Industry Framework and Applications for Business Reporting Semantics

Joint XBRL-OMG Project
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# XBRL Semantic Framework and Cloud: Executive Summary

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<th>WHAT</th>
<th>WHY</th>
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<tr>
<td>• Joint XBRL-Object Management Group project</td>
<td>DRIVERs OF THE NEED</td>
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<tr>
<td>• Defines next generation framework for business information reporting and analytics</td>
<td>• Information is the lifeblood of business; 24x7x365 need for business information across the world – there is no downtime</td>
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<td>• Framework supports ecosystem of private, public sector organizations &amp; academics</td>
<td>• Need to derive competitive insight from ‘raw data’ across multiple tools and systems to improve business operations and meet regulatory obligations</td>
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<td>• Framework to be housed in OMG standards-based ‘XBRL Semantics Cloud’</td>
<td>• Abundance of data (data explosion) from heterogeneous systems</td>
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<td>• Public cloud allows web based access to all XBRL related semantics</td>
<td>• Standards for business reporting are in use but seamless interoperability of data and consistency of semantics continues to be an elusive goal</td>
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<td>• Private cloud(s) with ‘value added services’ that leverage semantics from public cloud with added semantics for specific business applications &amp; services</td>
<td>• Availability of business reporting data ‘linked’ with ‘other’ data in consumable format</td>
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<th>BENEFITS DESIRED</th>
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<tr>
<td>• Availability of global public cloud for managing life-cycle of XBRL taxonomies/related standards</td>
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<td>• Opportunity for vendors/consultants to provide ‘value added services’ leveraging industry standard taxonomies and models from public cloud</td>
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<td>• Consistency of business information across the enterprise and partners</td>
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<td>• Reuse of models and option to generate code allowing flexibility in choice of technology platforms</td>
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<td>• Clarity on what type of models, taxonomies, standard formats are best suited for what type of business applications and stakeholders</td>
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<td>• Follow OMG standards development process</td>
<td>• XBRL members (e.g., software vendors, consulting firms, banks, regulators)</td>
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<td>• Phase 1 (Definition Phase): Joint Project Charter, Scope approved by OMG and XBRL Board; XBRL Semantics Framework as a joint XBRL-OMG standard; Candidate Business Application to demonstrate applicability of framework</td>
<td>• OMG members (e.g., software vendors, end-users)</td>
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<td>• Phase 2 (Public Cloud Development Phase): Cloud demonstrating applicability of selected business application in public cloud for XBRL Semantics</td>
<td>• Academics</td>
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<td>• Phase 3 (Public Cloud -Execution phase): Public cloud access to broader ecosystem with selected XBRL semantics (abstract model, other taxonomies, formats...)</td>
<td>• Regulators, other government agencies</td>
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<td>• Phase 4 (Private Cloud definition/execution phase): Private Cloud: value added services; business model for value added services</td>
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Business Drivers

• Link current business and financial reporting data with sustainability reporting, corporate actions data, and additional frameworks that demonstrates the relationship between better corporate governance and the financial condition of a company or organization.

• Provide an open, public cloud with a browser interface to search, discover and use all XBRL taxonomies and other semantics to expedite adoption and implementation (See Aberdeen Research March 2012 – “Taking XBRL and Financial Disclosure Management to the Cloud”)

• Provide opportunities for XBRL consultants, system integrators, and XBRL tool providers to offer additional services utilizing the XBRL semantics repository in the public cloud.

• Sustainable way to manage all XBRL semantics (business vocabularies, abstract models, message formats, calculation rules etc.) by using the public cloud (See Aberdeen Research March 2012 “Taking XBRL and Financial Disclosure Management to the Cloud”)

XBRL Semantic Framework

Framework Consumers

- Private Sector (lines of business, global functions)
- Standards Organizations
- NGOs
- Academics
- Private Sector (software, hardware vendors, SIs, Consultants)
- Public Sector (regulators, government agencies)

XBRL Speech Communities in Business Natural Language (BNL)
(business definitions, context, rules)

- Financial Reporting BNL
- Prudential Reporting BNL
- Sustainability BNL

Technology Agnostic Semantic Models (Process, Events, Data)

- XBRL Abstract Model (Metamodel)
- OMG-EDMC Financial Business Ontology (FIBO)
- XBRL Process & Event Models

Implementation Models

- Sustainability Reporting Models
- XBRL Report Taxonomies
- XBRL Process & Event Models
- XBRL Report Taxonomies
- XBRL Abstract Model
- OMG-EDMC Financial Business Ontology
- XBRL Process & Event Models
- XBRL Report Taxonomies
- XBRL Abstract Model
- OMG-EDMC Financial Business Ontology
- XBRL Process & Event Models

Implementation/Exchange Formats

- XMI
- XML
- RDF
- OWL
- DDL
- SQL
- XBRL Reporting Formulas
- Transformation Maps
- Other

Traceability, Impact Analysis Maps

OMG Business Vocabularies, Rules, date/time modeling languages

OMG Business Process, Events, Semantic modeling languages

OMG Events, System, Information modeling languages

IT, Data mgmt

Business SMEs, Decision Makers, Architects and IT

Architects, Modelers and Data mgmt staff
What is being developed?
XBRL Semantics Cloud

- Business Nomenclature (smart vocabularies)
- Abstract Models (Metamodels, Process, Events)
- XBRL semantics Taxonomies (Financial, Prudential, Sustainability Reporting etc.)
- OLAP based warehousing intelligence
- Implementation models (ETL, schemas, cube technology, schemas)
- Semantics exchange formats, report formats (XML, RDF, OWL, SQL, other...)

XBRL Semantics Portal
- Search, discover, update XBRL Semantics
- Canned, ad-hoc reports

Open Cloud Contributors
- OMG, XBRL community, other Standards Organizations, Academics, Private sector (including Public Cloud provider)
- Define, validate & manage framework, semantics using OMG standards governance process
- Establish & maintain Public Cloud Environment

Private Sector
Lines of business, global functions (HR, Legal, Finance, Risk/compliance...)

Public Cloud

Private Clouds
Value Added Services provided by software vendors, SIs, consultants to private and public sector/governments

End-users

Academics

Standards Organizations

Regulators

Governments

XBRL Semantics Repository

OMG modeling and domain standards
Next steps

1. Validate business drivers and commitment from XBRL, OMG leadership
2. Identify high-value business application of the framework
3. Conduct Pilot to validate the concept, tools, models in public Cloud
4. Launch Public Cloud
5. Identify value added-services for private Cloud
Appendix
XBRL ecosystem and Assurance Cases

- XBRL Business Technology facilitates using structured arguments to justify regulatory compliance claims.
  - In the form of assurance cases, combining auditable claims, arguments that connect claims to subclaims and further to evidence
  - Assurance case demonstrates the satisfaction of the regulatory compliance claims by using semi-formal reasoning (substantiative reasoning, Toulmin)

- Assurance case communicates the connection between complex analytics and data collection and transformation activities and demonstrates how these activities justify the business level claims
  - Provides enhanced transparency
  - Provides traceability between high level regulatory objective and business/physical data

- The XBRL framework facilitates management of evidence in support of compliance or reporting claims
Confidence Building: Assurance Case Example
Confidence Evaluation: Level of confidence that objective is met
Business Drivers

• Creating an XBRL Specification Abstract Model will remove some of the obstacles to development of XBRL software tools, provide a blueprint for creating XBRL applications, and attract more independent software vendors to the community. More tools also mean more choice for the marketplace – something for which users of XBRL tagged data have been asking.

• As newer technologies emerge and are evaluated for their ability to add value to the XBRL standard, the abstract model can also play a key role to help developers both understand the impact of new technologies on XBRL as well as the impact of XBRL on the design and evolution of that new technology.

• To more effectively provide XBRL implementations in various jurisdictions – a UML Model (Standard created by OMG) should be deployed by regulators, government agencies, corporations and others as a “best practice” for better management of XBRL projects. The UML model will help entities better manage resources and more effectively meet the needs of stakeholders for XBRL projects.

• XBRL is one of many industry specific XML languages. OMG facilities the use of metadata tagging that can be linked to XBRL data to create better interoperability with other XML efforts – meaning XBRL data can will become “smarter data” that can be used on a global basis in the marketplace using OMG global standards which will enhance XBRL use in the marketplace and expedite adoption.