Using OpenEHR platform and HL7/IHE interoperability

Think!EHR Platform – open health data platform

Better Data Better Care

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MARAND

IHE

Benefits

- Integration profiles
- Strong industry support
- Focused on document sharing
- Aids integration

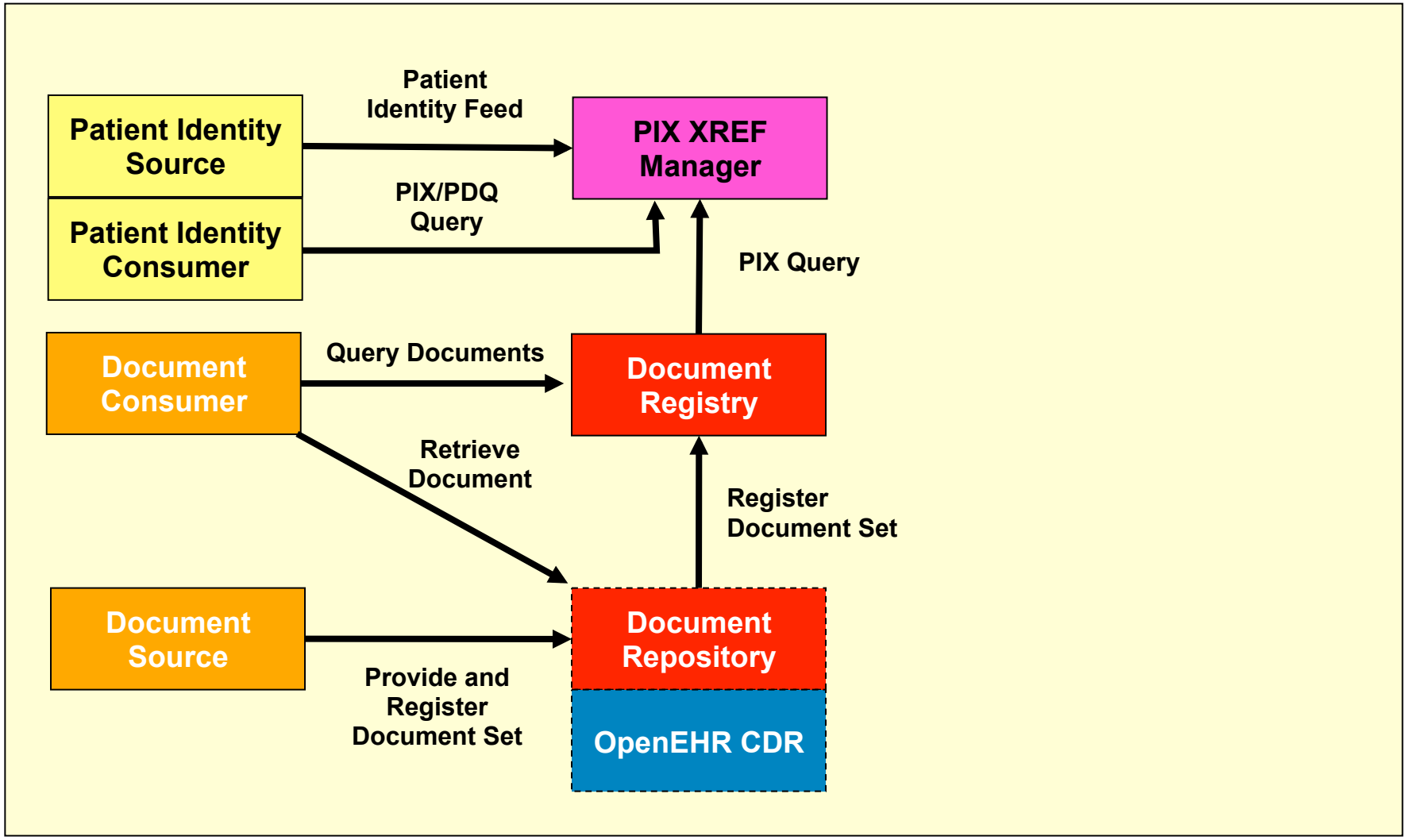
Shortcomings

- Querying limited to document metadata
- Minimal data-set content Profiles / coarse grained data
- Mostly CDA L1/L2
- Non-computable health data

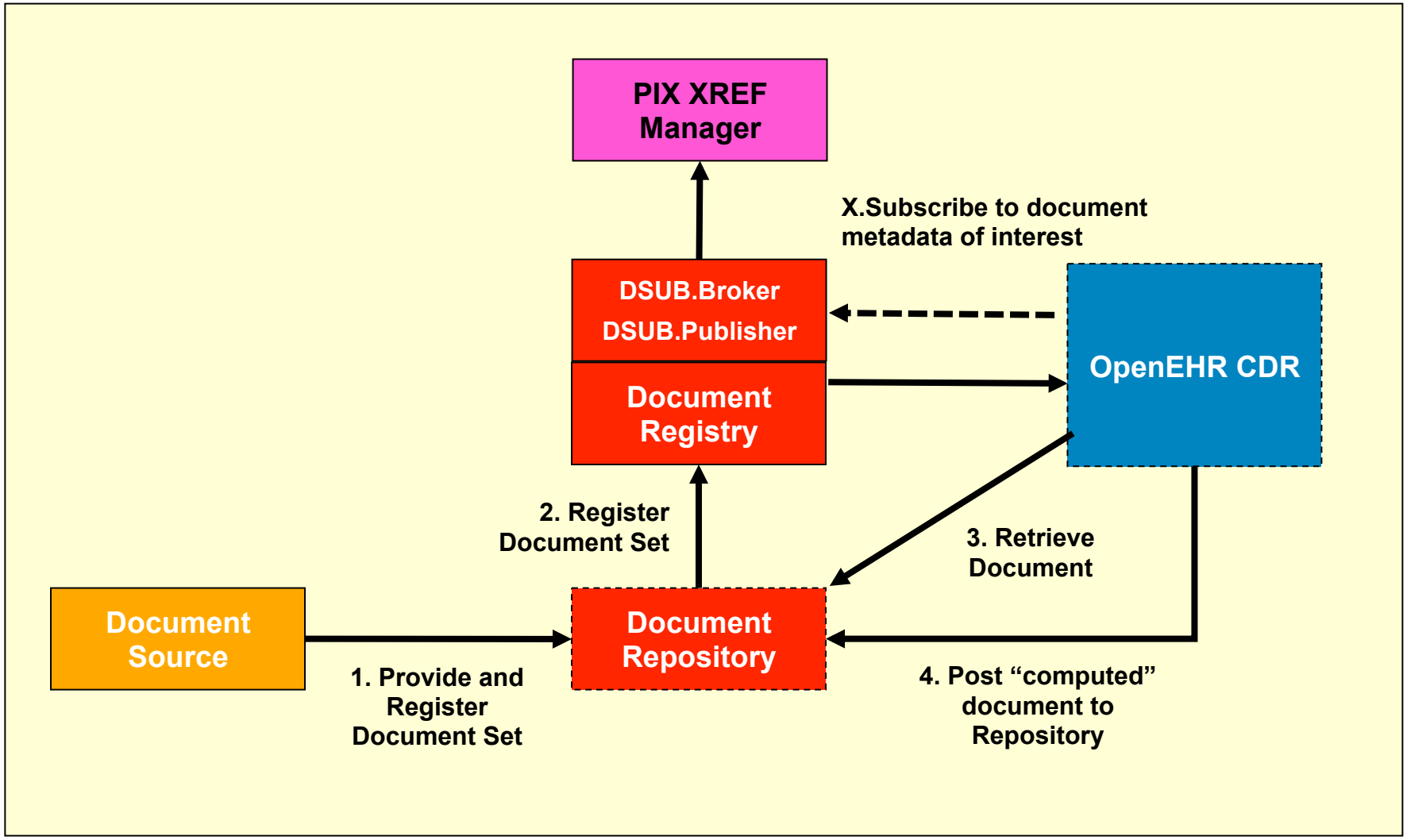
IHE - Interoperability

- HIE/eHealth - Document Exchange
- Connectathon / 300 people >150 systems
- Domain / technical frameworks / profiles
- Profile life cycle / release, trial …

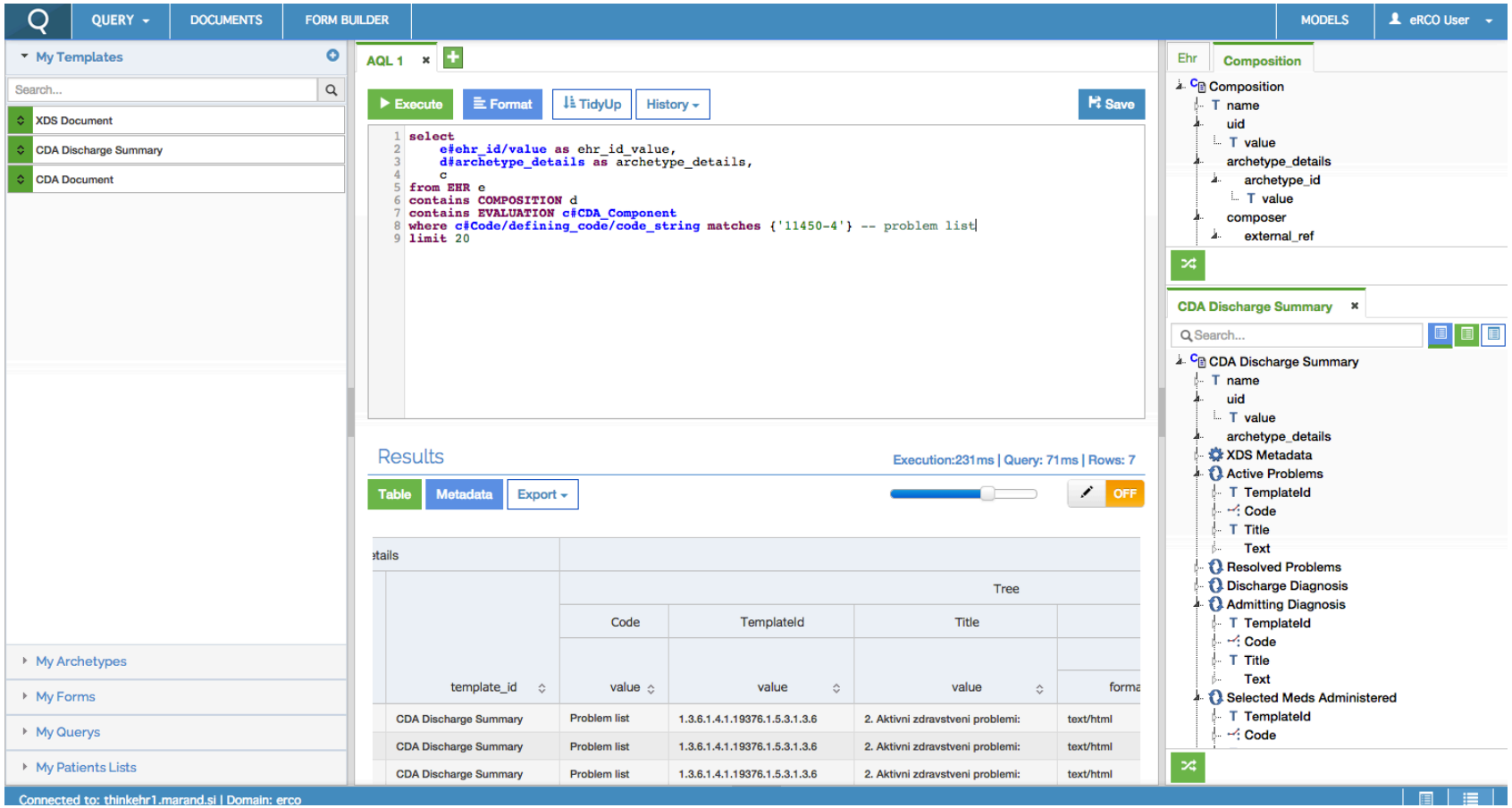
IHE XDS/OpenEHR



IHE XDS/DSUB - OpenEHR



IHE/CDA/OpenEHR



IHE/OpenEHR ecosystem

- MPI (PIX/PDQ)
  - EhrId as identifier in the MPI
- OpenEHR CDR with XDS.b Repository I/F
  - Document metadata (XDS.MetaData) / Unstructured content
  - OpenEHR TDS/TDD – Greenfield structured data exchange
  - CDA L1/L2 – simple transform
  - CDA L3/RIM – adHoc doc specific transform

Data bending – read only

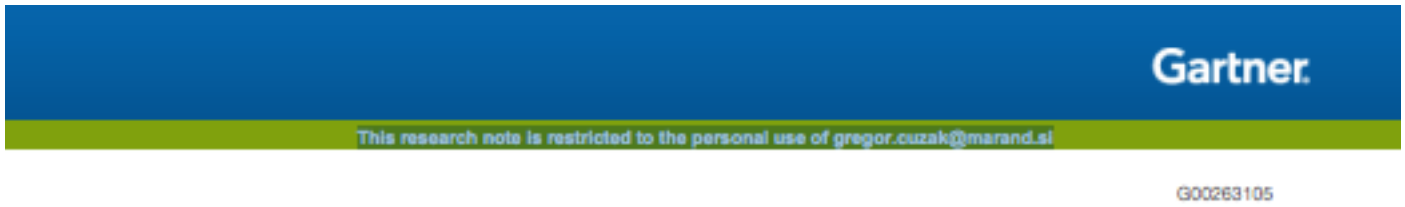
- SMART Platform
- FHIR
- OData
- Business Objects (EA)

Data bending - store

- Comm/Transport Protocol
- Pre-defined content / mapping / data granularity
- Generic / semantic data normalization

OpenEHR / FHIR

- Hype Cycle



Hype Cycle for Healthcare Provider Technologies and Standards, 2014

Published: 24 July 2014

For now, CIOs and CTOs in most healthcare delivery organizations should avoid purchasing decisions or IT architectures that assume that multiple vendors of clinical systems will implement FHIR consistently or at all. For projects that include highly interactive interfaces where the alternative is to create a whole new specification, they should use FHIR specifications and tools as a starting point for what will essentially be custom specifications and tools.

User Advice:

Self-developers and vendors should consider using FHIR for new projects or products that have the potential to reach the scales discussed here, or where it is important to engage programmers from organizations that are not deeply versed in the HL7 Reference Information Model (RIM). However, they should not expect the detailed conceptual underpinnings or specifications of FHIR to remain stable. Instead, these organizations should regard current FHIR work as a better way to create project specifications than starting with a blank document.

OpenEHR / FHIR

- Hype Cycle / Is it FHIR or just REST/JSON?
- FHIR Resources / Archetypes
- Multi-Level Modeling / Template & Archetype
- Search/query capability?

OpenEHR / FHIR

- Hype Cycle
- FHIR Resources / Archetypes (?) - granularity
- Multi-Level Modeling / Template/Archetype
- Search/query capability?

```
select
    t#Temperature as Temperature,
    bp#Systolic as Systolic
from EHR e
contains COMPOSITION c
contains (
    OBSERVATION t#Body_temperature and
    OBSERVATION bp#Blood_Pressure)
where
   t#Temperature/magnitude > 37
```

Direct search:

*/fhir/Observation?name=**8480-6**&value-quantity=>=101||mm[Hg]*

Related resource:

fhir/Observation?name=8480-6&related-target.value-quantity=>=101||mm[Hg]&_include=Observation.related.target

OpenEHR / Apple HealthKit

- Anyone? ;)