Technology Services

COMPUTING SERVICES AND SYSTEMS DEVELOPMENT

Case Study:
NOC Server Migration
for the University of Pittsburgh School of Education

Overview

Customer Profile

The University of Pittsburgh's School of Education enrolls nearly 1,200 students instructed by world-renowned faculty. The school's IT infrastructure supports $23 million in research funding. In 2013, the school was ranked by U.S. News & World Report as one of the "Best Graduate Schools in Education."

Situation

The school needed to find a solution to the high cost of maintaining its aging computing environment. In addition, their senior IT administrator was retiring.

Solution

The Network Operations Center worked with the School of Education to plan a migration that involved conversion of physical servers to Microsoft VMware virtual infrastructure, streamlining the applications and servers, and reducing the overall hardware footprint.

Benefits

- Oversight of IT infrastructure by expert NOC staff who manage upgrades, maintenance, backups, restorations, and malware protection
- Department receives a significant cost savings by no longer having to support or replace aging hardware
- Department enabled to function efficiently with a smaller internal technical staff.

Network Operations Center (NOC) leverages expertise and virtualization to perform rapid migration of IT infrastructure

"The NOC made it simple for us."

- Marianne Budziszewski, Director of Administration for the School of Education

Background

The world-renowned faculty at the University of Pittsburgh's School of Education strive for excellence in cultivating the country's best education professionals by employing a unique content-specific and inquiry-based curriculum. The school focuses on the issues that will shape education, health and wellness, community service, public policy, and child development for years to come.

The school's primary goals are improving urban education through both research and the training of teachers and other school professionals; impacting the factors outside the teacher-student relationship that influence learning; and helping to improve regional, national, and international education policies.

Wesley W. Posvar Hall, which houses the University of Pittsburgh School of Education.

Situation

Early in 2013, School of Education Dean Alan Lesgold contacted Technology Services regarding a solution to the high cost of maintaining the school's hardware and infrastructure. In addition to the financial issue, several other factors were at play: the school's hardware was mostly obsolete or close to end-of-life; much of the equipment was out of warranty; and lastly, the school's information technology system administrator was retiring.

"We started by just moving our servers. Everyone at the NOC was very helpful. The timing was flexible. It went really well. "

Katrina Loutzenhiser
School of Education

"For us, it's been business as usual. No one has noticed a thing."

Marianne Budziszewski
School of Education

Solution

Lou Passarello, Director of the NOC, and System Engineer Adam Cerini thoroughly analyzed the school's computing environment and recommended an initial NOC migration plan that would move their physical servers into the NOC's secure server hosting environment within a single weekend.

Katrina Loutzenhiser, Technology and Media Services Director for the School of Education, commented on the migration: "We started by just moving our servers. It was a physical move. Everyone at the NOC was really helpful. The timing was flexible. We just got our servers out there on the racks."

The next phase of the migration involved moving content from the school's servers to the virtual server environment at the NOC. This would allow the department to retire a number of their old physical servers instead of replacing them. Although this phase of the migration took place in August during an exceptionally busy time of year for the school, the process was seamless for students, faculty, and staff. "From an operating standpoint, we have had no bumps," explained Marianne Budziszewski, Director of Administration for the School of Education.

The school-maintained computing lab with 40 Windows and Mac computers was also migrated to the univ.pitt.edu domain. Now, lab users no longer need to remember separate departmental usernames and passwords and can log into the computers using their University Computing Account credentials. The school is planning to migrate their domains and retire the existing domain controllers by the summer of 2014, which means that Katrina and Marianne will no longer have to maintain and support two sets of passwords for their users. "That will make it so much easier for us," said Katrina.

The migration successfully moved key School of Education applications to the NOC's virtual environment, including the ITworks system that the school uses to track its grants, the financial system for the Fanny Edel Falk Elementary laboratory school, and a complex NetApp Filer that provided file server and storage functions.

Benefits

From an operational standpoint, the School of Education benefits from management, oversight, and expertise of proven NOC staff, facilities, and processes. Because the school doesn't need to be concerned about operating system upgrades, monitoring, backups, or virus threats, they can focus exclusively on supporting their users and applications. "What the NOC has allowed us to do is to focus on our clients and their work," said Marianne. "We didn't need to hire additional staff."

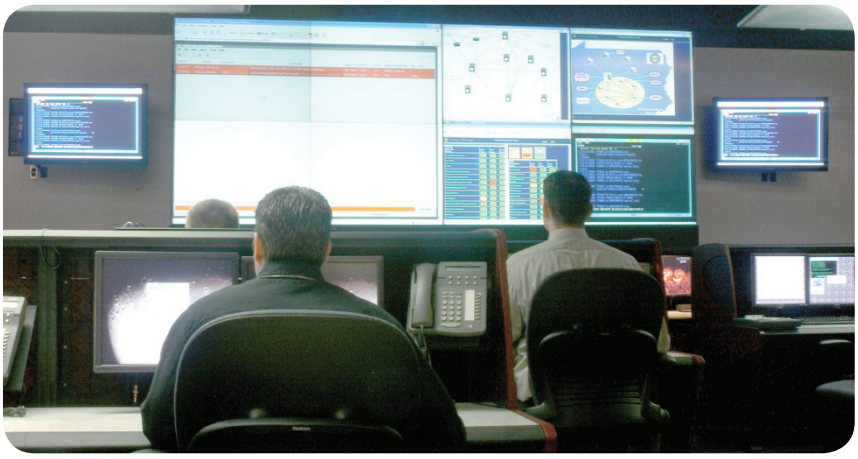
This is critical considering that more than 90 percent of the school's $23 million in research funding relies on a capable IT infrastructure that can support high-capacity data storage and applications.

The financial benefits to the School of Education are numerous. Their old infrastructure (including the expensive NetApp Filer) no longer has to be replaced and maintained, the cost for NOC hosting is much lower than what they would have to pay otherwise, and they also save staff funds by not having to replace their IT system administrator.

In conclusion, Katrina said, "I thought initially that the NOC 'just keeps the lights on', but I now realize that they do so much more than that."

About the NOC

The Technology Services team manages the NOC, a secure 15,000-square-foot facility located off-campus in O'Hara Township, with redundant power and networking, and physical security controls. The NOC, which was established in 2005, functions to increase the availability, reliability, and security of the University's network services.



The NOC provides continuous, around-the-clock monitoring of the University's network and computer systems. As a measure of the NOC's impact to provide system reliability, there was a 64 percent decrease in network-related problems reported by students, faculty, and staff in the first six months of the center's operation. In 2006, the University received the Computerworld Honors Program Laureate award for "network operations center design and implementation." In addition to securely hosting essential University services, the NOC is also utilized by nearly 40 University departments as a centralized location from which to host their servers.

For More Information

Departments whose servers are hosted at the NOC are charged through a cost model based on the resources needed to support the servers — virtual and/or physical — and applications.

Those servers are then housed in the NOC's environmentally controlled facility and are provided with regular monitoring, backup, and recovery services.

Researchers and department administrators interested in exploring the advantages of moving servers to the NOC can contact the Technology Help Desk at 412-624-HELP [4357] or via email at **helpdesk@pitt.edu**. A meeting will be set up to review your needs, including data-set security considerations.

University of Pittsburgh

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