TELEMEDICINE

Transcend Distance with Telemedicine Solutions

Tuesday, August 30, 2011
1:00-2:00 pm CST
TODAY’S PRESENTERS

Bob Rossi
Vice President
CDW Healthcare

Bill Coe
Business Development Manager, Video Solutions
CDW

Neel Sheth
Senior Technology Infrastructure Analyst
University of Illinois Medical Center
Welcome

Bob Rossi
Vice President, CDW Healthcare
Agenda

• Introduction to CDW Healthcare
• Telemedicine definition, trends and drivers
• How telemedicine technology can help break through distance barriers
• University of Illinois Medical Center: snapshot of a successful telemedicine implementation
• Questions & answers
CDW HEALTHCARE OVERVIEW

• Leading provider of technology solutions and services focused exclusively on serving the healthcare marketplace

• Customers include more than 15,000 healthcare organizations nationwide – ranging from small physician practices to large hospital systems

• Dedicated account management team with deep healthcare expertise – includes technology solution architects and engineers

• Design customized solutions, assist customers with implementation and provide long-term management of those solutions

• Member of leading healthcare I.T. industry associations and GPOs including:
CDW Healthcare I.T. Solutions and Services

**Clinical Enablement**
- Telemedicine
- PACS
- Digital Signage

**Unified Communications**
- VoIP/Telephony
- Conferencing & Collaboration

**Infrastructure Optimization**
- Server Virtualization
- Storage Management
- Client Virtualization
- Power & Cooling Management

**Software Services**
- Core Software Management
- Software Installation
- CDW Software Asset Manager
- Dedicated Microsoft Practice

**Security**
- Gateway and Network
- Secure Remote Access
- Single Sign On Video Surveillance/Access Control

**Business Continuity**
- Backup/Recovery/Archiving
What Defines “Telemedicine”?

• Telemedicine (also referred to as "telehealth" or "e-health") allows health care professionals to evaluate, diagnose and treat patients in remote locations using telecommunications technology.

• Telemedicine enables patients in remote locations to access medical expertise quickly, efficiently and without travel.

“Telemedicine has the potential to make a difference in the lives of any Americans. In remote rural areas, where a patient and the closest health professional can be hundreds of miles apart, telemedicine can mean access to health care where little had been available before.”

– U.S. Dept. of Commerce, Health and Human Services
Snapshot: Telemedicine’s Popularity

- **46% of technology leaders** have one or more telemedicine programs in place, and 41% claim they'll have one up and running within the next 5 years.
  
  Source: 2011 HealthLeaders Media Industry Survey

- Healthcare practitioners are increasingly adopting **interactive video or video conferencing applications** for providing enhanced access to healthcare.
  
  Source: Frost & Sullivan

- Growth rates of video and web conferencing are expected to top **20% annually** during the next few years.
  
  Source: McKinsey
Drivers of Telemedicine Adoption

• **Need for remote care** – critical access hospitals in rural U.S. areas lag behind on quality of care, patient outcomes and technology adoption
  Source: Harvard School of Public Health Study

• **Shortage of practicing physicians** – 91,500 physicians will be required to meet the national deficit by 2020

• Rise of **mobile, remote monitoring and wireless sensor technologies**

• **Government funding** promoting technology adoption to improve care and cut costs
Telemedicine Overview

Bill Coe, Business Development Manager for Video Solutions, CDW
FOUR SHIFTS: CLINICAL SPECIALTY TALENT

**Time**: Content When You Are Ready

**Places**: Access from Anywhere

**Devices**: Best Experience on Any Device

**Content**: Relative Content, Easy to Consume
Mobile Consultation/Mobility/Video

- Video conference unit on mobile cart that can be moved into patients’ rooms or consultation rooms
- Physicians accessing data from tablets, iPhones or Android devices (all of which have video natively built in)
- Ability to capture video and share with appropriate parties – like you’ll hear from the University of Illinois Medical Center

Sharing of Video Documentation for Patients

- Library of videos on demand – information about surgeries, procedures or treatment ahead of time to increase comfort level
TELEMEDICINE – WHAT’S HOT (CONT’D)

Why mobility?

• Accelerates speed at which healthcare staff can access a particular individual within the organization

• Alternative to calling or paging

• Real-time status

• Faster ability to provide patient care
Why Video?

- A picture is worth a thousand words; video says it all
- “In person” experience
- 64% of communication is non-verbal\(^1\)
- One third of the human cortex is dedicated to vision\(^2\)

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\(^2\) Vision Group Research, FMRIB, University of Oxford, UK
A TYPICAL TELEMEDICINE DESIGN

- Allow Nurses and Doctors to Administer Patient Care from Anyplace, Anytime Through Secure Wireless Capabilities
- Enable Patients and Guests to Stay Connected Through Secure Connectivity
- Enable an Interoperable Healthcare Ecosystem Through a Flexible and Scalable Network
- Bring Connectivity to the Hospital’s Infrastructure Through Automation of Biomed Device Provisioning
- Meet Government and Industry Mandates Through A Regulatory Compliant Architecture
TOP BENEFITS OF TELEMEDICINE

- Breaks down distance barriers while saving travel costs and time spent away from the office
- Quicker response to patient needs – faster diagnosis and treatment
- Highly mobile, yet connected (with staff, specialist and patients) – promotes collaboration
- Educational – can capture and transmit surgery footage to train residents and peers remotely

65% of respondents said that the efficient exchange of information and expertise would be instrumental in effectively diagnosing and treating patients – with telehealth technologies as a promising solution to deliver both.

TYPICAL TELEMEDICINE REQUEST

• Need for video communications

• Healthcare organizations consolidating, becoming consortiums

• Want ability to converse “face to face” over distances

• Expert consultations – reach physicians at any location for diagnosis and treatment and collaboration

• Tap specialists from any location – reach specialists in a particular medical field
TELEMEDICINE IMPLEMENTATION – OVERALL PROCESS

• **Conduct Needs Analysis** – via phone or face-to-face
  o Work with customers to determine what problems they’re trying to solve, projects they’re working on
  o Requirements vary by healthcare contact – i.e. executive team, clinicians/physicians, I.T. staff

• **Recommend Right Technology** – identify telemedicine technologies to help healthcare facilities address the issues uncovered in the needs analysis

• **Build the Solution** – configure, deliver and support the best-fit telemedicine solution to meet the customer’s goals and budget
CDW HEALTHCARE’S VIDEO READINESS ASSESSMENT

- Looks at network objectively – not tied into any one vendor solution – free to devise what works best for customer
- Evaluates from both LAN and WAN
  - Have enough bandwidth?
  - Quality of service mechanisms?
  - Foundation to support desired video?
- Fee-based assessment – CDW team comes onsite to place non-intrusive probes on the network to gather raw data
  - Is it a healthy network?
  - Experiencing latency?
  - Dropping data as it flows?
- Generates physical report; CDW reviews with customer and makes detailed technology recommendations based on assessment findings
1. Look at your #1 use case
   - Driven from Physicians? Nurses? Patients? Other?

2. Ask yourself what issues you’re trying to solve with the technology
   - Remote care?
   - Need for mobility?
   - Consultation with other organizations?
   - Time and cost savings?

3. Anticipate the evolution of your technology life cycle – have a long-term vision of what you’d like to achieve and put technology in place today to help you get there
Telemedicine Case Study: University of Illinois Medical Center (UIMC)

Neel Sheth, Senior Technology Infrastructure Analyst, UIMC
About University of Illinois Medical Center

• Includes a 496-bed tertiary hospital, an outpatient facility, specialty clinics, the College of Medicine and 5 other health science colleges including Applied Health Sciences, Dentistry, Pharmacy, Public Health, and Nursing

• All are part of the University of Illinois campus on Chicago’s near southwest side, in the heart of the Medical District

• UIMC remains among the nation's leaders in patient care developments changing medicine for the better, including minimally invasive surgery, live donor transplants and patient safety

UIMC is proud to honor the 123 distinguished physicians and surgeons who were voted The Best Doctors in America and America’s Top Doctors by their peers
UIMC steps into the telemedicine spotlight

Challenge

• 2009 – quickly needed a way to transmit live surgery video into the annual Clinical Robotics Surgery Association (CRSA) conference

• 2010 – wanted to permanently leverage telemedicine technology used at CRSA for future conferences – primarily for teaching and education

• Wanted to extend telemedicine from Operating Rooms to Emergency Rooms and beyond
UIMC embraces technology upgrades

Solution – telemedicine takes off

• Met an 8 week deadline for CRSA conference – temporary Cisco components were installed, tested and ready to use one week prior

• Positive experience opened the door for a more permanent telemedicine solution

• Partnered with CDW Healthcare to meet ongoing requirements; continued with Cisco equipment per validation

• Planning process took 3 months; installation required 4 weeks

• Installed endpoints in 2 ORs and created overall infrastructure to support telemedicine

• Rolled out Cisco TelePresence technology in ERs to diagnose stroke patients remotely
UIMC embraces technology upgrades

Solution – the components

- Technologies comprising the telemedicine solution included:
  - Cisco Video Communication Server (VCS)
  - Cisco Video Communication Server Expressway (VCS-Expressway)
  - Cisco TelePresence Management Suite (TMS) – included licenses for Cisco TelePresence Movi Software
  - Cisco TelePresence Content Server (TCS)
  - Cisco TelePresence MSE 8000 (Media Conferencing Unit)
  - Cisco TelePresence C Series Videoconferencing Endpoints (in the ORs)
  - Cisco TelePresence Clinical Presence System (CPS) (in the ER)

- Purchased Cisco video infrastructure and endpoints through CDW Healthcare – for centralized management and one-stop resource
UIMC benefits from telemedicine adoption

Results – where we are today

• OR – Telemedicine used as a valuable teaching tool to educate peers and residents via the da Vinci robot tool

• ER – Neurologists use Cisco TelePresence technology to view ER stroke patients
  • Time to treat the patients is the same as being on site
  • Decision making using Audio/Video is superior than Audio alone
  • Future plans to utilize this technology for training Fellows and discharge training for Residents

• Solution is expanding across the UIMC campus

• Now working to expand solution – add new video components, streamline functionality for users and integrate additional video feeds
UIMC benefits from telemedicine adoption

A look ahead...

• CDW Healthcare is helping to plan a full VoIP deployment that will tie to UIMC’s telemedicine solution
  • Integrate UIMC’s enterprise VoIP department with enterprise video infrastructure for total voice/video access
  • Video phones in clinical areas/nurses’ stations
  • Future plans revolving around Unified Communications
UIMC shares lessons learned

Tips for a successful telemedicine implementation

• **Plan and spec out ahead of time.** Set your requirements and secure a proposal. Then budget for that solution accordingly, rather than try to fit a solution into a fixed budget.

• **Be prepared.** Have a support structure in place to deal with user calls and questions – and you will get them!

• **Provide documentation.** User guides and manuals are key. Walk users through how to use the applications in central and remote locations.

• **Realize there’s a learning curve.** It will take end-users time to get familiar with the technology. But encourage them to use it – the more they do, the faster they will become proficient and the sooner they will adopt it.
Questions and Answers

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