Mobilizing Healthcare: Enabling the Digital Clinical Workspace™

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HillSouth
Agenda

• Key trends we see in Healthcare
• VMware Healthcare Solutions
• Why VMware
• Questions
Today’s workforce is on the move

Employees want to be able to access corporate data, applications and online resources across more devices and locations.

Fortune 1000 companies around the globe are entirely revamping their space around the fact that employees are not at their desk 50-60% of the time.

Source: Global Workplace Analytics, September 2015
Supporting this can be challenging

Supporting workplace mobility, minimizing security risks, maintaining compliance is a challenge for IT teams.

- App failure costs >$100K in productivity loss
  - **Ponemon Group 2015**

- App Failure Rate is 12%
  - **VMware customers**

- Average Cost of a Data Breach in 2015 was $3.79M
  - **IBM and Ponemon Group 2015**

- Ave Time to Image a Physical Device is 1 hr
  - **VMware customers**
Make the Move to Desktop and Application Virtualization

- Simplify Desktop and App Management
- Secure Data and Improve Compliance
- Drive Down Costs
We know you have a lot to do
PHYSICIAN EXPERIENCE

The right access, at the right time, to the right provider, in a single and familiar workspace.
• New generation of providers that demand to use mobile technologies in daily workflows
• Competition to attract the best physicians and their patients
• PHI must be secure – but easily accessible
PATIENTS

• Patient Satisfaction also a critical indicator
• Leading hospitals incorporating tablet devices into patient experience
• IT having to secure and support even broader environment
New models of delivering IT

- Hospitals providing IT services:
  - Clinics
  - Practices
  - Secondary care
- Large M&A projects
It's critically important for IT folks to have "an acute sensitivity to clinical workflows and the end-user."

When Projects Fail…
Projects fail when they don’t meet the goals of the users

Healthcare IT News

IT blamed in Athens EHR debacle
It's critically important for IT folks to have "an acute sensitivity to clinical workflows and the end-user."
7:00AM
Dr. Marina logs into her MacBook to check her patient list for the day and accessing the hospital’s EMR system.

11:30PM
Dr. Marina gets a call from a patient who slipped and injured herself. Using her MacBook, she accesses the digital image and consults online with an orthopedic surgeon to decide if the bone is not broken. She advises avoiding a trip to the hospital.

2:30PM
Dr. Marina uses her ID badge to log into a shared clinical workstation in her recently admitted patient’s room and immediately shares the scan results.

12:30PM
Clicking on the link in her email alert, Dr. Marina is able to immediately access her EMR app and view the latest scan.

8:30AM
At the hospital, Dr. Marina taps her ID badge on the integrated card reader at her office workstation and immediately resumes her EMR session and prepares for rounds.

10:30AM
Dr. Marina grabs an iPad and logs in with her credentials. She is able to engage a patient in their treatment plan at bedside, showing them their latest lab result.

12:15PM
While at lunch in the cafeteria, Dr. Marina gets an alert on her mobile phone that a new test result is available for her recently admitted patient.
Achieving Convergence for Endpoints
To Achieve Key Outcomes

The Digital Clinical Workspace™

- Optimize Workflows for Shared Clinical Workstations
- Enable Mobile Clinician Workflows
- Improve Patient Engagement Through Mobile Devices
- Ensure Security, Compliance and Management
Video

- https://www.youtube.com/watch?v=mGthcuEWzgo
Optimize Shared Clinical Workstations

- Tap Turn and Treat Workflows
- AlwaysOn Access
- Consistent User Experience
- Save time for every provider
Enable Mobile Clinical Workflows

• Remote access to patient information
• Any device, any where
• Content – Windows, web, native, email, docs
• Ownership – BYO, hospital owned
• Locations – Hospital, community, home
• Rugged devices
Ensure Security, Compliance and Management

- Ensure HIPAA Compliance
- Protect Patient Privacy
- Maximize Data Loss Prevention
- Automate Monitoring
- View Detailed Reporting
Saves a maximum of 10 minutes per hour – up to an hour.

Amy Pound, Director of Medical Student Education
ED University Hospitals of Cleveland
Another young cardiologist has recounted how he sits in his family room on weekends watching football, logging in at half time to review echocardiograms on his plasma screen television before returning to second half action.

Brad Clegg, DO CMIO
Metro Health
With VDI, UH’s help desk is better able to support its users. Users can just log off, and while they are logged off, the system will automatically build them a new VM. Approximately 60 percent of issues are resolved.

Dennis Wilson, Manager of Virtual Desktop Infrastructure
University Hospitals of Cleveland
One of the really cool things about access from anywhere is that many of our doctors now leave the office at 5 o’clock every day... it is shifting where they do their work.

Brad Clegg, DO CMIO
Metro Health
VMware Healthcare Solutions
VMware End-User Computing Solutions Bridge Two Worlds
VMware Workspace ONE
Enabling the Digital Clinical Workspace

- Consistent Access Experience
- Any Device – User enrollment
- Secure Conditional Access
- Secure Email
VMware NSX

Secure networking thread throughout VMware solutions

- Security
- Automation
- Application Continuity
- Undefined

SDDC

NSX

SECURITY

IT AUTOMATION

APPLICATION CONTINUITY

- Micro-segmentation
- IT Automating IT
- Disaster Recovery

- Secure User Environments
- Developer Cloud
- Metro Pooling

- DMZ Anywhere
- Multi-tenant Cloud
- Hybrid Cloud Networking
VMware NSX for Mobile Device Security

Device Level VPN
Full Network Access

App Level VPN
Full Network Access

App Level VPN
Select Network Access
Fearless Innovators

Compute Virtualization | Network Virtualization | Software-Defined Storage | Hybrid Cloud | Intrinsic Security | Mobile Workspace
Hybrid-Cloud-Ready Platform

Leverage single pane of glass to manage on prem and cloud services

Deliver desktops to best meet the needs of end users

Easily move your on prem desktops to the cloud and back again with unprecedented flexibility
Analyst View

VMware Tops all other vendors in both categories, strategies and capabilities.

Source: IDC 2015
# VMware Architecture for Healthcare IT

**One Cloud, Any App, Any Device**

## Any Device

<table>
<thead>
<tr>
<th>Healthcare Mobility: Applications</th>
<th>Devices</th>
<th>Content</th>
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## Any Application

<table>
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<tr>
<th>Any Application</th>
<th>Windows</th>
<th>Web</th>
<th>Mobile Native</th>
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## One Cloud

**Cloud Management**

- **HYBRID CLOUD**
  - PRIVATE
  - MANAGED
  - PUBLIC
  - vCloud Air

**Software-Defined Data Center**

- Virtualized Compute, Network, Storage

**Build-Your-Own**

**Converged Infrastructure**

**Hyper-Converged Infrastructure**
To Achieve Key Outcomes

- Optimize Workflows for Shared Clinical Workstations
- Improve Patient Engagement Through Mobile Devices
- Enable Mobile Clinician Workflows
- Ensure Security, Compliance and Management

The Digital Clinical Workspace™
Integration & choice that increase flexibility, scale and performance while reducing TCO

- Incorporates latest VMware Horizon View releases for optimal functionality
- Complete range of components, from thin/zero clients to data center infrastructure, designed to work together seamlessly
- Detailed Reference Architecture reduces deployment and management time with detailed technology and deployment guidance
- Removes the burden of extensive design and configuration, delivering a right-sized, scalable solution
- Designed to start small, scaling to 50,000 seats
Examples of Thin Computing Devices

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<thead>
<tr>
<th></th>
<th>Zero Client</th>
<th>Thin Client</th>
<th>Mobile Thin Client</th>
<th>Cloud Desktop</th>
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<tbody>
<tr>
<td>Powerful</td>
<td>P25/P45</td>
<td>Xenith Pro 2</td>
<td>Z class</td>
<td>14” Xm class</td>
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<td></td>
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<td>X and Z class</td>
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<tr>
<td>Mainstream</td>
<td>Xenith 2</td>
<td>D class</td>
<td>11.6” Xc class</td>
<td>D class</td>
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</tr>
<tr>
<td>Value</td>
<td>E class (for WMS)</td>
<td>T class</td>
<td></td>
<td>Cloud Connect</td>
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Performance

Flexibility

Note: VMware logo is present at the bottom right of the image.