



# Trade Finance

Digital transformation in Trade Finance using Blockchain solution

BLOCKCHAIN STUDIO

## CHALLENGES AND SOLUTION NEEDS

Trade Finance is a fundamental and indispensable function in international and domestic commerce. Apart from assuring buyers and sellers for delivery and payment, it helps close the trade cycle funding gap. Despite being a matured industry, there are bottlenecks for a smooth business execution, some of which are given below:

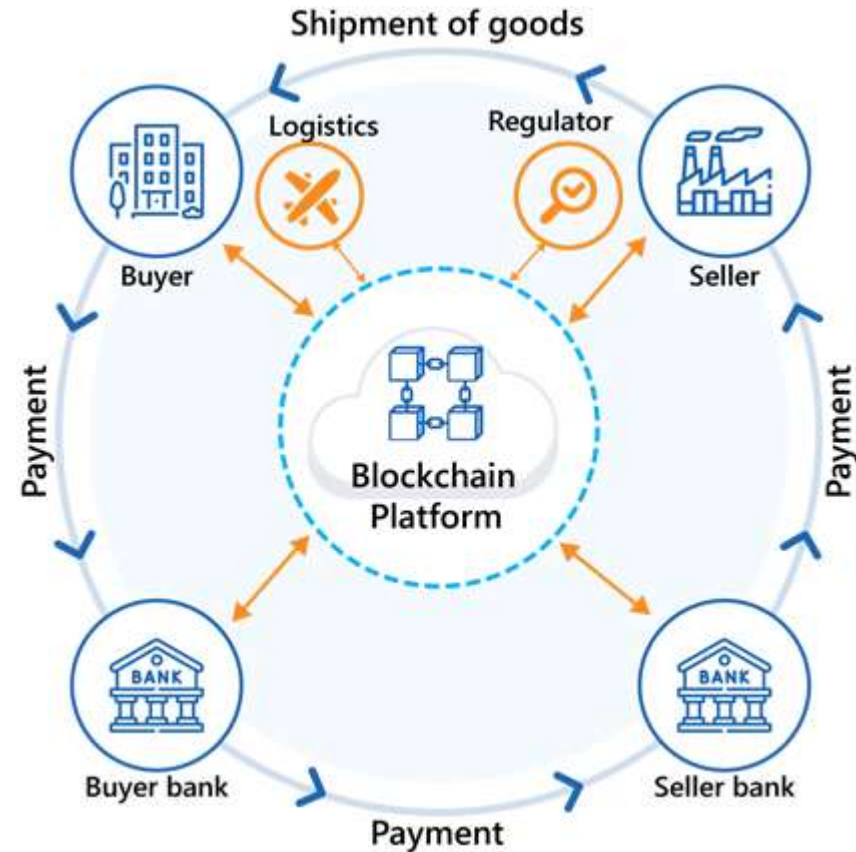
- ❑ Lengthy paper-based documentation,
- ❑ Manual verification processes,
- ❑ Various interpretations and multiple versions of truth,
- ❑ Getting multiple finances for duplicate bill of lading,
- ❑ Delayed delivery and payments,
- ❑ Financing frauds.

International trade finance is even more complicated with changes in currency, culture, language, et al. Time-consuming processes coupled with a lack of visibility intensify the challenges.

### SOLUTION HIGHLIGHTS

Coforge's Trade Finance solution accelerator fuses Blockchain's best technological advancement with our extensive domain expertise to ease its' inherent challenges and help clients digitally transform their businesses. Some of the Trade Finance solution highlights are given below:

- ❑ Smart contracts management of business logic approved by all the involved parties gives everyday visibility and binds all the entities together
- ❑ Instant issuance of letter of credit, bank guarantees, and other payment methods reduce the delays in payments



### Trade Finance Process Flow on Blockchain

- ❑ Swift disbursement of funds by the participating entities facilitates immediate transaction settlement
- ❑ Artificial Intelligence and Machine Learning powered data analytics gives actionable business insights
- ❑ Instant tracking of shipment status saves time and cost

## MARKET REFERENCES

### HSBC uses Blockchain for Letter of Credit between Australia and China

HSBC has announced, it will use Blockchain-based trade finance platform for Letter of Credit (LC) transactions between Australia and China. A consortium of eight banks has been created to digitize this process.

### Hong Kong's first Blockchain-based international trade finance platform

The platform was initiated by seven founding banks in Hong Kong and facilitated by the Hong Kong Monetary Authority (HKMA). Founding banks of the platform include The Australia and New Zealand Banking Group Limited (ANZ), Bank of China, The Bank of East Asia, DBS Bank, Hang Seng Bank, The Hong Kong and Shanghai Banking Corporation (HSBC) and Standard Chartered Bank.

### ICICI Bank launches platform for international trade finance and remittance

ICICI Bank digitizes the paper-intensive international trade finance process as an electronic, distributed and unalterable ledger, and gives the participating entities the ability to access a single source of information. It gives all its branches and locations in the country and overseas, to view the data in real time.

## THE BUSINESS VALUE

### Efficiency

Improves efficiency by increasing the transaction speed with no intermediary.

### Transparency

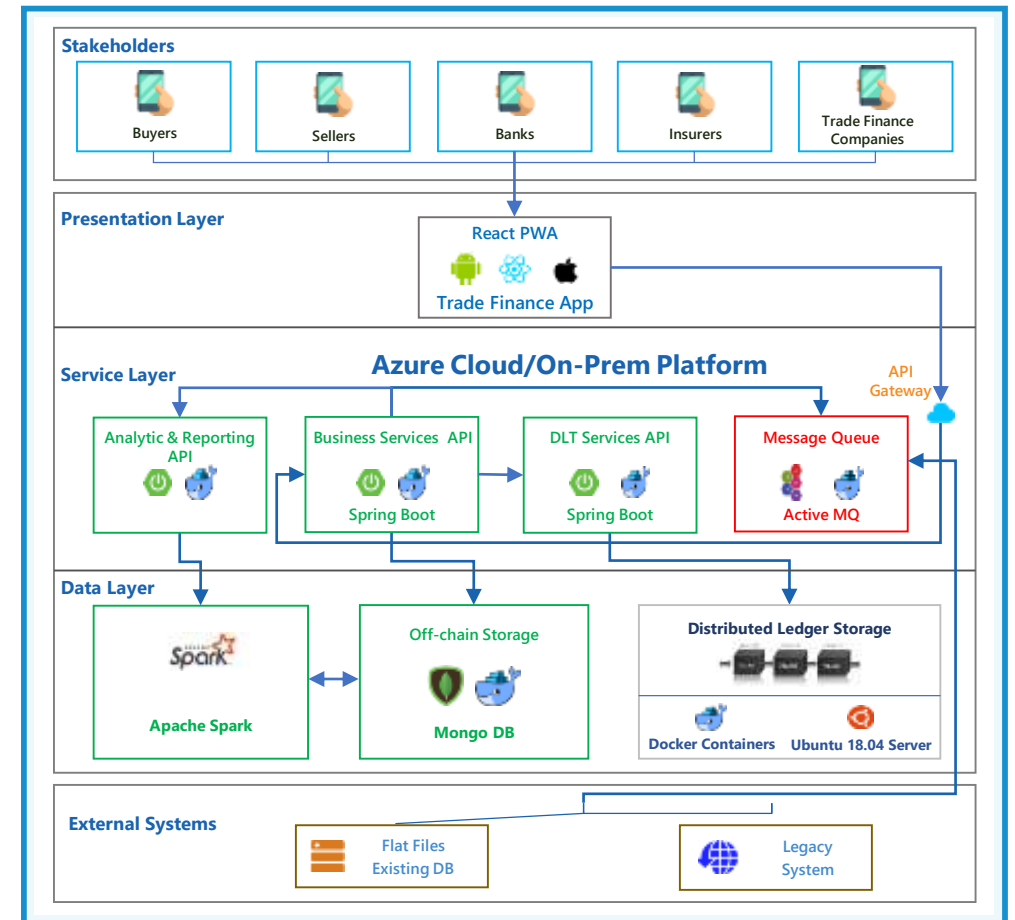
Records transactions on an unalterable distributed ledger that keeps all the details amongst entities transparent.

### Traceability

Allows entities to track goods and assets from their current location

## TECHNICAL DETAILS

Coforge offers a blend of Cloud/On-Prem and Blockchain platform to reform the trade finance industry digitally. The solution built on the Blockchain platform can handle thousands of transactions per second, process and store data on a shared ledger, and eliminate scalability issues. Given below is the architectural diagram used in the Trade Finance accelerator.



## TECHNICAL DETAILS

The solution establishes trust and transparency in the ecosystem by securely sharing data across organizations. The Blockchain layer provides the distributed ledger functionality. The services expose the business logic, and API Gateway provides a secure mechanism to consume these services from the new or the existing applications. The solution provides the flexibility to write custom smart contracts to define and automate business processes.

### The architecture diagram has three distinct layers.

The **presentation layer** provides the interaction point for trading companies, buyers, sellers, issuing bank, advising bank, insurers, logistics to interact with the Blockchain solution.

The **service layer** provides services for both business and Blockchain implementation.

Business API provides services to interact with off-chain data and with Blockchain API.

Blockchain API provides services to interact with the Blockchain platform using smart contracts.

The messaging queue provides services that help all the system participants interact with the solution Rest services using Active MQ Artemis.

The **data layer** holds all the Blockchain transactions, world state, and off-chain storage, smart contracts deployed to automate business processes. Mongo DB maintains the off-chain storage.

All the components mentioned above are deployable on Azure/AWS Ubuntu server instance.

## KEY FEATURES



### Faster processing and contract closures

The platform facilitates real-time previewing and reviewing to maintain the authenticity of the uploaded documents by various parties. Moreover, this trust-less platform eliminates any need for intermediaries, drastically reducing the processing time and facilitating faster contract closures.



### AI and ML-powered data analytics

The Trade Finance accelerator provides an analytics dashboard comprising relevant parameters for banks to strategize their business accordingly. The accelerator consumes Business Service API to generate the appropriate data for analytics. In turn, Business Service uses the Analytics and Reporting API, which communicates with 'Apache Spark' to receive the analytical reports from the off-chain database.

Before onboarding them as customers, banks can decide by checking the immutable historical data of buyers' and sellers' financial hygiene. Before investing in shipping a category of products, a bank can check its' worthiness from past investments by other banks. Banks can reform their offerings and derive a pricing strategy, following these data insights.



### IoT-led features lend added surety

The solution accelerator extends the benefits of IoT capability to the collaborators. At times, consignments require controlled humidity levels and temperature throughout the shipment and delivery, such as life-saving drugs. The stakeholders can rest assured that IoT devices will track these critical parameters and send prompt alerts in the network whenever there is a change in the controlled environment.

# SOLUTION BENEFITS

Banks and financial institutions are quickly understanding the need to stay relevant and profitable in changing times. A shift in focus to invest in the technology that makes a palpable difference in their bottom line is visible. Coforge's Trade Finance accelerator encompasses all the elements for them to rewrite their success stories and expedite their digital transformation journey.

## Automation reduces processing time and cost; brings transparency



Adopting a Blockchain-enabled solution brings process automation. Agreements between participating banks, buyers, sellers, logistics, and insurance companies become transparent, binding, and reduce paper-work. A shared ledger with no scope of tampering records gives transparency, security, and surety to all.

## Compliance reduces time and effort for verification and reconciliation



Coforge's Trade Finance accelerator maintains a sequential audit trail of each transaction, easing verification and traceability. This trail eliminates the time and effort in reconciling at each touchpoint in the traditional way of trade finance, maintaining authenticity and keeping frauds in check. The resultant delays creating a ripple effect in the entire chain is now passé.

## Smart contracts facilitate instant transaction settlement



Akin to lawful contracts in nature, smart contracts are but coded set of programs integrating contract clauses, which disburse the settlement amount when the contracts fulfill those terms and conditions. Instead of taking days or weeks, the transactions enabled by smart contracts take only a few seconds to settle.

## Shared ledger brings transparency



The Blockchain network decentralizes and democratizes the system. A shared, immutable ledger allows each party to view the information. Transparency in the overall process amongst the involved parties builds an enhanced level of trust.

## Eases tracking and tracing



Since the data cannot be tampered with and is transparent, it becomes easy to track. Regulators find it very handy to track every transaction and data about each party's involvement. Goods get tracked at each stage, giving ease to all the parties.

## Proof of Ownership ceases counterfeit goods



In global trading, huge investment is at stake, and stolen/counterfeit goods also pose an issue. The problem arises due to improper tracking of the provenance of the traded goods. The technology helps establish a concrete proof of ownership.

## BLOCKCHAIN STUDIO

### Unlock digital transformation experiences

Coforge's Blockchain platform enables organizations to enhance application modernization, with capabilities to automate business processes, launch new digital products and monetize key digital assets. The studio consists of various tools which provide access to the latest technology innovative solutions with the least learning curve. To know more about the assets, visit the [Blockchain Studio](#).

### What is Digital Foundry ?

Blockchain Studio is a part of Coforge's Digital Foundry that enables you to rapidly build digital solutions using plug and play assets from our digital studios.

The digital assets can be integrated with existing application to provide quick quality-engineered solutions to address business problems.

Continuously innovate, experiment, and incubate new ideas to stay ahead of the curve using our [Digital Foundry](#).

## CONTACTS

### Americas & Canada

#### Coforge

##### New Jersey

502 Carnegie Center Drive  
Suite #301  
Princeton, NJ 08540  
Phone+1 770-290-6113

#### Coforge BPM and Coforge DPA

1550 S. Tech Lane  
Suite 210  
Meridian, ID 83642

### Middle East

#### Coforge

206, 2nd Floor, Building #04  
Dubai Outsource City,  
Post Box No. 500822  
Dubai, UAE  
Phone: +9714 435 5748  
Fax: + 971 4 4355749

#### Coforge

##### Atlanta Principal Office

1050 Crown Pointe Parkway  
10th Floor,  
Atlanta, GA 30338.  
Phone: +1 770 290 6100  
Fax: +1 770 290 6101

#### Coforge DPA

7003 Steeles Ave West.,  
Unit #7, 2nd Floor  
Toronto ON M9W 0A  
Canada

#### Coforge

699 Broad St. Suite 100,  
Augusta, GA. 30901

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