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Decentralized Semantics WG Weekly Meeting

29 September 2020

 THE **LINUX** FOUNDATION

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Agenda

1. Welcome (Paul—2.5 mins)
2. Newcomer Introductions (Paul— 2.5 mins)
3. Task Force/Focus Group Updates (WG-5 mins)
4. Discussion: DSWG Task Force naming convention (Paul—20 mins)
5. Proposal: Passive Identifier Task Force (Paul—10 mins)
6. FHIR-to-OCA transformation: Areas of friction, learning and progress (John—15 mins)
7. Logistics and miscellaneous (Paul—5 mins)
 - a. Chairs
 - b. Meeting schedule

Newcomer Introductions

(30 seconds!)

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

Task Force/Focus Group Updates

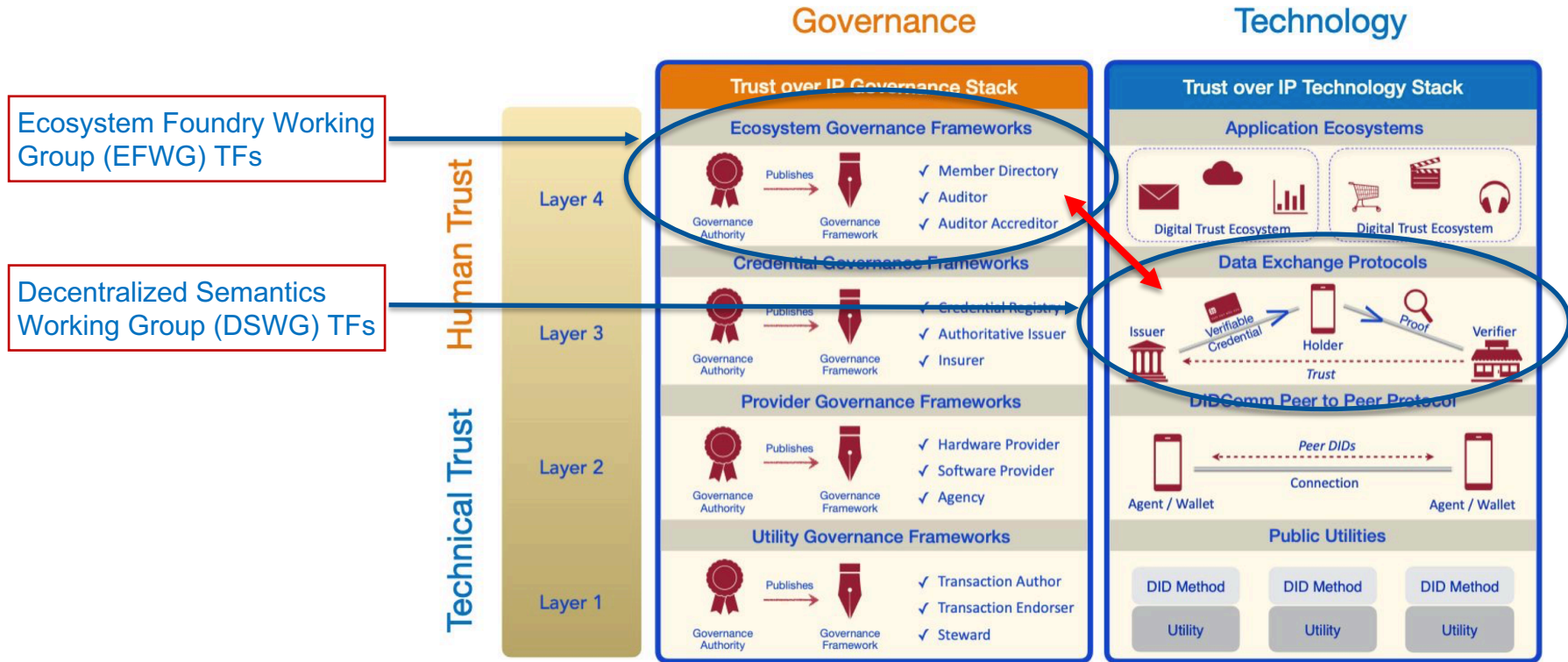
(5 mins)

- Imaging TF (Scott)
- Medical Information TF (Scott)
- ✓ FHIR-OCA Object Transformation FG (John/Mukund)
- Notice & Consent TF (Mark)

Discussion:
DSWG Task Force naming convention
(20 mins)

Presented by: P.Knowles

DSWG Task Force naming convention



Every Ecosystem Governance Framework defined at Layer 4 of the Governance Stack will have a direct relationship with an associated Data Exchange Protocol at Layer 3 of the Technology Stack

Task Force naming convention

Ecosystem Foundry Working Group (EFWG) TFs (Current)

| | |
|---|--|
| 1 | Patient Identity |
| 2 | Human Trafficking Ecosystem |
| 3 | Enterprise - Identity and Access Management |
| 4 | COVID-19 Credentials Initiative Governance Framework |
| 5 | Sovrin Ecosystem Governance Framework |
| 6 | Internet of Education (IoE) Ecosystem |

Decentralized Semantics Working Group (DSWG) TFs (Current)

| | | |
|---|---------------------|-------------------|
| 1 | Imaging | (Sector-agnostic) |
| 2 | Medical Information | (Sector-specific) |
| 3 | Notice & Consent | (Sector-agnostic) |

Industry Sector Classification

GICS: Global Industry Classification Standard

GICS codes were developed by MSCI, a leading provider of research-based, investment decision support tools for investors globally and Standard & Poor's, an American financial services company.

The aim of GICS is to enhance investment research and asset management processes for financial professionals worldwide. The methodology used is now widely accepted in the financial and investment community and has led to efficiencies and transparencies throughout investment processes.

- 11 Sectors (2-digits)
- 24 Industry Groups (4-digits)
- 69 Industries (6-digits)
- 158 Sub-Industries (8-digits)

SIC: Standard Industrial Classification

SIC codes describes the primary business activity of a company. With more than 10,000 unique classifications, SIC codes have been extended to create the most accurate way to target businesses.

Businesses often use SIC codes to identify companies within specific industries for marketing purposes. By determining the SIC code of their best clients, they can use this information to successfully acquire more customers within that industry.

- 83 Major Groups (2-digits)
- 416 Industry Groups (3-digits)
- 1055 Industries (4-digits)
- 10,525 Extended (6-digits)

Industry Sector Classification

Option 1

GICS: Global Industry Classification Standard

“The Industry Standard”



The **GICS** indices is an industry taxonomy for use by the global financial community as a basis to assign companies to a sub-industry, and to an industry, industry group, and sector, by its principal business activity.

- 11 Sectors



Ground-zero

- 24 Industry Groups

- 69 Industries

- 158 Sub-Industries

Sector-specific naming convention

- Ecosystem Foundry WG TF: Patient Identity

| Sector | Industry Group | Industry | Sub-Industry |
|------------------|---|---|---|
| 35 - Health Care | 3510 - Health Care Equipment & Services | 351010 - Health Care Equipment & Supplies | 35101010 - Health Care Equipment |
| | | | 35101020 - Health Care Supplies |
| | | 351020 - Health Care Providers & Services | 35102010 - Health Care Distributors |
| | | | 35102015 - Health Care Services |
| | | | 35102020 - Health Care Facilities |
| | | | 35102030 - Managed Health Care |
| | 3520 - Pharmaceuticals, Biotechnology & Life Sciences | 351030 - Health Care Technology | 35103010 - Health Care Technology |
| | | | 352010 - Biotechnology |
| | | 352020 - Pharmaceuticals | 35201010 - Biotechnology |
| | | | 35202010 - Pharmaceuticals |
| | | 352030 - Life Sciences Tools & Services | 35203010 - Life Sciences Tools & Services |
| | | | |

GICS: Health Care (35)
SIC: Health Services (80)

Sector-specific naming convention

- Ecosystem Foundry WG TF: **Human Trafficking Ecosystem**

| Major Group | Industry | Extended SIC 6-Digit |
|----------------------|--|--|
| 83 - Social Services | 8399 - Social Services, Not Elsewhere Classified | 839901 - Drug Abuse & Addiction Info & Treatment |
| | | 839902 - Alcoholism Information & Treatment Ctrs |
| | | 839903 - Abortion Alternatives Organizations |
| | | 839904 - Child Abuse Information & Treatment Ctrs |
| | | 839905 - Disability Services |
| | | 839906 - Gambling Abuse/addiction Info/treatment |
| | | 839907 - Fund Raising Counselors & Organizations |
| | | 839908 - Human Services Organizations |
| | | 839909 - Handicapped Services & Organizations |
| | | 839910 - Smokers Information & Treatment Centers |
| | | 839911 - Medical Management Service |
| | | 839912 - Suicide Prevention Service |
| | | 839913 - Indian Reservations & Tribes |
| | | 839914 - Community Action Agencies |
| | | 839915 - Gay & Lesbian Organizations |
| | | 839916 - Breastfeeding Supplies & Information |
| | | 839917 - Crime Prevention Programs |
| | | 839918 - Volunteer Workers Placement Service |
| | | 839919 - Charitable Institutions |
| | | 839921 - Addiction Treatment Centers |
| | | 839922 - Background Screening |
| | | 839924 - Dependency Information & Help Centres |
| | | 839925 - Memorial Societies |
| | | 839929 - Epilepsy Educational Referral/sprt Services |
| | | 839930 - Tax Advocacy |
| | | 839998 - Non-Profit Organizations |
| | | 839999 - Social Services Nec |

GICS: -
SIC: Social Services (83)

Sector-specific naming convention

- Ecosystem Foundry WG TF: Enterprise – Identity and Access Management

| Sector | Industry Group | Industry | Sub-Industry |
|-----------------------------|----------------------------|----------------------|--|
| 45 - Information Technology | 4510 - Software & Services | 451020 - IT Services | 45102010 - IT Consulting & Other Services |
| | | | 45102020 - Data Processing & Outsourced Services |
| | | | 45102030 - Internet Services & Infrastructure |
| | | 451030 - Software | 45103010 - Application Software |
| | | | 45103020 - Systems Software |

GICS: Information Technology (45)
SIC: Information Technology Services (737109)

Sector-specific naming convention

- Ecosystem Foundry WG TF: [COVID-19 Credentials Initiative Governance Framework](#)

| Sector | Industry Group | Industry | Sub-Industry |
|------------------------|---|---|---|
| 35 - Health Care | 3510 - Health Care Equipment & Services | 351010 - Health Care Equipment & Supplies | 35101010 - Health Care Equipment |
| | | | 35101020 - Health Care Supplies |
| | | | 351020 - Health Care Providers & Services |
| | | | 35102010 - Health Care Distributors |
| | | | 35102015 - Health Care Services |
| | | | 35102020 - Health Care Facilities |
| | | | 35102030 - Managed Health Care |
| | | | 351030 - Health Care Technology |
| | | | 35103010 - Health Care Technology |
| | | | 3520 - Pharmaceuticals, Biotechnology & Life Sciences |
| 352010 - Biotechnology | 352020 - Pharmaceuticals | 352030 - Life Sciences Tools & Services | 35201010 - Biotechnology |
| | | | 35202010 - Pharmaceuticals |
| | | | 35203010 - Life Sciences Tools & Services |

GICS: Health Care (35)
SIC: Health Services (80)

Sector-specific naming convention

- Ecosystem Foundry WG TF: [Sovrin Ecosystem Governance Framework](#)

| Sector | Industry Group | Industry | Sub-Industry |
|-----------------------------|----------------------------|----------------------|--|
| 45 - Information Technology | 4510 - Software & Services | 451020 - IT Services | 45102010 - IT Consulting & Other Services |
| | | | 45102020 - Data Processing & Outsourced Services |
| | | | 45102030 - Internet Services & Infrastructure |

GICS: Information Technology (45)

SIC: Information Technology Services (737109)

Sector-specific naming convention

- Ecosystem Foundry WG TF: [Internet of Education \(IoE\) Ecosystem](#)

| Sector | Industry Group | Industry | Sub-Industry |
|-----------------------------|--------------------------|--|--|
| 25 - Consumer Discretionary | 2530 - Consumer Services | 253020 - Diversified Consumer Services | 25302010 - Education Services |
| | | | 25302020 - Specialized Consumer Services |

GICS: Education Services (25302010)
SIC: Educational Services (82)

Sector-specific naming convention

Ecosystem Foundry Working Group (EFWG) TFs *(Current)*

| | |
|---|--|
| 1 | Patient Identity |
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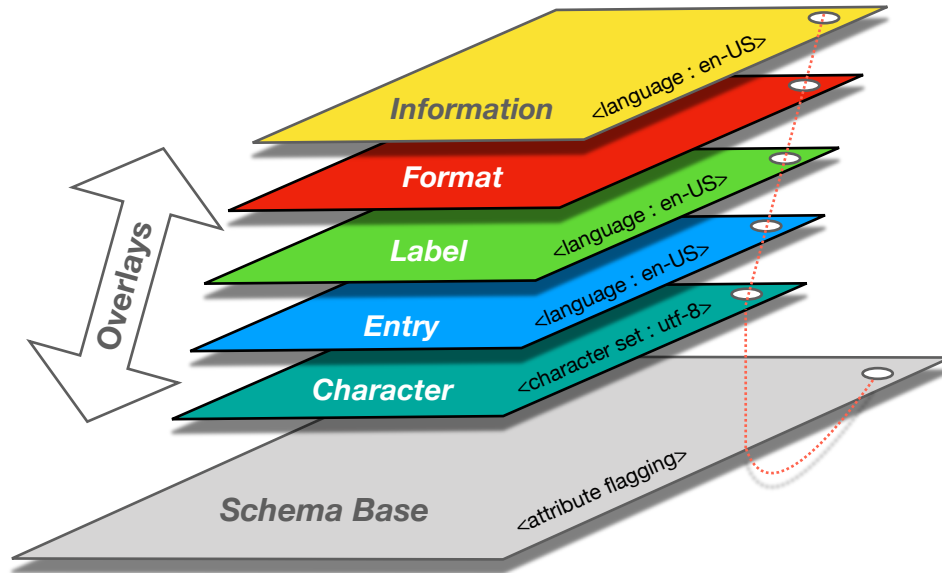
Decentralized Semantics Working Group (DSWG) TFs *(Proposed)*

| |
|------------------------|
| Health Care |
| Social Services |
| Information Technology |
| Health Care |
| Information Technology |
| Education Services |

Industry Sector Classification

“Demographics” schema example

“classification”: “GICS:35202010”



GICS = 35202010

Sector code:

35 - Health Care

Industry group code:

3520 - Pharmaceuticals, Biotechnology & Life Sciences

Industry code:

352020 - Pharmaceuticals

Sub-industry code:

35202010 - Pharmaceuticals

Description:

Companies engaged in the research, development or production of pharmaceuticals. Includes veterinary drugs.

Industry Sector Classification

- Schema base “classification” meta attribute

“Demographics” schema example

```
{
  "@context": "https://odca.tech/v1",
  "name": "Demographics-DM",
  "type": "spec/schema_base/1.0",
  "description": "The DM (Demographics) domain includes a set of essential standard variables that",
  "classification": "GICS:35202010",
  "daisy_chain": "",
  "issued_by": "",
  "attributes": {
    "STUDYID": "Text",
    "DOMAIN": "Text",
    "USUBJID": "Text",
    "AGE": "Number",
    "SEX": "Text",
    "RACE": "Text"
  },
  "attr_blinding": [
    "STUDYID",
    "USUBJID"
  ]
}
```

GICS = 35202010

Sector code:
35 - Health Care

Industry group code:
3520 - Pharmaceuticals, Biotechnology & Life Sciences

Industry code:
352020 - Pharmaceuticals

Sub-industry code:
35202010 - Pharmaceuticals

Description:
Companies engaged in the research, development or production of pharmaceuticals. Includes veterinary drugs.

Sector-specific naming convention

Global Industry Classification Standard

| Sector | Industry Group | Industry | Sub-Industry |
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| | | | 35102030 - Managed Health Care |
| | | 351030 - Health Care Technology | 35103010 - Health Care Technology |
| | 3520 - Pharmaceuticals, Biotechnology & Life Sciences | 352010 - Biotechnology | 35201010 - Biotechnology |
| | | 352020 - Pharmaceuticals | 35202010 - Pharmaceuticals |
| | | 352030 - Life Sciences Tools & Services | 35203010 - Life Sciences Tools & Services |

DSWG: Health Care TF

Suggested DSWG TF name changes

Decentralized Semantics Working Group (DSWG) TFs
(Current)

| | | |
|---|---------------------|-------------------|
| 1 | Imaging | (Sector-agnostic) |
| 2 | Medical Information | (Sector-specific) |
| 3 | Notice & Consent | (Sector-agnostic) |



Decentralized Semantics Working Group (DSWG) TFs
(Suggested changes)

| |
|------------------|
| MIME Types |
| Health Care |
| Notice & Consent |

?

(change suggested)

(no change)

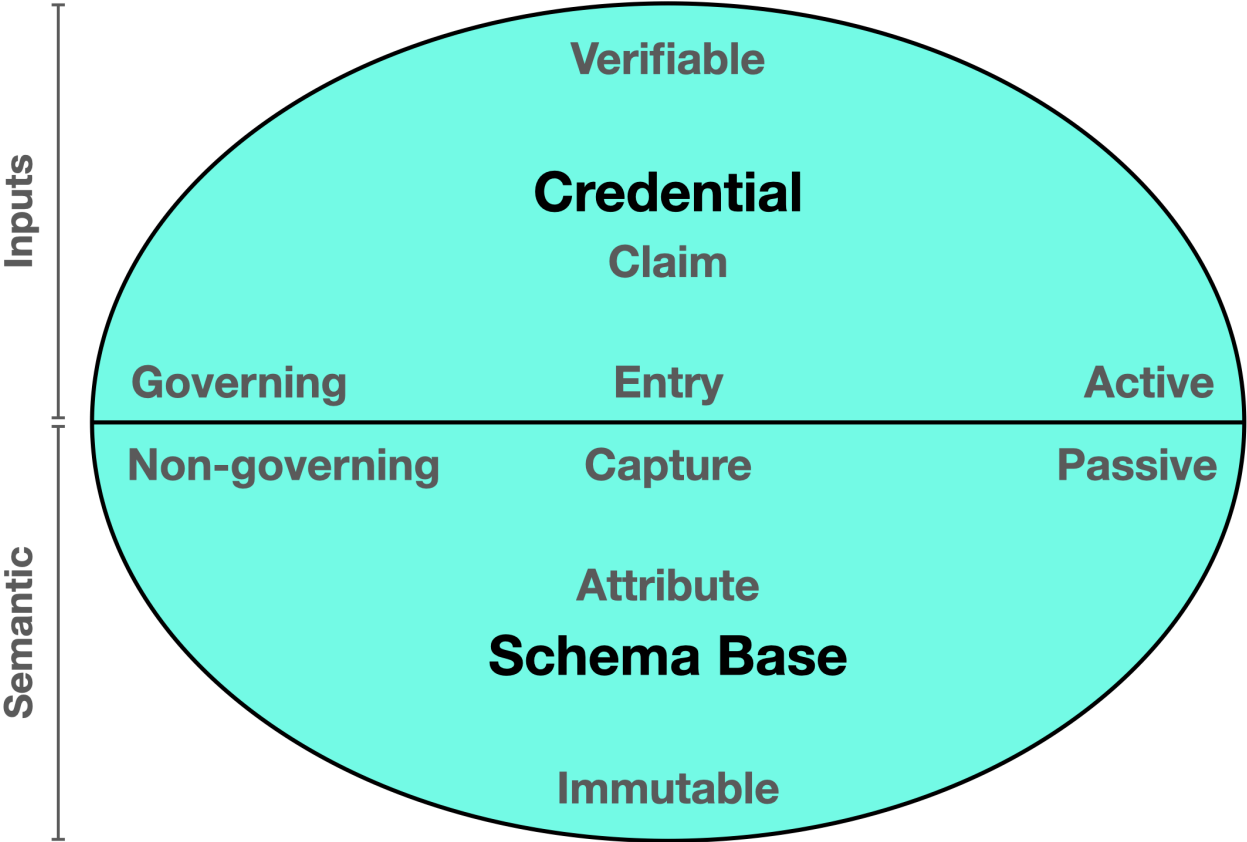
Proposal:

Passive Identifier Task Force (10 mins)

Presented by: P.Knowles

<https://humancolossus.foundation/blog/active-and-passive-identifiers>

Characteristics of a decentralized network



What is a Passive Identifier?

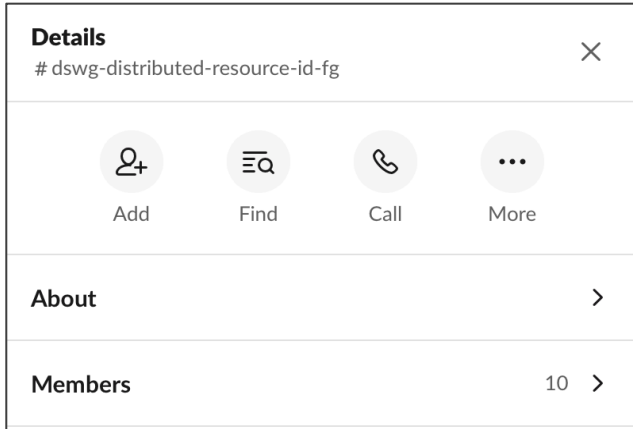
Passive identifier, a type of identifier that contains a cryptographic hash of digital content which acts as an immutable fingerprint to identify a passive non-governing entity or an inanimate object.

A passive identifier can either be:

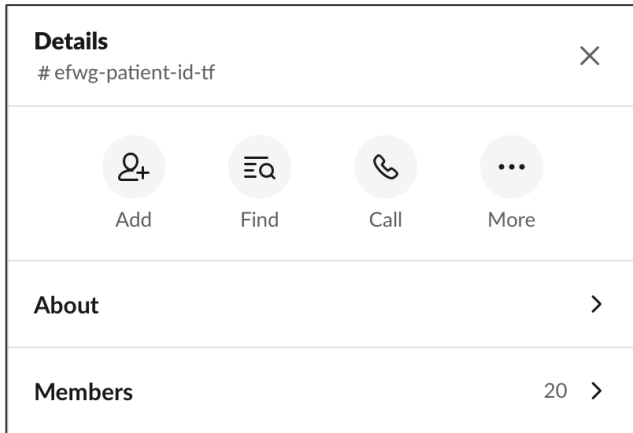
- (i.) governed by a governing entity or
- (ii.) not governed

Ref.: <https://humancolossus.foundation/blog/active-and-passive-identifiers>

ToIP Slack channels



- > Distributed Resource Identifier
- > (Led by: Carly Huitema)



- > Patient Identifier
- > (Led by: Jim StClair)

Passive Identifier TF
(proposed)

FHIR-to-OCA transformation: Areas of friction, learning and progress (15 mins)

Presented by: J.Walker & M.Parthasarathy

<https://wiki.trustoverip.org/display/HOME/OCA-FHIR+FG>

Learning - The FHIR Platform

- Base FHIR is a “platform specification”
 - Generic resource model, designed for use across contexts, jurisdictions, practice ecosystems etc.
 - Requires adaptation to particular context of use
 - Achieved via Profiles, Extensions
 - <https://www.hl7.org/fhir/extensibility-registry.html>
 - <https://www.hl7.org/fhir/profiling.html>
- Leverage existing work done to create “Core Profile”
 - US Core
- Leverage existing conformance resources
 - Extension and Validation mechanisms
 - Structurally focused

Learning - FHIR resources profiled or extended

- Examples of conformance requirements that JSON schemas cannot address
 - Changing cardinality of resource elements
 - Changing binding strength (required, extensible, preferred, example)
 - Ruling out the use of a resource element
 - Specifying binding to a different terminology valueset
 - Providing additional or specific mapping for a resource based on context (path or data type)
 - Restricting content of an element to a single value
 - Restricting the type of an element that allows multiple types
 - Single extension can be defined once and used on different resources and/or datatype
- <http://hl7.org/fhir/us/core/#us-core-profiles>

Friction - Issues Encountered

- Focus Group Use Cases - Use Cases to Date are Read Only
 - EHRs to be consumed by a selected medical provider, in a selected context
 - “As an OCA user I authorize my medical records to be viewed by my Allergist in Arizona [my residence is in Montana.]”
 - EHRs to be consumed by any authorized user in an ‘as needed’ context
 - “As an OCA user I authorize my medical records to be viewed by an authorized Emergency Medical Provider, in an emergency context.”
- Challenges in Read Only vs CRUD(S)
 - Data ‘round tripping’
 - Data provenance
 - FHIR capable consumers vs non-FHIR consumers
- Investigate and broaden our Use Case scope?

Progress - Leverage of FHIR Platform

- Leverage of Profiles and Extensions
 - Directly build base schemas and overlays by leverage of FHIR conformance mechanisms
 - RFC-0002 OCA Base schema support for FHIR Conformance resources
 - OCA Data Vault / Repository support for existing FHIR resource types
 - RFC-0001 OCA Library Resource Type Support
- Ready for 2 RFC PRs
- Engage the DSWG with dialog regarding the Use Case “friction” topics

Logistics and miscellaneous (5 mins)

<https://wiki.trustoverip.org/display/HOME/2020-09-29+Weekly+Meeting>

Leadership positions

- › As a Working Group, we elect our own Chairs and Vice-chairs
 - › At least one, and up to three
 - › Two or three is recommended to spread out the load
- › We can periodically rotate chairs as needed
- › Volunteer via the meeting page at ...
 - › <https://wiki.trustoverip.org/display/HOME/2020-09-29+Weekly+Meeting>

Meeting schedule

- › Call timing
 - › **ToIP Decentralized Semantics WG**
Every Tuesday starting
09:00 PT, 12:00 ET, 17:00 UK, 18:00 CET
- › Next meeting
 - › October 6th, 2020



Closing Q & A

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