



Jointown Jet-speeds Its Oracle-based ERP System with Fusion ioMemory™ Solution

Pharmaceutical and medical distributor dramatically improves performance, efficiency, and reliability of its ERP system.

Solution Focus

- Oracle (with Data Guard)
- ERP
- Medical industry

Summary of Benefits

- 4x faster reporting
- 3x faster backups
- Nearly 10x faster database reads and writes
- 8-12x more efficient CPU utilization
- Saved an estimated \$385,000 on a SAN upgrade
- Easy High Availability with Oracle Data Guard

The Challenge

Jointown Pharmaceutical Group Co., Stock Holding Ltd., is the third largest distributor of pharmaceutical and medical devices in China. It delivers more than 14,000 types of products, has over 4,200 suppliers and more than 60,000 customers.

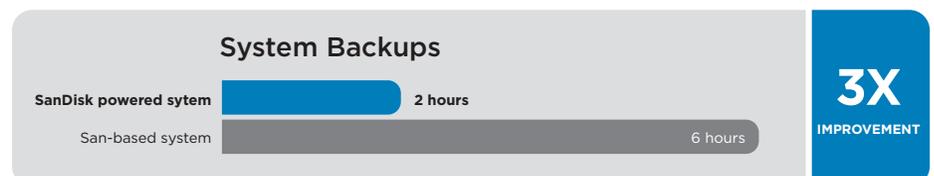
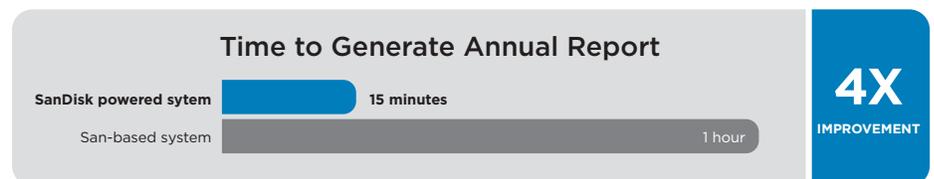
Jointown ran its core business on an Oracle-based ERP system. As its customer base and product line grew, reporting and maintenance jobs took an increasingly long time to complete. Jointown needed to overcome the following challenges:

1. Maintain high performance for both applications and reporting. It had to keep resource contention low to ensure user productivity stayed high.
2. Improve hardware efficiency. Because Jointown's IT department was operating with a limited budget, it had to improve performance by maximizing hardware utilization.
3. Protect business continuity with a highly available system. The ERP system was used for its daily operations, requiring the system required 24 x 7 x 365 access.

The SanDisk® Solution

Enhancing ERP Performance

Jointown moved its Oracle-based ERP database from a Fibre Channel SAN to two Fusion ioMemory™ ioDrive® Duo cards in redundant database servers. This greatly improved reporting performance in the ERP system, and also sped backup processes. The charts below illustrate two examples.



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Tian Chaobo,
Corporate Information Technology
Director, Jointown

“We no longer have to reschedule reports or maintenance jobs that failed to complete on time,” Tian Chaobo, Corporate IT Director of Jointown, said. “In addition, ERP users don’t experience system slowness anymore, even at 9:00 a.m. when many users are logging onto the system at the same time.”

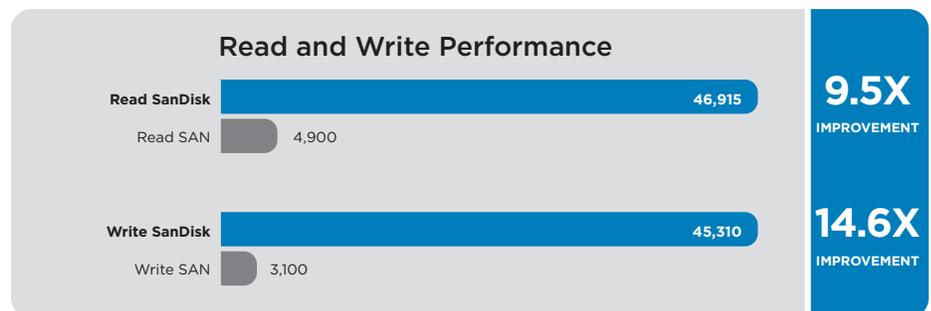
Tian also explained the benefits to Jointown’s business: “SanDisk’s Fusion ioMemory solutions improved reporting speeds and reduced the wait time for everyone accessing the database. This translates into increased productivity, higher profit, and a better customer experience. The system’s faster backup and recovery also increased our resiliency in the event of a disaster.”

Smarter Use of Server Resources

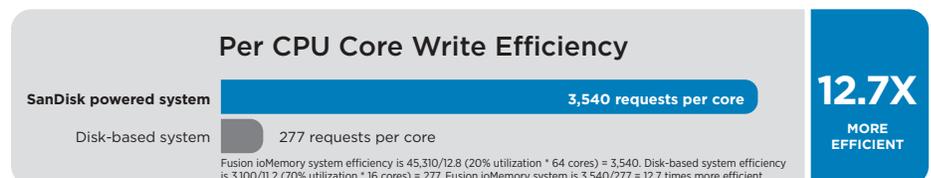
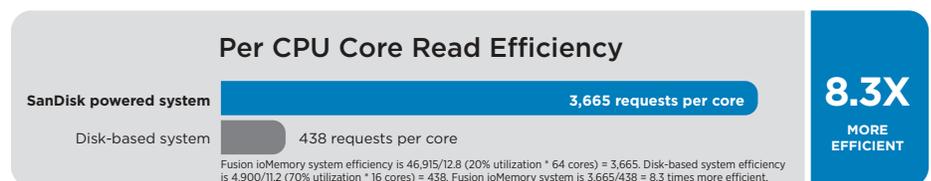
Because Jointown needed to improve performance on a limited budget, it was critical that any upgrades minimized capital and operating costs. The Fusion ioMemory platform proved to be the ideal technology for this, greatly improving the utilization of the database CPUs. CPU utilization dropped from 70% on a 16-core database server to 20% on a 64-core database server, while efficiency increased.

CPUs sitting idle waiting for data would normally indicate inefficiency. However, the resulting performance improvements showed that Jointown greatly improved the productivity of its server CPUs.

The following charts illustrate the results of 8k benchmarks comparing the SanDisk-powered system to Jointown’s previous disk-based system.



The following charts illustrate how this improved performance was the result of greater CPU efficiency.



In addition to servicing more requests in less time, the SanDisk-powered system also reduced the volatility of service times. Jointown told us that the SanDisk-powered system completely eliminated the two-millisecond average request wait time suffered by its disk-based system.

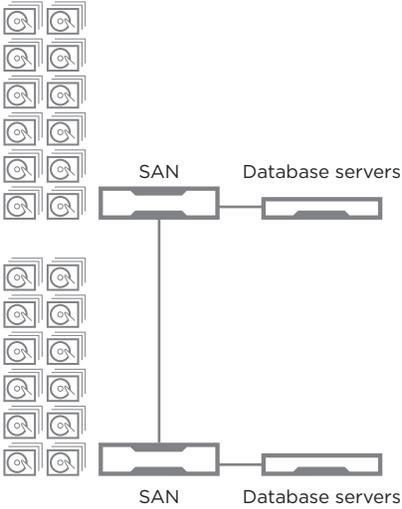
But more importantly for Jointown's budget, this improved efficiency translated into radical cost savings. Tian Chaobo told us, "We estimate the Fusion ioMemory solution is saving us about ¥2.5 million (\$385,000 USD) in server and storage costs for the accounting group alone. If we migrate all our subdivisions to SanDisk, we can expect to save about ¥6 million (\$1 million USD)."

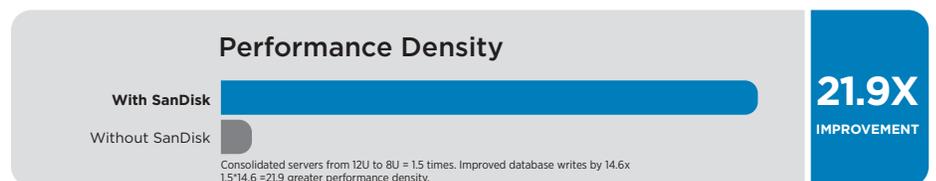
Easily Implemented Availability

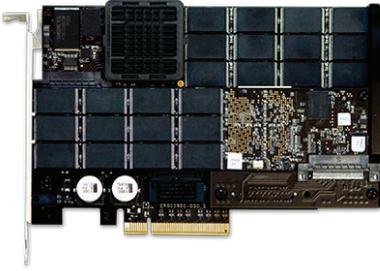
Implementing a reliable system was also surprisingly easy. Instead of redesigning database schemes for many more disks, Jointown simply installed the ioDrive Duo cards and moved the entire ERP database onto them. They protected the ERP system with Fusion ioMemory redundancy via a software RAID1 across the two ioDrive Duo cards. They then configured redundant servers with Oracle Data Guard to protect against server outage.

Tian Chaobo told us, "We have been using SanDisk for two months in production and the system has been completely stable and reliable. We used Data Guard to build in redundancy, which guarantees no single failure point. The SanDisk system uses a commodity server, which makes it easy for our Operations team to manage, while providing 300 to 400 percent more performance than middle-grade Tier 1 storage."

System Overview

System Before	System After
 <p style="text-align: center;">SAN Database servers</p> <p style="text-align: center;">SAN Database servers</p>	<p style="text-align: center;">Database servers</p> <p style="text-align: center;">2 x ioDrive Duo 640GB cards</p>  <p style="text-align: center;">2 x ioDrive Duo 640GB cards</p>
<p>Oracle database server</p> <ul style="list-style-type: none"> • Two 2U servers, 16 core 1.8 GhZ processor, 32G DRAM • OS: UNIX • Application: Oracle 10g <p>Two 4U SAN</p> <ul style="list-style-type: none"> • 30 x 10k Fibre Channel hard disks 	<ul style="list-style-type: none"> • Replaced 16 core server with two 4U servers, 64 core 2.13GhZ processor, 64GB DRAM • OS: RHEL5.4 • Upgraded Oracle to 11g with Data Guard • Moved entire ERP database from SAN to two ioDrive Duo 640GB cards in a RAID1





Fusion ioMemory™ - ioDrive® Duo

Summary

Implementing the Fusion ioMemory solution gave Jointown the following benefits:

- 4x faster reporting
- 3x faster backups
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About Jointown Pharmaceutical

Jointown Pharmaceutical Group Co., Stock Holding Ltd., is the third-largest distributor of pharmaceutical and medical devices in China. It delivers more than 14,000 types of products, has over 4,200 suppliers and more than 60,000 customers. Jointown has established 20 large pharmaceutical marketing and logistics centers at the provincial level; 25 subsidiaries marketing centers and over 300 regional sales and after-sales center; and the establishment of a “12 hours, 200 kilometers, 1,000 service delivery team.” It is currently the only large-scale pharmaceutical enterprise to integrate logistics planning, logistics implementation and system integration.

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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.

The performance results discussed herein are based on Jointown Pharmaceutical 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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