Demo: Fabric Private Chaincode
Sealed-bid Auctions for Cellular Spectrum Licenses

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Fabric Private Chaincode

**Enterprise Blockchain**
Available as-a-service from major cloud providers

**Decentralized Governance**
For supply chain monitoring, identity management, and more

**Transparent Operations**
Participants see transactions and ledger data

**Verifiable & Immutable Data**
Participants verify transactions

**Confidential Compute**
Transactions and ledger only contain encrypted data

**Verifiable Operations**
Transactional data verified through Intel® SGX attestations

**Data Misuse Prevention**
Intel® SGX binds sensitive data to intended chaincode

Enabled by hardware-based trusted execution

“Intel® SGX = Intel® Software Guard Extensions. Intel and the Intel logo are trademarks of Intel Corporation”
Using FPC for a Sealed-Bid Auction

Security Requirements

- Operational transparency delivered by Hyperledger Fabric
- Confidentiality for bids delivered by Fabric Private Chaincode

FPC Deployment

Fabric Network

- A-Telcom
- B-Net
- C-Mobile
- Auctioneer

SGX delivered by Hyperledger Fabric
FPC Auction Demo Overview

Fabric Network

Sealed-bid Auction Chaincode
- Start / End auction rounds
- Store and Evaluate bids
- Release results upon auction termination

Start Round
Submit Bid
Submit Bid
Submit Bid
End Round

Auctioneer
A-Telecom
B-Net
C-Mobile
Check out FPC, TODAY!


**Fabric Private Chaincode**

- **CONFIDENTIAL COMPUTE**
  - Transactions and ledger only contain encrypted data

- **VERIFIABLE OPERATIONS**
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- **DATA MISUSE PREVENTION**
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*enabled by hardware-based trusted execution*
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