



DataCore Delivers Mac Hosting Provider 3-5 Times the Value of Traditional All-flash Array Storage

MacStadium is the world's largest provider of Apple Mac infrastructure as a service (IaaS). The company offers managed Mac private cloud solutions and managed Mac hosting to organizations of all sizes. Many of the world's biggest brands, including a multinational ride-sharing company, use MacStadium to develop and hone applications for iOS.

The ride-sharing company relies on MacStadium to create short-lived virtual machines for iOS build environments. Virtual machines spin up and down continuously within a matter of minutes—all day, every day. As the number of virtual machines began to grow, the company's workload began to tax the I/O performance of MacStadium's existing storage solution.

CHALLENGES

MacStadium's customers, including a multinational ride-sharing company, have demanding I/O performance requirements. To provide extremely high throughput, MacStadium had two choices: Purchase more traditional all-flash storage arrays or introduce customizable, software-defined storage.

SOLUTION

DataCore SANsymphony™

BENEFITS

- Provides three to five times the performance of all-flash arrays at the same price point by processing I/Os in parallel
- Allows customization of storage services to speed up write traffic
- Offers a proven, reliable, set-and-forget solution for demanding workloads

macstadium.com

"Our goal was 1 to 2 milliseconds of latency for read and write traffic," said Jason Michaud, founder and president of MacStadium. "The challenge with this customer was twofold: the makeup and the unpredictability of traffic."

The ride-sharing company's traffic is two-thirds writes and one-third reads. Writes must be acknowledged very quickly to keep latency low; however, traditional all-flash storage arrays automatically compressed and deduped traffic before writing to disk, which slowed down writes. In addition, default compression and deduplication could not be disabled, making it difficult to tailor the products to MacStadium's needs.

The second challenge was unpredictability of traffic. The average is 2 GB per second of writes, but it can spike to 6 GB per second in an ephemeral build environment.

"We needed to ensure 4 to 5 GB per second for write traffic with 1 to 2 milliseconds of latency," Michaud said. "Slowing down this company's innovation any more than that was unthinkable and unacceptable. We also needed to be able to accommodate their workload at a reasonable cost."

“DataCore is our sledgehammer solution because it addresses everything our customers require.”

– Jason Michaud, founder and president, MacStadium



MacStadium had two options: Adding more all-flash arrays or introducing software-defined storage. MacStadium chose the latter and deployed DataCore SANsymphony™ following a three-month test in the company's environment.

“Despite our best efforts to break DataCore, it continued to work without fail, proving its reliability,” Michaud said. “And now that it's been running in our customer's environment for nearly one year, it's clear that DataCore provides three to five times the performance of traditional all-flash arrays at the same price point.”

HERE'S HOW

DataCore has the power of Parallel I/O. First, DataCore takes advantage of all available CPUs to process I/Os in parallel. More work gets done faster than traditional storage, which relies on serial scheduling of I/O. Next, DataCore caches I/O in RAM across nodes, so reads and writes complete faster than flash caches.

Michaud said one of his favorite features of DataCore is customization, enabling MacStadium to turn off compression and deduplication to further speed up write traffic.

“DataCore delivers far more flexibility than other solutions,” he said. “And because it includes a unified storage management interface and synchronous mirroring, we can perform maintenance—planned and unplanned—whenever we choose.”

MacStadium has been so pleased with DataCore that it expanded use of the software to an additional eight clusters.

“Many of our customers have demanding workloads, but DataCore is tunable, giving us a reliable, set-and-forget solution. DataCore is our sledgehammer solution because it addresses everything our customers require.”

HOW DATACORE DOES IT

Data storage isn't easy. Data keeps growing, applications require faster performance and new hardware can be complex to integrate. Typical storage environments have multiple devices from several manufacturers, but they can't communicate with each other and must be managed via separate interfaces. They operate in silos and become obsolete in just a few years. Storage vendors often recommend a “rip and replace” strategy, but this benefits the vendor more than the customer.

DataCore's software adds a storage management plane between servers and existing storage hardware, unifying management and allowing the total storage capacity to be pooled and auto-tiered according to workload performance requirements. A single set of universal storage services is enabled, eliminating the requirement to purchase the same service, such as compression or deduplication, from each individual storage hardware vendor. DataCore's high availability makes even planned downtime a thing of the past, and best of all, DataCore improves the performance of existing storage, lengthening its useful life and giving customers record-breaking performance at a lower cost.

DataCore's approach to high availability is based on an active/active configuration that synchronously mirrors like or unlike devices, and there is no need for manual failover or failback—everything is automated.

DataCore allows customers to preserve and extend the value of past storage investments, avoid storage vendor lock-in and seamlessly integrate the newest technology without disruption or downtime.

To learn more visit: <http://info.datacore.com/LiveDemo>

For additional information, please visit datacore.com or email info@datacore.com



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