

Low-cost computing for health-care

Arctic Slope Native Association Deploys 225 Virtual Desktops to improve data management and compliance

Challenge

Provide a cost-effective solution that addresses network efficiency, security, and energy costs while running multiple workstations.

Solution

Deploy 120 L120-L230 and 125 L300 NComputing access devices and 35 Host Servers to create 225 workstations.

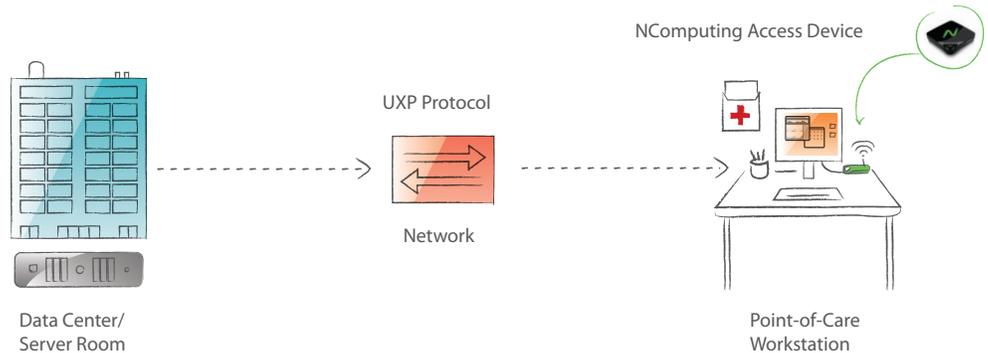
Results

Hardware maintenance costs reduced by 93%; realized an 89% savings in electricity; acquisition costs reduced by 61%.

Arctic Slope Native Association (ASNA), located in Barrow, Alaska is a Not-For-Profit JCAHO Certified Critical Access Hospital via Indian Health Services (IHS). Serving as the primary healthcare facility for the North Slope region, they rank among the top hospitals nationwide for delivering quality service and high standards of patient safety. ASNA hopes to better serve both its patients and healthcare providers in the North Slope region by increasing computing access in the most cost-effective manner.

Security and IT Challenges

One of the first advances for healthcare has been the shift from paper-based medical records to electronic medical records. The level of control is critical in the health care industry. As a result, many provisions exist such as the Healthcare Insurance Portability and Accountability Act (HIPPA) that is meant to enforce the security and privacy of all data related to patient health care. Like most health care organizations, IT budgets and support resources were limited. ASNA needed to update its obsolete PCs and find a secure computing solution that was cost effective, low maintenance, and efficient allowing staff to easily access patient data while abiding with the strict security standards required by government regulations and patient privacy needs. It became crucial for ASNA to find a way to upgrade their existing computer architecture as to provide fast, convenient, and reliable computing access that would benefit both the caregiver and patient. Such complexity brings the challenge of maintaining multiple applications and securing confidential information, while complying with government standards.



L230 Deployment Architecture: ANSA uses NComputing’s vSpace software for server side virtualization and NComputing virtual desktops to deliver mobile medical workstations to access patient point-of-care information.

Downside to Traditional PC Desktops

The complexity of managing multiple, diverse applications on numerous workstations with multiple users led to a movement away from thick client desktop (full PC for each user with multiple desktop applications) to virtual desktops (access device connected to a central server that remotely hosts the applications). ASNA assessed traditional thin clients such as HP and Wyse but found that many solutions required several costly third-party hardware components.

“With less cost than we ever imagined, the new workstations use significantly less power than previous generations”

Adam Smith

Information Systems Admin., S.
Simmons Memorial Hospital /
ASNA Ltd.

Confident in the NComputing Solution

ASNA discovered the *NComputing* solution through Microage, an *NComputing* partner that provides innovative technology solutions. ASNA chose the *NComputing* solution for its unified protocol, software, and hardware platform. *NComputing's* desktop virtualization deployments are fast, simple, and affordable. By moving away from a PC model to a virtualized desktop model, *NComputing* helps healthcare facilities use their computing infrastructure more efficiently, while reducing costs and delivering a superior user experience to both employees and residents. Instead of having multiple silos of complexity on each desktop, virtualization centralizes application delivery from a single machine, while providing each user with their own application access and experience. The needs of both the provider and patient can be achieved with rapid access to systems such as electronic administration records (eMARs) and Point of Care (POC) software modules, both of which can be run on centrally run servers and accessed across a network. For their initial deployment, ASNA turned to its *NComputing* reseller, Microage, to purchase 121 *NComputing* L120-L230 access devices, 125 L-300's, 35 host servers, 100 network computing terminals (nCT's), and 12 nCT servers.

The *NComputing* solution works because today's PCs are so powerful that the vast majority of users only need and use a small fraction of desktop computing capacity. *NComputing* taps this unused capacity from a single PC or server that can be simultaneously shared by many users. Each user's monitor, keyboard, and mouse are connected to a small and highly reliable *NComputing* access device, which is then connected to the shared computer. The access device itself has no CPU, memory, or moving parts—so it's rugged, reliable, and easy to deploy and maintain.

Since the deployment of the *NComputing* desktop virtualization solution, ASNA has realized many benefits. First, desktop virtualization has improved the utilization of existing resources as it requires less hardware and utilizes hardware resources much more efficiently and at a much lower cost. Second, the amount of time to process patients has decreased; therefore, reducing the cost of agency labor. Third, ASNA has saved significant physical space as virtual desktops are small and can be mounted to monitors to consolidate the computing to just a monitor, keyboard, and mouse. Fourth, *NComputing's* virtual desktops do not contain fans and, as a result, do not serve as sources for cross-contamination. Finally demonstrating health care compliance on a central server is far less complicated than across traditional desktops.

In addition, since the implementation of *NComputing's* virtual desktops, real metrics have been calculated. For instance, acquisition costs have been decreased by 61%, energy costs have been reduced by 89%, and hardware maintenance has been reduced by 93% resulting in a 5-year cost reduction of 71%. Future disposal costs and e-waste materials will also be reduced by 1.76 metric tons. As Adam explains, “The *NComputing* solution has allowed us, a small Not-for-Profit organization with limited resources in the northernmost part of Bush Alaska, to push every envelope of power, effectiveness, uptime, efficiency, and security to the maximum. Simultaneously, it is more cost effective than any other solution out there today.”

Paving the Way to a Better Future

At this juncture, ASNA is in the process of upgrading their back-end servers to Intel i5 CPUs with GPU, which are 32nm CPUs versus previous 90nm technology. Since this change, performance has increased by 500-600% while lowering the total power consumption. The upgrade from Intel D to Intel i5 660 has simplified their infrastructure due to GPU on the CPU. They have future plans in the next month to convert all network computing terminal nCT servers to Intel i5 and L300s as current testing shows full DVD playback at 5-9% per virtual desktop. When needed on demand, the intel i5 CPU(s) has the ability to turbo from 1200 mhz up to 3400 mhz. Plans have begun to increase thin client deployment versus traditional desktops from 85% to 95% by the end of the year.