High Performance Collaborative Care
Centricity PACS Customer Webinar
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DESCRIPTIONS OF FUTURE FUNCTIONALITY REFLECT CURRENT PRODUCT DIRECTION, ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT CONSTITUTE A COMMITMENT TO PROVIDE SPECIFIC FUNCTIONALITY. TIMING AND AVAILABILITY REMAIN AT GE’S DISCRETION AND ARE SUBJECT TO CHANGE AND APPLICABLE REGULATORY CLEARANCE.

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General Electric Company, by and through its GE Healthcare division.
Agenda

• Centricity Clinical Archive
• Universal Viewer for Centricity PACS
• Centricity Radiology Mobile Access
• Q&A
Presenters – GE Healthcare IT

Dennis Schiraldi
Field Marketing Manager

Cody Bunce
US Marketing Manager

Lawrence White
Sr. Region Product Marketing Manager

Tom Zimmerman
Sr. Region Product Marketing Manager
Healthcare Business Challenges
Healthcare is evolving to a more patient-centric, outcomes-focused model

Industry shift toward Integrated Care means new healthcare delivery ecosystems are required

Silos of data; Hospital-centric; Closed systems
• Hospital
• Ambulatory
• Payer
• Consumer

Work flow & analytics focus; Support of distributed care; Open & interoperable
It’s time to transform Imaging solutions

From complex information silos...

Radiologist
Best of breed tools

Department
Integrated solution

Enterprise
Standards-based platform

Community
Collaboration suite

Specialized
Connected
Open
Dynamic

...to integrated, user-friendly workflows that enable enterprise and community collaboration.
Powered by new technologies and business models...

Multidisciplinary
Image & Workflow sharing

Intelligent
Analytics & Machine learning

Vendor Neutral
Platform

Diagnostic
Advanced visualization

Regional
Cloud & Managed services

Mobile & Social
Applications\(^1\)

\(^1\) – FOR UNIVERSAL VIEWER SPECIFIC - DESCRIPTIONS OF FUTURE FUNCTIONALITY REFLECT CURRENT PRODUCT DIRECTION, ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT CONSTITUTE A COMMITMENT TO PROVIDE SPECIFIC FUNCTIONALITY. TIMING AND AVAILABILITY REMAIN AT GE’S DISCRETION AND ARE SUBJECT TO CHANGE AND APPLICABLE REGULATORY APPROVALS.
GE Healthcare

Centricity* Clinical Archive

A clinical vendor neutral solution\(^1\), that unifies patient images and documents across the care continuum.

Presenter Name:
Title: Cody Bunce
A seismic shift in healthcare delivery...

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Episodic, single-patient care</td>
<td>Continuous population management</td>
</tr>
<tr>
<td>Provider-centric</td>
<td>Patient-centric</td>
</tr>
<tr>
<td>Fee-for-service</td>
<td>Payment for value</td>
</tr>
<tr>
<td>Silos</td>
<td>Systems</td>
</tr>
</tbody>
</table>
...translates into fast evolution to integrated, collaborative care

Today  

Workflow & analytics focus  
Supports distributed care  
Open & interoperable

Tomorrow

Evidence-based care  
Patient engagement  
Population health

Quality measurement & improvement  
Outcome driven  
Care coordination workflows

Patient

Silos of data  
Hospital-centric  
Closed systems

Payer  
Hospital  
Ambulatory  
Patient
Introducing Centricity Clinical Archive
Break department silos and share information

**Connect**
Break departmental silos to consolidate clinical data

- Unify imaging and department IT archives
- Take greater control of information access

**Share**
Make information available to care provider

- Link data across multi-vendor ‘ologies
- Enable seamless access across the network

**Benefits**
- Helps reduce cost of information management
- Helps avoid costly patient transfers
- Helps reduce duplicate exams
- Helps make informed decisions
- Helps improve patient experience

*Imagination at work*
Delivering a patient centric model for data consolidation and sharing

Information Sharing
- Single interface to the EMR
- Single, multi-ology viewer
- ZFP: no download, browser agnostic, no admin rights

Infrastructure Sharing
- Centralized information archive
- Information life cycle management
- Data security & access safeguards
- Scalable for future needs
- Disaster Recovery

Specialized solution for department efficiency & productivity
Centricity Clinical Archive
Unify patient images and documents across the care continuum

Enterprise EMR

Interface with the EMR

Enterprise Imaging Initiative

Full EMR, Data Warehouse; ED, Amb, OP
Structured Templates, CDSS
Closed-loop medication
CPOE, CDS
Flow sheets, CDSS (error chk)
CDR, CDS, HIE capable
Lab, Pharmacy

Interoperability

Always efficient

Endoscopy
Pathology
Oncology
Radiology
Cardiology
Wound Care

Enterprise Imaging

Imagination at work
Structured for multi-level adoption

Infrastructure and Information Sharing

Departmental Archive
- DICOM Archive
  - Level 1 (DICOM)
    - Independence of PACS application

Enterprise DICOM Archive
- Multi-PACS, cardiology
  - Level 2 (DICOM)
    - Imaging consolidation across enterprise

Enterprise Multi-specialty Archive
- Connecting to ‘ologies, enterprise registry
  - Level 3 (+XDS)
    - Enterprise-wide clinical data consolidation

Multi-institution Patient Information Management
- Multi-PID, patient consent, gateway to image exchange
  - Level 4 (+XDS)
    - Cross-enterprise patient repository & sharing
Standards based extensible solution

DICOM level 2 VNA: Share patient images & reports

1. Departments create images and reports

- Radiology
- Cardiology
- Oncology
- ED
- OBGYN

2. Store images and reports

- DICOM Repository

- Universal Viewer

Legend:
- CCA components
- Edge systems
Standards based extensible solution
Level 4 VNA: Share patient data across enterprises

1. Departments create images and documents
   - Rad/Card
   - Ophthalmology
   - Pathology
   - scopes
   - Plastics

2. Store images, documents and then registers them
   - DICOM Sources/
   - XDS sources

3. Query registry and view content
   - Universal Viewer
   - Connectivity components
     (messages & devices)
   - EMPI
   - XDS Registry

Legend
- CCA components
- Edge systems

Centricity Clinical Archive overview
3/15/2013
Experience across the globe

**Neutrality**
- Connected to Agfa, Carestream, McKesson, Sectra, Siemens, Phillips, Ramsoft
- Multidimensional (format, storage, access)

**South Western Ontario**
VNA & workflow sharing

**Cloud friendly**
- Cloud based archive and PACS
- Pay as you go
- Hosted environment

**Ile De France**
Cloud PACS + results sharing

**Scalability**
- 60 M studies
- 3 Bn images
- 1 Petabyte

**LSP, England**
Very large archive

**Standards**
- XDS infrastructure
- GE active member of standardization

**VGR, Sweden**
VNA + results sharing
Universal Viewer.
Where it all comes together.
Reducing inefficiency and costs is a must

Radiology revenue is under pressure
From fee-for-service, duplicate exams...to pay-for-performance, appropriate imaging

Inefficiencies absorb more than 30 minutes per day, per radiologist¹
- Impacts turnaround time
- Increases costs

Information silos + disjointed workflows = higher costs

1- Source: ACR Metrix 2012 Health Economics Study sponsored by GE Healthcare

¹- DOC1288397
Centricity PACS with Universal Viewer

Snapshot

Centricity PACS-IW with Universal Viewer puts clinical insight within reach to help care teams and healthcare systems deliver patient results efficiently.

Key Workflow Capabilities

Unified, web-based PACS with:

• **Advanced Visualization Applications** powered by AW
• **Breast Imaging**, including screening and diagnostic capabilities
• **Intelligent Productivity Tools**, including smart reading protocols
• Enhanced usability and anywhere access\(^1\) with an ergonomic user interface available as zero footprint and web clients
• **High system performance** with bandwidth-adjusting streaming technology

\(^{1}\) Where internet access is available
Universal Viewer provides an enhanced imaging workflow

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using separate systems to perform post-processing</td>
<td>Images displayed rapidly on the same system</td>
</tr>
<tr>
<td>Adjusting hanging protocols for each study with manual configuration</td>
<td>Having the system learn your hanging protocols preferences</td>
</tr>
<tr>
<td>Read and store breast images in a separate “mini-PACS”</td>
<td>Consolidated record for radiologists &amp; referring physicians</td>
</tr>
<tr>
<td>Sending CDs to referring physicians</td>
<td>Enabling direct access to all images and data</td>
</tr>
<tr>
<td>Many tools, limited utilization</td>
<td>Single solution, unified user interface, greater adoption</td>
</tr>
</tbody>
</table>
Centricity PACS with Universal Viewer

Features overview
Universal Viewer features
Putting clinical insight within reach to help deliver patient results efficiently

Advanced visualization apps
- PET/CT
- Vessel analysis
- Bone removal
- Oncology work flow embedded in viewports
- Preprocessing
- Registrations

Breast imaging workflow
- Screening and diagnostic workflows
- Mammo with tomo reading tools
- CESM in reading protocols
- Multi-modality reading

Intelligent productivity tools
- Evaluate data & suggest the most appropriate method for a study to be hung with smart reading protocols
- Automatically launch advanced application in the proper viewport with preprocessed images
- Automatically obtain data from outside PACS and VNA systems

Enhanced usability & access
- Consistent UI and tools for all applications
- Supports RIS-driven workflows and interoperability
- Full access to patient images through an EMR, PACS or image archive
- Web or zero footprint applications
- Runs on commercially available PCs, Apple Mac, tablets, etc.
Advanced visualization applications

Native MIP/MPR, native PET-CT included with the system

Embedded clinical tools powered by Advantage Workstation (AW)

Auto Pre-processing
Volume Viewer
Integrated Registration
OncoQuant
Autobone
Breast imaging
Screening and diagnostic capabilities with support for Tomo

- User selects one or multiple studies in the PACS study list
- PACS HP recognizes the presence of MG and displays in mammo viewport
- MG HP is applied within the mammo viewport
- PACS launches non-MG exam in Universal Viewer per HP
- Annotations applied in Mammo viewer are saved to PACS
- X-Keys X24 keypad support allows user to use keypad navigation to next patient in PACS
- Standard keypad support within MG viewer
Universal Viewer
Intelligent tools, smart reading protocols

- **Smart Reading Protocols** intelligently evaluate exam data & suggest the most appropriate method for a study to be hung
- Embedded in the viewer requiring less exam setup with automatic launch of advanced applications and pre-processed images in the proper viewport
- System **learns** from a broader range of situations over time, helping to improve productivity.
- Helps to reduce mouse clicks.
- Developed in GE’s Global Research Center
Anywhere access\textsuperscript{1}

Ergonomic, intuitive user interface

Zero footprint viewing\textsuperscript{2} for enterprise-wide clinician access

- Microsoft Internet Explorer\textsuperscript{®}
- Mozilla Firefox\textsuperscript{®}
- Apple Safari\textsuperscript{®}
- Google Chrome\textsuperscript{™}

\textsuperscript{1} - Where there is an internet connection available.
\textsuperscript{2} - For non-diagnostic use.
Centricity PACS with Universal Viewer Upgrade Path

Legend:
- S2L and L2L imply HW refresh
- Rebaseline implies reuse of existing HW
Universal Viewer summary

- Unified, web-based PACS with advanced visualization
- Advanced clinical applications for oncology and breast imaging
- Exceptional usability and anywhere access
- Comprehensive services for implementation, data migration, support, and training
- High system performance with bandwidth-adjusting streaming technology

Putting clinical insight within reach to deliver patient results efficiently.
Mobile access may enable new levels of care delivery

• No longer tethered to workstations or even mobile carts, clinicians can have anywhere, anytime access\(^1\) to patient data on mobile devices, which represents a tremendous opportunity to increase efficiency, productivity, and the quality of care.

• Mobile access to PACS images and reports represents a fundamental shift in how healthcare can be delivered.

\(^1\) where there is internet access available
# Physicians are adopting smart devices

## Use of smartphones among U.S. physicians

<table>
<thead>
<tr>
<th>Profession</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians Assistants</td>
<td>41%</td>
</tr>
<tr>
<td>Emergency Room Physicians</td>
<td>40%</td>
</tr>
<tr>
<td>Cardiologists</td>
<td>33%</td>
</tr>
<tr>
<td>Urologists</td>
<td>31%</td>
</tr>
<tr>
<td>Nephrologists</td>
<td>31%</td>
</tr>
<tr>
<td>Dermatologists</td>
<td>30%</td>
</tr>
<tr>
<td>Gastroenterologists</td>
<td>30%</td>
</tr>
<tr>
<td>Psychiatrists</td>
<td>28%</td>
</tr>
<tr>
<td>Optometrists</td>
<td>28%</td>
</tr>
<tr>
<td>Radiologists</td>
<td>24%</td>
</tr>
<tr>
<td>Rheumatologists</td>
<td>22%</td>
</tr>
<tr>
<td>Endocrinologists</td>
<td>21%</td>
</tr>
<tr>
<td>Oncologists</td>
<td>20%</td>
</tr>
<tr>
<td>Clinical Pathologists</td>
<td>16%</td>
</tr>
</tbody>
</table>

- 22% of doctors in the U.S. were using iPads at end of 2010
- 80% of doctors planned to buy an iPad in 2011
- 75% of doctors in the U.S. own an Apple device (iPhone, iPad or iPod)

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2. Chilmark Research
3. Aptilon Market Research
4. Manhattan Research
Industry overview

IOS and Android dominate mobile OS market

Centricity Radiology Mobile Access 3.1

- Centricity Radiology Mobile Access 3.1 provides physicians with **quick, mobile access** to radiology studies impacting workflow productivity

- **Native application** that runs on an Apple or Android mobile device providing access to images and reports residing on Centricity PACS and Centricity Enterprise Archive
Configuration

Secure, efficient healthcare delivery

Centricity PACS

AccessNOW

3G
4G
WiFi

imagination at work

GEHC Proprietary & Confidential
Centricity Radiology Mobile Access 3.1 key features

• a tool to help educate patients
• a tool for quick access to information
• a tool to facilitate time critical consultations
• a tool to facilitate timely collaboration
## Centricity Radiology Mobile Access 3.1 opportunities for use

<table>
<thead>
<tr>
<th>USE CASE</th>
<th>DEPARTMENT</th>
<th>DAY / TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tele-Health Programs (i.e. Stroke)</td>
<td>Neuro</td>
<td>Any Day / Time</td>
</tr>
<tr>
<td>ICU/ED/Clinic Patient meetings: clinician showing patient results</td>
<td>Inpatient / Outpatient / ED</td>
<td>Any Day / time</td>
</tr>
<tr>
<td>Resident to Staff Radiologist: Collaborating with staff radiologists with minimal disruption</td>
<td>Radiology / ED</td>
<td>Any Day / time</td>
</tr>
<tr>
<td>Seeking Expert Opinion (Clinician/Surgeon to Radiologist)</td>
<td>Surgery / Outpatient</td>
<td>Weekday – business hours</td>
</tr>
<tr>
<td>Referring Physician</td>
<td>Enterprise / Physician Office</td>
<td>Any Day / time</td>
</tr>
<tr>
<td>Peer-to-peer consultation (Radiologist to Radiologist)</td>
<td>Radiology (Review)</td>
<td>Weekend / After hours</td>
</tr>
<tr>
<td>Radiologist original reads</td>
<td>Radiology (Diagnosis)</td>
<td>Any Day / time</td>
</tr>
</tbody>
</table>
CRMA Demo Access www.gehealthcare.com

Centricity Radiology Mobile Access (CRMA) helps you support secure, efficient healthcare delivery with true anytime, anywhere access to images and reports from Centricity PACS. The AccessNOW application supports a broad range of modalities with 2D, 3D, and MIP/MPR capabilities.

The AccessNOW application communicates with a CRMA server that is an optional component of GE Healthcare Centricity PACS. Please contact your local radiology system administrator for availability of a CRMA server at your facility.

- Download now for iOS devices from Apple App Store
- Download now for Android devices from Google Play

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Q&A – Thank You for Participating!