

# Use case: ETERNUS CS8000 for IBM® z/OS®

## White Paper

### Radically simplifying backup and archiving

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## Mainframe – reliable and powerful

For decades, mainframe stands for maximum availability of data. Furthermore, mainframe allows handling large quantities of data and supports numerous end users. Thanks to this, mainframe computers play the important role of hosting business-critical processes, for example in banking, insurance, government and a lot of other enterprises, to run complex and large programs and databases with thousands of users like customer lists, payroll and accounting information.

The importance of the data managed by mainframes not only ask for a reliable and powerful host system – but also for an equal reliable and powerful data protection solution – as backup is your last line of defense against data loss.

ETERNUS CS8000, the data protection appliance from FUJITSU, shows a record of success in mainframe environments since 1999. The appliance is used around the world by the largest data center in dataintensive segments such as financial services, insurance, telecommunication, public administration, industry and IT service provisioning. Its ongoing development has continued for many years in close collaboration with a well-established user group. That translates into optimal support and keen awareness of the demands arising from daily system use – based on real-world best practices.

## ETERNUS CS8000 - True Tape Virtualization

FUJITSU Storage ETERNUS CS8000 makes the cross-media mix of disk and tape technology most efficient, to benefit from the best of both worlds. For the mainframe host the appliance appears as a virtual tape library (VTL) – but that's not all: the unified ETERNUS CS8000 platform provides intelligent management of cross-media mix – known as automated Information Lifecycle Management (ILM). The appliance combines the strengths of disk and tape with rule-based management, providing seamless and automated backup-to-disk-to tape (B2D2T) processes.

ETERNUS CS8000 is not only the ideal target for mainframe backup but offers the highest degree of flexibility in the market. It supports mainframe and Open Systems backup and archiving as well as diskonly, B2D2T..

## Business values with ETERNUS CS8000 in IBM z/OS environments

### Fast ROI / low TCO

- Most efficient and automated cross-media mix
- Unified disk and tape management ensures high speed backup and restore processes at lowest cost
- Eliminating issues with tape processes and tape management
- Reduce the number of tape drives
- Consolidation of mainframe and open system environments

### Business continuity

- Worldwide unique cache-mirror functionality
- Automated tape management, inclusive self-healing
- Most reliable backup processes for disk and tape media
- Automated copy management at local and remote locations combined with cross-media mix

### Investment protection

- Modular scalability of capacity, from 19 TB up to 350 PB (native usable on disk!)
- Modular scalability of performance, up to 25 GB/s with FICON / up to 41 GB/s (150 TB/h) with FC
- Automated tape migration as a back-end process
- Tremendous consolidation potential



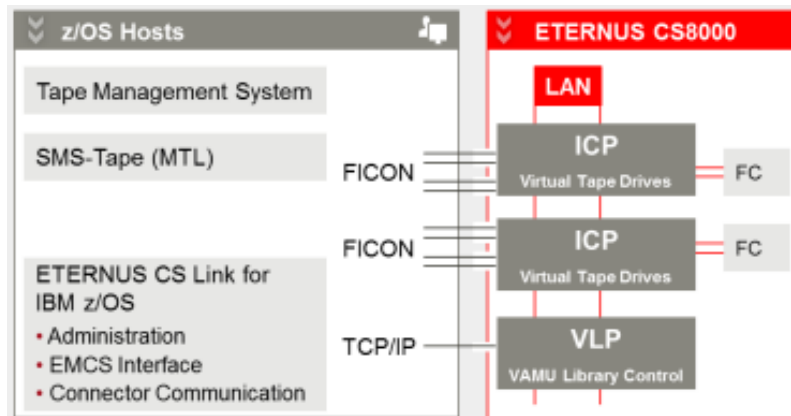
## How it works

ETERNUS CS LINK for IBM z/OS is the library management software to integrate ETERNUS CS8000 in IBM z/OS environments.

### In a nutshell

Installed at the IBM z/OS platform ETERNUS CS LINK for IBM z/OS enables fast backup and recovery of entire systems, databases or individual user data. The concept includes:

- Use of standard IBM z/OS mechanisms for tape device allocation and mount influencing
- Coexistence with all other available control software for this purpose (CMVS, NCS, ELS and HACC)
- Support of tape management systems (CA1 and DFSMSrmm)



## Ensure highest levels of data availability

To ensure the availability of business-critical data from the mainframe environment, ETERNUS CS8000 provides the highest level of data protection possible.

### Highly available appliance ensures backup processes:

To terminate complex, time-consuming and error prone tape management, ETERNUS CS8000 takes over the management of all target systems, providing a highly available virtualized tape robot. The redundant architecture enables reception of the backup data, even if a component should fail, e.g. if the physical tape fails, then the data will automatically be directed to another tape drive or tape library to ensure that the data is safe.

### Tape reorganization and self-healing:

The tape reorganization function effectively utilizes the capacity available. Furthermore, regular reorganization of tape media refreshes the magnetization. The appliance automatically makes quality checks of duplicate copies. If an error occurs, the self-healing functionality recovers the inaccessible information from the other copy to ensure the availability of data even over the very long-term. The self-healing plays also an important role if a copy is requested for a restore case and not available for some reasons: The recall request is automatically redirected to the second copy, the data is provided and the job for the backup software is done. In addition, the automated self-healing recovers the failed copy. Thus, the level of redundancy is restored.

### Flexible copy management:

ETERNUS CS8000 manages different levels of data availability. Data can be mirrored between two sites, replicated over very long distances and saved as multiple copies. This function is user-defined and policy-based. There is almost zero management effort after setup.

### Automated continuation with cache mirror:

The core element of the most disaster resilient architecture is one logical ETERNUS CS8000 system which is deployed over two geographically separated sites, the so called "split-site" configuration with "cache mirror". The internal infrastructure is thereby extended to a second site. The host still sees one logical setup, without being aware of the geographical location. The result is a system which no single point of failure, which continues to run even after a complete site failure.

## Investment protection

ETERNUS CS8000 is based on a modular architecture. Independent building blocks provide a genuine scale-out platform in both, capacity and performance. Tape libraries are decoupled from the backup software. A wide range of libraries and tape drives are supported. Even if the libraries and drives are different, they can be connected in parallel. This makes it very easy to introduce a new generation of tape libraries or tape drives. ETERNUS CS8000 takes care for the data migration, from the old library to the new one.

## Consolidation of mainframe and open system environments

Furthermore, ETERNUS CS8000 is a unified data protection appliance for all applications and the complete physical and virtual server environment, comprising mainframe and open systems. Flexible VTL and NAS support integrates backup, archiving, compliant archiving and second-tier file storage, while supporting the complete consolidation of heterogeneous environments - resources are leveraged and the costs are dramatically reduced.

## For more information

- Whitepaper: [ETERNUS CS8000 in IBM® z/OS environment](#)
- Datasheet: [ETERNUS CS8000](#)
- Website: [www.fujitsu.com/eternus-cs8000](http://www.fujitsu.com/eternus-cs8000)

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For more information:

[www.fujitsu.com/eternus-cs8000](http://www.fujitsu.com/eternus-cs8000)

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