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iEHR Tech II Project

October 20, 2008

Standards Collaborative Partnership

Presented by Ron G Parker, Group Director EHRS Architecture, *Infoway*

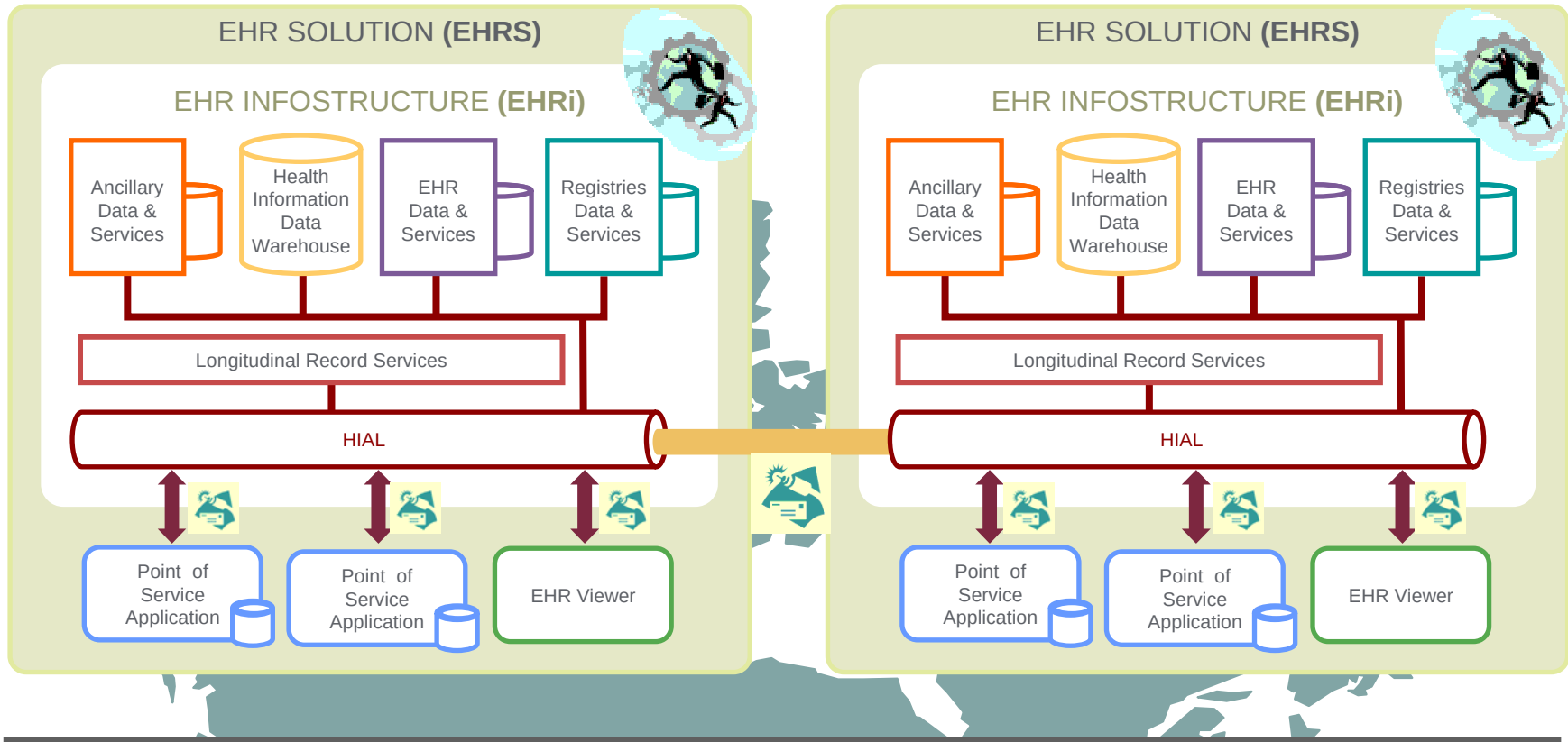
Agenda

- Project Background and Overview
- Stakeholder Engagement Model
- Review of Project Work Tracks
- Results of Oct 7-9 Stakeholder Meeting
- Questions and Answers

Project Background

- In 2007 we launched the TECH. I Project to address five high priority items identified by the early adopters
- The material from Tech. Project I was taken up by the SCWGs who further identified and prioritized the need to address the architectural components in direct support to the implementation projects
- These priorities were validated with jurisdictional partners, regional architecture teams and the SCWG chairs and as a result Tech. II Project was approved

Project Objectives



To formalize and further expand on the key interoperability items, by defining guidelines and or supporting data necessary for consistent behaviour of Infostructure components in the HIAL in support of implementations

Project Scope

	Work Item	Deliverables
1.	Transport Level Interoperability	Specify & prototype
2.	EHR-Index	Specify & prototype
3.	EHR Identifier	Guidelines & input to prototyping
4.	Privacy & Security: Consent Directive Management	Requirements & Standards Analysis
5.	EHR Structured Documents – XDS/SHR integration options	Implementation Guide - prototyping
6.	Orchestration Services	Specify & prototype

Project Team - Introductions

Name	Project Role	Contact Info
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Benefits

- Reduce risk and costs, and accelerate implementations through clearer, more detailed and validated pan-Canadian specifications
- Promote sharing of pan-Canadian experiences, challenges and solutions in order to minimize duplication of efforts, maximise reuse and achieve economies of scale
- Promote interoperability and consistent functional behaviour of iEHRs solutions across Canada
- Validate specification appropriateness and ability to implement through prototyping
- Improve alignment and interoperability between Infoway's Blueprint and IHE's XDS framework

Project Approach

- Create project awareness
- Identify Scope and Deliverables for each topic
- Hold a fall workshop to validate scope with stakeholders
- Environmental scan and consolidation of previous and existing work
- Direct engagement with jurisdictions and implementers who are in early stages of iEHR work or that already have some definition or application of the topics in scope
- Production of early draft materials for circulation with key stakeholders through SCWGs and directly with the jurisdictions

Project Approach cont…

- Distribute material to Mohawk College Applied Research Centre for Health Informatics (MARCHI) for prototyping
- Post Deliverables on the Project Forum and SCWG forums
- Develop final deliverables based on stakeholder consultations to review and provide feedback as well as resolution of issues identified
- Where applicable ensure that SC Governance is followed

Stakeholder Engagement

- Representatives from public & private sector involving all jurisdictions
- Vendors engaged in Infoway sponsored projects
- Project and SCWG Discussion Forum
- Face to Face Stakeholder Engagement workshop for each work track
- *Infoway* Standards Collaborative Governance

Project Discussion Forum:

http://forums.infoway-inforoute.ca/ITP/

SCWG Discussion Forums:

http://knowledge.infoway-inforoute.ca/en/forums/overview.aspx

High Level Timeline

Task \ Timeline	Aug 2008	Sep 2008	Oct 2008	Nov 2008	Dec 2009	Jan 2009	Feb 2009
Project Launch							
Detailed Project Plan							
Face to Face Stakeholder workshop			Early Oct.				
Draft specifications & Guidelines							
MARC HI Prototyping & testing							
Revise, Finalize and publish Material							

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Consent Directive Management

Stanley Ratajczak, Track of Work Sponsor
Patrick Pyette, Subject Matter Expert

Presented by

Consent Directives Management

- The CDMS is the primary HIAL Common Service intended to address key areas of consent.
- The CDMS is a key component of the planned HIAL Common Services for Privacy & Security
- The CDMS is intended to help EHRi users and their organizations comply with requirements in applicable legislation and to permit patients to maintain control over the collection, use, and disclosure of their PHI

Key Components of the CDMS

- Management of Consent-Related Business Rules
- Management of Patient Consent Directives within the EHR Enterprise
- Validation of consent
- The potential requirement to apply consent across jurisdictions
- Overriding Consent (“breaking the glass”)
- Controlling Access (specific to patient initiated overrides of access restrictions e.g. BC Pharmanet keyword)
- Logging Patient Consent Directives and their Application for Audit purposes.

Project Deliverables

- Validation of CDMS requirements with jurisdictions (ON, QC, BC, NL, more anticipated)
  - Creation of and response to core questions & issues to be addressed
- Inventory and Analysis of Standards options (HL7, IHE, CeRx, QC Proposal, XACML, etc)
  - Criteria established with stakeholders
  - Based on Requirements Framework and Decision Matrix
  - Stakeholder comments incorporated into assessment
- Recommendation for next steps
  - Includes assessment of comparative impact/effort associated with recommended approach

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EHR Record Identifiers

Dejan Kovacevic, Track Sponsor
Stephen D'Silva, Subject Matter Expert

Track Description

Every entity (concept or system)* in the EHR needs to uniquely identify its contents and therefore needs a mechanism that will allow the persistence and access of this uniquely identified information obtained from multiple data sources with a high probability of ID collisions. This track will provide guidance on developing a consistent mechanism to maintain uniqueness and manage the lifecycle of EHR record identifiers across various deployment scenarios.

Benefits include obtaining a consistent understanding of the need for, the requirements and the possible mechanisms to implement EHR Record Identifiers in systems in and across EHR infostructures.

**An entity, concept or system in the EHR could be a client, provider or location registry, a lab, drug, DI repository or the EHR Index. These are examples and not an exhaustive list.*

Scope

The following are in scope

- A description of the concept of EHR Record Identifiers and the need for record identifiers in the management and access of EHR data, functional and lifecycle management requirements.
- Development of use cases and their application in various deployment scenarios
- Deployment and migration approaches covering record identifier management and data access within one infostructure instance
- Guidance on the use of EHR Record Identifiers

The following are out of scope

- Detailed discussion and analysis of ECID options and approaches (covered in ECID webcast/presentation deck)
- Detailed Functional Specification for EHR Record Identifiers
- Prototype as part of this track – other tracks will use concepts developed in this track in the development of their prototype. This track will work collaboratively and contribute as required

Deliverables

A document and a presentation slide deck containing the following

- **Data Management in the EHR**
  - Introduction of problem space - Multiple Sources of Data, More than one repository, Merges and Splits, Optimized Access, EHR Index, Record Identifiers and sessions, EHR Normalization, Interoperability
- **EHR Record Identifiers**
  - Why are Identifiers important, Types of Identifiers, What is a Record Identifier, Record Identifiers and their impact on systems, Benefits, Challenges, Record Identifier Requirements
- **EHR Record Identifiers and Deployment Models**
  - 3 Use cases, 5 Deployment Scenarios
- **Migration Approaches**
  - Why Migrate, Migration Impacts, Migration Approaches
- **EHR Record ID Lifecycle Management**
- **Guidance**

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Transport Level Interoperability

Allan Oas, Track of Work Sponsor
Sasha Bojicic, Subject Matter Expert

Key Components

- Transport Level Interoperability Requirements
  - Connectivity and Physical Infrastructure
  - Network and Transport Protocols
  - Information Exchange Protocols - message wrappers (basic profile), extensions, metadata
- Transport Level Interoperability Domains
  - PoS – EHRS
  - EHRS – EHRS
  - Internal EHRS
- Transport Level Interoperability Criteria
  - Reliability
  - Security
  - Efficiency
  - Transparency
  - Applicability
  - Messaging Standards and Protocols

Deliverables

- pan-Canadian Transport Level Interoperability Specification Document
- EHRS POC implementation that includes key TLI elements outlined within TLI specification document (project deliverable)
- TLI Implementation Guideline (TBD ???)

How will this be achieved

In collaboration with the TLI stakeholder community, the project team will:

- Prepare materials, provide plan of the activities and facilitate sessions to analyze TLI requirements and consolidate / finalize TLI specifications
- Take responsibility to generate and maintain working version of the TLI specification moving toward final version of the project deliverables
- Provide resources and facilities to accommodate timely communication with stakeholders on progress of the work, resolving issues and providing feedback relevant for project
- Assist and provide consultation to the team responsible for POC implementation

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EHR Index & Document Sharing Architecture (XDS/SHR alignment)

Alvaro Mestre, Track of Work Sponsor
Jason Murphy, Subject Matter Expert

iEHR Index Logical Reference Architecture

In Scope

- Focus on query optimization of EHR data, minimizing queries to domain repositories and their associated overhead
  - Requirements. Use cases.
  - Guiding principles
  - Thin vs. Fat guidance
  - Logical data model
  - Metadata
  - Data relationships with registries & domains
  - Interaction patterns
- Gap analysis: HL7 V3 interactions/Index Data Architecture
  - Draft Index-specific & domain LIST interactions

Out of scope

- Auditing/logging, consent management, role based access, data masking, cross-domain queries
- Detailed message specifications. Terminologies.

Document Sharing Architecture XDS/SHR alignment

In scope

- Requirements. Use cases. Emphasis on XDS-I alignment.
- Industry scan. Propose a reference set of terms.
- Gap analysis – Data: XDS Registry/ EHR Index
- Gap analysis – Interactions: XDS/HL7 V3
- Architectural Options & Recommendations
  - Guiding principles
  - Integration options analysis
  - Metadata
  - Interfaces/Interaction patterns
- CDA R2 recommendations: iEHR Implementation Guide

Out of scope

- Clinical document content. Templates. Terminologies.
- Detailed message specifications.
- Patient identity management, CS, ATNA, etc.

Deliverables

1. Use cases, Requirements
2. EHR Index Reference Architecture
3. Gap analysis – HL7 V3 interactions/Index Data Architecture
4. Gap analysis – Data: XDS Registry/ EHR Index
5. Gap analysis – Interactions: XDS/HL7 V3
6. Document Sharing Architectural Options & Recommendations
7. CDA R2 recommendations: iEHR Implementation Guide

Once the iteration is completed we will engage with the SC Management and Governance to determine appropriate next steps for deliverables from this track

Continue coordination with IHE Canada on white paper to ensure it is available by September 30th.

Services Orchestration

Joe Borovsky, Track of Work Sponsor
Angus King, Subject Matter Expert

Scope*

- Authentication / authorization
- EHR Index and Domain Repository interactions
- Logging / auditing (possible use of ATNA IHE spec)
- Error handling (inc. “kick out” management) for example, looking at error handling kicked off from a specific “query continuation problem” activity flow

*finalized scope will be shaped by the key stakeholders involved and constrained by the time & budget available

Key Components

- Select, common, Infoway "*life of the Lambert's*" Use Cases will be utilized to provide representative business context to help illustrate how the Service Orchestration SRS should be implemented
- Architectural design patterns will be defined to help identify the distinctly different types of Service Orchestration which should be anticipated and how they should be implemented
- Specifications will be prototype via MARC HI (Mohawk College)

Deliverables

- SOW & Project Plan
- System Requirements Specification (SRS)
- Industry standards assessment and selection
- SRS mapping (traceability) to selected industry standards
- Service Orchestration architectural design patterns
- Implementation specifications / guideline
- Illustrative implementation examples (based on select, common, Infoway "*life of the Lambert's*" use cases)
- MARC HI prototype results
- Results summary presentation

Results of Stakeholder Workshop

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Thank You
Questions?