



Build multi-party solutions to accelerate innovation •

A software vendor's guide to adding business value with distributed applications



Table of contents

Introduction

- Multi-party solutions built for tomorrow.....3
- Maximize the potential of multi-party solutions 4
- Build a business case..... 5

Opportunity 1

- Build digitally native trade and supply chain processes.....7
 - Trade-based money laundering..... 9
 - Traceability and trusted data for supply chains.....14

Opportunity 2

- Build more efficient capital markets.....19
 - Digital Collateral and UMR Compliance.....21
 - Optimizing OTC Derivatives Post-trade Processing25

Opportunity 3

- Build next generation digital payment infrastructure.....29
 - Distributed infrastructure for real-time and faster payments31

Conclusion

- It's time to build36
- Learn more about how to fuel your business 37
- Leading companies working with R3 38
- About R339

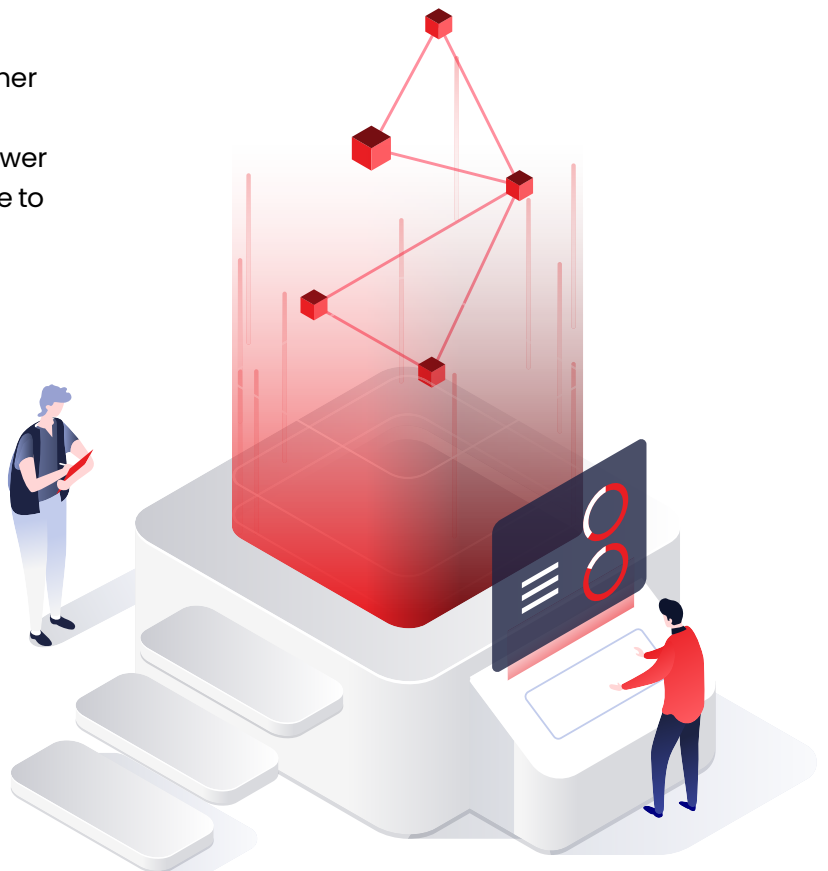


Multi-party solutions built for tomorrow •

In today's digital world there is a growing demand for software vendors to capitalize on the latest technology and pass along innovation to their customers.

This innovation can be found in the next generation of multi-party technologies—platforms that pave the way for a new breed of solutions that deliver digital trust and enable business ecosystems to collaborate.

In this eGuide R3 explores key opportunities for software vendors to build applications that solve significant business challenges and operational inefficiencies in the way the world transacts—whether it's financing trade, trading in capital markets or making payments. These solutions can not only power an entire industry—they can become indispensable to your customers.



Maximize the potential of multi-party solutions •

As a software vendor, mastering and commercializing digital technologies is a critical factor in your future success. But where do you start?

The need for more efficient business transactions, combined with the competing desires for intercompany transparency and data privacy, have ramifications in almost every industry.

Three-quarters of businesses believe that as new digital ecosystems emerge, distributed ledger technology (DLT) holds the key to digital transformation.

“ One of the overall impacts of COVID-19 is the almost instant digitization. And that in itself is likely to lead to an acceleration in certain blockchain projects.

Martha Bennett,
VP and Principal Analyst at Forrester

Consensus Distributed, 2020¹

FORRESTER®

In this eGuide, we're going to show you:

- 1 Real-world problems that require multi-party solutions
- 2 How to build a business case for these multi-party solutions
- 3 How multi-party solutions can act as a launchpad to accelerate your own digital journey
- 4 How you can be part of a community of trailblazers who are building a future that will transform entire markets

¹ Ledger Insights - 2020 state of DLT

Build a business case ●

According to McKinsey's 2020 paper, *Digital Strategy in a Time of Crisis*, the world's top digital performers are those that have been able to either enhance their existing solutions with new digital offerings or invent entirely new digital solutions to stay relevant and thrive in the future.²

As we emerge from the global challenges of 2020, business leaders can explore new technologies like distributed ledger technology to accelerate their digital trajectory and provide a basis for growth.

As a software vendor you are already exploring how you can improve your customers' profitability, deliver the data transparency and control they need, and help them to create new products and services. Yet today's businesses are still held back by an inability to securely share data, costly reconciliation, manual or third-party verifications and a lack of auditability into the history of data, assets and transactions. Are you examining these pain points and opportunities through a lens that considers the value that multi-party platforms and collaborative, distributed solutions can deliver?

By leveraging a next-gen technology like DLT, you can not only survive, but thrive post-pandemic. This means delivering multi-party solutions that are secure, reduce cost, and increase trust and transparency. It means creating applications that operate and scale in a rapidly evolving digital world. It means laying the groundwork for transformative new business models.

You may have questions about your own long-term success.

- How can you **maintain and increase relevance** of your solutions for your industry?
- What is the potential for using new technologies to **innovate for your customers**, create mission critical industry solutions and increase the penetration of your existing software?
- What is the **risk of doing nothing?**

² McKinsey - Digital strategy in a time of crisis

4 Steps for business leaders to deliver value with distributed applications

1

Accelerate your organization's blockchain strategy by selecting and developing use cases that compete directly with peers in your industry, focusing on short-term efficiency over long-term disruption.

2

Identify and review examples of DLT projects that have gained traction and produced tangible results in the fastest moving blockchain markets and verticals.

3

Create the optimal conditions for a multi-party solution to move into production by establishing project sponsorship and buy-in from the CEO and line-of-business executives most able to drive the business process changes essential for success.

4

Optimize the impact of multi-party technologies on your project by selecting platforms that represent the most market traction. You can accelerate adoption by limiting initial feature sets, focused primarily on distributed ledgers and smart contract usage.

Opportunity 1

Build digitally native trade and supply chain processes •

The fragmentation, opacity and reliance on manual and paper processes is driving demand for applications that can operate from a single source of truth.

Now, from sourcing and manufacturing to financing and distribution, seamless data and value exchange is possible for all actors in the supply chain.



Much of the wholesale trade growth in 2020 comes from use cases in trade finance, where automation of the process can create significant efficiencies for all parties.

Blockchain Trials Show
Business Executives Drive Focused
Solutions to Production

Gartner, November 2020

Opportunity 1

Build digitally native trade and supply chain processes

The global pandemic spurred businesses to be more agile and forced them to adapt current production processes to quickly manufacture critical goods. Practical considerations such as the need to accept digital signatures to minimize human contact or faster short-term financing to keep suppliers afloat have only grown more prevalent. There is a clear need for more robust global digital services and for greater visibility into supply chain data.

The digital transformation process is already underway in trade and supply chains with well-documented distributed applications and networks that bring together the disparate parties involved.

Through new trusted networks enabled by distributed ledger technology you can accelerate transactions in global trade for buyers, suppliers, banks and logistics firms, as well as reduce fraud by harnessing digitally native, automatically verifiable, and legally enforceable agreements. A focus on data provenance and the origins of physical goods in supply chains is driving exponential growth in corporate spending on blockchain applications.

In 2021, we see key opportunities for software vendors looking to power digital trade and supply chain transformation.



Problems looking for solutions

1. Trade-based money laundering

Trade-based money laundering (TBML) is the process of disguising proceeds of crime and moving value through the use of trade versus cash. It's usually obscured through price, quality, and quantity of goods. Typically, a buyer and seller are both involved.

According to the U.S. Government Accountability Office (GAO), trade-based money laundering is now "one of the primary means that criminal organizations use to launder illicit proceeds"—and the amount being laundered is "large and growing".³

The estimated amount of money laundered worldwide in one year is as much as \$2 trillion⁴. In Italy, the Financial Intelligence Unit (FIU) saw an 8% increase in 2019 in suspicious transaction reports⁵. In the first half of 2019, Hong Kong's Financial Action Task Force received nearly 900 requests to intercept fraudulent payments of HK\$2.61 billion⁶. In Switzerland, the number of suspicious activity reports filed has doubled⁷. It is truly a global problem.

- 3 Global Trade Review - TBML a growing risk
- 4 UNODC - Money laundering & the financing of terrorism
- 5 Financier Worldwide - Anti-money laundering 2020
- 6 Financier Worldwide - Anti-money laundering 2020
- 7 Deloitte - Anti-money laundering

The opportunity

Despite millions of dollars of investment, less than 0.1% of illicit fund flows are being intercepted by financial institutions and current transaction monitoring solutions have very high false positive rates.

The techniques used in TBML are ever-evolving in their sophistication. TBML occurs within both physical and financial supply chains and comes in many forms, from fraudulent documents and sanctions circumventions to overstating assets and double invoicing. Paper-based payments need to be made quickly and a lot of front-office checks that need to be in place are not completed sufficiently. Because of this, banks struggle to identify TBML scenarios.

Fintechs provide financial crime compliance solutions for individual firms, however, no one party is aggregating or providing an end-to-end and consistent overview to support the first line of defense in trade finance operations. Even the second line of defense, where an increasing number of anti-money laundering (AML) compliance resources are needed to investigate events, has its limitations.

Problems looking for solutions

1. Trade-based money laundering

Current trade-based money laundering is opaque and fragmented, creating several challenges for financial institutions and regulators:



Lack of visibility across the physical supply chain makes it difficult to detect trade mis-invoicing.



Collusion between multiple parties makes it difficult to detect fraudulent documents.



Lack of collaboration and information sharing between banks limits their ability to combat illicit activities.



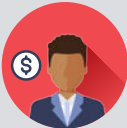
Trade-based money laundering (TBML) controls are costly, paper-intensive with high risk of compliance breaches.



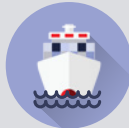
Problems looking for solutions

1. Trade-based money laundering

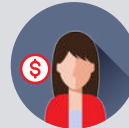
Physical Supply Chain (Low Visibility)



Seller



Shipper



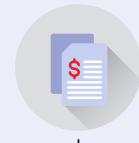
Buyer

Transparency:

Fraudulent activities occur at areas where banks have limited visibility and control.

Holistic view:

Customers, social networks, and payment rail data do not mainly exist within a single bank or entity.



Docs

Banking & Financial Supply Chain



Seller's Bank



Buyer's Bank

Limited Collaboration:

Banks lack effective ways to collaborate on combating TBML due to privacy, regulatory and commercial constraints, despite wide-spread agreement on the importance of information sharing.

Docs



Financial Crime Compliance Supply Chain

Paper intensive:

Bank staff receive significant amounts of paper, making automated checks on documents difficult.



Resources (FTEs)

Limited Checks:

Existing AML solutions have limited robust TBML checks.



Financial Crime Software

Costly Solutions:

Existing AML databases with goods price information and statistics (e.g. price quartile ranges) are often costly and lack sufficient data.



STR

Regulator

Defensive STR:

To protect themselves from fines, banks file defensive STRs even when there is no reason to do so, which in turn increases the workload on the regulators.



Regulator/FIU

Problems looking for solutions

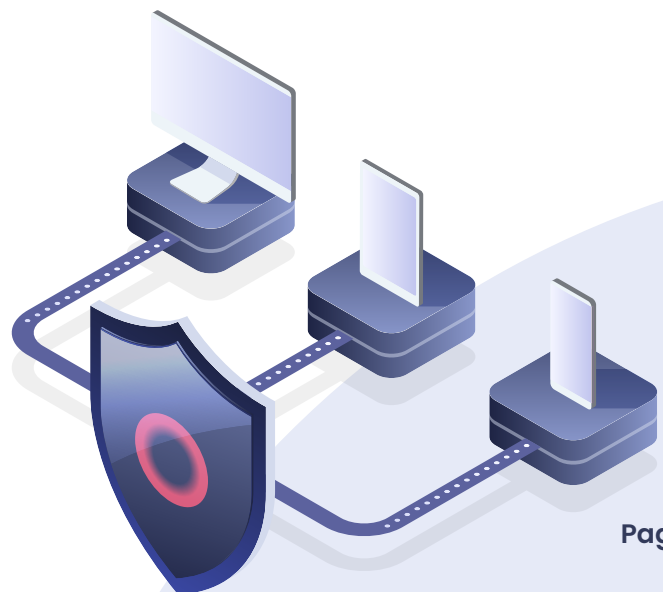
1. Trade-based money laundering

The opportunity for AML software vendors

- Remain competitive as other AML providers adopt emerging technologies
- Mutualize the cost of digitizing data with a collaborative, industry-level solution
- Redefine your business model by becoming an operator of the business network and establishing common infrastructure to facilitate data sharing
- Defend market share through better access to data and collaboration with end customers (i.e. financial institutions, regulators)

The value for banks

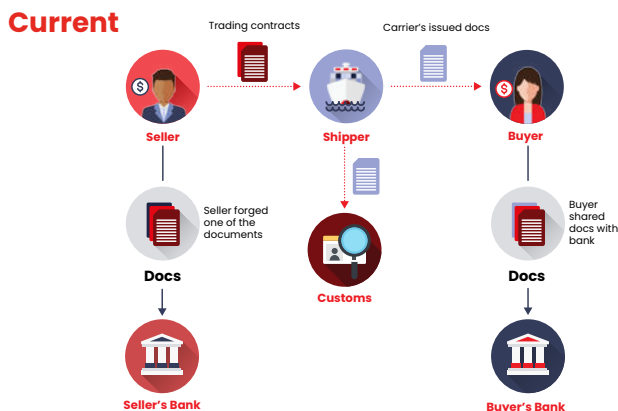
- Realize millions of dollars in potential cost savings by automating processes, reducing third-party fees and compliance costs
- Reduce cost and time dedicated to identifying, investigating and reporting suspicious transactions
- Facilitate data sharing and improved data integrity and accessibility
- Reduce TBML credit and financial crime risks, leading to increase in the number of corporates and SMEs who are eligible for financing
- Improve service levels and turnaround times as a result of shorter investigations
- Reduce complexity of managing siloed and inconsistent systems and databases



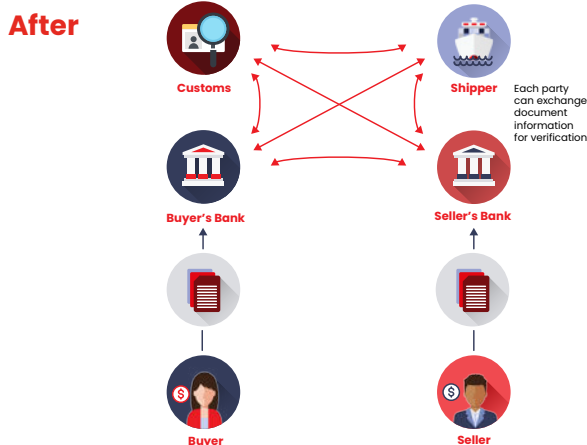
Building a trade-based money laundering solution

A collaborative approach to financial crime compliance, greater information sharing, and the use of emerging technology can enable AML solutions to finally outpace trade-based money laundering. Blockchain technology allows for full transparency of the value chain and offers a single source of truth by which illicit activities can be more effectively mitigated and detected.

For example, in the case of fraudulent trade documentation, a distributed enterprise blockchain application can enhance the documentation verification process for banks and corporates:



Each bank only deals with documents shared by buyer and seller, respectively. It is difficult to identify forged documents without exchanging documents between parties.



How it works

- Banks, corporates, and trade asset marketplaces each operate a node and have a verified identity on the network
- Documents can be verified to validate their authenticity and integrity
- Documents can be encrypted for total privacy—while still enabling third-party registries to connect and verify information on a common network
- Similar documents financed (i.e. invoices, POs) can generate red flags
- Enables banks to get better supply chain visibility and verify the origin and integrity of that data

Why build TBML solutions on Corda?

Corda is an enterprise blockchain platform from R3 that enables businesses to transact directly and in strict privacy with one another using smart contracts.

- Common technology infrastructure to facilitate secure information sharing without having a central registry
- Guaranteed authenticity and integrity of documents recorded on ledger
- Built-in features to support regulatory reporting as required
- Ensures privacy of data, only being shared on a need-to-know basis
- Data recorded on node is tamper-proof with strong audit trails
- Mutualized cost of new TBML solutions in a consortium to reduce cost-to-income ratio

Problems looking for solutions

2. Traceability and trusted data for supply chains

Poor supply chain visibility, paper-based processes and challenges in reconciling information continue to hamper the efficiency of global value chains across a range of industries.

To reduce risks and optimize working capital, supply chain partners need a shared and trusted view of transactions, inventory status and the movement of goods. There is also a growing and urgent need to quickly find and activate new sources of supply and logistics partners. Finally, faster payments and settlement for suppliers is more critical than ever.

Regulatory initiatives and the rise of sustainable business practices are driving provenance and 'track and trace' solutions to address compliance mandates and meet consumer demand. 81% of consumers think companies should actively improve sustainability practices.⁸

With increasingly stringent inventory and traceability regulations, parts and accessories manufacturers need to have business systems in place that can trace, detail and prove the origins of any component, and track any modifications to a product through its lifecycle.

Better asset tracking can help address compliance mandates and prove good practices. Sustainability can be unlocked through a number of use cases, from helping reduce carbon emissions to certifying labor practices.

The opportunity

Intra and inter-organizational silos and data, disparate systems and records across supply chain participants and the continued use of paper impacts business fundamentals including the overall cost of products, working capital requirements and time-to-market.

Supply Chain Management and ERP (Enterprise Resource Planning) systems provide centralized solutions. Every participant must still manage their own records. There is no common network or shared application for information to be exchanged seamlessly across participants.

Paper-based documents do not provide the consistent or accurate data needed for producers or manufacturers to track production, provide visibility into the location of parts or easily reconcile purchase orders and invoices. This results in high costs, errors and an inability to dynamically adapt with supply and demand, meet provenance requirements or to improve inventory forecasts. This often leads to delayed payments to suppliers and an inability to provide provenance information that is critical to proving product safety and meeting compliance requirements.

8 Nielsen total consumer report

Problems looking for solutions

2. Traceability and trusted data for supply chains

These conditions create several challenges for large corporates, such as OEMs (Original Equipment Manufacturers), and their supply chain networks:



'Spill' or dealing with a bad part at source may cost up to \$500,000 to rectify. And should final products reach consumers, recall costs are reported to exceed \$10M, or even run into multi-billion dollar problems.



Manufacturers do not know enough about the journey their products take, making it difficult to prove product safety and ensure conformity.



Data reconciliation is plagued by errors and disputes impacting cash-flow optimization and the ability to support the long-tail of suppliers.



Difficulty identifying and stopping counterfeit parts or goods from entering the system.



Low accuracy of demand and inventory forecasts.



Challenges in providing certifications for sustainable sourcing.

Problems looking for solutions

2. Traceability and trusted data for supply chains

The opportunity for Supply Chain Management and ERP software vendors

- Increase relevance and stickiness with corporate customers by driving collaboration across their supply chain ecosystem
- Provide the system of record for the entire supply chain network
- Become the operator of a business network and provide the common infrastructure to facilitate data sharing and additional applications over time

The value to manufacturers

- Reduce the risk and cost of product recalls
- Gain real-time visibility into the physical supply chain to predict and react more quickly to disruptions or faulty parts, early in the product lifecycle
- Reduce cost and time related to identifying, investigating and reporting suspicious transactions
- Gain greater agility in supplier and logistics partner onboarding to adapt and expand supply chain networks
- Reduce manual work to track components and reconcile POs and invoices with trusted data shared across supply chain partners on a need-to-know basis

By 2025⁹ global blockchain supply chain market is expected to reach

\$9.85b

9 AMR - Supply chain market to reach \$9.85B

Building an end-to-end track and trace solution with enterprise blockchain

Building a permissioned, multi-party data sharing application that can deliver the promise of 'what you see is what I see' across supply chain partners makes it possible to trace assets (whether component parts, commodities or biological samples) from source to end-product. Buyers, suppliers, and other supply chain actors can then rely on trusted data and a platform that keeps everyone in sync. The result? Increased visibility for supply chain agility, reduced costs and errors, and the ability to react to sustainability and safety requirements with ease.

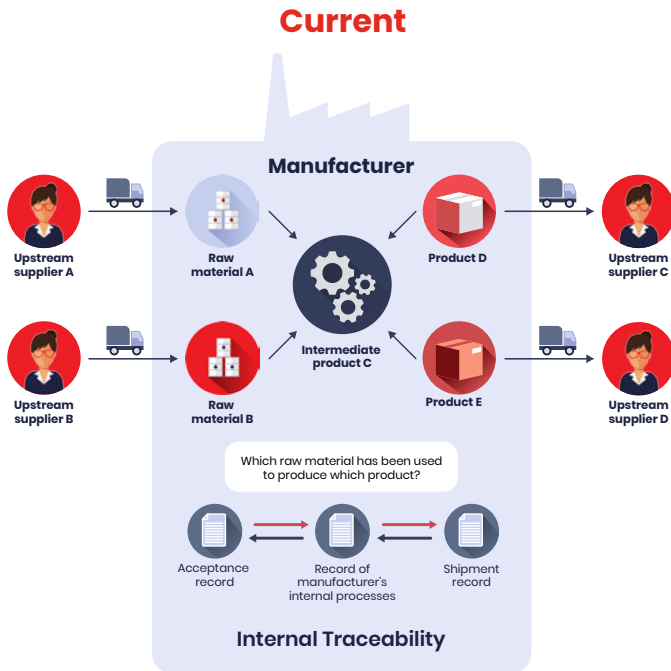
Let's take the European automotive sector as an example. Dealers and service centers use independent systems to manage services and repairs. These are not connected with the central record of the parts manufacturer to check or report on parts getting replaced or disposed of as part of a repair. This creates potential for the trading of counterfeit products and adversely impacts warranty claims. A DLT-based solution for parts traceability would help comply with EU directives such as Repair and Maintenance Information (RMI) and the Alliance for the Freedom of Car Repair (AFCAR).

Enterprise blockchain can bring transparency and trusted information to corporates, supply chain partners, regulators and consumers by:

- Ensuring supplier updates are shared and verified on a distributed ledger to provide visibility into the movement of goods
- Gaining granular tracking of components for provenance reporting and to support product safety and conformity
- Accessing real-time supply chain data to improve inventory forecasting accuracy
- Automating PO and invoice matching to enhance cash flow
- Equipping banks with better supply chain visibility and verifying the origin and integrity of that data
- Enabling buyers, suppliers, financial institutions and logistics firms to all operate on a network with a shared version of the truth, but with data only being shared on a peer-to-peer, permissioned basis



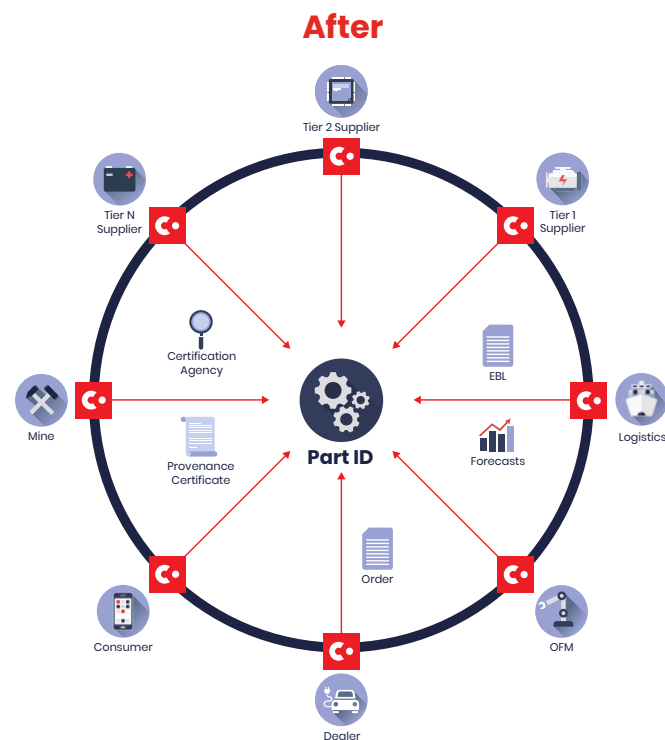
Building an end-to-end track and trace solution with enterprise blockchain



Why build a solution on Corda?

With R3's Corda platform, you can unlock business growth by building transformative track and trace solutions that:

- Enable verifiable data records that keep a record of all updates to data through state history information are only accessible on a peer-to-peer, need to know basis across the supply chain
- Provide tamperproof data records to prevent the falsification of data through signed transactions
- Ensure regulators can get a copy of appropriate data through 'observer' nodes
- Identify suppliers, validating contracts and automating payments
- Provide a shared network that de-risks the transfer of goods and automates payments, addressing Know Your Supplier requirements with unique identity and privacy features, and payment rail connectivity
- Ensure that the origin and movement of goods can be securely recorded as a single source of truth to simplify reporting (i.e., for certificates of origin, preferential tariffs, or product certification)
- Provide complete visibility into the supplier network, enabling fast targeting of faulty suppliers



Opportunity 2

Build more efficient capital markets •

From FMIs (Financial Market Infrastructure) to the sell-side and buy-side, distributed ledger technology is making a new era of efficiency possible.



Opportunity 2

Build more efficient capital markets

Capital markets exist to connect users and providers of finance, helping global businesses to grow and manage risk. However, economic headwinds, high compliance and capital costs, and the impact of inefficiency on margin and operational risk is making these connections slower, more costly and less reliable.

As digital assets and the convergence of services provided by institutions along the asset lifecycle continues, the winners will be those that see the value in collective efforts for collective benefits. And these benefits include being able to issue, trade and service digital securities, improve regulatory processes, and provide assured multi-party transactions.

Delivering the promise of a single asset register can eliminate reconciliation pain, enhance capital efficiency and provide a controlled view of real-time data for regulatory and client surveillance. Multi-party ledgers are transforming the clearing, settlement and reporting for OTC securities and derivatives markets. End-to-end value transfers powered by digital, tokenized representations of assets and currencies will reduce costs, operational risks and settlement times.

While these trends are powering a large number of changes, in 2021 we see major opportunities for software firms to tackle challenges in collateral management to address the next round of Uncleared Margin Rules regulations. Also, the huge cost implications, even of a small percentage of reconciliation failures in major markets like OTC derivatives, will provide focus for new post-trade solutions.

Problems looking for solutions

1. Digital Collateral and UMR Compliance

In today's capital markets, the movement of collateral between custodians poses significant operational challenges. Complex reconciliation efforts due to unsynchronized centralized data structures prevent real-time legal transfer of securities and pose a challenge to regulatory oversight of collateral services.

Uncleared Margin Rules (UMR) followed the 2008 financial crisis, implementing margin requirements for non-centrally cleared derivatives. Since the roll-out of the first phases of the rules in 2016, banks have needed to collect and post risk-based Initial Margin (IM) for uncleared OTC trades with their clients.

UMR is being implemented in phases, to be completed in September 2022. An estimated 1,200+ additional firms will be subject to the new regulations. Phases 5 and 6 of UMR will affect smaller insurance/banking groups and asset managers, who have less experience with the new rule requirements and likely fewer resources to help with implementation.

The amount of uncleared initial margins is growing by 76% year-on-year and estimated to be \$234 billion in 2021¹⁰. Despite the deadline extension, more than four out of five firms lag in preparations to comply with Uncleared Margin Rules¹¹. It is becoming clear that the financial and managerial demands required are unrealistic and unsustainable for many.

The opportunity

UMR poses a number of challenges to banks and custodians as they look to support their clients and maintain compliance. For new firms that come under the purview of the regulation, new margin facilities will be required at a significant cost to the institutions that serve them. For some it will require a significant increase in the amount of collateral required during the course of a transaction lifecycle in order to meet margin obligations. For others, it could result in being forced to materially reduce the scope of trading activities due to collateral constraints.

10 Office of Financial Research working papers

11 Markets Media - Firm unprepared for uncleared margin rules

Problems looking for solutions

1. Digital Collateral and UMR Compliance

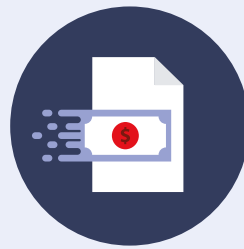
Institutions that can leverage technology to simplify the complexity for customers and increase efficiencies in the process stand to gain significant market share.



The need to increase margin calculation activities and communicate these between customers and processing entities.



Liquidity usage will increase stress on balance sheets to meet initial margin cash payment requirements.



Increased capital transfer transactions create additional reconciliations and failures, as well as increasing costs (i.e. SWIFT fees) and counterparty risk.



Inability to keep up to speed with daily changes in margin obligations.

Problems looking for solutions

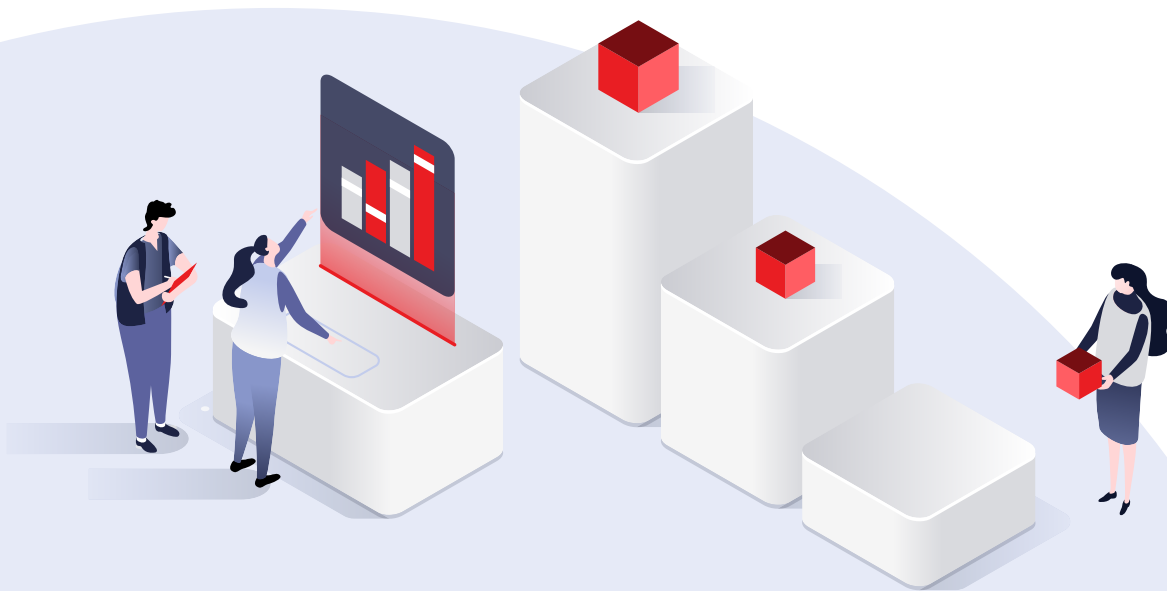
1. Digital Collateral and UMR Compliance

The opportunity for Fintechs

- Gain market share as bank customers grow their business and extend facilities to new customers
- Extend back-office solutions with innovative collateral management applications that enable real-time, 24x7 solutions and regulatory oversight

The value for customers

- Real-time movement of high-quality collateral for immediately reconciled settlement of margin obligations
- Reduced operating costs and capital requirements
- Better liquidity management by enabling real-time cash management
- Immediate certainty of funds transfer



Building a digital collateral management solution with UMR compliance built-in

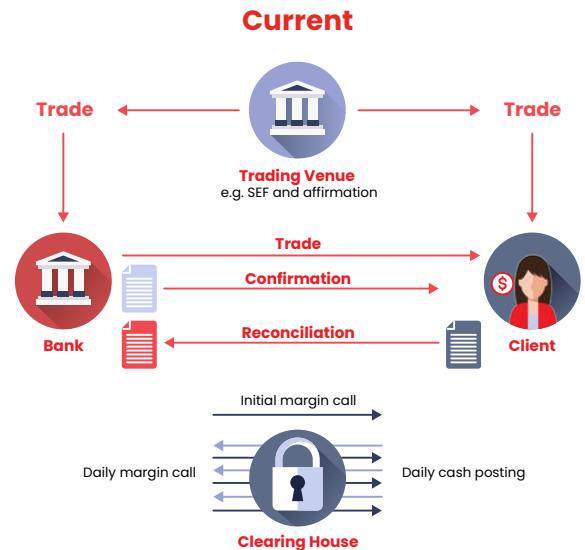
New applications built on enterprise blockchain can facilitate a range of collateral management use cases and leverage UMR solutions that power the real-time, instant movement of high-quality collateral, for the immediately reconciled settlement of margin obligations.

- Collateral can be represented digitally on the ledger, reducing the latency of an asset
- Allows for intraday lending and borrowing
- Tokenize and exchange high-quality assets with legal certainty and the opportunity to leverage existing token solutions that are backed by money market funds for frictionless settlement

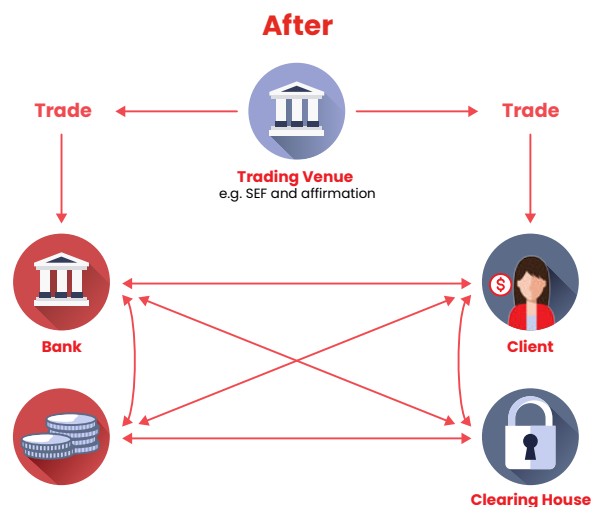
Why build a digital collateral management solution on Corda?

Corda is uniquely positioned to meet the needs of highly regulated markets and is supported by an ecosystem of applications and value-added tokens solutions that can turn UMR into an opportunity for growth for banks and financial institutions.

- Designed specifically for highly regulated, mission-critical environments where resilience, scalability, security and integration are required
- Decentralized nature ensures no 'single point of failure' and highly resilient, enterprise grade delivery for end users
- Ensures transaction finality and certainty and that different parties can access information on transactions on a need-to-know basis, with appropriate permissions
- Enables transaction certainty and multipurpose representation of data with appropriate permissions
- 24/7 multi-node resiliency, with sub-second value transfer using peer-to-peer networking, scaling linearly to 20,000 TPS
- Ability to integrate with existing in-house systems and processes using industry standards
- Access the largest network of trading participants, including banks, digital-issuance platforms, exchanges, clearers and payment agents
- Access or use of utility Corda applications and digital assets networks such as Ivno to provide out-of-the box settlement mechanisms and legal frameworks for intraday collateral management.



Numerous cash requests and transactions now mandated on clients with no history of these operations. Cash / collateral requirements cause stress on balance sheet.



Instant visibility and mobility of margin reduces failures and facilitates more efficient capital provision

Problems looking for solutions

2. Optimizing OTC Derivatives Post-trade Processing

Back-office activities such as post-trade reporting and collateral management still rely on a patchwork of manual or outdated technological processes. They use systems and data schemas that can vary widely between and often even within firms. With a global failure rate of 2%, which is estimated to result in costs and losses of up to \$3 billion, existing post-trade settlement processes are simply not viable for the long-term.¹²

Such complexity and inaccuracies not only raise the cost of financial services but hold back digital innovation and pose real risks to operational resiliency security, and efficiency.

The opportunity

The current process for managing the settlement of OTC derivatives in particular is highly inefficient. Against a backdrop of increasing regulatory requirements, banks may find their operational overheads and cost of failures begin to compromise the viability of their business.

By its nature, OTC trading lacks a matched electronic record from the outset, and as the trade flows through disparate bank infrastructures, each step presents the potential for failure, requiring constant and costly manual reconciliation.

Errors are prevalent across the whole lifecycle, posing a tough challenge for financial institutions and regulators, caused by:

- Inaccuracies in trade booking and confirmations resulting in huge processing costs (one bank in the R3 ecosystem reported costs of \$20bn on post-trade processes)
- Cash-flow mismatches
- Inconsistencies in counterparty and reference data
- Regulatory reporting divergence and lack of regulatory control eroding margins

¹² DTCC – Reduce trade failures, increase security, and efficiency of markets

Problems looking for solutions

2. Optimizing OTC Derivatives Post-trade Processing

The opportunity for Fintechs

Banks and industry bodies alike are striving to transform OTC trade processing. With a further tailwind of regulatory reform, there are significant opportunities to build and offer new services to new customers, with the support of newly developed standards and pre-existing consortia and working groups.

- Connect existing users of legacy back-office capital markets solutions with a distributed application that brings customers together around shared facts
- Provide the system of record for an entire industry or asset class
- Take a common solution to market that can extend your reach by adding value to all participants—buy-side, sell-side, custodians and regulators

The value for banks and custodians

- Efficiency gains resulting in 50% to 80% reduction in costs (*R3 customer ROI analysis*), across operational activities such as trade management, cash-flow matching, position management and regulatory reporting
- Higher return on equity
- Enable front office to focus on revenue-generating activities
- Reduction of operational losses
- Decommissioning of legacy IT and failed middleware systems
- Lower occurrence and volume of trade failures

Building a next generation post-trade solution

Blockchain technology can allow you to overcome the problems associated with disparate data by providing a golden record and full lifecycle management to optimize post-trade OTC derivatives. By sharing data on a single post-trade platform, counterparties can view, share and interact with data in near real time, in a way that allows chosen actors and/or participants to view one common version of the truth.

This allows for collaboration between counterparties in a way that does not compromise those entities but allows them to share private and sensitive data in a safe, robust, and immutable way.

- One single trade lifecycle, recorded on a shared, peer-to-peer ledger
- Covering all lifecycle events (new trade, novation, confirmation, cash flows, option exercise, termination)
- European Union (EU) Securities Financing Transaction Regulation (SFTR) compliant
- Audit trail and immutability
- Participants include sell-side, buy-side, asset servicers and regulators
- Gives regulators insight into full history of assets



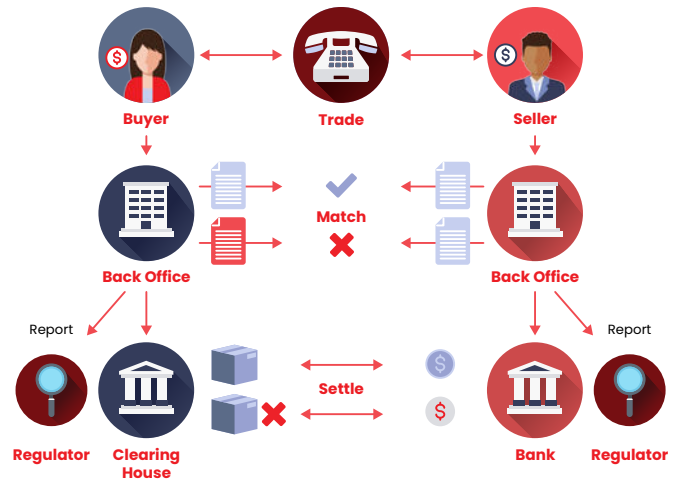
Building a next generation post-trade solution

Why build a solution on Corda?

With Corda, we can help you transform post-trade OTC.

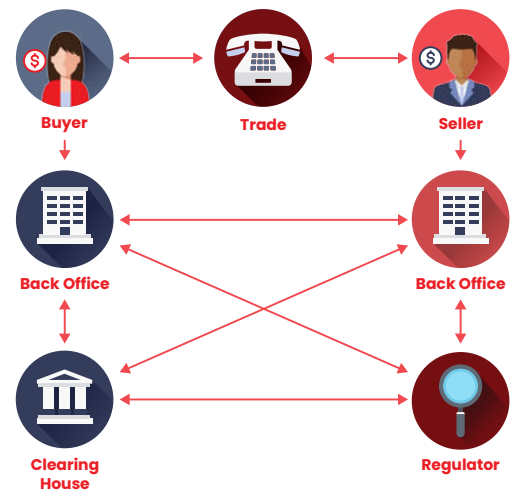
- Recognized by ISDA as the only platform able to create legally enforceable smart contracts for cross-border OTC derivatives on blockchain
- Designed specifically for highly regulated, mission-critical environments where resilience, scalability, security and integration are required
- Privacy, integrity and authenticity of data processed and managed on the ledger is preserved throughout its entire lifecycle
- Leverages smart contracting solutions to automate verification and execution of transactions, enabling simplification of processes spanning the asset lifecycle
- Provides access to the largest network of trading participants including banks, digital-issuance platforms, exchanges, clearers and payment agents

Current



Trade details pass through each organization with reconciliation and breaks at each stage

After



Each party exchanges smart contract details and workflow remains on ledger

Opportunity 3

Build next generation digital payment infrastructure •

The interest in programmable money and payments is driving the next generation of digital payments infrastructure—opening the potential to combine the growth in real-time payments with the efficiency promise of real-time settlement.



Opportunity 3

Build next generation digital payment infrastructure

The current global crisis has further driven a decline in cash usage, which has had a downstream negative impact on cross-border trade and working capital for small businesses. This has only spurred the need for more efficient corporate and SME payment services to facilitate trade and support the global economy. It is no surprise that these current market drivers have led to an increased interest in the potential for digital currency and real-time payment infrastructure.

Fragmented payment data, painful reconciliation of purchase orders and invoices, verification of payment confirmations and mismatches in FX rates continue to plague businesses of all sizes. The lack of transparency and connectivity across the payment value chain means that businesses struggle to access contextual data about payments when they need it. In addition, today's B2B payment systems do not provide the flexibility seen in the retail world to switch between payment rails or choose the most optimal settlement services.

With distributed ledger technology, banks, payment service providers and their customers are able to transact directly. The inefficiencies, errors and costs of today's centralized payment systems and correspondent banking networks can be addressed with emerging applications and digital payment networks built on blockchain technology.

By radically modernizing industry-level architecture and capitalizing on DLT, there are numerous opportunities for software firms to have a transformational impact on the way payment service and infrastructure providers, central banks, commercial banks, and corporates transact with each other.

Problems looking for solutions

1. Distributed infrastructure for real-time and faster payments

Real-time Payment (RTP) or Faster Payment Systems (FPS) are designed to provide an instantaneous, irrevocable, continuously available system to facilitate payments. More than 60 countries already have robust real-time payment schemes and more than half a trillion real-time payments transactions are predicted to be processed over the next five years.¹³

As these systems become more important and the value that can be transferred on these networks increases, the efficiency and accuracy of such platforms becomes critical to unlocking the full value of digital ecosystems. However, high settlement risk and collateral costs prohibit some banks from exploring RTP solutions.

The opportunity

Today, centralized faster payment services and technology platforms allow banks to use a trusted clearing mechanism that is underpinned by central bank funding to facilitate near-instant payments. While this provides a positive experience for customers and opens up new payment services, banks are beholden to the settlement cycles of the centralized service, which until now have been necessary to verify transactions and provide the proof central banks demand. This means banks hold costly collateral to fund these positions.

¹³ FinExtra - Exponential growth in real time payments

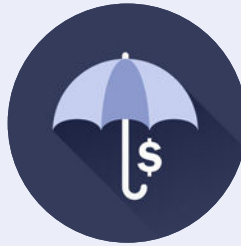
Problems looking for solutions

1. Distributed infrastructure for real-time and faster payments

Banks and their customers are challenged today by the way existing faster payment schemes are delivered:



Inter-bank reconciliations are costly and prone to errors.



Inherent credit risks in the collateralization of debit positions.



Centralization poses down-time risks to settlement.



Older systems do not support rich payment information for B2B reconciliations.



Susceptible to fraud.



Inability to create bi-lateral agreements outside of central bank settlement cycles resulting in high cost of collateral to cover positions.

Problems looking for solutions

1. Distributed infrastructure for real-time and faster payments

The opportunity for national governments, payment vendors and service providers

- Build new payment networks that form the foundation of national payment switches
- Capture transaction revenue from gross domestic payment volumes
- Become the go-to service provider for national payments innovation
- Provide the trusted infrastructure and applications to capture opportunities in the advancement of digital currency
- Reduce the settlement cycle for banks to create a more competitive financial sector and digital business economy

The value for banks

- Access and extend more contextual payment services with rich, consistent payment information
- Create bi-lateral agreements to optimize inter-bank settlement
- Reduce the costs of clearing and holding collateral
- Open up RTP/FPS services to corporate customers for trade and supply chain payments
- Explore peer-to-peer faster payments in a consortium network, without the need for an intermediary



Building a modern real-time payments platform

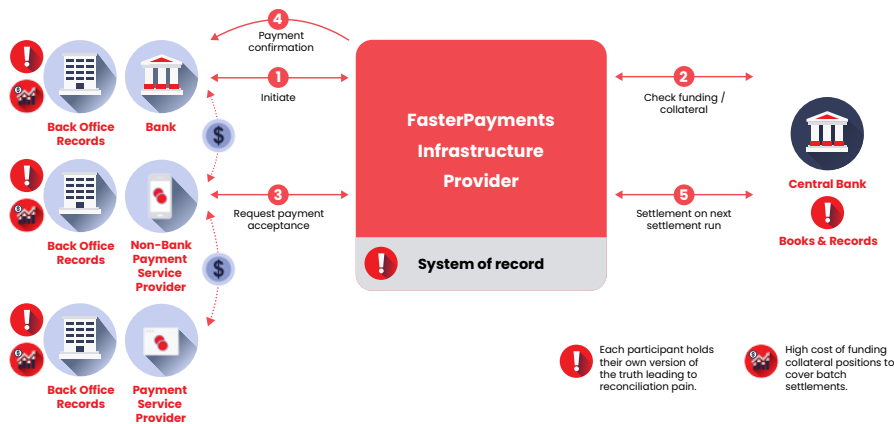
With enterprise blockchain, the technology now exists to enable banks and clearing houses to run secure, irrevocable, real-time payments on a peer-to-peer transaction network that offers greater bi-lateral controls to negotiate settlement. The automated verification and auditability of a distributed ledger-based solution can provide the proof for central banks to more dynamically settle transactions and improve bank liquidity and risk management.

In the case of implementing a domestic RTP or FPS solution, enterprise blockchain can deliver the foundation for direct value exchange between banks to reduce costs and risks, and advance domestic payments innovation:

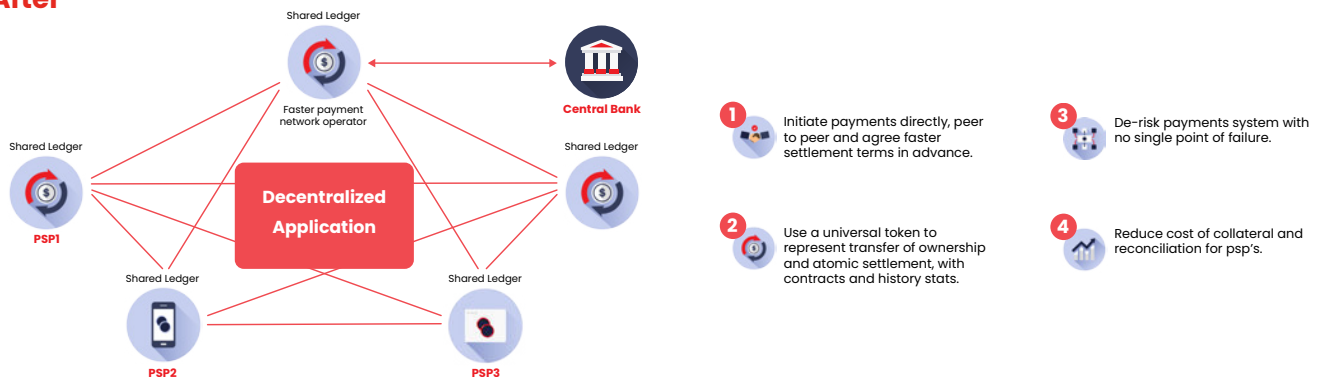
- The banks, switch operators, and central banks can all run a node on the network
- Establish settlement agreements on peer-to-peer basis, with settlement automated based on smart contracts
- Only parties involved in a transaction can see their positions and transaction history
- Trusted real-time verification of payment instructions, reducing risk in intermediaries, and providing proof to central banks or even enabling direct connectivity with central banks
- Use a resilient, decentralized network that has no single-point of failure
- Provide payments status and confirmation in real-time to bank operations, along with contextual information recorded on the ledger

Building a modern real-time payments platform

Current



After



Why build an enterprise blockchain solution on Corda?

Corda can uniquely provide a platform for such payment solutions:

- Proven scalability and throughput—proving it can process 4000+ transactions per second in this use case
- Decentralized payment instructions, enabling on-demand settlement and lowering collateral requirements
- Future proof for Central Bank Digital Currency (CBDC) with close collaboration with central banks on reference architecture and design
- Today's systems require a central operator to see everything. Corda enables peer-to-peer, transaction-level privacy, eliminating this need
- Flexible programming model allows for data-rich payments supporting many standards
- Payment specific toolkit to facilitate agreements and integrate with any payment rail using ISO20022 standards

It's time to build •

With the power of multi-party technology, you can build a better future.

The path to distributed ledger technology is unique to each business, but the end destination is lasting, impactful change. This means seizing the chance to build business value for your customers, a launchpad for growth and exponential success, and a culture of transformation.

Navigating this journey requires partnering with those experienced enough to lead the way.

R3 has a proven track record of working with highly regulated entities, from ABI and Wells Fargo, to Mastercard and SDX. With R3, you can build multi-party solutions to accelerate innovation and start adding indispensable value with distributed applications.



Gartner's surveys saw usage of Corda rise to over 40% of use cases in 2020, overtaking Hyperledger Fabric and Ethereum...Forty-five percent of its reported use cases are outside the banking, securities and insurance verticals, with the wholesale trade, manufacturing and natural resources, and government verticals all reported as major users. It was used in all use cases Gartner analyzed, with asset tracking, shared record keeping and identity management/KYC being key non-finance use cases.

Gartner[®]

Learn more about how to fuel your business •

Have you read our Discover eGuide?

Discover the power of enterprise blockchain

Find out more about the benefits of enterprise blockchain to software vendors.

[Download Now](#)



Leading companies working with R3 •

accenture

aws

B3i

citi

CONTOUR

CRYPTO
BLK

Digiedge
Trust and intelligence

GuildOne

HQLA^x

Infosys[®]
Finacle

IBM

ING

MarcoPolo

mastercard

MetLife

MoneyGram

Microsoft

SIX
Swiss Exchange

TRADEWIND

WELLS
FARGO

worldpay
from FIS

About R3



R3 is an enterprise software firm that delivers blockchain technology suited for every business in every industry. R3's technology, developed in collaboration with our ecosystem, is being used to transform entire industries by digitizing the processes and systems that firms rely on to connect and transact with each other.

R3's blockchain ecosystem is the largest in the world with more than 350 institutions leveraging and building on Corda, our enterprise blockchain platform. The leading systems integrators, cloud providers, technology firms, independent software vendors, corporates and banks can be tapped by our customers and strategic partners to drive go-to-market programs or help build and deploy blockchain applications.

As a pioneer in digital industry transformation, R3 is committed to ensuring our customers derive the greatest value from their investment. We provide services and support to shorten your time to market, as well as guidance on implementation, integration and even how to build ecosystems based on a blockchain platform.



Get in touch with us •

For more information about how we can help software vendors build a better future leveraging the transformational power of enterprise blockchain, contact us at

r3.com/contact

