IHE
An Introduction for Radiation Oncology

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  ➢ How available is IHE?
➢ Paul Nagy Ph. D.
  ➢ What can IHE do for you?

SCAR 2003

What is IHE?

Initiative promoting and supporting the integration of systems in the healthcare enterprise

Improve the efficiency and effectiveness of clinical practice by improving information flow

What is IHE?

➢ Standards based communication between systems

➢ Actors: perform communications roles between systems

➢ Transactions: messages sent between systems

➢ Integration Profiles: grouping of actors and transactions to perform specific workflows

   ➢ Scheduled workflow

IHE Connectathon - Results

IHE North America Connectathon 2002

Categories (column groups): Scheduled Workflow | Patient Information Reconciliation | Consistent Presentation of Images | Presentation of Grouped Procedures | Key Image Note | Simple Image and Numeric Report | Access to Radiology Information | Post-Proc.* | Charge Posting | Basic Security

Companies (rows):
- Agfa HealthCare
- Algotec Systems, Inc.
- CaronMedica Systems
- Cedara Software Corporation
- Cerner Corporation
- CMSI
- Eastman Kodak Company
- Emageon
- Fujifilm Medical Systems USA
- GE Medical Systems
- Hitachi Medical Corporation
- Hologic, Inc.
- IDX Systems Corporation
- IMCO Technologies
- Instrumentarium Imaging
- Konica Medical Imaging, Inc.
- Marotech, Inc.
- McKesson Information Solutions
- Medcon
- Medical Manager Health Systems
- Mediface Co., Ltd.
- Merge eFilm
- Mitra Imaging, Inc.
- Philips Medical Systems
- RASNA Imaging Systems
- Siemens Medical Solutions
- Softmedical
- Stentor, Inc.
- Storcomm, Inc.
- Swissray International, Inc.
- Tiani Medgraph AG
- Toshiba America Medical Systems
- UltraVisual Medical Systems
- Vital Images, Inc.
- Voxar Limited

The IHE Connectathon

Supervised by Sponsor Organizations:

- IHE is not only "paper"
- Engage Vendors : commit to cooperation
- Synchronize Implementations
- Checks quality of Technical Framework
- Unique opportunity to test in non clinical
- Demonstrates coverage for vendor

Actual systems interacting
                              with real IHE transactions

Finding about IHE Products

- IHE introduced at RSNA 2002 the means to effectively communicate about IHE Capabilities in Products:

The IHE Integration Statement.

- A means for **<u>vendors</u>** to state explicitly the integration capabilities of each one of their products.

- A means for **<u>users</u>** to find-out, compare, and hold vendors responsible to meet their IHE Commitment.

A Product needs an IHE Integration Statement

IHE Integration Statement

Vendor	Product Name	Version	Pub. Date
Any Medical Systems	Great PACS	V1.0	26 Nov 2002

This product supports:

Integration Profiles	Actors	Options Implemented or available
Scheduled Workflow	**Image Manager/Image Archive (includes an Image Display)**	*none*
Patient Information Reconciliation	**Image Manager/Image Archive**	*none*
Acces to Radiology Information	**Image Manager**	*none*

Link to vendor IHE page	any.com/ihe

Links to Standards Conformance Statements of the Implementation

DICOM	any.com/dicom

For general Information on IHE	www.rsna.com/ihe or www.ihe-europe.org

IHE Product Mix

Based on IHE Integration Statements referenced on June 2003 from those 9 vendors, **74 products**:

- Modalities: 53 (CT, MR, US, X-Ray, NM)
- PACS: 5 products
- Printers   4 products
- Wrkstn/Web: 9 products
- RIS: 2 Products
- HIS   1 Product

IHE Profile Mix

Based on IHE Integration Statements referenced from those 74 products from 8 vendors :

IHE INTEGRATION PROFILES	# Products
▪ Scheduled Workflow	71
▪ Patient Info Reconciliation	57
▪ Consistent Presentation of Images	31
▪ Presentation of Grouped Procedures	5
▪ Key Image Notes	3
▪ Simple Image and Numeric Reports	4
▪ Access to Radiology Info	10
▪ Basic Security	2
▪ Charge Posting	0
▪ Post-Processing Workflow	0

Where can we take RT?

- Integration with the world outside RT
  - Scheduling
  - Billing
  - Combined Modality Treatment
- Move from Communication to Process!

IHE is easier than DICOM

- And more reliable

- IHE sits atop DICOM and HL7

- Is more stringent in mandatory fields to enable workflow

Scheduled Workflow Benefits

- Reduced Manual Data Entry
  - Increased efficiency, decreased error rates
- Digital Scheduling, Tracking & Data
  - Managed workflow
  - Order loop closure, better billing
  - Paperless
    - Up to the minute status, distributed access
  - Filmless
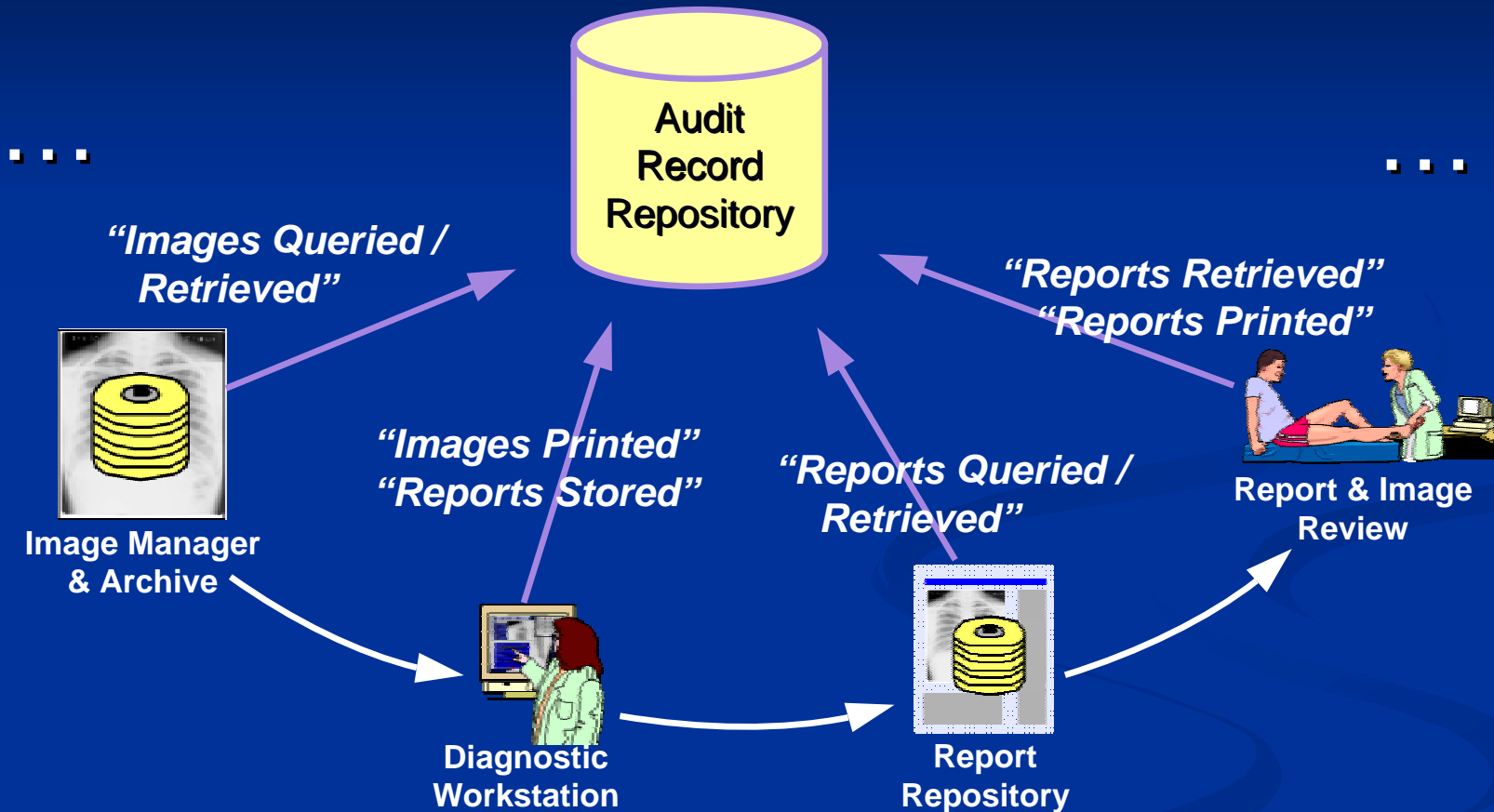   - Rapid distribution, rapid access
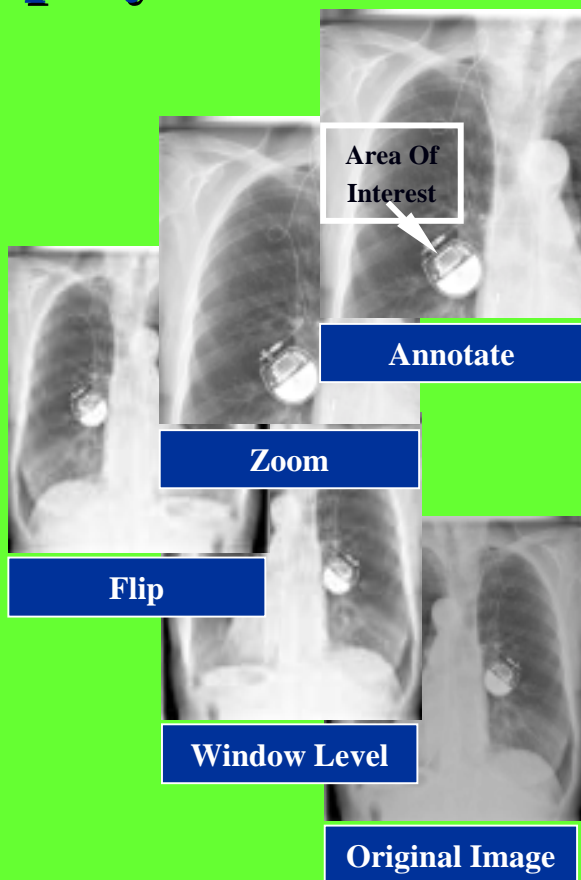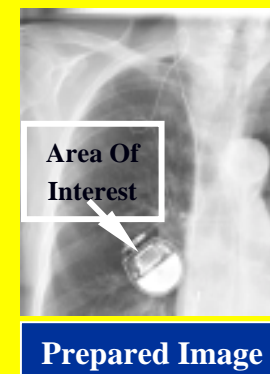
Consistent Presentation of Images Benefits

- More Consistent Views
  - Referring sees same thing as Radiologist
  - Softcopy matches Hardcopy
- Less Work
  - don't have to repeat manipulations
  - don't have to calibrate every imaging device to every display device

Basic Security Profile

Basic Security Benefits

- Centralized Activity Auditing
    - Monitor/Audit HIPAA policy conformance
    - Measure Departmental performance
- Improved Security