User Experience and Proliferation of Mobile Devices Drive Hawai'i Medical Service Association (HMSA) to Adopt VMware View(TM), Fusion-io and Atlantis ILIO

The Associated Press

Atlantis Computing, today announced that the Hawai'i Medical Service Association (HMSA), an independent licensee of the Blue Cross and Blue Shield Association, has deployed Atlantis ILIO storage optimization software with ioMemory products from Fusion-io as part of the first phase of its VMware View rollout. The cost and operational complexity of maintaining and refreshing thousands of physical PCs drove HMSA to rethink its desktop computing strategy and initiate a switch to virtual desktops. HMSA chose Atlantis ILIO to provide a better-than-PC user experience, while increasing the number of virtual desktops per server from 30 to 200.

"There was a confluence of business reasons that drove us to begin the migration to desktop virtualization," said Stuart Shirai, manager, Network & Telecom Information Systems, HMSA. "We didn't want to spend the time and money required to do another desktop refresh and users wanted a variety of devices that we couldn't practically support. Virtualization was the cornerstone of solving both problems."

After managing two separate desktop refresh projects in 2003 and 2009, Shirai was reluctant to manage the time, cost, and frustration of replacing HMSA's entire fleet of more than 2,000 physical PCs. In addition to replacing the PCs, HMSA was bound by compliance requirements to ensure that hard drives of the previous PCs were disposed of in accordance with HIPAA regulations.

"I had my heart set on avoiding another desktop refresh," continued Shirai. "My goal was to render the endpoint irrelevant. If we can centralize desktops, we can avoid the desktop refresh, open up bring your own device (BYOD), and simplify security."

After having success with server virtualization, Shirai looked in-house to leverage his team's virtualization expertise and apply it to virtualizing desktops.

"I saw that a lot of other people were making the mistake of treating a virtual desktop like it was a virtual server," continued Shirai."What we learned in the early going, was that the I/O profiles on a desktop are radically different than a server, and we avoided making that mistake by building our VDI architecture to deliver more IOPS per virtual desktop than our physical PCs."

Shirai and his team found that the I/O profile for a virtualized Windows desktop, was

very write-intensive, required a large number of low latency IOPS to perform well, and suffered from a phenomenon known as the I/O blender effect that makes it difficult for storage systems to keep pace. With traditional shared storage, HMSA simply wasn't able to deliver equal performance to a physical PC. After researching the options, HMSA selected Atlantis ILIO storage optimization software in combination with flash memory-based Fusion's ioMemory to deliver the best combination of performance and cost.

"The combination of Atlantis ILIO and Fusion-io has delivered the performance we wanted at a cost per desktop that is comparable to a physical PC," continued Shirai. "With the performance of our virtual desktops, we believe users will be beating down our door to get a virtual desktop."

Mark Choi, an HMSA infrastructure engineer, led the effort to design the VDI architecture. After testing traditional SAN/NAS storage, Choi found that they only provide about one-tenth of the inputs/outputs per second (IOPS) of their existing physical PC hard drives.

"We are trying to eliminate any dependency on our SAN for performance," said Mark Choi, infrastructure engineer, HMSA. "All of the desktops are stored locally on each server in the Atlantis ILIO datastore that connects to a Fusion ioMemory device, while the users' personal documents, settings, and application data are redirected to our shared SAN storage."

Using Atlantis ILIO and Fusion-io, HMSA was able to achieve 10 times the IOPS of a normal PC hard drive and deliver similar performance to a laptop with its own SSD drive. HMSA virtual desktops have a boot time of 7 seconds and launch applications such as Microsoft Word, PowerPoint and Excel in less than 1 second.

"The physical desktops we have today provide users with anywhere from 50 to 150 IOPS per desktop," continued Choi. "The VDI architectures with traditional SAN/NAS storage only gave us 10 to 20 IOPS per desktop, which wasn't acceptable to us. The combination of Atlantis ILIO and Fusion-io enables us to guarantee 1000 IOPS per desktop. In some cases, I have seen as much as 20,000 IOPS per desktop."

While performance was the primary driver, it was also critical that HMSA be able to maximize the number of users that could be run on a single server equipped with an ioDrive to make the project economically viable. With a 40GB image, HMSA was only able to fit 30 virtual desktops per 1.2TB ioDrive card. Atlantis ILIO reduced the size of the virtual desktop images by 90% to 4GB, enabling HMSA to reach a density of 200 virtual desktops per server with 30% of the drive still available for growth.

"Before Atlantis ILIO, we were able to fit 30 desktops per ioMemory device," continued Choi. "With Atlantis ILIO, we can now get up to 200 virtual desktops on the same server and ioMemory device, which makes delivering that level of performance cost effective."

After completing their VDI deployment, HMSA plans to launch a BYOD initiative to give users the option to use their own devices such as smartphones, iPads, and

MacBooks to access their high-performance HMSA desktop.

"We intend to launch a BYOD initiative as our existing physical PCs depreciate and replace them with virtual desktops that users can access from any device they like," continued Shirai.

To watch the HMSA video case study, visit www.atlantiscomputing.com/hmsa

HMSA will be presenting the details of their VDI deployment in a webinar on September 26th at 11AM Pacific Time, visit: bit.ly/hmsawebinar

Supporting Quotes:"Achieving equal or better performance than a PC is critical to adoption and success of VDI," said Gary Orenstein, Vice President of Products, Fusion-io."The combination of Atlantis ILIO software and Fusion ioMemory enables customers like HMSA to deliver amazing desktop performance and increase the number of desktops per server, making VDI not only economically viable, but in many cases, preferred."

"Many of our customers have found that delivering enough IOPS to equal physical PC performance is challenging and costly," said Bernard Harguindeguy, CEO, Atlantis Computing. "HMSA is one of the few customers that understood the IOPS problem from the beginning and applied their virtualization expertise to build an impressive VDI deployment at a low cost per desktop with Atlantis ILIO and Fusion-io."

About HMSAHMSA is a nonprofit, mutual benefit society founded in Hawaii in 1938. It is governed by a community board of directors that includes representatives from health care, business, labor, government, education, clergy, and the community. HMSA is an independent licensee of the Blue Cross and Blue Shield Association.

About Atlantis ComputingAtlantis Computing is transforming enterprise desktop computing by solving the challenges of virtual desktop deployments: storage costs, performance and deployment risks. The Atlantis ILIO software complements VDI solutions to cut VDI costs and deliver a desktop that is faster and cheaper than a PC. With Atlantis ILIO, IT organizations can deploy 4-7 times more desktops on the same storage footprint, making VDI more affordable by both cutting the amount of storage needed per desktop and enabling the use of less expensive storage options. Atlantis Computing is privately held and funded by El Dorado Ventures, Partech International and Cisco Systems with headquarters in Mountain View, California, and offices in London, England. For more information, visit: www.atlantiscomputing.com.

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