The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

YEAR:
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STATUS:
Laureate

Organization name:
SWC Technology Partners, Inc.

Organization URL:
www.swc.com

Project Name:
Alain Locke Charter School Achieve Technology Project

What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?

This project is intended to help close the technology gap between urban and suburban schools as well as help advance an experiment in raising the achievement levels of inner-city students. That experiment is Alain Locke Charter School, located in one of Chicago's poorest neighborhoods. Opened in 1999, the school serves 650+ preschoolers through 8th graders and is operated by a not-for-profit education organization founded by a former inner-city teacher and gang narcotics police officer. The school population is 99% African-American and 1% Latino, with most students eligible for free or reduced lunch. With new strategies for improving urban education, Alain Locke holds the record for #1 test score gains in the history of the Illinois ISAT test, has 89% of students meeting or exceeding state standards in math and reading, and was recognized by the U.S. Department of Education as 1 of 7 schools nationally best in "Closing the Achievement Gap." But the school's technology was outdated and interfering with education. The 180 classroom, library and staff PCs were five or six years old, running Windows XP with Office 2003 and requiring two minutes to load a web page. Student use often corrupted data or changed configurations, deleting or renaming files. Back-end servers were old and lacked backup or failover, causing problems in a neighborhood where power interruptions are common. There was no separate storage system, so data could be lost during a crash. SWC Technology Partners donated new hardware and services, with software provided by Microsoft, to update Alain Locke's entire technology infrastructure in order to help students have the same technology resources and related learning opportunities as those in more affluent settings. At this writing, the deployment is too new to measure success.

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

The centerpiece of the project is desktop virtualization, which is rarely used in an elementary/middle school setting. In combination with the project's server room upgrades, virtualizing desktops will enable the school to: (1) extend existing hardware life and eventually replace older PCs with thin terminals at one-third the price, (2) create grade-specific desktop templates that are served up to students when they sign in for instant access to the applications they need, (3) simplify desktop maintenance and updates, and (4) eventually push applications to iPads or other devices if desired because virtual desktops can be streamed to any device. This portion of the project is being executed with Microsoft Hyper-V, Server 2008 R2 and System Center Virtual Machine Manager, as well as Citrix XenDesktop (to stream virtual desktops to workstations) and Citrix XenApp (to deliver applications to the virtual desktops). Work on virtualizing the school's 30-seat technology lab desktops is nearly complete. The remaining 150 desktops will be addressed in the next phase. In addition, the project included upgrading the school's server room by: (1) replacing three aging all-purpose physical servers with two HP DL360G7 virtual hosts; (2) attaching the virtual servers to a new HP MSA SAN that provides scalability for future application expansion as well as segregating data from the servers for protection; (3) adding failover and redundancy to assure rapid recovery in the event of a server failure; and (4) expanding power, A/C and network capacity in the server room for further protection and performance. The new virtual server environment has also prepared the school for future upgrades and expansion without buying new hardware.

Please list the specific humanitarian benefits the project has yielded so far.

While the major benefits will be achieved when the desktop virtualization is complete, the project will clearly help Alain Locke deliver a quality education to a student population that traditionally attends underperforming urban schools, including helping build technology skills that are critical for success in high school, college and the workplace. From a student perspective, few of Alain Locke's students have computers at home. They need to wait in line at public libraries, sometimes for an hour, and then have less than 30 minutes before the next patron takes his or her turn. For many, school is the only place to become computer-literate. Exposure to and knowledge of programs such as Microsoft Office will help not only prepare these students for academic success in college, but also for future success in the workplace and allow them to compete globally. From a teaching perspective, the money saved on new hardware both in the short term (by extending the life of existing PCs) and long term (by replacing $800 workstations with $250 thin terminals) will free resources for investment in other technologies that can support the education process. That potentially includes new assessment tools to identify individual student needs, new whiteboards or smart boards to engage students in a fresh way, and new applications to help fill the gaps.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

"This project will give our students access to the same or better technology resources as those in suburban schools, better prepare them for high school and college, and help overcome the economic disadvantages that cause so many children to fail. It also frees up money that we would have spent on hardware to invest in better educational tools to help us build on the academic successes we're already achieving. As we like to say, we're good, but our goal is to go from good to great." - Lloyd Warber, Network Manager, Alain Locke Charter School. In lieu of a file upload,

please see more by watching the short video we have produced on this project:
http://www.swc.com/invites/Holiday-eCard-2011/index.html.