



Customer Background

Germantown Academy (GA), a fully accredited, private, PreK-12 school with an enrollment of 1,080 students, was preparing to demolish and rebuild (within the same footprint) both the Middle and Upper School facilities. The goal was to meet the current student's needs, as well as future technological expansion, all while maintaining network, data, voice, and alarm systems for the entire campus during the one-year construction project.



The Challenge

The main data and phone line feeds for the entire campus were routed through the phone and server rooms located in the Upper School basement. The plan was to reroute the feeds to a new, more accessible and permanent location. Since the school decided to keep the students on campus during construction, the logistics of the move were more difficult and required the setup of modular classrooms, all of which required networking, wireless access and phone service.

Comm Solutions was invited to review the project and develop a solution that fit the needs of the school. The existing phone system was older Verizon circuit-switched Definity gear with Audix voice mail. The school's 23 servers were comprised of 2 Apple OSX boxes and a mix of Windows 2003 and Windows 2008, which made up GA's Active Directory. Although the network core switch was only four years old, all edge switches were beyond end of sale, though not exactly end of life. The school had upgraded its data backup infrastructure, but still utilized tape and had not yet incorporated off-site storage of the data.

The Solution

It was quickly decided that it did not make sense to wire the new building with copper, which is required for traditional circuit-switched phones, so Comm Solutions recommended upgrading to Voice over Internet Protocol (VoIP) phones. Because the edge switches in place could not handle the VoIP phone

system, those would need to be upgraded as well. The network core and firewall were also replaced so that all connectivity was of the same generation. The original plan was to move the data center to a temporary location during construction and then back into the Upper School upon completion. Comm Solutions suggested Server Virtualization as an alternative, which allowed the school to obtain the benefits of reduced hardware purchases, as well as lower electrical power and cooling costs.

"We could not have organized the various upgrades and replacements without the assistance of Comm Solutions – truly our partner in the broadest sense of the word.

- Dick Horner
Germantown Academy

ShoreTel was chosen for the VoIP phone system, utilizing three phone types for the primary classroom units, staff and office personnel and administrators. All Windows servers were converted to a virtual server environment and a HP LeftHand 10.8 TB SAN solution was installed for network storage. The firewall was replaced with a FortiGate 310B Security appliance, since it includes Intrusion Detection and Prevention Services (IDPS). Enterasys SecureStack was chosen for the core and all edge switches and Barracuda Backup Server 960 was also

implemented. Based on its proven track record within the industry, VMware software was chosen for the Virtual Servers and implemented, along with vRanger for backup. In addition to onsite backup, Barracuda's offsite storage is also utilized.

The Results

In the Spring of 2010, the modular classrooms were delivered and work began on configuring the data and telephone service, classroom intercom, bell system, cameras and alarms. Throughout the construction, the implemented solution allowed the school to maintain its normal level of enrollment and when doors opened as normal in September of 2010, Germantown Academy provided their students with the exceptional learning experience for which they are known. Construction was completed in the summer of 2011 and in September, students entered their new school building that was designed to easily adapt with technology advancements in the future.