

Hyperledger Fabric

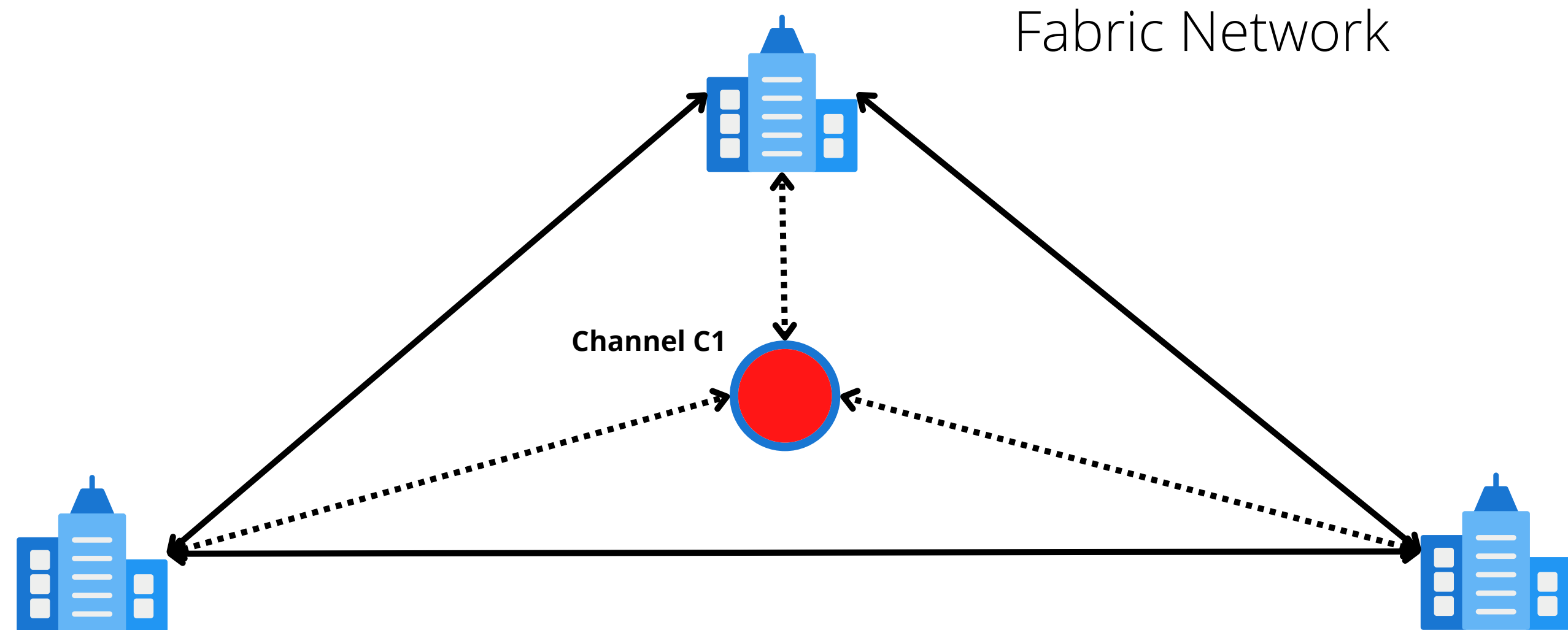
A Framework which creates a Network which
can host multiple different blockchains and
smart contracts

Hyperledger Fabric

- Consortium of Organizations
- Permissioned Network
- Smart Contracts
- Access control
- Identification

Hyperledger Fabric

Consortium of Organizations



Hyperledger Fabric

Private/Permissioned Network

Orgs: A, B, C

Functions: 1, 2, 3

Smart Contract Level

E.g: A can invoke 1, 2 but not 3

E.g: B can invoke all functions

System Level

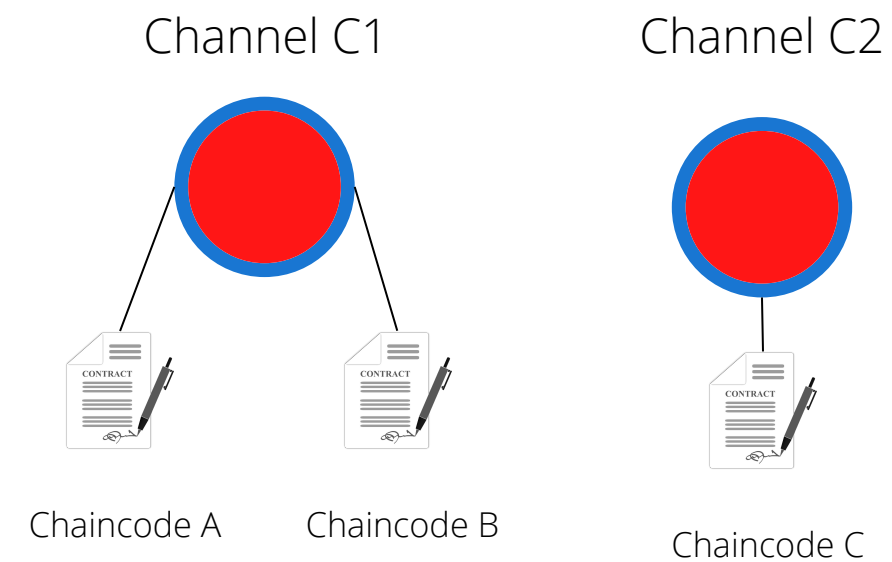
E.g: A and B can add a new member to the Network

E.g: A and C cannot add a new member

Hyperledger Fabric

Smart Contracts (Chaincode)

- Chaincode is a collection of SCs
- Is deployed on a channel
- Runs on joined Org's Peers



Hyperledger Fabric

Access Control

Orgs: A, B, C

Roles: admin, peer, client

Smart Contract Level

E.g. Only A.admin can invoke func 1

E.g. Only Org B members can have modify
key \$key

System Level

Operations:

- Deploy Chaincode
- Create Channel
- Add member to Channel
- Update Channel Config

Need signatures by:

E.g. A and B

E.g. A and (B or C)

E.g. Majority of Channel Members

E.g. All of Channel Members

Hyperledger Fabric

Identification

- Certificate Authorities (CA)
- X509 Certificates
- The network nodes inspect the Certificate for Validation

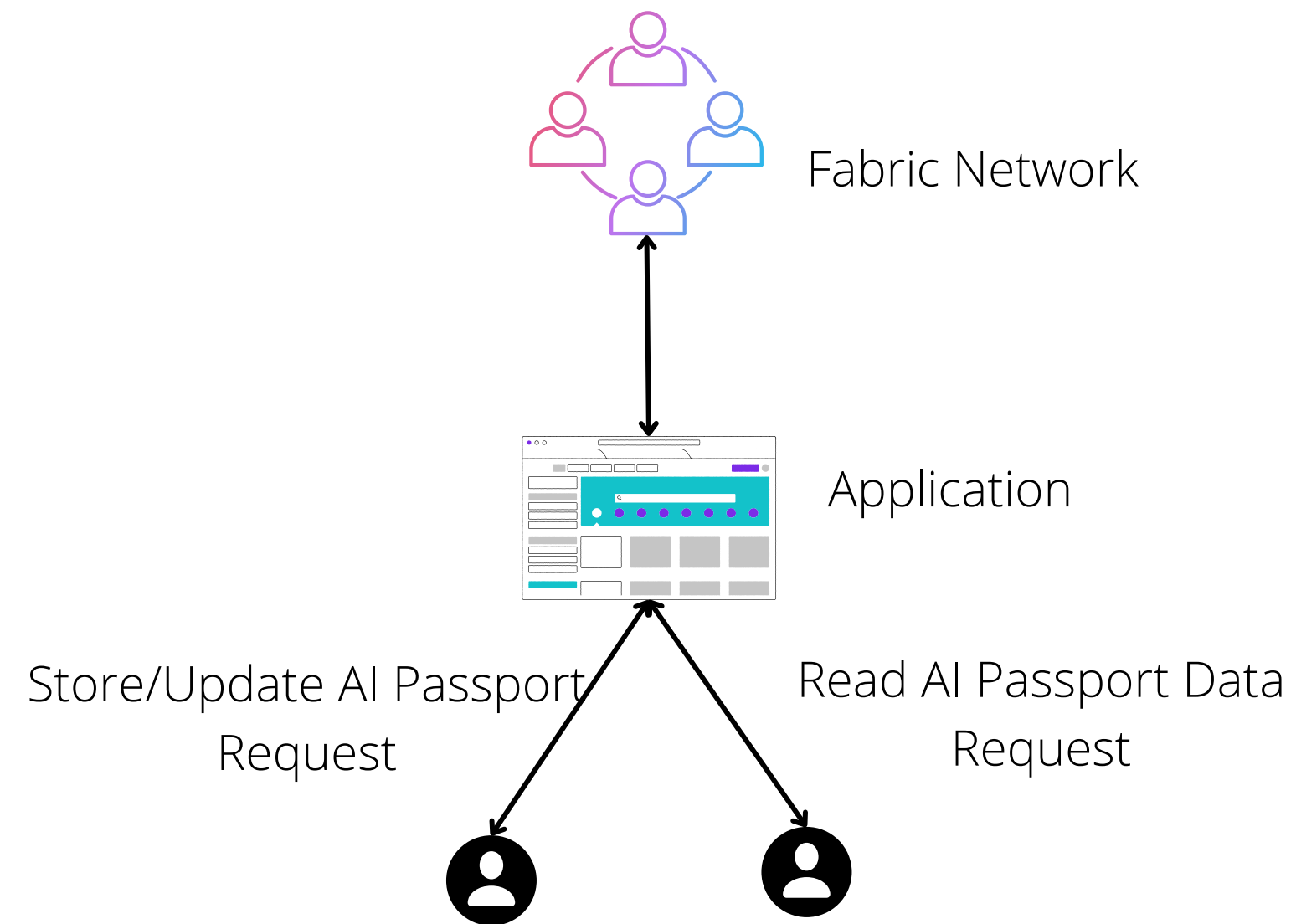
Org A CA



Issue certificate for
member

AI Passport

Architecture



AI Passport

Data Structure

- ID
- Creator
- Description
- Training Type
- DatasetIDs
- Train/Val Details
- Train/Val Accuracy
- Other