

## **Enhancing Care at the Bedside:**

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Mobile Thin-Client Computing Comes of Age

## Executive Summary:

In a recent survey of nurses, 80 percent claim that they spend more than half of their time doing paperwork.<sup>1</sup> Doctors are feeling the pressure too, as the demand for documenting care continues to increase as legal and regulatory requirements continue to rise. More time spent on administrative work versus delivering care ultimately impacts an organization's ability to provide quality care. Healthcare IT leaders are also focused on ensuring that their organizations meet the stringent security requirements associated with compliance standards, such as the Health Insurance Portability and Accountability Act (HIPAA).

As a result, today's leading healthcare providers and their IT counterparts are being forced to take a more strategic look at their IT strategies and investments. Many of these organizations are turning to Emtec, a leading provider of software and services for more than 40 years, to help leverage technology advancements that can improve the efficiency, accuracy and security of the care their organizations are providing.

The purpose of this paper is to help caregivers and IT leaders better understand how technologies, including smart card solutions, thin-client computing and mobile workstations, can work together to meet the needs of staff members, patients and regulators.

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## Key Challenges:

Quality patient care is the goal of virtually every leading healthcare provider in today's highly competitive marketplace. To accomplish this, organizations must be equipped with the right systems and technologies that enable their caregivers to focus on what they do best – provide quality healthcare. But the reality is that many of their highly trained and specialized caregivers are spending 50-60 percent of their time doing administrative tasks rather than delivering care. This is the result of several key challenges that healthcare providers of all shapes and sizes are facing today.

<sup>1</sup> Survey data comes from a recent focus group conducted by Emtec.

The aging of the more than 77 million Americans in the Baby Boomer population is putting additional pressure on providers, especially as they experience a significant decline in the number of caregivers entering the workforce. The American Association of Colleges of Nursing claims that there are 30 percent fewer students entering the profession this year than there were only five years ago, potentially resulting in a shortage of registered nurses that may reach a half a million by the year 2025.<sup>2</sup>

Since HIPAA's establishment in 1996, its role has grown in importance, working its way into the accreditation process and carrying hefty fines for non-compliance. With the goal of controlling who has access to which patient information, HIPAA complicates two opposing needs: 1) caregivers' need for instant access to patient information from anywhere in the facility, and 2) IT leaders' need to maintain the security and integrity of the organizational process and information. The ability to instantaneously access and support these complex systems is critical for IT.

In a statement released in March 2008, The Council on Physician and Nurse Supply, an independent group of health care leaders based at the University of Pennsylvania, has determined that 30,000 additional nurses should be graduated annually to meet the nation's healthcare needs, an expansion of 30% over the current number of annual nurse graduates.

[www.physiciannursesupply.com](http://www.physiciannursesupply.com)

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The bottom line: Inefficiencies abound at a critical time when patient volumes and technology dependencies are increasing dramatically. Many forward-thinking organizations are turning to some of the latest technology advancements that have a proven track record in other industries to solve this problem. Let's take a look at those advancements in greater detail.

## Smart and Thin – The Right Combination

Emtec offers a solution that lets caregivers quickly access the patient and medical information they are authorized to view in order to more efficiently provide quality care while still maintaining HIPAA compliance. The solution merges the power of thin-client computing with smart card technology to create mobile or fixed workstations enabling caregivers to instantly access their personalized computer workspace from any location at any time in a secure, centrally managed environment. To better understand the advantages, let's look at each technology independently.

<sup>2</sup> A report entitled *The Future of the Nursing Workforce in the United States, the shortage of registered nurses could reach as high as 500,000 by the year 2025.*

- ◆ Thin-client computing leverages the advancements in web-based applications, storage systems, and computing power to centralize the intelligence, applications and security of PCs into a more controlled, secure location that can be effectively managed, secured and supported by IT. Banks, retailers and other industries where large numbers of independent PCs house critical information have already implemented thin-client computing strategies. Basically, this approach takes the software applications off of the workstation and puts them in a centralized environment on a virtualized PC desktop that resides in a data center. This helps IT more effectively control costs, system performance and hardware utilization. At the workstation, users are presented with their normal desktop interface that allows them to access the data and applications that they are authorized to view in order to perform the task at hand. The only components that reside at the workstation are a small thin-client device, a screen, a keyboard and a mouse.
- ◆ Smart card technology takes the credentials and entitlements of individual staff members and integrates them into a single plastic card, similar to a credit card. Smart cards help administrators know exactly who accessed what data from which workstation to easily monitor activity for quality and compliance assurance. For caregivers, it can actually cut the system login time for staff members by 50 percent, therefore increasing the time they have to spend with patients providing care.

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When these two technologies are combined, staff members can use their smart cards to pull up their personalized workstations that provide them access to all of the programs and data that are necessary for their jobs in less than 10 seconds. No more time-consuming logins and non-secure shared passwords. No more searching the desktop to try to find the right application or data file that someone has moved. The customized set-up, even placement of icons, is stored and is pulled up each time the caregiver logs in. Once the card is pulled out, the screen goes blank and patient information is not exposed to unauthorized access.

#### **The Virtualization Impact**

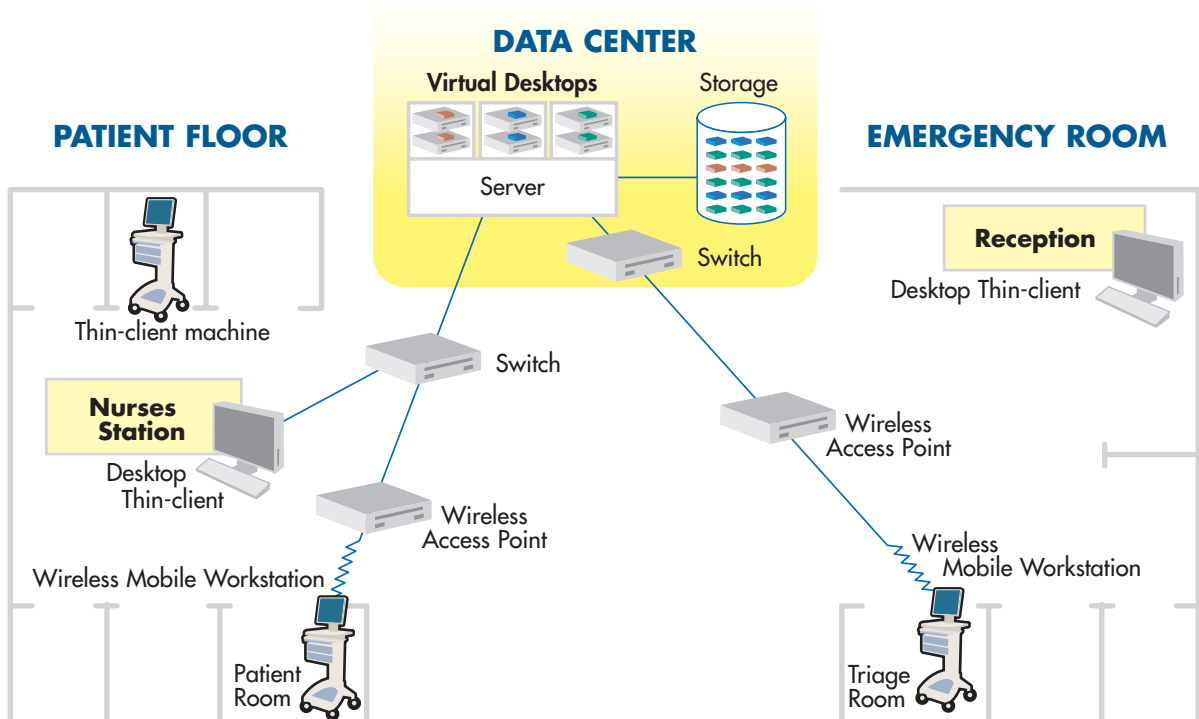
Advancements in hardware and software virtualization are creating new opportunities for IT and support professionals to more effectively manage the security of patient information and the uptime of the workstations. A single virtual server can house multiple, virtualized PCs in a centralized facility. The virtual PCs push the personalized desktops to the staff member who needs to access the information. IT now has more control over the environment in which these individual workstations operate for tighter security and higher productivity.

Since this integrated system can be deployed on a mobile workstation, caregivers can access their personalized workstations from any location throughout the facility. This mobility not only enables more efficient access to information, but also helps caregivers capture and record critical patient information, such as vital signs and medications given, right from the bedside. This eliminates medical errors and many wasted hours spent on transferring information from a clip board or sticky note to the computer and improves the accuracy of the patient information.

## How Does It Work?

When a user is ready to access their PC desktop, they simply insert their personal smart card into either a fixed or mobile thin-client workstation. The user is then prompted for a password. Within several seconds, their personal desktop appears on the thin-client's screen, ready to use. Once they are finished and ready to move on, they simply remove the smart card, and the screen goes blank ready for the next user's unique smart card to be inserted. In the hospital's data center, their desktop is still running, waiting on them to log in via their smart card to use again. Their data is backed up, secure and unavailable to others without proper access. The end result is fast access and secure patient information.

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## Conclusion:

Many healthcare providers are turning to Emtec for help in solving IT challenges. With a rich history of fusing leading edge technologies with expertise in business processes, Emtec is uniquely qualified to help caregivers get back to administering high quality patient care, and decreasing time spent on documentation, while giving IT leaders a means to more effectively manage security, compliance and uptime.

Aligned with key partners, Emtec experts can help your organization determine the right combination of technology and processes to help you improve efficiencies and provide quality patient care. Emtec experts understand not only the technology, but also the challenges you face on a daily basis. Emtec can provide a complete line of services from design to implementation and support as well as hardware and software components.

### The Emtec Benefit:

- Increase mobility of caregivers
- Reduce security risks
- Improve patient care
- Reduced costs

To learn more about how Emtec can help you, visit [www.emtecinc.com](http://www.emtecinc.com).