

Low-cost computing for emerging economies

Joining forces to bridge the digital divide in Africa

Challenge

Expand computer access in developing countries in Africa while minimizing costs. Address local demands with a limited supply of refurbished computers.

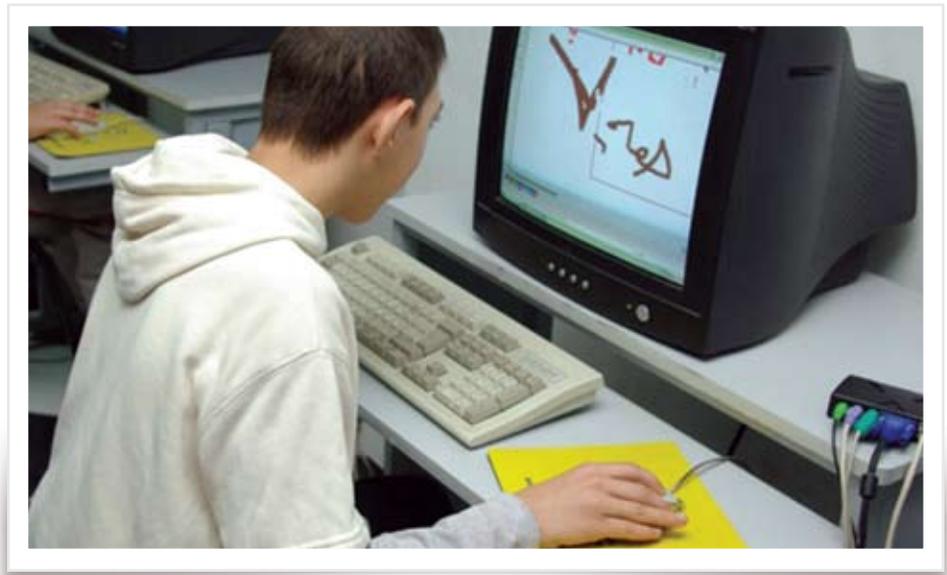
Solution

Deploy NComputing X-series virtual desktops, extending the use of a single PC to four or seven users.

Impact

Provided increased computer access to schools, businesses, and training centers in Morocco and Senegal using a low-cost, durable, low-maintenance, and environmentally-friendly solution.

How does a country that struggles to buy textbooks for its schools manage to afford computers? That's the dilemma facing many developing nations today. It's also the problem that two European organizations—Ateliers Sans Frontières (ASF) and Digital Solidarity Fund (DSF)—are solving with the help of innovative virtual desktop solutions from NComputing.



A student works on a computer powered by the NComputing X-series.

Limited number of computers

Computers and the Internet bring a wealth of information and knowledge to our fingertips. They allow us to conduct research, communicate, and access news and events around the world. Over the last quarter century, most people in the Western world have grown up with computers. In contrast, the only computers that many school-age children in developing nations have seen are in photographs.

ASF is dedicated to bridging the divide. The France-based company, with facilities in Morocco and Senegal, collects used computers that are donated by companies, refurbishes them, and sends them to countries in Africa. In the three years since ASF launched, it has supplied over 3,000 computers to countries in Africa. Although the program is successful, demand has far exceeded supply.

For example, the government of Senegal asked ASF for 30,000 computers for their schools. ASF has struggled to meet the demand. The 1,000 computers it had been able to send only created a thirst for more.

That's when another company, DSF in Geneva, Switzerland, stepped in. DSF funds worldwide IT projects with corporate donations. But the non-profit wanted to do more than just offer ASF money. It had an idea to broaden the scope of computer access in developing countries using a unique solution from NComputing.

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MEDHY DAVARY, DIRECTOR OF DSF

Learning to share

Today’s PCs are so powerful that most people use less than 5% of a computer’s power at any given time. NComputing takes advantage of that untapped power and makes it available to several users who simultaneously share the resources of a single computer.

An ideal solution for schools, training centers, and businesses, the NComputing X-series includes virtualization software, a PCI card that goes into the shared computer, and three access devices. The access devices, which are about the size of a deck of cards, hook up to standard peripherals, such as a keyboard, mouse, and monitor. With the X-series, one shared computer can power up to seven users—three for each PCI card and a seventh on the shared PC.

The solution saves space and money. The access devices connect to the PCI cards via a standard network cable, which also supplies power, eliminating the need for a separate power cable. The cost of the NComputing portion of the solution comes to around US\$70 per seat, substantially less than purchasing individual PCs. And each user feels like they have their own computer.

“NComputing offers huge potential to expand the reach of computer access in developing nations,” says Mehdy Davary, director of DSF. “Even refurbished computers can become expensive, not to mention the costs of keeping them running. NComputing access devices require almost no maintenance and that’s a huge plus.”

The low energy consumption of the X-series is another bonus. A large network of individual PCs would overwhelm the electrical capacities of many facilities in developing nations. The X-series consumes only 1 watt of power per added user, compared to 110 watts for a typical PC.

A critical tool

NComputing helps countries like Morocco and Senegal make giant strides in reducing the digital divide. DSF and ASF sent Morocco enough equipment for 40 computer access seats—10 refurbished computers, 40 monitors, and 10 NComputing X-series kits. NComputing allowed ASF and DSF to quadruple their efforts, extending 10 computers to 40 users.

“We are running a test in five different organizations in Morocco, one training center, two schools, and three businesses, to uncover the best ways to implement these solutions,” says Alexandre Guilluy, director of ASF. “Initially, we want to understand how to best use NComputing, so we can get the most out of it.”

“NComputing is a critical tool in enabling us to bring more computer access to these countries. Right now they have few computers, and without computer access, they stand no chance of catching up with the rest of the developing world,” says Davary.

ASF and DSF are implementing more solutions in Senegal and Morocco and then in Eastern Europe. NComputing expands their horizons for these groups.

“We believe that everyone, not simply the people in wealthy nations, has a right to computer access,” says Davary. “NComputing is helping make that dream come true.”

