

OVERVIEW

CUSTOMER

- The University of Houston

INDUSTRY

- Higher Education

CHALLENGES

- Escalating data storage and power requirements
- Finite budget
- 5% to 15% disk drive utilization
- More than 50% of systems moving out of warranty within 2–3 years

SOLUTION

- Mobius Partners' design and architecture support, technical expertise
- HP Enterprise Virtual Array (EVA) Series 6000
- HP C-Class Chassis Blades
- "Data center in a box"
- VMware virtualization layered on top

RESULTS

- Lower total cost of ownership (TCO)
- Accelerated deployment of servers
- 60% to 80% disk drive utilization
- Flat power consumption
- 28 new virtual machines — not one purchased
- Responsive to customer needs
- Stayed within capital budget



UNIVERSITY of HOUSTON

Founded in 1927, The University of Houston (UH), located on a picturesque 550-acre campus, is the leading public research institution of higher learning in the fourth largest city in the U.S. With a student body of approximately 35,000 students, UH offers its undergraduates more than 100 majors and minors, and its graduate students nearly 200 degree programs many of which rank among the best in the nation.

Challenges

In 2007, UH's central computing infrastructure was facing unprecedented demands for power from its High Performance Computing Lab, yet its facility capacity was fixed. In addition, the many departments it served were clamoring for accelerated deployments of new servers, which currently took months to deploy. Like many institutions, UH central computing had to find a way to do more with less.

According to Mike Alleman, manager of operating systems, enterprise computing for UH, "Two facts were undeniable: Disk drive utilization of our current servers was only five to 15 percent. Within the next two years, about half our machines would be out of warranty. The message was clear: We had to begin using what we had more effectively, and be prepared to make additional capital investments to keep our servers current."

Solution

The IT leadership team at UH had been building a consensus for hardware and power conservation and faster server deployment via virtualization and blade technology for about a year when Alleman joined the enterprise computing team in mid-2007.

"About then we began addressing this issue. UH was an HP shop and we already had one P-class blade. Right off with the new C-class blades, I noticed it had a back plane that was well designed, unlike other blades I had worked with. Moreover, it had good network switch integration and simplified storage area network (SAN) integration. I could see HP had thought it through nicely."

HP's local representative recommended that UH meet with a local IT solutions provider that specializes in enterprise-level data center technologies, Mobius Partners Enterprise Solutions. Alleman met with and was suitably impressed with the technology expertise and services of Mobius Partners, the leading large-enterprise reseller in Texas for HP and one of the fastest growing solutions providers in the southwest. "Mobius Partners is now one of UH's primary value-added resellers (VARs)," says Alleman.

Mobius Partners has achieved numerous HP distinctions including Platinum Business Partner, HP Elite Partner (Blades, Business Critical Systems, Storage and Services) and HP Solutions Elite Partner (SAP and VMware). In addition to these certifications, Mobius Partners has extensive experiencing guiding clients through virtualization initiatives. Mobius Partners met with Alleman and his team and recommended a solution that included virtualization, blade technology and consolidated storage and backup.

"The only way we were going to get there was by leaving traditional rack-mount server computing in the dust. And that is exactly what we did," says Alleman.

Mobius Partners recommended HP's Enterprise Virtual Array (EVA) 6000 Series for SAN and C-Class Chassis and blades for the data warehouse environment and for the virtualization environment.

Alleman refers to the blade architecture as "a data center in a box," by which he means the integrated design results in very few cables leaving the chassis. "Anyone who has to pay for their cabling as I do will appreciate that. We saved 120 cable runs on about 60 servers," he says. The design called for VMware, "to provide virtualization on top of everything."

Intelligent blade enclosures monitor power draws and can shut down unneeded power supplies. They also monitor power draws at the CPU enclosure level, as well. To further help accelerate UH's deployment and understanding of the solution, Mobius Partners' Solutions Architects spent time at UH doing onsite training.

"Mobius Partners leveraged our VMware so that, in our data warehouse, it supported our Windows and Linux operating systems running in a virtual environment. This is no trivial achievement, I can assure you," says Alleman.

"Mobius Partners brought it together!" adds Alleman. "They brought the right HP technical people to sit down with us and they designed a pure blade solution for the backend in the data warehouse that is elegant!"

Results

Thanks to Mobius Partners and HP and the virtualized centralized computing environment they installed at UH, the university has been able to create 28 new virtual machines without buying any new equipment. Not only has UH centralized computing been able to stay within its budget, it has benefited from load balancing, simplified administration and power conservation in a high-availability environment. Thanks to virtualization, the university has far higher utilization rates on its x86 servers—60–80 percent up from 5–15 percent before virtualization.

"For each single physical blade, we get 10 to 15 virtual machines in the same space. That's why we find that combination of VMware and HP hits a sweet spot in many ways," says Alleman. "While it used to take us three or four months to implement new machines, we can now turn around new servers within a matter of weeks. Once more, if customer specs are off, we instantly adjust memory to meet actual needs. By severely reducing time to deployment and offering unheard of flexibility with virtual memory, we now have extremely happy customers."

Adds Alleman, "We could not have done it without Mobius Partners' technical staff and its ability to reach into the HP organization and bring their experts to the table on a moment's notice. Mobius Partners helped us every step of the way with implementation. Their can-do attitude, ability to grasp our vision, and great project management skills has made the relationship tremendous!"

What's next for UH? Alleman envisions a time when UH departments can implement virtual servers on demand from a Web page. "They will submit their needs to centralized computing and we will quickly create a virtual server for them. That's in the future, of course. By going to blade architecture in combination with virtualization—and by doing it with HP C-Class and introducing a variety of blades and interconnect options—we have advanced campus computing into the future."

Platinum Business Partner

