



**TRUST**  
Over **IP**  
FOUNDATION

# Semantic Domain *(ISWG-S)* Weekly Meeting

23 March 2021

 THE **LINUX** FOUNDATION

## Antitrust Policy & Member Participation

- › Attendees are reminded to adhere to the meeting agenda and not participate in activities prohibited under antitrust and competition laws.\*
- › Only members of Trust over IP who have signed the necessary agreements and charters are permitted to participate in this activity beyond an observer role.

\* Examples of types of actions that are prohibited at Linux Foundation meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at <http://www.linuxfoundation.org/antitrust-policy>.

# Agenda

- › 1. Welcome (Paul—2.5 mins)
- › 2. Newcomer Introductions (Paul—2.5 mins)
- › 3. Task Force Updates (WG—5 mins)
- › 4. Deep dive: OCA vs Layered Schema (Robert/Burak—40 mins)
- › 5. Update: MMM white paper (Neil/Paul—5 mins)
- › 6. Logistics and miscellaneous (Paul—5 mins)
  - › a. News from the Operations Team
  - › b. Leadership positions
  - › c. Meeting schedule

# Newcomer Introductions

## (30 seconds!)

1. Name
2. Location / time zone
3. Affiliation(s)
4. One-sentence summary of your interest in Semantics (or **one particular semantics-related** issue you personally want to see solved)

# Task Force/Focus Group Updates

## (5 mins)

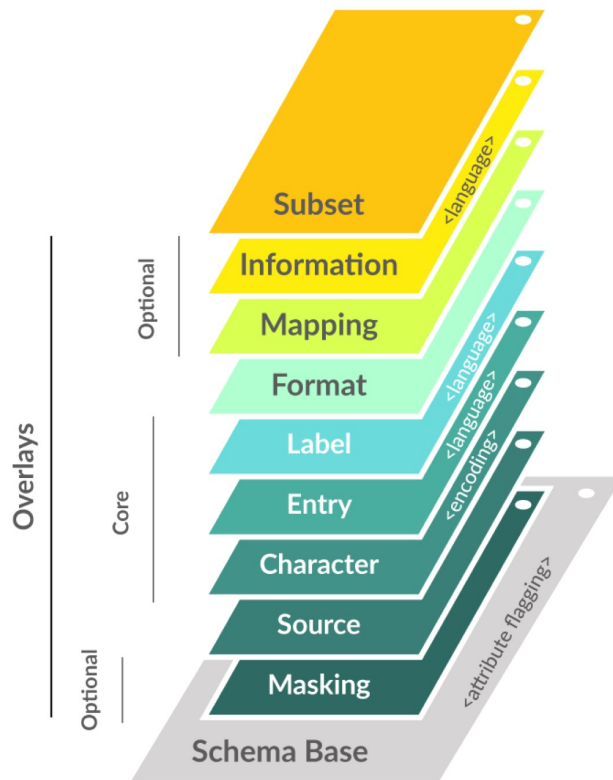
- Medical Information TF (Scott)
- ✓ FHIR FG (John/Mukund)
- Notice & Consent TF (Mark)
- Privacy & Risk TF (Jan)
- Storage & Portability TF (Christoph)

# Deep dive: OCA vs Layered schema (40 mins)

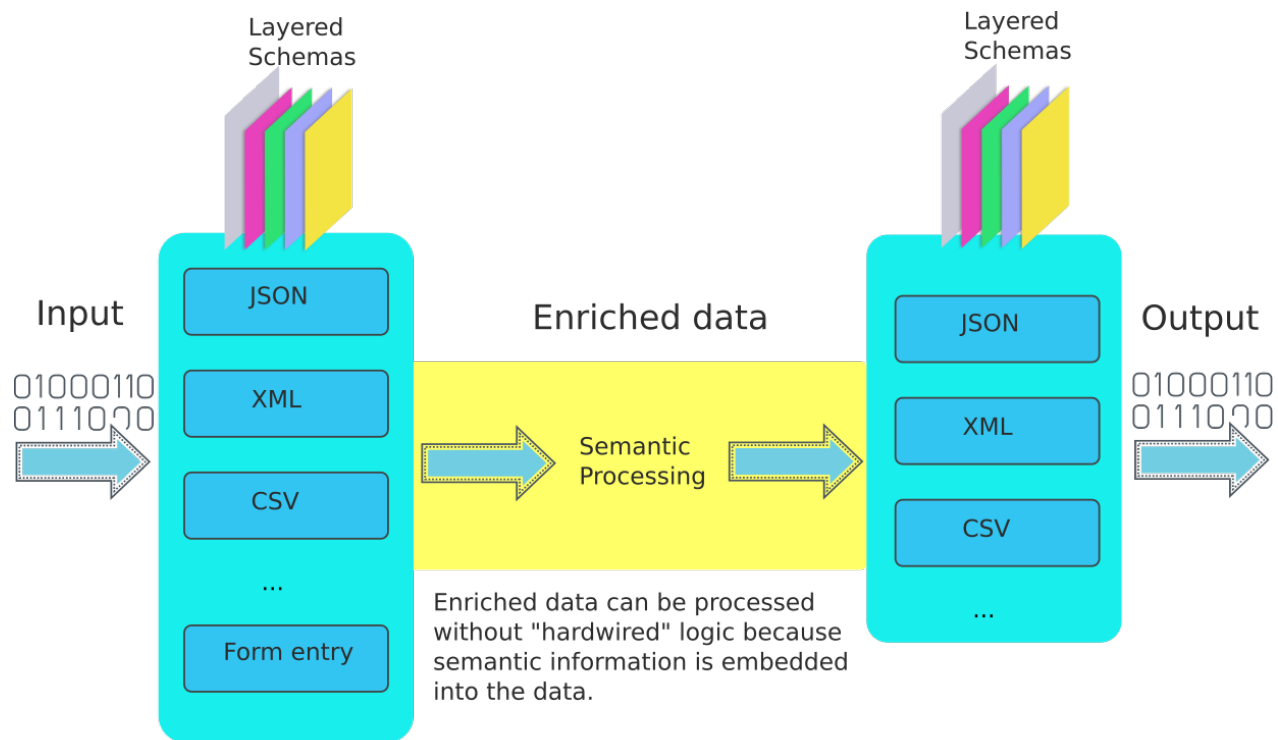
Presented by: R.Mitwicki/B.Serdar

Schema use case - [https://hackmd.io/m05mhbgNQLi\\_L5YOCTJtNg](https://hackmd.io/m05mhbgNQLi_L5YOCTJtNg)

# Overlays Capture Architecture (OCA)



## Layered schema



Data ingestion stage uses the schema information to annotate incoming data with semantic information.

After semantic processing, data is translated into common exchange formats, potentially using another variation of the schema.



## Schema use case

Immunization Passport - Patient (Polish) comes visit hospital (Germany) for vaccination - to accommodate patient language they providing form (S1) in Polish so patient can understand what he needs to fill out. After filling out the form hospital issuing consent receipt (Verifiable Credential) to the patient about how the data from the form would be used for the purpose of providing vaccination.

After reviewing the application by Doctor (in German) patient proceed with the vaccination. The application would be stored in the internal system of the hospital and would be shared with other hospitals for second shoot.

After the vaccination patient receive Verifiable Credential (S2).

Patient is traveling to China, and on the boarder control Chinese authority ask to show immunization prove. Patient present VC (S2) with Chinese language to accommodate encoding and language of the Chinese authority.

Use case should work as well be accomplished in offline mode (no internet connectivity).

S1 - Schema 1 - schema base with information related with application for vaccination. Issued by WHO.

S2 - Schema 2 - schema base with information about vaccination which can be used as a immunization prove.

## Questions: Data Exchange Metadata

It was brought up in yesterday's PRTF discussions that Data Exchange via OCA is multi-layered with Semantic alignment and mapping (from supplier to consumer, controlled by the data owner (subject) at the base, where exchange of the data, described by the semantics, is built on and uses the semantic mapping. A large amount of the exchange is controlled by metadata, as is use of the resulting data. It's not clear where that metadata belongs - semantics, exchange process, ... Some examples:

- Sensitive data - this could apply to a record, or attributes within the record. Are there levels of sensitivity? If a destination schema does not allow for (or require) sensitivity tagging, should data exchange be allowed? Is Sensitive Data tagging a schema tag and/or is it an attribute on it's own (which would allow for subjects to individually tag record attributes with a sensitivity value)?
- Required vs. optional data - could apply to records, but more likely attributes. If a destination schema has an attribute tagged as "required", but the data is not available in the supply/source data - what is the impact on the exchange (data flow vs. semantics issue)?

## Questions: Schema extensions

While agreed common standards are essential, they will evolve slowly (and there will be disagreements) requiring extensions ranging from single use, those for jurisdiction differences, to extensions to a base standard (e.g., PII V1.0, 1.1, 2.0).

- How are extensions incorporated into a data exchange?
- How are extensions related (referenced in a data exchange)?
- Can attribute definitions in the base be overridden (replaced, redefined)?

**Schema miss-match** - how to detect semantic (schema) mismatch (either source/supply or destination/target) to either schema base or extension

# Update: MMM white paper (5 mins)

Presented by: N.Thomson/P.Knowles

[https://docs.google.com/document/d/11rDi\\_UnuETDh19gPRxq9yUBu2L2WJ2EQHpmom7f5VA/edit](https://docs.google.com/document/d/11rDi_UnuETDh19gPRxq9yUBu2L2WJ2EQHpmom7f5VA/edit)

# Master Mouse Model (MMM) white paper

ISWG white paper proposal (draft)

Ref.:

[https://docs.google.com/document/d/11irDi\\_UnuETDh19gPRxq9yUBu2L2WJ2EQHpmm7f5VA/edit](https://docs.google.com/document/d/11irDi_UnuETDh19gPRxq9yUBu2L2WJ2EQHpmm7f5VA/edit)

## Master Mouse Model:

A template framework for an open data network

[Inputs and Semantics WG, Trust over IP]

The open data network we propose has to allow digital services to exchange personal data on demand of their users. Following the Separation of Powers Principle (SPP), data transfers require users' permissions through their Personal Data Operators, which never see or access transferred data but rather act as a switch for the transfer. Permissions and transfer work on two separate layers.

## Overview

The Master Mouse Model (MMM) is a model architecture representing any economic actor in a dynamic data economy. In a citizen-centric ecosystem, *purpose-based service providers*, *data governance authorities*, and *insights-based service providers* provide a template framework for an open data network.

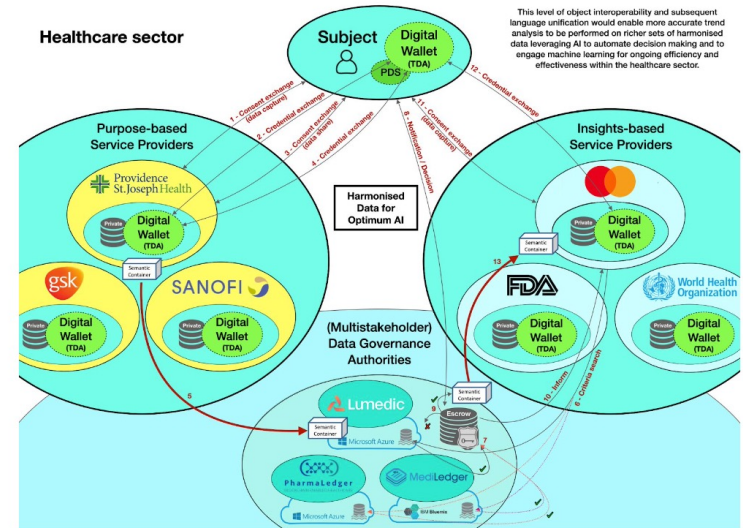


Figure 1: Master Mouse Model, a template framework for an open data network

# Logistics and miscellaneous (5 mins)

<https://wiki.trustoverip.org/display/HOME/2021-03-09+Meeting>

## News from the Operations Team

### **Nick Hayfack**

*(Inputs and Semantics WG representative on the ToIP Operations Team)*

The purpose of the Operations Team is to create a small group of ToIP members who will share information on the workplans of our WGs, help ensure that draft deliverables are advancing as intended through the stages of the ToIP workflow, resolve any bottlenecks that arise around decision-making/approvals and discuss issues such as (for example) introducing firmer parameters for the creation of Taskforces under all WGs.

The Operations Team will not be directing or otherwise interfering with the development of content and deliverables in the WGs themselves.

## ISWG Leadership positions

- › Inputs Group Chair
  - › **Robert Mitwicki**
- › Inputs Group Vice-chair
  - › **Sam Smith**
- › Semantics Group Chair
  - › **Paul Knowles** (*ISWG Lead*)
- › Semantics Group Vice-chair
  - › **John Wunderlich**
- › Volunteer via the meeting page at ...
  - › <https://wiki.trustoverip.org/display/HOME/2021-03-23+Meeting>



## Meeting schedule

- › **Inputs Group** weekly meeting
  - › Wednesday, **March 24th** @ 09:00 US PT / 18.00 CET
  - › Zoom link: <https://zoom.us/j/93406719136?pwd=SUozZHBQM0N5TUhYMhJqL0ZQM3I3Zz>
- › **FHIR FG** bi-weekly meeting
  - › Thursday, **March 25th** @ 08:00 US PT / 17.00 CET
  - › Zoom link: <https://zoom.us/j/93406719136?pwd=SUozZHBQM0N5TUhYMhJqL0ZQM3I3Zz09>
- › **Storage & Portability TF** bi-weekly meeting
  - › Monday, **March 29th** @ 09:00 US PT / 18.00 CET
  - › Zoom link: <https://zoom.us/j/96177500988?pwd=cDVNS2JzN1YxYXhiUVprWIM0OGQxQT09>
- › **Notice & Consent TF** bi-weekly meeting
  - › Thursday, **April 1st** @ 08:30 US PT / 17.30 CET
  - › Zoom link: <https://zoom.us/j/92346573961?pwd=RmZHNnQxS2lya3NCMHZTVXYra3Rrdz09>



Closing Q & A

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