**Meeting/Call Notes - OpenHIE Interoperability Layer**

**Meeting purpose: Community Call for OpenHIE IL**

**Date: 07-01-2014**

**Please sign yourself in below.**

**Attendees:**

* Carl Fourie
* Linda Taylor
* Hannes Venter
* Joan Africa Brown
* Larry Lemmon
* Derek Ritz (with his long pants on)
* Mark Tucker
* Jeff Xiong

**Agenda**

* **Technologies and standards to use for the OpenHIM reference implementation**
* **Vision Mission and Values for the IOL community**

**Call Recording file #**  87215301

<http://www.conferenceplayback.com/stream/10610031/87215301.mp3>

**Meeting Notes:**

<https://wiki.ohie.org/display/SUB/OpenHIE+Interoperability+Layer+design+document>

rhea.jembi.org

<http://wiki.ihe.net/index.php?title=Antepartum_Care_Summary_Profile>

<http://wiki.ihe.net/index.php?title=Antepartum_Record_Profile>

<http://wiki.ihe.net/index.php?title=Emergency_Department_Referral_Profile>

<http://wiki.ihe.net/index.php?title=Labor_and_Delivery_Summary_Profile>

Existing RHIE implementation = monolithic application

How can we re-design this? Decided to follow a micro-services approach to have a generic core to be re-used with additional implementation-specific mediators

2 types:

* adaptors - from one interface to another interface e.g. translate HL7 into custom web service for OpenEMPI
* orchestrators - routing transactions between components

Now have a core OpenHIM with RHEA specific mediators

Also enables use of specialised tools for specific functions

Mule ESB is very static - difficult to do configuration work dynamically

Have discussed use of Node JS for the core and have done some initial designs for this which we will share soon

Think Mule still best for orchestration

DR: RHEA infrastructure is in this new architecture

Can we compare it?

HV: Still too early to do these assessments

Have split stack and it is loosely coupled - may even be slightly slower in terms of performance currently - but will be able to look at this

DR: Want more flexibility from architecture - As soon as we can do performance tests under load, we should do this. Especially at transaction level.

MT: What type of loose-coupling was introduced?

HV: Using web services but have never used a direct Java call

CF: Performance not just speed but also in terms of extensibility and re-use. Should be easier to add new services. But does new routing add noticeable overhead?

DR: Run-time performance is very important. This is the gateway to the whole HIE so it needs to be “wicked-fast”. My guess is that those Mule attributes enable it to go fast.

CF: Agree we need to carefully compare

HV: We did do some initial performance testing on the old version (seem to remember it was around 500 m/s per transaction)

DR: If everything is in RAM is ok - RAM is cheap

A component based architecture will always perform slightly slower than a monolithic one but allows load balancing across system as load broadens

J: At Thoughtworks we have similar idea of micro-service architecture

Do you have existing specs?

HV: We have a link to initial high level design but still working on more detailed specs - will be specifying expected operation of the core and what these h/l components should behave

J: We have looked at FHIR

HV: Have discussed this previously and thought it was still too early for us to adopt as a standard but may adopt this in time.

DR: Message models are changing but underlying information models are stable - as clinical practice does not evolve rapidly

If we support already-existing interfaces then will enable immediate connection/use. More effective and more impact than supporting a technologically-advanced tool

MT: Will have to interpret CDA in terms of a more limited information model. FHIR is a syntax. If someone sent us a FHIR message how do we “dumb it down” to a HL7-V2 level?

MT: Would like to sketch in pseudo-code the types of interactions we should be seeing

We are talking in generic terms and would like to see the actual examples

e.g. do we verify PR and FR IDs? Do we map terms?

How do we interact with the registries to see if it should be cached?

HV: We do have some of the user stories/interactions for RHEA available on the RHIE wiki but we should definitely broaden our use cases. See:

<https://jembiprojects.jira.com/wiki/display/RHEAPILOT/RHIE+Architecture+Documentation>

MT: NodeJS - what is the rationale behind this?

HV: NodeJS is not a browser-based technology. Is a way of enabling communication-based functionality. Specifically aimed at improving performance

Had a call with WorldVista and they used this to better their performance

Just looking at this for the core i.e. for logging / routing and monitoring stats

There is a node server that provides a rich communications library

Often used with NoSQL databases

<http://nodejs.org/industry/>

MT: How will this work with OpenMRS as the SHR?

Some of V3 message expressiveness will be lost as cannot be stored in that info model

What level of guarantee are we offering in terms of what data we can send back?

DR: Will support a subset (not a super-set) of data if your system is more sophisticated than ours? The key is “does it matter from a patient care point?”

MT: Even though an edge system may have exec care plans in V3 when they send that out cannot assume receiver will understand all complex semantics

DR: Must beware we are not shedding clinically relevant information just because OpenMRS cannot support it. Must find a way of being able to store it.

e.g.: allergies to drugs in an ante-natal care form

HV: CDA is much richer than OpenMRS e.g.: ante-partum summary

DR: Should also expect OpenMRS to continue to evolve

DR: Would like to see gap analysis - Should look at the profiles around maternal care (CDA) and see if we have a place to put all the mandatory content in OpenMRS -

Referrals (Emergency Dept. Referrals)

<http://wiki.ihe.net/index.php?title=Emergency_Department_Referral_Profile>

Antepartum summary

<http://wiki.ihe.net/index.php?title=Antepartum_Care_Summary_Profile>

Ante-partum physical and history

<http://wiki.ihe.net/index.php?title=Antepartum_Record_Profile>

LDS - labour & delivery summary

<http://wiki.ihe.net/index.php?title=Labor_and_Delivery_Summary_Profile>

MT: Are trying to build a CDA parser

Will continue this discussion on the next call (SHR call next week)