

Credentials Specification Roadmap

Project Background

Credentials and the Group Charter

A credential is a claim from an entity(s) that denotes qualification, achievement, quality, or other pieces of information about an entity's background such as a name, government Identity Document (ID), payment provider, home address, or university degree. The Community Group (CG)'s charter is to define standards necessary for safe and secure, portable digital credentials as described here <http://www.w3.org/community/credentials/charter/>.

Envisioned Uses

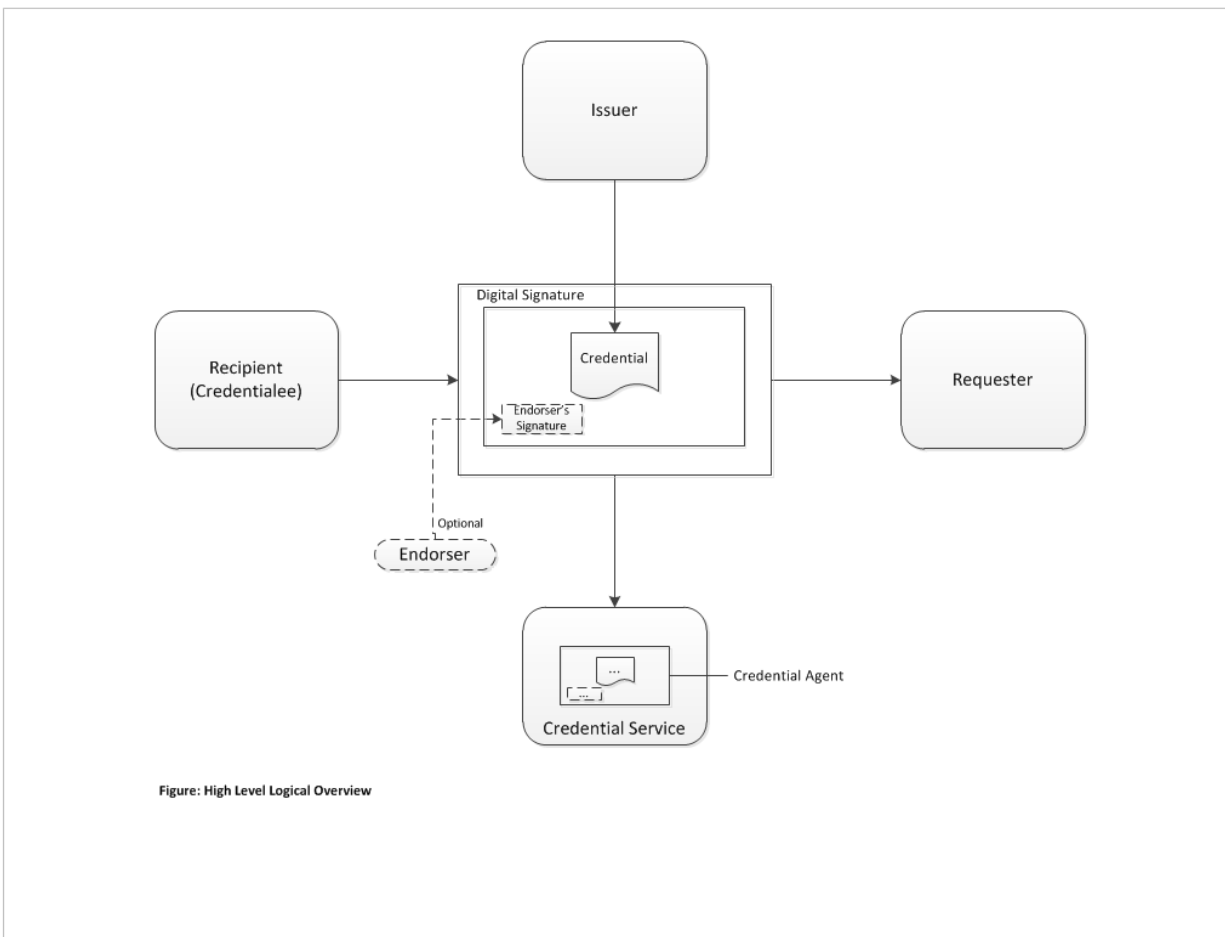
The use of a form of credentials to demonstrate capability, membership, status and minimum legal requirements is a practice as old as society itself. The potential use cases are innumerable, but common important examples are represented here in the domains of:

- **Education** - where academic credentials and co-curricular activities are recognized and exchanged among learners, institutions, employers or consumers
- **Workplace** - where an applicant's certified skill or license is a condition for employment, professional development and promotability
- **Civil Society** - where access to social benefits and contracts may be based on verifiable conditions such as marital status
- **Payments** - where the legal right to purchase a product depends on the verifiable age or location of the buyer
- **Identity** - where an entity presents credentials to prove their identity or qualification

Goals

The goal of the community group, and the envisioned standards, is to promote online social activities and transactions of all kinds, by creating a means for the assertion of valid credentials that can be asserted privately, securely and under the credentialee's control.

High Level Overview



Specific Use Cases

Following are four domain-specific use case examples of the standard's applicability:

Education - A college student, Louisa, has completed her first two academic years and wants to transfer to a four year university to continue her bachelor's degree. Louisa is also in the job market and wants her future employers to see the skills she has learned. Rather than send paper or physical copies via email, Louisa provides secure, limited-time view access to her transcript and online portfolio to the university admissions department and the employer's hiring official. Access is provided through Louisa's sharing of a web link that addresses these resources securely and for a duration that she controls. Completely decentralized and private, Louisa can share her credentials from multiple institutions and issuing organizations in a single, secure and digitally-signed transaction.

Workplace - A hospital would like to ensure that a prospective employee is licensed to practice medicine in their state and has up-to-date certificates related to areas of specialization.

Civil Society - Marisol and Harpreet get married and are issued a marriage credential that is digitally signed by the presiding official and the witness, in that order. The marriage certificate is issued by the marriage official and then counter-signed by the witness.

Payments - Roxy visits the FineWines.com website and selects a number of wines to purchase. The website requests a proof-of-age and shipping address credential from Roxy. Roxy's credential service (IronVaultCorp) delivers both credentials, allowing her to finalize the transaction.

Please see additional specific use cases here

<http://opencreds.org/specs/ED/use-cases/2014-10-14/>

newest draft:

https://docs.google.com/document/d/1f2U97L5vrFHOActRFVSRDg3koTeA6_Oy3SCGmkimziM/edit#heading=h.hlazmb8zb9db

Development Plans

Leveraging Existing Standards

The Credentials Community Group seeks to build upon relevant prior work to simplify and speed adoption of its work products. Specifically, this standard relies on the following existing standards:

Identity Credentials (Credentials, preferences, and login)			
Secure Messaging (Digitally signed JSON-LD)	Signing HTTP Messages (HTTP Message Security)	Open Badges (Digital Badges)	
RDF Dataset Normalization (Data sorting for digital signatures)		JOSE (JWA, JWK, JWS, JWT) (JSON Digital Signatures)	
JSON-LD (Data modelling)			
JSON (Message Format)		HTTP (Message Transport)	

Creating the Credentials Specification

Following are the planned high level activities to create the Credentials specification:

1. Complete Use Cases document
2. Complete Roadmap document
3. Complete RDF Dataset Normalization specification
4. Complete Linked Data Signatures specification (was: Secure Messaging)
5. Complete Signing HTTP Messages specification
6. Push for Working Group at W3C for RDF Dataset Normalization and Linked Data Signatures work.
7. Complete Identity Credentials specification

Important Supporting Activities

In addition to the central specification development, the following additional activities will be performed:

1. Create two interoperable implementations of each specification listed in the technology stack.
2. Create test suites for each specification listed in the technology stack.

3. Develop demonstration concepts needed for project success.
4. Draft and publish common communications/promotional media and messaging.
5. Establish Working Group(s) at W3C to take specifications to Recommendation status.
6. Build recruiting / branding around credentials to pull in major players and field implementations.

Known Issues to be Resolved

The community group has identified the following issues to be addressed during the project:

- Pick digital signature stack - JOSE or Linked Data Signatures
- Create W3C Working Group for Credentials

Credentials Community Group Timeline

Work Product	CG Work	Ready for WG	Implementations Ready	Test Suite
Credentials Working Group Draft Charter	2 months	April 2015	N/A	N/A
Credentials Use Cases	3 months	May 2015	N/A	N/A
RDF Dataset Normalization specification	2 months	June 2015	April 2015	April 2015
Signing HTTP Messages specification	1 months	June 2015	August 2015	October 2015
Linked Data Signatures specification	2 months	June 2015	August 2015	October 2015
Credentials / Badges Vocabulary	3 months	July 2015	September 2015	December 2015
Identity Credentials specification	4 months	July 2015	September 2015	December 2015

Credentials Working Group Timeline

Work Product	FPWD	LC	CR	REC
RDF Dataset Normalization specification	July 2015	December 2015	March 2016	July 2016
Signing HTTP Messages specification ^{*A}	July 2015	December 2015	March 2016	July 2016
Linked Data Signatures specification ^{*A}	July 2015	March 2016	October 2016	March 2017
Credentials / Badges Vocabulary	July 2015	March 2016	December 2016	July 2017
Identity Credentials specification	July 2015	March 2016	December 2016	July 2017

^{*A} - It's possible that these specifications will be handed off to another Working Group, like Linked Data Platform