Hyperledger + SIMBA Chain

Oct 7, 2020

SIMBA

TOPICS

OVERVIEW

Blockchain Challenges and Approaches

Web 3.0 Applications

SIMBA's approach to Hyperledger

DEMO
SIMBA Chain + Hyperledger

THE CHALLENGE

The BLOCKCHAIN ecosystem has many moving parts and subject to hyper specializations within the community


BUT utilizing, optimizing and coordinating across component parts is critical for success

And BLOCKCHAIN IS COMPLICATED

BUSINESSES NEEDS TO UNDERSTAND:

Blockchain libraries

Wallets

PKI cryptography

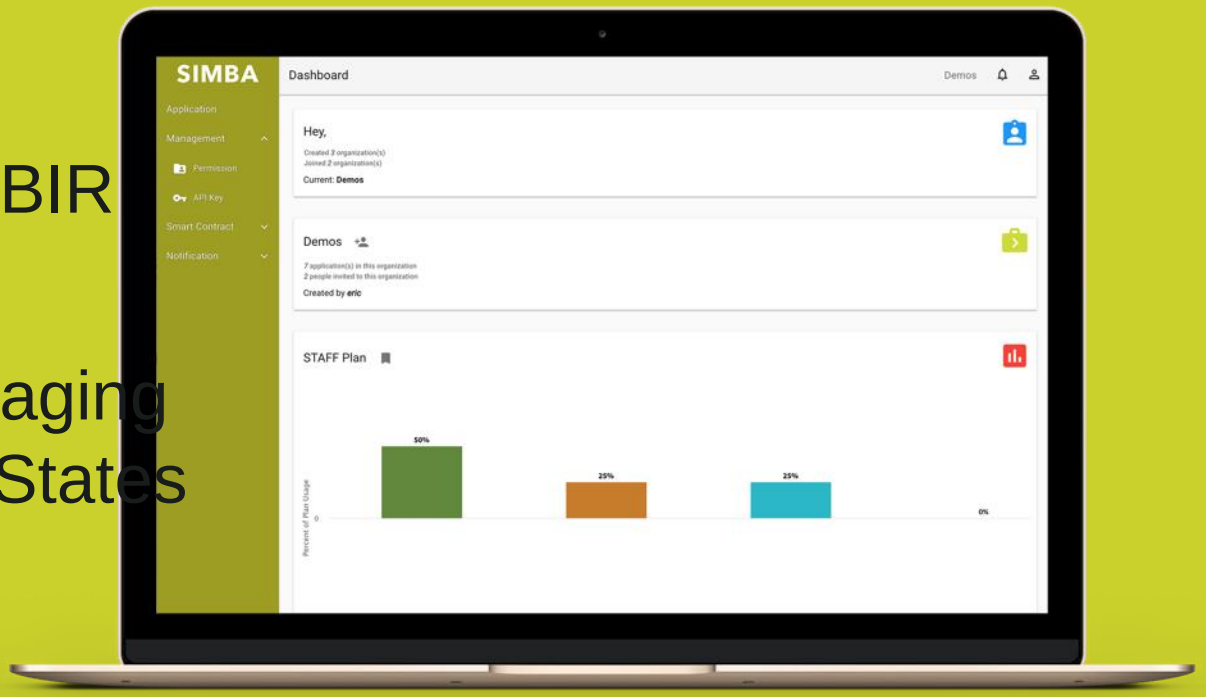
Blockchain networks

Off-chain filesystems

Smart contracts

SIMBA

HISTORY



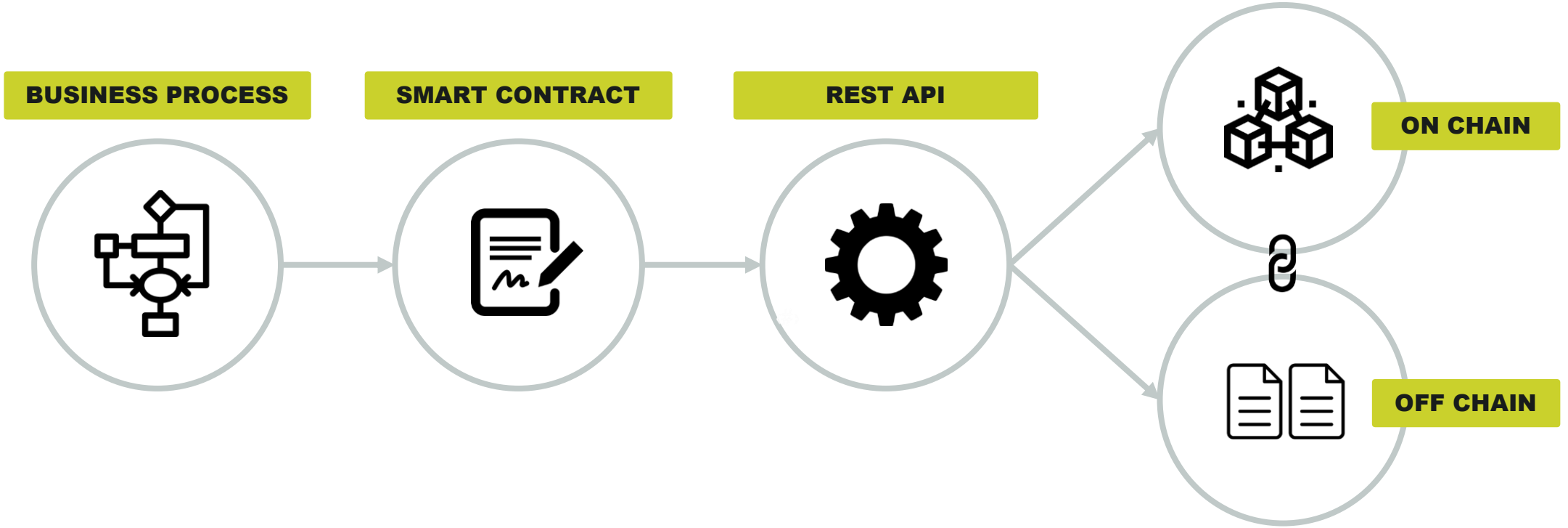
- Born in 2017 from a DARPA Phase 1 SBIR grant to ITAMCO and Notre Dame
- To develop a secure, unhackable messaging and transaction platform for the United States military.

- Awarded > Several $ Million in Government Contracts
- Community includes developers, enterprise and education sectors

DARPA

SIMBA

SIMBA Chain Takes a Simplified Approach



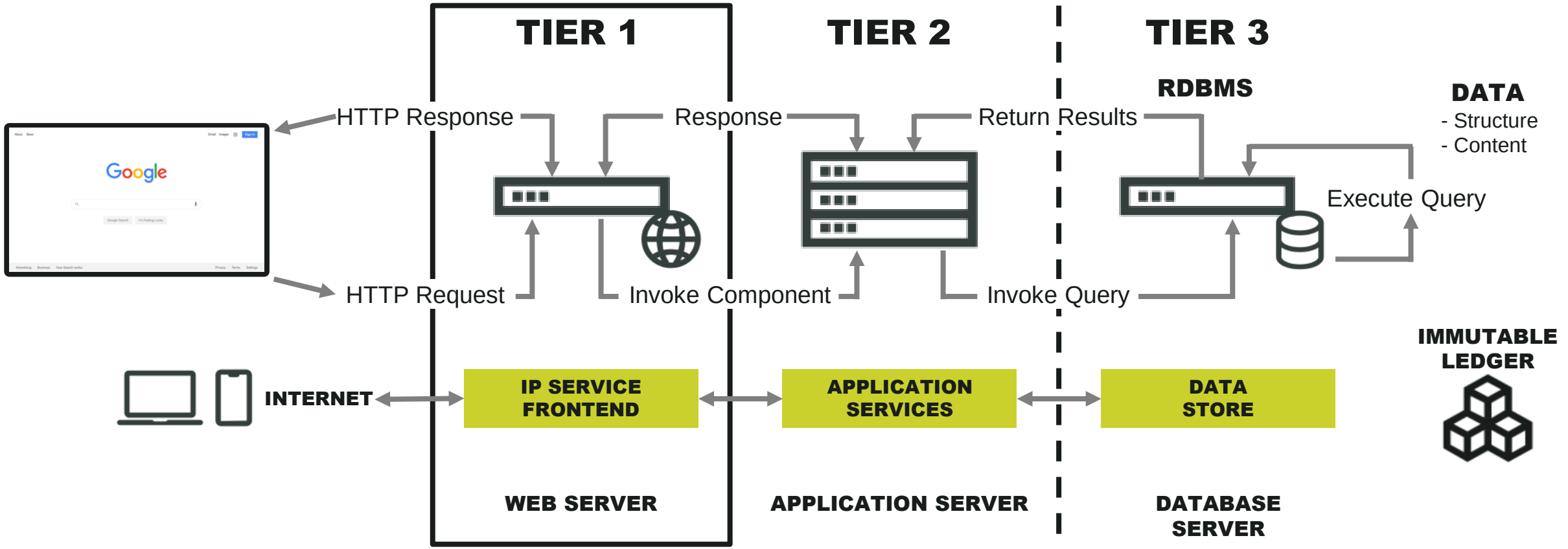
AUTOMATIC, CUSTOMIZED API GENERATION

DACS Innovation Approach

Democratize through education
Accelerate prototypes
Connect with the broader ecosystem
Scale for real world production

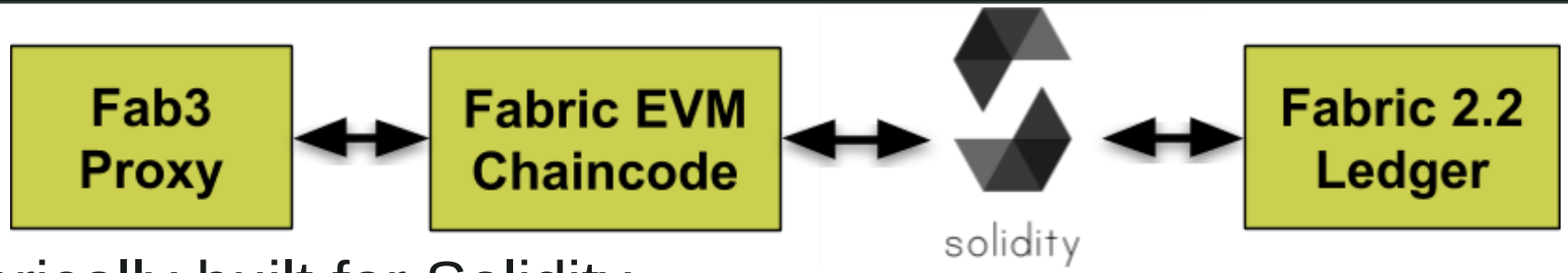
An Approach Practical to Blockchain Success

WEB 2.0 TO WEB 3.0
TRADITIONAL 3 TIER



Hyperledger + SIMBA

How we use Hyperledger



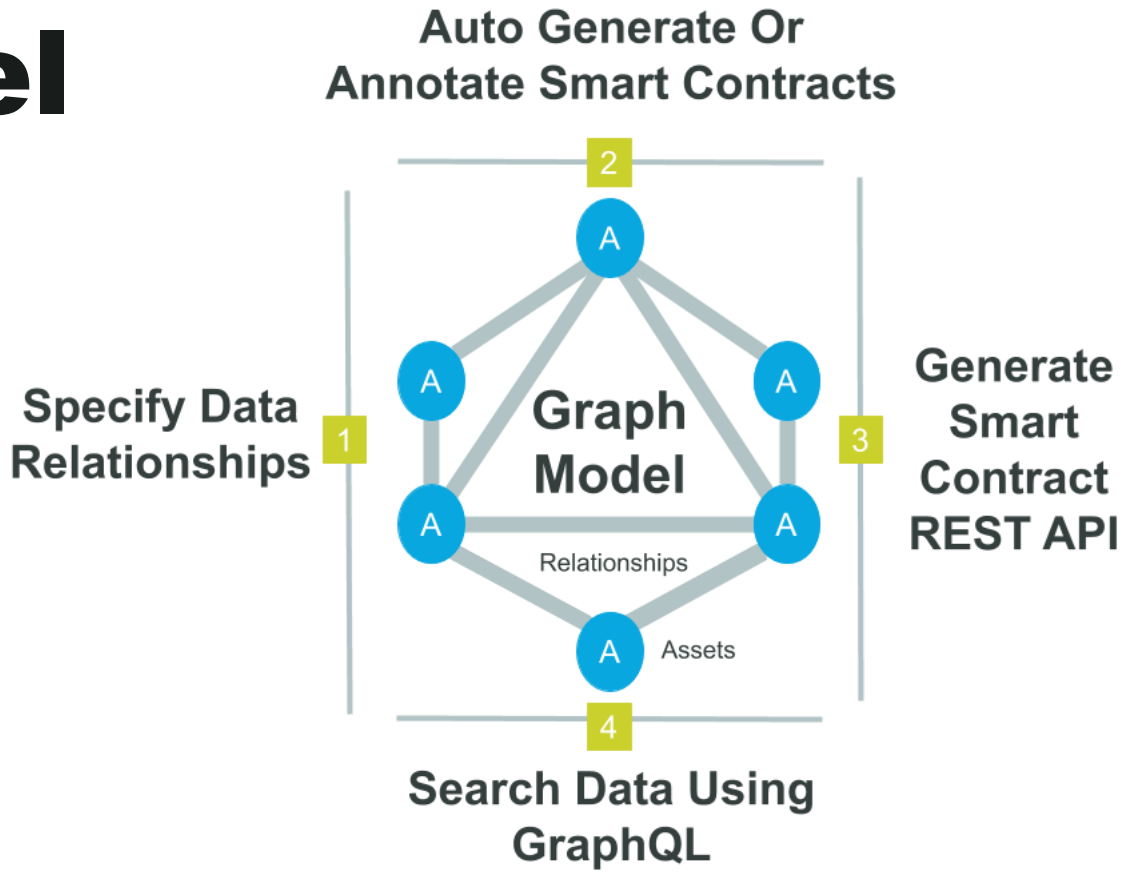
- Tools historically built for Solidity
- Fab3 proxy communicates with web3 libraries
  - Led to an improvement in the fab3 proxy
- Fabric EVMCC to deploy Solidity
  - Written a user guide for installing and invoking EVMCC on Fabric 2.2

HYPERLEDGER FABRIC 2.2

HYPERLEDGER BURROW

SIMBA Chain Model

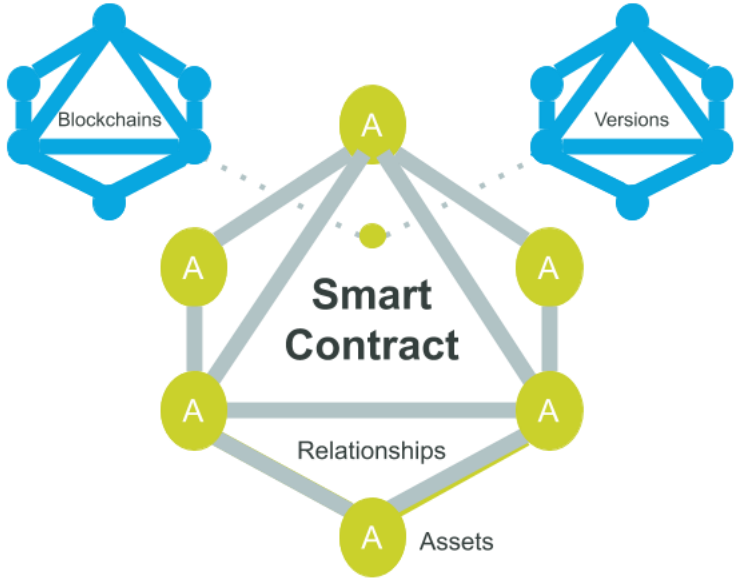
- At the heart of SIMBA is a Graph-based model that conceptualizes an application's data and relationships using:
  - *Assets* the nouns of a business process
  - *Transactions* the verbs, or relationships.
- It can be specified by using SIMBA's Smart Contract designer GUI or annotated to existing smart contracts



- A REST API is generated that represents methods/parameters for application interaction to deployed contract

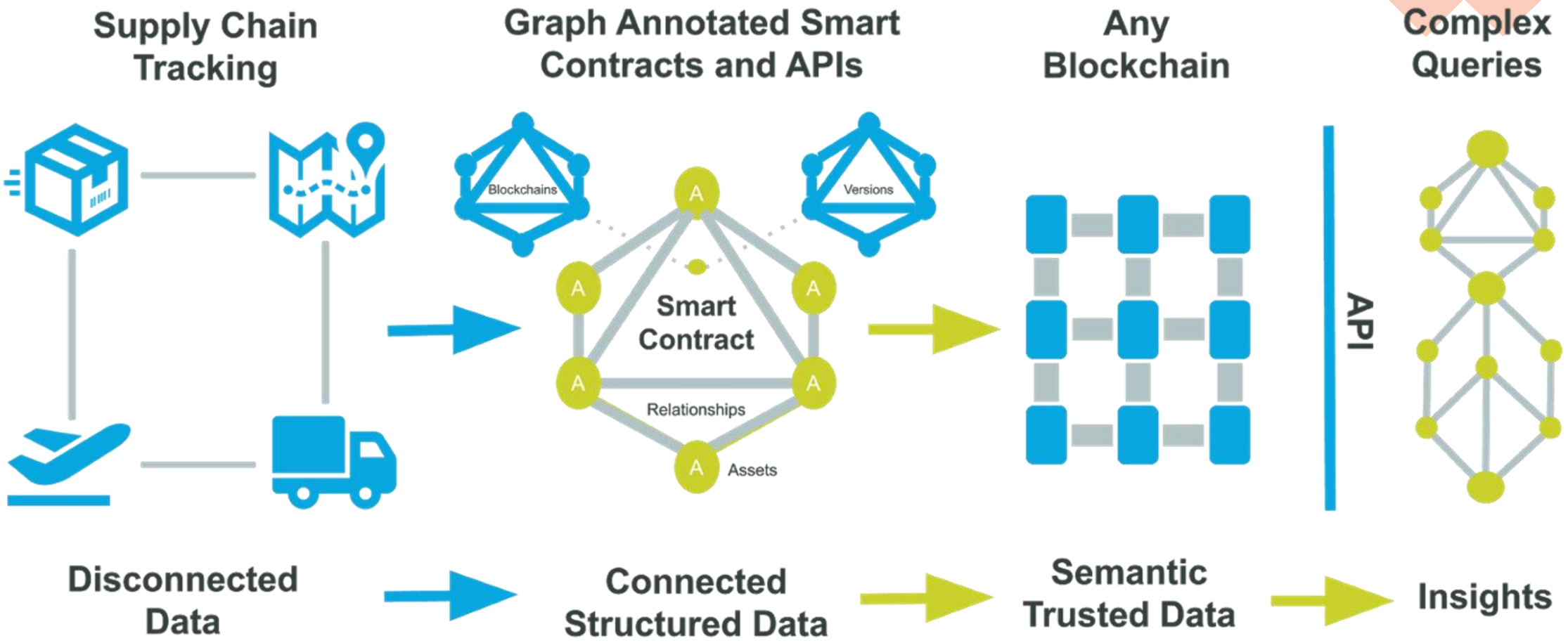
Extensible Graph Model

- The Graph can extend to relationships between smart contracts
- Versioning is seamless; each version is linked with the previous version and forms part of the application graph so that access to prior transactions are not lost.
- The graph extends across channels too, by linking a smart contracts and/or transactions from one channel to another



- SIMBA Chain can search the entire graph; meaning that a single search can traverse the same application that could be co-hosted on several channels and contains several different smart contract versions
- This scalable solution is unique and provides sustainability for serious long-term production applications.

Production Example

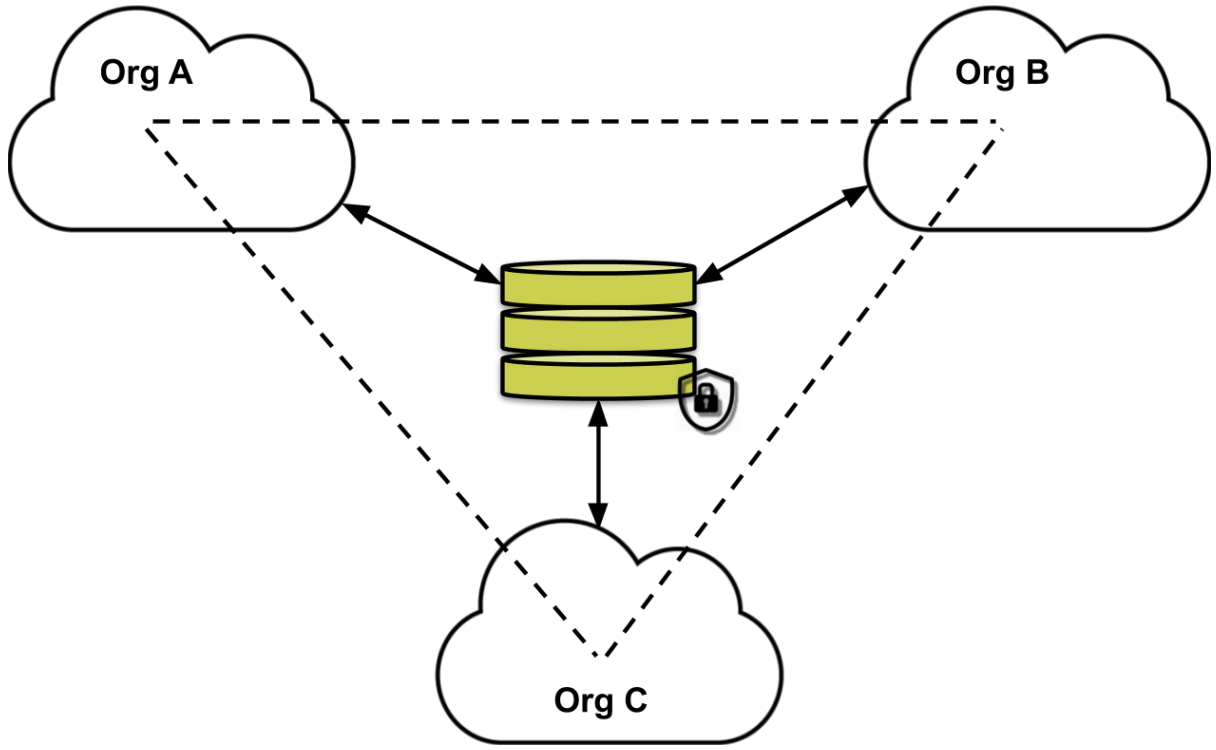


DEMO

Q&A

Fabric Network Architecture

- Autonomous Networks (and MSPs)
  - Organizations governs internal identities privately and separately from one another
- How to peer orgs to form consensus
  - Export certificates using a secure and encrypted file exchange system.
- Alternative forms of peering
  - Cascading CAs
  - Shared cloud native solutions (Azure AD, key vaults)
  - IBM Blockchain Platform



WAYS TO WORK WITH SIMBA

1. DIY Platform or SaaS option
2. Build Partner and / or Capability as a Service
3. Education and Training w/discounted bulk license subscription

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THANK YOU!