



Digital identity is the means by which a person or organization's identity is established for the receipt or provision of digital services. In short, it is the means by which a partner can establish that you are who you say you are.

Digital Identity Overview

Blockchain platforms can enable decentralized identity services which preserve privacy, derive strength via consensus, and provide unequivocal immutability. Any transaction on a permissioned ledger must allow participants to trust that they are interacting with who they want to interact with.

Public Key Infrastructure (PKI)

Current network communication uses the Public Key Infrastructure which allows individuals to digitally sign and verify messages using digital certificates. For more information, see the [Cryptography 101](#) explainer.

Digital Certificates

Digital Certificates are issued to participants on a blockchain using a Certification Authority (CA). The CA is the means by which identity is established in a blockchain network.

IBM's Trusted Digital Identity Platform

IBM is building a platform to support identity management and verification through Hyperledger Fabric. More information may be found in the [press release](#).

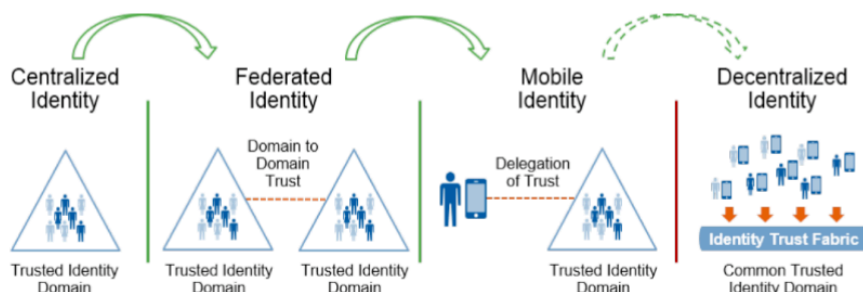
Digital Identity Evolution

Centralized Identity: identity authenticated by a single institution

Federated Identity: trusted institution is used to authenticate identity for numerous services (i.e. using Facebook to log in to another service)

Mobile Identity: identity authenticated by possession of a mobile device

Decentralized Identity: individual authenticates and controls their own identity, establishing self-sovereign identity (a potential area for blockchain)



Graphic Source: "Blockchain: The Dawn of Decentralized Identity" (Gartner, September 2016)

Key Terms and Use Cases

Identity Provider

- Entity that verifies the identity of an individual or organization
- Connects the digital identity to the real world identity used in a digital transaction

Attribute Provider

- Entity that provides information on the verified identity
- Attributes for an individual can be personal information such as name, date of birth, and address; or it can be information such as search history, purchase preferences, etc.

Know Your Customer

- Financial institutions must comply with certain standards to establish that they know who they are interacting with in a transaction
- KYC and Anti-money laundering are large growth areas presenting many use case opportunities considering that regulations are so stringent

Identity and Access Management (IAM)

- IAM is the area of cybersecurity that protects against the unauthorized access of information
- Banks use IAM to determine the identity of their employees as well as partners in a transaction