Blockchain PSIG Call Notes

*19 March 2020*

# Attendees

* Mike Bennett
* Rob Nehmer
* Neil Aeschliman
* Ian Stavros
* John Ciju (part of call)
* Nick Stavros

# Agenda

* Introductions / Updates
* Logistics for next week
* Interoperability RFI Responses and Potential RFPs

# Meeting Notes

## Introduction and updates

Nail Aeschliman – taking over on GS1-US from previous participant. Has subscribed to the mail list

MB to remember to add Neil to the Wiki user group for edit permissions (can already read minutes as these are in the public area).

## Next week

Virtual sessions:

* Monday – meet jointly with MARS (they host)
* Wednesday – meet as Blockchain PSIG

See Blockchain PSIG Agenda for dial-in details (GoToMeeting) and separate GTM for MARS meeting.

## Interoperability RFI Responses and RFPs

### GS1 position papers (see last week)

1st one: overview, covering both of the top line questions in the RFI

2nd one: Develops more on the DLT to DLT interoperability issues.

**Key quote:**

“We expect that interoperability between blockchain ecosystems will demand a solid

foundation built on:

1. Globally unique, persistent identification for organisations, locations and things

2. A standardised language for supply chain events

3. A scalable network governance model that crosses ecosystems

For supply chains, industry collaboration and the global language of business of GS1 are essential to this foundation.”

When 2 traders are exchanging data, even on the same DLT ecosystem, there are these considerations in play.

### Discussion

**In the RFI Response:**

This paper identified three foundational keys for interoperability between DLT ecosystems:

1. Globally unique, persistent identification for organizations, locations and things

2. A standardized language for supply chain events

3. A scalable network governance model that crosses ecosystems2

On (1), there are 2 kinds of ID, whereby the ‘location’ one extends into organizations and organization subunits.

* Things: GTIN
* Locations (and orgs etc.): GLN

NA: These 2 are often talked about synonymously but we prefer to distinguish these. An ID may be referred to in a barcode and also in a network or software representation. This is explained in the RFI Response.

The ID standard for location is GLN for Global Location Number. This can be applied in different ways:

* Identifier for a specific location
  + E.g. a warehouse or a retail store (1 postal address)
  + More specific e.g. dock, store floor, receiving bay in a distribution center etc.
  + Up to member firms how they chose to reference that ID
* Also identify digital location
  + Cloud / ER system (that I am sending EDI transactions to)
* Also organizations
* Also components of an org (identified as ‘functions’)
  + So Org may have a GLN and Accounting Dept may have a separate GLN

#### Questions

NS: On the DIDO CLI, there were 2 classes that people in the DLT world have not thought about:

* Association
  + You have something in a Blockchain but it needs to be associated with other things
    - This is a use for the GLN
    - E.g. can of soup <> Assembly Line <> Store etc. – all locations that have GLNs

NA: This is right. Consider a 3rd party provider for distribution – fundamentally the same location (postal address, bay doors) but all the brands that are its customers, all the retailers, all refer to it under the same Location). Same company may have different GLNs but the GLN becomes the shorthand that all the brands can identify in the same way, both physically and digitally.

Because of how the ID is constructed you can ensure global uniqueness, avoiding collisions. So things can’t get sent to the wrong place.

NS: Part of the CLI for Blockchains is to enable associations. Entry will be one thing but needs to have the ability to associate with other things. That link needs to be able to be tracked. Want to not end up creating false records in the DLT because of the association. The DLT data needs to remain DLT data, without needing to create false transactions to support this. Like a linked list of association classes (GLNs) that are associated with the same can of soup.

NA: Think so, need to understand this more. How it is used in the supply chain is exactly as above. For a can of soup we use other IDs, so when it is moving between entities in the supply chain, it is referred to as the same thing – so that references in the DLT to different movements within the supply chain are all referring to the same thing.

NS: The product itself doesn’t have a GLN, it has GTIN (Global Trade Identifier Number). This goes in a UPC or EAN barcode.

Q: Does this ID the can or the product / collection of cans?

A: GTIN is a Class Identifier. This is coupled with a lot number or a serial number to get lower level of granularity. Also have other IDs at instance level to refer to one physical good at a time.

GTIN comes out of when retail converted to PoS scanners, to automate price lookup. So this is Product not Instance.

The cans are fungible.

GS1 does support a traceability scenario so you can trace a thing if it needs replacing or recalling.

NS: So for the GTIN and GLN, need to put something in the DIDO CLI for this.

#### What’s DIDO?

*(see also Feb 27 session notes)*

NS: DIDO v DLT. DLT refers to the specific implementation (like Blockchain or DAG-based DLT). See 27 Feb notes.

NS: Compare with ‘posix’ command line system (like UNIX). Similarly, SQL is equivalent to a CLI for relational databases. Abstracts the concepts from the specific commands.

### So:

Common ID plus common language provides the key to interoperability.

Where we needed to link separate postings to a Blockchain or Tangle, whether as RDF or as MAM/LETS messages, we need some means to refer to things (ID) and understand what they are (Semantics). These are points (1) and (2) in the GLI response.

NA: That is what was meant here. Provide normative references to other standards where the common language questions have been addressed, rather than trying to reinvent these. We can explain these well in supply chains.

MB consider the GoodRelations ontology. This is one for products but has no provision for dealing with individual items as distinct from item-as-product.

MB: How do we deal with ontologies that are right in one context and not so good in another context.

GS1 – AH can do a presentation on how we can make that difference between a class of things and an individual. Our IDs help ID the class of e.g. a therapy, a device, whereas for a recall on a given medical device, we can distinguish that. Can give a quick snapshot on both physical and digital manifestations of this semantic issue. Looking up records v finding a physical thing.

NS: Another important thing to consider is whether no other identifier has been globally accepted. We believe this is already in place. This will help with the adoption.

MB: Our message for the RFI/RFPs is that we want to identify both what exists as standards, and what else is needed. So understanding the scope and coverage of GS1 is vital to that.

So we need to understand GLN and GTIN.

Perhaps we want to find a way to standardize how we standardize an ontology. Use the best of what is in GS1 and of how they refer to other standards (which may or may not yet be ontologies in that sense).

AH: Talk about this in terms of the ISO 7-layer model. Then map where GS1 sits and where it points to other places.

## AoB

No