing many businesses to hesitate in managing these environments. To address this, ETERNUS DX integrates comprehensive disaster recovery features, including replication, mirroring, and transparent failover, all within an active/active & active/standby cluster. Mission-critical data is automatically mirrored in an ETERNUS Storage Cluster. The failover can be executed in both directions and between different ETERNUS DX systems, thereby supporting non-stop operations very efficiently.

- Automate for the worst case
- Benefit from simple and safe transparent failover
- Maintain business continuity

Mitigate risks with 100 percent assurance – ETERNUS Storage Cluster



“We needed a powerful, high-capacity storage system that also provided good value for money. That’s why we chose the Fujitsu Storage ETERNUS DX600.”

Jörn Westermann, Head of Cloud & Infrastructure, noris network AG



ETERNUS DX – perfect storage solutions for your business demands

ETERNUS DX online storage

	ETERNUS DX200*	ETERNUS DX600	ETERNUS DX900	ETERNUS DX8900
Architecture	Flexible and seamless design with uniform storage management			
Segment	Scalable unified entry-level and midrange systems			Enterprise systems
Maximum raw capacity SSD	8,110 TB	28,754 TB	69,304 TB	132,710 TB
Maximum raw capacity HDD	2,116 TB	8,424 TB	20,304 TB	38,880 TB
Maximum disk drives	264	960	2,304	4,608
Storage controllers	1/2	2	2–4	2–24
Maximum cache capacity	128 GB	2 TB	4 TB	24 TB
Maximum second-level cache (Extreme Cache)	1.6 TB	25.6 TB	51.2 TB	307.2 TB
Host interfaces	8/16/32 Gbps FC 1/10 Gbps iSCSI 12 Gbps SAS 1/10 Gbps Ethernet	8/16/32/64 Gbps FC 1/10 Gbps iSCSI	8/16/32 Gbps FC 1/10 Gbps iSCSI	8/16/32/64 Gbps FC 1/10 Gbps iSCSI
Storage management	ETERNUS SF V16 software suite			
Continuity management	Remote Equivalent Copy (REC) Storage Cluster – transparent failover Local Advanced Copy			
Performance management	Automated Storage Tiering Automated Quality of Service			
Information security management	Self-encrypting drive Controller-based encryption			
Availability management	Reliability/RAID protection Redundant controller and components			
Capacity management	Thin Provisioning			
	Deduplication/Compression	Deduplication & Compression	Compression	Compression
Virtualization	VMware Virtual Volumes (VVOL) Support			
Efficiency	Unified storage			

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Learn more about ETERNUS storage:
www.fujitsu.com/eternus



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