

The JORD Project is now under-way Enhancing the use of Reference Data

[*Joint (PCA & FIATECH) Operational Reference Data Project*]



**PCA Europe & Africa,
Forum & Member Meeting
Oslo: 7th June 2011**

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Member &

FIATECH

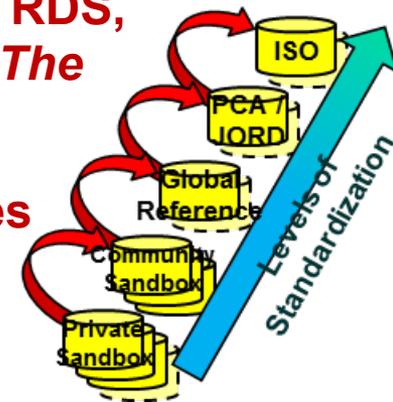
Member

JORD is now under-way - Agenda

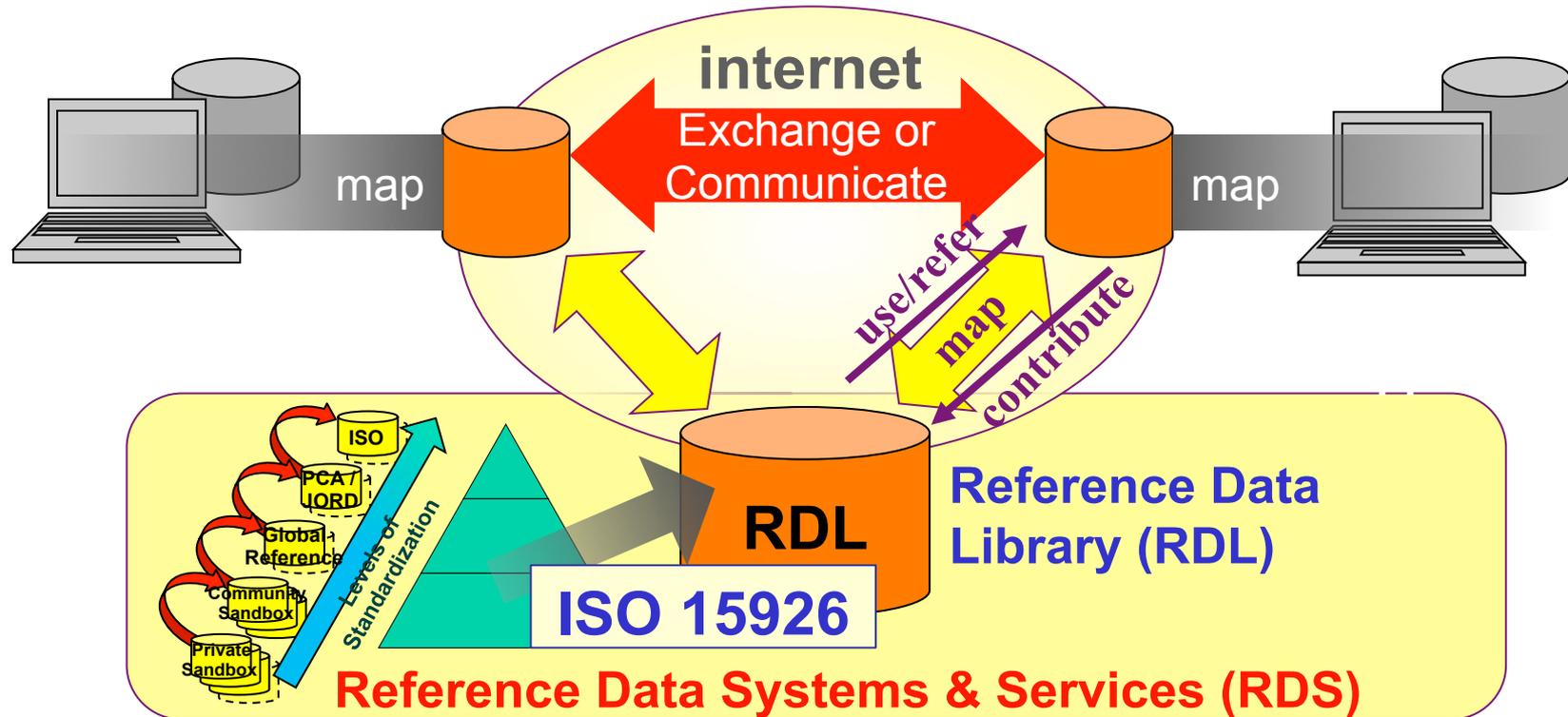
- Outline Scope / Aims / Business Model
- Technical Priorities
- Latest News & Status

If you are committed to ISO15926 - you already know :

- *You depend on Reference Data and the success of JORD*
- *Existing PCA & FIATECH project collaborations since 2006/7
IDS-ADI > iRING-UG > exponentially increasing demand for RDS,
over and above the growth in PCA members own projects. *The
vision of web-federated reference data.**
- *Challenge to enhance existing PCA Reference Data Services*



ISO15926 interoperability at its simplest



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

Makes interoperability easier *and* reduces risk & cost.

Many business-cases – you need one to call your own.



Scope Diagram

JORD Aims & Objectives

- Deliver ***robust, scalable & sustainable*** service operation
 - Technical infrastructure for 24x7x365 operation, ever-increasing content
 - Critical RDS Publishing technology fixes / enhancements
 - Critical processes and procedures no longer dependent on a few specialists
 - Business & governance model for long-term, self-sustaining viability
- Deliver ***validated compliance***
 - Content validated as consistent, visible, known quality
 - Implementations, uses & mappings validated & certified as compliant
- Enable ***easier & wider adoption***
 - Organization & resources to enable broad uptake of ISO 15926
 - Business case support as well as technical implementation training resources



JORD - Business Model Essentials

- Planned intent is to achieve zero (or minimal) need for ongoing “subscriptions” and/or sponsorships – and *still* non-profit entity & free-read at point of use. **All income is to be derived as “fees” from the specific *value-adding* services.**
- *Initially* (during **project** timeframe, *and* until new enhanced **service business** stream is established) ... within 3 years according to the plan ...
 - Base Subscriptions are (approximately) equivalent to existing PCA membership subscription contribution to existing operations. They ***do not significantly contribute*** to JORD Project funding. (Historically this has been topped up by major sponsorships ...)
 - Supplementary Subscriptions allow existing or new subscribers to make additional affordable contribution to the project funding needs.
 - Sponsors are making the major project funding contribution, and are recognized as such in project steering representation and in a measure of pre-paid benefits.
- **Full Sponsor (USD) = Owner-Operator 100K/yr : Others 40K/yr for 3 years
(or lumps sums of 250K and 100K)**
Supplementary Subscriber (USD) = Owner-Operator 50K/yr : Others 25K/yr

JORD Deliverable – Defined *Core* Services – Not-for-Profit Operation

| | | |
|------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Read / Export Content | Free to anyone. | Primary Service. All references resolvable to immutably-unique content, all readable, exportable (Supported formats include Browser UI, MDB, Excel, HTML, XML and RDF/OWL.) Copyright & licensing apply. |
| Core Content Mgmt & Validation | Available to <i>initial</i> Subscribers & Sponsors & 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>initial</i> Subscribers & Sponsors & Fee-paying service users. | Registered users to the management services are free to generate new Global ID's for content in their locally managed Libraries / Sandboxes, etc. |
| Content Write | (who are also Certified) | Users who achieve a level of certification will be able to write content directly (with appropriate meta-data controls on provenance & quality) |
| 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". |
| Compliance Validation 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 - Key *Technical* Priorities

- **Technical – Consolidate core compliance and usage methodology.**
 - Based on existing PCA & FIATECH – IDS/ADI – guideline documents on both mapping methodologies and compliance – and experience since in iRING-UG, EQ-Hub and other projects.
 - Consolidate “V7” Compliance Guideline in JORD plan - formalize definition & authority on compliance validation.
 - Consolidate core content fixes on which methodologies depend (*only*).
 - All technical aspects, but *implementation-technology-neutral*.
- **Technical – Fix and support mixed content publishing systems.**
 - Mix of legacy DB and newer project-specific Triple-Store & ID-Generator systems & Endpoint / URI / Namespace conventions >> Select candidate components and fix publish / update processes and supported options.
 - *Plus* develop specification and ITB / RFP for *potential future* upgrade needs to support scalability needs.
 - All *implementation-technology-specific* aspects.
- **(Training resources, courses and materials - now also high priority)**

JORD - History & Latest Status

- **2006 to 2009** joint PCA & FIATECH (IDS-ADI), Matrix, Proteus, Camelot, Avalon projects, *continuing in iRING and SIG's as well as ongoing PCA projects and collaborations*
 - > Greater **demand** for ISO 15926 reference data quality, system functionality, compliance and services across wider range of industries.
- **2009** – Avalon (iRING) **challenge** to enhance existing PCA RDS
 - > Independent PCA & FIATECH initiatives > commitment to joint initiative.
- **2010** – PCA and FIATECH **announced** the JORD Project – Phase F
 - > Feb to Aug Project definition > Scalable & sustainable business operation
 - > Sep to Nov Prospectus for funding & participation in JORD project.
 - > “**Enhanced PCA RDS created in partnership with FIATECH**”
- **2011**
 - Jan / Feb PCA & FIATECH Members express interest in funding.
 - Feb 24th Houston, FIATECH & PCA Boards jointly commit to JORD execution.
 - Apr 18th/20th Phoenix, FIATECH Conference & iRING Workshops many additional and new members express interest.
 - May 4th London, Phase 1 Execution Kick-Off with interested members.





JORD - Phase-1 Execution KO - 4th May 2011

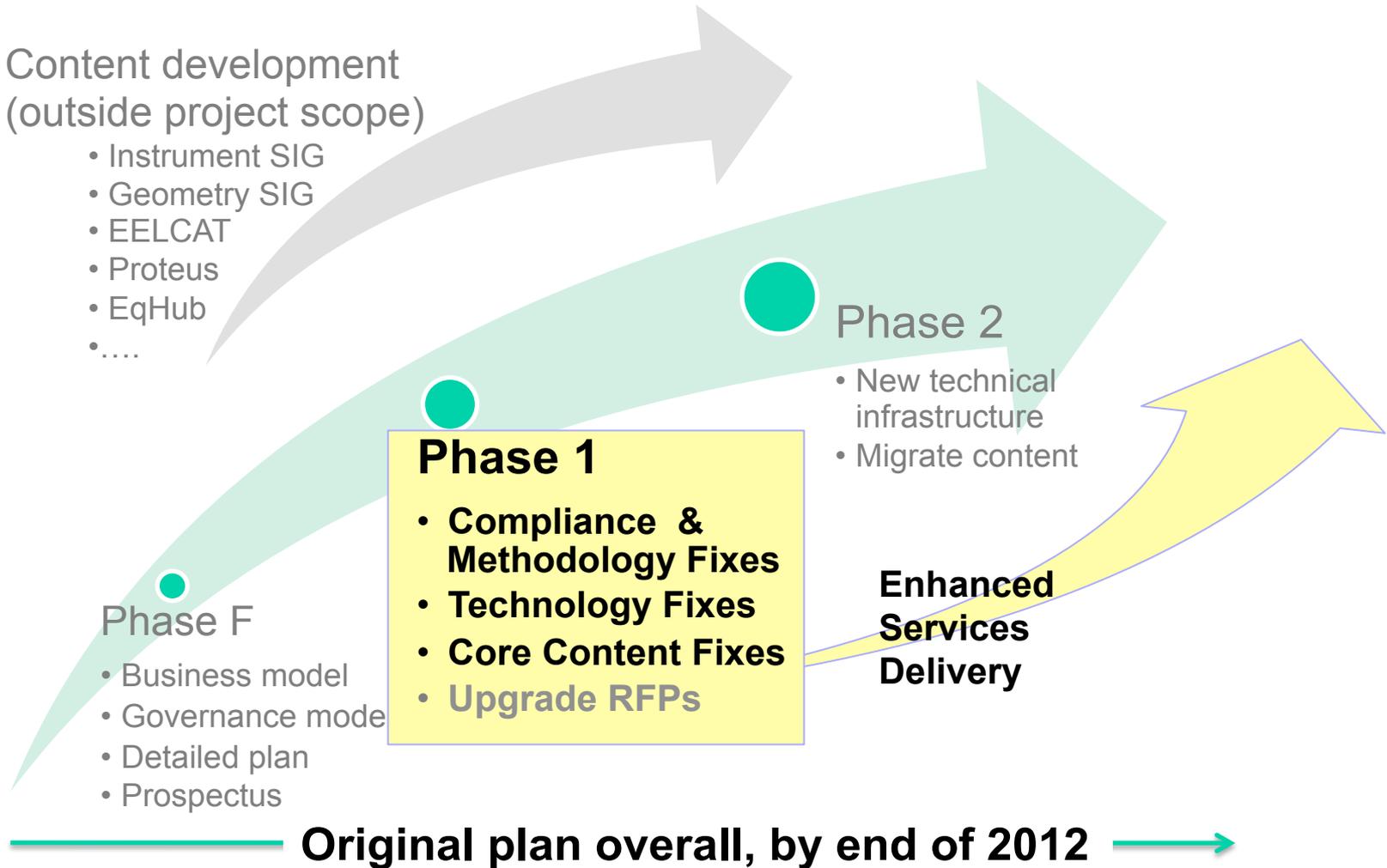
- **Interested Parties - 21 Companies (+ 4/5 more considering)
(as Sponsors & Supplementary Subscribers)
3 Associations, 6 Owner-Operators, 9 Contractors, 3 SW Vendors(*)**
- **Attending the KO - 13 Companies (10 in London, 3 on-line)**
Main actions:
 - Project deliverables list (including priorities) & Phase 1 plan
 - Contract & funding terms
 - Management Committee / Monthly Reviews (next Thurs 9th June, 5pm Oslo)
 - Planning windows for selected specialist working sessions on the two technical priority items Q2 / Q3 2011
 - the Compliance & Usage Specs and the Endpoint Publishing Tools & Technology Fixes
 - Founding member commitment by 1st Sept 2011

Note (*) Phase F Front-End funding in 2010 was provided equally ...
50% by all PCA Members subscriptions generally, and
50% by individual contributions from specific FIATECH members - AspenTech,
AVEVA, Bechtel, Bentley, CCC, CH2M HILL, Dow, Fluor, Intergraph and Shaw.

JORD Summary

Content development
(outside project scope)

- Instrument SIG
- Geometry SIG
- EELCAT
- Proteus
- EqHub
-



Latest - Phase 1 Plan - KO May 2011, Complete ~ Q1/Q2 2012



More information ?

More information:

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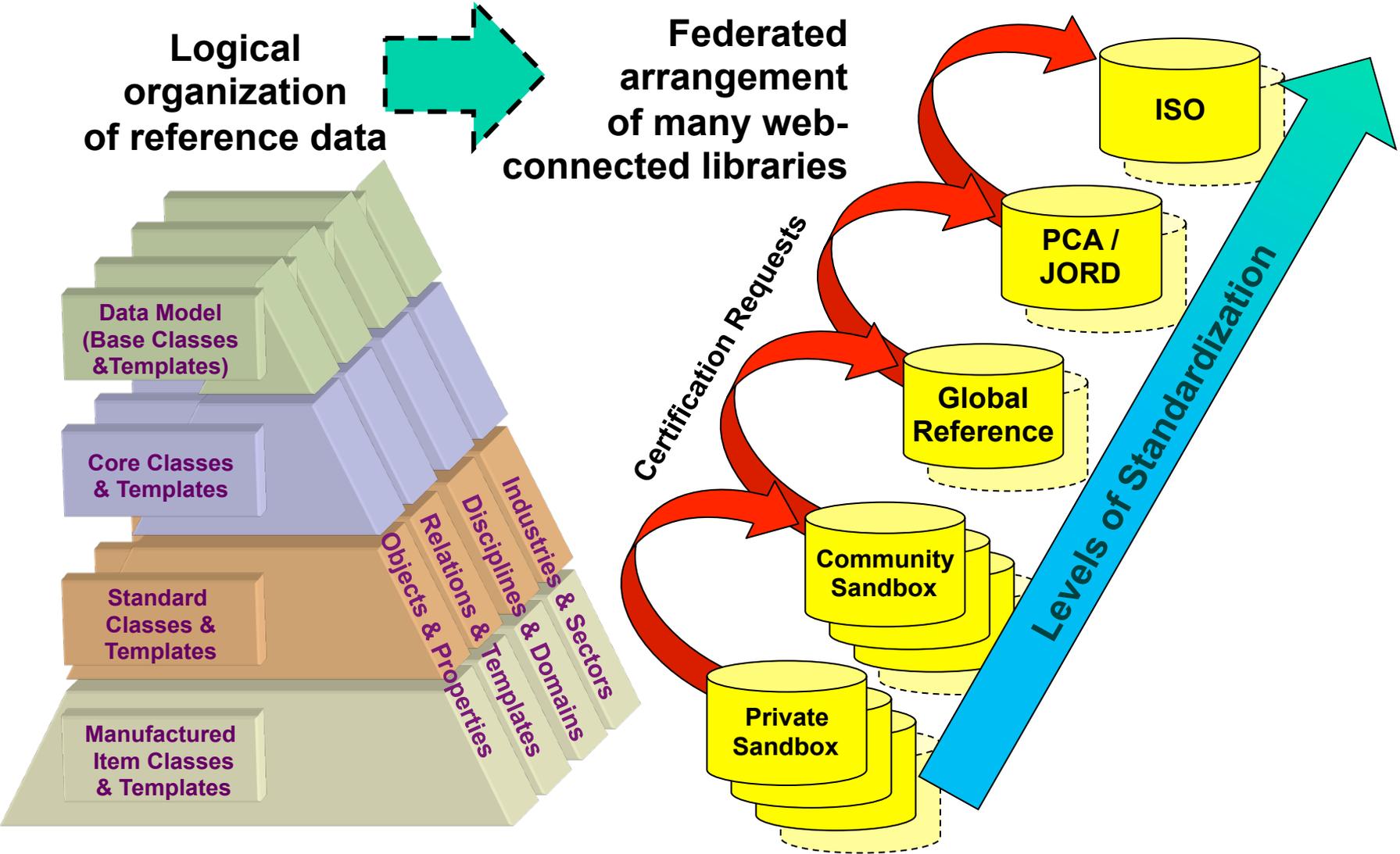
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See JORD Project at

<https://www.posccaesar.org/wiki/FiatechJord>

(for Latest Status & Public Deliverables)

Federated RDL across many domains



Market of customers with differing interoperation / exchange / integration / interoperability needs with multiple tools and mixed levels of maturity.

JORD supports the whole, **PROVIDED** mixed maturity levels are truly recognized and validated.

Minimum Core “JORD” Services
On which others are dependent
Free-read access, not-for-profit.
Sustainable, scalable. Core reference content management. Core validation & certification, etc. Funded by fee-based services.

JORD Focus
Core RDS Ops & Coordination
(Shared Body of Knowledge)

Value-adding, for-profit services.
Consulting
Solution creation.
Content creation.
Implementation.
Handover, IM, KM services etc.

ISO 15926 Integration of life-cycle data for process plants *including* oil and gas production facilities.

- ISO 15926 – 1: *Overview and fundamental principles*. IS ed. 1 published in June 04
- ISO 15926 – 2: *Data model*. IS ed. 1 published in December 03
- ISO 15926 – 3: *Ontology for geometry and topology*. TS ed. 1 published in April 09
- ISO 15926 – 4: *Initial reference data*. TS ed. 1 published in October 07
- ISO 15926 – 6: *Scope and methodology for developing additional reference data* CD/TS proposal ready for ballot in 2011.
- ISO 15926 – 7: *Template Methodology*. Final TS sent to ISO for publication in 2010
- ISO 15926 – 8: *OWL Representation*. Final TS sent to ISO for publication in 2010
- ISO 15926 – 9: *Implementation methods for the integration of distributed systems – Façade implementation*. TS balloting planned in 2011
- ISO 15926 – 10: *Abstract Test Methods*. TS balloting planned in 2011
- ISO 15926 – 11: *Simplified Industrial Usage*. Under development, based on existing draft industrial usage best practices
- ISO 15926-5 has been replaced by an **annex to ISO TC184/SC4: Procedure for development and maintenance of reference data in database format**

ISO 15926 “Parts” Analogy

Interoperability through Reference Data



iRING

Part 2
Data Model

Natural Language
Grammar

Part 4
Reference Data

Dictionary &
Thesaurus

Part 7
Templates

Phrase, Sentence,
Paragraph, Verse,
Rhyme, Lyric

Part 8
RDF/OWL

Paper, Book, Website

Part 9
Façades

“Reading”

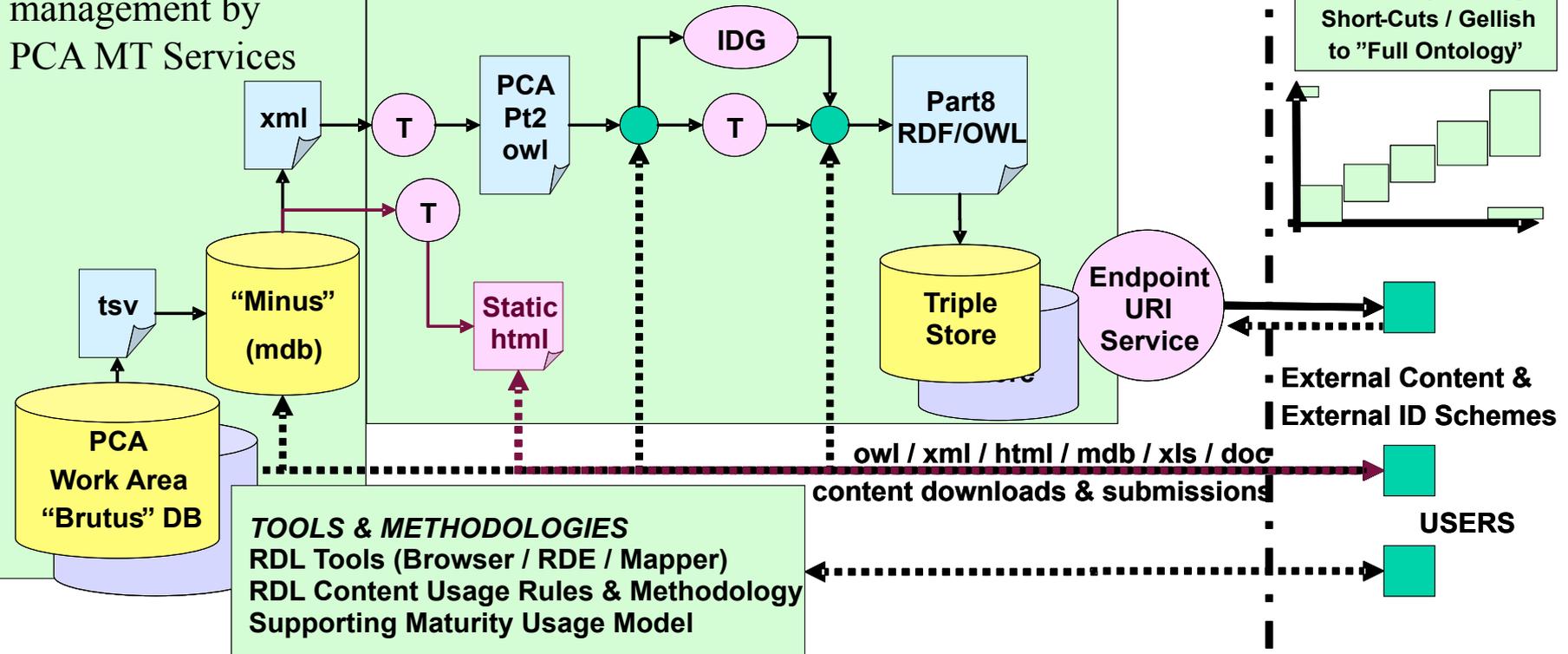
JORD - Publishing Technology Legacy

Phase 1 – Fix & manage legacy / hybrid situation.

Phase 2 – Migrate to potential replacement technology & retire legacy.

Synchronization, exceptions & change management by PCA MT Services

Enhanced per PoC / Tools & Technologies
IDS-ADI / iRING / Avalon / DNV/ IOHN...





COMPLIANCE - Technical Aspects

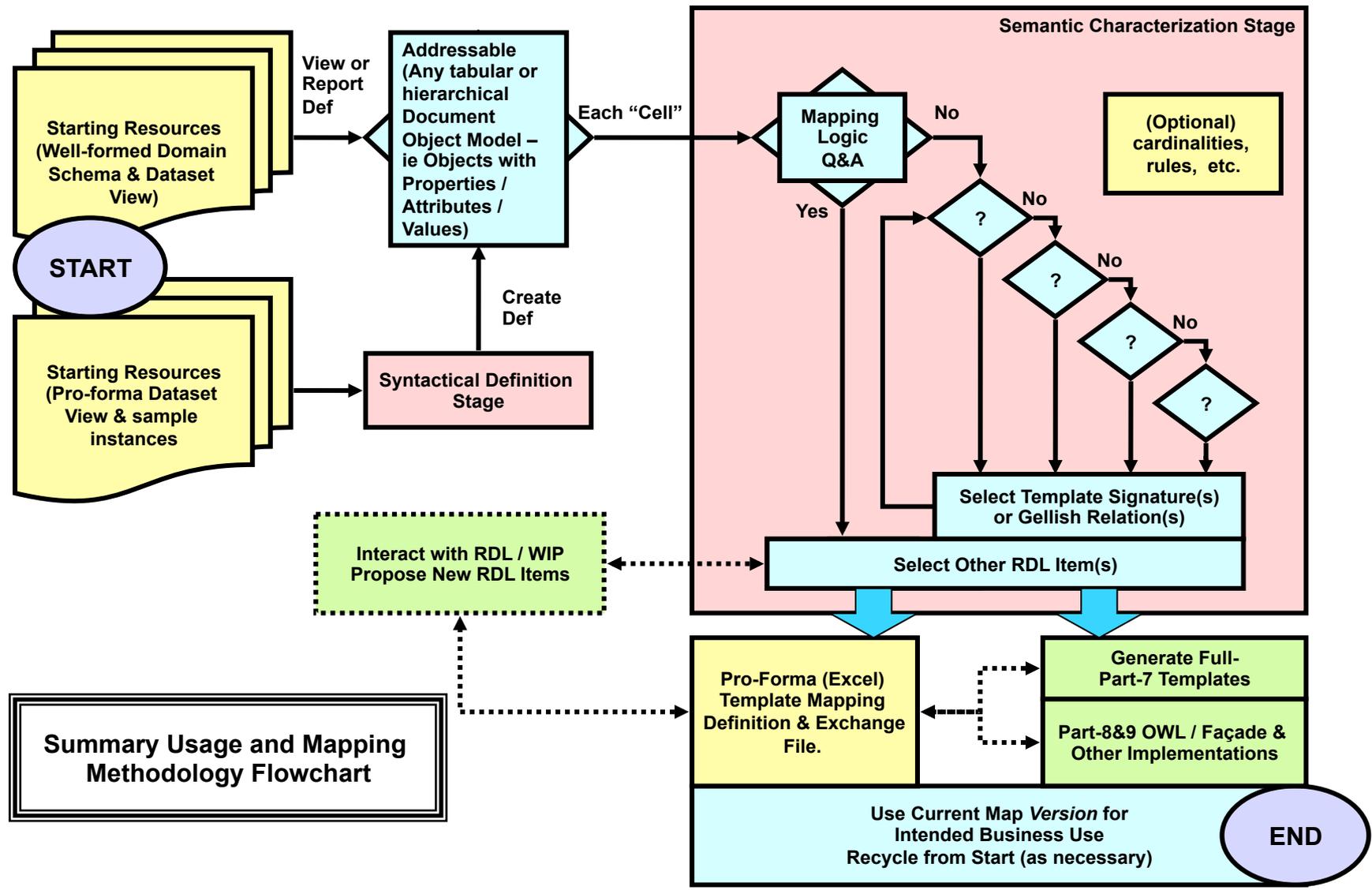
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|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| ORGANIZATION OF LEVELS IN PROPOSED CHECKLIST FOR PCA/JORD COMPLIANCE SPECIFICATION (aka "Version 7") | | EXISTING IDS-ADI COMPLIANCE GUIDELINE Axes. (Paras to be updated) | MATURITY CHECKLIST OPTIONS (Brief designation only. Refer to relevant guideline paragraphs.) |
| Technical | Modelling & Mapping - PART 7 Semantic Precision | 4.1.1 (ie according to IDS-ADI Industrial Usage Procedure, and now ISO NWI-Part11) | DICTIONARY&TYPING LEVEL - Identification, Specialization & Classification template signatures only. |
| | | | SHORT-CUT RELATIONS LEVEL - As Dictionary Level plus CoRwS or other (eg Gellish) "Short-Cut" template signatures . |
| | | | FULL ONTOLOGY LEVEL - Any / all valid template signatures supported. |
| | | AND | |
| | Implementation- Representation Technology | 4.1.2 | Implicit / document / formatted / tabular / spreadsheet / non-XML schema. |
| | | | Explicit Proprietary XML Schema |
| | | | RDL Registered XML Schema |
| | | | PART 8 RDF/OWL Representation |
| | | AND | |
| | Implementation - Referencing Technology | 4.1.1 / 4.1.2 | RD URI's resolved and copies self-contained in schema representation. |
| | | | Dependency on RD URI's being resolvable in shared RDL |
| | | | AND |
| Implementation - Interface Technology | 4.1.2 | File Exchange only | |
| | | Specific API or Query other than Part 9 / SPARQL | |
| | | Part 9 SPARQL Façade | |
| | | AND | |



COMPLIANCE - Business Capability

| | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------|
| Business | Industrial Standardization Level | 4.1.4 | Sandbox Level (Community or individual organization with no externally certified management.) |
| | | | Industry Level (Global certifying authority other than PCA/JORD) |
| | | | PCA/JORD Level |
| | | | ISO Level |
| | | | AND |
| | Domain / Payload Subject-Matter Scope | BIDG | Explicit Scope (Per BIDG or otherwise declared use case.) |
| | | | AND |
| | Change Management Meta-Data Scope | 4.1.3 | Identity - all data elements & sets identifiable / explicitly addressable |
| | | | Version - identification of succeeding / superceding versions of data elements & sets explicit |
| | | | Status - business status explicitly attributed / associated with each identified & versioned data element & set. |
| | | | AND |
| | | | |
| | Change Management Functional Capability | 4.1.3 | Export - Component interface publishes or permits read / query of internal content |
| | | | Import - Component interface accepts write to internal content, or reads external content. |
| | | | Seed - Component populates empty instance with imported content losslessly |
| Consolidate - Component populates existing instance with new imported content losslessly, correctly handling versions and consolidating duplicates. | | | |
| Reconcile - Component maintains reconcillation of external identifiers when updating existing instance internally. | | | |
| | | | |

JORD - Methodology as Workflow





- **Significance of ISO15926 Reference Data**

Any ISO15926 use is *dependent* on shared Reference Data

- **Joint Operational Reference Data (JORD) Project**

Growing demand for Reference Data ...

... demands enhanced global, scalable, sustainable RDS

... JORD is the project to deliver this

... JORD project has initial funding to start execution

... JORD requires your support to achieve delivery

More information

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See JORD Project at www.posccaesar.org (Latest Status & Prospectus)