

USING THE HYPERLEDGER BURROW EVM INSIDE HYPERLEDGER FABRIC

SWETHA REPAKULA SREPAKU@US.IBM.COM

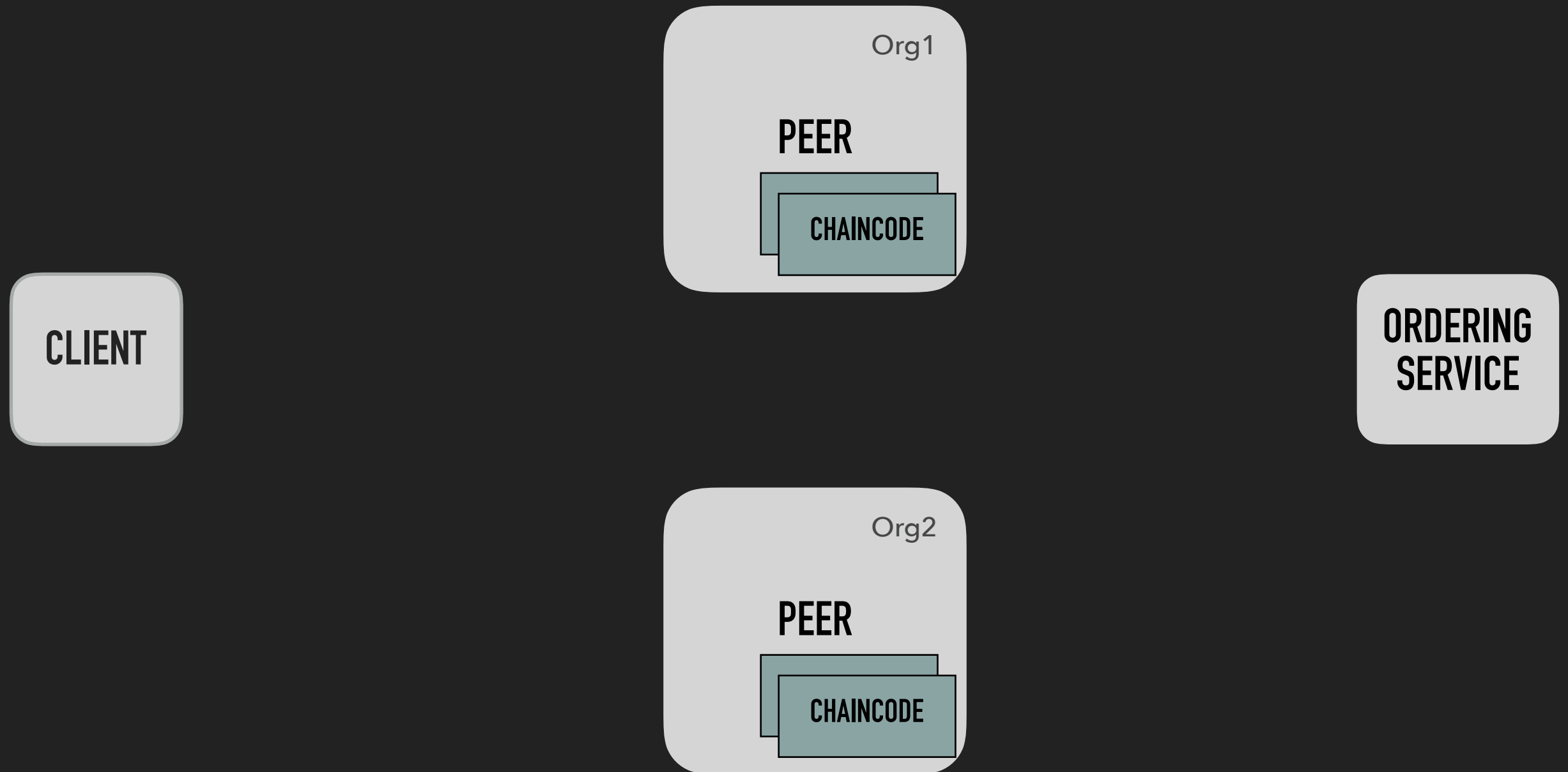
AGENDA

- ▶ Overview of Hyperledger Fabric
- ▶ Motivations for the EVM Integration
- ▶ EVM Concepts
- ▶ EVM implementation
- ▶ Demo

HYPERLEDGER FABRIC

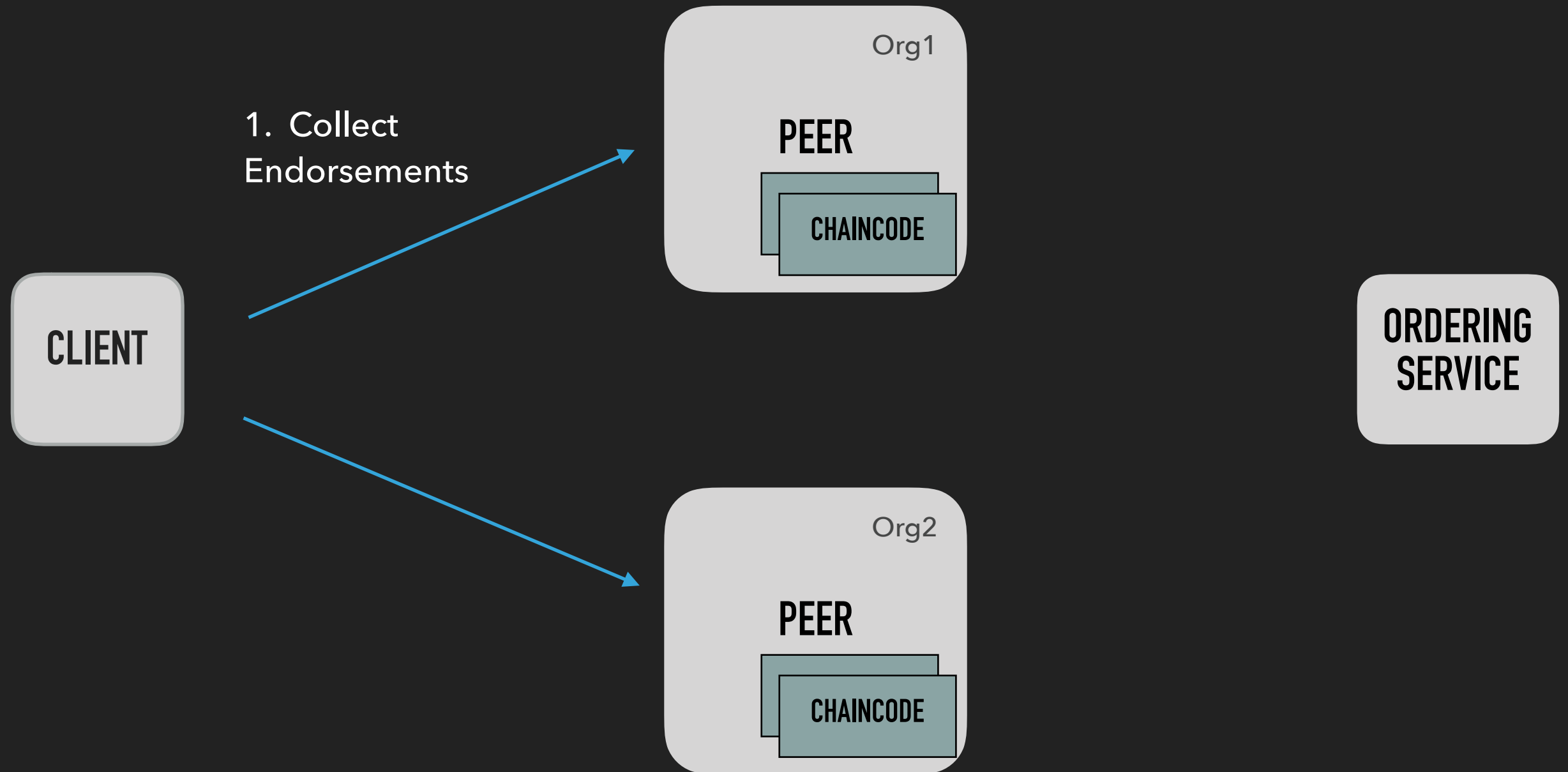
- ▶ Permissioned
- ▶ Endorsement Policy & Consensus
- ▶ Finality of Transactions

TRANSACTION WORKFLOW



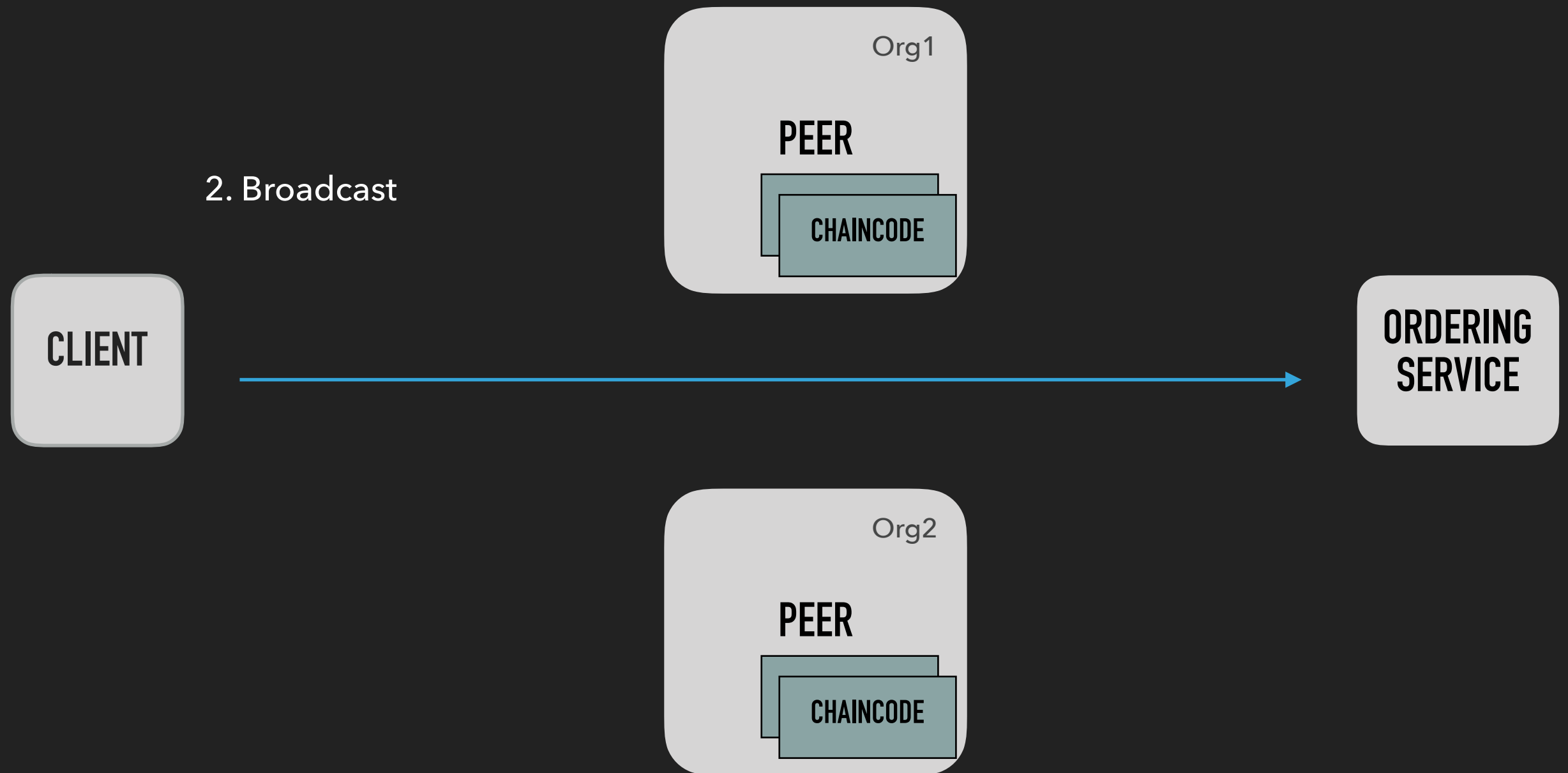
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EXECUTE



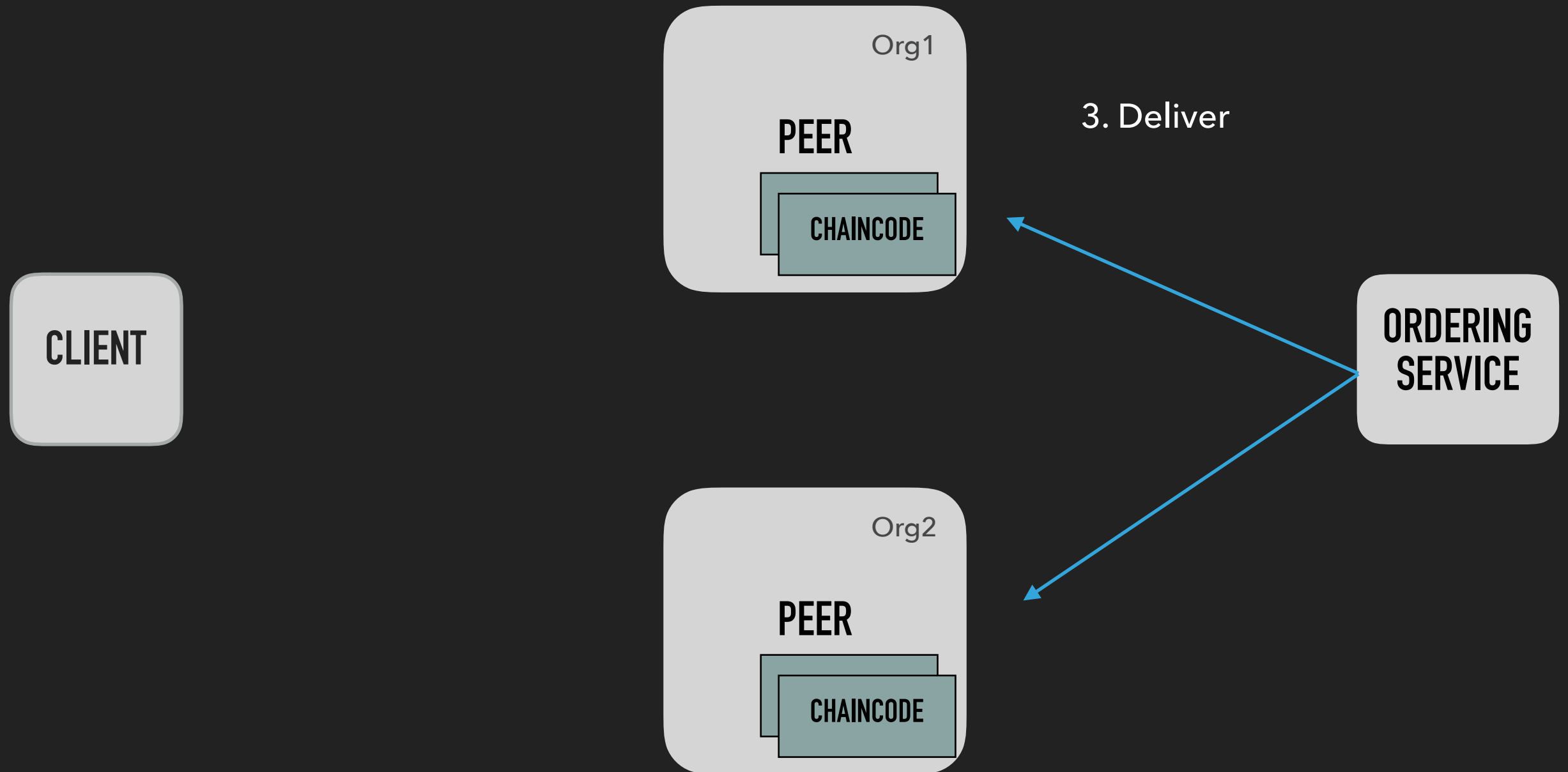
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ORDER



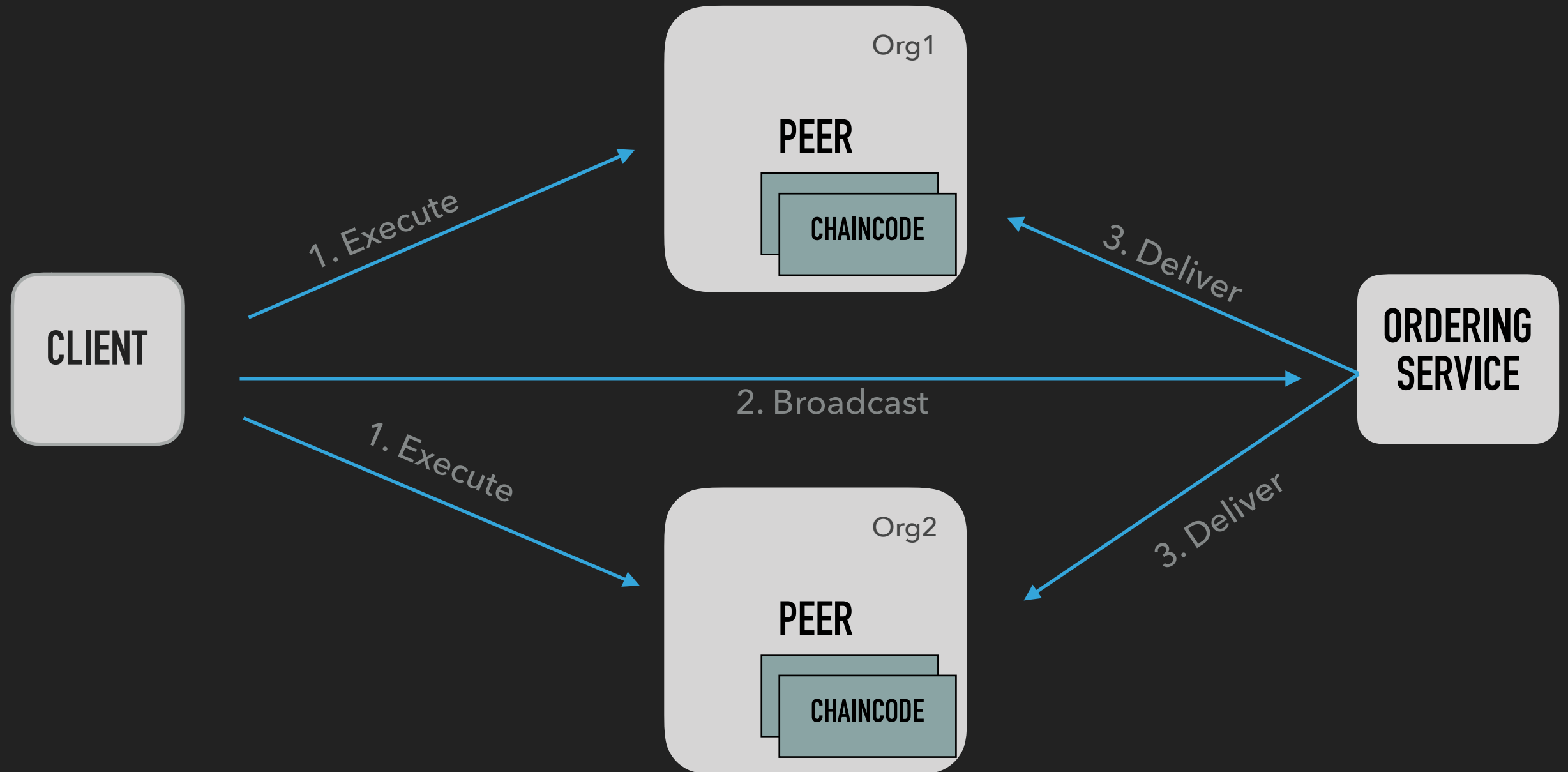
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VALIDATE



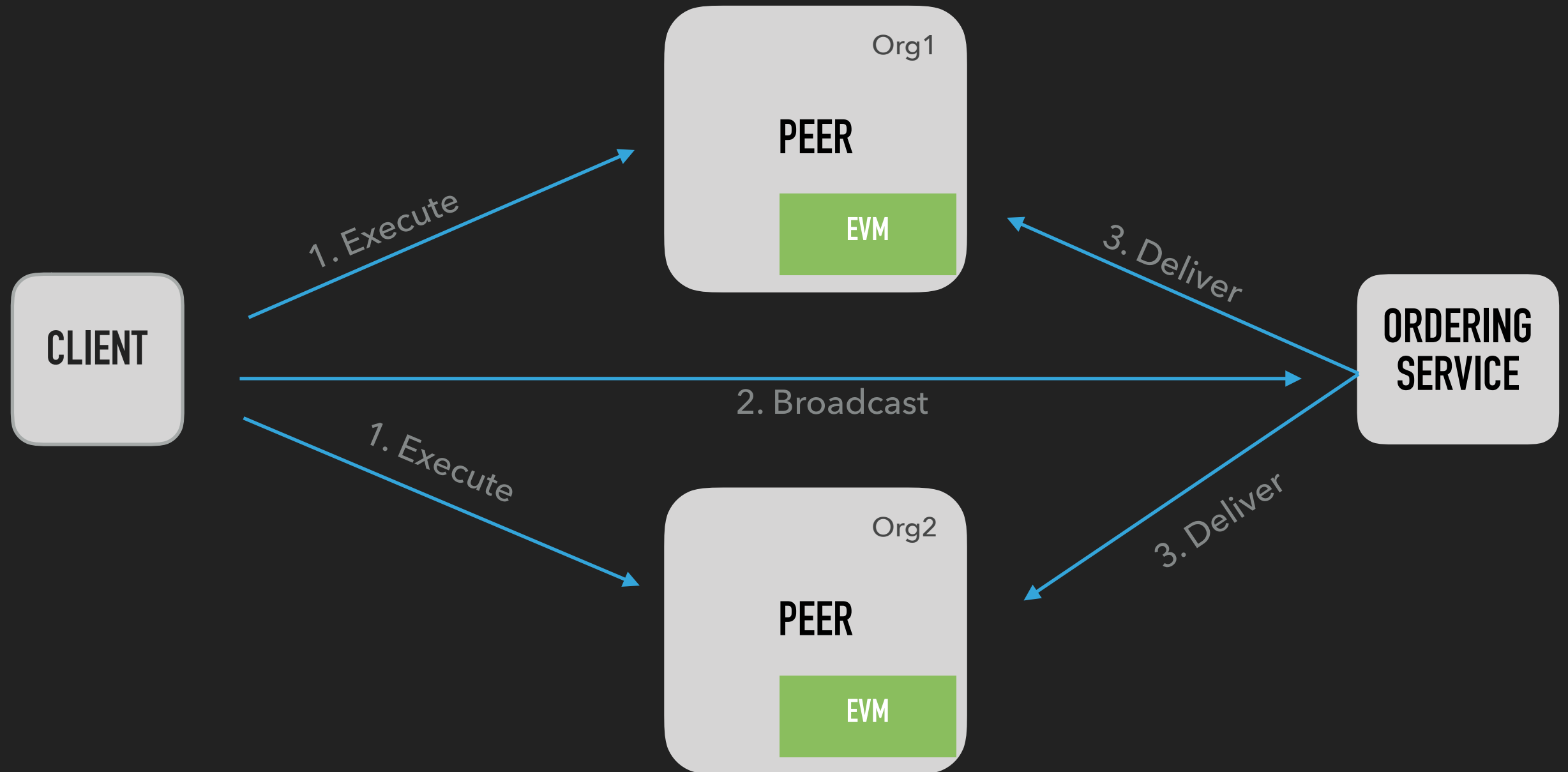
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WHAT IF



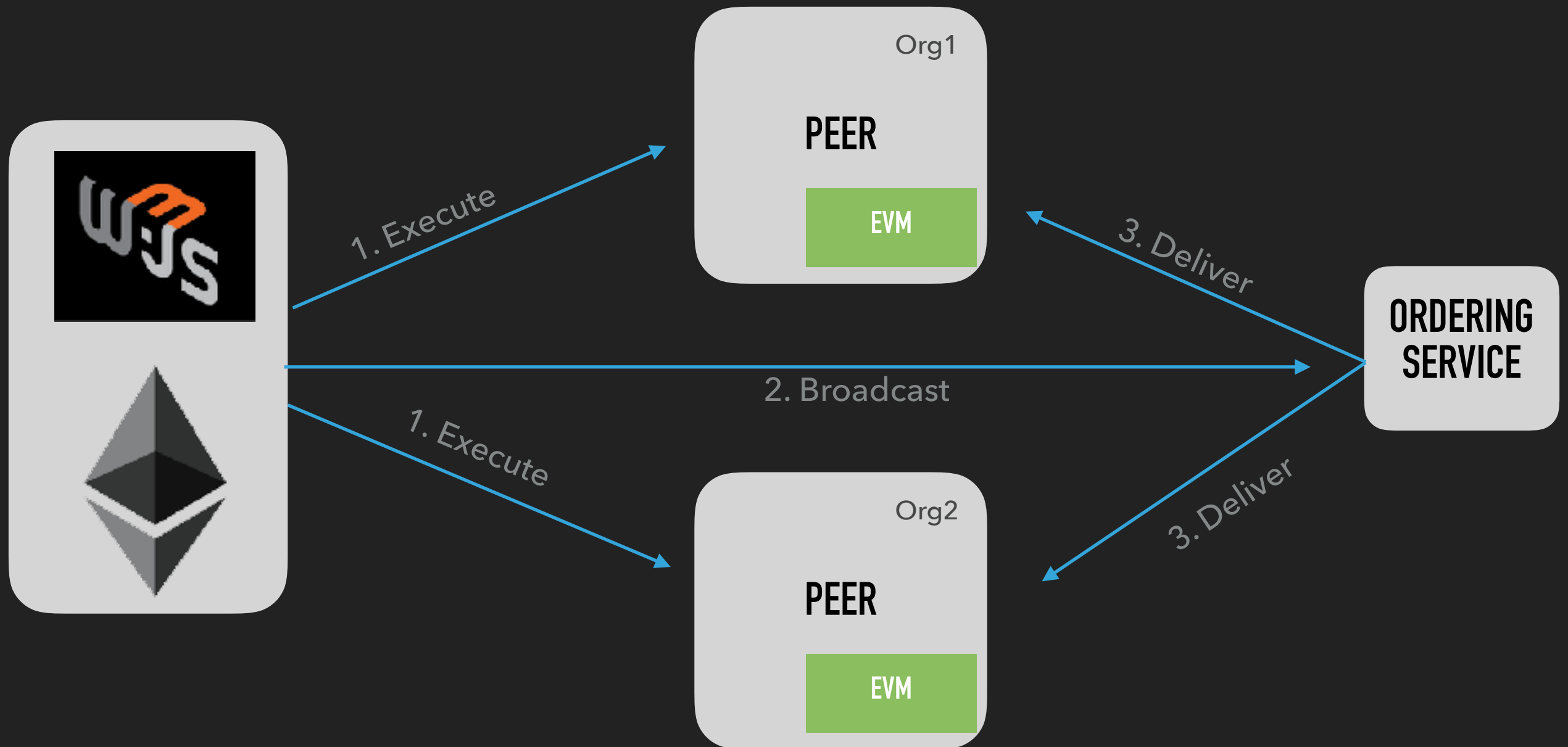
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WHAT IF



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WHAT IF



MOTIVATIONS

- ▶ Allows developers to use languages such as Solidity and Vyper
- ▶ EVM bytecode Smart Contracts can be migrated
- ▶ Allows developers to use Web3 tooling
- ▶ Burrow EVM is Apache 2.0 licensed

EVM CONCEPTS

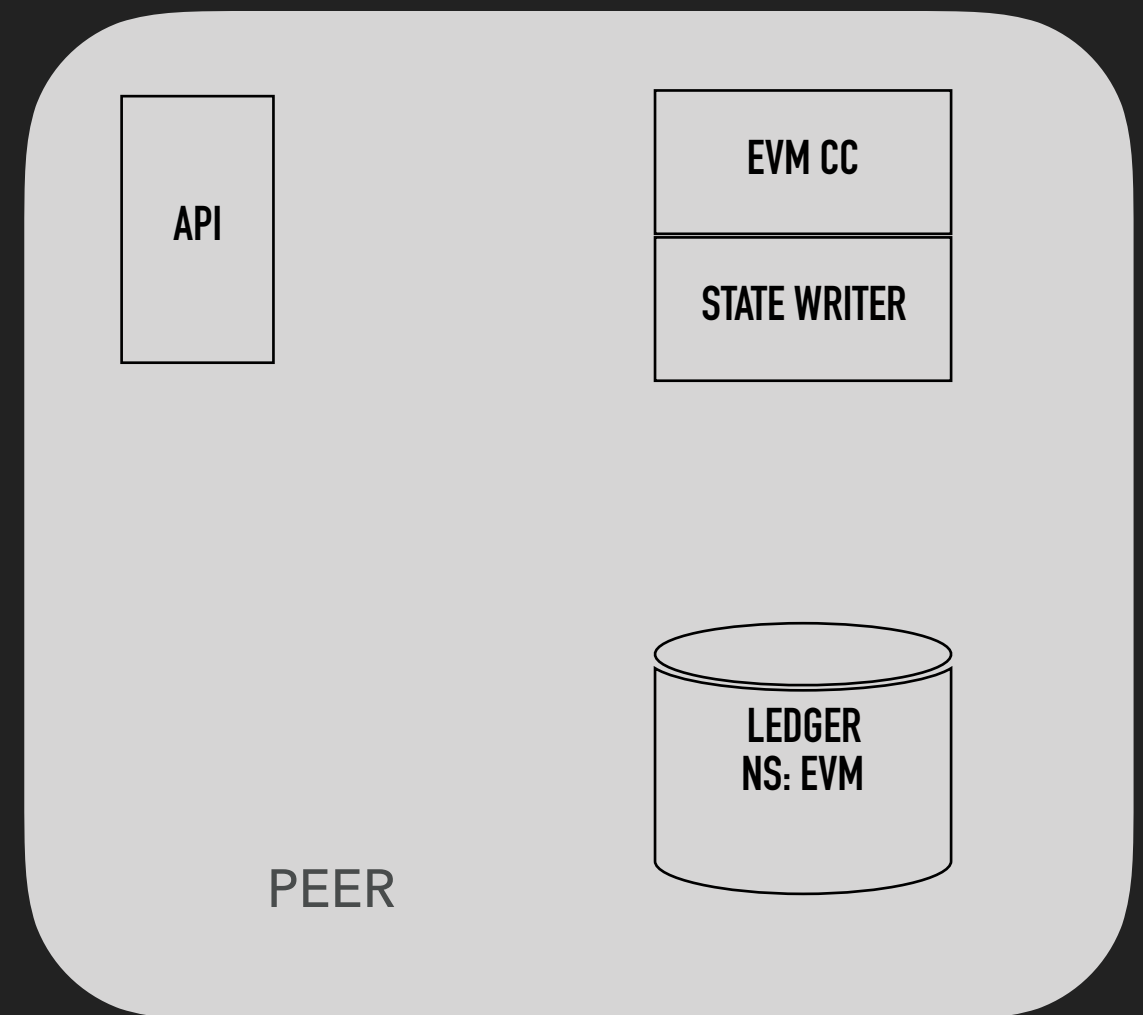
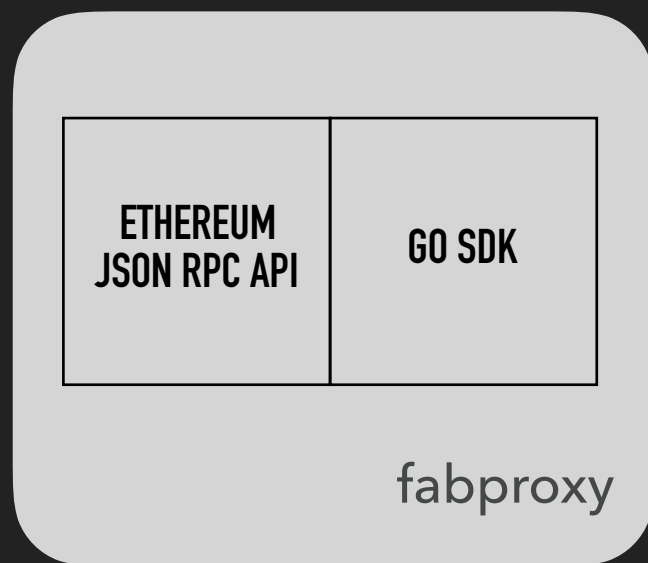
- ▶ Accounts (EOAs & Contract Accounts)
- ▶ Gas
- ▶ EVM Message Calls
- ▶ Read current transaction writes
- ▶ Ethereum JSON RPC API

DESIGN

- ▶ EVM Chaincode
- ▶ fabproxy

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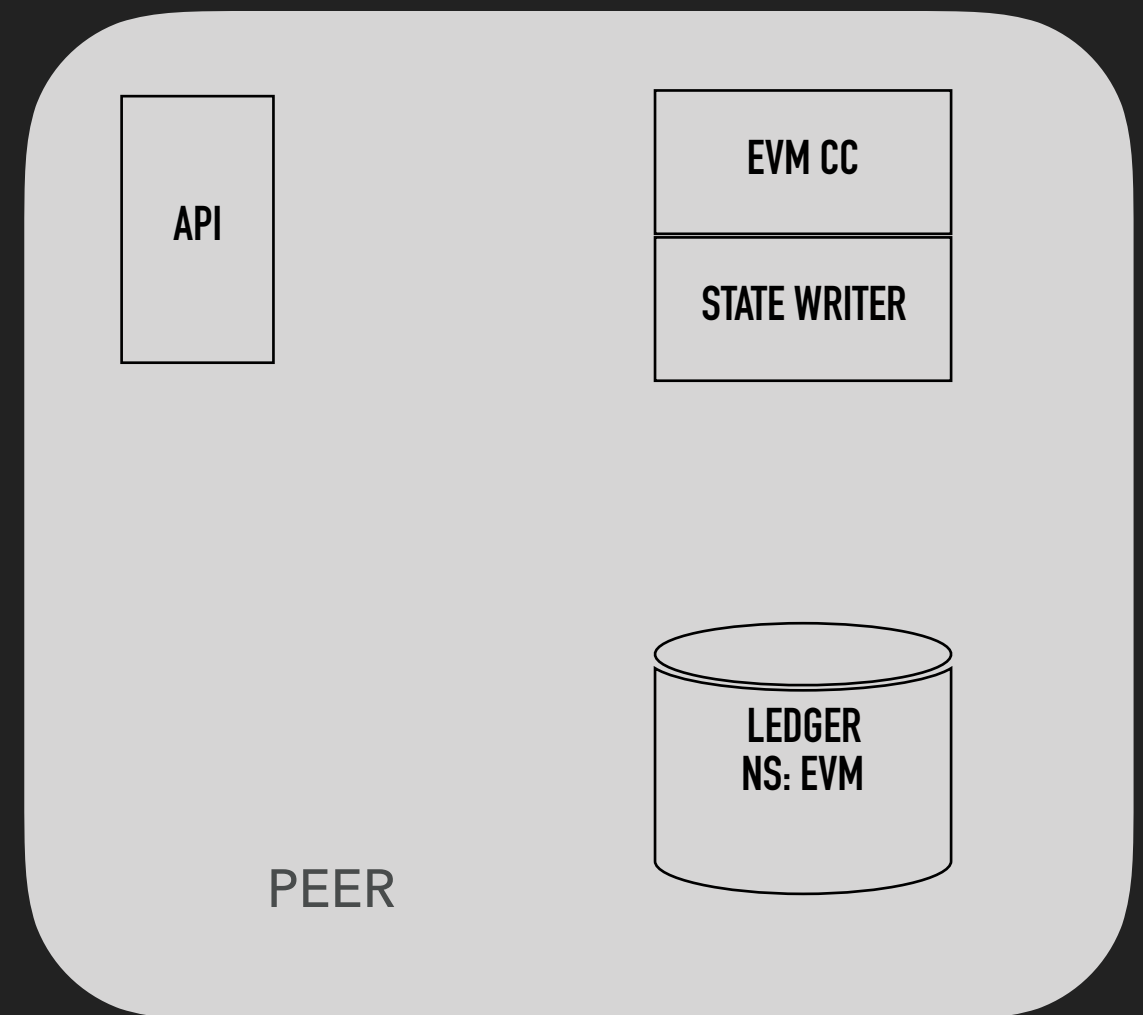
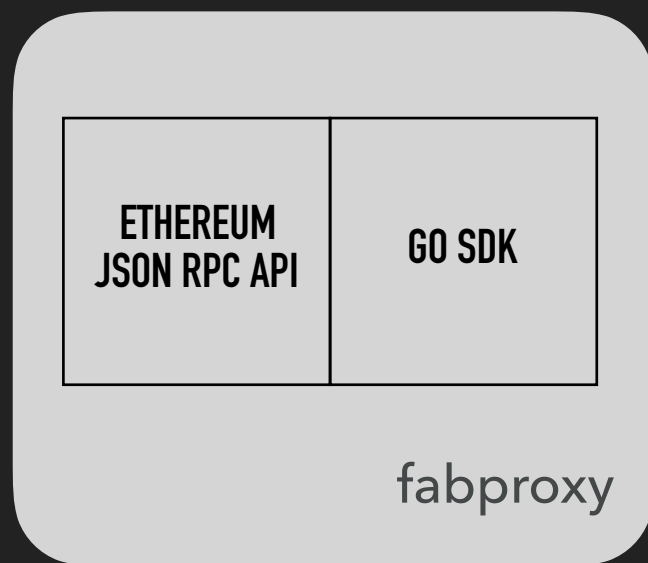
IMPLEMENTATION



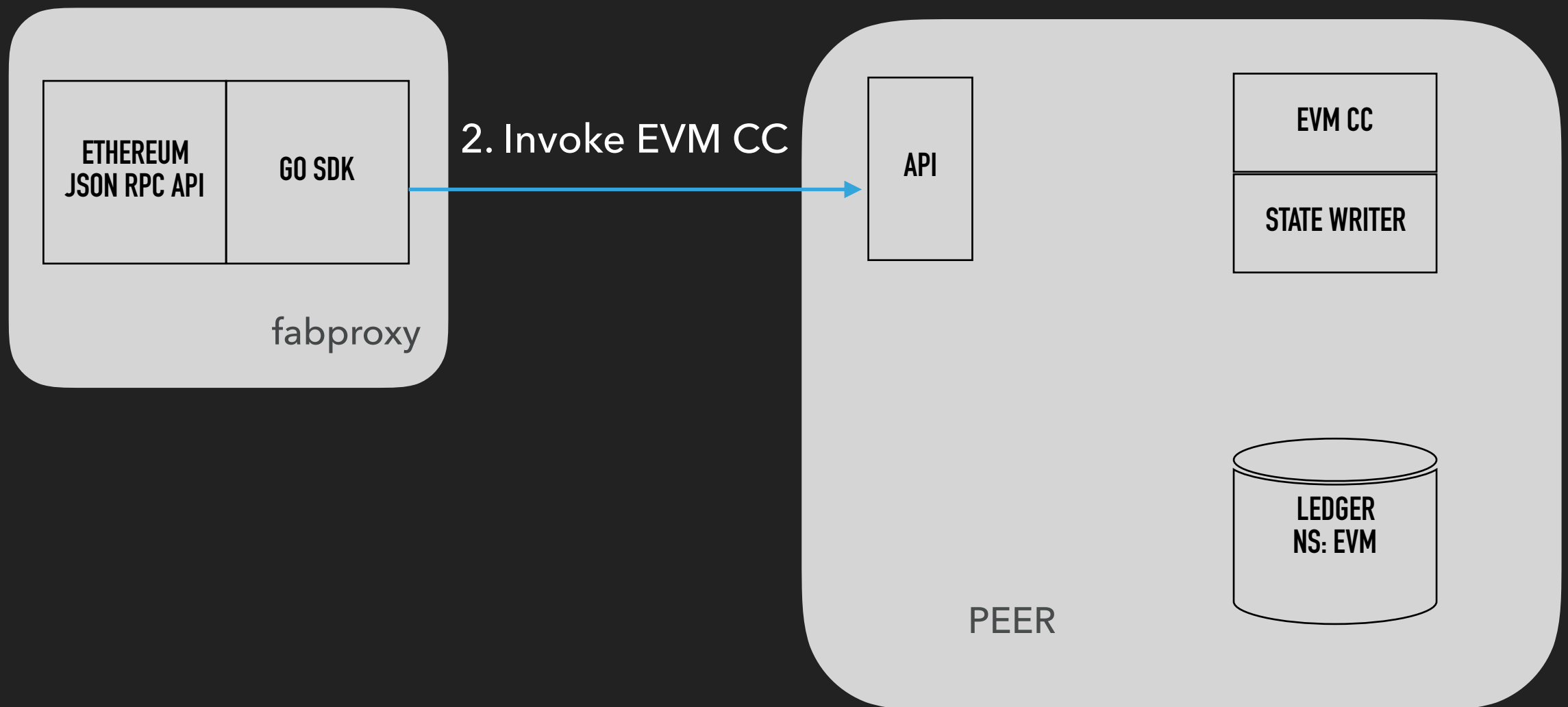
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IMPLEMENTATION

1. User Request

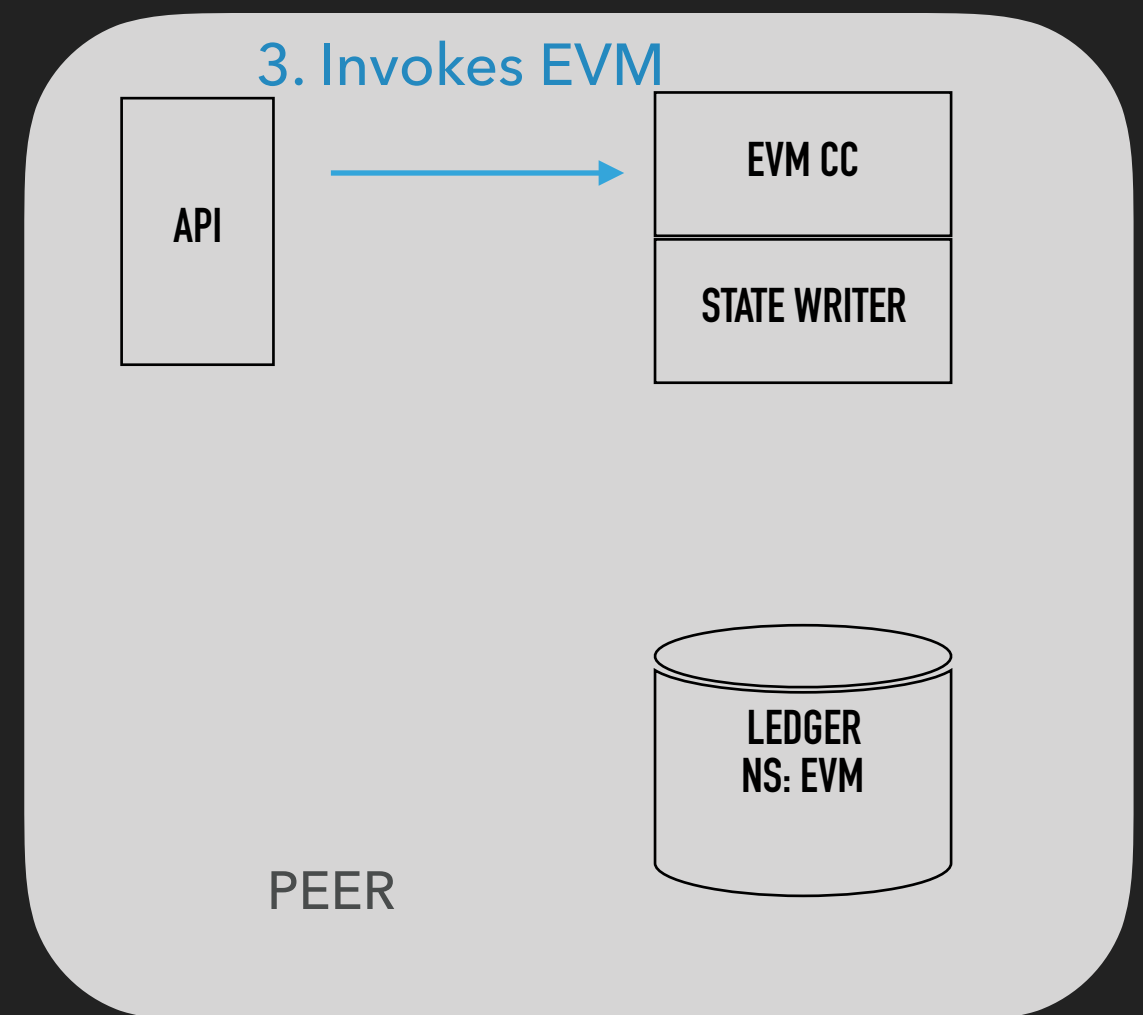
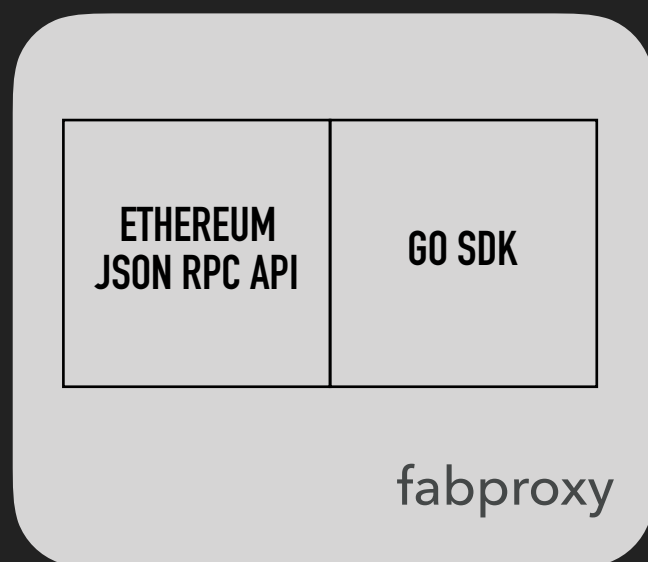


IMPLEMENTATION



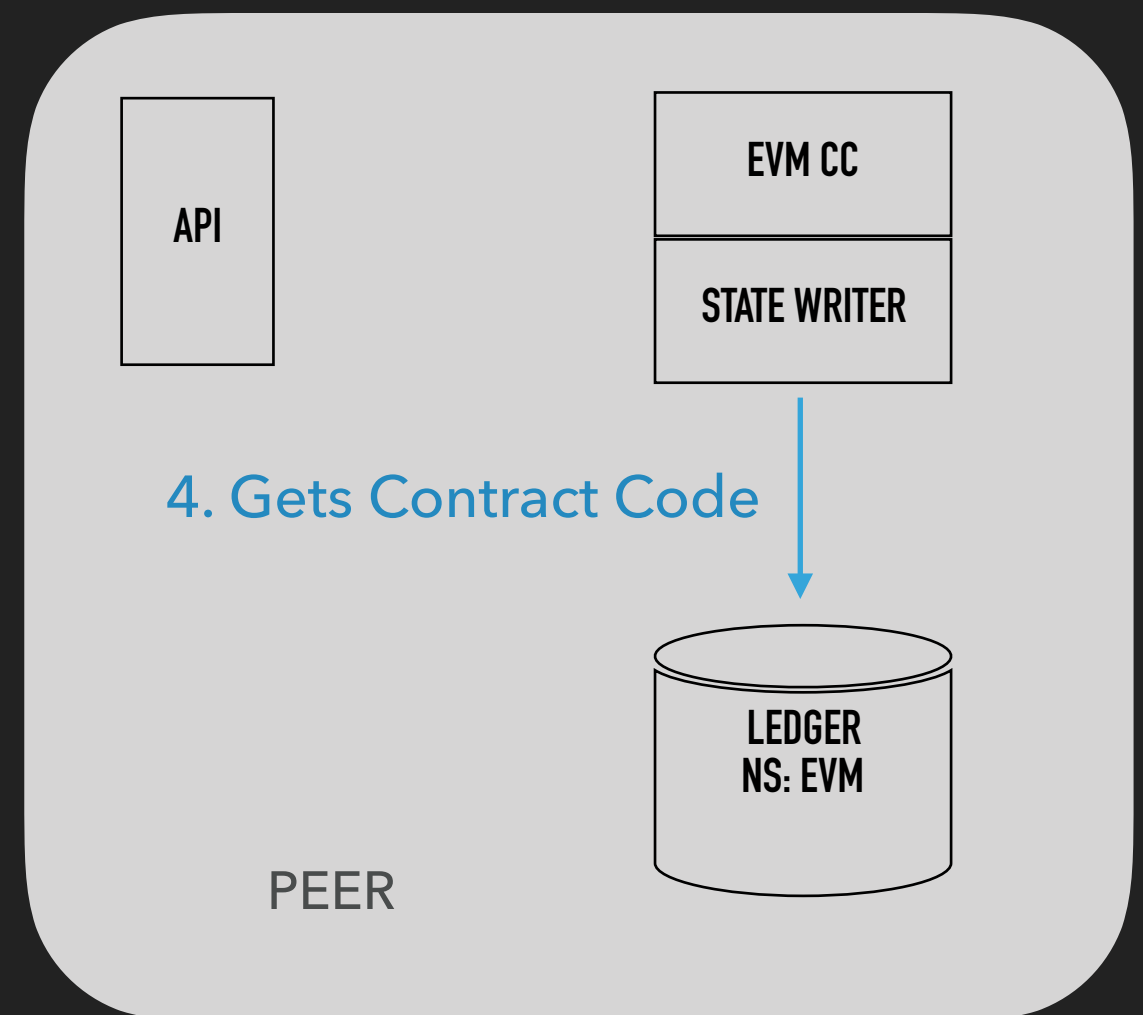
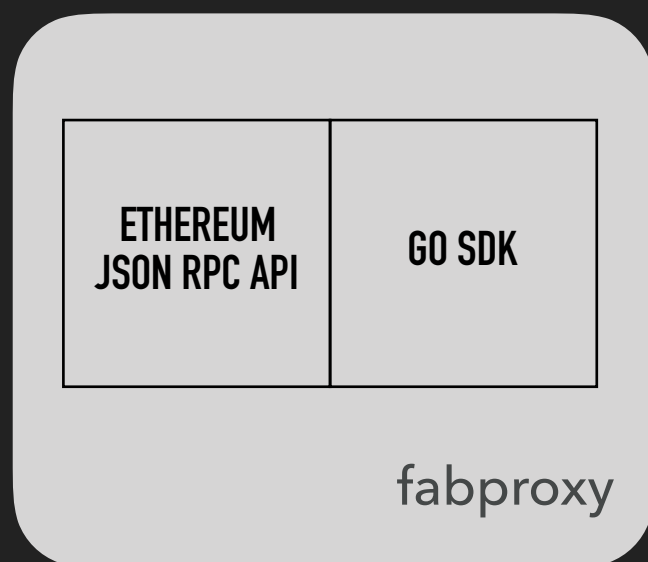
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IMPLEMENTATION



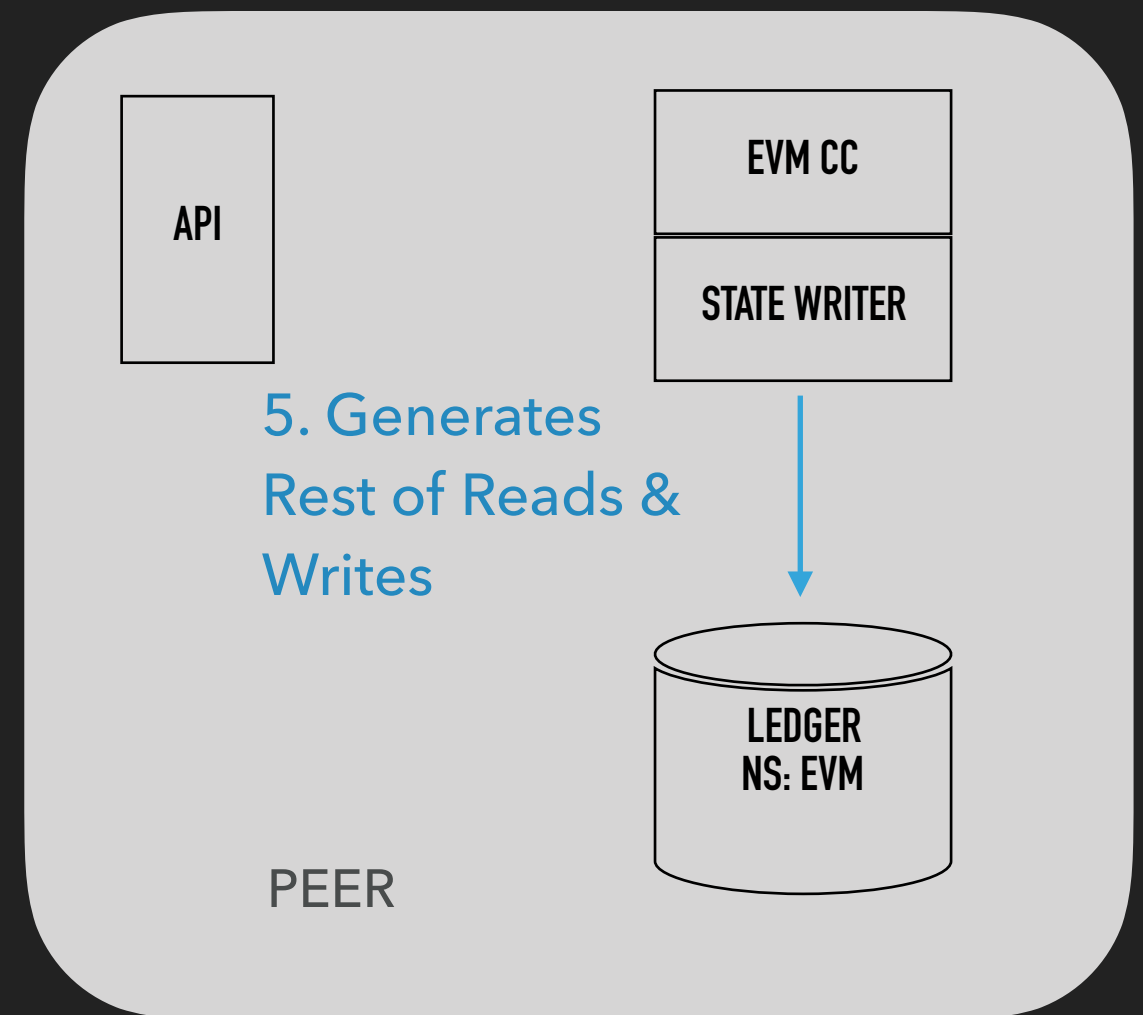
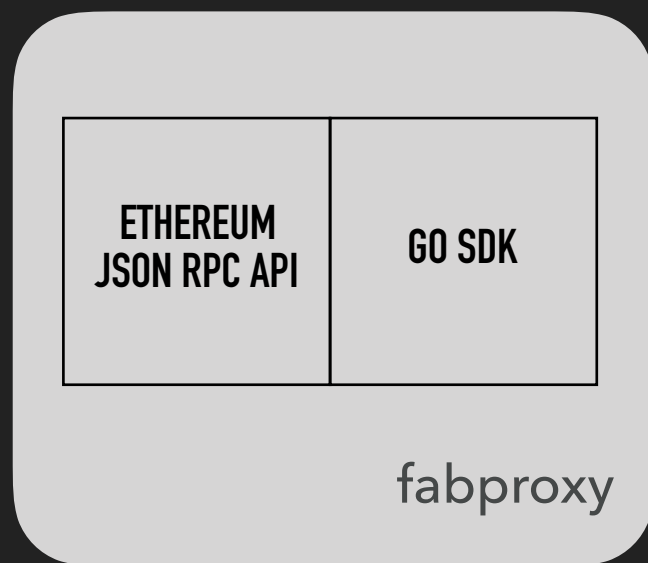
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IMPLEMENTATION



USING THE HYPERLEDGER BURROW EVM INSIDE HYPERLEDGER FABRIC

IMPLEMENTATION



DEMO

REFERENCES

- ▶ Design Doc: <https://docs.google.com/document/d/1xZfdtFiLFvHI7UZAze2xbm5hhgaDHGRBMusozKfpOck/edit#>
- ▶ JIRA Epics: <https://jira.hyperledger.org/browse/FAB-6590> & <https://jira.hyperledger.org/browse/FAB-10273>
- ▶ Chaincode: <https://github.com/hyperledger/fabric-chaincode-evm>
- ▶ dapp repo: <https://github.com/ibm/hyperledger-fabric-evm-demo>
- ▶ Live demo using our POC: <http://fabric-evm-demo.mybluemix.net/>
Password: some-password

ANY QUESTIONS?