VLDB 2020 Tokyo

Scalable, Resilient, and Configurable Permissioned Blockchain Fabric

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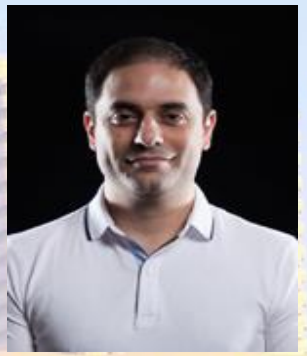

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ExpoLab Creativity Unfolded

ResilientDB

UC DAVIS UNIVERSITY OF CALIFORNIA

What is Blockchain?

💵 Cryptocurrency

Bitcoin

Ethereum

XRP Ripple

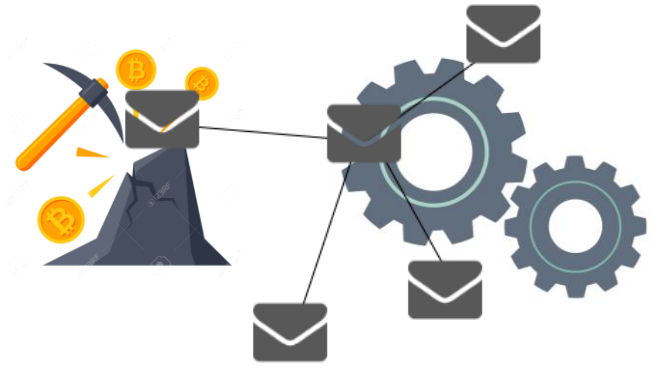
📒 Distributed Ledger

ResilientDB

ExpoLab
Creativity Unfolded

Permissionless vs Permissioned Blockchain

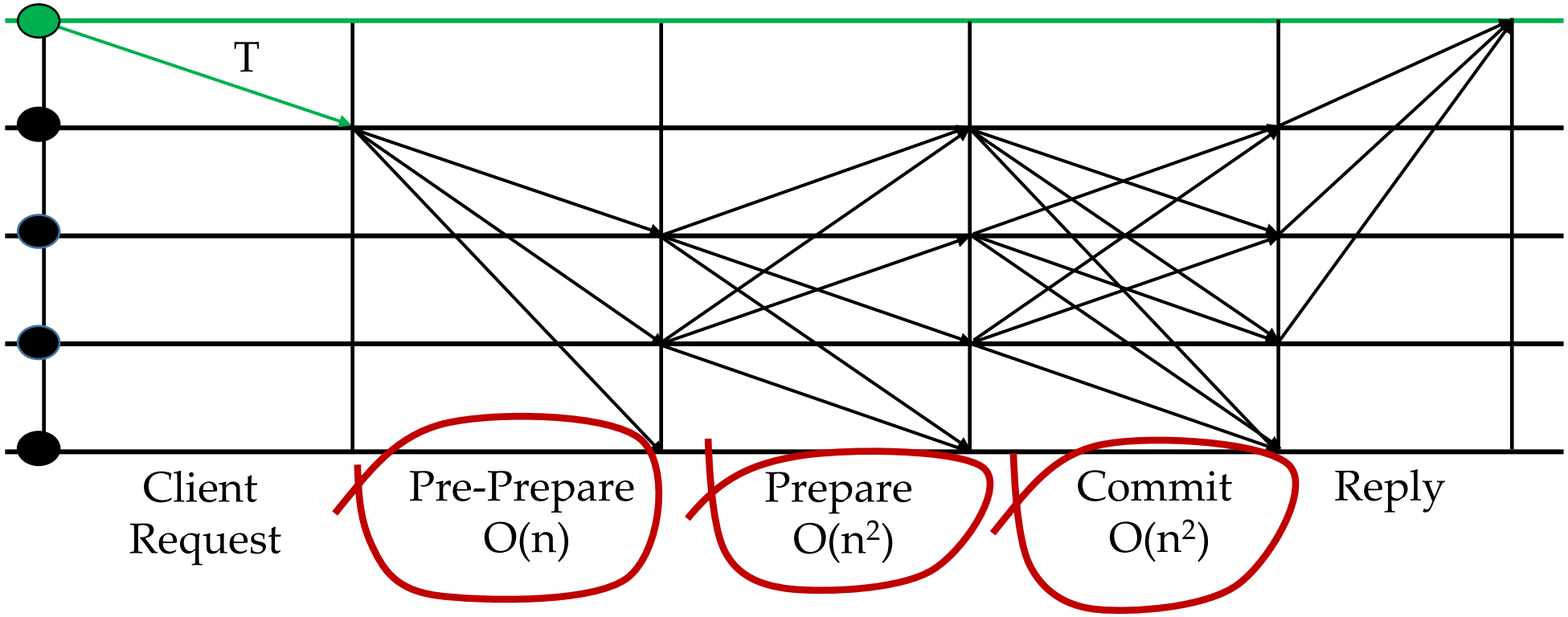
Permissioned



Computation Based

Energy Intended

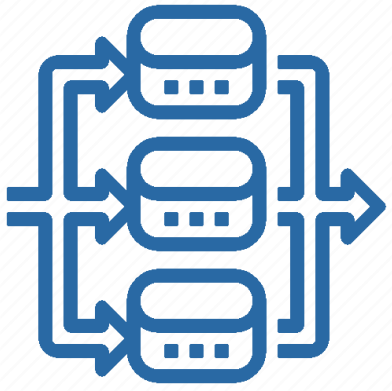
Practical Byzantine Fault Tolerance (PBFT)



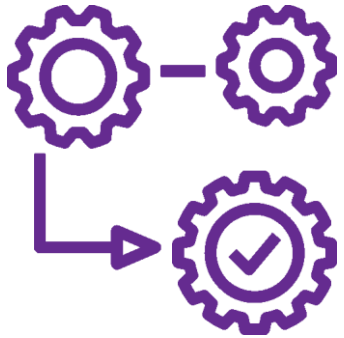
Multiple Round of Communication

Design Parameters, Elements, And Components of a **Permissioned Blochchains**

Message Processing



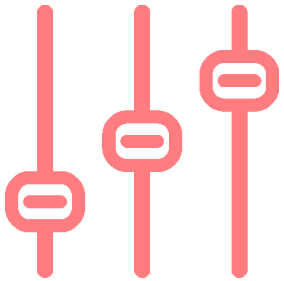
Parallelization



Execution

Queueing

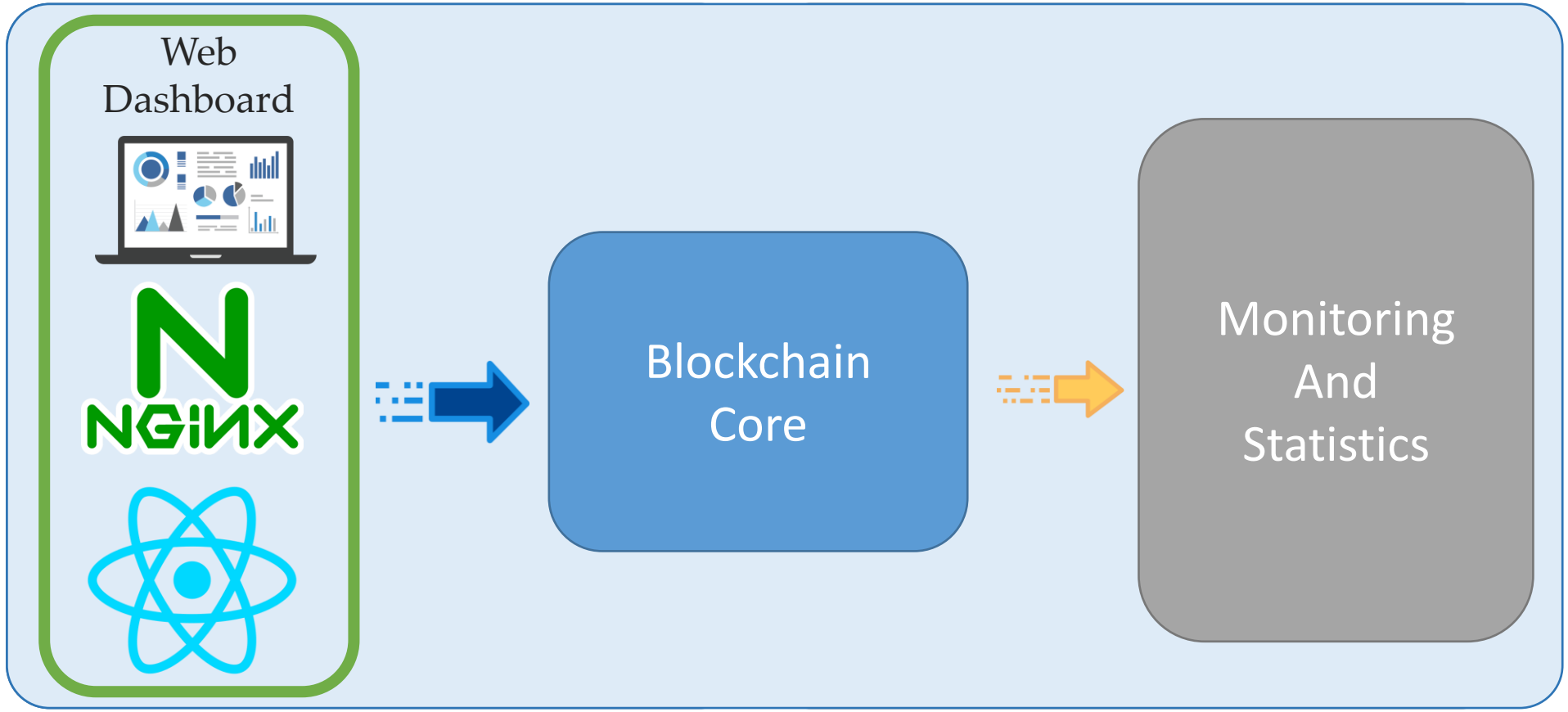
User Interface



Adjustability

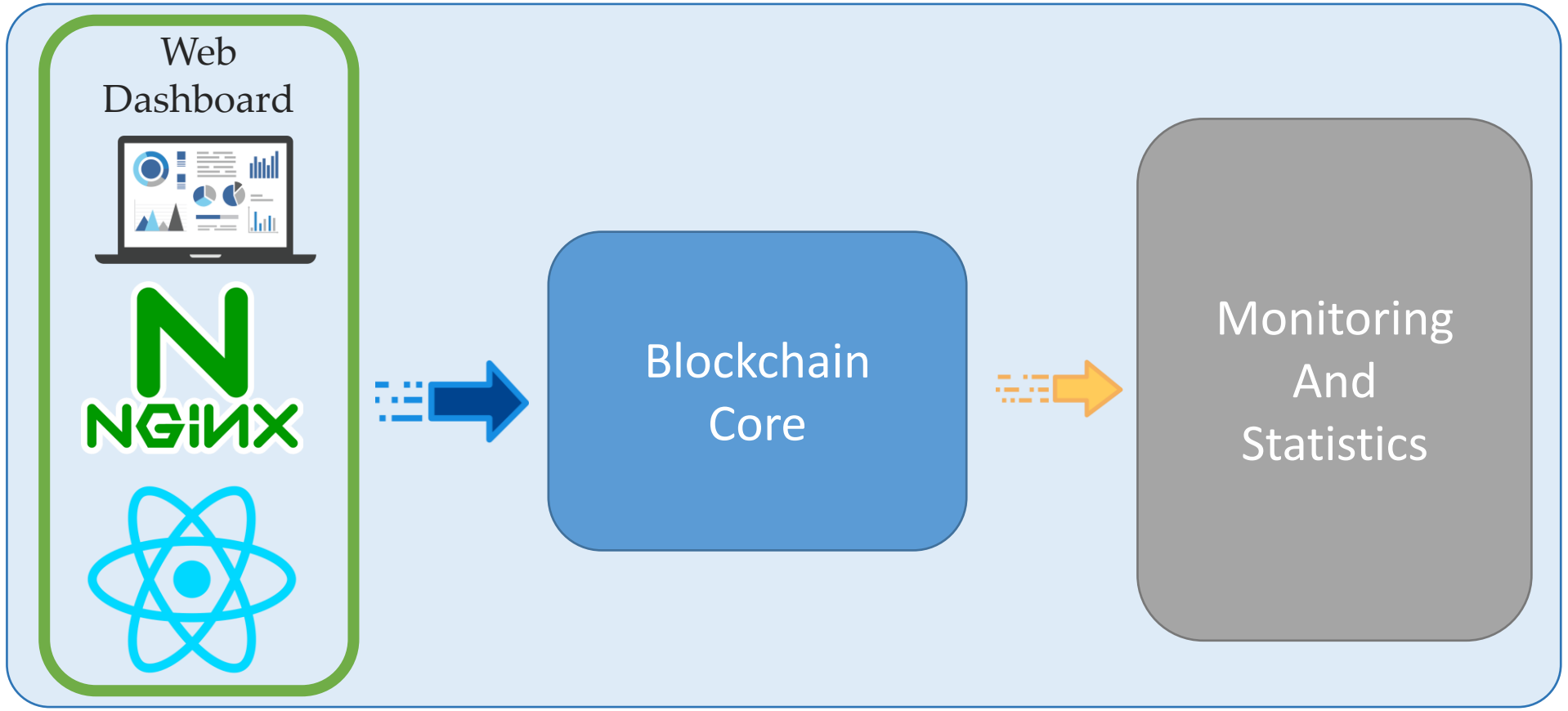
Scalability

Architecture

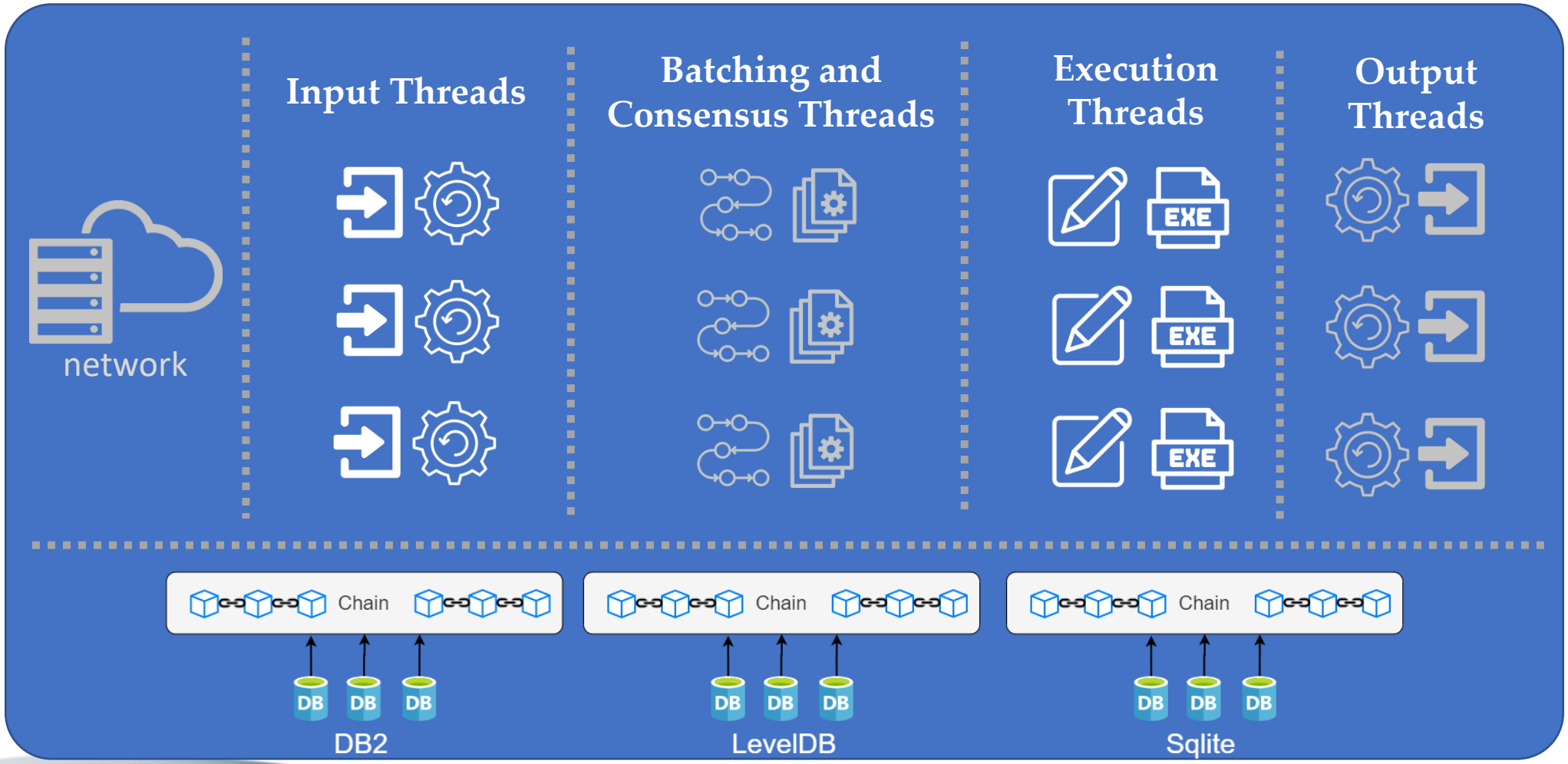


Interface and Monitoring

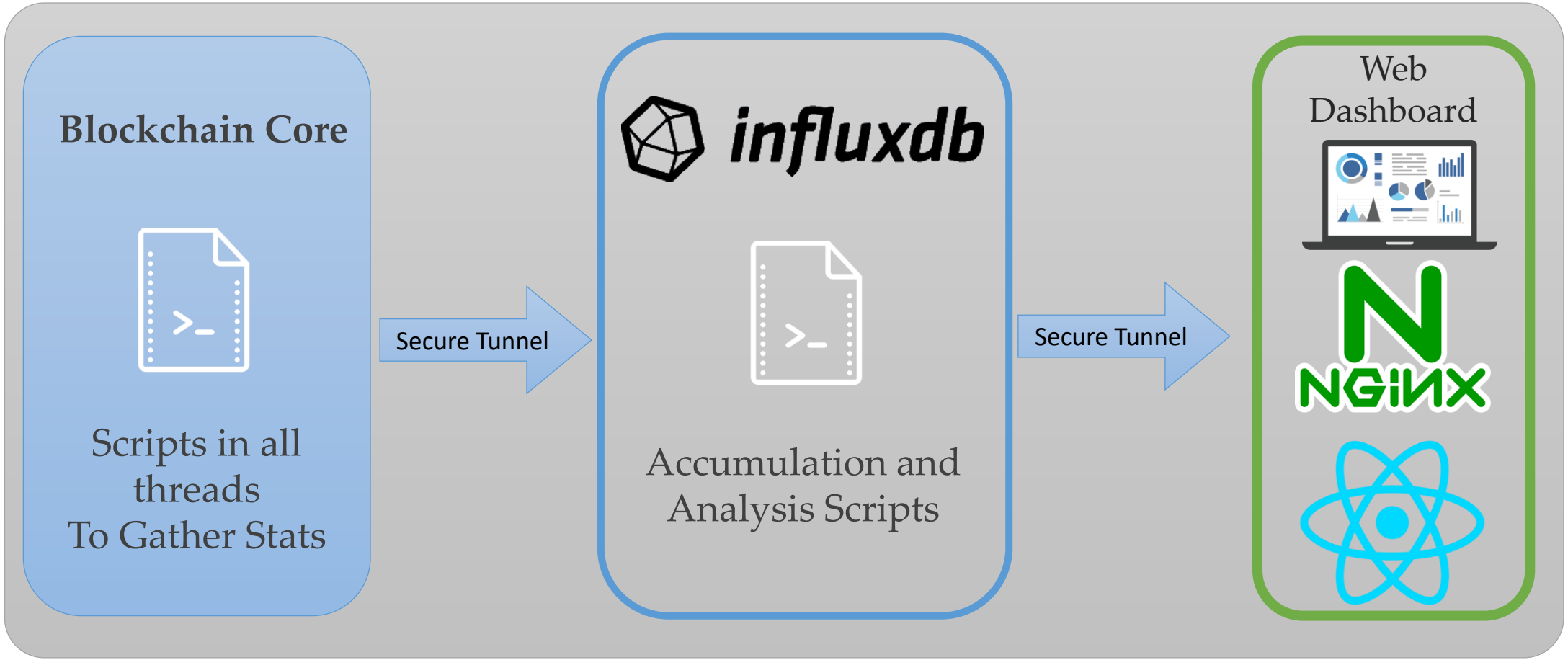
Architecture



Blockchain Core



Monitoring And Statistics



Demonstration Scenarios

Running The System

Smart Contracts

A smart contract is a **piece of code** which **executes** a **transaction** in the blockchain environment

```
class BasicSC: public SmartContract {
   public:
      int execute();
};

/* return: 1 for commit, 0 for abort */

int TransferMoney::execute()
{
    // Access To DB instance
}
```

Thank You