

# Achieving Interoperability Across Disparate Diagnostic Imaging Systems (Including RIS/PACS)



**Lorraine Fernandes, RHIA**

Vice President, Healthcare Industry Ambassador  
Initiate Systems, Inc.  
lfernandes@initiatesystems.com

**Cherie Kennedy**

ANZ Health Practice Leader  
Initiate Systems, Inc.  
ckennedy@initiatesystems.com

1 September 2008



# Background

- ▶ Billions being spent globally for DI/RIS/PACS systems as part of Electronic Health Record strategy
  - Canada Health Infoway spending 280M+ Canadian
  - NHS investing £627
  - US spend fragmented but \$16B projected 2008-2011
  - Double digit growth in software and services
- ▶ Current state for most deployments is silos of images that do not interoperate across jurisdictions or departments
- ▶ Vision for many areas or institutions is shared, comprehensive view of images including DI, GI, Cardiology, Dermatology, Pathology

***Sharing images can have tremendous value  
to all aspects of healthcare ecosystem***



# The Problem:

- ▶ Current state for most deployments is silos of images that do not interoperate across jurisdictions
  - Multiple PACS deployments that require individual search processes
  - RIS systems that don't interoperate
  - Redundant work processes and lost efficiencies
  - Inconsistent uptake of patient identifiers
- ▶ Industry have upgraded over past decade
  - Film and sneaker network
  - Digital radiology
  - Imaging informatics for the future

***Unless system design, standards, patient identification strategies, and architecture address interoperability of images, the silos will continue***

# The Clinical Goal & Impact of Image Sharing

- ▶ Fewer duplicate tests
- ▶ Better access to imaging services as result of more effective use of technology and professional resources
- ▶ Better use of professional resources
- ▶ Quicker retrieval of images to facilitate comparison and treatment
- ▶ Better care team coordination, especially for specialized and rural areas
- ▶ Less intrusion on patient's time and body
  - Reduce radiation exposure

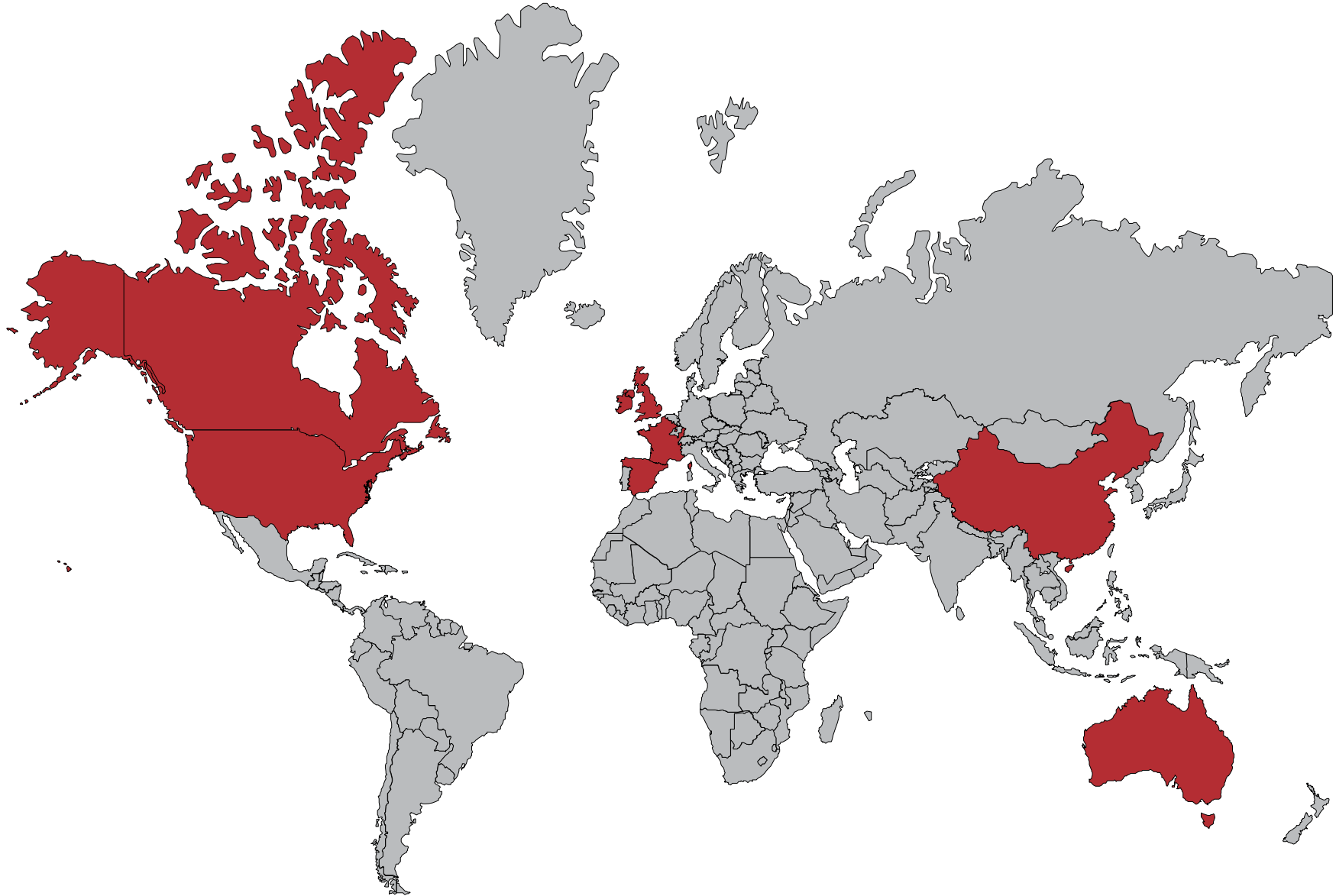


# The Financial Goal & Impact of Image Sharing

- ▶ Reduce duplicate tests
- ▶ More cost effective use of professional staff that are
  - highly skilled, expensive, and increasingly in demand
- ▶ Decrease wait times
- ▶ Improved efficiency of resources
- ▶ Eliminate costs of duplicate tests



# Select Global DI/RIS/PACS Activity

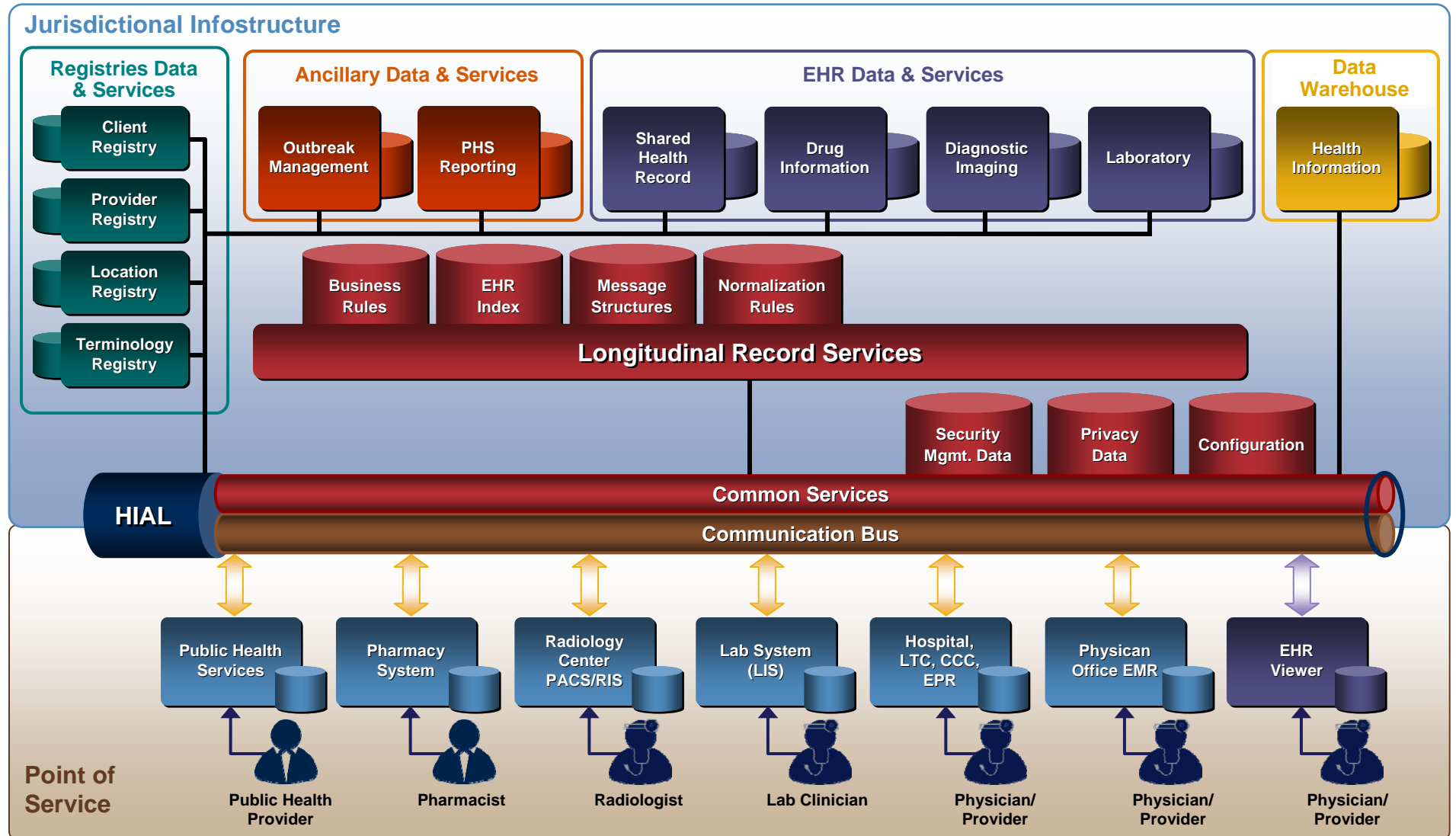


# Canada: Patient Identification & Imaging Interoperability

- ▶ Canada Health Infoway (Infoway) defined Client Registries and Diagnostic Imaging as core technologies for the EHR strategy
- ▶ Registries support DI Strategy with varied approaches to PACS
  - Images either carry enterprise identifier initially or assigned later
- ▶ Tele-radiology key component of strategy



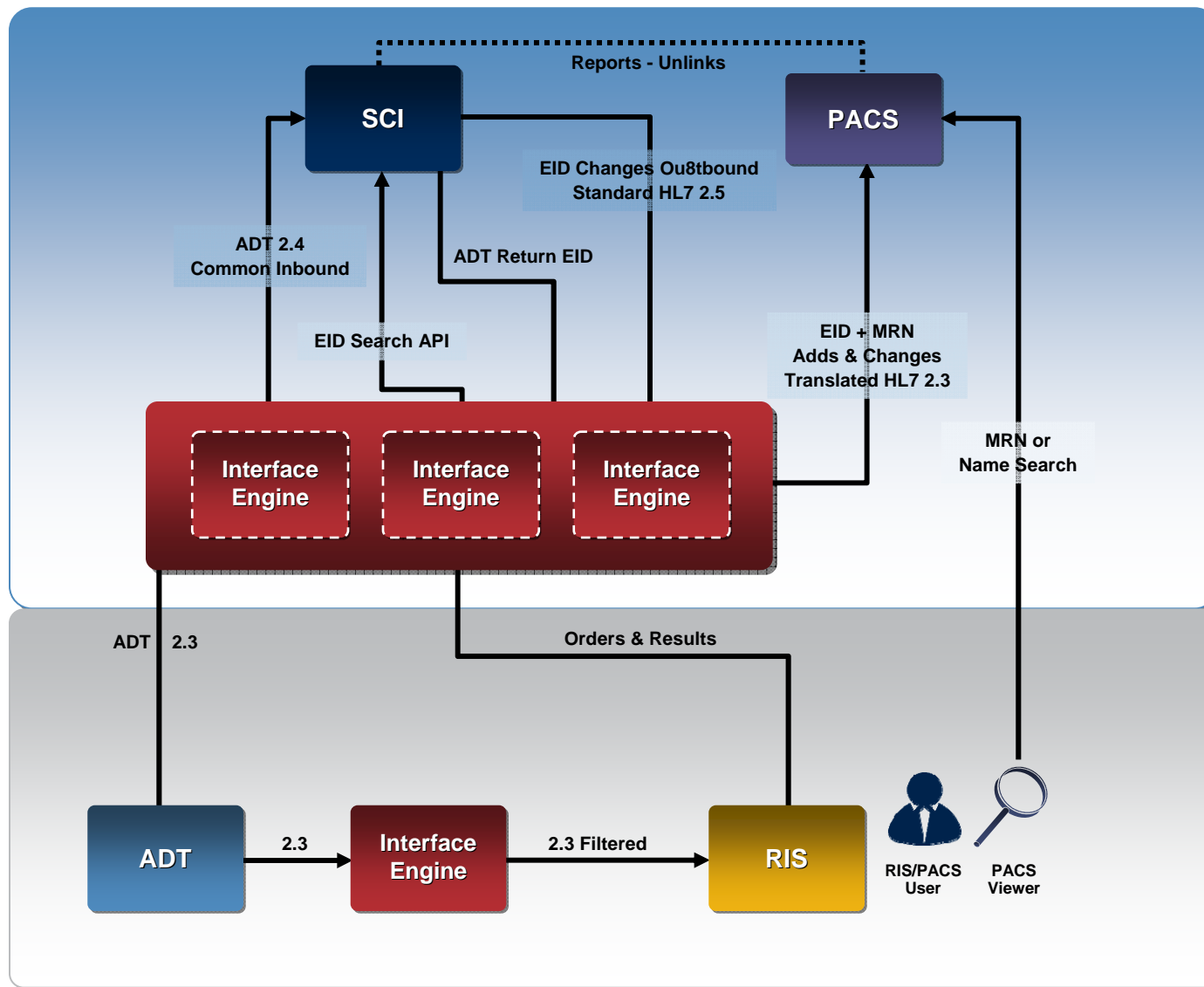
# EHR Infostructure: Conceptual Architecture



Source: Canada Health Infoway



# Sample Interoperability, Single PACS



# The Future Solutions...

- ▶ Require sophisticated IT management
- ▶ Necessitate enterprise archive management strategy
- ▶ May encompass IHE approach:
  - PIX, PDQ
  - XDS, XDS-I

***It's a journey of people, processes, & technology!***



# Summary

“Imagine the efficiency of a patient getting an MRI in Peterborough, but then having to be transferred to Toronto in need of more specialized care. Instead of having to repeat the test in Toronto, wasting valuable time and money and potential increasing the patient’s anxiety, the imaging is already there and available for the specialist whenever he or she wants it. It’s the future of healthcare, plain and simple.”

– **Gail Peach**, eHealth Program

Assistant Deputy Minister

*eHealth Program Bulletin, April 2008*



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