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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

# 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

# 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	
	3520 - Pharmaceuticals, Biotechnology & Life Sciences	351030 - Health Care Technology	35102030 - Managed Health Care	
			35103010 - Health Care Technology	
		352010 - Biotechnology	35201010 - Biotechnology	
			352020 - Pharmaceuticals	35202010 - Pharmaceuticals
				352030 - 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
	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: [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
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 *(Proposed)*

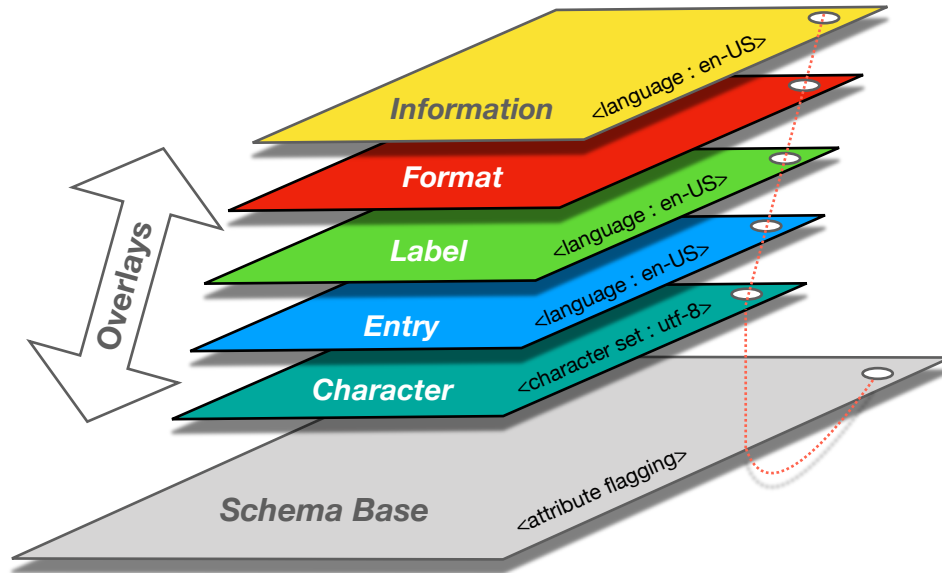
Health Care
Social Services
Information Technology
Health Care
Information Technology
Education Services



# 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
35 - Health Care	3510 - Health Care Equipment & Services	351010 - Health Care Equipment & Supplies	35101010 - Health Care Equipment
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			35102020 - Health Care Facilities
			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)*

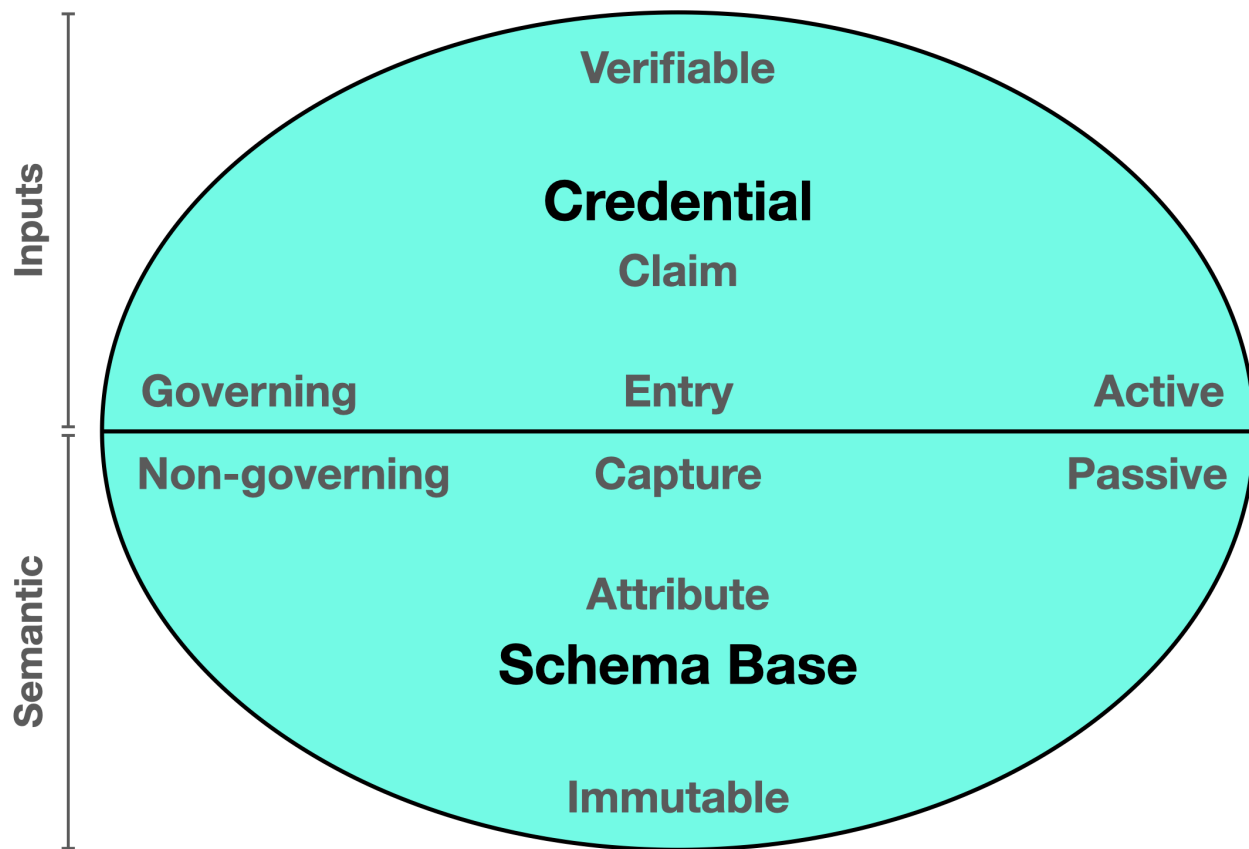
# Proposal:

## 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?

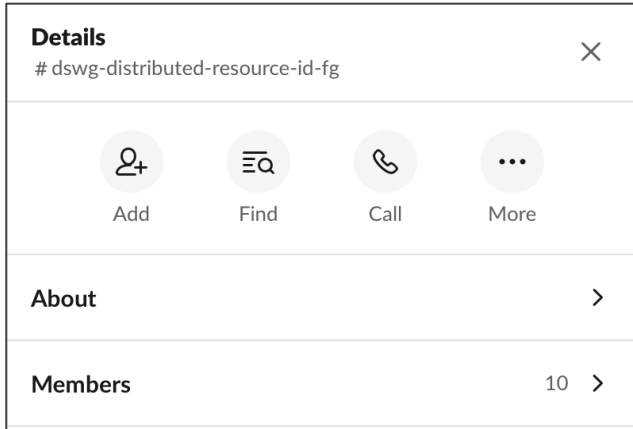
**Passive identifier**, a type of identifier that contains a cryptographic hash of digital content which acts as an immutable fingerprint to identify a passive non-governing entity or an inanimate object.

A passive identifier can either be:

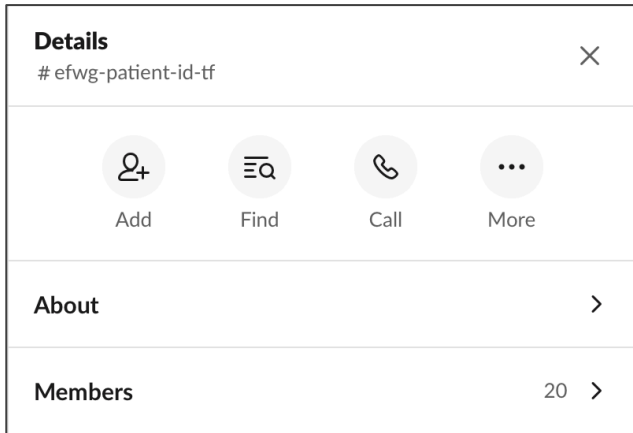
- (i.) governed by a governing entity or
- (ii.) not governed

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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