Lightweight Verifiable Credential Schema and Process

Lightweight Verifiable Credential Schema and Process (LVCSP) TC

Kim Hamilton (Duffy)

Director of Identity and Standards
Centre Consortium

Abbie Barbir

OASIS IDTrust Co-chair
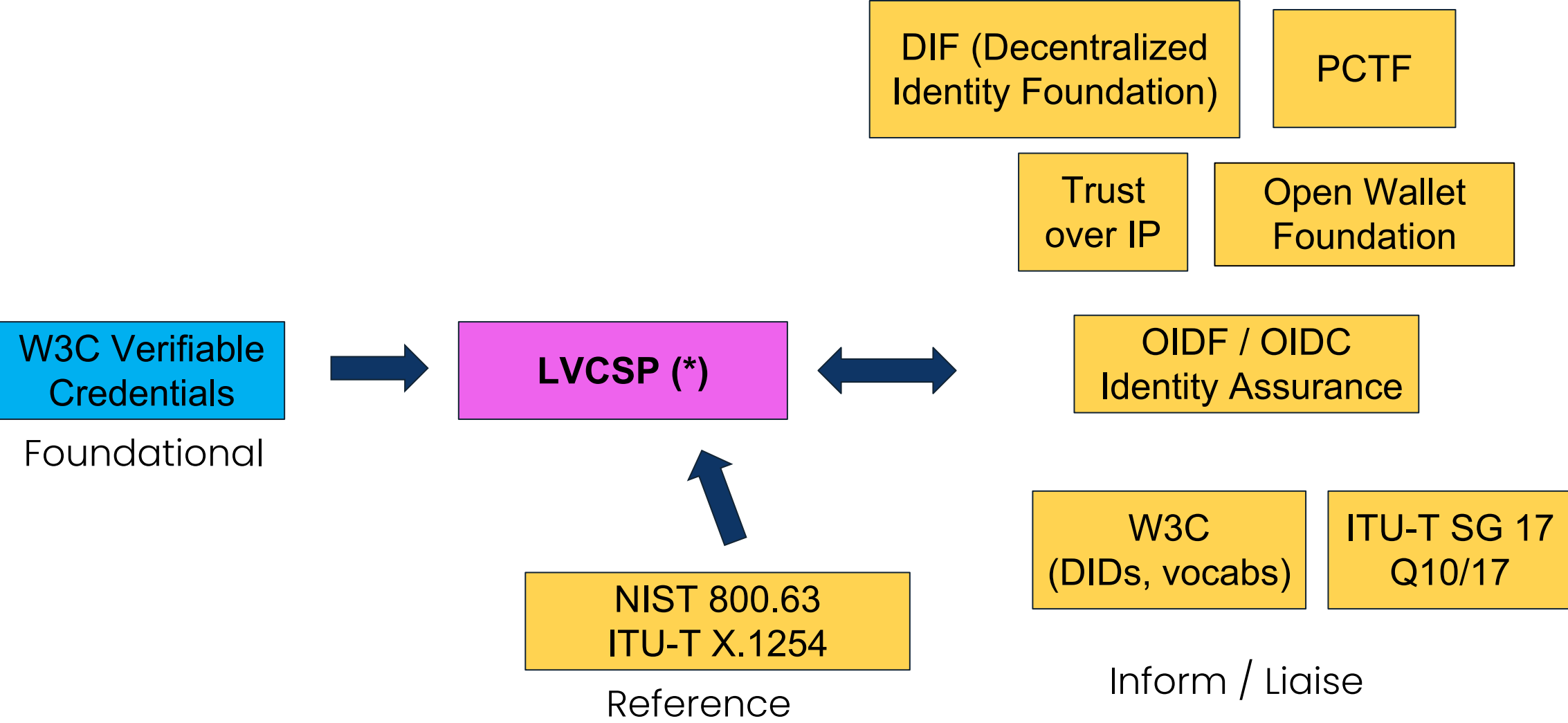Lead Director, Security Engineering
CVS Health

Lightweight Verifiable Credential Schema and Process (LVCSP) TC

- New TC
- OASIS
- IDTrust Member Section

Challenges

- **Overshare** - Customer onboarding processes require individuals to reshare identity attributes for each new organization with whom they interact, redundant accounts

- **Friction** - This introduces delays and expense for both the customer and onboarding organization.

- **Trust Interoperability** - Decentralized identity approaches offer the ability to address this, but the landscape is fragmented, making it difficult for verifiable credentials issued by different issuers to be verified by different verifiers.

Current Ecosystem

DIF (Decentralized Identity Foundation)

PCTF

Trust over IP

Open Wallet Foundation

W3C Verifiable Credentials

Foundational

LVCSP (*)

OIDF / OIDC Identity Assurance

NIST 800.63 ITU-T X.1254

Reference

W3C (DIDs, vocabs)

ITU-T SG 17 Q10/17

Inform / Liaise

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Action

- Define a <u>lightweight identity credential schema</u>, based on the W3C Verifiable Credential (VC) standard, to enable individuals (VC subjects) to share their verified identity attestations across different platforms and services.

- This work assumes the following <u>operational pattern</u>:
  a. Issuer issues a VC that asserts the VC subject has passed checks of a defined business process (e.g., KYC)
  b. The VC subject presents the VC to a Relying Party (RP)
  c. The RP can choose (or not) to accept based on trust in issuer's processes

Deliverables

- **A standardized schema** can lead to more efficient, consistent, and secure digital identity ecosystem.
  - Encourages alignment among issuers
  - Improves interoperability and portability for subjects and RPs.
- Promote **efficiency** in customer onboarding and reduce proliferation of sensitive personal data where it is not needed.

Example:
  - VC issuer issues a credential attesting that the VC subject has passed its KYC checks according to the United States jurisdiction, but does not include details of the checks
    - (e.g., names, addresses, etc. are omitted).
  - A relying party may choose to accept this credential based on trust in the issuer's processes.

Goals & Non-Goals

Goals (in scope)

- Establish a *repeatable* privacy pattern for a VC schema that reduces PII and Promotes ZKP (and the ecosystem of ZKP issuers)

- Enable a *minimal baseline* for interoperability
  - Simplify adoption and entry for RPs: consistent structure/semantics enable more rapid integration into existing processes
  - Additional claims can be *stacked* on top

- Invite TC participants to determine baseline
  - End result will be put in public domain, (e.g. schema.org)

- Work with OIDC identity assurance framework

Non-goal (out of scope)

- Is not opinionated and does not affect the rest of the decentralized identity technical stack
  - I.e., BYO transport protocols, issuance/exchange data models, authentication methods

- Does not establish new trust/governance component

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Example Use

Scenario: Alice has completed KYC checks at her bank and seeks registration for an online service from a fintech company requiring KYC.

- **Traditional Method**: Alice repeats the KYC process for the fintech company, disclosing sensitive personal information.

- **Improvements enabled by VCs / decentralized identity generally:**

  - Alice's bank creates a credential confirming her KYC completion, without revealing sensitive details.

  - The fintech company (RP) accepts the credential, trusting the bank's processes.

- **Problems**:

  - Potentially different schema, syntax, and semantics across N issuing banks.

  - Requirement data vary depending on jurisdiction, specific compliance requirements, etc.

- **Additional Improvements enabled by LVCSP approach:**

  - Baseline schema and pattern consistent across N issuing banks

  - Clarifies stackable, layered approach for issuers and RPs:

    - As a regulated entity, RP may need to collect PII from Alice.

      - However, the amount needed may be reduced (based on awareness of bank's processes, reputation, and terms, which is discoverable)

    - Additional identity claims can be provided as additional stacked or layered credentials, while still expediting onboarding.

- **Benefits**: Speedier onboarding, minimized customer friction, and easier adoption for RPs

Other Examples

1. **Education**:
   - Verification of academic degrees, certifications, and transcripts, enabling easier job application and cross-institution recognition.
   - Proof of enrollment for student discounts or other benefits.

2. **Employment**:
   - Validation of work experience, skills, and professional licenses, simplifying the recruitment process.
   - Verification of employment status for loan applications or rental agreements.

3. **Healthcare**:
   - Proof of vaccination status, enabling safer travel and access to venues or events.
   - Verification of medical qualifications and licenses for healthcare professionals.

4. **Travel & Immigration:**
   - Digital passports, expediting border control processes and reducing document forgery risks.
   - Proof of visa or residency status, streamlining immigration-related procedures.

5. **Age Verification:**
   - Confirmation of legal age for age-restricted products and services, such as alcohol, tobacco, or adult entertainment.

6. **Membership & Subscriptions**:
   - Verification of membership status for accessing restricted content or exclusive benefits, such as streaming services, online forums, or loyalty programs

Related Work

- DHS, Silicon Valley Innovation Program (SVIP)
  - VC/DID Multi-Platform/Multi-Vendor Interoperability
- W3C, DIF
- OpenID
  - OpenID for Verifiable Credentials
  - OpenID for Verifiable Presentations
  - OpenID Connect for Identity Assurance
- Key Points
  - Interoperability vs Portability
    - Interoperability (aka follow big player
    - Portability (little guys have a fighting chance)
  - Plan to Focus on both

Benefits of a standard VC schema

1. **Enhanced Trust in the adopter's ecosystem**

   Online transactions will improve, fraud and financial losses will be reduced

2. **Enhanced Efficiency**

   Parsing VC with known security assurance streamlines online operations, reducing time and effort required to verify information and complete transactions

3. **Increased Interoperability**

   Businesses will be able to integrate their systems and exchange information with other organizations, independent from their technical infrastructure or platform

4. **Reduced Costs**

   Interoperability saves costs of managing many digital credentials within an RP

5. **Less user friction**

   Re-use credential across many RP transparently
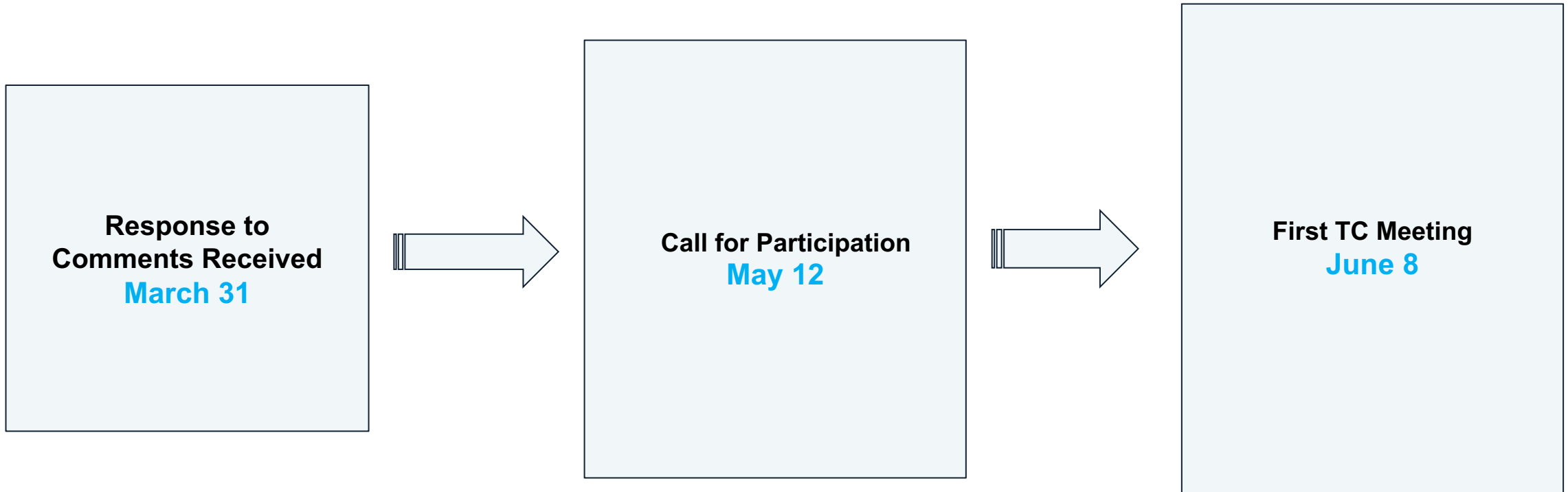
Committed LVCSP TC Members

Target Timeline

Response to Comments Received
March 31

Call for Participation
May 12

First TC Meeting
June 8

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Comments
Feedback
Questions

Benefits of OASIS Membership

Influence

Have your voice heard, your use cases addressed, and your requirements met.

Governance

Get things done with support and oversight that result in fair, transparent, and productive collaboration.

Safety

Develop under proven licensing policies, confident that the contributions you make and the work you produce can be adopted without concerns.

Recognition

Be seen as one of the leaders--or be conspicuous by your absence

OASIS IDTrust Member Section Membership

TC Membership lets you:

- ✓ Involve an unlimited number of employees in any/all TCs

- ✓ Start new TCs

- ✓ Vote to approve all OASIS Standards

- ✓ Nominate, serve, and vote on OASIS Board of Directors

Benefits of TC Membership

1. **We offer an open and fair foundation, an international community and interoperable tools!**
We provide your projects with an open standards platform that will enable you to accomplish your best work!

1. **Global Thought Leadership, Innovation and International Networking Opportunities!**
We provide the opportunity to establish oneself as a major global thought leader in important identification standards. You will also have the opportunity to network with international identity though leaders; a chance to affect the verified credentials around the world. and become a leader in this industry

1. **International Marketing Benefits!**
Promotional benefits will be given to you: including a logo on the OASIS website, quotes in press releases, the opportunity to take part in interoperability demos and plugfests, the opportunity to speaking opportunities at industry conferences, and more.

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Call to Action

Join the TC at
https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=lvcsp

Do Not Miss the fun

THANK YOU!

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