

# EFWG 2022-05-12 Meeting - BC Gov

## Meeting Schedule

- Bi-Weekly at 8:00-9:00 am PST / 11:00-12:00 am EDT / 15:00 – 16:00 UTC / 17:00 - 18:00 CET
- <https://zoom.us/j/95389236256?pwd=RFErMm9SS0tBenA1Q0dSYlpXK3Bqdz09>

## Attendees

- [Steve Magennis](#)
- [Carly Huitema](#)
- [P Subrahmanyam](#)
- [Eric Drury](#)
- [Phil Wolff](#)
- Bill Carroll
- Ross Power, product manager, Cheqd
- Suma
- Nick Main
- [Nicky Hickman](#)
- [Kimberly Linson](#)
- [Stephen Curran](#) (BC gov)
- [Jorge Flores](#)
- [Vikas Malhotra](#)
- Karla McKenna
- [Vlad Zubenko](#) at ETS
- [Kyle Robinson](#)
- anirao
- [Karen Hand](#)
- Sam Rookard
- Trinh Nguyen
- Brian
- [Scott Perry](#)
- [Tim Bouma](#)

## Agenda Items

- Welcome & Introductions
- EFWG Community Topics
- Presentation - Stephen Curran, Ecosystem Governance model
- Q&A

## Presentation Files

- From today's talk
  - Slides: [https://docs.google.com/presentation/d/1B1uB6kbpKjJG3stNG5mY6rvgt\\_WZsG\\_99RTHiUyv3EU/edit#slide=id.p](https://docs.google.com/presentation/d/1B1uB6kbpKjJG3stNG5mY6rvgt_WZsG_99RTHiUyv3EU/edit#slide=id.p)
  - repo: <https://github.com/cloudcompass/demo-pancdn-toip-gf>
  - demo site: <https://pcgf.cloudcompass.ca/> (needs username/password)
- White Paper working draft: [https://docs.google.com/document/d/14Q8Q8EwV0Ok\\_AKITYR0BSWLRASjekwD2OCIDaPV3haA/edit](https://docs.google.com/document/d/14Q8Q8EwV0Ok_AKITYR0BSWLRASjekwD2OCIDaPV3haA/edit)
- Blog post
- [Learning Pathways Taskforce](#)

## Recording

[Meeting Recording](#)

## Meeting Notes

### Welcome & Introductions

- Notes

### EFWG Community Topics

- Invitation to all members to join the task force for the Ecosystem Governance Template (especially to find a task force leader)
- There is a published governance meta-model which is the table of contents for a governance framework for all layers of the trust over IP stack
- Task forces are being launched for each layer so we can become more specific in the governance specification at each layer of the stack
- We are looking for a leader of this task force to drive the creation of the layer 4 specific governance framework
- Deliverable - specific governance framework - timeline: none specific, time is of the essence.
- To be a viable organization we need to lead and the marketplace needs this deliverable. The market will develop their own otherwise.
- We have already implemented guidance around risk assessment and the governance will address specific risks at the ecosystem layer and that will drive requirements of the governance

- A great education opportunity for members
- Business model and UI/UX - we are seeking ideas from members for possible presentations which are of interest to the community

#### Presentation - Stephen Curran

Slides [https://docs.google.com/presentation/d/1B1uB6kbpKjJG3stNG5mY6rvgt\\_WZsG\\_99RTHiUyv3EU/edit#slide=id.p](https://docs.google.com/presentation/d/1B1uB6kbpKjJG3stNG5mY6rvgt_WZsG_99RTHiUyv3EU/edit#slide=id.p)



## A Practical, Decentralized Verifiable Credential Ecosystem Governance Framework

Tools and Processes, Processes and Tools

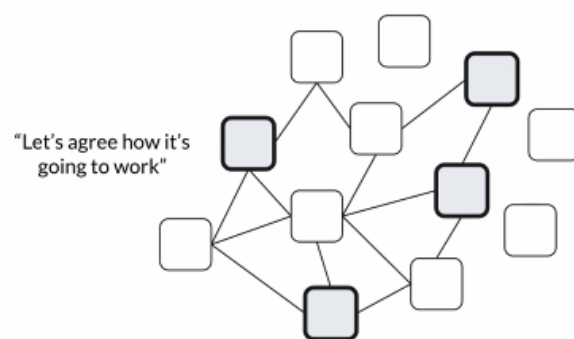
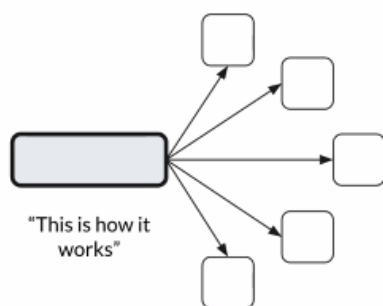
Stephen Curran, 2022.05.12, BC Gov Team

## ToIP Ecosystem (my understanding)

- A set of independent ToIP participants using verifiable credentials that are:
  - Using an interoperable technical stack — e.g. Hyperledger Indy ledgers, Hyperledger Aries protocols.
  - Enabling discovery by publishing information about schemas, issuing verifiable credentials, requesting proofs.
  - Providing guidance to make it easy for others to "join" the ecosystem.
- Examples:
  - Credentials for people — jurisdictions, broader public sector, residents, banks, telcos, universities, businesses...
  - Supply chains — jurisdictions, resource producers, manufacturers, industry groups, auditors, banks, consumers...
- Realities:
  - Overlapping participation in ecosystems
  - Many other "governance frameworks" at play (in name and practice)

Where on the centralized-vs-decentralized spectrum does ecosystem governance operate? An "anchor tenant" defines the rules vs. emergent governance that's independent of a "key species" participant.

## Approaches to ecosystem governance



How to do the governance.

## Goals

1. A website to publish information for ALL participants (issuers, holders and verifiers) about the technical stack and verifiable credentials in the ecosystem.
2. A set of "Member" participants that *decide* on the overall ecosystem, such as the technical stack and data published on the website.  
  
Decision making that is as lightweight as possible, which might be very heavy-handed.
3. Contributors that submit for publication information about their parts of the ecosystem — schemas they publish, verifiable credentials they issue and/or proofs they request.
4. Practical to implement, moderately scalable based on human trust/reputation.
5. Meta outcome: An instance that we can use for a Canadian ecosystem, based on a structure that others can replicate and use as they see fit.

1. A website as Source Of Truth.
2. Decision making. (committee of member participants)
3. Proposals to publish changes to website via decision makers.

Demo of site:

The screenshot shows a web browser displaying the 'DEMO: Pan-Canadian Verifiable Credential Ecosystem Governance Framework' website. The browser's address bar shows the URL 'pcgf.cloudcompass.ca'. The website has a blue header with the title and a search bar. Below the header is a navigation menu with links: 'Ecosystem Overview', '1. Using This Site', '2. Technical Stack', '3. Schemas', '4. Verifiers', and '5. Governance'. The main content area is titled 'Ecosystem Overview' and includes an 'Introduction' section. The introduction text describes the site as a demonstration of the Pan-Canadian Verifiable Credential Ecosystem Governance Framework for Verifiable Credentials, an implementation of a Layer 4 Trust over IP Ecosystem Governance Framework. It mentions that the site provides information for and about schema publishers, issuers, holders, and verifiers. A 'CAVEAT' section states that the site is a proof-of-concept for demonstration purposes only. The introduction also mentions that future member participants (e.g., Canadian governments) will use the site to publish governance documents and manage contributions. The text concludes by stating that the following are examples of information to be found on this site.

**Table of contents**

- Introduction
- Out of Scope
- The MVP Ecosystem Approach
- Assumptions About the Audience

pcgf.cloudcompass.ca/1.%20Using%20This%20Site/

VS GD VON Now C3I PSV Sovrin R LF TolP N L Sy TR IIW CG + Rubric DID Directory

DEMO: Pan-Canadian Verifiable Credential Ecosystem Governance Framework

Search

Ecosystem Overview1. Using This Site2. Technical Stack3. Schemas4. Verifiers5. Governance

1. Using This Site

Guidance

The following guidance is for those that are arriving at this site and want to know how to quickly create and/or find the information they need.

- Schema Publishers
- Verifiable Credential Issuers
- Verifiers
- Holders / Wallet Apps Creators
- Ecosystem Participants / Contributors

Schema Publishers

Schema Publishers are organizations (perhaps made up of organizations) that define and create Schema (and hence, types of verifiable credentials) objects that are used within this ecosystem. An issuer of a type of verifiable credential might also publish the schema for the verifiable credential, or, an issuer might collaborate with other organizations to define the schema, and many organizations are issuers of that type of schema.

For example, a single authority, such as the Law Society in a given jurisdiction, might publish a type of verifiable credential to be issued to their members. In that case, the Law

Table of contents

Schema Publishers

Verifiable Credential Issuers

Verifiers

Holders / Wallet Apps Creators

Ecosystem Participants / Contributors

pcgf.cloudcompass.ca/2.%20Technical%20Stack/

VS GD VON Now C3I PSV Sovrin R LF TolP N L Sy TR IIW CG + Rubric DID Directory

DEMO: Pan-Canadian Verifiable Credential Ecosystem Governance Framework

Search

Ecosystem Overview1. Using This Site2. Technical Stack3. Schemas4. Verifiers5. Governance

2. Technical Stack

Summary: Ecosystem Technical Stack

While this site contains all of the details about each of the TolP Layers used within the ecosystem, the following is a brief overview of the ecosystem's TolP Layers 1, 2 and 3 technical components.

Layer 1

TolP Layer 1 Utilities

CANdy Network

Sovrin MainNet Network

Layer 2

Ecosystem Layer 2

Layer 1 Public Utilities

Several Hyperledger Indy-based Layer 1 utility instances are used in the ecosystem.

- CANdy, an instance of Hyperledger Indy operated by several Canadian provincial jurisdictions for the use of their issuers.
- Sovrin MainNet, an instance of Hyperledger Indy operated by the Sovrin Foundation and available for use by legal entities (including governments) that agree to operate based on the Sovrin Governance Framework.

Associated with each Layer 1 utility is a test instance of that utility that can be used by ecosystem participants for testing purposes. Access to the test instances is included in the details about the Layer 1 utilities.

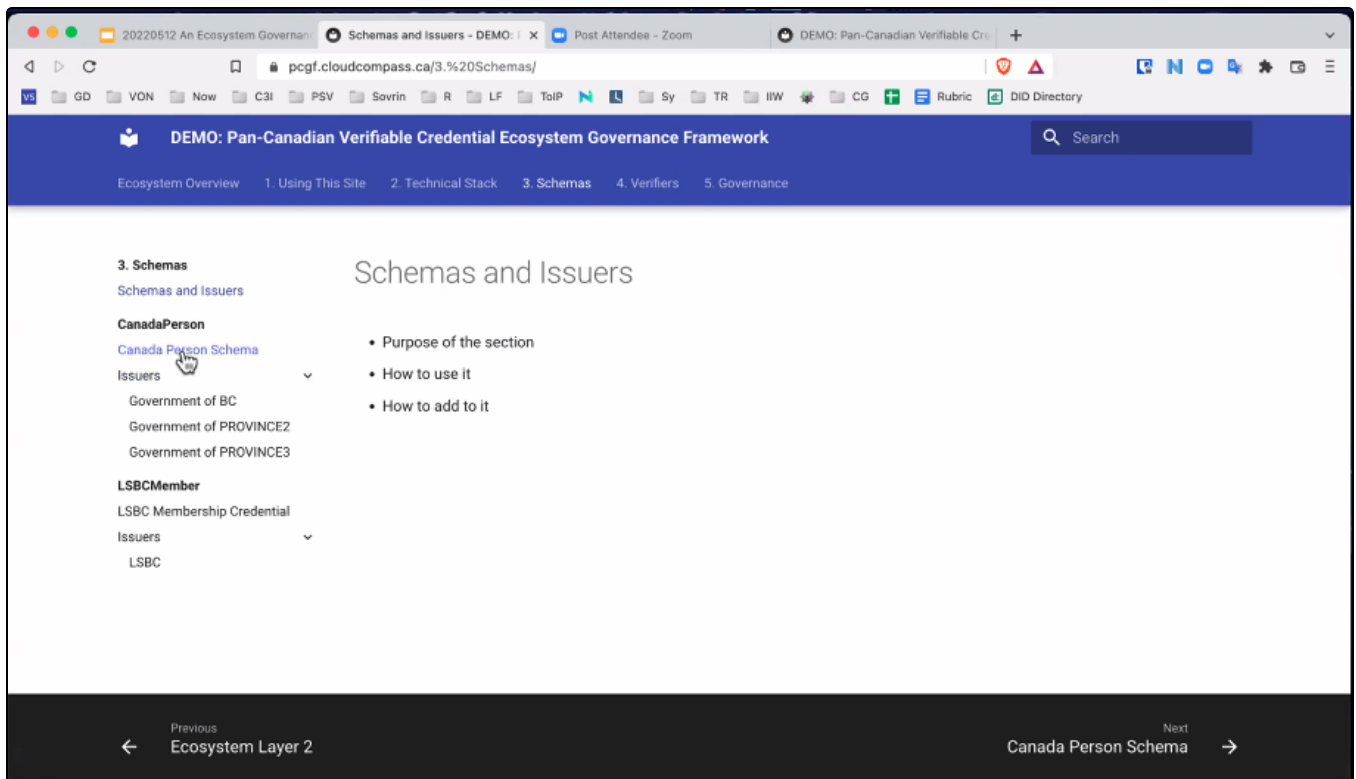
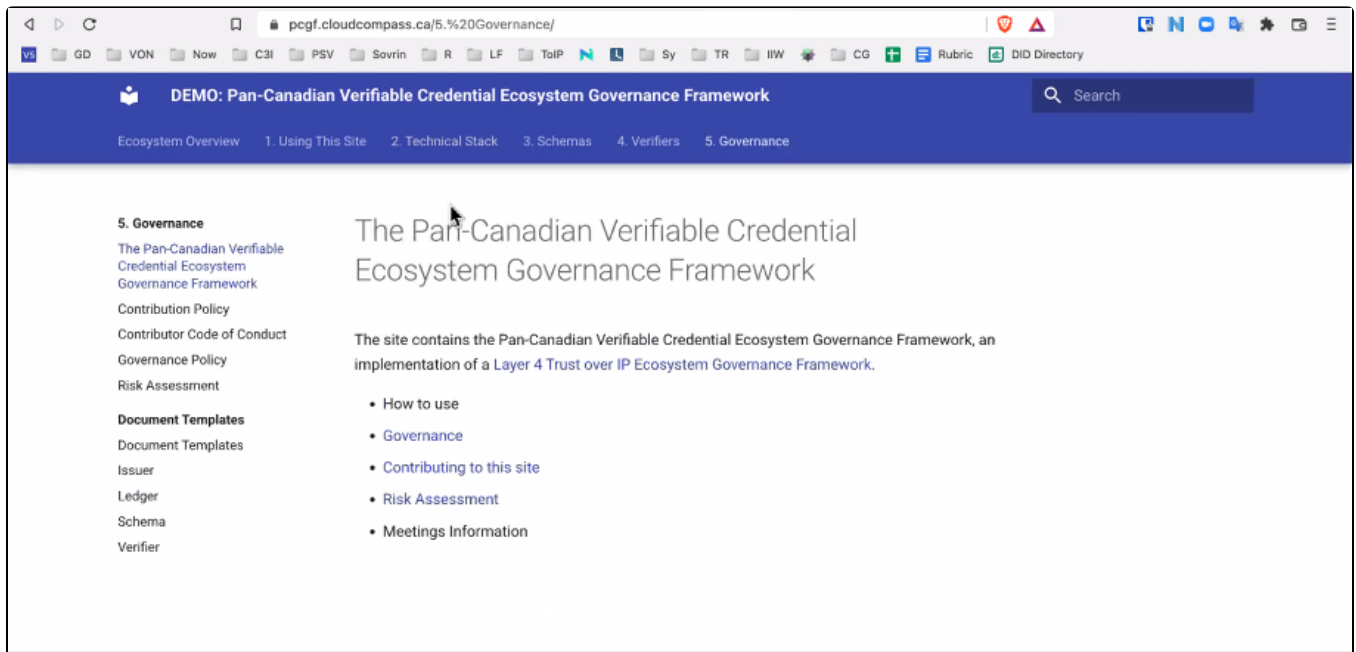
Layer 2 Peer-to-Peer Protocols

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Layer 1 Public Utilities

Layer 2 Peer-to-Peer Protocols

Layer 3 Data Exchange Protocols



vsGDVONNowC3IPSVSovrinRLLFSyTRIIWCGRubricDID Directory

Canada Person Schema

Search

Ecosystem Overview1. Using This Site2. Technical Stack3. Schemas4. Verifiers5. Governance

3. Schemas

Schemas and Issuers

CanadaPerson

Canada Person Schema

Issuers

Government of BC

Government of PROVINCE2

Government of PROVINCE3

LSBCMember

LSBC Membership Credential

Issuers

LSBC

Technical Information

Ledger Information

- Ledger: [CANdy-Dev](#)
- Schema Creator DID: <DID with Link to Ledger Txn>
- Schema ID: <SCHEMA ID with Link to Ledger Txn>
- <Link to Overlays Capture Architecture: Source>
- <Link to Overlays Capture Architecture: Published>

Governance Information

The "Governance Framework" information for this schema is defined in [this document](#) developed jointly by representatives of the Governments of BC, PROVINCE2 and PROVINCE3.

The Canada Person Credential Schema

The Canada Person Credential Schema is defined to allow the issuance of a credential that provides the Holder with the core digital identity attributes held by an jurisdictional authority about the resident of the jurisdiction, such that the Holder can share those attributes with the verifiers of their choice.

The specific attributes in the credential about the subject include the following and are intended

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Introduction

Technical Information

Ledger Information

Governance Information

The Canada Person Credential Schema

full\_name

given\_names

given\_name

surname

birthdate\_dateint

parent\_1\_full\_name

parent\_2\_full\_name

identification\_level

full\_civic\_address

civic\_address

civic\_number

street\_name

city\_name

province\_name

postal\_code

photo

vsGDVONNowC3IPSVSovrinRLLFSyTRIIWCGRubricDID Directory

DEMO: Pan-Canadian Verifiable Credential Ecosystem Governance Framework

Search

Ecosystem Overview1. Using This Site2. Technical Stack3. Schemas4. Verifiers5. Governance

3. Schemas

Schemas and Issuers

CanadaPerson

Canada Person Schema

Issuers

Government of BC

Government of PROVINCE2

Government of PROVINCE3

LSBCMember

LSBC Membership Credential

Issuers

LSBC

Government of BC

Introduction

The Canada Person verifiable credential is issued by the Province of British Columbia's Ministry of Citizens' Services to Holders that are residents of the Province of British Columbia. The credential contains authoritative digital identity data attributes about the Holder held by the province, including their name and date of birth (see full list of attributes below). The credential is a cornerstone in the use of online digital identity for the residents of British Columbia.

Technical Information

Ledger Information

- Ledger: [CANdy-Dev](#)
- Government of BC Issuer DID for the Canada Person verifiable credential: <DID with Link to Ledger Txn>
- Credential Definition ID: <CRED\_DEF ID with Link to Ledger Txn>
- <Link to Overlays Capture Architecture: Source>
- <Link to Overlays Capture Architecture: Published>

Table of contents

Introduction

Technical Information

Ledger Information

Authority to Issue

The Government of BC Issued Canada Person Credential

Issuer-Specific Credential Information

Attributes Not Published

Attributes Handled Differently

Holders

Pre-Issuance Verification

Revocation

Intended Use of the BC Person Credential

Contact for Additional Information

Sample Presentation Requests



## Included / Not Included

- Included: Information *about* ToIP L1, L2 components
  - Not included: Governance of L1, L2 components
- Included: Semantic/location information about [Schemas](#) that can be used in the ecosystem
  - Not included: Governance of those Schemas
- Included: Semantic/location information from [Issuers](#) and [Verifiers](#) participating in the ecosystem
  - Not included: Issuer or verifier governance
- Included: Structural oversight of the data published
  - Not included: Control over content by other than the "owner" of each document



## Tools

- GitHub
  - Versioning, publication control through pull requests, issues
  - Organizational and individual accounts (ironic eye-roll expected...)
- Technical Roles
  - GitHub Maintainers (administer the repository),
  - Editors (approve and merge pull requests)
  - Contributors (anyone – submitters of pull requests)
- Markdown
- Publication pipeline
  - Merged content produces a website for human consumption
  - Pipeline tools produce machine-readable content





## Process — Decision Making

- Contributors (e.g. anyone) submit issues and pull requests.
- Editors (using GitHub tools) get the issues and pull requests ready for a decision.
  - For Schemas, Issuers and Verifiers: Is the structure correct? Is the right person submitting?
  - Everything else: Does the update reflect the intention of the members?
- Decision making process — as light or as heavy as needed:
  - Light: Members delegate to the Maintainers/Editors to follow the intent of the ecosystem members
  - Heavy: Members vote on any and all decisions (content changes).
  - Middle: Editors delegated to handle most pull requests, but to recognize when to escalate to members.
- Technical manifestation
  - GitHub roles, permissions and pull request merges



## Process to create an ecosystem

- Members decide that an ecosystem is useful
- Delegate a technical resource to create and administer the site (Maintainer role)
  - Create the repository from a GitHub repository template
  - Customize the site for the purpose, such as defining the initial participants, decision-making, templates
- Meetings of member delegates to review and refine the site/governance.
- Publish the site
  - Enable a pipeline for both human and machine-readable outputs
- Publicize the site and welcome contributors
- Follow governance rules to evolve site
  - Including changing the governance rules as needed...



## Status

- Sample created
- Sharing the idea and collecting feedback
- Expecting to apply the idea to the concrete use case in Canada
- If others are interested in, willing to create an “Ecosystem GF Template” repository and guidance
  - Starting documents (model: Community Specification V1.0 and SpecUp)
  - Guidance / How To
  - Technical Work — e.g. scaling to handle 100s of Issuers

- Q&A
  - Great effort.
  - Documentation and security to manage RISK. Implemented well, you remove risk.
  - How much of this can be automated, DAO-like?

**Admin Reminder** : remember to re-subscribe to new meeting calendar

If you want your name on the invite, reach out to [Elisa Trevino](#) (on slack), she will put your name in the calendar invite to make sure that the invite is sent out each time.

## Coming up

- Next presentation: Tkyn - 26 May 2022
-