Low-cost computing for education

Students Gain Improved Accessibility

Indian Creek School District, located in Wintersville, Ohio provides K-12 education to a student population of approximately 2,225 students distributed among 4 Primary Schools, 1 Junior High School, and 1 Senior High School. Technology plays a crucial role in student achievement and like most school districts, the state budget crisis and cuts in education funding affected Indian Creek School District. As a result, it became increasingly important for Indian Creek to seek a new way of computing that would maximize the district's IT budget while delivering the best and most cutting edge technology services to teachers and students.

Obsolete Macs

Prior to introducing desktop virtualization, classrooms were equipped with outdated and unreliable PCs. For instance, approximately 700 Mac computers with an average age of 10-15 years were distributed among the 4 elementary school campuses. In addition, 100 Mac computers with an average age of 9-10 years were used at the Junior High School, and finally, almost 200 Mac computers with an average age of 4-5 years were at the Senior High School. Indian Creek experienced a problem common to other school districts—shrinking IT budgets did not allow for obsolete Mac computers to be replaced. Furthermore, the district's information technology needs were solely managed by the District's Network Administrator, so it became crucial to find a way to overcome these innate challenges of being understaffed while also maintaining costs. Based on these findings, Indian Creek focused its efforts on identifying a cost effective solution that would seamlessly replace the outdated computer hardware while also making the infrastructure easier and less time-consuming to manage.

Indian Creek's new system is more efficient and easier to maintain.

The Search for the Perfect Solution

Indian Creek School District assessed two PC replacement options. The first option they considered was to purchase new Macs to replace their older systems. This option was extremely cost prohibitive only allowing for a fraction of their existing systems to be replaced.Indian Creek needed to find a way to stretch school district dollars and knew that staying on the same path meant that they would only have the funds to purchase 75 PCs for the entire district. The second and more viable option was to replace obsolete Mac computers with NComputing's desktop virtualization solution. NComputing's X-Series access devices are cost effective, and allow for the highest user density per dollar compared to any PC or thin client technology in the market. Indian Creek would be able to replace over 350 of their old Macs, compared to only 75 systems if they bought new Macs. In addition, NComputing virtual desktops are compatible with existing applications, reliable, and easy to manage. Expensive IT support and maintenance would not be required, which had been a former challenge for the district.

Challenge

Replace and manage outdated and unreliable PCs on a tight budget with limited IT staff.

Solution

Deploy 477 NComputing X-Series virtual desktops and 83 computer servers, supporting a new ratio of 6 users per 1 host server.

Results

Provided over 4 times the number of classroom workstations compared to the traditional PC model; reduces computer hardware costs by 75%; and reduced maintenance and support cost manpower.

Partner

Global Gov/Ed Solutions Inc., an NComputing reseller assisted with the deployment

The virtual desktops were deployed over 3 project phases. Working with Global Gov/Ed Solutions Inc., an NComputing computer reseller, Indian Creek purchased 353 X-Series virtual desktops to deploy configurations in 63 classrooms in their primary schools, each classroom supporting 5 simultaneous users. The classroom configuration consists of 1 PC host server, each hosting 5 X-Series virtual desktops, a ratio of 6 users to 1 host computer. Following this, Indian Creek extended the NComputing technology to the pre-school and 3 elementary school labs deploying an additional 124 X-Series access devices, each computer lab supporting 30 simultaneous users.

Today's PCs are so powerful that the majority of applications only use a small fraction of the computer's capacity. NComputing's award-winning vSpaceTM Server desktop virtualization software provides each user with a rich multimedia computing experience and their own computing session. Each server host is scheduled to power on in the morning and power down in the afternoon to save energy and eliminate any wait times when students first power up in the lab. Each student's monitor, keyboard, and mouse are connected to the shared PC through a small and very durable NComputing virtual desktop device. The access device itself has no CPU, memory, or moving parts—so it's rugged, reliable, and easy to deploy and maintain. And, because NComputing designs the entire stack, software, protocol and hardware, only NComputing can deliver a highly optimized and performant, end-to-end desktop virtualization solution.

NComputing Was the Right Fork to Pick

The benefits of NComputing's desktop virtualization solution have impacted both the end-users and IT staff. First, Indian Creek School District has been able to extend the life cycle of its PC desktops by providing four times as many classroom workstations for the same money at a fraction of the support costs. For instance for the price of 1 new Mac computer, 4 NComputing systems could be purchased that would deliver the same cutting edge technological performance as traditional PC desktops. Second, the use of NComputing's virtual desktops and centralized management console has enabled Indian Creek to provide increased computing access without increasing technical support staff. Desktops can now be managed remotely, improving efficiency and reducing work order time. Deployment times are also much faster as 353 virtual desktops were deployed for the 63 Elementary school classrooms in only 3 months. Third, Indian Creek has achieved over 75% in capital savings resulting in reduced maintenance costs. Consequently, Indian Creek could afford to invest in other innovative technologies such as portable PC carts, high school media Lab, preschool and kinder computer program, smartboards and headphones. Fourth, power consumption has been reduced as NComputing access devices use less electricity than PC desktops and do not generate heat. Finally, the adoption of green desktop virtualization technology has created a more engaged and innovative learning environment for both students and teachers. A teacher at the elementary schools explained, "Before we got our new computers, I wanted to retire, I was so discouraged with teaching. I love my job again, I can explore new teaching methods and I'm not struggling to keep the old systems running. The kids are more engaged and learning is fun again."

A Better Future

The initial success that Indian Creek has enjoyed with NComputing virtual desktops has given the District the motivation to further the deployments throughout the district. An additional 400 NComputing virtual desktops have been purchased to deploy in classrooms and computer labs for the Junior High School and Senior High School. The district sees virtualization as a path to continue to deliver cutting edge technology to classrooms for student and teacher usage while keeping costs down.

"NComputing has allowed us to provide four times as many classroom workstations for the same money and at a fraction of the support costs."

Brian McCamic
Network Systems Administrator
Indian Creek School District

Computer Architecture

- Virtual Desktops: 540 X-Series virtual desktops
- OS Platform: Windows 7
- Desktop Virtualization Software: vSpace Server
- Peripherals: 42 Mimio Teach Units, 65 iPevo Document Cameras, 58 new projectors, 8 new network projectors
- Applications: Open Office 3.3, Orchard Gold Star, Renaissance Learning's Accelerated Reader and Star reader

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