



mixi Mixes Fusion ioMemory™ into a MySQL Database to Achieve 10 to 1 Server Consolidation

Japanese social networking pioneer adds Fusion ioMemory to consolidate system, improve service, and reduce maintenance and power costs

The Challenge

mixi, Inc. (pronounced “Mikushi”) is Japan’s largest social networking site, with over 26 million users. Operating since 2004, it has pioneered the social network space in Japan.

mixi had been hosting its user space on a conventional, disk-based MySQL database system. However, it needed an agile and flexible infrastructure to manage its large and continually increasing user base. Application Operation Group Chief, Yoshitaka Yabusaki, and his team found they could not scale performance without increasing cost and complexity.

mixi needed a solution to do the following:

1. Reduce database maintenance overhead
2. Ensure the performance and stability users had come to expect
3. Lower database capital and operating costs

Yoshitaka said, “We urgently needed to consolidate our database farms to reduce our maintenance burden, as well as our operating costs.”

The Solution

Yoshitaka had heard from many sources that Fusion ioMemory’s read and write performance was the best on the market, so he contacted Tokyo Electronic Devices (TED) to place an order. The results were better than he expected.

Consolidation

mixi’s primary objective was to ensure the reliable, best-in-class service its users had come to expect. As mixi’s disk-based system grew, Yoshitaka’s team faced the key challenge of deploying necessary database updates.

“Running the same database version across all live servers is essential for a trouble-free environment,” said Yoshitaka, “but it was not possible for us to update database software and applications simultaneously across hundreds of servers. This was a grave concern to us.”

The answer: move mixi’s distributed, scaled databases from hundreds of local hard disks onto ioDrive® devices. This increased the workload each server could handle so much that Yoshitaka’s team was able to slash the number of servers they had to maintain by more than 10 to 1.

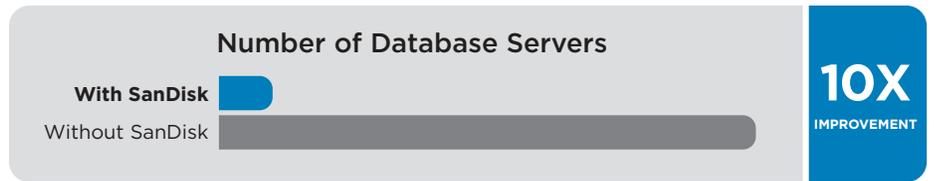
Solution Focus

- MySQL
- Web-scale

Summary of Benefits

- **Eliminates** service interruptions for end-users
- **10 to 1** server consolidation
- **75%** reduction in floor space costs
- **80%** lower power and cooling costs
- **Faster** database maintenance tasks

Yoshitaka said, “We reduced the number of servers in our system to 1/10th, from several hundred to a few dozen. Even with such significant consolidation, the overall database system speed increased.”



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**Yoshitaka Yabusaki ,
Application Operation Group Chief,
mixi Inc.**

Reducing Hardware Footprint and Operating Costs

In order to achieve this level of server consolidation, Yoshitaka’s team took advantage of Fusion ioMemory’s ability to fully utilize server CPUs and upgraded to more powerful servers. The ROI on this investment was significant.

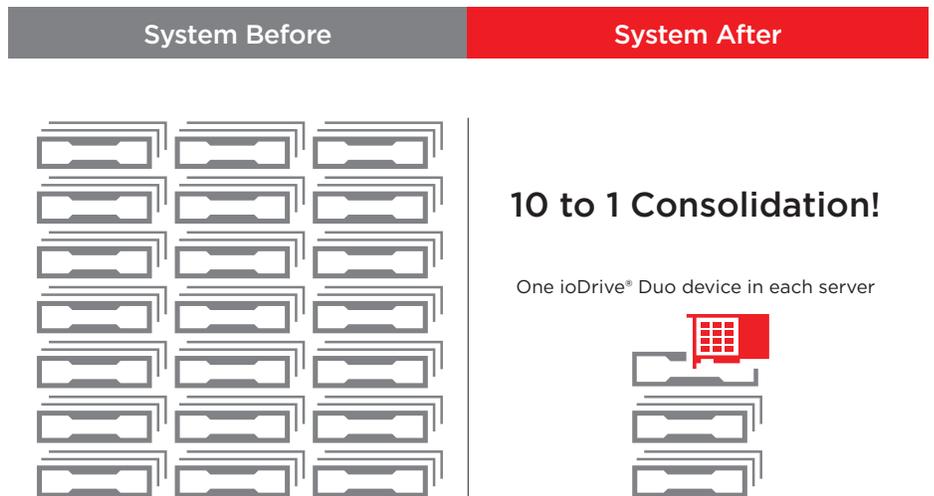
Yoshitaka said, “We reduced our data center footprint to 1/4th the size of the previous system, greatly reducing our floor space and system administration costs. This also reduced our database layer’s power consumption by 80%—something that has become much more important with the rolling blackouts of post-Fukushima Japan and the mandate to eliminate nuclear power plants in 2012. We are now prepared for these events.”

A Simple and Easy to Maintain System

Eliminating 90 percent of its servers greatly reduced Yoshitaka’s team’s system administration tasks and made it much easier to install needed updates.

“We had been putting off installing some large patches because we couldn’t guess how long they might take to install,” said Yoshitaka. “We can now update software much faster, more frequently, and without disrupting our customers’ experience. We are now running the latest, most stable software versions. Daily maintenance tasks, including backups, also run much faster.”

System Overview



- Several hundred servers (about 120U), Dell PE860 and PE 2950, X3220 processor, 2.40GHz, 8-32GB RAM
- OS: Linux (Fedora8, kernel-2.6.26.9)
- Application: MySQL 4.0 and 4.1

Reduced number of servers 10 to 1, upgrading each as follows:

- 1U DELL PowerEdge R610, Intel® Xeon® processor, 2.53 GHz, 32GB RAM
- 1 x ioDrive® Duo 1.28TB device per server



Performance Density

With SanDisk
Without SanDisk

Consolidated servers 10 to 1, while improving database speed.

OVER
10X
IMPROVEMENT

Summary

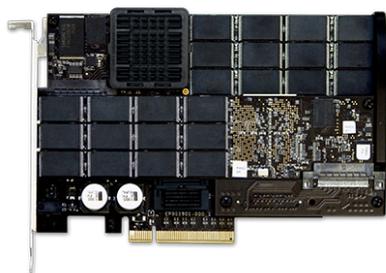
Implementing Fusion ioMemory gave mixi the following benefits:

- **Eliminates** service interruptions for end-users
- **10 to 1** server consolidation
- **75%** reduction in data center space costs
- **80%** lower power costs
- **Faster** database maintenance tasks

Yoshitaka is thrilled with mixi's new system and told us, "The total cost of ownership of the ioDrive devices, including the operating costs, was lower than other solutions. Reliability was also extremely important to us. With SanDisk's proven reliability and wide US OEM and vendor support, we felt we could trust our mission-critical databases to SanDisk."

About mixi Inc.

Launched in Feb 2004, mixi is a Social Networking Service (SNS) that allows friends to connect in a fun, convenient way. mixi users now exceed 25.3 million (as of September 2011), offering a comprehensive social communication network that includes mixi Voice, mixi Photo, mixi Diary, mixi Check, mixi Apps, mixi Calendar, mixi Classmates, and mixi Colleague Network.



Fusion ioMemory™ - ioDrive® Duo

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

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