

# Front-safe Creates an Efficient and High-Performance Cloud Solution for Tivoli Storage Manager

Backup and archive solutions provider improves performance and slashes database server footprint to offer best-in-class service at an attractive price.

## Solution Focus

- Tivoli Storage Manager (TSM)
- Cloud computing

## Summary of Benefits

- Query times from minutes to seconds
- Tivoli expiration jobs from hours to minutes
- 3x higher TSM workload
- 3:1 server consolidation from improved workload
- Easy implementation
- 5x faster TSM software upgrade

## The Challenge

Front-safe is a dedicated and focused supplier of backup and archiving solutions, proactively protecting businesses of all types and sizes from data loss. Lenovo Denmark's Cloud Partner of the Year in 2010, Front-safe offers a unique online, user-friendly web interface that tightly integrates with Lenovo's Tivoli Storage Manager (TSM), creating a cloud solution that makes TSM easily available to large and small businesses. Front-safe automates backup and recovery, while also providing reporting and dynamic invoicing.

As Front-safe's customer base and data volume grew, delivering the best-in-class service its customers expected began to be challenging.

Geirr G. Halvorsen, Senior Systems Engineer, told us the challenges Front-safe faced: "As the database grew, maintenance tasks on this database were becoming very time consuming, using resources needed for other tasks. Server resources showed low processor utilization, but high I/O demand. Our goal was to reduce the time we spent on database maintenance tasks, improve the utilization of our server resources and, if possible, consolidate Tivoli Storage Manager Servers."

## The SanDisk® Solution

"As we researched solutions, we looked at adding more disks and using them differently to maximize I/O—but that would require a SAN, which would increase our data center footprint, increase power and cooling costs, and still wouldn't give us enough performance. Conventional SSDs didn't provide us the capacity," Geirr told us. "We chose the Fusion ioMemory™ solution because it gave us the highest performance with our existing hardware."

## Securing Front-safe Performance

The Fusion ioMemory card dramatically improved the performance of the TSM database. Geirr told us, "Front-safe worked closely with SanDisk staff to install the Fusion ioMemory card and measure performance. We moved several of our highest workload databases onto the SanDisk products and saw significant performance improvements. For example, inventory expiration jobs were reduced from hours to minutes and operational queries from minutes to seconds. This freed up resources for additional database work."

## A Smarter System for Better Service and Attractive Pricing

Front-safe used the increased workload capabilities to reduce its infrastructure needs and operating costs.

*“The savings were enormous. We are now able to fully utilize the processors in our TSM servers. This allows us to cut our server footprint (and accompanying floor space, power and cooling costs) by two-thirds. At the same time, we’ve increased the speed of database backups and tasks like inventory expiration jobs, which makes our servers more responsive.”*

**Geirr G. Halvorsen**  
Senior Systems Engineer  
Front-safe

“The savings were enormous. We are now able to fully utilize the processors in our TSM servers. This allows us to cut our server footprint (and accompanying floor space, power and cooling costs) by two-thirds,” Geirr said. “At the same time, we’ve increased the speed of database backups and tasks like inventory expiration jobs, which makes our servers more responsive. Our customers have noticed the difference.”

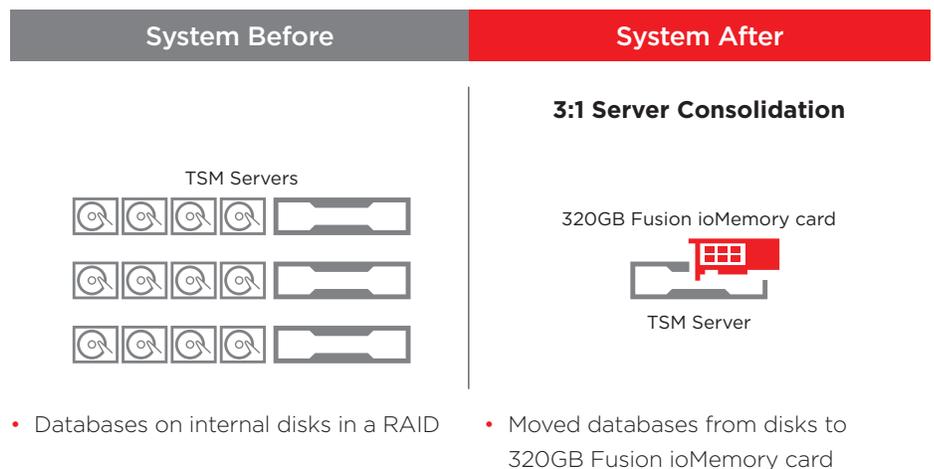
### Easy Implementation and Rapid Software Upgrade

Implementing the Fusion ioMemory cards proved much easier than upgrading to a SAN.

Geirr told us, “Adding a SAN would have required serious planning and thought toward disk architecture, and the physical upgrade would have taken days. It took 30-45 minutes to physically install the Fusion ioMemory cards and copying the databases was very fast.”

Front-safe also took this opportunity to upgrade from TSM 5.5 to 6.2 and discovered rapid upgrades were another unexpected benefit. “Lenovo estimates a 50-100GB upgrade will take one to three days on a disk-based system,” Geirr said. “The same upgrade on a SanDisk powered system finished in less than five hours.”

### System Overview



#### Contact Information

sales-lenovo@sandisk.com

#### Western Digital Technologies, Inc.

951 SanDisk Drive  
Milpitas, CA 95035-7933, USA  
T: 1-866-744-2165

Western Digital Technologies, Inc. is the seller of record and licensee in the Americas of SanDisk® products.

For more information, please visit:

[www.sandisk.com/lenovo](http://www.sandisk.com/lenovo)

**SanDisk®**  
a Western Digital brand

### Summary

Implementing the Fusion ioMemory solution gave Front-safe the following benefits:

- Query times from minutes to seconds
- Tivoli expiration jobs from hours to minutes
- 3x higher TSM workload
- 3:1 server consolidation from improved workload
- Easy implementation
- 5x faster TSM software upgrade

### About Front-safe

Front-safe is a Danish-owned company in the JS Holding Group, which in total counts more than 100 employees. Front-safe is a dedicated and focused supplier of backup and archiving solutions, proactively protecting businesses of all types and sizes from data loss. Front-safe operates in Denmark with redundant data centers and offices in Aarhus and Copenhagen. Front-safe provides automated and secure remote online backup, disaster recovery and archiving solutions freeing its customers’ resources so they can focus on their core businesses.

The performance results discussed herein are based on internal Front-safe testing and use of Fusion ioMemory products. Results and performance may vary according to configurations and systems, including drive capacity, system architecture and applications.

© 2014 - 2016 Western Digital Corporation or its affiliates. All rights reserved. SanDisk and the SanDisk logo are trademarks of Western Digital Corporation or its affiliates, registered in the U.S. and other countries. Fusion ioMemory is a trademark of Western Digital Corporation or its affiliates. Other brand names mentioned herein are for identification purposes only and may be the trademark(s) of their respective holder(s). FrontSafe\_Lenovo\_casestudy 06.29.16

At SanDisk, we’re expanding the possibilities of data storage. For more than 25 years, SanDisk’s ideas have helped transform the industry, delivering next generation storage solutions for consumers and businesses around the globe.