



Technology & the Aging Population

How NComputing Meets the IT Challenges of Long-Term Health Care



Summary

As our population ages, the need for long-term health care facilities is growing; and with it the need to provide computing access throughout the facility, both to health care providers and to patients. Providers need point-of-care access to patient records to provide the best level of service to their patients, while long-term patients want to access the Internet to learn more about their health and keep in contact with their family and friends.

NComputing's virtual desktop solution delivers a solution that meets the needs of both caregivers and patients. By moving away from a PC model to a thin-client infrastructure, NComputing helps long-term health care facilities to use their computing infrastructure more efficiently, while reducing costs and delivering a superior user experience to both employees and residents.

Introduction

Technology has permeated every facet of society. This is no less pronounced in the world of long-term care, where technology continues to make inroads and advances across the burgeoning segment. From nursing homes to assisted living centers to in-home care, technology is improving the delivery of health care for providers and enabling seniors to live longer, more productive, and healthy lives.

Long-term care can be classified as a variety of services and support that meet health or personal care needs over an extended period of time. Most long-term care is non-skilled personal care assistance providing support for Activities of Daily Living (ADLs) which include bathing, dressing, hygiene, eating, and mobility. The general goal of long-term care services is to help a patient maximize their independence and functioning at a time when they are unable to be fully independent. Technology plays a vital role in delivery, tracking, and monitoring patient care and the enabling of seniors to easily communicate with doctors, family, and friends.

The world's population is aging. The United States, in particular, will see an estimated 12 million Americans needing some form of long term care services by 2020, whether in a nursing home, assisted living facility, or at home.¹ This is up from the current 9 million Americans today who are over the age of 65 and need some form of long-term care services. For elderly Americans the need for quality long-term care presents a significant financial risk. The odds that someone will need long-term care at some point in their adult life are extremely high. Technology applied to long-term care can help reduce costs and enable seniors to live more productive and enriched lives.

Internet Usage among Seniors Seeing Rapid Growth

Seniors have recognized the value of the Internet as a powerful tool to keep in touch with family and friends and as a source of information for their health care needs. In the last five years, the number of seniors actively using the Internet has increased by more than 55 percent, from 11.3 million active users in 2004 to 17.5 million in 2009,² according to a recent Nielsen study.

The article goes on to point out that online visitors 65 and older partake in a variety of activities, from e-mail to bill payment. With 88.6 percent of seniors, checking personal e-mail was the number one online activity performed in the last 30 days. Viewing or printing online maps and checking the weather were the second and third most popular online activities, with 68.6 and 60.1 percent, respectively.

In short, there is increased demand for long-term care facilities to provide computing power to run the organization as well as computer access for its growing and increasingly tech-savvy seniors. The increase in senior users, along with the complexity of managing multiple desktops and applications, is driving organizations to seek solutions that streamline their infrastructure while providing secure network access for staff and guests alike.

¹ AARP, "Long Term Care" http://www.aarp.org/issues/dividedwefail/divided_we_fail_platform_longterm_care.html

² "Seven Million More Seniors Using the Web Than Five Years Ago" http://blog.nielsen.com/nielsenwire/online_mobile/six-million-more-seniors-using-the-web-than-five-years-ago/

Long-Term Care IT Challenges

One of the first advances for health care in general was the move away from paper-based medical records to electronic medical records (EMRs). Electronic records increase clinician productivity, lower costs, and hopefully improve patient outcomes. When access to patient information is fast, convenient, and reliable, both the patient and the caregiver benefit in numerous ways. Patients can use self-service web functions to check their insurance and payments, schedule patient visits, review diagnoses, and implement treatment plans. Caregivers, on the other hand, can use healthcare software to monitor delivery of patient services, track patient progress, recommend new treatments, and perform billing operations.

To provide such capabilities to both audiences, many long-term health care providers have deployed a broad set of applications on multiple desktops to meet the needs of doctors, caregivers, and patients. Such complexity brings the challenge of maintaining multiple applications on multiple desktops and securing confidential information, while maintaining compliance standards. The challenge to provide all these application capabilities for even the smallest long-term care providers is significant and costly.

This complexity of maintaining multiple, diverse applications on numerous workstations with multiple users has prompted a movement away from the thick client desktop (full PC for each user with multiple desktop applications) to a thin client approach (access device with no desktop applications connected to a central server that runs the applications) supported by a virtual desktop infrastructure (VDI).

Instead of having multiple silos of complexity on each desktop, VDI centralizes application delivery from a single machine, while providing each user with their own application access and experience at their own screen and keyboard. The needs of both the provider and patient can be achieved with rapid access to systems such as electronic medication administration records (eMARs) and Point of Care (POC) software modules, both of which can be run on a centrally located computer and accessed across a VDI.

Benefits of Desktop Virtualization in Long-Term Patient Care

Desktop virtualization presents opportunities and advantages for long-term care providers to more easily meet the healthcare and computing needs of their patients. From a technology perspective these advantages include:

- Centrally managed and administered user desktops
- Higher availability of desktops and applications
- Reduced desktop acquisition and operating costs
- Secure management of patient data on the back end versus on each endpoint
- Increased access to patient data from more places (hospital, office, clinic)

Achieve Greater Compliance

The healthcare industry in general is highly regulated. The security and privacy of patient information is more easily protected with comprehensive data protection on a central server than across multiple desktops. Demonstrating compliance on a central server is far less complicated.

Better Utilization of Resources

Virtualization improves the utilization of existing resources. Many long-term providers have antiquated desktop PCs. As these systems are upgraded to new hardware, virtualization at the desktop requires less hardware and utilizes the new hardware much more efficiently at a much lower cost. Consolidating multiple PC systems and pooling resources creates economies of scale and meets compliance regulations more easily.

Improved Service Levels and Patient Care

As long-term providers reduce costs on hardware and computer support, they can redirect those costs to provide better patient care. Desktop virtualization can reduce the cost of agency labor as the amount of time to process patients can be reduced.

Space Savings

Health care facilities often do not have physical space to place bulky PCs in every nurse's station, patient room, or examination room. Thin clients are much smaller, and can be mounted to monitors to consolidate the computing station to just a monitor, keyboard, and mouse.

Prevention of Cross-Contamination

Desktop PCs in a clinical environment add a significant risk of cross-contamination, since most PCs have intake and exhaust fans that can harbor diseases and pathogens. Sterilizing or cleaning a PC is therefore very difficult. Solid-state access devices used with desktop virtualization, on the other hand, have no fans and are therefore not sources of cross-contamination.

NComputing Meets the Challenges of Long Term Health Care

NComputing is the fastest-growing desktop virtualization company in the world with over 20 million users in 140 countries. The company's award-winning, patented technology lowers desktop computing costs, improves manageability, and reduces both energy consumption and e-waste for long-term care organizations. NComputing is the perfect solution for unlocking the power and potential of PCs and cloud computing for any size long-term care provider.

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 so that it 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. NComputing's award-winning vSpace desktop virtualization software provides each user with a rich multimedia computing experience with its own computing session. This means that each user can access their applications with their own independent user experience.

- NComputing supports Linux and Windows operating systems.
- NComputing also supports many third party peripherals such as one-time password solutions, fingerprint security optical mice, sealed keyboards, and other popular USB 2.0 devices.
- NComputing works with most common Virtual Desktop Infrastructure solutions such as VMware, Citrix and Microsoft.

NComputing Long-Term Care Use Case Examples

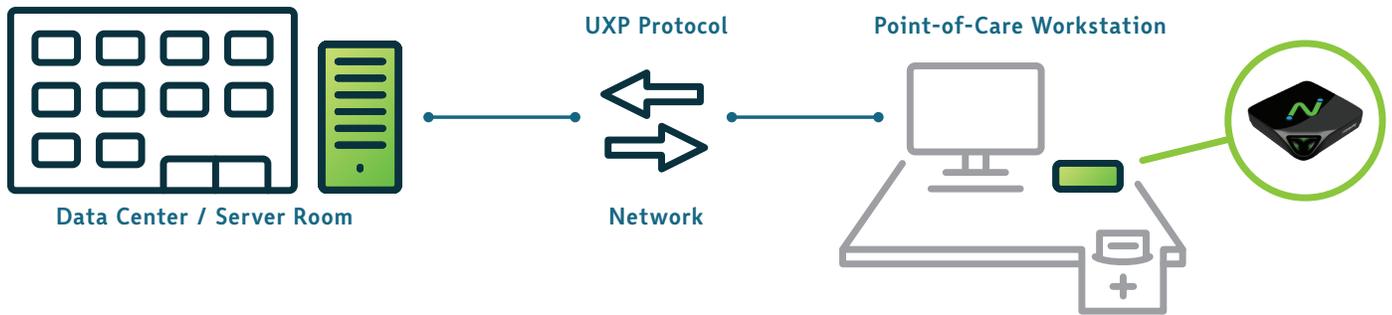
The following examples demonstrate how NComputing's desktop virtualization solutions can help solve some of the most common long-term computing challenges.

Point-of-Care Workstations

Long-term care providers use point-of-care workstations in many areas of their patient facilities. NComputing provides easy access to point-of-care stations without having to maintain a traditional PC at each location. Updates are only made to central servers and there is no need to maintain applications at each workstation. Caregivers can log in and securely access point-of-care applications from anywhere. NComputing solutions require 75% less maintenance and 90% less energy consumption than traditional PCs.

NComputing Point-Of-Care Workstation Deployment

Long-term care providers can deploy NComputing's vSpace software for server-side virtualization and NComputing virtual desktops to deliver mobile medical workstations to access patient point-of-care information.

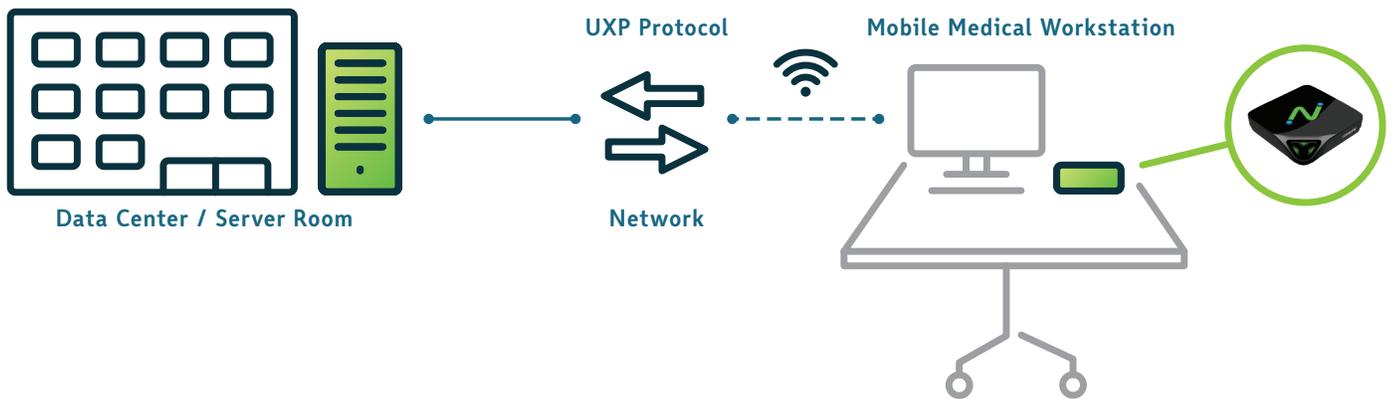


Mobile Medical Workstations

NComputing provides long-term care providers with a virtualized solution to use mobile computer carts that are designed to provide a total wireless point-of-care solution for caregivers. In assisted living facilities and nursing homes, these carts are pushed from room to room and used by nurses to access point-of-care information for patients. Mobile computing workstations are easy to store and perfect for small spaces. The caregiver can access and update patient data during bed-side assessments. Battery power sources add hours of continuous run time, covering a complete shift of workers. The computing access is focused on usability, portability and most importantly, affordability.

NComputing Mobile Medical Workstation Deployment

Long-term care providers can deploy NComputing's vSpace software for server-side virtualization and NComputing L300 virtual desktops with a wireless bridge to deliver mobile medical workstations to access patient point-of-care information.

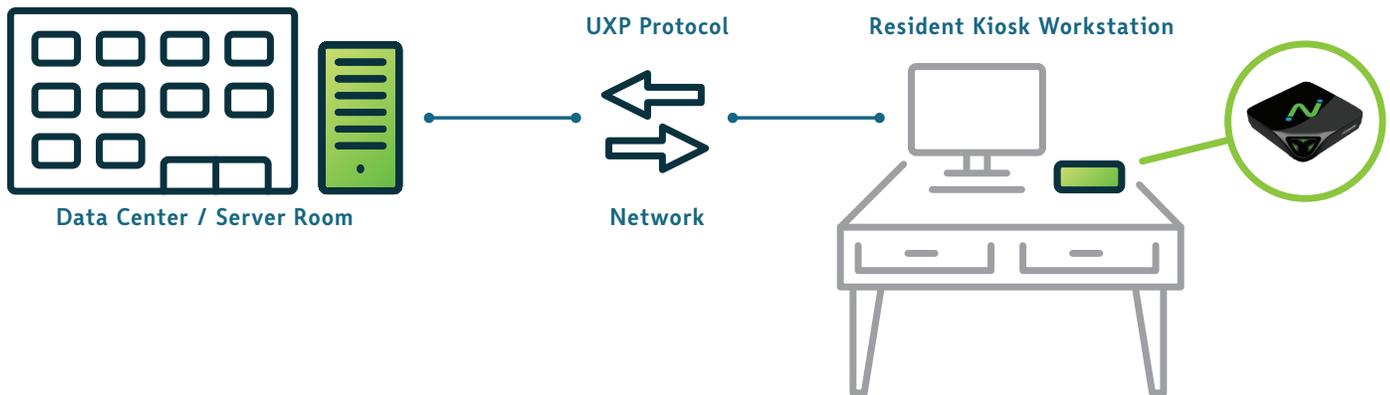


Resident Kiosk

Long-term care providers also see the need to provide residents with easy access to the Internet. With NComputing the solution can be delivered via a centralized server. There is no need to maintain separate operating systems, applications, or users at each workstation. NComputing devices only use 1 - 5 watts of electricity compared to 45-120 watts for a typical PC.

NComputing Resident Kiosk Deployment

Long-term care providers can deploy NComputing's vSpace software for server-side virtualization and NComputing virtual desktops to deliver desktop kiosks for assisted living and nursing home residents.



Conclusion

The growth in long-term health care facilities continues to expand. With such growth comes the challenge for IT to provide application support and access to health care providers and patients. Each audience has their own unique requirements for access. Providers want the ability to access all their applications quickly and easily so that they can provide the best level of service to their patients. Long-term patients want the ability to access the Internet primarily for email, entertainment, weather, and health care information

NComputing helps IT deliver a computing solution that addresses the need of both the caregiver and the patient through desktop virtualization. Organizations, large and small, are looking for a solution to help them move away from the expensive and difficult to manage thick client computing model to a thin client architecture. NComputing desktop virtualization allows long-term care providers to make more efficient use of PC hardware, reduce computing costs, improve overall operations, and deliver higher quality care to an aging and yet technology-savvy demographic.

Talk to us today

Learn more about virtual desktop infrastructure solutions from NComputing. Go to ncomputing.com or call for more information.