

SELF-SOVEREIGN IDENTITY (SSI) AND VERIFIED CREDENTIALS

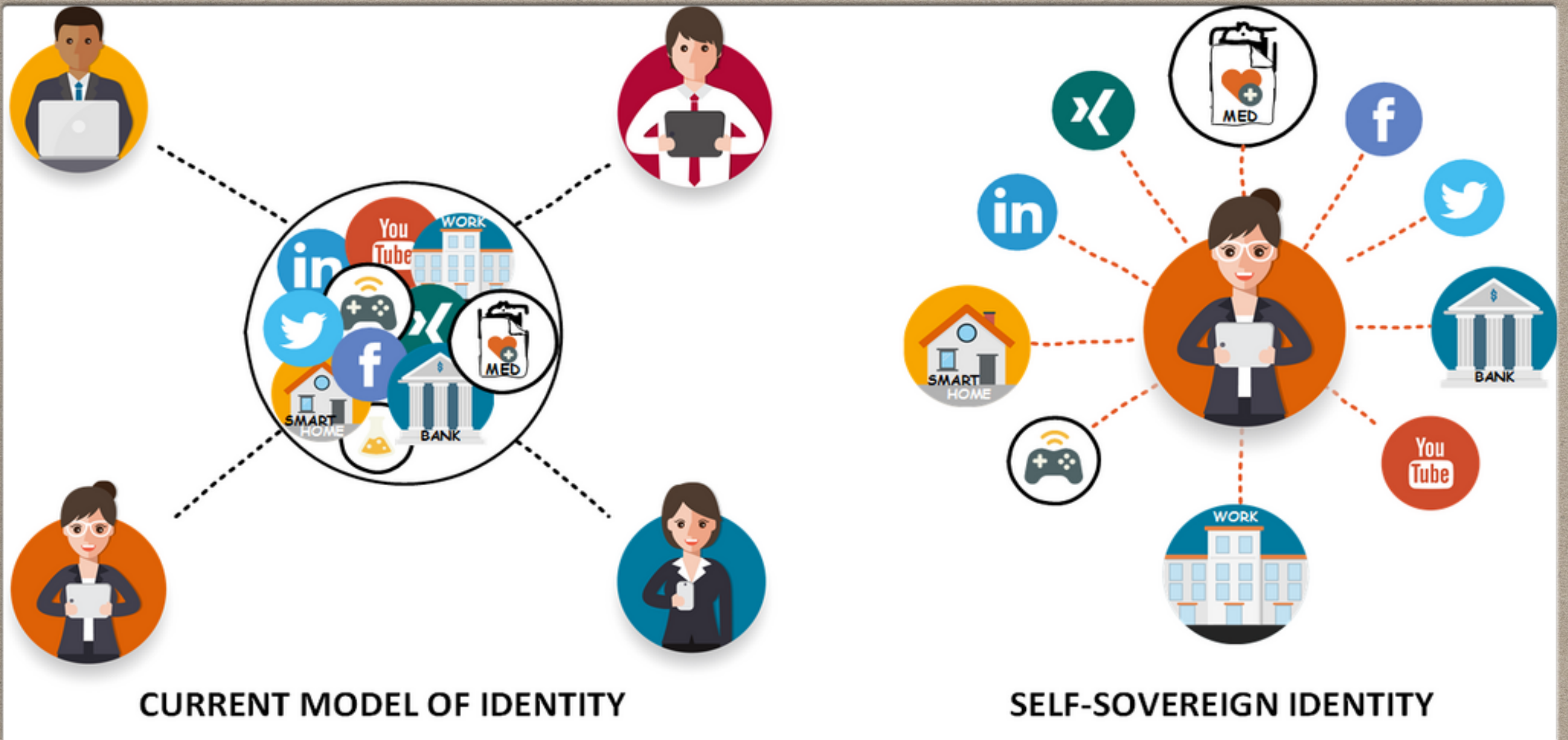
DECENTRALIZED IDENTITY MANAGEMENT

DATA PRIVACY INCURSIONS MAKE HEADLINE NEWS

- 2017 **Equifax** hack put 145.5 million people at risk of identity theft.
- **Facebook** involvement in 2016 presidential election investigated by Congress.

CURRENT SITUATION WITH CENTRALIZED IDENTITY MANAGEMENT

- Identity data is stored in centralized silos making prime targets for hackers.
- Username/password authentication is a hassle for users and easy to hack.
- Authentication (OAUTH) through Facebook, Google, Microsoft, etc. facilitates aggregation of personal data.



IDENTITY MODELS:

CENTRALIZED VERSUS DECENTRALIZED

SELF-SOVEREIGN IDENTITY (SSI)

- A person owns his/her own identity credentials in a digital wallet. No identity silo to hack!
- Exchanges of credentials are encrypted with keys specific to the relationship for privacy.
- Communications are not correlatable to a legal identity. This circumvents data aggregation.

But wait, there's more...

VERIFIED CREDENTIALS

WHAT IS A CREDENTIAL?

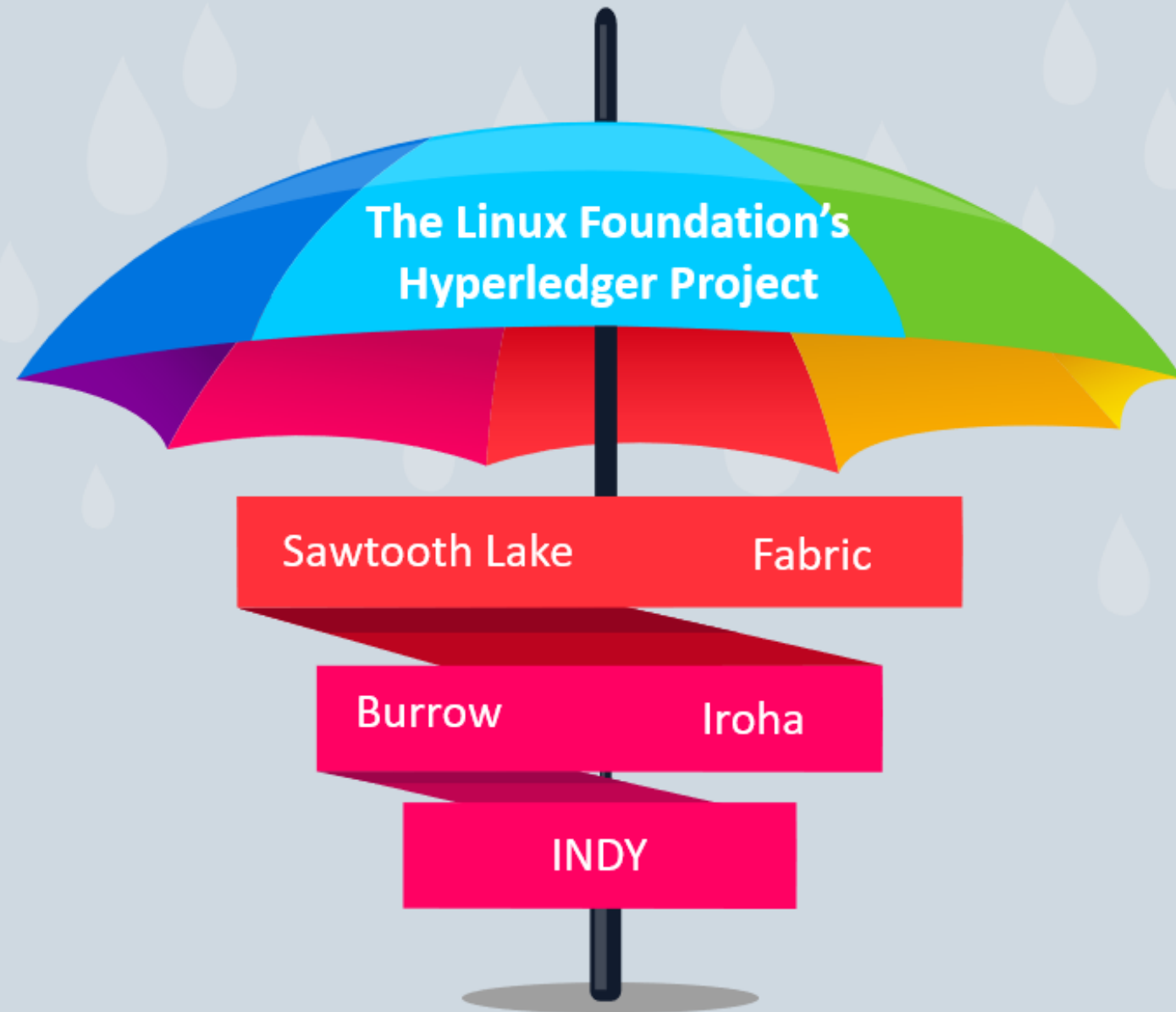
- Drivers license
- Passport
- Diploma
- Proof of employment
- etc.





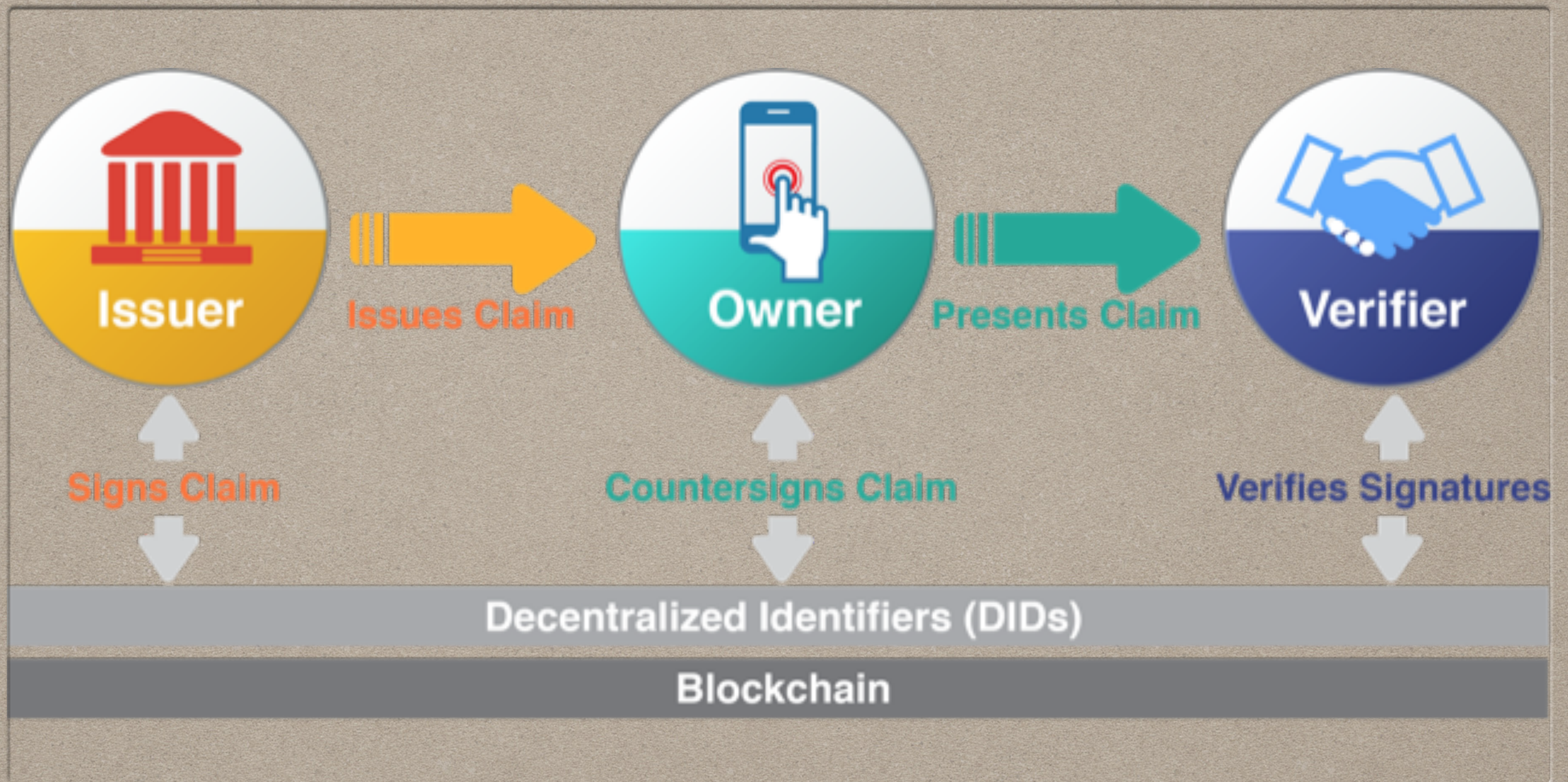
DIGITAL WALLET

HOLDS VERIFIED CREDENTIALS



HYPERLEDGER UMBRELLA

BLOCKCHAIN-RELATED PROJECTS

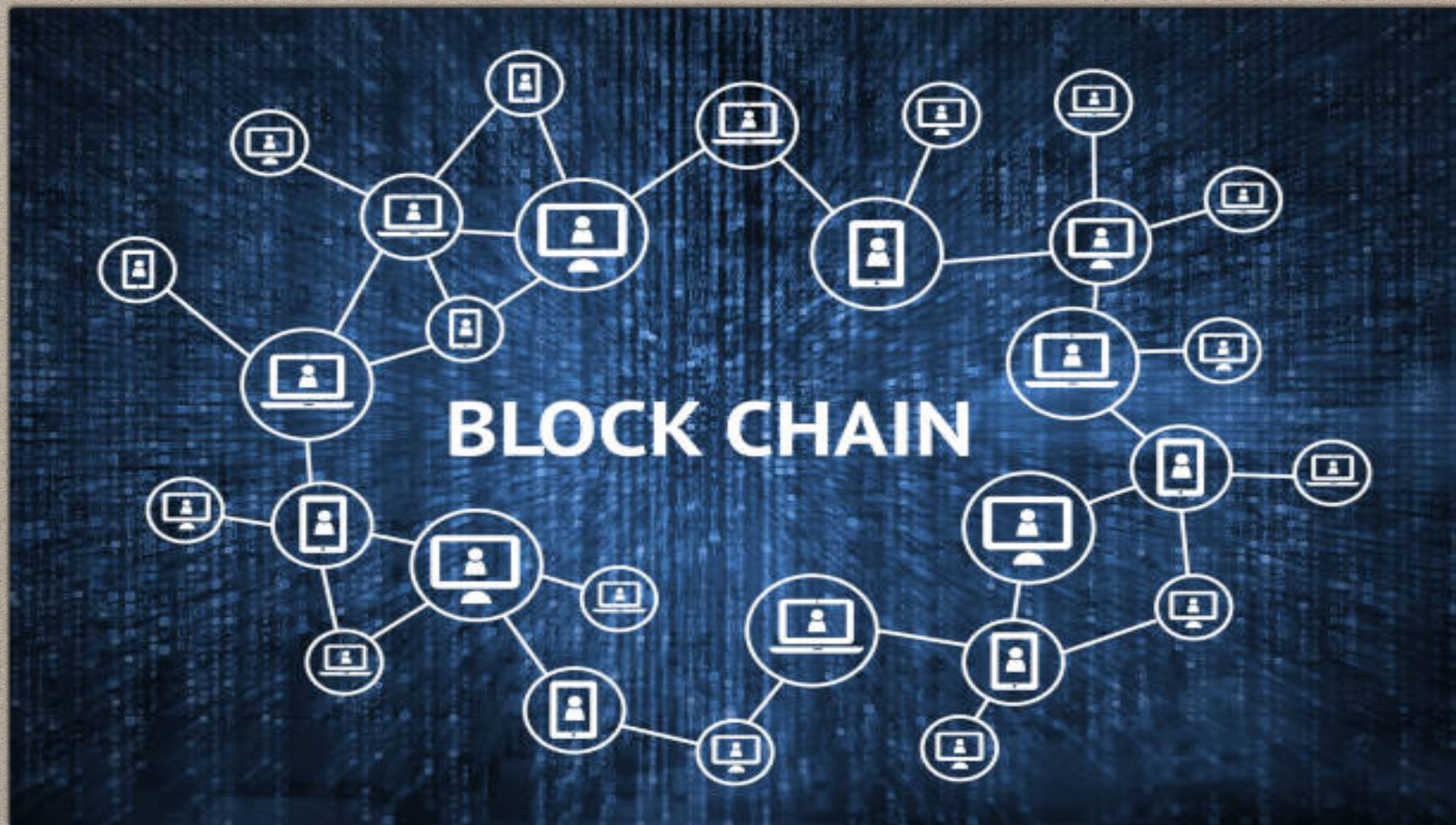


VERIFIED CREDENTIALS

- Credential owner reveals only the information needed by the verifier.
- Issuers can revoke credentials.

BLOCK CHAIN

A DISTRIBUTED LEDGER,
FOR EXAMPLE BITCOIN



DISTRIBUTED IDENTIFIER (DID)

A globally unique **identifier** registered with a **distributed** ledger technology.



Decentralized Identifier (DID)

Format: "did:" + <method> + ":" <method-specific identifier>

Example: did:sov:4e6cf0ed2d8bbf1fbbc9f2a100 address on a ledger



private key in a digital wallet

a5911424795c9bb5b5cb81458a41ac92
fb9d9348fbd78588b927065e75958a79

public key on a distributed ledger

RECAP

- Self-Sovereign Identity (SSI) is distributed identity management.
- Each person stores his/her digital identities in a digital wallet.
- Verified credentials replace paper-based credentials.

WAYS TO GET INVOLVED

- **Evernym** sells an out of the box SSI solution ready for enterprise integration.
- **BCGov** contributes to the open source repository. Their open source code is very good!
- **The Sovrin Foundation** provides community education with brown bags and webinars, as well as hosting open public meetings to discuss design, standards, and development.

FOR MORE INFORMATION:

- The Sovrin Foundation at <https://sovrin.org/>
- British Columbia Government (BCGov)–Verifiable Claims Registry
TheOrgBook: <https://orgbook.gov.bc.ca/en/home>, Indy open source contribution: <https://github.com/bcgov/indy-catalyst>
- Evernym at <https://www.evernym.com/>
- The Linux Foundation Hyperledger Indy Project at <https://www.hyperledger.org/projects/hyperledger-indy>
- The Linux Foundation Hyperledger Aries Project at <https://www.hyperledger.org/projects/aries>