

EHRIS Blueprint Architecture Update



iEHR Technical Project



Transport Level Interoperability (TLI)



TLI Objectives and Scope

Objective

- » Provide specifications and guidelines needed for intra and inter-jurisdictional interoperability at the “transport” layer

Scope included

- » Recommendation of ebXML vs. Web Services
- » Transport protocol elements
 - » Reliable messaging (guaranteed, in-order, once only)
 - » Transport and network protocols (e.g. HTTP, TCP/IP)
 - » Security (encryption, audit/logging, transmission authentication, digital signatures - excludes payload signatures)
 - » Session management
 - » Version identification
 - » Transmission error handling
 - » Message Attachments
 - » Compression



TLI Scope and Approach

Scope includes (cont'd)

- » Specifications for how protocol elements are communicated using SOAP or ebXML, streaming protocols
- » “Above the HIAL” optimization
- » Modifications to HL7 transmission and ControlAct wrappers
- » HIAL message processing as router, bridge and gateway
- » Handling HL7 v3 transactions as a service

Approach

- » Review of existing jurisdictional and implementer materials
- » Questionnaires to jurisdictions and implementers to identify existing approaches
- » E-mail and phone discussions
- » Face-to-face meeting for final review



TLI Outcomes

Selected Web Services using SOAP documents over HTTPS as preferred protocol

Created a detailed specification covering detailed technical recommendations on the topics in scope

- » over 170 distinct conformance rules, divided up into mandatory, recommended and optional

Also put together a list of next steps for areas requiring further investigation

- » Security, in particular, will require additional constraints to be defined to ensure interoperability.





Canada
Health
Infoway

Inforoute
Santé
du Canada

Registry Id Key Management (RIKM)



RIKM Workshop Issues

Merge/splits/links

- » Public jurisdictional identifier versus hidden ECID
 - » Which systems need to be ID synched?
 - » ECID issues for Domains
- » Issues & solutions known:
 - » awareness of Best Practises an issue
 - » Working through choices complex
- » Data Quality regime key
 - » Best practices = Registry integrity units



RIKM Workshop Issues (cont.)

Patient Session concept vs Transport session?

- » TPS forecasts
- » ECID as token
- » Deterministic versus probabilistic ID resolution

Inter-jurisdictional boundary issues today

- » How automatable? How significant?
- » A solution exists - need specific requirements & business drivers



RIKM Workshop Outcomes

Draft message implementation guide

- » Assess & leverage existing material
- » eCID White Paper & IRIS for use cases
- » Other material catalogued
- » Quality management focus extended

(Standards maintenance)

- » additional requirements emergent
- » Incidental networking took place at workshop
- » Partnership SC forum to pursue

BC engagement

- » PoS/Domain synchronization issues
- » Jurisdictional public identifier choice work through underway



RIKM Current status

Draft Guideline Document Complete

- » Assessment of info already available e.g. Use Cases
 - » Potential for further HIAL guidance - BC engagement
 - » Validation of strategies
 - » eCID or jurisdictional public identifier
 - » Choices largely made
 - » Quality management key (operational governance etc)
 - » Merge & split behavior = synchronization strategy
 - » How far
 - » Qualification of domains & POS re ID management practices
- » Validation & review with BC
 - » Engagement process of Registries, iEHR, Domains...
 - » Active versus passive integration

Client as pattern for Provider & Service Delivery Location

- » Hidden ID concept valid
- » Volumes & considerations largely different
- » Some PR pressure for comparable messages (not there today)



EHR Index



EHR Index Objectives

To confirm the functional requirements of the EHR Index

To evaluate if:

- » IHE XDS Registry can serve as a foundation for the EHR Index or:
- » Develop a new EHR Index specification

To draft a Functional Requirements & Use Cases



EHR Index Planned Deliverables

Functional Requirements Document

- » Use Cases
- » Data Scope
- » Query Definitions
- » Life Cycle Management Requirements
- » Cross Referencing Requirements
- » Client, Provider and Location Identity Requirements

This does not include HL7 messages



EHR Index Approach

Solicit input and review from

- » Jurisdictions
- » Vendors who are developing EHR Infostructure
- » Standards groups: HL7, IHE, open EHR, etc.
- » April 24 Workshop

Engagement principally performed through e-mail and telephone conversations with final review conducted by face-to-face meeting

Align existing jurisdictional architectural strategies

Ensure that the deliverables focus on questions deemed “most critical” to those undertaking implementation efforts

All jurisdictions in Canada solicited to participate in this project/workshop



EHR Index Outcomes

Attained consensus on the “role” of the EHR Index

- » *Query “filter” role*: minimum functionality to filter queries with the aim to reduce unnecessary queries of domain repositories
- » *Query “responder” role*: support both filtering and query response in a limited set of use cases

Attained consensus on a strategy for developing technical specifications for the EHR Index:

- » Infoway and jurisdictions to agree on minimum meta-data set
- » New project required to develop messaging standards for “PUT” and “GET” of data into and out of the Index
- » BC, AB and QC to implement both the query filter/responder roles using COTS product
 - » Different degrees of meta-data (beyond the minimum) will be stored to allow us to evaluate the impact on performance



Service Delivery Location Registry (SDLR)



SDLR Approach

Establish SDLR definition and functionality

Solicit feedback on distributed material

Validate / revise use cases

Validate / revise functional requirements

Review source material

Consolidate SDLR terminology

Elaborate functional specification

Document issues, concerns, questions

Plan to resolve outstanding items



SDLR Deliverables

Scope Document

Functional Requirements

Functional Specifications

Use Cases

Issue log



SDLR Outcomes

The primary function of an SDLR is to manage information to support the business needs of locations that provide health services.

The SDLR is a trusted source of location information, of all service delivery locations.

During the course of EHRi interactions the SDLR is used to uniquely identify types of locations where health services and other services are provided.

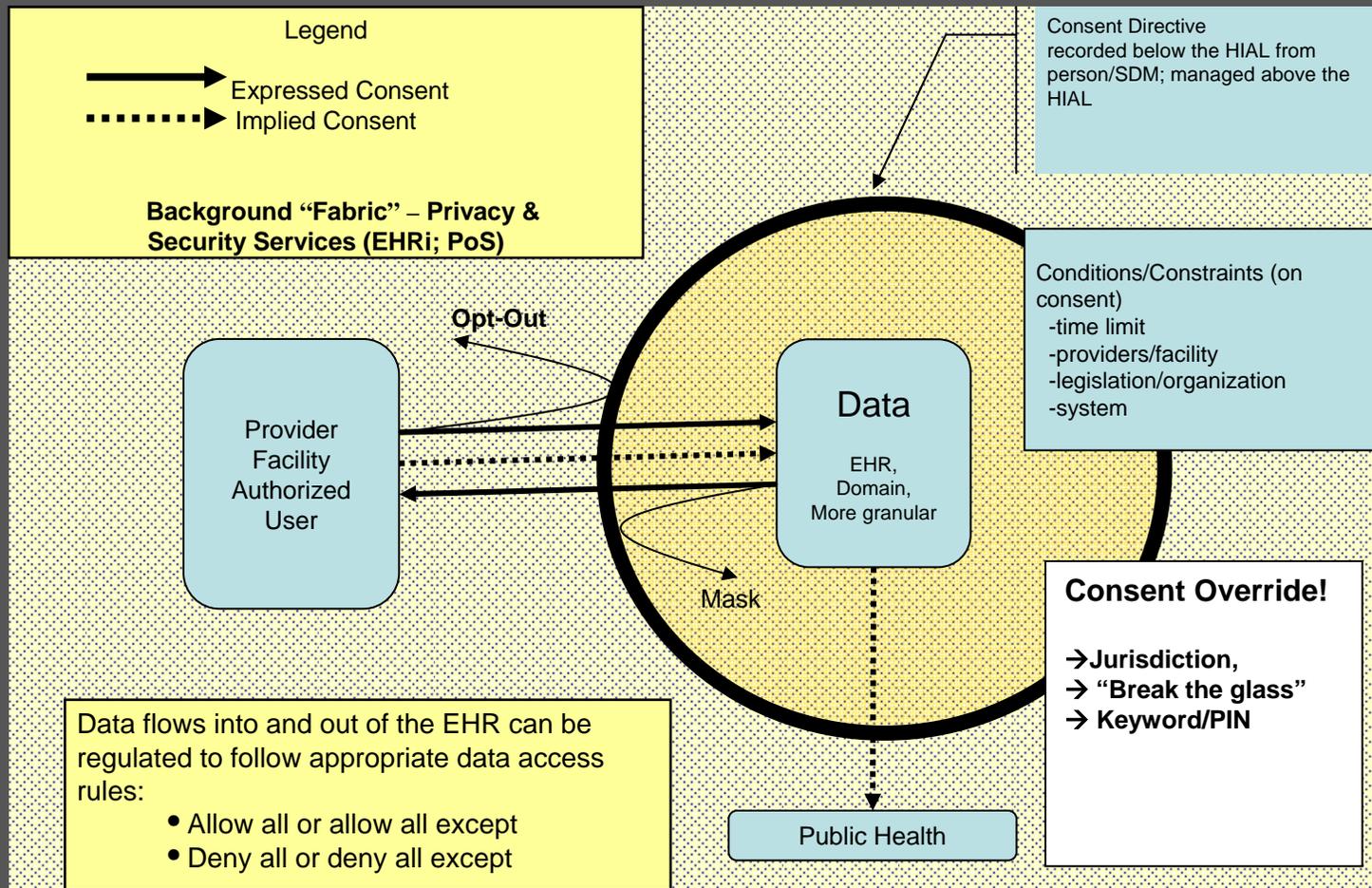
The SDLR has direct business relationships with Organizations who are responsible for a Service Delivery Location (SDL) data sources, SDL service delivery, and ownership of SDL sites.

The SDLR maintains and publishes a list of Available Services that describe the availability, capacity and capabilities of an SDL at a summary static level.



Consent Directives Management Services (CDMS)





The Informational Consent "Milieu"



CDMS Workshop Objectives Achieved

Consensus-building to:

Confirm/revise scope and deliverables ✓

Validate and log assumptions ✓ (partially completed)

Confirm use case, requirements scope - identify gaps and redundancies ✓ (partially completed)

» created initial diagram and tables depicting the various consent models and directive constraints that were explored - within the context of the overall privacy and security protective services required to prevent unauthorized access to and viewing of a person's PHI in the EHR (see current version of diagram/tables "roll-up" on slide 3)

Validate use cases, requirements ✓ (nearly completed)

Identify/log risks, issues and document solutions discussed ✓ (partially completed)

Propose implementation guidelines ✕ (not addressed)

Propose Next steps ✓



Workshop Priorities for CDMS Deliverables

Create a consistent set of terms and definitions related to informational consent and informational consent directive management and the CDMS component of the HIAL Common Privacy & Security Services

Create a jurisdictional overview of what is happening across the country with respect to informational consent management

Create detailed use cases - use terminology consistently to communicate concepts to stakeholders

Drive out requirements (business, policy, functional) that are consistent/aligned with use cases.

Scope out a logical model (if there is sufficient stakeholder convergence around use cases and requirements).



Proposed Positioning/Representation of CDMS Deliverables

Overlay:

Common terms and definitions

Jurisdictional environmental scan

Informational consent “milieu” (diagram as per slide 3 plus textual description/explanation)

Infoway Privacy & Security Conceptual Architecture HIAL CDMS and related P & S Common Services (consolidated discussion/descriptions from various sections and appendices of the PSCA) as the “umbrella of information/understanding” for the use cases, and the requirements documentation.



CDMS Next Steps

Group assignments for priority deliverables – to work with team ✓

Get new/revised documents completed by end of May

Public Review Web Cast in June – date TBD

Develop a hand-off document that captures the learnings from the workshop/project and makes recommendations for the next track of work

Develop roll-out/positioning strategy for project deliverables:

- » Who needs to be engaged, who needs to be informed? Whose input is necessary? How to present the documentation?



iEHR Tech Next Steps



Next Steps

- Seek funding for further review, expansion and specification development
- Follow through to be part of an overall Infostructure strategy and budget
- Plan and develop a formalized strategy for stakeholder engagement such as leveraging on the Standards Collaborative workgroups
- Planning and prioritization of future work items to be completed
- Conduct 1-3 more of these focused, time-boxed, 4-6 month projects with extensive stakeholder engagement and participation



Remaining Work Items to be Completed

Topic	Deliverables
PoS & iEHR expected behaviour	Guidelines
Presentation of data in POS application	Guidelines
Error Handling	Guidelines
Subscription & Notification Services	Specification
EHR Data Model (SHR plus all domains)	Specification
EHRi System Orchestration (LRS, IIPs)	Guidelines
Logging & Auditing	Guidelines
EHR Locator	Specifications
Terminology Services	Specifications
IHE Profile Assessment	Standards / Guidelines



EHR Blueprints Future

Blueprint and other definitional architecture work is done within the bounds of the Infostructure Program

The Infostructure Program is transitioning to:

- » support execution of existing Infoway funded investments
- » do definitional work on Improving Patient Access to services (wait times)

Further Blueprint definition will occur either as:

- » iEHR Tech tracks of work
- » New standards projects
- » White papers
- » Knowledge harvesting from Infoway investment projects



End of presentation

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