CASE STUDY | EDUCATION

Higher Education Reaches the Cloud

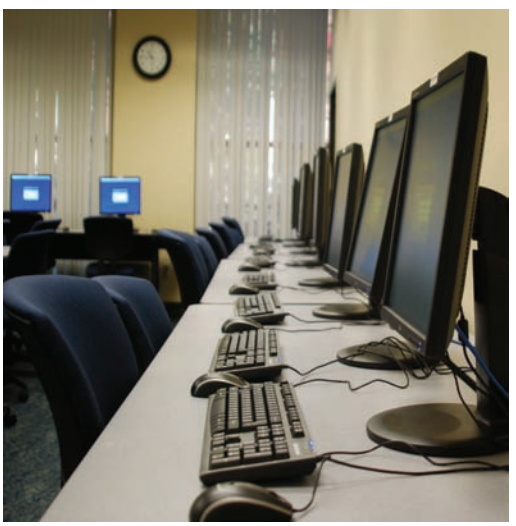
Goal
Create cost efficient and easily scalable desktop virtualization system for increasing number of students

Solution
LG N1910LZ-BF Zero Client Cloud Monitors with VMware View™

Results
Successful deployment of desktop virtualization system that offered the right combination of visual aesthetic, functionality, including ease-of-use and serviceability and as well as cost

With 11 colleges and schools on campuses spanning more than 250 miles of Georgia landscape, Mercer University's 41-person IT team faces unique challenges instigated by distance and the common difficulty of being exponentially outnumbered by students and computers. Mercer University is a higher education center for undergraduate, graduate and professional education in disciplines like liberal arts, law, pharmacy, medicine, business, engineering and more. It has major campuses in Macon, Atlanta and Savannah as well as other university-run structures around the state – in total 150 buildings and over 2,700 computers. It was only a matter time before the IT team at Mercer University decided to take advantage of cloud computing.

Mickey Belote, Chief Technology Officer for Mercer's IT team, knew the school needed to make a change from an overall efficiency and cost perspective. With such a large and growing university (soon to expand to Columbus, GA), it no longer made sense to operate with standard PC-filled computer labs. The hunt for a logical, more effective replacement for the school's PCs was given to the Technology Infrastructure Services department, which is run by its Executive Director, Shane Milam, a 16 year veteran in IT.



The vetting process to find the best fit for Mercer started in late 2010. Switching to a Virtualization Desktop Infrastructure (VDI) is a comprehensive process, encompassing potential hardware changes including servers, storage, networking and clients (specific lab units) as well as software. Milam's team initially looked at repurposing the existing desktop PC by updating them with virtualization capability, but felt there was a higher potential return on investment associated with eliminating unnecessary hardware.

"When we set out to make the move to virtualization, our initial focus was on the non-persistent laboratory machines, meaning we wanted to get rid of the actual PC," said Milam. "We felt this was the best way to get the biggest immediate bang for our buck."

Any institution considering a move to the Cloud has roughly three solution options:

- **Thick Client** – Fully functional PC or Laptop (includes operating system), which allows user to access the Cloud by logging onto a remote server via an internet browser.
- **Thin Client** – Monitor, which includes semi-functional operating system (users cannot download new software), allowing it to connect to virtualization and including a web browser.
- **Zero Client** – Just a monitor with built-in virtualization software, which connects to a server via an Ethernet connection and specialized chipset for cloud functionality.

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Shane Milam,
Executive Director

Milam's team began running small-scale pilots for various thin- and zero-client system options starting in early 2011. The overall goal was to find a system that offered the right combination of visual aesthetic, functionality, including ease-of-use and serviceability and as well as cost. Soon it became clear a zero-client solution was the only way to achieve these goals.

Zero client solutions were the clear fit for Mercer due to their flexibility and potential cost savings. One key benefit is that the school's IT department only needs to maintain the server, which is housed in a centralized location, instead of 1,500 individual PCs which Mercer hopes to replace with zero clients. Even with monitors on campuses across Georgia, Mercer's IT department would be able to service most IT needs without leaving their respective home bases. For example, the team can easily make network-wide software updates, or help troubleshoot particular units on campus. Over the course of a year, this added efficiency can save countless hours and money in travel to each campus and turnaround time on troubleshooting or updating the network. Moreover, if there is an irreconcilable problem with one of the monitors, it is far less expensive to replace a single monitor compared to an entire PC.

Zero client monitors also provide cost savings on energy usage. Milam did the math. At $.02 per hour per machine, for 500 machines Mercer would save roughly $35,000-$40,000 per year. Once the full installation was completed, Mercer would realize a year-over-year energy savings of more than $100,000.

Once Milam decided on a zero-client solution, he narrowed his list to only a few manufacturers, including LG, which makes a solution compatible with VMware View™ Virtual Desktop Environments and includes a Teradici PCoIP Processor, which allows the monitor to transmit encrypted data to and from the server, across any standard IP network. They also include multiple USB ports for mouse and keyboard as well as storage devices and other equipment. LG's Cloud offering met Mercer's needs on multiple levels leading the IT team to begin replacing its current PCs this past March.

"We decided to go with LG over other zero-client solutions because for an all-in-one solution, the price-point was reasonable, we liked the aesthetics and they were easier to set up and move if needed," said Milam.

Thus far, Mercer's IT team has replaced 430 PCs with LG N1910LZ-BF Cloud Monitors across the campus and is expected to have 500 LG units operational by the fall term. If the process continues at its current rate, all 1,500 PCs will be supplanted by the end of 2013.

"So far we're pleased with how the software and hardware components of our VDI system are working together," said Milam. "We still have a long way to go before the project is complete, but it's already evident how we can operate more like a university with a more traditional geographic make-up."

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