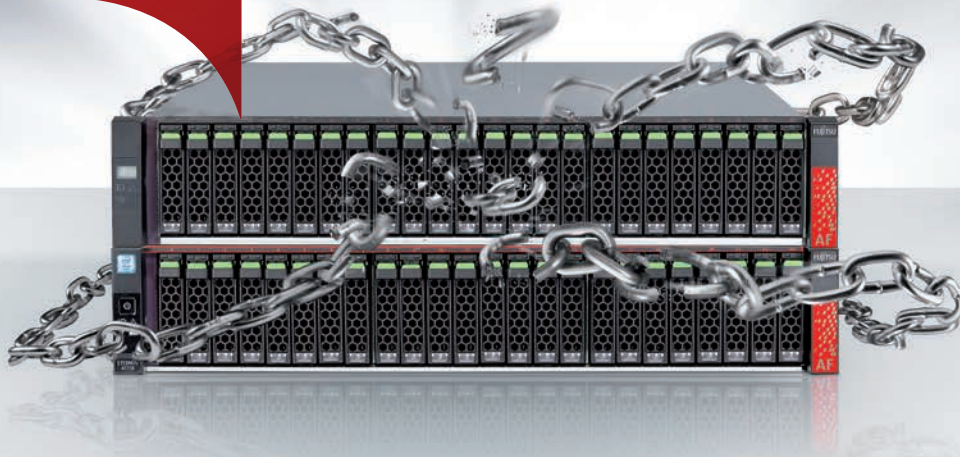


# Storage unchained

FUJITSU ETERNUS AF –  
All-Flash Storage



The FUJITSU Storage ETERNUS AF accelerates, modernizes and transforms data centers in a flash new world. Built on a powerful architecture, it delivers all the strengths of flash storage, 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 and sophisticated inline efficiency technologies. What's more, mirroring and transparent failover ensure non-stop operation, and automated quality of service substantially minimizes administration. In other words, ETERNUS AF powered by Intel® Xeon® processors is an innovative and strong alternative to hard disks for enterprise applications and databases.



Flash is fast – with response times that are around 500 times better than those of disks. And flash is 100 times more reliable than disks. But until recently, flash storage was reserved for services that demand maximum performance at any cost – like databases, analytics and trading apps. That was yesterday. Today, as prices are equal to those for fast disks, flash is becoming mainstream in IT infrastructures. What's more, thanks to sophisticated efficiency technologies, the cost per IOPS is also lower with flash storage.

Learn more about Business-Centric Storage:  
[bcs.global.fujitsu.com/](http://bcs.global.fujitsu.com/)

## ACCELERATE YOUR BUSINESS PROCESSES WITH ULTRA-FAST FLASH STORAGE

For big data/analytics, online transactions, mobile applications or virtual desktop infrastructures: As digitization continues to transform business, data centers must offer the fastest response times for a growing number of applications. This is extremely difficult and demands complex storage system tuning. However, with the all-flash power of ETERNUS AF, insufficient performance is a thing of the past. Thanks to ultra-fast response times ranging from 0.1 to 1 ms. – along with scalability into the petabyte range – most application workloads can be consolidated in one shared system that allows for easier management.

- Use eight times more IOPS for data services
- Consolidate workloads from diverse apps in one system
- Provide users with reliable and ultra-fast response times that are 500 times faster than those of hard disks

## OPTIMIZE CAPACITIES WITH BEST IN CLASS DATA REDUCTION TECHNOLOGIES

ETERNUS AF provides advanced inline data reduction technologies in combination with flexible configuration options. With deduplication, compression and thin provisioning, the SSD capacity needed can be reduced by an average factor of five for typical use cases! These enormous savings make the vision of all-flash data centers even more realistic. Furthermore, with ETERNUS AF you have the freedom to precisely adjust powerful data reduction technologies on the basis of storage volumes (no data reduction, only dedup, only compression, all on), so you can balance performance and cost accordingly to application SLAs.

- Increase capacity of SSDs by an average factor of five with inline data reduction technologies
- Balance capacity and performance on demand

## MEET BUSINESS DEMANDS AND BE SMARTER WITH COMPLETE AUTOMATION

ETERNUS AF makes it easy to guarantee service level agreements. With automated quality of service management, you just set the priorities per application and let ETERNUS AF do the rest. Monitoring and adjustments are automated. There is no need for performance tuning, tiering configurations or manual interventions. And this minimizes overall administrative effort. As a result, more capacity can be managed per administrator.

- Automate administration
- Enjoy guaranteed quality of services
- Forget about labor intensive tasks like performance tuning or tiering

## SIMPLIFY TRANSFORMATION FROM DISK TO FLASH

Simplicity is one of the central concepts in the design of ETERNUS AF. That is evident when it comes to management. ETERNUS AF uses the same management software as ETERNUS DX hybrid storage systems, which can operate disks and SSDs. Thus the GUI, setup and daily operations are all alike. This makes for easy integration in existing ETERNUS DX environments, ensures maximum investment protection and supports a smooth transformation to flash-based infrastructures.

- Use ETERNUS AF and ETERNUS DX on the same management platform
- Replace hard disks gradually and immediately benefit from flash
- Transform the data center and protect investments at the same time

<p>Consolidate workloads from diverse apps in <b>one</b> system</p>	<p>Balance capacity and performance on demand</p>	<p>Enjoy guaranteed quality of service</p>
<p>Mitigate risks with system rebuilds <b>5x</b> faster</p>	<p>Replace hard disks gradually and <b>immediately</b> benefit from flash</p>	<p>Reduce power and cooling consumption by up to <b>85%</b></p>

## INCREASE THE PROFITABILITY OF YOUR DATA CENTER WITH ALL-FLASH STORAGE

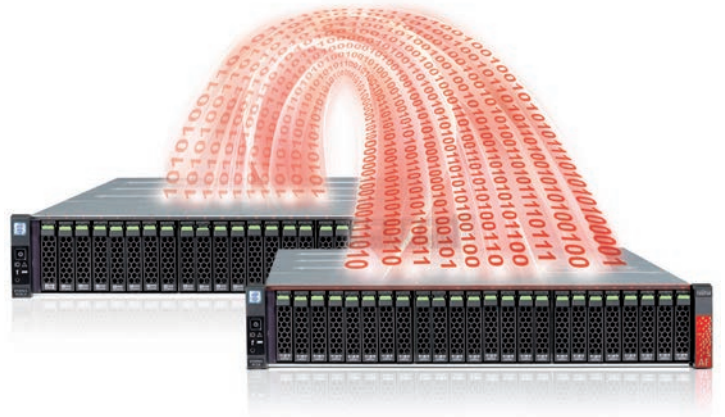
ETERNUS AF dramatically boosts the efficiency of data centers. For example, an SSD offers performance equal to that of up to 50 conventional hard disks, but consumes much less electrical energy. That results in enormous savings. What's more, with a ten fold increase in storage density, the solution has a smaller space-saving footprint that reduces premises expenditures. The costs of electricity and air conditioning can even be cut by up to 85 percent. But that is not all: ETERNUS AF is also a low-maintenance solution and saves a lot of money in comparison to conventional storage systems.

- Maximize your data center efficiency
- Benefit from a five times better cost/IOPS ratio
- Reduce power and cooling consumption by up to 85 percent
- Save space thanks to 10 times higher density
- Reduce maintenance costs by up to 80 percent

## MITIGATE RISKS WITH 100 PERCENT ASSURANCE

Enterprise-grade flash storage is 100 times more reliable than hard disk storage. Nonetheless, an element of risk still remains. That is why ETERNUS AF features full disaster recovery with replication, mirroring and transparent failover. Business-critical data is mirrored automatically in an ETERNUS Storage Cluster. And if the primary site fails, the secondary site takes over – quietly and smoothly. This failover can be executed in both directions and between different ETERNUS AF and ETERNUS DX models, thus supporting non-stop operations very efficiently.

- Automate for the worst case
- Benefit from simple and safe transparent failover
- Mitigate risks with system rebuilds up to 5x faster
- Maintain business that is “always on”



“Our classroom management software, which allows us to monitor exactly what each student has been doing across our 1,000-strong PC estate, now runs five times faster. That increases productivity and reduces user frustration.”

**Jim Kearton**  
Network Manager, Hemsworth Arts & Community Academy

Learn more about Business-Centric Storage: [bcs.global.fujitsu.com/](https://bcs.global.fujitsu.com/)

# ETERNUS AF

## Scale with Flash



### Configuration options

	<b>ETERNUS AF250</b>	<b>ETERNUS AF650</b>
Max system memory	64 GB	512 GB
Number of drives	2 – 48	2 – 192
Max capacity <sup>1</sup>	1,475 TB raw 7,375 TB effective <sup>2</sup>	5,898 TB raw 29,491 TB effective <sup>2</sup>
Interfaces	8x FC 32G / 8x FC 16G / 8x iSCSI 10G	16x FC 32G / 32x FC 16G / 16x iSCSI 10G
Included software	All-in FlashPack (Configuration, Management and Administration, Local and Remote Copy, Automated Quality of Service, Deduplication and Compression)	

<sup>1</sup> Maximum raw capacity depends on available SSD types | <sup>2</sup> Calculation based on deduplication / compression factor of five

Learn more about Business-Centric Storage: [bcs.global.fujitsu.com/](https://bcs.global.fujitsu.com/)

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**Fujitsu Limited**

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