



# Zendesk uses Fusion ioMemory™ solutions to create a cloud-based help desk solution without compromise

Premier software-as-a-service help desk provider hosts enterprise-class solution on Fusion ioMemory ioDrive® cards, combining unmatched performance with enterprise reliability

## Solution Focus

- MySQL
- Cloud Computing
- SaaS (Software as a Service)

## Summary of Benefits

- Enabled customers to create more complex ticket views
- 2x faster MySQL index scans
- 3x more data support without impacting performance
- Reduced warm-up time from six hours to three minutes
- A simpler, more reliable system
- Lower TCO than competing solutions

## The Challenge

Zendesk, creator of the first and only true “Help Desk 2.0” solution, knows what it takes to provide help desk functionality for top-tier companies like Twitter, Groupon, OpenTable, Rackspace, and more than 10,000 others. Its enterprise software-as-a-service (SaaS) solution provides comprehensive help desk functionality, while being easy to implement and use. To meet demanding enterprise workloads, Zendesk’s software must be supported by a database system that performs as well or better than any in-house solution its customers might design.

Zendesk’s rapid business growth was resulting in a data load that would soon surpass its existing MySQL database’s capabilities. Always proactive, Zendesk’s Director of Infrastructure and Operations, Tim Sturge, began researching solutions that would not just meet their immediate needs, but serve as a growth platform for the future.

The new system needed to do the following:

1. Guarantee top-tier, scalable performance, while improving the customer experience
2. Provide enterprise reliability to ensure mission-critical data was never lost and maintain 24/7/365 availability under any load
3. Be cost-effective, to ensure that Zendesk could continue to offer its premium services at a competitive price

## The SanDisk® Solution

### High-Capacity and High-Performance Memory

The first challenge Zendesk faced was meeting growing performance needs.

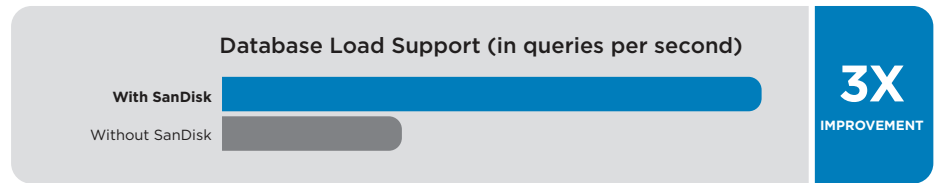
Tim said, “Since its founding, Zendesk has invested in the highest quality systems to provide the best performance for our customers. We had been storing our data set entirely in RAM, but knew that this wouldn’t be feasible in the long-term. We had to find a solution that would allow us to accommodate exponential growth, while continuing to give our customers the performance they have come to expect.”

Fusion ioMemory ioDrive cards more than met this need, delivering the following benefits:

- Reduced time to warm up a cold database from six hours to just three minutes
- Increased Zendesk’s working data set size beyond the RAM page cache without noticeable performance degradation
- Scaled the load Zendesk’s primary database could handle from 1,000 to more than 3,000 queries per second.

*“Since migrating to the Fusion ioMemory products, we’ve tripled our data set size without any impact on performance. This performance headroom helps Zendesk’s customers by allowing them to process more tickets and create more complex ticket views. It helps our business by delivering a scalable platform for future growth.”*

**Tim Sturge**  
Director of Infrastructure  
and Operations, Zendesk



“We’re delighted with SanDisk’s performance. Since migrating to the Fusion ioMemory products, we’ve tripled our data set size without any impact on performance,” Tim said. “This performance headroom helps Zendesk’s customers by allowing them to process more tickets and create more complex ticket views. It helps our business by delivering a scalable platform for future growth.”

### A Simpler, More Reliable System

In addition to providing unmatched performance, the SanDisk-powered system was also more reliable than alternative solutions. Tim knew he could trust the Fusion ioMemory system, which had been qualified for enterprise use from vendors such as HP, IBM, and Dell, and which also had years of proven use in the most demanding environments.

On top of this, the ioDrive card’s performance density allowed Zendesk to create a simple and elegant system with far fewer failure points.

Zendesk’s Chief Operating Officer Zack Urlocker noted, “We were pleased at how easy it was to implement the solution. In fact, our colocation provider, Rackspace, was able to install, configure and manage the ioDrive cards on our behalf, giving us a hosted solution with best-in-class I/O performance.”

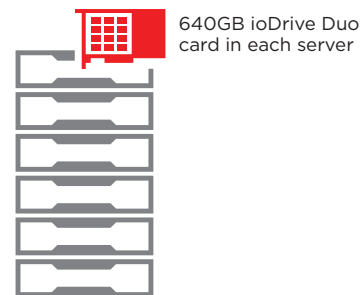
Tim added, “We went from looking at maintaining a complex SAN with shelves of disks to a simple system consisting of several servers with a ioDrive card in each of them. This gave us an environment that was much smoother to operate and had more easily understood failure modes, which improves our uptime.”

### Lower Total Cost of Ownership

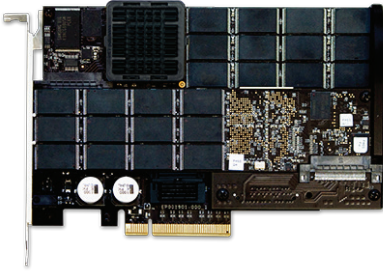
By delivering the performance Zendesk needed with far less hardware than a SAN, the SanDisk-powered system cost much less upfront. It also required less rack space, and had much lower power, cooling, and maintenance costs.

“Our primary alternative would have been to buy and maintain an expensive and continually growing SAN system,” Tim said. “The multi-server system we got from SanDisk was much less expensive, trivial to implement, and easy to maintain.”

### System Overview



- 6x 4U servers, 4x 4 core, 128GB RAM
- Application: MySQL 5.1
- OS: Red Hat Enterprise Linux
- 1x 640GB ioDrive Duo card per server
- 8x 300GB 10K SAS drives RAID 10 (holds logs/backups)



Fusion ioMemory™ - ioDrive® Duo

## Summary

Implementing the Fusion ioMemory solution delivered the following benefits to ZenDesk:

- Enabled customers to create more complex ticket views
- 2x faster MySQL index scans
- 3x more data support without impacting performance
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- A simpler, more reliable system
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Tim told us, “SanDisk allows us to give our customers leading-edge performance and enterprise reliability at the same time, all while relieving them of the need to manage their own data center.”

## About Zendesk

Zendesk is a leading provider of web-based help desk software that is reinventing how companies engage with their customers. The company serves more than 10,000 businesses large and small, including Groupon, MSNBC, Twitter and Rackspace Cloud. Zendesk products are easy to customize, integrate, and use so companies can quickly start offering better customer support.

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The performance results discussed herein are based on ZenDesk 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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