Blockchain Call Notes

*9 April 2020*

# Attendees

* Neil Aeschliman, GS1 US
* Bobbin Teegarden, OntoAge
* Michael Bennett
* Robert Stavros - Jackrabbit
* Rob Nehmer
* Rencher, Robert J
* Xinxin Fan
* Raullen
* Phone caller: +12062950887
* Phone caller: +16195074323

# Agenda

* RFPs for things out of interoperability
* Possible RFP in the Self-sovereign identity space

# Meeting Notes

## Updates

### NS articles on email

Supply chain – e.g. toilet paper has 2 supply chains

* Does GS1 have different IDs for these?
* Yes, not because they are different SCs but they are invoiced differently and have different specs

So these would have different G10s to describe things even if the product is the exact same thing (which for toilet paper is different anyway)

Applies to other supply chains where the product is perhaps the same, e.g. noodles, restaurant supply chains.

#### Why of interest?

At some level we would need an ontology

The e.g. toilet paper is one high level concept but the two kinds on the supply chain have entirely disjoint characteristics.

(unlike the noodles)

## Potential RFP: Ontological Representation of Items; Requirements

Based on the toilet paper example, one possible RFP would be for conceptual representation of things and the requirements of things (and affordances?) to support substitutability.

We previously talked about 2 possible ontology-based RFPs:

* Formal ontology representation of DLT primitives
* Business concept representation (for Smart Contracts etc.)

This comes under the second heading.

### Discussion

Do I need to establish an exchange between the two supply chains for the 2 kinds of thing?

GS1: If there are different specs, that means that all the way back to the manufacturer, it is a disjoint supply chain.

So the industrial loo paper does not belong in the retail supply chain.

However, for emergencies, products are substitutable.

### Requirement

Need to designate what is sufficient and what is not, for given circumstances.

e.g. ‘I don’t care which hand sanitizer I get as long as >60% alcohol’, then expect different G10s for the different products.

Can apply in DLT. Broader ramifications.

MB: Can then search on the things I need based on spec as a range of acceptable characteristics

* Ontology would define characteristics of products
* These are more and less general
* Query on acceptable characteristics should return a range of things that are suitable and a range of things fall outside of that.

NS: Similar with drugs e.g. generic v non generic.

Ontology should tell me how I exchange those things if I need to.

So, it seems that there is a need for multiple ontologies.

* One that details with the details of the spec
* The other is a generic classifier

BT: If you build your ontology 'holonically' so the abstract can decompose into contexts, you can get there.

### GS1: Global Product Classification

* Not an ontology as we see it
* Has more and less general things e.g. this is a Building Product

This is a way to refer to something at a higher level of abstraction e.g. toilet paper

If you have v narrow specs (e.g. ventilator) these would be referred to the same

### Proposals

Work with EANCom and others

Have XML spec, EDI oriented, via XML. Same data structure as X12 or EANCom X12

Why would you not start with X12 and EANCom for GS1?

* View as broader level of abstraction than that
* GS1 basis is the UIDs.
* Licensing GS1 company prefixes
  + Create EAN No or UPC No form those
  + G10 Global location Number
  + Other ID keys
    - Entities, Object, Places as per RFI response

### Taxonomies

MB the ‘Topic’ hierarchy is distinct from the ‘Type’ hierarchy

e.g. building products – usage (context)

There are attributes e.g. recyclable, flushable etc. that may be characteristics of toilet paper in general, whereas the topic taxonomy is that one is an industrial product and the other is a domestic product.

GS1 – this is what is sufficient from us.

Topic hierarchy – Global Product Classification is OK for this but there are also rules for how you would talk about objects and supply chains, separate from the different ways.

So there is an RFP opportunity for the more refined type (generalization) taxonomy.

Use case for the standard: Substitutability (of products, of components)

### Use Case

So, my question basically is how do we facilitate exchanges? Exchanges might be beyond the original usage. Paper serviettes are not paper towels, but they have some shared attributes. Can we exchange at the attribute level?

* Are cotton balls exchangeable with tissue paper?
* is tissue paper exchangeable with toilet paper?

They are different 'Bricks' in the GS1 Global Product Classification.

I think judging whether they are substitutable is up to the beholder.

Need not just 1:many classification but an attribution.

### Another context:

* Food substitution
* Vehicle substitution
* Drugs substitution

Question is ‘are these substitutable for a (legitimate) exchange?’

* e.g. Thai v Italian Basil.

Might want to augment a substituted item.

Would not change the ontology of the items but there are differences in attribute, such that you might need to make up.

### Example

The Pinto car. Had a bolt that was out of stock. Substituted a similar bolt from another vehicle line. But the bolt was longer – connecting with the gas tank.

This relates to specification (and impact review)

See also security audits in software BoM.

If the spec / ontology is not the same, then substitution is completely dependent on the usage context.

BT: The beholder is the context... ;0

Relates to ‘commodity’ in a broad sense.

Commodity as usage. Really affordances.

BT: In Ontology Summit 2020 yesterday we has a fellow doing a CAD Parts ontology, and was struggling with the same thing: what aspects of a part were needed to make it useful...

(MB to find the link)

Context is what usage and to whom.

Salt – at some use case level it can be exchanged. At some other use case level e.g. specific recipe and flavor (like the basil) then I can’t exchange it.

### Requirements:

Define an ‘exchange’

“Context” when you do an exchange

Exchange (IS the context, so context is not a piece of that!):

What is the aspect of the salt that makes it useful? What aspects are you looking for? E.g. iodine in salt for thyroid.

‘Exchange’ Consists of:

* Task
* Person

Can task be broken own in all the says?

Recipe / specification for how a thing is used

* E.g spec for a component (like the OS thing)? Is that Task?

Can it be done by trawling all the aspects of Context (Who what when where why how)

Then Exchange is defined by specializations of:

* Who (person)
* What (task you are trying to achieve)
* When (when is it appropriate to make the substitution)
* Where (location of the substitution)
* hoW – Recipe, specification etc. (the Basil, the part for a ventilator)
* Why – the scenario that drives the use case – why does the person want what they want = Goals

Exchange rules – for currency exchanges there are many rules.

Constraints e.g. regulatory

### Resolution

Ontology of the things (or at least, the approach to how the things are ontologized

* Add the stuff about Topic versus Generalization taxonomies

Ontology of the usage context in which a substitution is to be made – that would have specialization of the Who What etc. (and the Why).

The ontology of the usage context IS the requirements for what the ontology of the used things (subject matter) needs to look like.

* Also talk to the topic v type taxonomies)

## Identification

Potential RFP around Self-sovereign identity. Richard Soley has connected us with a group do researchers in Europe dealing with a sub-type of this called Disposable IDs.

**Note:** Identification v Identity

### Self Sovereign Identity

Potential RFP for SSID?

* There are various things out there

BT: How does various SciFi handle virtual identities (e.g. Stephenson's book Snow Crash)?

* Virtual v Real
* Which of the denizens of the virtual world correspond to which people in the physical world

Also brings us to Avatars.

MB: Identity v Identification - not the same thing

### Next steps

Research and think about IdentitY (not identifiCATION)

See also W3C:

<https://www.w3.org/TR/did-core/>

### Homework

look at this one. Consider how the W3C identification standard relates to Identity.

Think about multiple Identities

BT: And Second Life (where I'm Beaubrain Merlin... ;0)

# Appendix: Raw Chat Log

*(Most of this stuff already replicated in the notes above)*

**Neil Aeschliman, GS1 US (to Everyone)**: 1:14 PM: Beer Game - used to explain highly-variable demands ramifications in supply chains - <https://www.supplychain-academy.net/beer-game/>

**Robert Stavros - Jackrabbit - 0569992 (to Everyone)**: 1:15 PM: So, it seems that there is a need for multiple ontologies

**Robert Stavros - Jackrabbit - 0569992 (to Everyone)**: 1:15 PM: One that details with the details of the spec

**Robert Stavros - Jackrabbit - 0569992 (to Everyone)**: 1:16 PM: the other is a generic classifier

**Neil Aeschliman, GS1 US (to Everyone)**: 1:17 PM: https://www.gs1.org/services/gpc-browser

**Neil Aeschliman, GS1 US (to Everyone)**: 1:17 PM: Global Product Classification (GPC)

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:18 PM: If you build your ontology 'holonically' so the abstract can decompose into contexts, you can get there

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:21 PM: Was EDI structured like the GS1 'taxonomy' with decomposition into detailed contexts?

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:25 PM: But broader than/narrower than can be level of abstraction as well as territorial expanse...

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:26 PM: Abstraction is almost a dimensional leap...

**Robert Stavros - Jackrabbit - 0569992 (to Everyone)**: 1:27 PM: So, my question basically is how do we facilitate exchanges. Exchanges might be beyond the original usage. Paper serviettes are not paper towels, but they have some shared attributes. Can we exchange at the attribute level.

**Robert Stavros - Jackrabbit - 0569992 (to Everyone)**: 1:28 PM: Are cotton balls exchangeable with tissue paper

**Robert Stavros - Jackrabbit - 0569992 (to Everyone)**: 1:28 PM: is tissue paper exchangeable with toilet paper

**Neil Aeschliman, GS1 US (to Everyone)**: 1:29 PM: They a different 'Bricks' in the GS1 Global Product Classification

**Neil Aeschliman, GS1 US (to Everyone)**: 1:29 PM: I think judging whether they are substitutable is up to the beholder

**Neil Aeschliman, GS1 US (to Everyone)**: 1:30 PM: :-)

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:35 PM: The beholder is the context... ;0)

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:36 PM: In Ontology Summit 2020 yesterday we has a fellow doing a CAD Parts ontology, and was struggling with the same thing: what aspects of a part were needed to make it useful...

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:38 PM: ... and useful to whom...

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:40 PM: <https://ontologforum.org/index.php/OntologySummit2020#08_April_2020>

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:47 PM: Is constraint part of the 'why'?

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:53 PM: How does various SciFi handle virtual identities (e.g. Stephenson's book Snow Crash)?

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 1:58 PM: And Second Life (where I'm Beaubrain Merlin... ;0)

**Neil Aeschliman, GS1 US (to Everyone)**: 1:59 PM: W3C has an evolving specification around this - <https://www.w3.org/TR/did-core/> ;

**Bobbin Teegarden, OntoAge #47059 (to Everyone)**: 2:02 PM: Thank you, Neil, excellent. We should consider whether this handles it?