

SSI Architecture Stack & Community efforts

(Rouven Heck's presentation at #IIW30, updated by DIF Dept of Ed)

 Published CC-BY-SA by D.I.F.
Communications Project, 9/2020

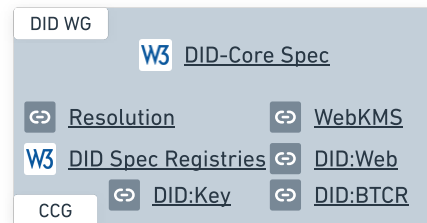
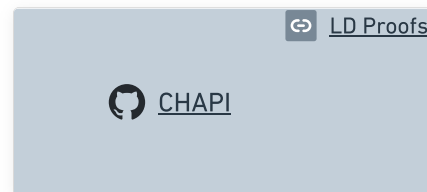
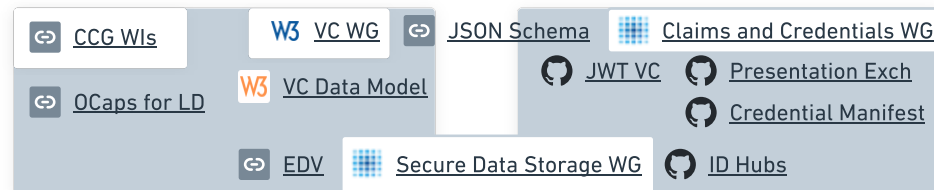
'SSI - Architecture Stack

Verified Credentials /
Trusted Data
Storage & Exchange

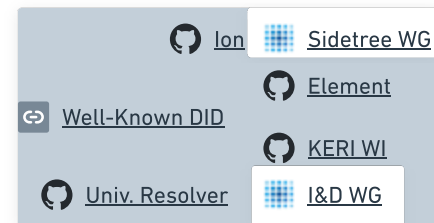
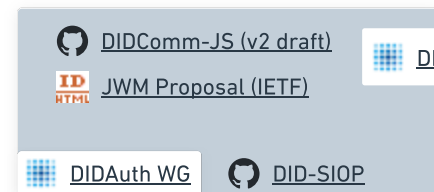
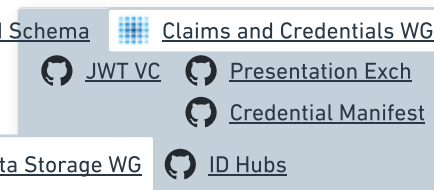
DID Communication
(+ subprotocols)

DID resolution
(anchoring / registries)

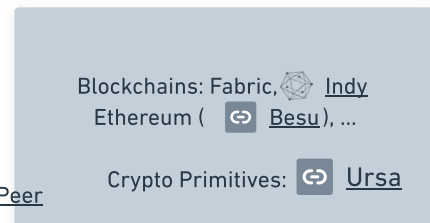
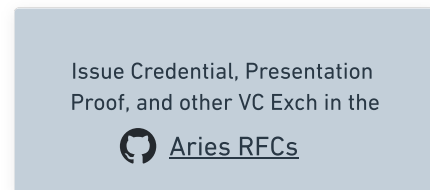
World Wide Web Consortium (W3C)



Decentralized Identity Foundation (DIF)



Hyperledger (HL) Projects: Indy, Aries and Ursa (et al.)




Adjacent Tech- and Data-
Governance Organizations:

 Veres One Community Group (W3C)

 Sovrin Foundation

 MyData.org

 Trust Over IP

 Kantara Initiative

 Me2B Alliance

(Rouven Heck's presentation at #IIW30, updated by DIF Dept of Ed)

While a more thorough (and competitive) separation of concerns might slice today's and tomorrow's identity systems into more modular and interchangeable parts at many more layers, the diagram used here organizes the space into just three broad divisions, which map roughly to the bottom three in the [mapping](#) dominant in the Aries & ToIP communities. For a more detailed and complex mapping, see the forthcoming map by the DIF interoperability [working group](#). The main organizations represented by vertical columns represent:

World Wide Web Consortium ([W3C](#))

Founded in 1994, the W3C is an internationally recognized standards organization working on protocols with a strong focus on web technologies. Their process is very open but formal, featuring two-year charter periods and structured external privacy and security review committees. Formal committees are restricted to W3C members, such as those governing the DID and VC core specifications, but lots of work also happens in community groups, particularly the [volunteer-run] Credentials Community Group (CCG), which incubates lots of pre-standards development and specifications and operates a very useful mailing list and weekly open calls.

Decentralized Identity Foundation ([DIF](#))

Formed in 2017 under the Joint Development Foundation (which later merged into the Linux Foundation), the DIF is a dues-supported organization coordinating and supporting organizations building decentralized identity systems and components. DIF works on the development of specifications and code bases through an agile, member-led working-group model, and in 2020 is starting to support educational and non-technical cooperation in the community as well. In the last year, cross-organization working groups, Secure Data Storage and DIDComm, have been established with the W3C and Hyperledger, respectively, to promote coordination and harmonization between parallel development projects.

Hyperledger ([HL](#)) Projects:

[Indy](#), [Aries](#) and [Ursa](#) (et al.)

Hyperledger is a membership organization under the Linux Foundation, which incorporates many procedural and cultural practices from the Linux open-source tradition. They develop modular, interoperable codebases for non-cryptocurrency blockchain projects. Currently, the roster includes 13 active major projects, of which three are directly relevant to decentralized identity. Since moving into Hyperledger from the Sovrin Foundation, Indy has grown more modular, with ledger code hardening and evolving in Indy, ZKP and other cryptography made available to other HL projects in Ursa, and an Agent-Client decentralized identity architecture built in Aries.

Other adjacent organizations:

Veres One Community Group ([W3C-V1](#)) is a W3C group governs the Veres One fit-for-purpose blockchain. The [Kantara Initiative](#) is a long-standing identity advocacy and standards organization that works on technical standards and best practices in the broader identity space, particularly around user-managed data and authentication/authorization systems, governance, and privacy issues. [MyData Global](#) is a global (originally Finnish) advocacy group working on data rights, particularly privacy, portability, and data governance. The [Me2B Alliance](#) is a similar global group (originally North American) that works on supporting a market for ethical data businesses. The [Sovrin Foundation](#) and the [ToIP Foundation](#) are both governance organizations, focused on the Indy blockchain and on legal/decentralized-identity interfaces, including trust frameworks, respectively.