

*Low-cost computing for education*

# North Carolina schools expand computer access despite limited budgets

## **Challenge**

*Upgrading old computers and add more computer access while working under tight budget constraints.*

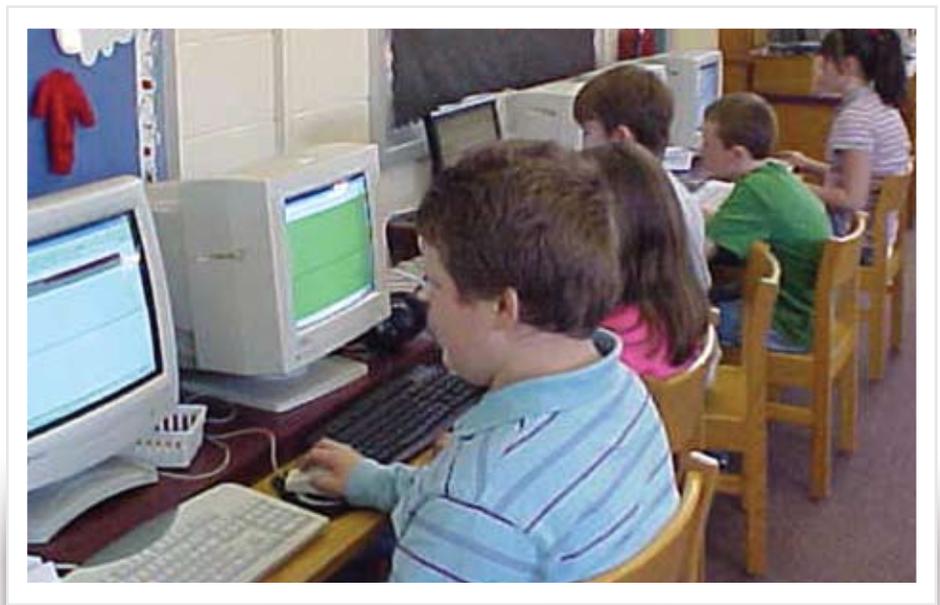
## **Solution**

*Deploy NComputing X-series, over 25 school districts throughout North Carolina for more than 10,000 additional computer seats.*

## **Impact**

*Saved a substantial amount of money over having to buy individual PCs and the districts continue to save on maintenance, electricity, and upgrades Savings will enable districts to upgrade their computers more often in the future.*

In North Carolina, over 25 school districts have found a way to stretch their IT dollars while placing more students in front of computer screens. The districts purchased NComputing desktop virtualization solutions that enable four to seven students to access a single PC simultaneously. The results add up to big savings, newer PCs, and happier kids.



*Computer lab powered by NComputing in the McDowell School District.*

## **Never enough**

Computers are more important than ever before in education as students depend on them for a wide variety of school work—everything from developing basic technology skills, to researching and writing, to using specific education programs for learning. The current challenge for schools is increasing computer access for students. Yet many schools have to keep within the constraints of a tight IT budget. Insufficient funds usually means schools have to hang on to old computers beyond the normal four-to-five year replacement period, and that leads to a host of other problems, such as higher maintenance costs, frequent crashes, and not always being able to run the latest version of their educational software—a frustrating scenario for IT directors, who want more but have to work with less.

With over a dozen schools, McDowell County Schools in Marion, North Carolina represents a typical scenario. “One of our top priorities is to engage, prepare, and educate students on using technology,” says Barry Pace, director of technology at McDowell. “But limited state and local budgets were making it a challenge to keep our PC labs up to date. We were forced to maintain six to nine year life cycles on the computers.” Like many school districts in North Carolina, McDowell County needed an affordable solution that would give students more access to better computers.

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DIRECTOR OF TECHNOLOGY  
AT MCDOWELL COUNTY SCHOOLS

## A virtual computing solution

McDowell School District’s Pace and his counterparts in 25 other North Carolina school districts found their answer in the NComputing X-series, a virtual desktop solution that enables four to seven students—depending on whether they use one or two X-series kits in each PC—to benefit from a single shared personal computer.

Each X-series kit includes virtualization software, a PCI card, and three access devices. The card, which plugs into a standard PCI slot in the shared computer, has three RJ-45 ports that connect via standard network cables (which also supply power) to the access devices. Standard peripherals, such as keyboard, mouse, monitor, speakers, and headphone, hook up to each access device to create a separate workstation. The cost of the NComputing X-series comes out to as little as \$70 for each added user.

“We piloted our first X-series in a junior high science classroom and determined that it was certainly capable of supporting four students on a single 3.2 GHz desktop with 1GB of memory in any classroom in our school,” says Pace.

Although up to seven students can work on a single host, according to McDowell’s network engineer Kelly Combes, schools deploying NComputing should pilot their specific usage environment to determine the best ratio of users per PC. “We have some environments where seven users per PC works well and others that work better with four users—either way, the cost savings are substantial,” says Combes.

Benefits extend well beyond the initial dollar savings. The NComputing devices are also easier to maintain and use less electricity than individual PCs—just 1 watt for each X-series user versus a typical 110 watts per PC. Electricity savings alone can pay for the cost of each seat in just one year.

Perhaps best for the future is that the NComputing solution will keep paying off for years. Because the total number of PCs is limited, the number that have to be replaced every three to five years is much lower. And because NComputing access devices almost never break, maintenance costs are much lower.

## Virtual computers - real success

The McDowell County district alone has benefited from an additional 1,000 seats of computer access by deploying 350 NComputing X-series kits on over 300 PCs. McDowell has installed the systems mainly in elementary classrooms in 11 of its 12 schools.

Use of the new system has caught on. Over 25 school districts in North Carolina have used NComputing systems to deploy over 10,000 computer seats in hundreds of schools. The growing popularity of the system comes as a result of district IT managers sharing their experiences with their counterparts in other school districts.

What do districts do with all the money they save? They usually buy more seats to advance their goal of increasing PC-to-student ratios.

Students are excited about having access to newer technology, and IT managers are thrilled with the X-series’ efficiency, ease of use, compatibility with standard software, and overall lower maintenance requirements. What’s more, principals, administrators, and taxpayers are pleased to see their limited budgets stretching so much further.

“I was blown away when I saw NComputing’s X-series in action,” says Dr. Louis Johnson of the Rockingham school district in North Carolina. “Now my students no longer have to wait in line to use a computer.”

