**Back to Shared Semantics** 

# REA

Normative version? Not found.

MB asked Bill MacCarthy about this in February, and Bill pointed me to Frederik Gailly's work. I've downloaded this but it appears to be an RDF resource with no OWL Object Properties. We looked at this on screen and there is a set of classes, and some individuals of these classes.

UN-CEFACT references REA in a non normative appendix (see below).

Action: Rob to dig this up.

Check with Bill MacCarthy and Guido Geerts and Frederik Gailly

There are different versions of this around.

Bill's UML version

Another paper on Financial Instruments - paper (Rob to find).

Reuben Laura, Ivan Akantador (sp?) et al: "XBRL Taxonomies, OWL Ontologies for investment firms" or similar.

REA v XBRL "not necessarily on good terms" it is said. Some melding of the efforts by ourselves would be beneficial.

Rob to research in 2 weeks on this.

Mike presented from some of Bill MacCarthy's slides, leading up to the UML diagram from which we drew some of the terms to use as the basis for our OTC derivatives transaction definitions and relationships. Note that this was prepared for ISO 15944-4 and includes some terms introduced for that work which were not part of the original REA specification.

ISO 15944? Cited in the slides.

Action: Mike to circulate the two sets of slides (REA introductory slides and detailed slides on use of REA in standardization) to the group.

## Packaging

The "Business" section could be moved and split so we have separate packages (as ontologies) for:

- Transaction (with REA within)
- Party
- Etc.

Currently "Business" is something of a catch-all and includes the archetypes for all the concepts defined in the Business profile. We previously agreed that the disposition of packages need not reflect the disposition of archetype profiles.

## **XBRL-GL Profile work**

Dropped? By OMG (correspondence today within OMG FDTF)

• it missed its deadline

The people working on UML Profile for XBRL-GL agreed to wait for other work that should be used within this. XBRL International's Abstract Modeling Task Force work is ongoing.

Don't know if those who were working on the XBRL-GL OMG initiative would pick this up again or not, once XBRL-international completes its abstract model. The intention was to put this on hold. May find there are simplified abstractions within the XBRL-Int work. May hide some of the XLink based syntax complexity. Would be natural for a UML Profile to use those abstractions, using extensions of UML to express those abstractions in a UML tool. So it makes sense that one would leverage the other.

Profile is for XBRL-GL (Global Ledger)

This is different to XBRL for financial reporting, which is a detailed roll-up.

Global Ledger covers more than what's in rolled up reports, e.g. Transactions.

Reports on detailed transactions (in GL) not the roll-ups for financial reports. Does not use the XBRL Dimensions aspect for example - these are specific to roll-up reporting. Detailed line item txns.

Doing a UML Profile for XBRL GL is a smaller undertaking than for all of XBRL.

The XBRL TF is doing abstract model for all of XBRL including dimensions.

This could potentially have more overlap with REA than we might have thought. The transactions that are expressable in GL allows you to express any simple transaction, any type of txn whether it be a tax txn, (used in NL for VAT system); compliance reporting to govt.

Existing module called XRCD that lets you roll up all the way into XBRL FR.

GL approved under XBRL Framework.

2 specs in Abstract Modeling TF:

- Overall Spec
- Dimensions spec

Could include GL but doesn't. Not doing an abstract model of GL.

Initiative to do a profile for GL. On that, XBRL-Int'l became interested, this translated into the strategic initiative that's going on now.

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### **Ontology for XBRL**

Note that the term "Taxonomy" here refers to the concept as used within XBRL. This differs from mainstream use of the word Taxonomy and is the name for a particular set of XBRL files (schemas, XLink files etc.) created for a given set of business requirements.

MB showed the concepts in the "Financial" section of the "Global Terms" mid level ontology. These were gleaned from some XBRL material (did not record exactly what, but probably a common taxonomy such as IASB). Was not able to see detailed relationships among concepts, so these were created using basic accounting literature.

Q: Ontology - for core language or for a particular XBRL Taxonomy? When we look for a particular concept. GL uses the core language to express its concepts. Is a framework of Taxonomies. These Taxonomies are instances of the core language.

There is no "an ontology of XBRL".

The abstract model, though in UML, could arguably be seen as an ontology of the constructs of the core XBRL language. This is the language that allows you to define XBRL Taxonomies. The abstract model sticks to the core language. Once you have the simplified abstractions for the core language itself, one could use those e.g. in a UML Profile, to express e.g. XBRL-GL in a simplified and more consumable fashion, not having to wade through the XLink syntax.

GL is not XBRL Taxonomy it's a specification. It's an instance of the core XBRL Spec, but it is not a Taxonomy in the XBRL sense of the word. You would build your own XBRL Taxonomy Schemas for your own local, jurisdiction specific specification of GL. Would have different ones for e.g. NL, AUS and so on.

Would validate against the GL Spec and against the XBRL 2.1 Spec.

Q: The concepts in our "Financial" section - where do they appear?

Not even in a taxonomy. Would use reference links to go back to the authoritative literature which defines those concepts. Could build a taxonomy in which those constructs were core to that taxonomy. Rob working on this, has a paper on:

Issues:

Go back to conceptual framework - this is not currently possible to do what we wanted to draw from as an accounting conceptual framework. Where are the taxa in the Taxonomy?

Surprisingly, this is not what XBRL does. Because accounting and business language is so varied and diverse - XBRL is a spec that allows you to do what you needed to do in your locality.

This makes our work here more interesting...

What we should have used: a variation of the Conceptual Framework.

If this initiative of ours is well crafted we could help solve and simplify a lot of the disparate uses of the business specs that are already out there and the final usage of the real business concepts. Simplify how we brought this together.

Talk to Eric Cohen - UML Profile.

Action: Reconnect with Eric before Orlando. Arrange a session.

BREAK...

The session was over at this point (well into the next hour's session); conversation contined...

Q: Tension between REA and XBRL? A: Both may see themselves as a one solution fits all perspective. Incompatible ways of doing the same thing. We don't think this is true - REA as conceptual modeling tool at a certain level and XBRL as the implementation.

Also REA versus Double Entry views of the world.

Look at more recent REA stuff - see Incremented Resource and Decrement Resource. What you get from the balancing of double entry accounting versus book keeping itself. Being able to check for balance and investigate is not in balance. Would not expect to give this up. Questions posed to REA. REA does not try to get around not doing double entry accounting, as perceived by some.

Should not be an issue.

## Footnotes

### **Use of REA in ISO Standard**

From the ISO Part 4 specification

At: http://webstore.iec.ch/preview/info\_isoiec15944-4%7Bed1.0%7Den.pdf (note this is a preview of the complete specification)

(page v):

The economic and accounting ontology being used in electronic business eXtended Markup Language (ebXML), in the UN/CEFACT modeling methodology, and E-Commerce Integration Meta-Framework (ECIMF) work is entitled the Resource-Event-Agent Ontology (REA) 1). REA is used here as an ontological framework for specifying the concepts and relationships involved in business transactions and scenarios in the Open-edi sense of those terms. The resulting framework is titled the Open-edi business transaction ontology (OeBTO).

#### **REA Slides**

#### **Basic Introduction**

www.msu.edu/user/mccarth4/cookie-elmo-basic%20REA.ppt

#### **Standards Slides**

Presentation given by Bill MacCarthy at Ontolog Forum 5 June 2008

http://ontolog.cim3.net/file/resource/presentation/BillMcCarthy\_20080605/ontology-driven-standards-development\_REA--BillMcCarthy\_20080605.ppt

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Last update: 2011/09/02 11:45