

Why Semantic Web in the Oil & Gas Industry

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Technology

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Why is the Semantic Web Different?

Designed for World Wide Web requirements:

- **“Infinitely” Scalable**
- **Open World Assumption**

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Open and Closed Worlds

Closed World

- System has control of information
- Familiar Technology
 - Procedural Programming
 - Databases

Open World

- System does NOT have control of information
- Web Technology
 - Semantic Web
 - Social Computing



Oil & Gas Info Closed or Open?

Within a Domain and Company: *Closed*

Across Domains, within Company: *Open*

- e.g., Drilling – Production – Reservoir Management

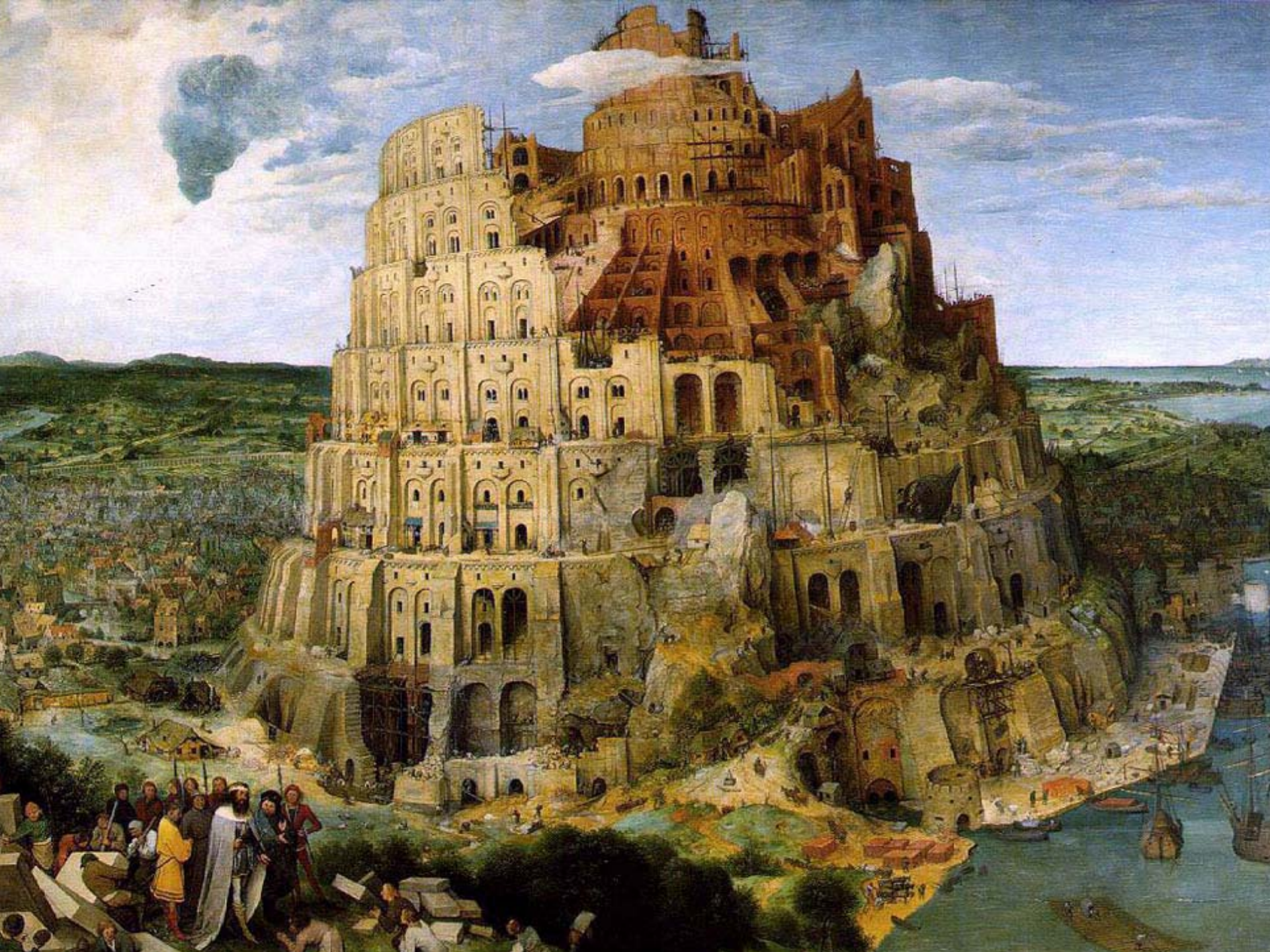
Across Companies: *Open*

- e.g., Equipment Information for Joint Ventures

**Source of many of our most difficult
Information Management Problems.**

Data Silos





Semantic Web Connect the Silos

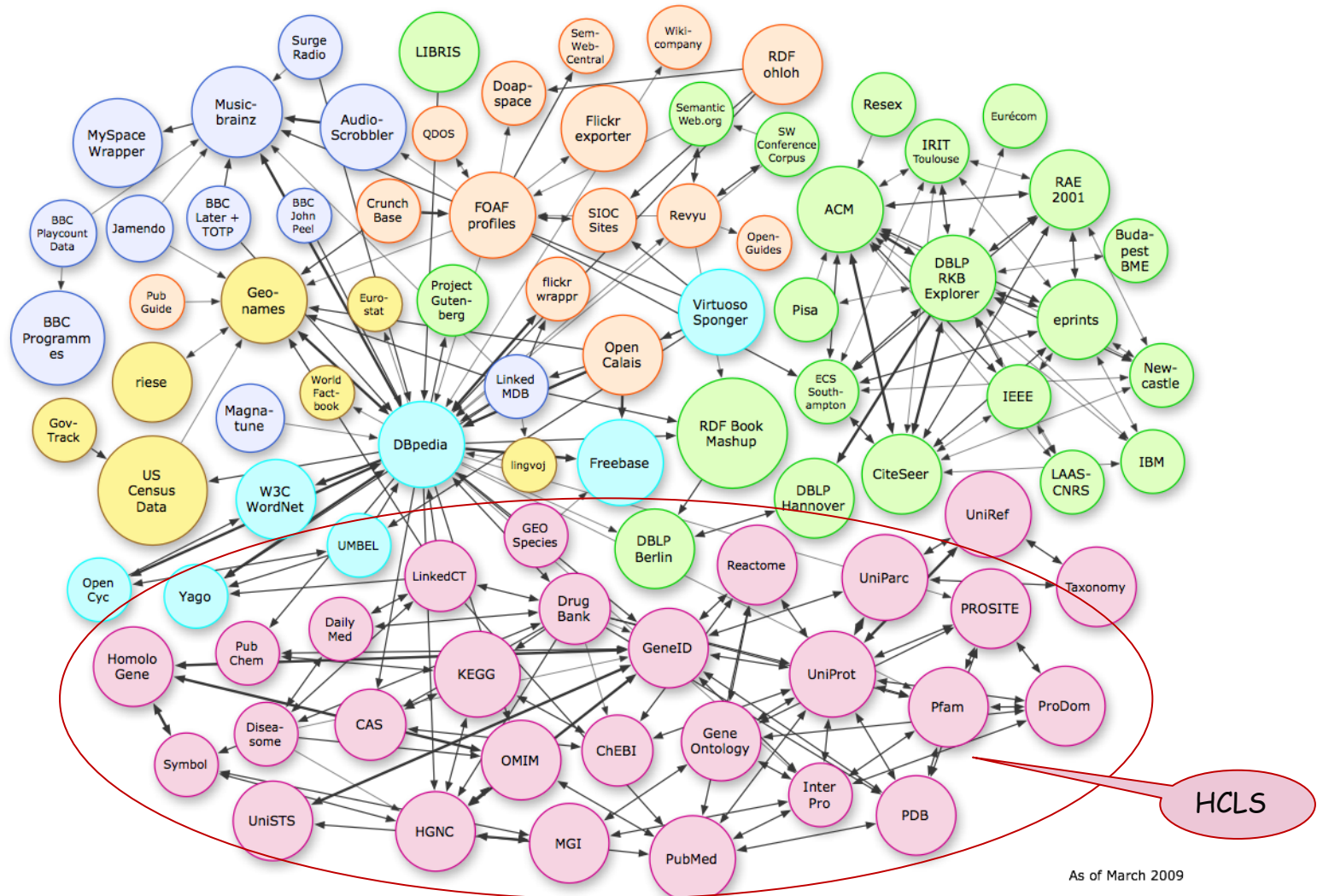




Semantic Web Integration

- Data remains organized differently within domain silos
- Ontologies describe relationships between domains
- Information accessed across linked Data “cloud”

The Linked Data Cloud (and HCLS)



As of March 2009



Chevron Semantic Web Activity

- **IAM – iFields Integrated Asset Management**
 - Reservoir and Well Models
 - Metadata management, organic growth
- **MCPIM – Major Capital Projects Information Mgt**
 - Leverage and Validate IAM architecture
 - USC/Chevron SR collaboration
 - Replacing equipment metadata store
- **Ontology Management and Integration**
 - Enterprise “stitching together”
- **Large RDF Stores**
 - Scale to Enterprise
- **Global System/Process Linkage**
 - Cross-system “mapping”
- **Business Analytics**
 - Cross-system analytics
 - Data integration across systems
- **Search Enhancement**

