



Dwango Cuts Video Sharing Cache Costs with Fusion ioMemory™ Solutions

Popular Japanese video-sharing site uses HP IO Accelerator cards to consolidate key video-content cache servers, while implementing a more scalable, higher performing growth platform.

Solution Focus

- Web content caching
- Social Networking

Summary of Benefits

- **4:1** server consolidation for SanDisk-powered caching tier
- **Ensures** consistently high user experience even for hot data, under heavy traffic spikes
- **Eliminated** 1600 disk-node maintenance and failure points
- **Reduced** business intelligence job run-time from about a day to just hours
- **Enables** predictable, high-performance building block scalability
- **Slashed** energy and maintenance costs

The Challenge

Dwango's Nico-Nico Douga service is a popular Japanese video-sharing site with 1.5 million paid subscribers and over 26 million registered users. It is one of the most visited websites in Japan.

As Dwango's video-sharing business grew, scaling its video-hosting caching tier became problematic. Nico-Nico Infrastructure Manager Tetsuya Sato realized Dwango needed a solution that could address the following challenges:

1. **Consolidate its hardware footprint.** The cost of Dwango's disk-based, scale-out system was becoming increasingly burdensome. Dwango needed to find a way to halt its system scale-out.
2. **Maximize performance.** Dwango needed to maintain high site-performance to ensure a good user experience and high customer retention amid a continually growing customer base and content library.
3. **Cut costs.** Dwango needed to deploy a system that would lower its video-sharing costs both now and into the future.

The SanDisk® Solution

Raising the Roof on Reporting Performance

Tetsuya knew that slow disk I/O was a key constraint in Dwango's environment. After seeing the ioDrive card's excellent price/performance ratio, he decided to test its performance on some of Dwango's MySQL databases.

Tetsuya said the results were better than he had hoped. "On jobs that typically took a day to run, the HP IO Accelerator cards reduced their processing times to just hours. This enables us to make business decisions that weren't previously possible."

This impressive performance convinced Tetsuya to test whether the HP IO Accelerator cards could be as effective on Dwango's video-hosting servers.

Maximizing Scale-Up to Minimize Infrastructure Footprint

Dwango's primary objective was to consolidate the footprint of its video-caching tier to halt the escalating costs of its disk-based system. At the same time, it could not sacrifice its best-in-class performance. The SanDisk-powered caching tier accomplished this, enabling Dwango to slash its server footprint by 75 percent, and eliminating 1,600 hard disks, all potential failure points, from its system.

"Using HP IO Accelerator cards, we consolidated the video-hosting caching

“SanDisk has made what we once thought impossible a reality. The HP IO Accelerator cards have become a major contributor to a paradigm shift to support Dwango’s next level of growth.”

Tetsuya Sato,
Infrastructure Manager
Nico-Nico Douga, Dwango

servers by a factor of four to one, cutting 200 servers to about 50 servers,” Tetsuya said. “This consolidation fully utilizes the 10GbE bandwidth in each server and leaves plenty of I/O headroom for complex, on-demand traffic for a 200,000-user workload.”

Hot Performance for Hot Data

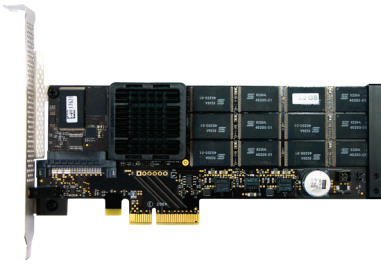
A challenge that Web content providers are keenly aware of is accommodating massive traffic spikes as content popularity surges. Disk-based systems require massive scale-out to build in this headroom—something that is not the case with SanDisk-powered systems.

“Hot videos can be viewed by tens of thousands of simultaneous users,” explained Tetsuya. “Supporting high performance for our hot content used to require about 20 servers. The HP IO Accelerator cards have allowed us to support these same traffic spikes with just four to five servers at the most. This allows us to guarantee our customers a consistently good experience for all content, regardless of popularity, and without the over-provisioning we used to need.”

Cutting Costs

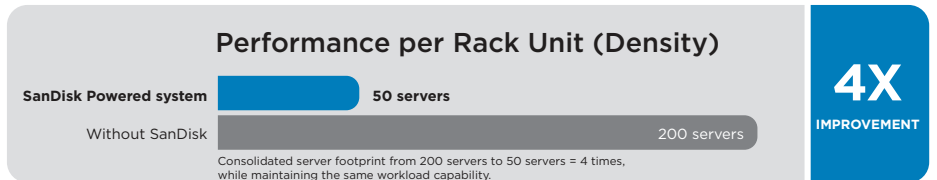
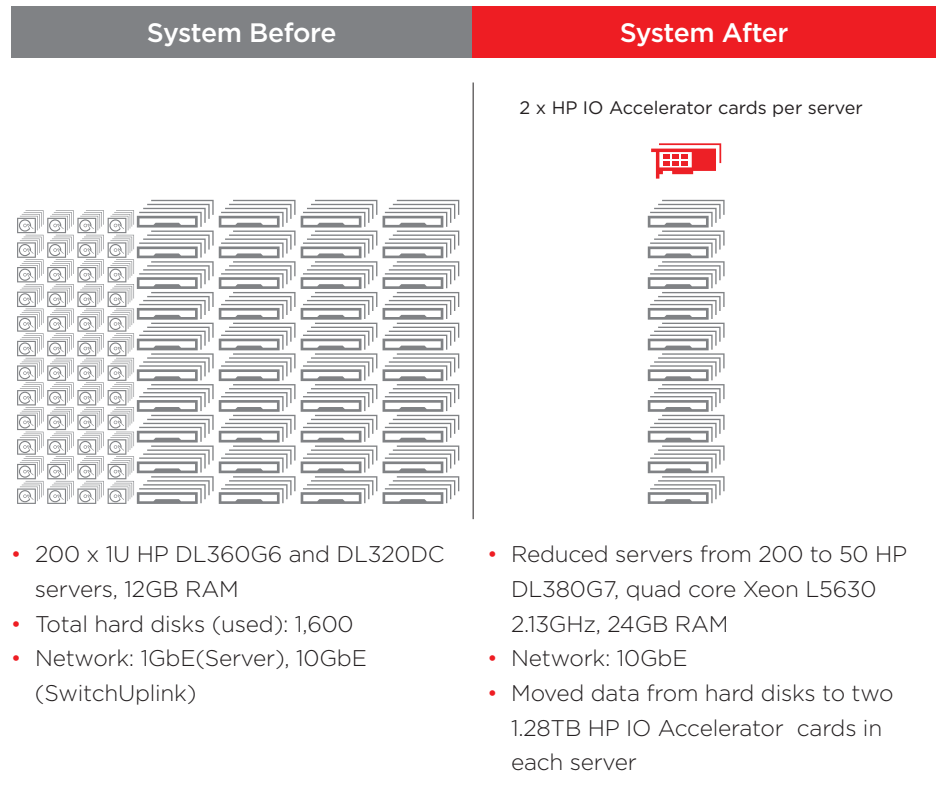
In addition to cutting its hardware spending, Dwango realized an immense reduction in facilities costs and total cost of ownership that included the following:

1. **Predictable growth budgeting.** Tetsuya said, “The HP IO Accelerator cards make high performance consistent and predictable. It used to be extremely time consuming to determine the 10-20Gbps of bandwidth needed to scale new service launches. The reduced server count has made it easier to configure the optimal use of an aggregated 10GbE uplink. We also deployed a building-block architecture so we can easily determine the number of servers we need to meet additional workload requirements. And because we can continue to use our favorite, off-the-shelf 1U HP DL360 and 2U DL320s servers, we also ensure easy procurement.”
2. **Reduced floor space costs.** By reducing its server footprint from 200 servers to 50, and by enabling four times the performance per server, Dwango dramatically reduced its current and future floor space needs.
3. **Reduced energy costs.** Cutting its server footprint by 1/4th has reduced the costs to power and cool by about 1/4th.
4. **Reduced maintenance.** Dwango’s IT team now has 150 fewer servers and 1,600 fewer hard disks to monitor and maintain, and has also decreased the time Tetsuya’s team spends on server provisioning for new services and events.



HP IO Accelerator

Video-Hosting Caching System



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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.

Summary

Implementing Fusion ioMemory solutions gave Dwango the following benefits:

- **4:1** server consolidation for SanDisk-powered caching tier
- **Ensures** consistently high user experience even for hot data under traffic spikes
- **Eliminates** 1600 disk-node maintenance and failure points
- **Reduces** business intelligence jobs run-time from about a day to just hours
- **Enables** consistent, high-performance building-block scaling
- **Slashes** energy and maintenance costs

Tetsuya is thrilled and told us, "SanDisk has made what we once thought impossible a reality. The HP IO Accelerator cards have become a major contributor to a paradigm shift to support Dwango's next level of growth."

About Dwango

DWANGO Co., Ltd. is a Japan-based company providing content for online entertainment and game software, providing services for mobile devices, games and gaming software, animation, live event coverage and general entertainment. Its Nico-Nico Douga service is a popular Japanese video-sharing site with 1.5 million paid subscribers and over 26 million registered users. It is one of the most visited websites in Japan.

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

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