

TABLE OF CONTENTS

PROBLEM STATEMENT

CURRENT SCENARIO

IDEATION (TENDER BULLET)

STAKEHOLDERS AND ROLES

PROCUREMENT PROCESS

ADOPTION STRATEGY

SYSTEM INTEGRATION

BLOCKCHAIN IMPLEMENTATION

PHASES OF INTEGRATION

KEY COMPONENTS

TECHNICAL DIAGRAM

DELIVERY STRATEGY

WORKFLOW AND SCENARIO

Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

Phases of Implementation

Key Components

Technical Diagram

Delivery Strategy

Workflow & Scenario

Problem Statement

Work in Progress

Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

Phases of Integration

Key Components

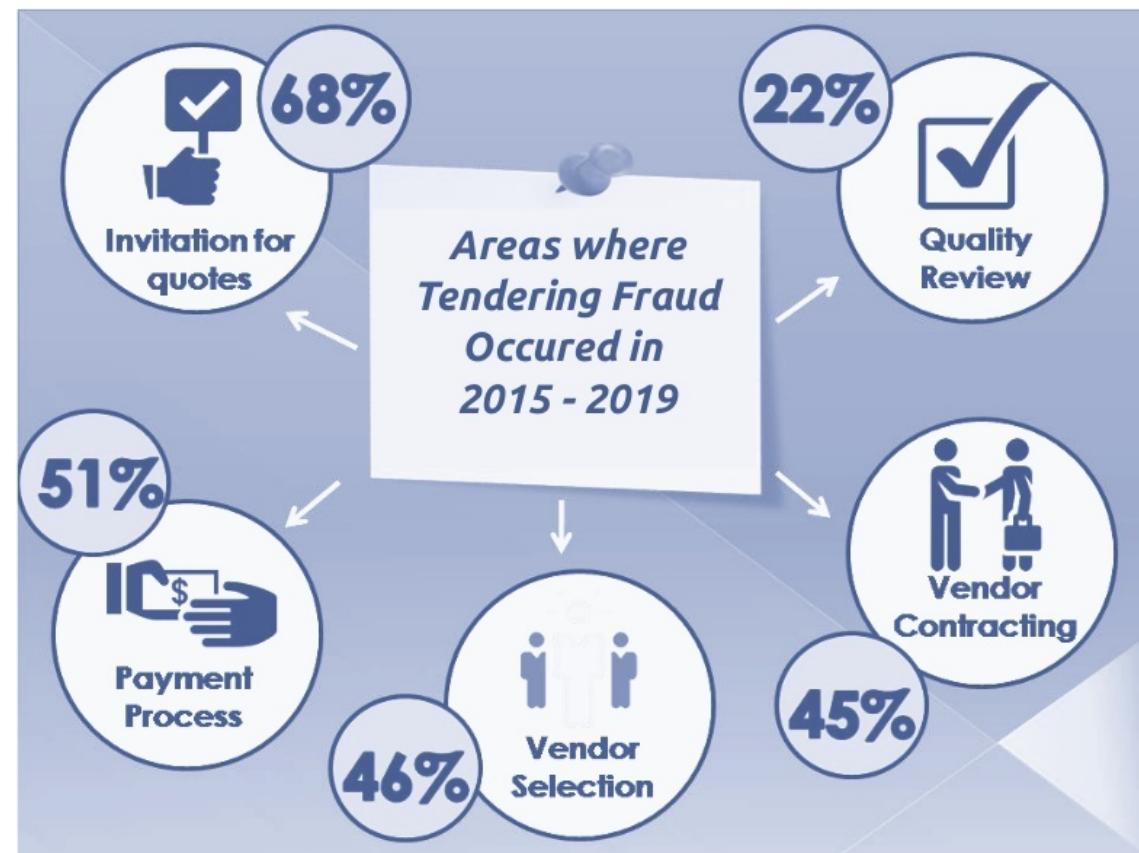
Technical Diagram

Delivery Strategy

Workflow & Scenario

Current Scenario

The incentive to win major contracts can lead individuals and even companies to engage in corrupt and fraudulent behavior. Staff within the procurement or project management divisions of contracting organizations may be exposed to inappropriate inducements such as bribes and corrupt offerings. Below we have presented Procurement Fraud Statistics.



Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

Phases of Integration

Key Components

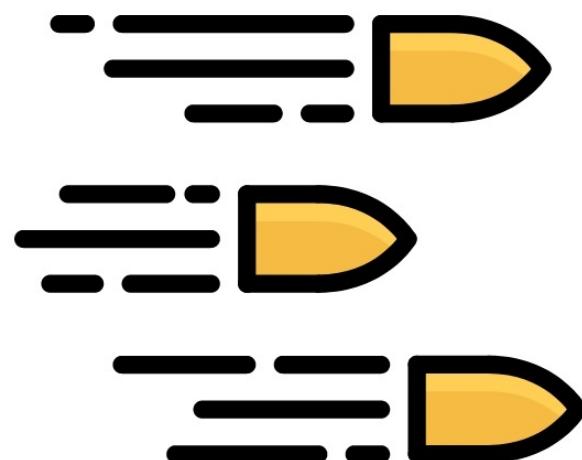
Technical Diagram

Delivery Strategy

Workflow & Scenario

Ideation

Title of our solution is **Tender Bullet** : Blockchain Powered Procurement System
Combatting procurement issues in a systematic and structured approach



**TENDER
BULLET**



Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stackholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

Phases of Integration

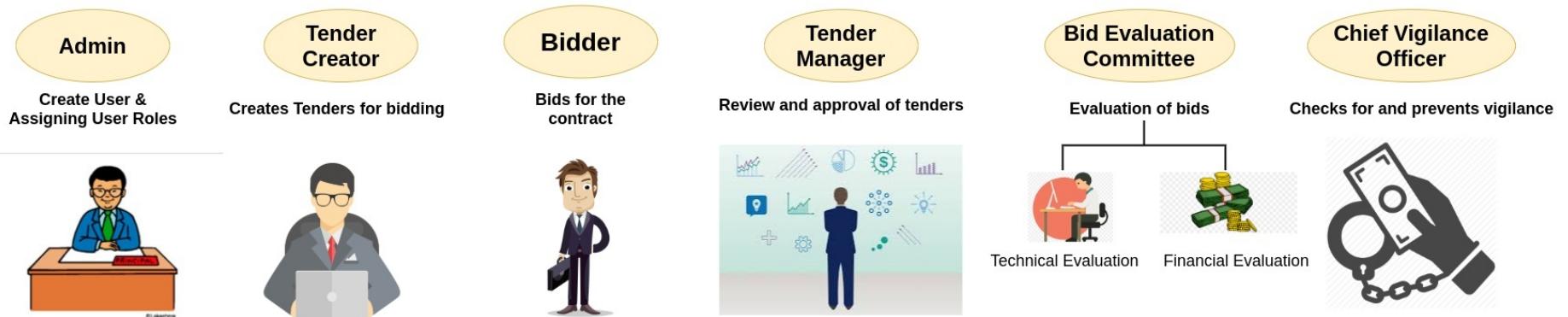
Key Components

Technical Diagram

Delivery Strategy

Workflow & Scenario

Stakeholders & Roles



End to End Blockchain based Procurement Process

Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Integration

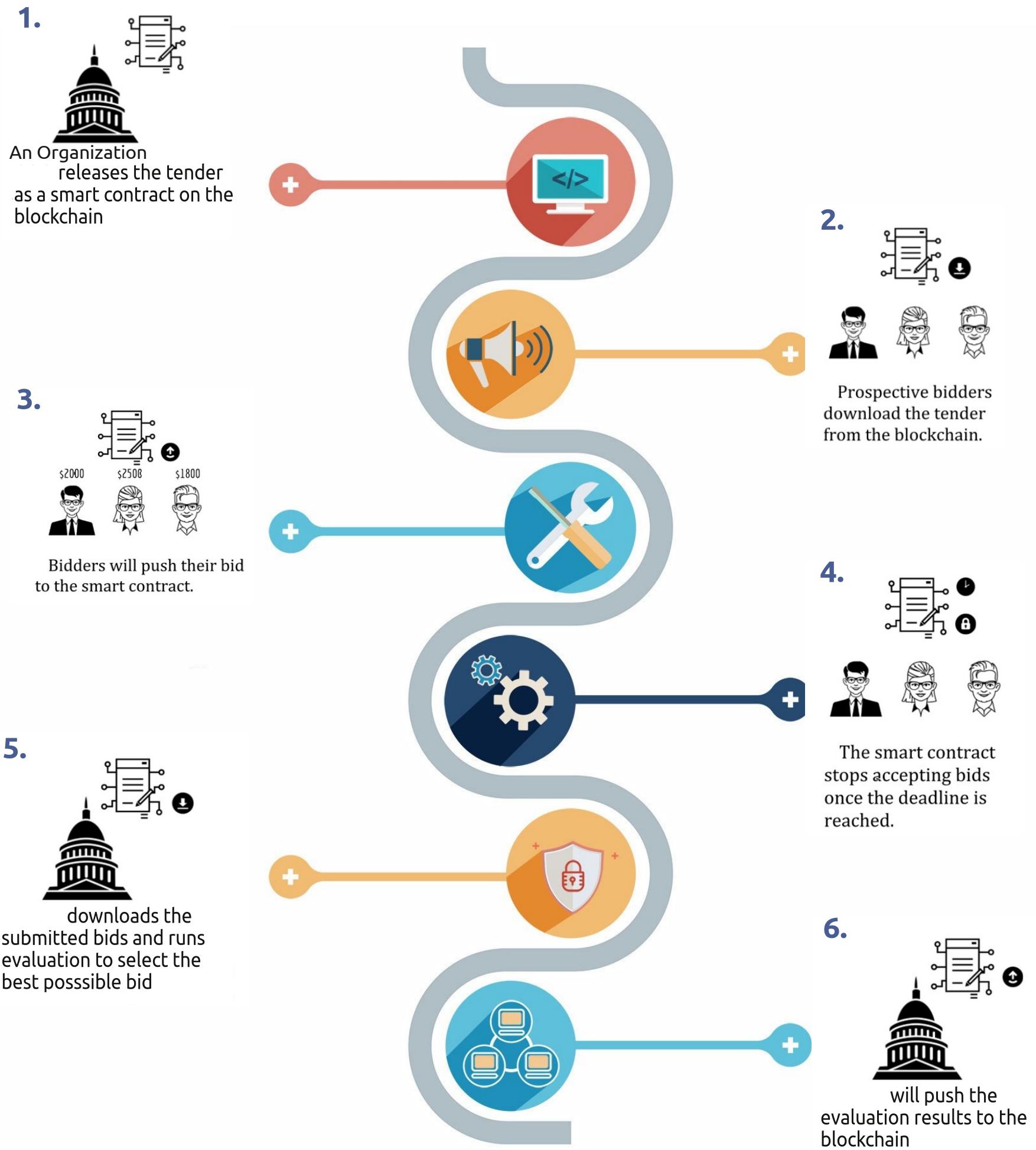
Phases of Implementation

Key Components

Technical Diagram

Delivery Strategy

Workflow & Scenario



Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Integration

Phases of Implementation

Key Components

Technical Diagram

Delivery Strategy

Workflow & Scenario

Adoption Strategy

Company wide single Blockchain cell

Blockchain Cell



PROCUREMENT
Department whose procurement
is to be taken into blockchain



Activities



Training of employees

Transactions to be recorded
on blockchain across
the organization

Onboarding of Stakeholders

Administration of Bids

Bidding Process

Financial Transactions

Management of Tenders

Evaluation of Bids

Audit of Bids

Solution Integration with Current Technology

Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

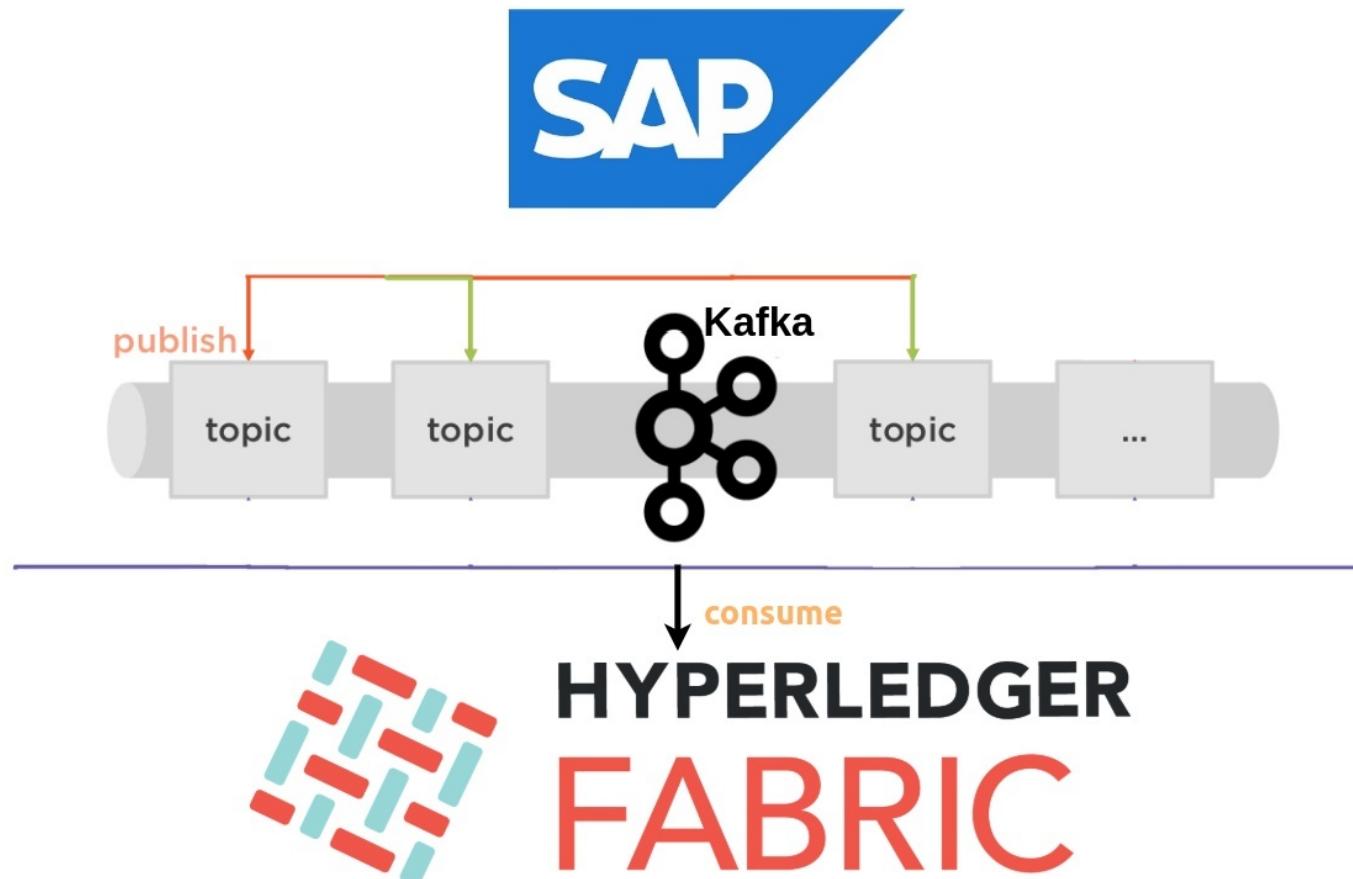
Phases of Integration

Key Components

Technical Diagram

Delivery Strategy

Workflow & Scenario



Blockchain Implementation

Problem Statement

Hyperledger Fabric is an enterprise grade, Private, Permissioned & distributed ledger.

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

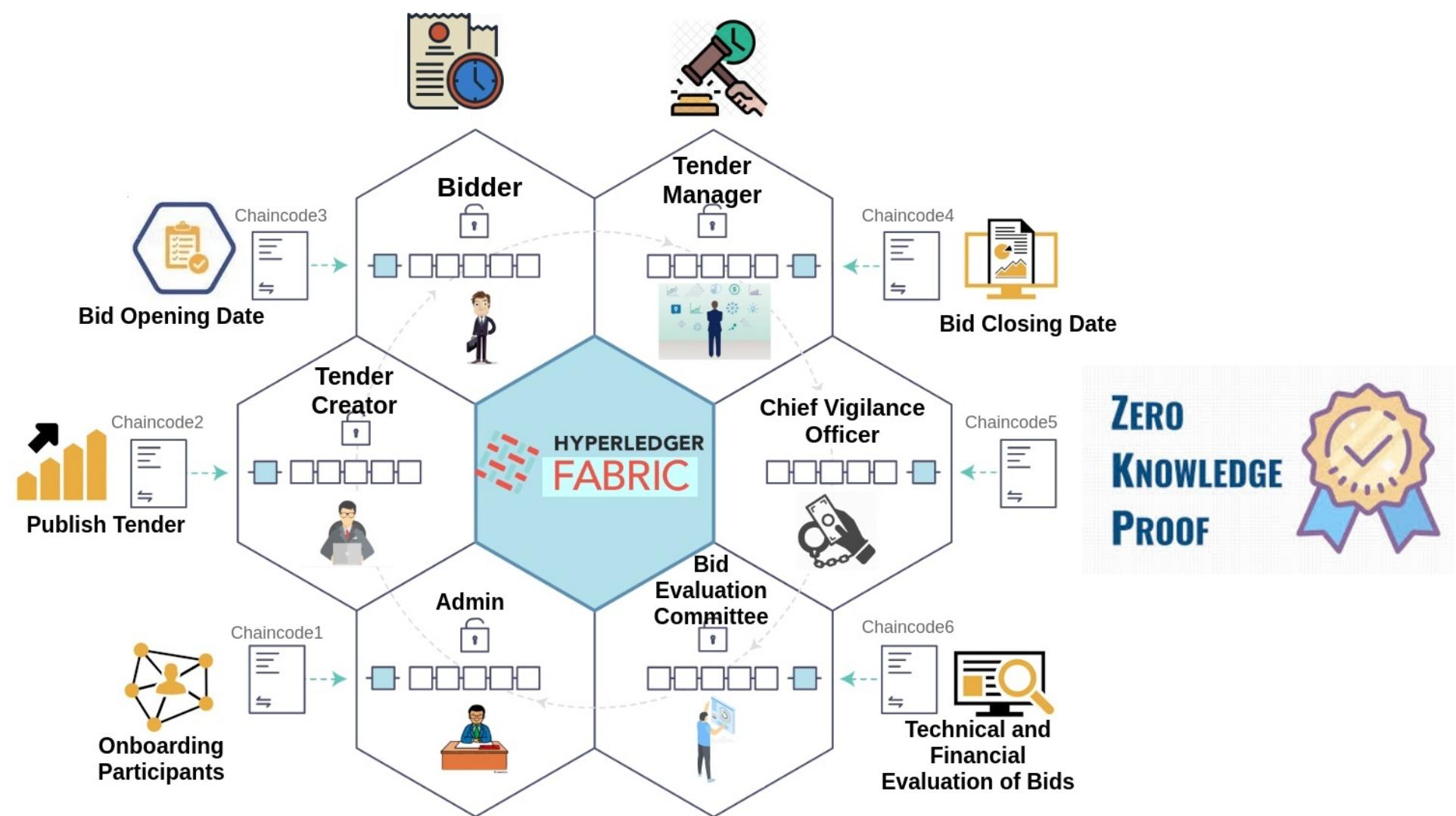
Phases of Integration

Key Components

Technical Diagram

Delivery Strategy

Workflow & Scenario



3 Major Components of Hyperledger Fabric mapped to procurement scenario

PARTICIPANTS	ASSETS	TRANSACTION
TENDER CREATOR	APPROVAL LETTER	CREATING A TENDER
BIDDER	GST REGISTRATION CERTIFICATE	PLACING A BID
TENDER MANAGER	IDENTIFICATION ID	EMPANELMENT OF VENDOR
BID EVALUATION COMMITTEE	AWARD OF SIGNATURE	SELECTING THE BEST BID
CHIEF VIGILANCE OFFICER (CVO)	UNIQUE IDENTIFICATION NUMBER	VERIFICATION OF BID

Smart Contracts / Chaincodes for Procurement System

• BIDDER

```
uploadBidderLicence();
bidSpecifications();
```

• TENDER MANAGER

```
viewSubmittedTenders();
setTenderClosingDate();
setTenderOpeningDate();
```

• BID EVALUATION COMMITTEE

```
getAssignedExperts();
evaluateFinancialBid();
evaluateTechnicalBid();
```

• TENDER PUBLISHER

```
publishTender();
getActiveBidders();
setTenderAmount();
setTenderSpecifications();
```

• AUDITOR/CHIEF VIGILANCE OFFICER

```
getFinalBidders();
reviewTenderActivity();
getOfflinePaymentStatus();
```

Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

Phases of Integration

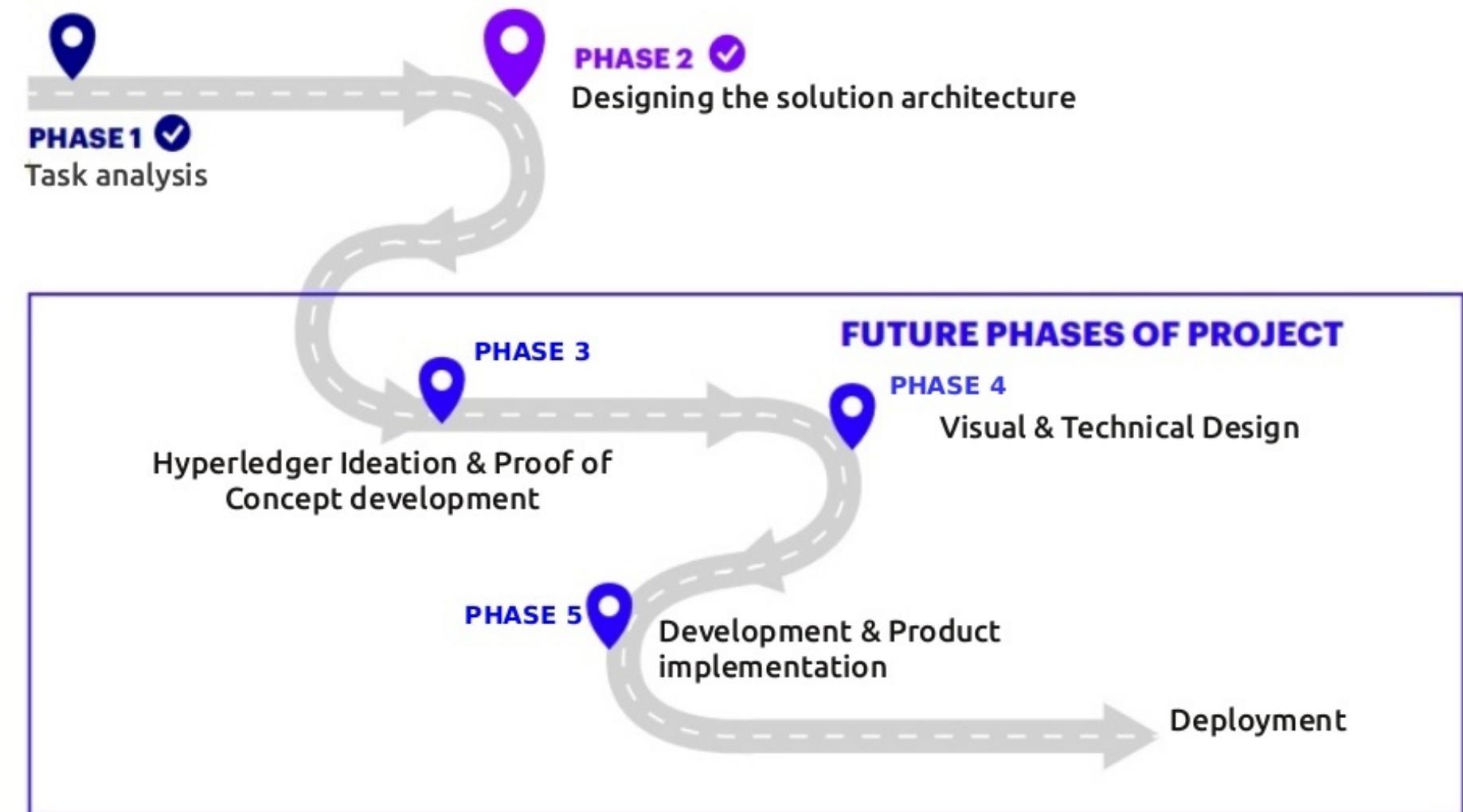
Key Components

Technical Diagram

Delivery Strategy

Workflow & Scenario

Phases of Integration



Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

Phases of Integration

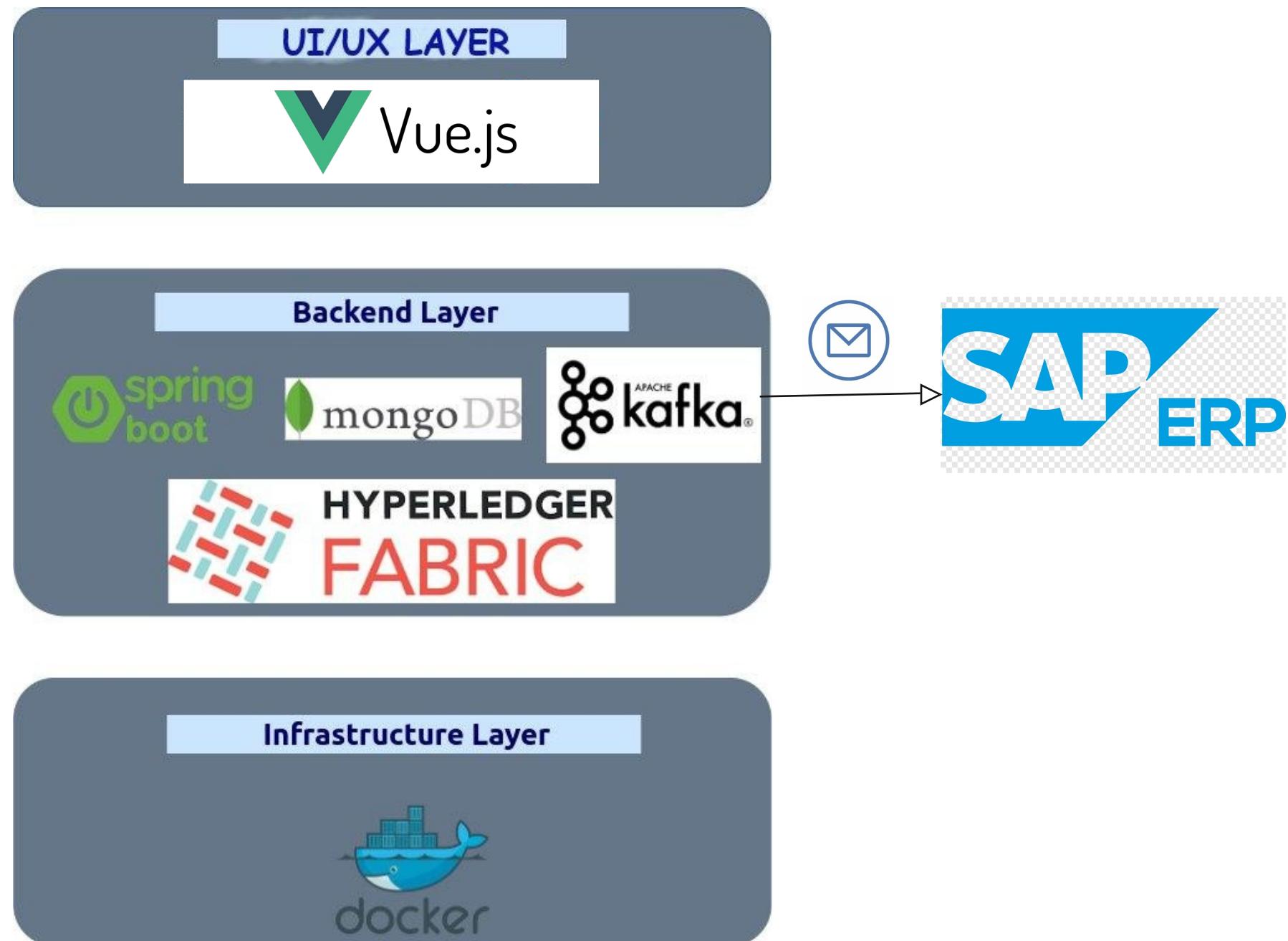
Key Components

Technical Diagram

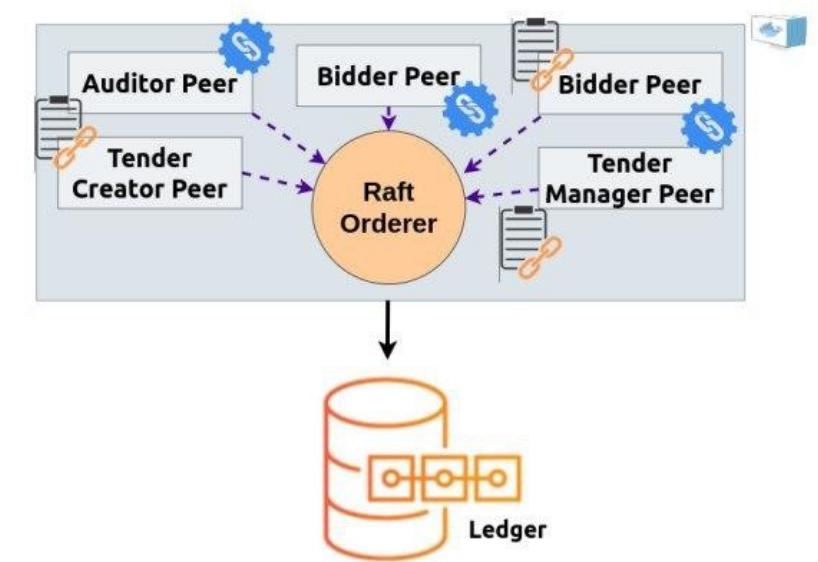
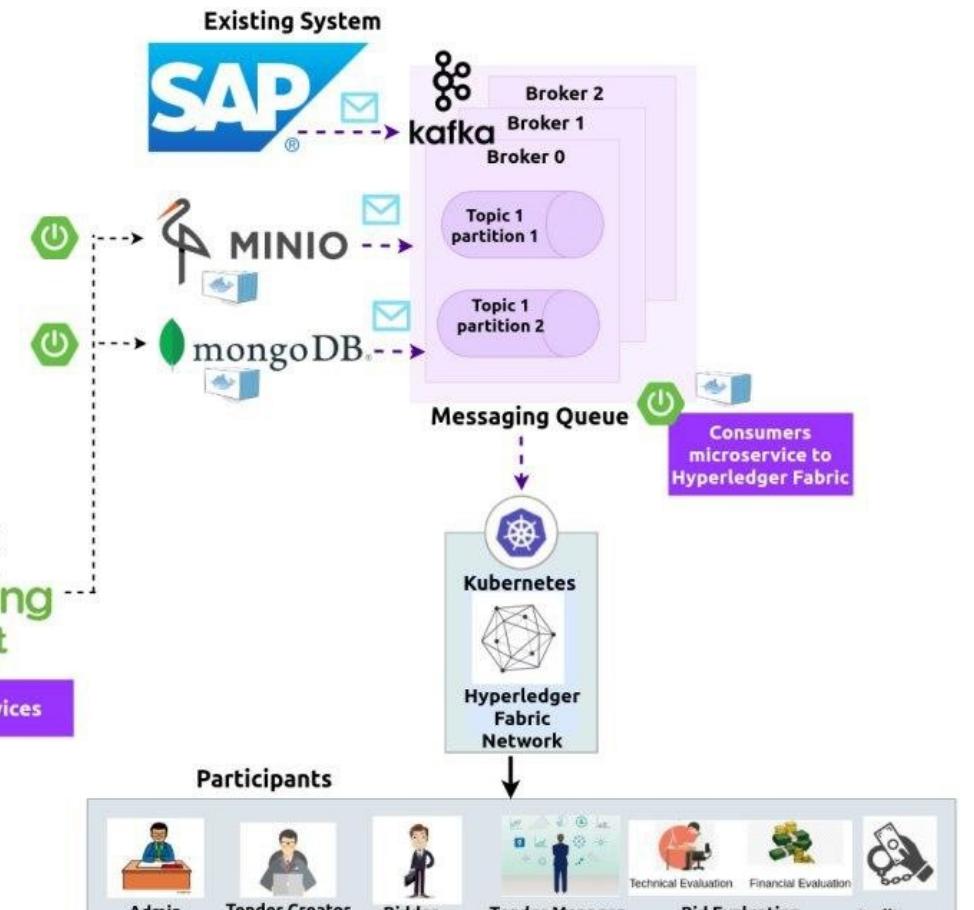
Delivery Strategy

Workflow & Scenario

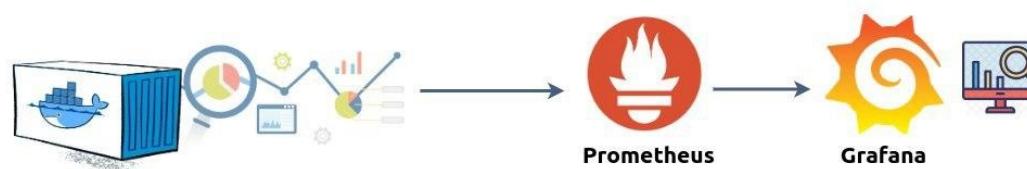
Key Components used



Technical Diagram



Metrics generated from microservices are monitored by Prometheus and Grafana



Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

Phases of Integration

Key Components

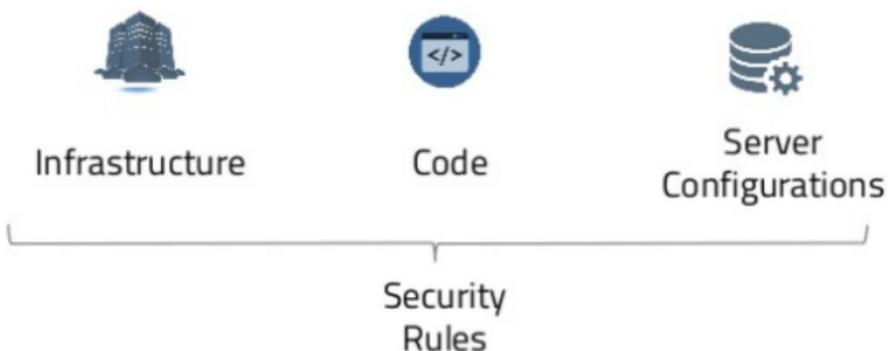
Technical Diagram

Delivery Strategy

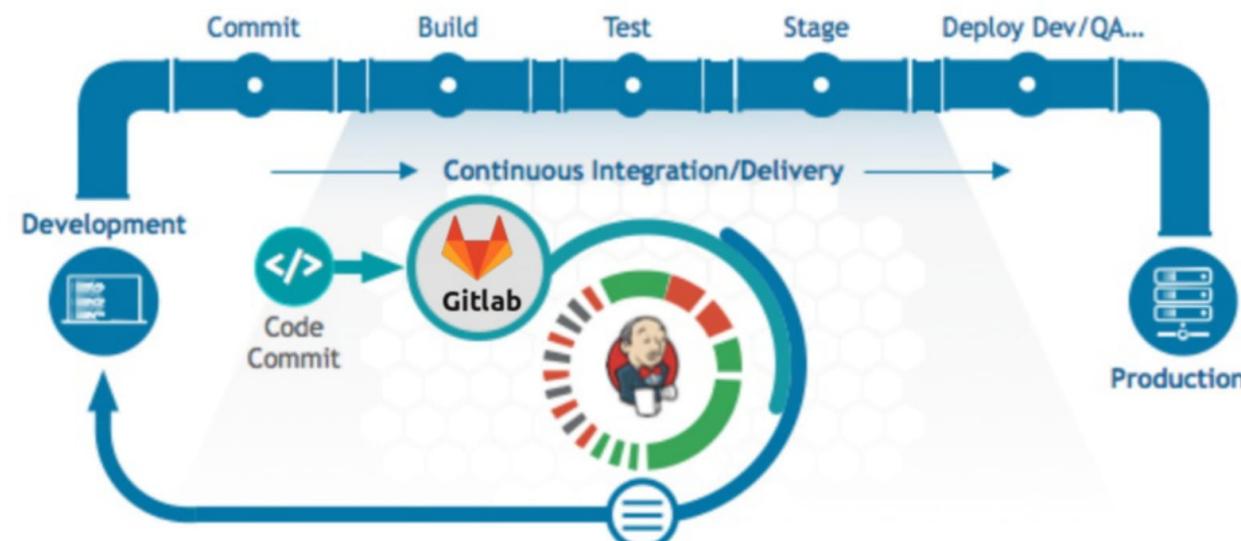
Workflow & Scenario

Technology Delivery Strategy :

The four key components:



Technology Component Pipeline:



Workflow & Scenarios

Problem Statement

Current Scenario

Ideation (Tender Bullet)

Stakeholders & Roles

Procurement Process

Adoption Strategy

System Integration

Blockchain Implementation

Phases of Integration

Key Components

Technical Diagram

Delivery Strategy

Workflow & Scenario

- Onboarding of stakeholders
- Administration of bids
- Publication tenders
- Bidding of tenders
- Management of published tenders
- Bidding of tenders within stipulated time
- Tracking financial transactions (done either in offline mode or digitally)
- Evaluation of bids (Technically & Financially)
- Audit of bids