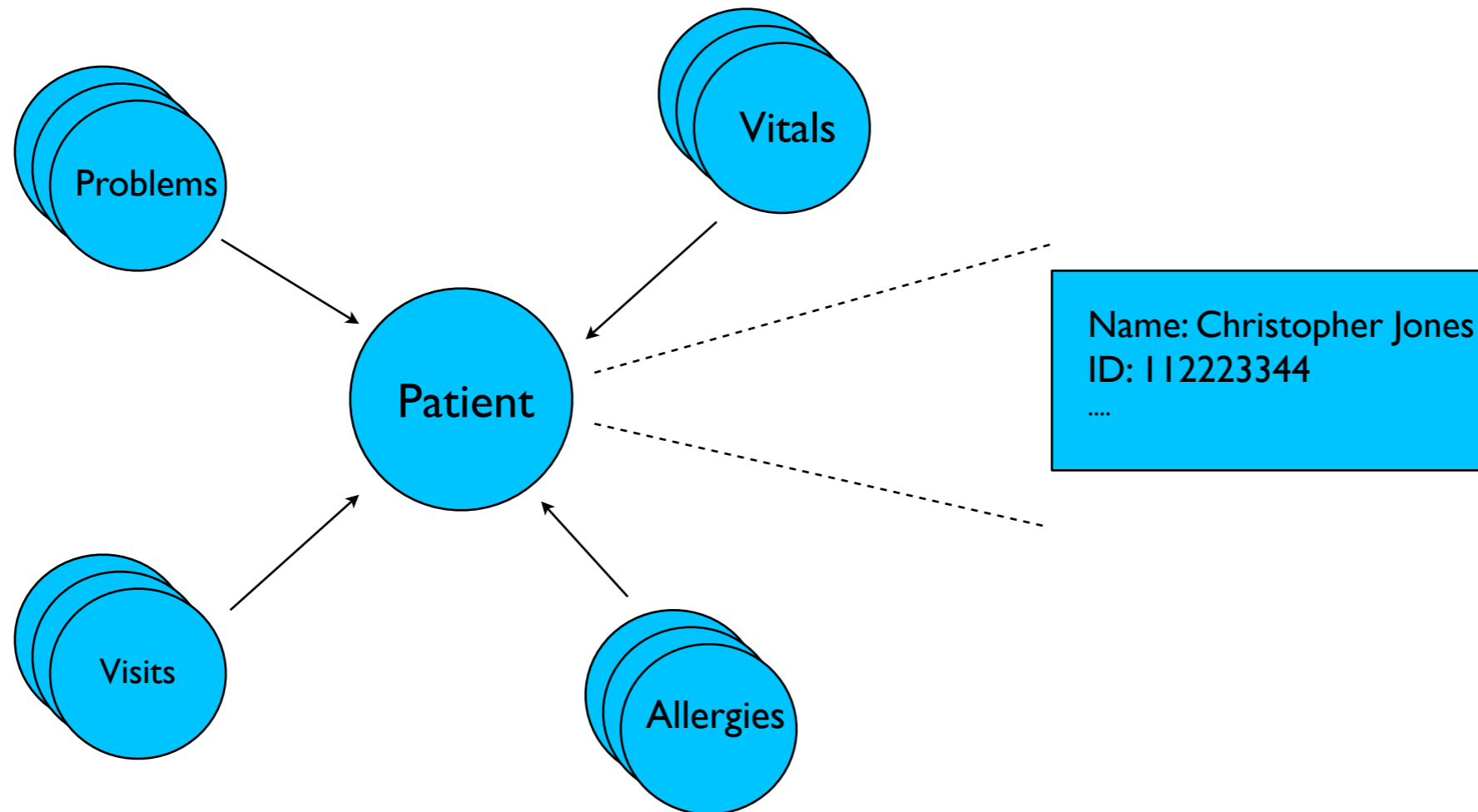# VistA
The "Linked-Data EHR"

Caregraf

Translational Medicine Ontology Call
April 1, 2010

VistA

- "The" EHR

  - 10M+ Patients, 200+ facilities, federates, meta-rich, HL7 v2 ... FREE!

- But ...

  - CPRS - Fat Client, Delphi Pascal

  - FileMan - not SQL, no native query/update

  - VA-isms stick: what's there is there

FileMan == GraphMan

Nodes (with Literals and URLs)
5000+ types, Strongly-typed (down to pointer level)
Bonus: int/ext form

Fitting In

- Natural == Now, Future == XML/SOAP, NOT Web of Data

- FMQL: FileMan Query Language

  - SPARQL == FileMan query

  - OWL == FileMan schema definition

  - SPARUL == FileMan update (FMUL)

  - SPARQL RESTful endpoint == FileMan's

Rollout builds buy-in

- End goal clear – rollout? Sell concept

- First: Linked Data introduction (v**0.**2)

  - See it: "ramble", "VistA Patient Record"

  - Basics: Select All Of Type, Describe Node, Select Referrers to Node + SPARQL JSON

- Real:

  - Show it: vista.caregraf.org

  - Give it: download

Exposing Mr. Jones

- [Ramble](#) Christopher Jones
  - DESCRIBE <C.J.>
  - SELECT ALL REFERRERS <C.J.>
- [Patient Record](#) for Christopher
  - SELECT ALL REFERRERS of TYPE <Vital>
  - DESCRIBE REFERRER <Vital>
  - FILTERs (logic mined from RPCs)

Exposed: World of VistA

```
SELECT ?rate WHERE {
  ?s va:prn "11223344" .
  ?v va:patient ?s
  ; va:vitalType va:120.51/1
  ; va:rate ?rate}
```

- Two Gaps: Codes, Schema
- Link up Schema and Codes (Storyboard?)
    - no adaption/gateway
    - VistA Patient Record -> Standard

The Code Gap

- Link VA codes to Standards

  - VA:120.51/1 == SNOMED:392570002

- datasets.caregraf.org/va

  - Given: RxNORM, others to add

  - Ramble + Push "Raw" SPARQL

- SELECT from VistA in standard codes

The Schema Gap

- VA Ontology:

  - GMRV Vital Measurement -> ?

- Which standard to link to? TMO?

- SNOMED + TMO?

Conclusion

- VistA - scalable, comprehensive, free BUT

- Linked data: needs to be sold

- Rollout: each piece "complete"

- Demo with HCLS to "link in" to standards