

'Virtual' computers span the digital divide

August 6 2009, by Glenn Chapman

NComputing is out to span the digital divide with a version of cloud computing called "virtualization," which essentially turns one machine into many.

The California-based startup has installed more than two million computer "seats" worldwide in the past two years and its business is rocketing, particularly in developing countries where cash is scarce.

"We are showing how the next wave of IT is going to have a profound effect on digital inclusion because it will be affordable to everyone," NComputing chief executive Stephen Dukker told AFP on Tuesday.

"This technology is not a classic obsolete, hand-me-down to the developing world. This is leading-edge technology being deployed in corporations today and the foundation behind cloud computing."

NComputing builds software that takes advantage of the fact that chips in computers are far more powerful than most users need.

V Space software divides [processing power](#) in computers into arrays of "virtual" machines, each linked to separate monitors and keyboards.

A typical [personal computer](#) (PC) user routinely calls on about 10 percent of a machine's computing power, according to NComputing.

"We put in software that allows multiple, separate desktops to live inside a PC; the computer is shared," Dukker said.

"If a person is not a rocket scientist simulating the creation of the universe, or someone else who needs all those millions of instructions per second, most of a computer's capability is wasted."

The latest computing technology can be put into work stations for as little as 70 dollars (US) per virtual machine, according to NComputing.

"The NComputing model disrupts the normal value chain of the one-to-one PC business system," said Brooke Partridge, chief executive of Vital Wave Consulting firm that specializes in technology growth in emerging markets.

"It dramatically reduces the price per computing seat without compromising on performance."

While the US is NComputing's biggest single market, more than half of its business comes from developing countries.

"There are a billion people on the planet living on less than a dollar a day; they've got big worries on their minds that probably don't include computers," Partridge said.

"There are a billion with wealth enough to buy their one-to-one computers. Then, there is this huge group in between that could really benefit from broad access to PCs."

Partridge sees virtual desktops working in schools, Internet cafes, government centers and other venues where people are comfortable using computers in communal spaces.

"NComputing is getting some great traction in the market globally," Partridge said.

About 70 percent of NComputing's sales have been to educational institutions, where budgets are notoriously tight.

The government of Andhra Pradesh in India used NComputing to provide 1.8 million students with first-time computer access and is estimated to have saved millions of dollars in equipment, electricity, and support costs.

Virtual computers use a small fraction of the electricity that would be used if each person had their own machine.

NComputing feeds into local economies by buying hardware locally and training people in communities to provide support for [virtual machines](#).

Macedonia is NComputing's single largest user, having provided virtual desktops for every public school student in the country, according to Dukker.

A Khanya Project is working with NComputing to replace power-hogging, unreliable computers with virtual machines in poor towns in South Africa.

"It's very cool," Dukker said. "Crossing the digital divide is, in fact, what we have enabled."

NComputing recently announced an alliance with Chinese PC maker Haier, which is expected to provide access to low-priced hardware.

"Within the next five years economics will no longer be the barrier to participation in the information society," Dukker said.

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