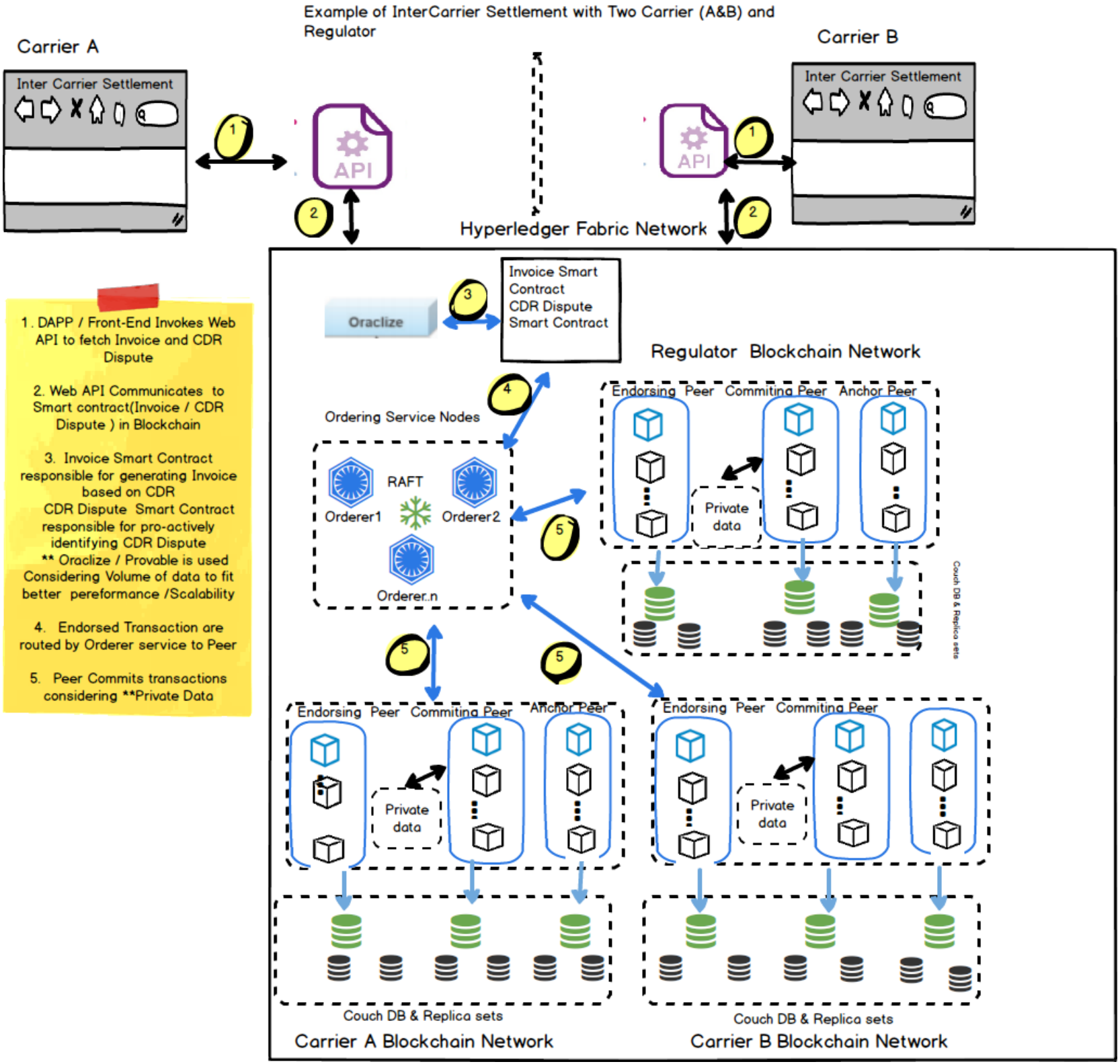
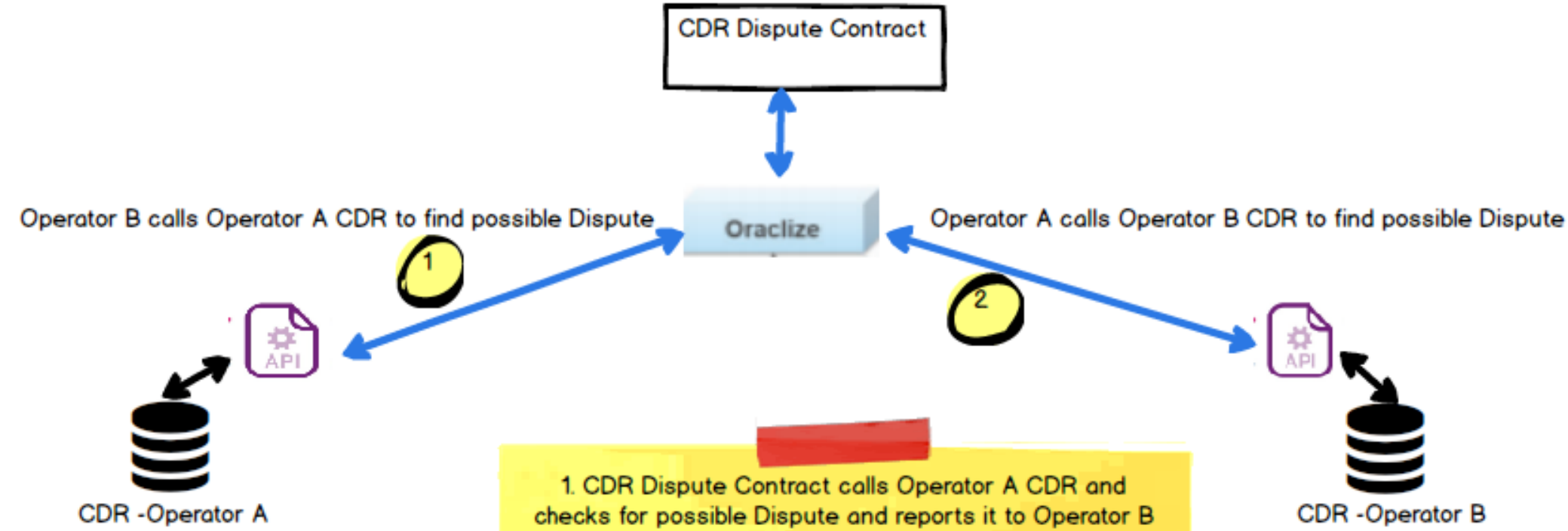

Example of InterCarrier Settlement with Two Carrier (A&B) and Regulator
Carrier A
Inter Carrier Settlement
API
Carrier B
Inter Carrier Settlement
API
Hyperledger Fabric Network
1. DAPP / Front-End Invokes Web API to fetch Invoice and CDR Dispute
2. Web API Communicates to Smart contract(Invoice / CDR Dispute) in Blockchain
3. Invoice Smart Contract responsible for generating Invoice based on CDR
CDR Dispute Smart Contract responsible for pro-actively identifying CDR Dispute
** Oraclize / Provable is used Considering Volume of data to fit better pereformance /Scalability
4. Endorsed Transaction are routed by Orderer service to Peer
5. Peer Commits transactions considering **Private Data
Oraclize
Invoice Smart Contract
CDR Dispute Smart Contract
Regulator Blockchain Network
Ordering Service Nodes
RAFT
Orderer1
Orderer2
Orderer.n
Endorsing Peer
Commiting Peer
Anchor Peer
Private data
Couch DB & Replica sets
Carrier A Blockchain Network
Carrier B Blockchain Network

Deep Dive of Smart Contract Functionalities



1. CDR Dispute Contract calls Operator A CDR and checks for possible Dispute and reports it to Operator B

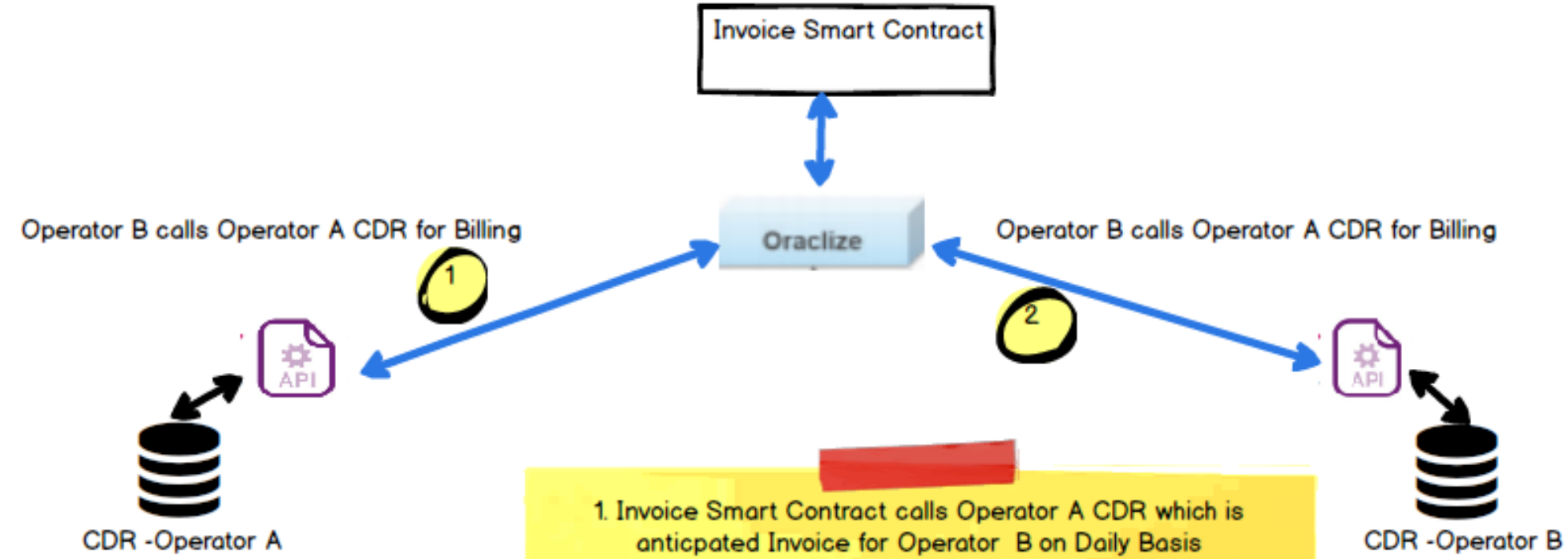
2. CDR Dispute Contract calls Operator B CDR and checks for possible Dispute and reports it to Operator A

** Contract Parameters include API Url of Operator CDR , It is dynamic.

**********CDR Dispute Consideration**********

1. Missing Calling_Number
2.Missing Called_Number
3.Missing Start_Time /End_Time
4.Missing CALL_Type
5.Missing Charge/Call_Result

Deep Dive of Smart Contract Functionalities



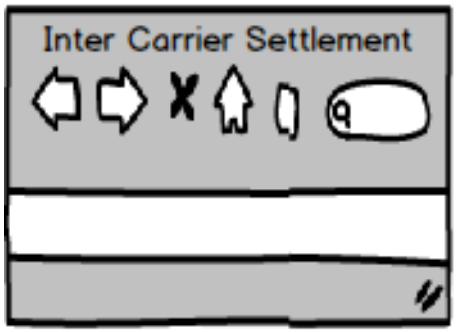
1. Invoice Smart Contract calls Operator A CDR which is anticpated Invoice for Operator B on Daily Basis

2. Invoice Smart Contract calls Operator B CDR which is anticpated Invoice for Operator A on Daily Basis

********** Invoice will not be geenrated for CDR of below Criteria **********

1. Missing Calling_Number
2.Missing Called_Number
3.Missing Start_Time /End_Time
4.Missing CALL_Type
5.Missing Charge/Call_Result

POC Stack



Front End with Angular

Hyperledger runs over Amazon EC2

Mock Data is exposed as JSON via Myjson

GitHub : https://github.com/rangesh-/IntercarrierSettelment