

# Reduce Mainframe Backup and Archive Costs, Consolidate Mainframe and Open Systems Backup

## Fujitsu ETERNUS CS8000 and Quantum Scalar Libraries

### ONE CONSOLIDATED PLATFORM FOR BACKUP AND ARCHIVE SUPPORTING BOTH MAINFRAME AND OPEN SYSTEM

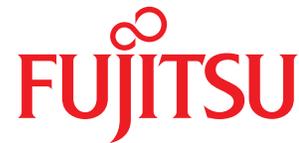
Years ago, the Mainframe was rumored to be going extinct; Open Systems would be ruling IT and own the data center. While Open Systems have clearly gained a strong presence in our IT world today, we all know the prediction that the Mainframe is going away to be completely false. Without question the Mainframe is alive and well and is common in industries which include financial, health care, government, manufacturing, and insurance to name a few. For customers that are on the “Fortune List” in these industries it is the Mainframe that is handling the most critical and high-demand applications that manage the business processes and revenue life-blood of these organizations.

In these large organizations, customers are trying to reduce TCO and find the best way to consolidate Backup and Archive and at the same time leverage their investment to be able to support both Mainframe and Open Systems with the same solution. While there have been products that are positioned to be able to deliver these capabilities, it was usually a product designed for one single purpose with features that were “bolt-on additions” to be able to accommodate other requirements. The trade-offs were numerous and made it difficult for customers to make a sizeable investment in a solution that only met a portion of their needs.

A key requirement for any organization in today’s high-demand IT world is to be using a disk tier for primary data protection (Backup and Restore) and include tape automation for long-term retention to meet the needs of archiving and compliance.

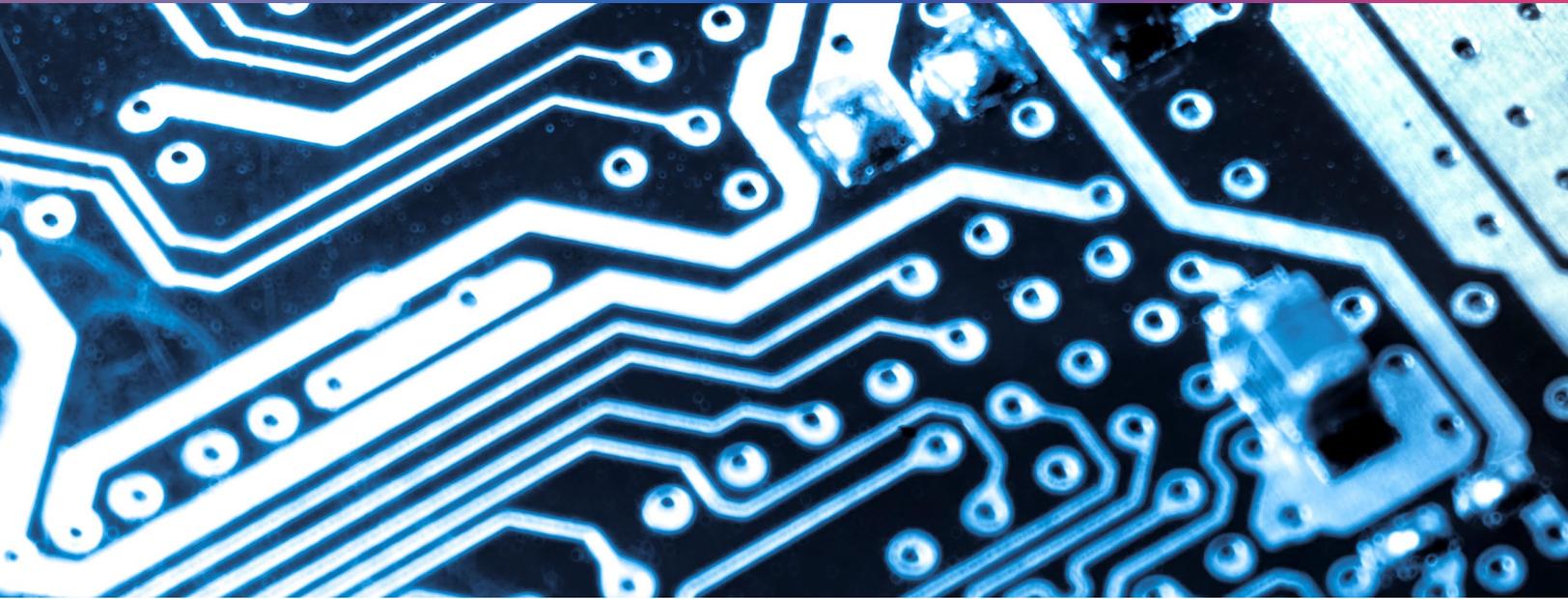
### THERE ARE MORE THAN TWO COMPANIES THAT PROVIDE SOLUTIONS TO MAINFRAME CUSTOMERS

Mainframe customers remain among the largest consumers of tape storage products due to the massive amounts of data that have to be held for long periods of time where a lower TCO can provide significant impact on the bottom line. A majority of the tape automation solutions that were designed to support Mainframe environments were designed using proprietary technologies (ESCON/FICON) and were very expensive due to lack of open competition. The ability for a Mainframe customer to choose among the many tape automation vendors has been very limited and usually required some type of middle-ware technology.



#### BUSINESS BENEFITS

- 24/7 availability designed to support extreme SLAs
- Reduce capacity requirements when using data deduplication
- Choices for data retention on disk, tape, and cloud
- Embedded replication supporting DR requirements
- Simplify and reduce administrative requirements
- Consistent management policy applied to all environments



**WHEN CONSIDERING A CONSOLIDATED DATA PROTECTION AND ARCHIVE MANAGEMENT SOLUTION, THE QUESTIONS CUSTOMERS NEED TO ASK AND HAVE ANSWERS TO ARE:**

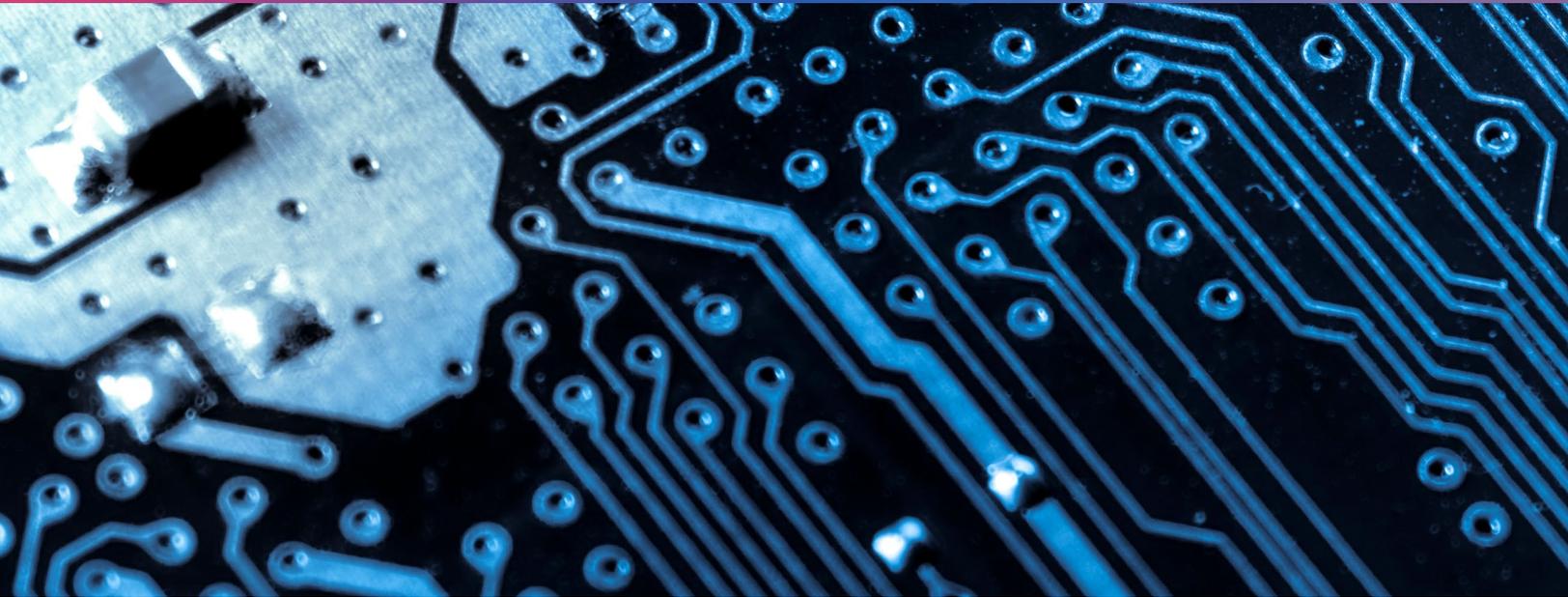
Does the solution provide scalable performance?	Yes, up to 150 TB/hour
Does the solution offer scalable capacity?	Yes, up to 96 PB native*
Which interfaces are offered (FC-VTL, FICON, NFS, CIFS)?	Yes, all of them
Does the disk layer offer long-term storage or is it being used purely as a temporary cache to assist in creating tape images?	Yes, customer determines retention policies
Does the solution provide the ability to perform compression and data deduplication?	Yes
Does the solution have the ability to provide optimized replication for DR purposes?	Yes
Does the solution offer Highly Available architecture to eliminate single points of failure?	Yes
Is the solution able to scale back-end processing to meet the demands on large volumes of tape creation?	Yes, up to 22 back-end processors for tape, NAS and cloud copies with max. 10 physical tape libraries attached
Does the solution support LTO and open standard tape format and proprietary tape devices?	Yes, LTO and enterprise tape drives from Oracle and IBM are supported

\* Capacity value calculated using Base10 (i.e., 1 TB = 1,000,000,000,000 bytes)

**WHICH SOLUTION CAN ANSWER “YES” TO ALL OF THE ABOVE?**

The FUJITSU Storage ETERNUS CS8000 was designed from the ground up to support Mainframe and Open System customers and provide the features that make a single solution a cost-effective investment. Fujitsu and Quantum have been partners in many ways over the past years, including the fact that when Fujitsu added data deduplication to the ETERNUS CS8000 they chose Quantum’s variable-block deduplication code for their products. The partnership between Fujitsu and Quantum is now expanded so that customers choosing a FUJITSU ETERNUS CS8000 can add a Quantum Scalar® LTO library and receive a solution that has technology and engineering support of both companies. To better understand how this is accomplished, the architecture of the ETERNUS CS8000 needs to be described.

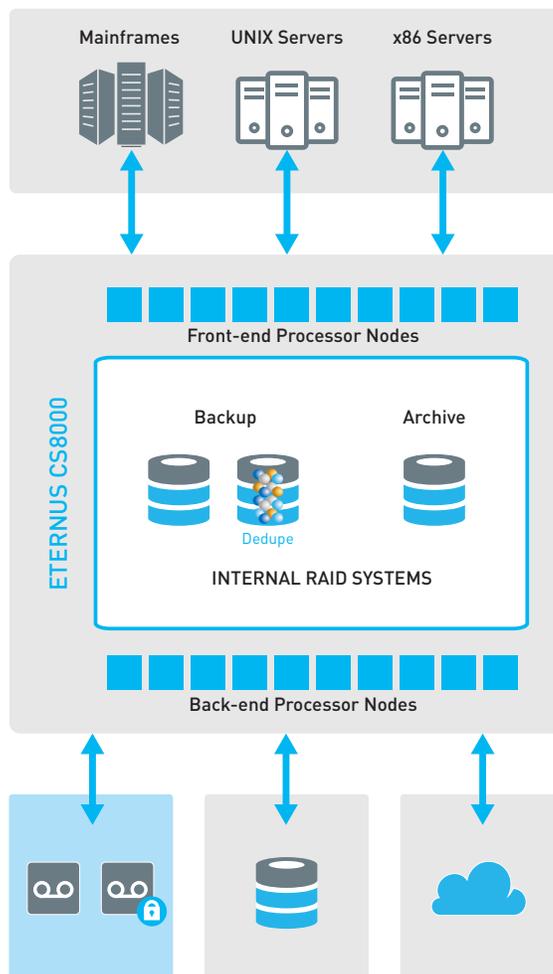
FUJITSU Storage ETERNUS CS8000 is a unified data protection appliance for the complete consolidation of backup and archiving infrastructures of Open Systems and Mainframes—thanks to uniform management of disks, deduplicated disks, and tapes, and flexible service levels on capacity, speed, and cost. The ETERNUS CS8000 modular grid architecture delivers extreme scalability of capacity and performance. Integrated data mirroring and replication features enable comprehensive disaster recovery concepts. Flexible SAN and Ethernet connectivity as well as VTL, NAS, and WORM support allow you to use one system for backup and archiving. And support for the cloud interface functionalities makes ETERNUS CS8000 an ideal and future-proof solution for a unified and optimized data protection infrastructure.



### ETERNUS CS8000 ARCHITECTURE HIGHLIGHTS

#### Scale-out Architecture

- One single instance of subsystem for all attached hosts
- Modular independent building blocks configured to customer requirements
- Redundant internal LAN and FC fabrics



#### Legend

- Front-end processor nodes
  - VTL interface
  - NAS/file interface
- Internal RAID systems
  - Backup data repository (compressed, or deduplicated)
  - Archive/file repository
  - Equipped with SAS/Nearline SAS/SAS SED (Self-Encrypting Disk)
- Back-end processor nodes
  - Optional for integration of tape libraries at the back end
  - Optional support for cloud gateway functionality

## QUANTUM SCALAR LIBRARIES: DELIVERING FEATURES THAT ALIGN WITH FUJITSU ETERNUS CS8000

When a customer is evaluating the ETERNUS CS8000 and all of the performance, scalability, and high availability features, it is only natural to require a tape automation system to be able to deliver at the same level. The Quantum Scalar library products have a long list of features that a customer can choose from to meet the high-capacity, high-performance, and 24/7 demands of these environments. The Quantum libraries are all based on LTO tape technology which also provides the lowest TCO of any tape format available today, particularly when comparing to proprietary tape formats that have traditionally been used in the Mainframe environment.

### Scalar i6000 library highlights:

**Management** | Simple user interface, embedded troubleshooting wizards, firmware auto-leveling

**High Availability** | Hot swappable redundant robots, 2N, power, data and control path failover

**Data Reliability** | Advanced Reporting, Extended Data Life Management reliability testing for infrequently used media, Quantum Vision® reporting and analytics software

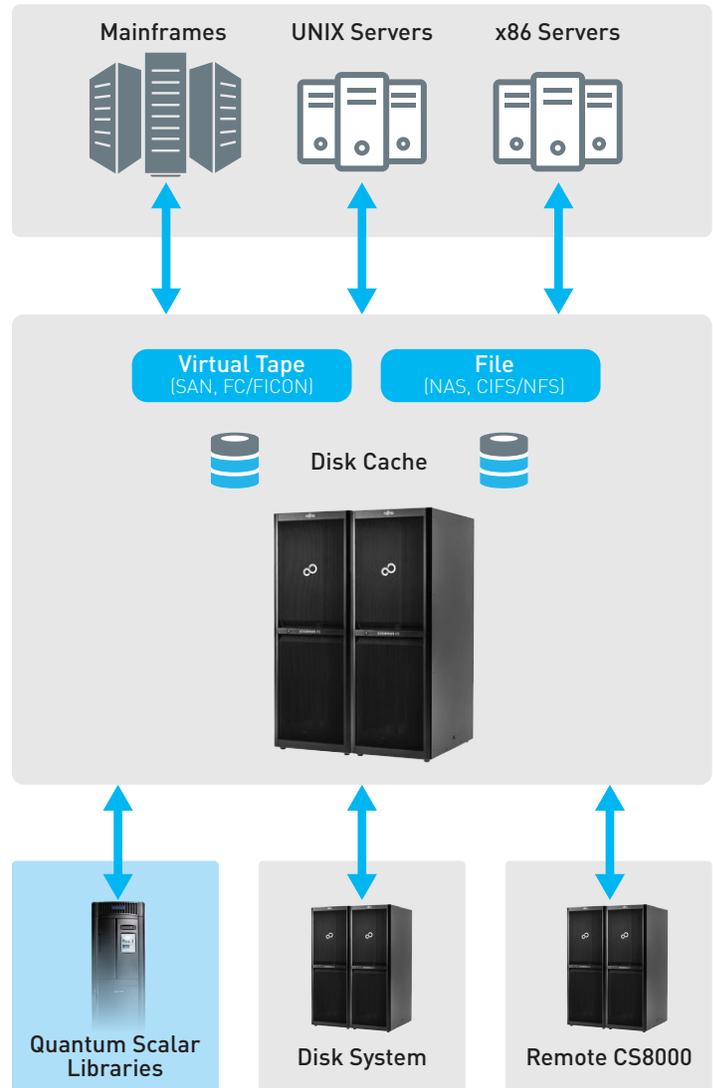
**Capacity, Density, Advanced Features** | Capacity-on-Demand, standard data center rack footprint, up to 528 I/E slots, High Density Drive and Storage module, Active Vault, Auto-Import, shared media pool

**Security & Encryption** | Web cam, media move log files, Native Drive Encryption and Key Manager

### SUMMARY

The demands on data protection and long-term retention have never been larger or more critical than what customers face today. The challenge of managing data for archival and compliance requirements for longer periods of time than ever before, and the ability to store and manage data from all platforms in a single solution, is not only practical but a necessity.

The combination of the FUJITSU ETERNUS CS8000 and the Quantum Scalar libraries can deliver the performance and capacity required to attain these goals, and do so while providing a significant ROI when compared to the multiple point products.



Quantum technology and services help customers capture, create, and share digital content—and preserve and protect it for decades at the lowest cost. Quantum's platforms provide the fastest performance for high-resolution video, images, and industrial IoT, with solutions built for every stage of the data lifecycle, from high-performance ingest to real-time collaboration and analysis and low-cost archiving. Every day the world's leading entertainment companies, sports franchises, research scientists, government agencies, enterprises, and cloud providers are making the world happier, safer, and smarter on Quantum. See how at [www.quantum.com](http://www.quantum.com).

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