

# ***JORD***

**Joint Operational Reference Data Project**  
*enhancing the*  
**PCA Reference Data Service (RDS) Operation**  
*in partnership with FIATECH*

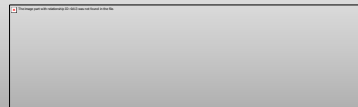
**Delivering authoritative core operational  
ISO15926 compliance needs.**

**Ian Glendinning**

**JORD Project Update @ PCA Forum & Members Meeting  
Brisbane, QLD - 30<sup>th</sup> October 2012**



+ ISO15926 +



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Primary focus on ISO15926 & Reference Data since 1996

Many collaborations ....



**STOP PRESS** - Latest news (press-release last week)



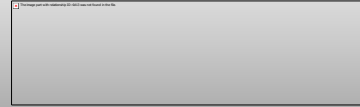
All PCA & Fiotech initiatives on use of ISO15926

Adopt the common iRING branding



And the common communication channel [iRINGToday.com](http://iRINGToday.com)

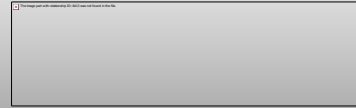
In that context the **JORD** project delivers the **authoritative core operational** ISO15926 compliance needs



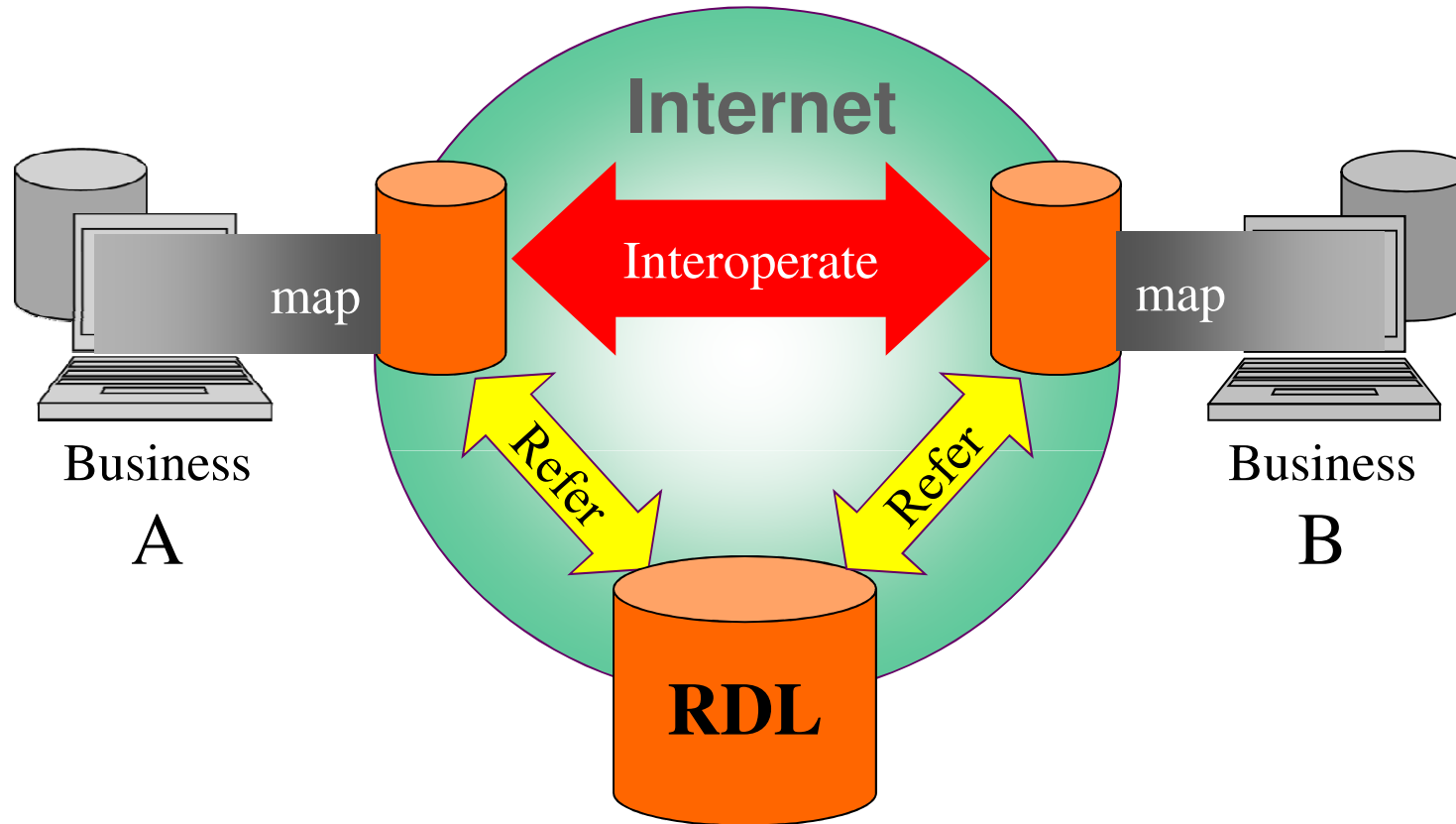
## JORD Update - Agenda

- Basic background ISO-15926 & PCA RDS Objectives
- JORD Objectives and Project Scoping / Phasing
- Successful deliveries achieved in Phase 1
- Specifically focus on “Compliance” related deliverables
  - Mapping Methodology – How to use 15926 compliantly
  - Compliance Specification – What it means to be compliant
  - (Validation Procedures - How we verify, test, validate and certify compliance)
- Overall project status and Phase 2 Plans.

*(Key words: Core, Coordinated & Authoritative)*

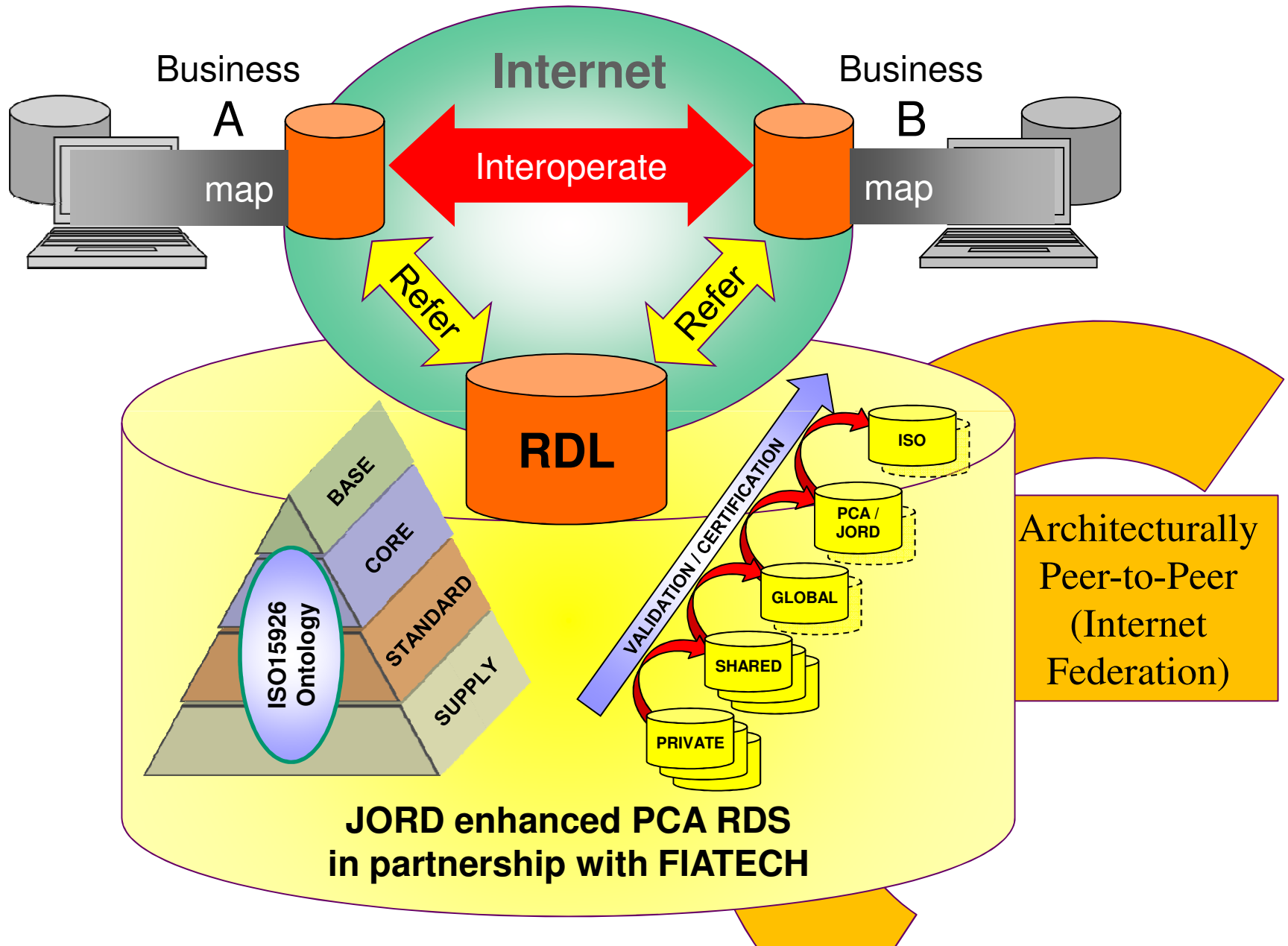
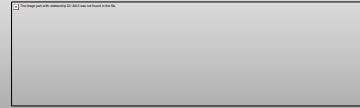


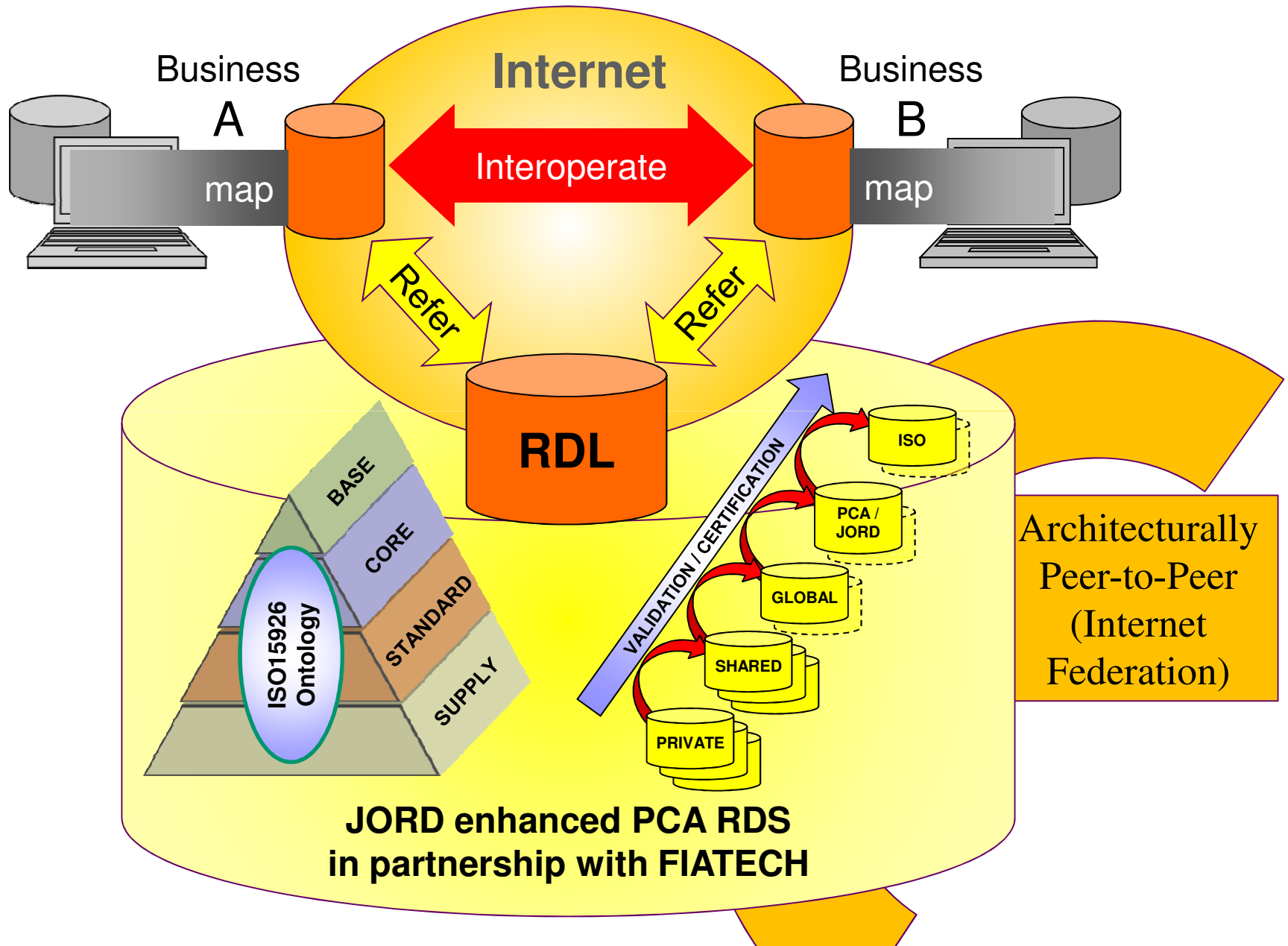
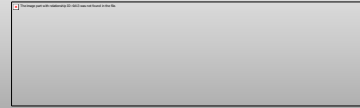
ISO15926 *at its simplest* ...

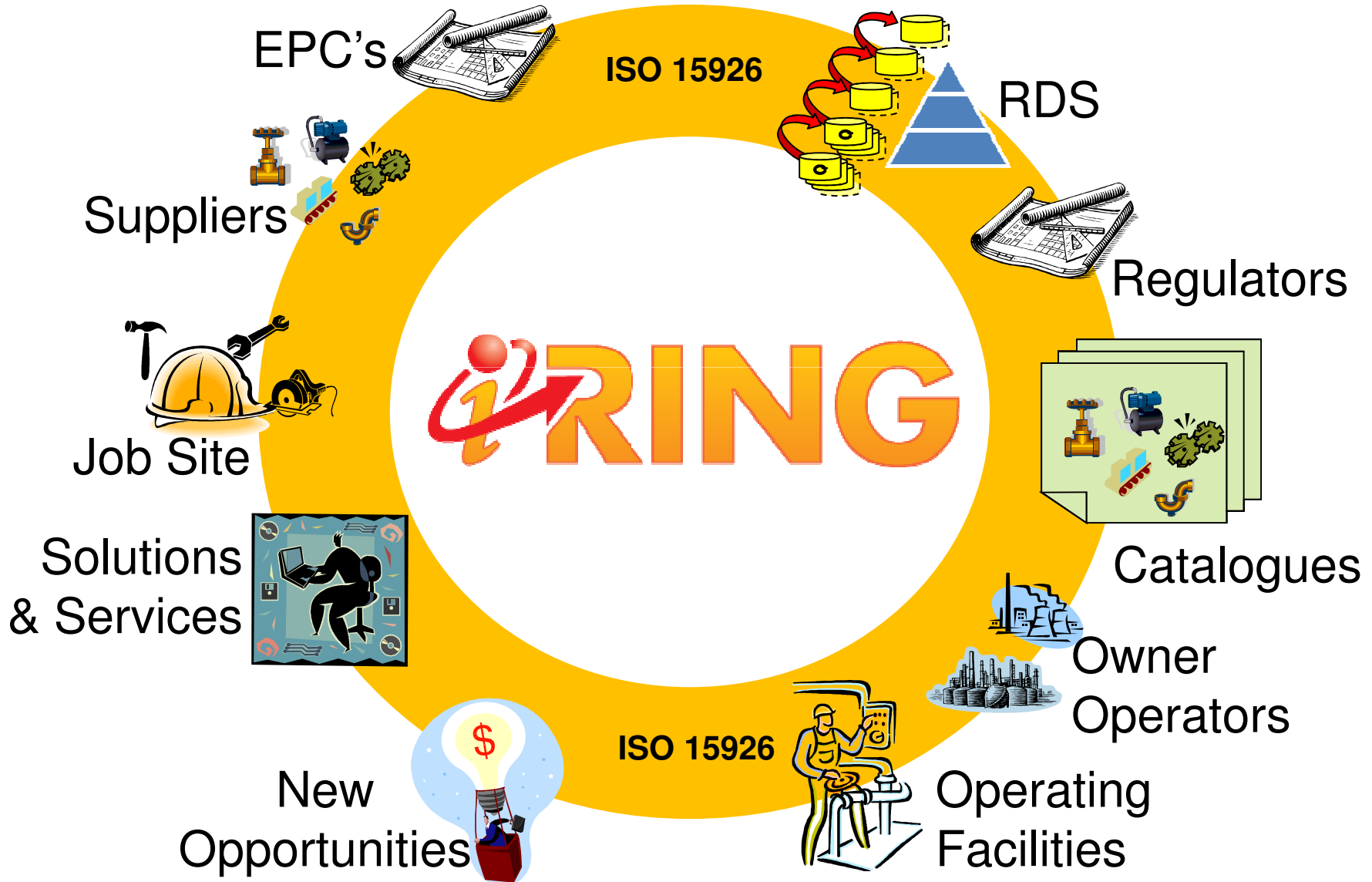
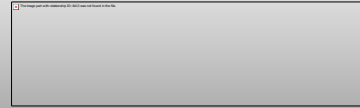


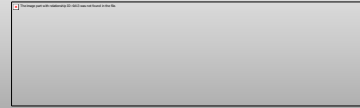
Using *standard shared references* & sharing references used, reduces business ambiguity & reduces mapping overheads.

**Makes interoperability easier and reduces risk & cost**









## Reducing ambiguity and reducing mapping overheads ... Makes interoperability easier and reduces risk & cost

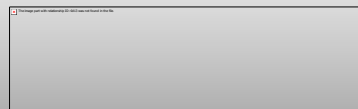
- **Direct-cost-and-time-savings** in reducing effort in transferring & mapping data across business interfaces and in simply finding & accessing information necessary to do your business.
- **Risk-and-cost-reductions** in the quality and ambiguity of information which otherwise lead to sub-optimal business operations, failure to satisfy regulators or, in the worst case, loss of health, safety & environmental integrity.
- **Freedom & flexibility** to take advantage of platform-independent, technology-neutral, collaborative business processes, flexible business partnering, and different subcontracting arrangements across your geographically distributed, even remote & inhospitable, evolving business operations and supply-chains.

**Know your own *specific* business case & scope priorities**





+ ISO15926 +



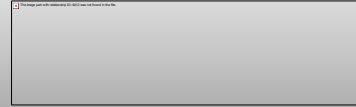
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**JORD Core Services – Not-for-Profit Operation – PCA RDS enhanced in partnership with FIATECH**

Read / Export Content	Free to anyone.	Primary Service. All references resolvable to immutably-unique content, all readable, exportable. Supported formats include Browser UI, MDB, SQL, Excel, HTML, XML and RDF/OWL/SPARQL. Copyright & IPR licensing apply.
Core Content Mgmt & Validation	Available to <i>charter</i> Project Subscribers & Sponsors & to Fee-paying service users.	Maintenance and fixes of core content only and testing of proposed changes, etc. (for <i>new</i> domain content, see below).
Support for Users, Projects & SIG's		Maintenance of core procedures and support requests concerning use of core content and processes (For <i>new</i> content processing, see below.)
Create / Read / Export new ID's	Available to <i>charter</i> Project Subscribers & Sponsors & to Fee-paying service users.	Registered users to the management services are free to generate new lifecycle-immutable Global ID's for content in locally or remotely managed WIP Libraries / Sandboxes, etc.
Content Write	(who are also Certified)	Certified users will be able to write content directly (with appropriate meta-data controls on provenance & quality) Partitions of federated WIP /Sandbox content become effectively hosted and publicly accessible.
New Content & Standardization	Available as fee-paying value-adding services. (Per project / per scope.)	Estimated cost per value-added scope - Price list / rates intended. Will arise from both Commercial Projects and Collaborative "SIG's".
Certification of Users, Org's, Tools & Interfaces		Estimated cost per value-added scope - Price list / rates intended. Organized around Compliance Checklist with scopes per BIDG or other transaction sets. ( <i>Economic self-certifying</i> components, as well as services.)
Training & Related Consulting		Estimated cost per scope - Price list / rates development possible. ( <i>Note that these are services related only to providing and using the core RDS Operations content and procedures. Additional services are supported by commercial consultants in content creation, interoperation and integration solution planning and implementation.</i> )

Plus, operational services, business, marketing and back-office functions supporting *core* services. (Other than core 15926 technical & coordination functions –  
 – infrastructure and substrate technologies & specialist services are competitively outsourced.)



## JORD Project Scoping

A - Compliance, Validation & Methodology

B - Services Platform & Publishing Tools

C - Training Resources

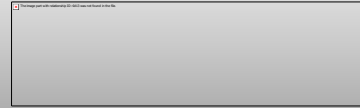
D - Services Organization & Business Resources

## JORD Project Phasing

Phase 1 Technical Enhancements & “Fixes” (*May 11 to July 12*)  
(*Fixes - known issues, known solutions, known resources*)

Phase 2 Scalable Platform & Organization (*Up to 2 years*)

Phase 3 Self-Sustaining Business Services Operation (*Thereafter*)



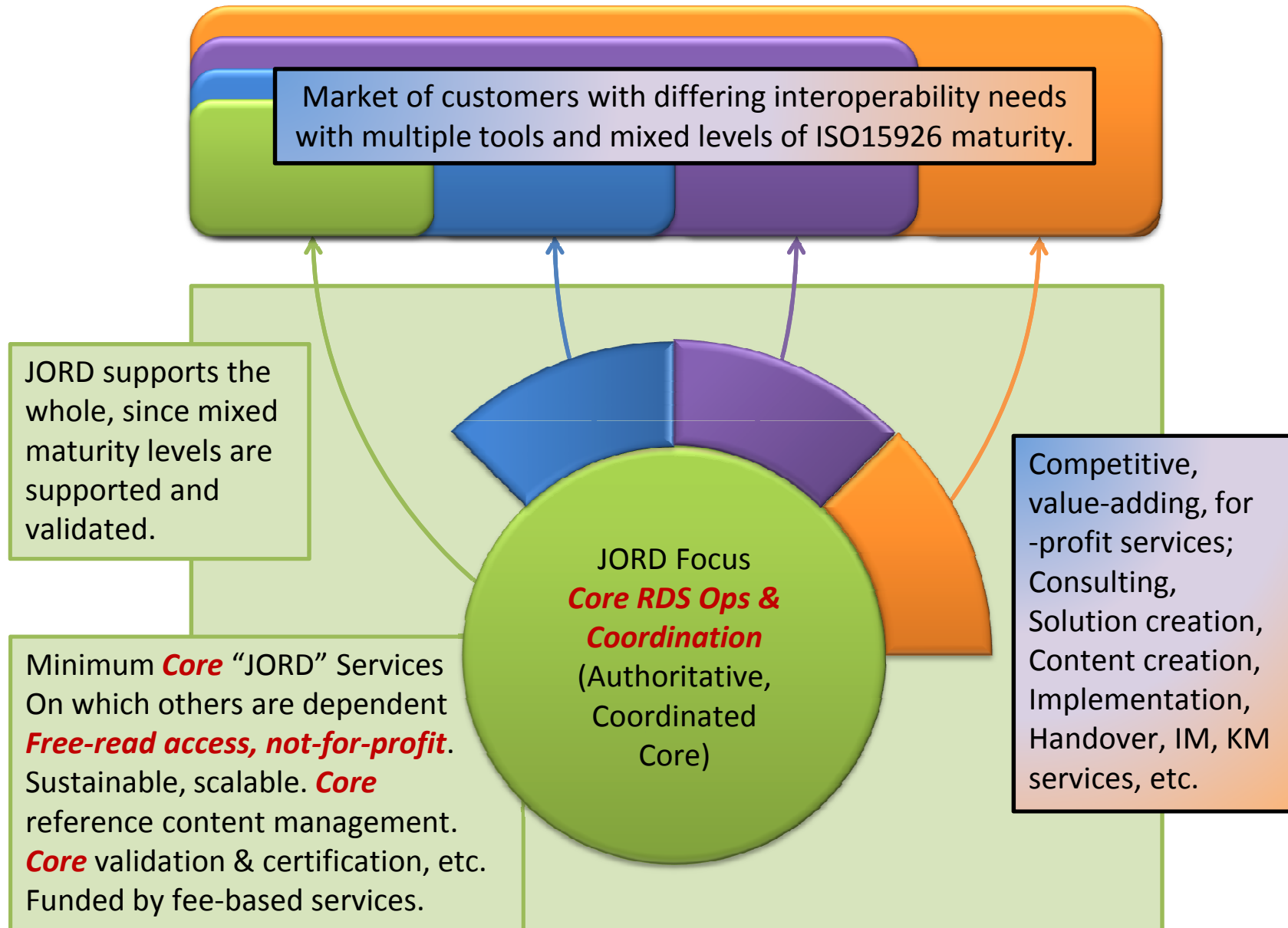
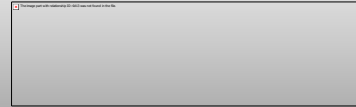
## Ultimate aim - Scalable & Sustainable ?

**Really about credibility and dependability:**

**Not being megalomaniac - focussing on the authoritative core of the federated whole, not attempting management control of all reference data for every industrial use.**

**Having a business model and funding for self-sustaining operation.  
Infrastructure for 24x7x365 operation & growing, federated content,  
Organization & governance model for long-term viability,  
Critical paths not dependent on a few specialists, etc.**

**Professional business arrangements  
on which industrial users can rely**





## JORD Compliance Scope

JORD Mapping Methodology

HOW to make your data ISO15926 *compliant* at business interfaces

JORD Compliance Specification

WHAT it means to be ISO15926 *compliant*

JORD Compliance Validation Procedures

HOW we assess, validate, verify, test, certify *compliance*.

*Note:*

This is primarily about being compliant,

*Not* about whether the information / application is actually useful.

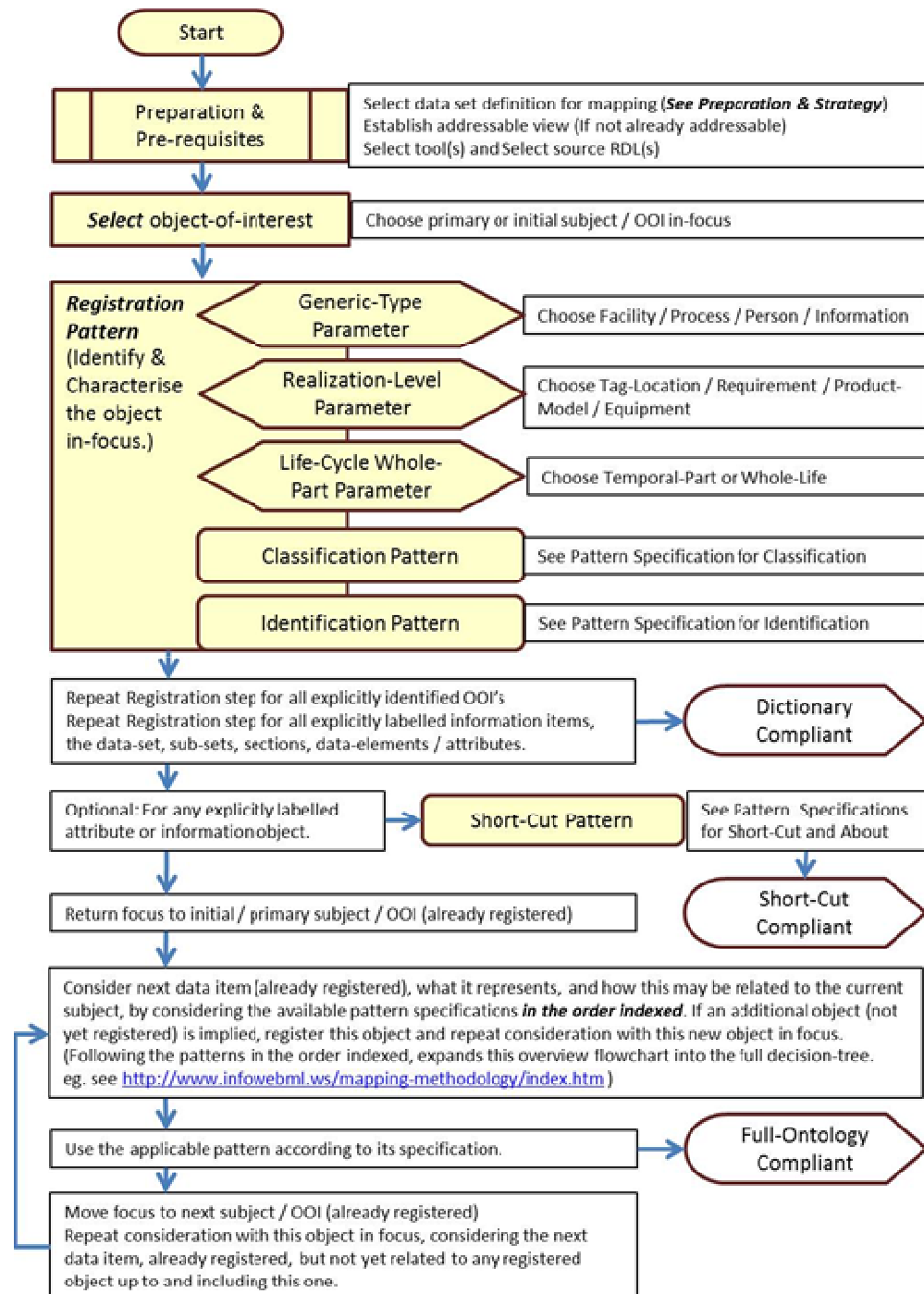
And it's about the information being unambiguous,

*Not* about whether your information is actually correct.

## Procedure / Process View Taken from Methodology

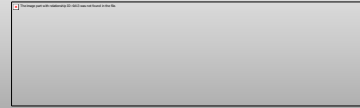
### Note:

- Targeted at business domain (SME) experts (*Pipe-stressing analogy*)
- Objective is to achieve defined levels of compliant mapping.
- Expansion of the decision-tree (*20 Questions analogy*) & repeating loop currently evolving (managed by PCA MMT SIG Sub-group)  
<http://www.infowebml.ws/mapping-methodology/index.htm>



## Compliance Maturity Levels Checklist (v8) for Product Interface / Version \_\_\_\_\_ / \_\_\_\_\_

Compliance Categories		Compliance Levels per Compliance Specification	MATURITY LEVEL CHECKLIST SUMMARY (For full definitions, the referenced paragraphs in the Compliance Specification govern.)	User Required	Provider Claimed (Check or summary only - provide supporting documentation as necessary)	JORD / PCA Validated
Technical	Semantic Modeling	2.1 (i)	<b>Dictionary &amp; Typing Level</b> - Identification, Specialization & Classification template signatures only.			
		2.1 (ii)	<b>Short-Cut Relations Level</b> - As Dictionary Level plus <i>CoRwS</i> or other (eg <i>Gellish</i> ) "Short-Cut" template signatures.			
		2.1 (iii)	<b>Full Ontology Level</b> - Any / all valid template signatures supported.			
	Referencing Technology	2.2 (i)	<b>Local Naming Level</b> - RD URI's resolved and naming self-contained in schema representation.			
		2.2 (ii)	<b>URI Reference Level</b> - Dependency on RD URI's being resolvable.			
	Representation Technology	2.3 (i)	<b>No Explicit XML Schema Level</b> - Implicit / document / formatted / tabular / non-XML schema.			
		2.3 (ii)	<b>Explicit XML Schema Level</b> - registered XML Schema			
		2.3 (iii)	<b>RDF/OWL Schema Level</b> - eg Part 8			
	Interface Technology	2.4 (i)	<b>File Exchange Level</b>			
		2.4 (ii)	<b>API or Query Level</b> - other than Part 9 / SPARQL			
		2.4 (iii)	<b>SPARQL Query Level</b> - eg Part 9 Façade			
	Business	Industrial Standardization	2.5 (i)	<b>Local Sandbox Level</b> - Community or individual organization with no externally certified RDL management.		
2.5 (II)			<b>Global Industrial Level</b> - externally certified RDL			
2.5 (III)			<b>PCA/JORD Level</b>			
2.6 (iv)			<b>ISO Level</b>			
Payload Content		2.6 (i)	<b>Generic Level</b> - Tool capability independent of payload.			
		2.6 (ii)	<b>Explicit Scope Level</b> - Scope per BIDG or otherwise defined			
Change-Management Meta-Data		2.7 (i)	<b>Identity Only Level</b> - all data elements & sets identifiable / explicitly addressable			
	2.7 (ii)	<b>Version Level</b> - identification of succeeding / superceding				



## Phase 1 *Technical Fixes* Success

### **Compliance:**

- Mapping Methodology – Issued – (and good MMT SIG agreement)
- Compliance Specification – Issued – (and customers already using to assess their own compliance, performing gap-analyses, requesting PCA assessment of their compliance, etc.)
- (*Validation Procedures – In Phase 2 per plan*)

### **PCA RDS Platform Enhancement:**

- Triple-Store EndPoint – Live and supported (and being used)
- Sandbox Hosting – Live and supported (and being used)
- On commercial ISP's/Hosts/Cloud with full PCA control.

**Business Model Development:** – Common iRING branding agreement, using iRINGToday channel for market & business-case resources.



# ERH - Semantic Web

## Evolution:

- Web 1.0 - Pages and documents
- Web 2.0 - Social networking
- Web 3.0 - Semantic Web

- ✓ Resource<sup>1)</sup> Description Framework (RDF)

- RDF is a distributed data model on the Semantic Web consisting of a triple



- ✓ Web Ontology Language (OWL)

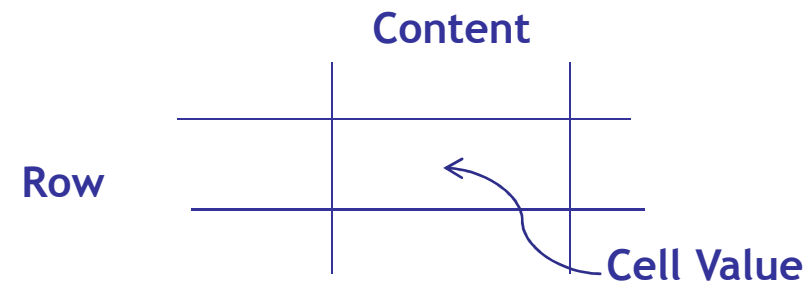
- OWL is very expressive language and provides bases for reasoning - all written as triples

- ✓ Simple Protocol and RDF Query Language (SPARQL)

- Query on RDF triples - similar to SQL for RDB

<sup>1)</sup> A resource is anything that someone want to talk about and that has a unique address through a Uniform Resource Identifier (URI)

## Table



Any table of data might be expressed as RDF triples where

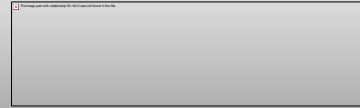
- ✓ Subject is the row number
- ✓ Predicate is the column content
- ✓ Object is the cell value

Subject and Predicate are resources

## Why ontologies?

The real world is complex and changing, you need a solution that can cope with that complexity and adapt with the changes.

That's what ontology does for you



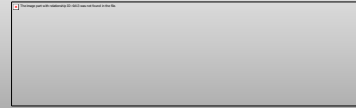
## Phase 2 “Scalable Platform & Organization”

### Look-ahead arising from Phase 1

- Align PCA & Fiotech EL9 coordination with iRING & JORD
- Address *additional* business benefit of compliance levels.
- Ongoing live / active support & maintenance for working use of Methodology, Compliance, Endpoints & Sandboxes.
- Shift our focus from technical “fixes” to business services operational and market support organization, and management tools.

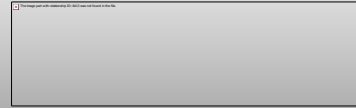
### The rest of Phase 2 scope:

- Overall scope defined and agreed with participants, per original project definition confirmed in July update.
- Detailed Phase 2 planning in progress – (next >>)
- Detailed requirements workshop(s) for key management tools.
- Additional funding *will* be needed to achieve scope.  
(Ph1 800K sought, 435K raised and used, Ph2 *min* 2.2m ~ 900K committed)



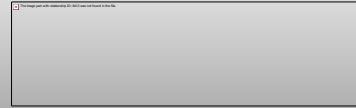
## Phase 2 Plan - “Scalable Platform & Organization” (#1)

- Target Completion June 2014
- Target Deliverable Milestones in 2013 include:
- A - Compliance, Methodology & Validation scope
  - Validation Procedures (for RDL & Business Interfaces)
  - Core Template Pattern RDL content for Pattern Mapping Methodology.
  - Business Interface scoping element (BIDG) of Compliance Spec.
- B - Platform & Tools scope
  - Scalable & reliable technical infrastructure & business substrate
  - Enhanced RDL Management Tool to replace legacy tool.
  - New Interface Pattern Mapping Tool (embodying methodology & content)
  - Other validation tools (later)



## Phase 2 Plan - “Scalable Platform & Organization” (#2)

- C - Training Resources scope (*General - non tools or methods specific*)
  - Train the trainer focus.
  - Opportunistic and customer project driven in 2013  
(15926/iRING/RDS approach, Business case development, 15926 modelling)
- D - Business Resources scope
  - Business Plan (for sustainable Phase 3 business operation)
    - Agreed scope and outline Feb 2013
    - Final detail business plan Sep 2013
  - Staff / contractor resources and operating procedures (per business plan)
  - Marketing Resources
    - iRINGToday channel and content (Business case success stories, Business value-add of increasing Compliance Levels, JORD milestone achievements, FAQ's, etc.)
  - Service Sales and Finance Resources
    - Service descriptions and price lists, T's&C's, SLA's, Customer accounting



## You need the JORD Project ...

- You need the benefits of ISO15926 Reference-Data-Based Interoperability. So you need the **core** JORD deliverables and services. We all need the **authoritative & coordinated** clarity on the status of all other **iRING** (ISO15926) deliverables & resources.

## ... so the JORD Project also needs you

- JORD still requires additional funding and resources to deliver the remaining 2 year scope (*including* operational support).
  - With thanks and acknowledgements to Charter Members: Sponsors
    - EPIM, RosEnergoAtom, Black&Veatch, CCC, Hatch & VNIIAES;
    - Supplementary Subscribers Woodside, Dow, Bechtel & Emerson

More information - <https://www.posccaesar.org/wiki/FiatechJord>

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