

**iRING**

What is it?

# What is it?

- “iRING” is just a label or brand of something else.
- The iRING brand represents a set of information interoperability and integration protocols and reference data, that are fully compliant with **ISO 15926**
- **ISO 15926** is the important part, but it’s just too awkward to say the name.

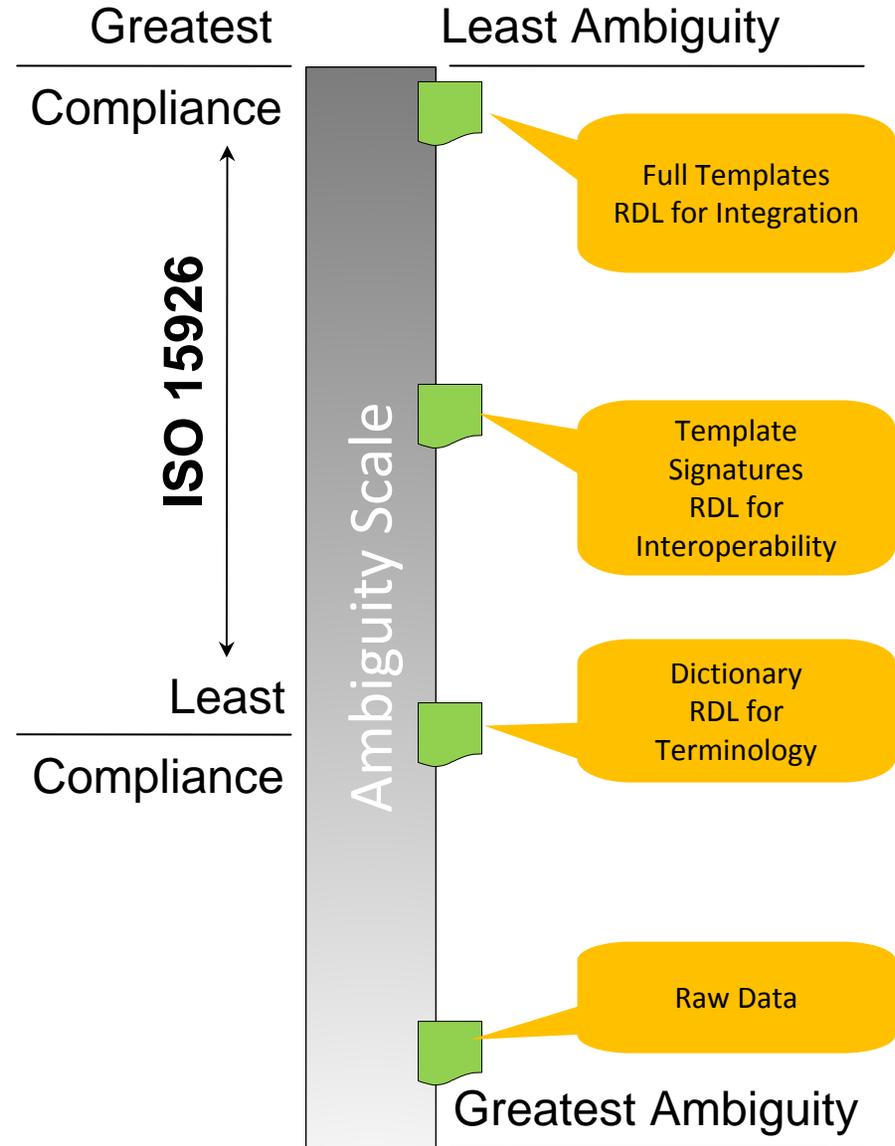
# Great! So what is ISO 15926

- ISO 15926 is an international standard issued by ISO. (duh!)
- ISO 15926 is based on principles and concepts that have been defined by the W3C and are known as the “Semantic Web”, “Linked Data”, or “Web 3.0”.
- Most significantly, ISO 15926 is about standardization of information representation. And it is specifically focused on the semantic precision of information representation, ambiguity reduction, and relationships.
- Less significantly, ISO 15926 is the standardization of technical implementations. (The standard is mostly implementation neutral.)

# Information Ambiguity

- Ambiguity between exchanging partners can require significant effort (labor) to remove
- The higher the ambiguity, the higher the cost to use information

**Ambiguity = Cost**



# Why is the Semantic Web Important?

## Linked Data

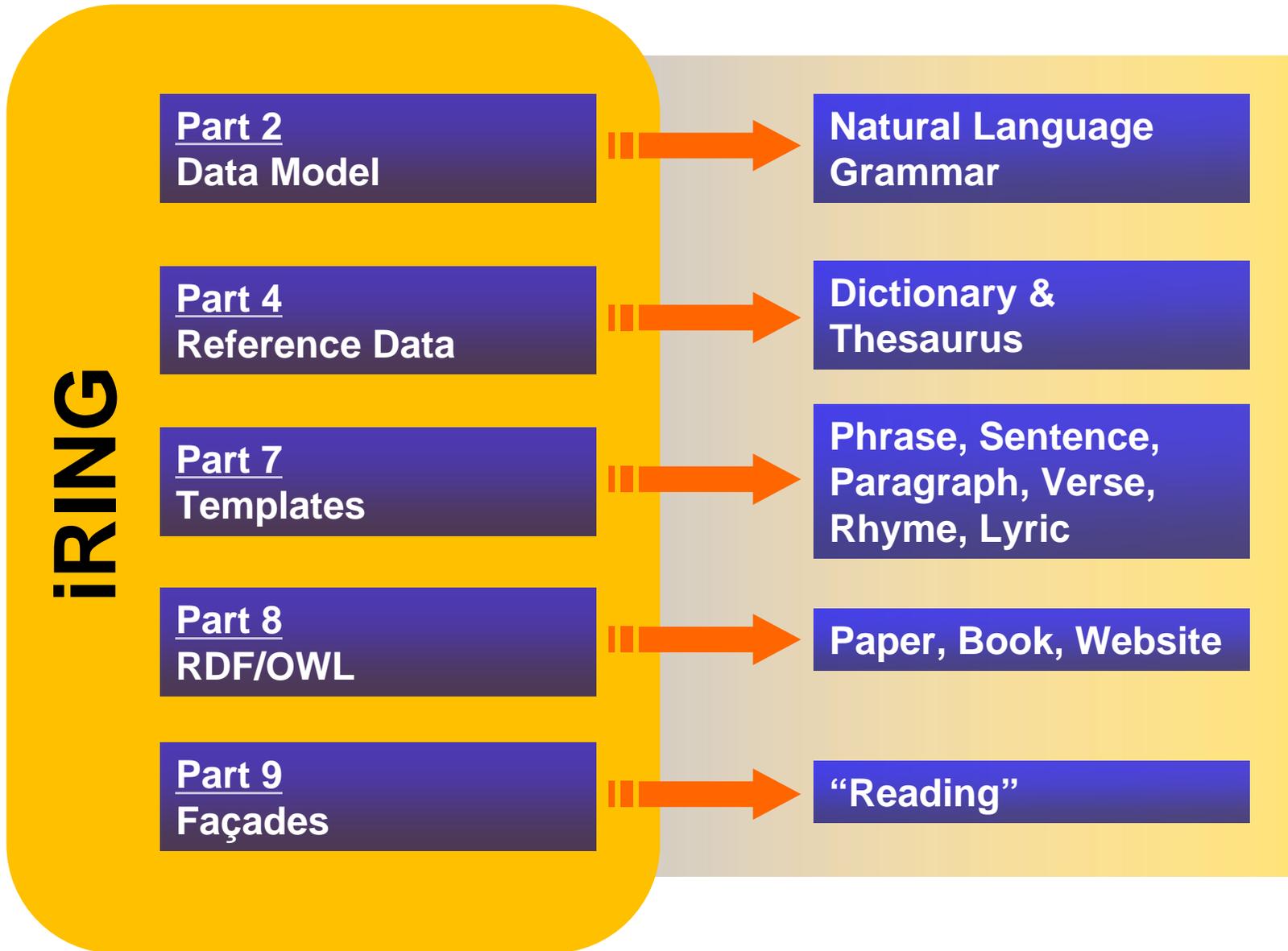
- The Semantic Web isn't just about putting data on the web. It is about making links, so that a person or machine can explore the web of data. With linked data, when you have some of it, you can find other, related, data.
- Like the web of hypertext, the web of data is constructed with documents on the web. However, unlike the web of hypertext, where links are relationships anchors in hypertext documents written in HTML, for data they links between arbitrary things described by RDF,. The URIs identify any kind of object or concept. But for HTML or RDF, the same expectations apply to make the web grow:
  1. Use URIs as names for things
  2. Use HTTP URIs so that people can look up those names.
  3. When someone looks up a URI, provide useful information, using the standards (RDF\*, SPARQL)
  4. Include links to other URIs. so that they can discover more things.

Tim Berners-Lee, <http://www.w3.org/DesignIssues/LinkedData.html>

# More on ISO 15926...

- ISO 15926 is a communication standard.
- ISO 15926 uses a grammar and vocabulary.
- ISO 15926 is 100% generic which makes it adaptable to any industry domain.
- ISO 15926 is about machines talking to other machines at a semantic level.

# ISO 15926 “Parts” Analogy



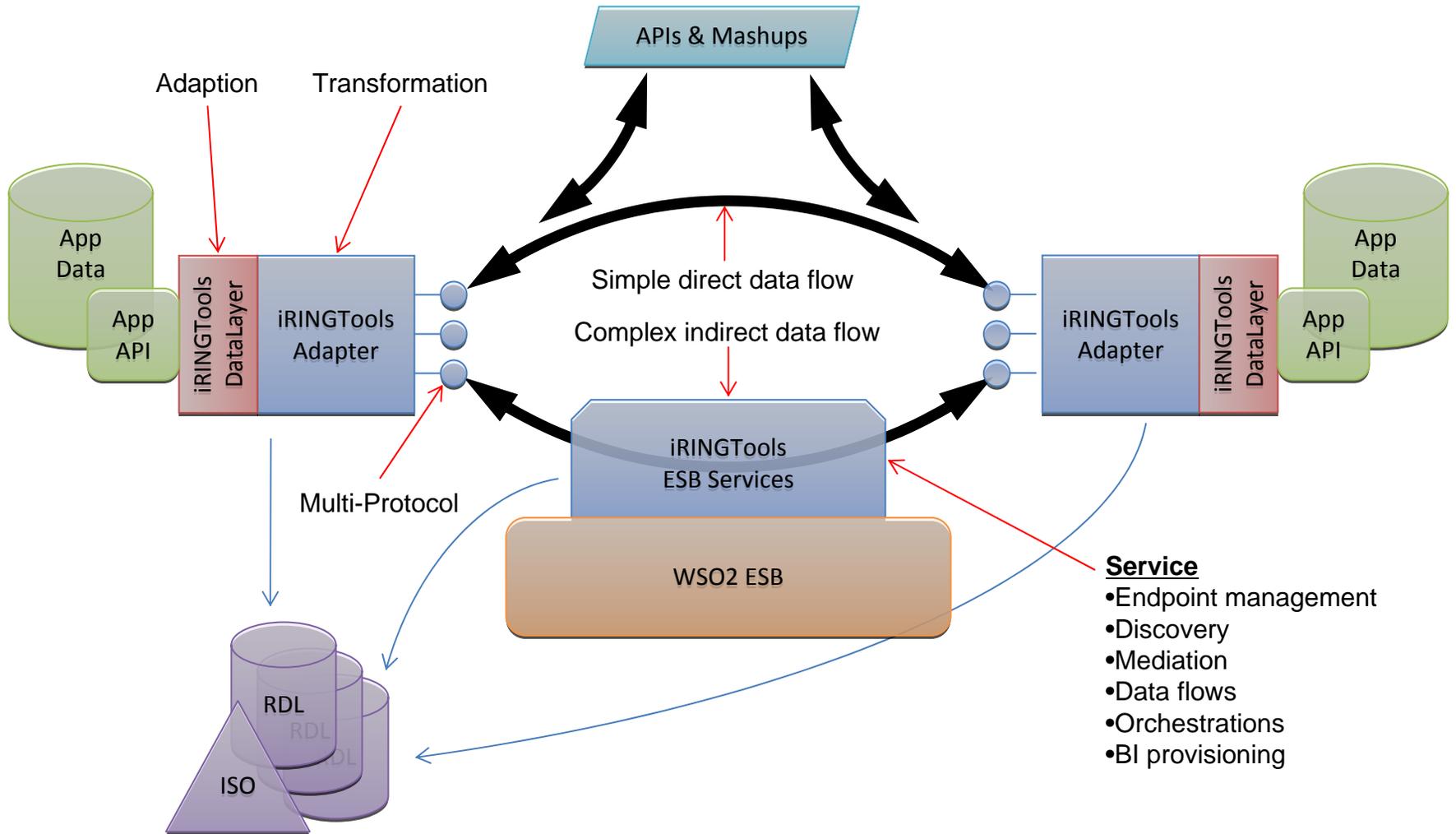
# Back to iRING

- iRING, as a brand, sets a clear expectation of the level of ISO 15926 compliance.
- iRING does not add anything to the standard and it is not separate from ISO 15926.
- There are implementations that are based on iRING: Bentley OpenPlant Interfaces and iRINGTools Services.

# iRINGTools

- “iRINGTools” is software and “iRING” is just a brand
- iRINGTools is open source software available at [www.iringug.org](http://www.iringug.org)
- iRINGTools is an adapter technology implementation that complies to ISO 15926/iRING
- As an adapter, iRINGTools creates and manages APIs for any data source as ISO 15926/iRING compliant interfaces.
- iRINGTools also includes additional services to manage the vocabulary of ISO 15926. This vocabulary is known as Reference Data (RD).

# iRINGTools Overview

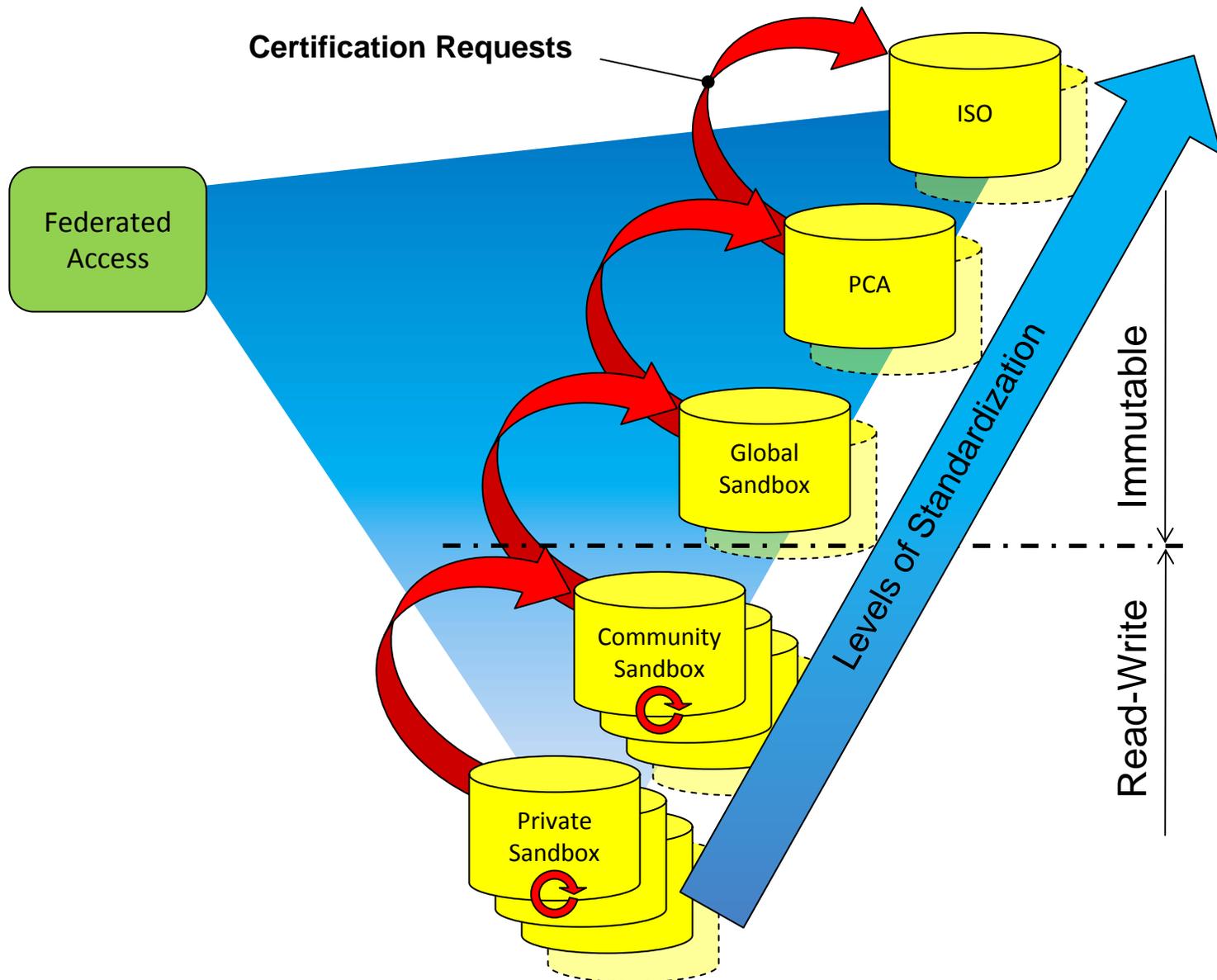


- Service**
- Endpoint management
  - Discovery
  - Mediation
  - Data flows
  - Orchestrations
  - BI provisioning

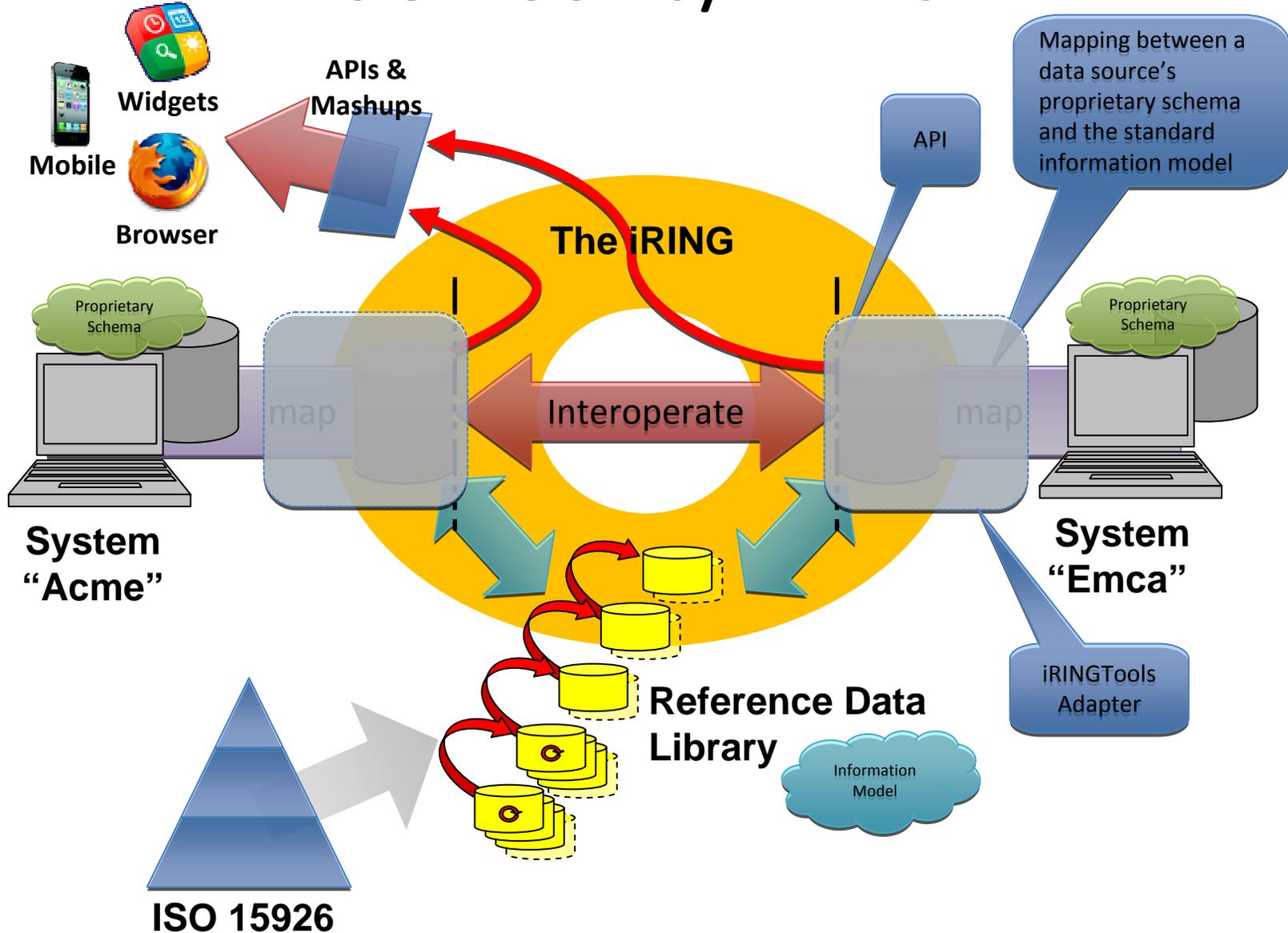
# ISO 15926 Reference Data

- Reference Data (RD) is the major component of ISO 15926
- RD defines a standardized grammar and vocabulary
- RD also defines the “information model” that all interfaces will use to represent their information
- The information model defines the relationships and semantics of information
- The RD as a single entity is federate: distribute across the internet and distribute across levels of certification
- RD contains both certified and Work In Progress (WIP) content
- RD is always extensible and can be extend quickly via the WIP process

# Reference Data Federation



# ISO 15926/iRING

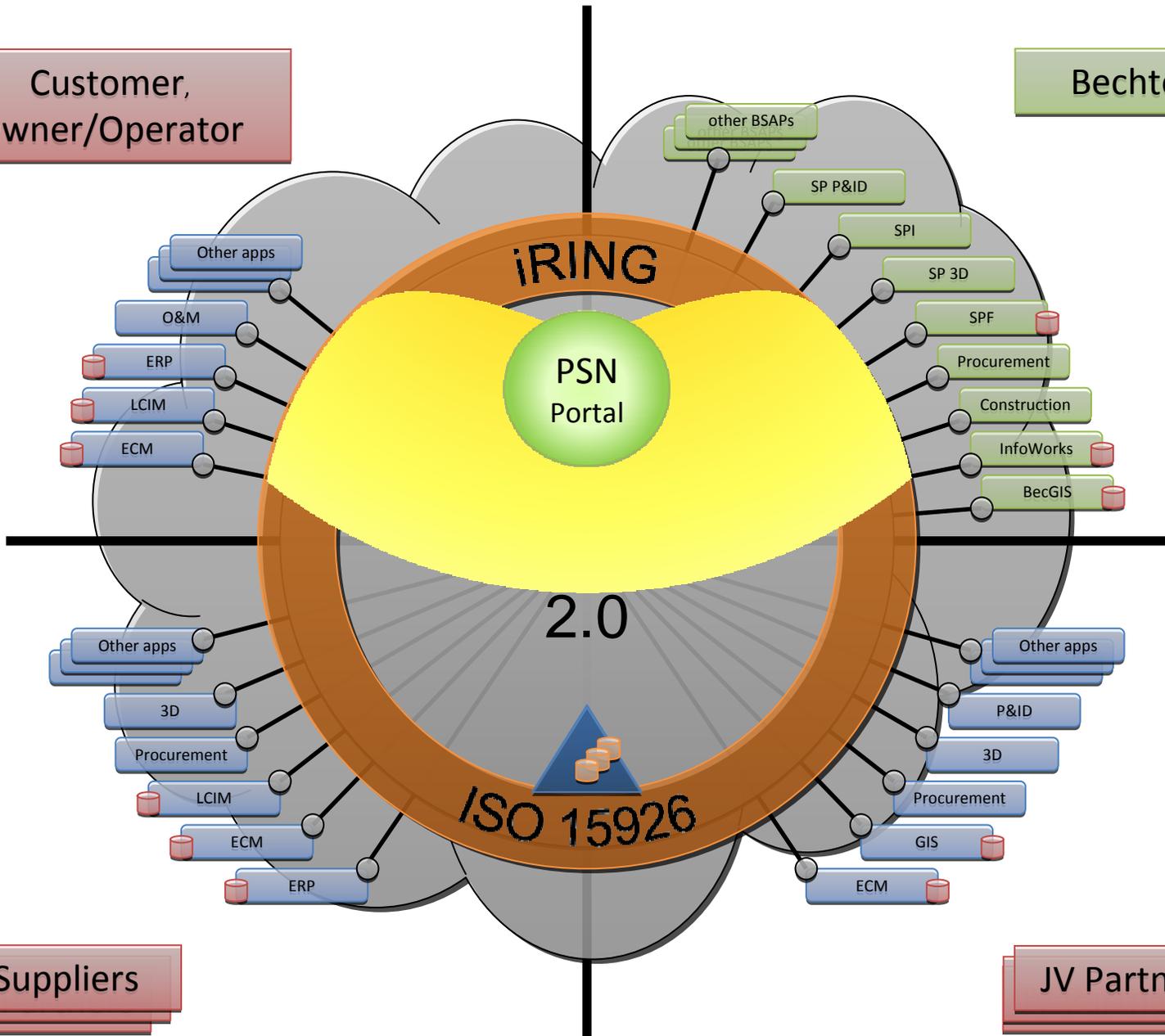


# Who is Adopting ISO 15926/iRING?

- Businesses
  - EPCs
  - OOs
  - OEM Suppliers
- Industries
  - Oil and Gas
  - Nuclear and Fossil Power
  - Mining and Metals
  - And many more to come...
- Countries
  - USA, UK, Australia, Russia, Brazil, Norway, and many other European countries

Customer,  
Owner/Operator

Bechtel



Suppliers

JV Partners

Questions?