Implementing VDI:
Enhancing Patient Care While Reducing Costs

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How a busy New York hospital provides seamless user experience and simplified administration with VDI designed by CompuCom and powered by Wyse Cloud PCs, Wyse WSM, Leostream Connection Broker and Ensure Technologies' XyLoc workstation security solution.

Hospital Profile: An Industry Leader in a Demanding Urban Setting

This 600-plus bed hospital serves one of the country's largest metropolitan areas, with over 125,000 ER visits and over half a million clinic visits per year. Like many other hospitals its size, complying with HIPAA and HITECH regulations and supporting the staff to deliver quality patient care while operating within tight IT budgets is an everyday reality. The hospital IT leadership team chose an innovative and powerful virtual desktop infrastructure that simplified desktop and client administration while maintaining high standards for end-user experience and data security.

Goals: Stop Skyrocketing IT Costs While Improving Security and Compliance

The hospital IT leadership team understood that the costs associated with maintaining a large number of PCs was a major challenge on a tight IT budget. IT staff was constantly repairing, updating and troubleshooting PC issues. The IT leadership was also concerned about protecting patient data against accidental use or intentional theft. They decided that it was time for a new architecture, taking advantage of new technology. Four goals were established for the new architecture:

▶ **Staff Ease-of use:**
The desktop environment must offer simple, secure single sign-on access using proximity card authentication

▶ **Follow-me Access:**
When a user walks away from a client device, their desktop session must lock. When the user moves to a new room, their desktop session must follow them.

▶ **Availability:**
The staff must have access to a desktop even in the event of a server failure in the data center

▶ **Ease of Management:**
All components in the solution must be easily managed, from the client to the connection broker to the desktop.

Implementation: A Simplified, Cloud-based Solution

The team identified cloud client computing technology as an ideal way to reduce overall costs and achieve their goals. The hospital leadership team turned to IT outsourcing specialist CompuCom to design their VDI solution.

CompuCom combined products from Wyse, Leostream and Ensure Technologies along with VMware virtualization. The result: the medical staff roams freely about the facility while retaining access to their desktop. Patient data remains secure; and the IT staff easily manages desktops and clients.

> "I've managed the support operation for eight years, and because of this solution we now have a better performing, significantly more secure, flexible and adaptable environment. It's managed better, with fewer resources, and at a much lower cost."
>
> **Josh Gervey**
> *Managing Consultant/National Practice Director Enterprise Management Services, CompuCom*

Solution Details: Ease-of-use and Hands-free Authentication

Like many healthcare providers, this urban hospital had a mixed technology environment. In older parts of the facility, staff worked on legacy PCs running either Microsoft Windows XP or Windows 7 operating systems, while in newer areas, staff used Wyse Windows-based thin clients and Wyse cloud PCs to work on VMware-based virtual machines. Over time, all the PCs were replaced with Wyse cloud PCs and the Leostream™ Connection Broker was used to provide infrastructure integration, connection management, and

policy controls for the virtual desktop infrastructure. Redundant VMware vSphere servers and Leostream Connection Broker appliances were deployed, ensuring high availability and uptime.

The hospital chose the XyLoc™ proximity solution from Ensure Technologies to provide a secure method of authentication that is virtually hands-free. They considered passive proximity cards, fingerprint scanners and smart cards as suboptimal solutions for their clinical staff.

In the final architecture, Wyse WSM dynamically manages and provides the OS images for the cloud PCs, ensuring full performance for local functionality, yet minimizing management tasks. The XyLoc card recognizes authorized users as they approach the workstation and starts the login process for rapid access. The RFID credentials are passed to the Leostream Connection Broker, and Leostream policies configured for the hospital ensure that users receive their own desktops and files wherever they use a computer. The Leostream Connection Broker quickly retrieves the same desktop that the staff member used the last time they accessed the system, and is rready to display it by the time they arrive at the client device. That staff member immediately starts working on their desktop in the state they previously left it. No boot up, no log-in, no fishing for smart cards, and no need to de-glove for a fingerprint scan.

The ROI: $471,000 Saved and 1,600 Hours of Downtime Eliminated Yearly

After implementation, hospital IT management performed an ROI calculation to determine the cost benefit of the new VDI technology:

ROI Factor	ROI Calculation	Annual Cost Avoidance
Greater availability/ reduced downtime	Average of two hours per year spent maintaining and patching each PC; less than a few minutes on average for a cloud PC	With Wyse WSM and 800+ cloud PCs in place, savings of at least 1,600 hours of down time per year
Reduction in time spent administering systems and maintaining PCs	Technicians spend less time maintaining PCs or managing system images	Savings of five FTEs @ $70,000 each, for annual savings of $350,000
Reduced hardware and implementation costs	Purchasing and implementing each cloud PC costs $200 less than purchasing and implementing each standard PC	Savings of $20,000 for every 100 PCs replaced by cloud PCs, or $160,000 for 800 PCs replaced by cloud PCs. (Assumes $500 per PC pricing)
Longer life cycle: 10 years vs. 3 years	Buying three cycles of 800+ PCs vs. one cycle of 800 cloud PCs	Projected $960,000 savings over 10-year period for 800 cloud PCs. (Assumes $500 per PC pricing)
Reduction in time and resources spent addressing virus attacks	Typical expenditure per incident to remediate viruses: $25,000 for PCs, $0 for VDI. WSM automatically maintains clean central images for cloud PCs	Projected savings of up to $25K per year

Summary of Benefits

Properly implemented, a VDI technology is an ideal solution for an organization on a tight IT budget, providing:

- **Hands-free login for medical staff with a desktop session that follows them to a new client device**

- **Tighter security with self-service password reset**

- **Protection of confidential patient data**

- **Simplified IT: client devices no longer need individual maintenance; IT manages the master client image which is streamed to each client device**

- **Reduced costs allow investment in other IT innovations**

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