




Bringing value to the airline industry using Blockchain

The Distributed Contracting Network
(DiCoN) and loyalty program

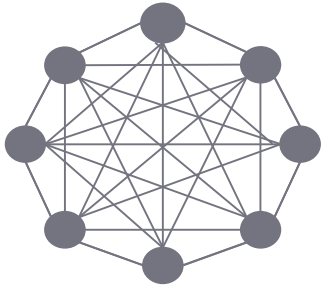


Envisioning a transparent future

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- 06 • Intercompany on Blockchain

Blockchain introduction

Blockchain is transaction processing technology



Distributed ledger



Consensus algorithm



Smart contracts/
programmable ledger

Blockchain broad value proposition:

we see this as, fundamentally, a tool for B2B integration that allows networks of companies to share common facts (the distributed ledger) and shared process (the programmable ledger).

Attributes of a blockchain

Disintermediation

Immutability

Automation

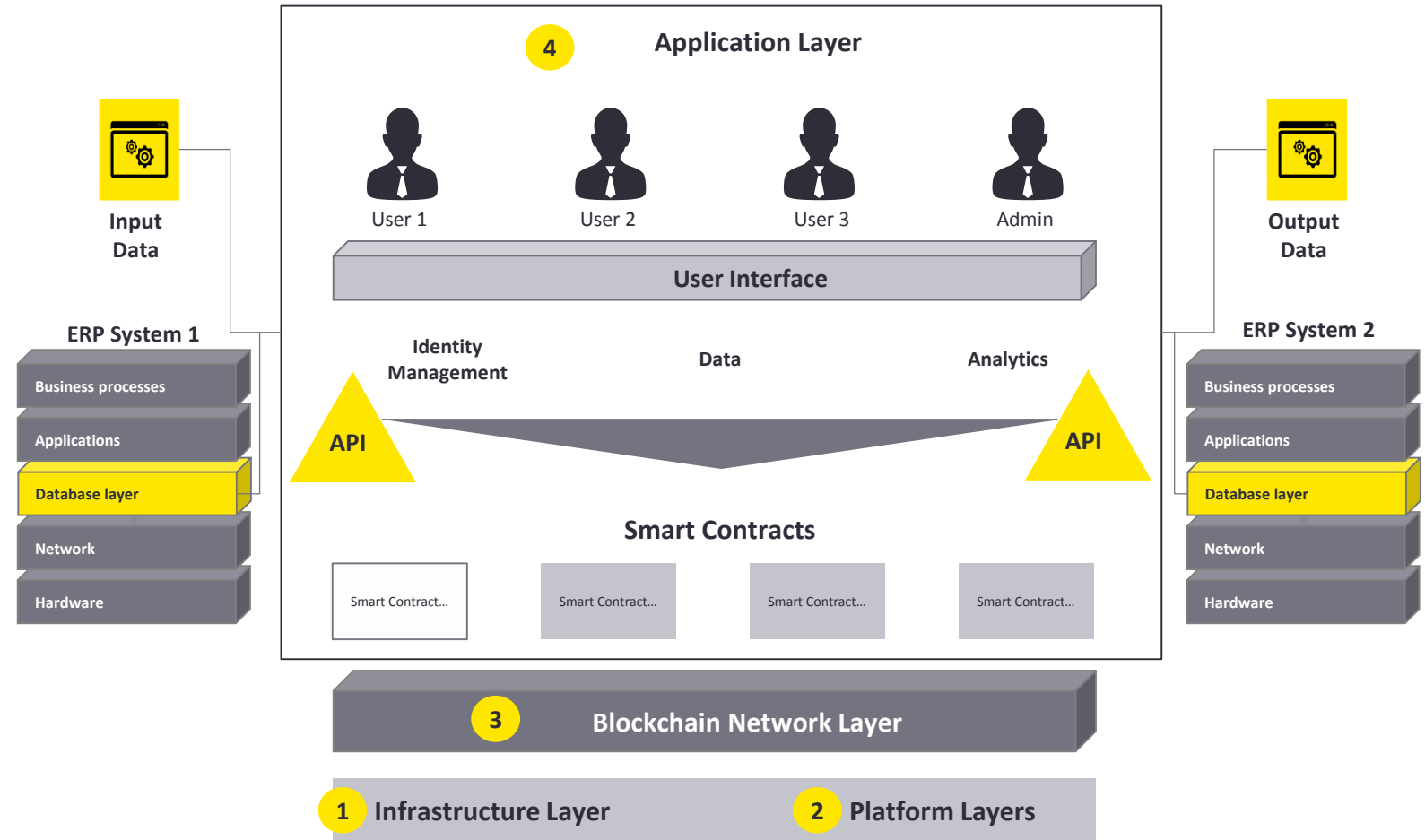
Trust

Transparency




Blockchain integrates via an API and supplements an existing ERP application (e.g., SAP S4HANA)

Using Blockchain technology, we can take aspects of **multi-company collaboration** that typically require multiple systems and long periods of time and consolidate into a **single system** (Blockchain) and dramatically compress cycle time and cut administrative cost.





Distributed Contracting Network (DiCoN) will disrupt the way contracts are defined and executed between parties. It will build trust and transparency as they transact with each other.

A close-up photograph of a hand holding a silver pen, signing a document. The document has some text visible, including "Notwithstanding", "you agree to all", "tion of your test", and "mercial shipment".

In the current environment, contracting partners ***lack trust and transparency*** resulting in costly disputes and complex processes, ***inhibiting profitable growth***.

Up to
10%

of the contract value is spent
on enforcement¹

>\$30b

is spent on contract
disputes annually in the US²

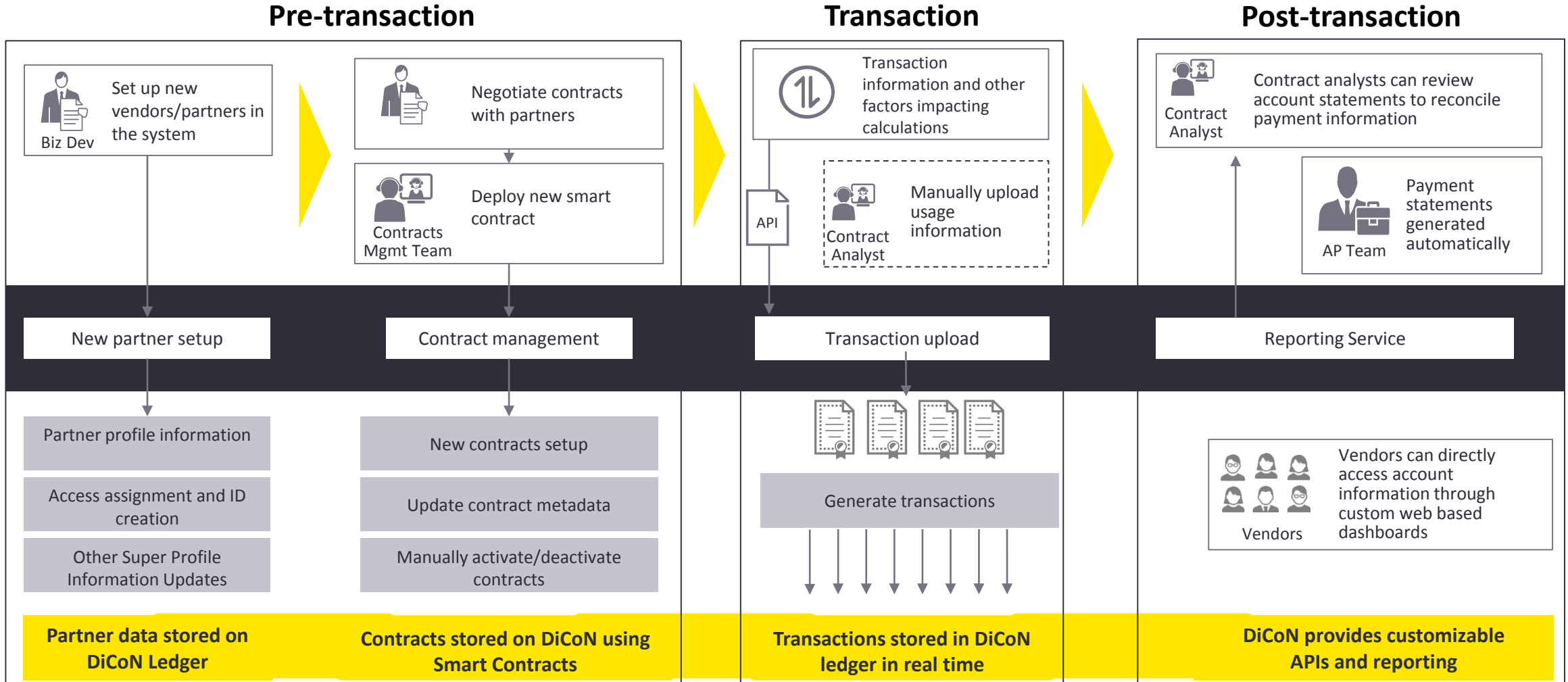
~13%

improvement in marketing
campaign ROI can be achieved
through agile marketing³

Source: ¹EY research on cost optimization; ²www.contractlogix.com/products/making-the-case; ³www.forbes.com/sites/kimberlywhitler/2016/12/03/agile-marketing-moving-at-the-speed-of-the-customer/#6b228150215b



DiCoN leverages the concept of distributed ledger technology to support the entire lifecycle of the contract management process



The platform's unique features allow for easy customization while seamlessly integrating with other systems



Distributed computing

Distributed ledger technology (DLT)

Distributed storage



Smart Contracts

Codified terms and conditions

Automated calculations



Built-in audit and service node capabilities

Predefined data visibility for each node

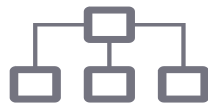
Seamless integration of audit functions



Security and Governance

Integrated governance model

User authentication management



Integrated systems (APIs)

Integrate with upstream and downstream systems

Standardized data available to all parties



Self-service analytical dashboards

Analyze real-time transaction information

Customizable visualization of data



DiCoN is applicable across all industries where contracts exist between parties and there are issues with trust and transparency

Gaming



- Rights and royalty management
- Likeness royalty payment distribution
- Game and asset trading

Oil and Gas



- Royalty management
- Contractor billing management
- Long-term contract management
- JV profit sharing
- Downstream rebate management

Media and Entertainment



- Payment distribution in film, TV and music
- Merchandise Licensing
- Content tokenization for consumption tracking
- Creative agency contracts in advertising

Technology



- IP rights management
- Software licensing
- Reseller trade promotion
- Contract Manufacturing

Airline



- Cargo Import and Export management
- Specialty containers transportation and management
- Maintenance payment and shipping management



Blockchain Loyalty Solution platform enables seamless loyalty points management among stakeholders, secure near real-time transactions with increased accuracy, intelligent insights and connected ecosystem with better customer experience

Loyalty solution will transform the management and security of enterprise loyalty programs

Key challenges today

High costs associated with managing complexities of loyalty programs

Loyalty program lacks mass appeal due to poor customer experience

Fraud or irregularities in loyalty points transactions due to transaction lags

Disconnected loyalty points management due to legacy systems

How blockchain addresses those challenges

Reduced operational costs because of seamless loyalty points and stakeholder management

Interoperability among programs and single wallet increase customer engagement and sales

Immutable near real-time transactions with increased accuracy

Intelligent insights enable program customization to boost brand and enhance customer experience

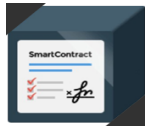
Distributed ledgers

Shared ledger providing single source of truth to all stakeholders

	Dr	Cr
Distributor	5.00	5.00
Publisher	15.00	15.00
Developer	3.00	3.00

Smart contracts

Business rules agreed amongst stakeholders for self-executing loyalty transactions



Cryptographic security

Immutable transactions with no single entity having access to alter history



Nodes

Near-real-time transactions access to stakeholders and connecting siloed systems



The platform's unique features allow for increased transparency and reduction in complexity and operational costs

Single wallet to manage multiple programs

1

Universal token interchangeable with all participating programs

2

Peer-to-peer token transfer and bundling

3

Near-real-time accrual and redemption across multiple programs

Automated loyalty point accrual, redemption and reconciliation via smart contracts

1

Customizable to fit business partner and merchant need

2



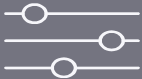









Conversion rules set for specific goods and services

3

Seamless real-time liability management



Benefits of a blockchain enabled loyalty solution over the traditional solutions

	Blockchain Loyalty Solution	Traditional Loyalty Solutions
 Interoperability of points among multiple loyalty programs		Limited programs offering interoperability
 Real-time accrual, redemption and conversion transactions		Time lag in loyalty transactions
 Secure, tamper-proof transactions		Potential for loyalty point inaccuracies
 Connected siloed systems through agile integrations		Complex integrations with legacy systems
 Reduced need for loyalty points reconciliations among stakeholders		Reconciliations required for most transactions
 Easy onboarding of stakeholders, with increased insights and assurance		Complex onboarding and disconnected data

Current Blockchain use cases — Ops chain Intercompany

Intercompany transactions require consistent documentation and instant settlement and could be enabled through blockchain

Typical intercompany issues

Manual intercompany invoicing and payment procedures

Lack of materiality thresholds for intercompany allocations and journal entries

Inconsistent global intercompany processes due to fragmented ownership

Foreign currency exchange considerations

Use of disparate ERP systems

Inaccurate business unit reporting due to intercompany transfer allocations and timing

Poor intercompany compliance

High volume of imbalanced transactions at period-end due to differences in timing on ends of transaction

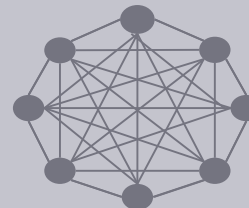
Blockchain-enabled functionality

Smart contracts



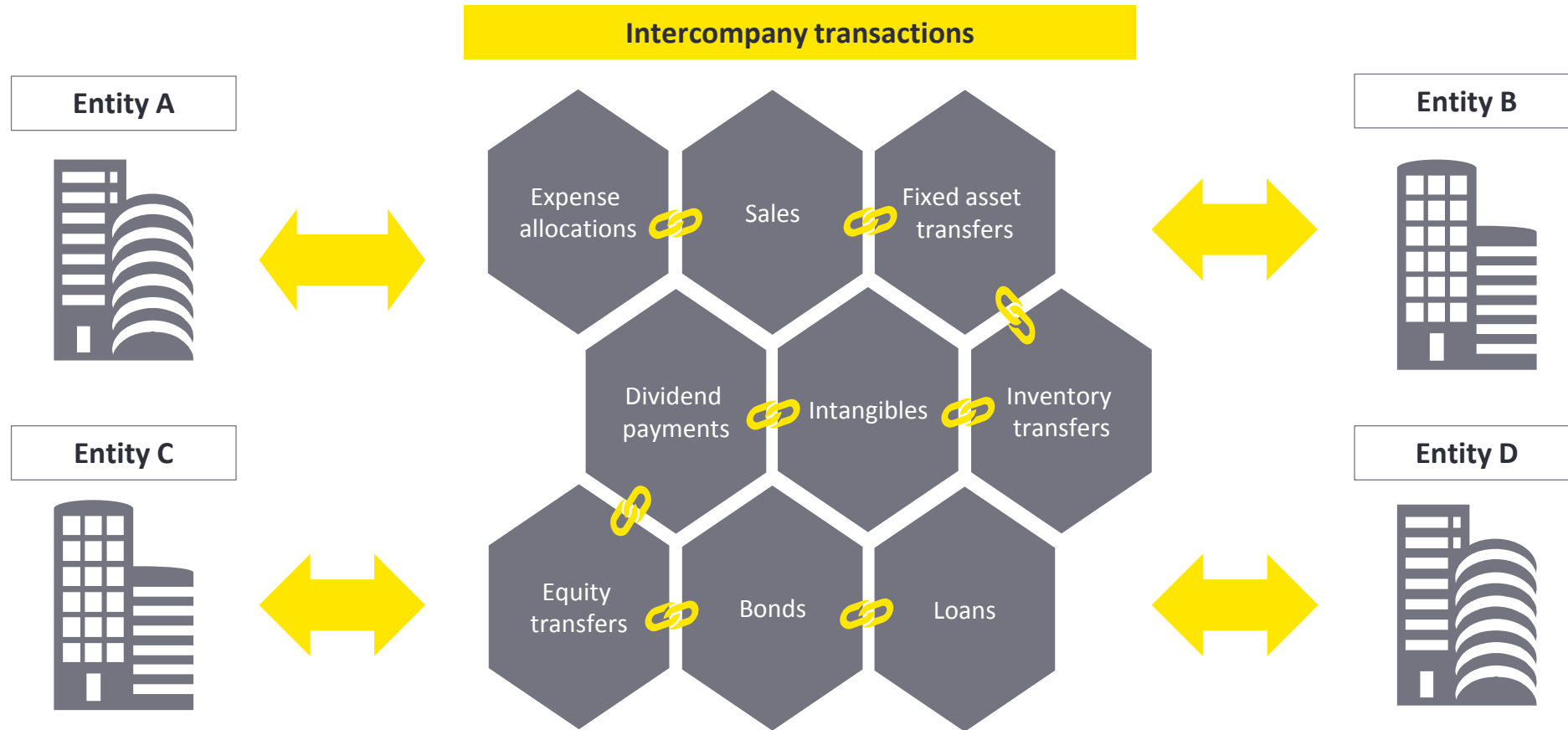
- Automated intercompany transaction processes
- “Oracles”
- Pre-developed processes

Distributed ledger




- Eliminate imbalanced transactions
- Eliminate discrepancies between different ERP systems

Current Blockchain use cases — Ops chain Intercompany use case types



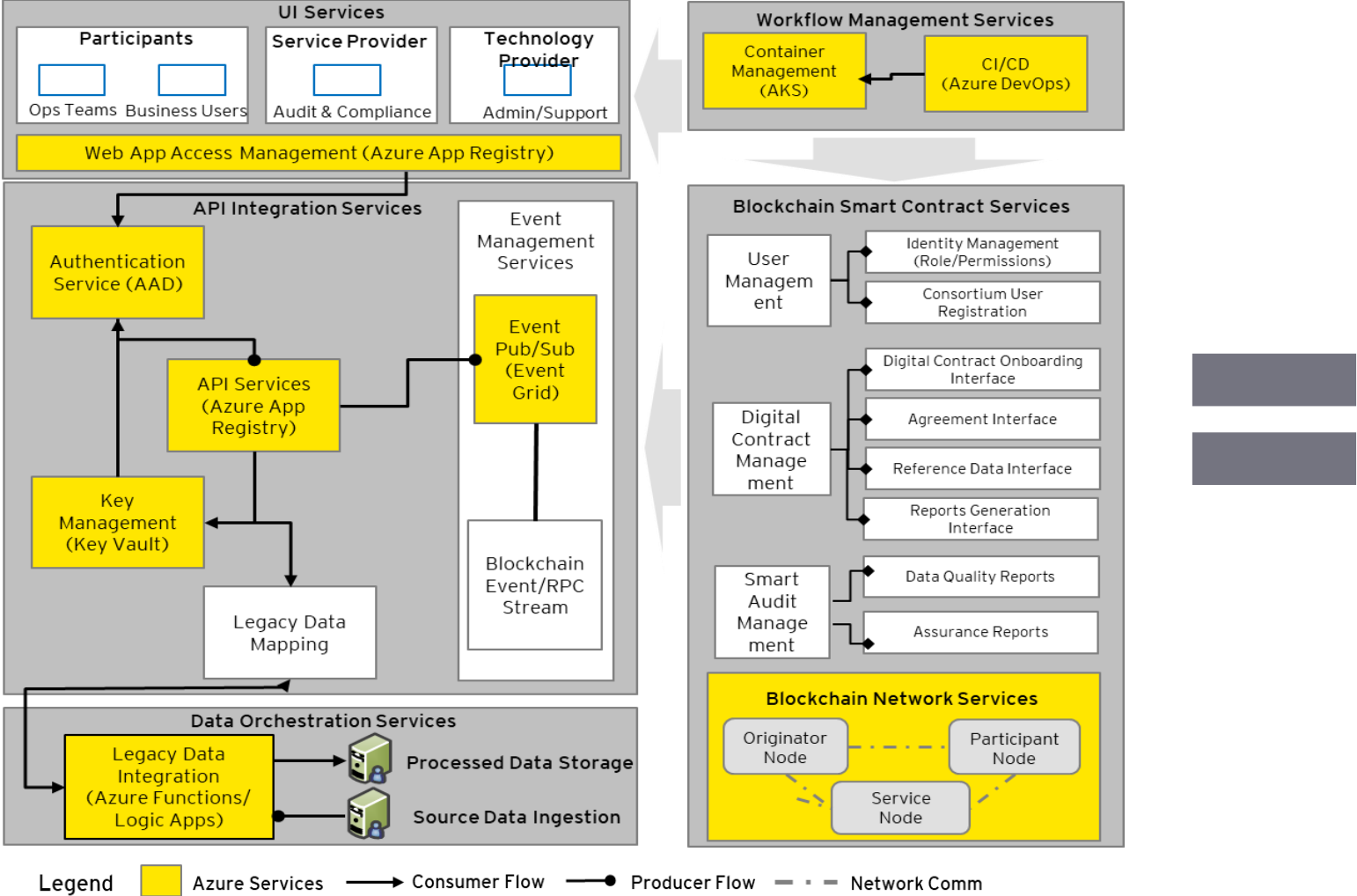
Blockchain provides a platform for companies to completely and accurately track and report on intercompany transactions that can be leveraged for assessing transfer pricing and determine tax implications across various legal entities.



**Envisioning a
transparent future**

| Appendix

The DiCoN reference architecture illustrates a seamless integration with Azure's trusted cloud platform



Harness the full power of Azure services to offer a scalable blockchain solution through a PaaS model



The Oil and Gas industry includes various use-cases for DiCoN to improve payment issues

Royalties payments take



30-45 days

to process



Chesapeake Energy settled a
\$52.5m lawsuit
over royalty payments in 2016

Royalty management



When raw materials are extracted from wells, E&P companies pay the land owners royalties. The current process is siloed with limited visibility of calculations and long lead times and reconciliation times.

Contractor billing Management



Oil Field Services are contracted by E&P companies to drill the oil from the wells. The management of work orders, field tickets, and invoices are largely manual and prone to errors and lengthy lead times.

Long-term contract Management



The fees for pipeline providers, or the rebates for end consumers, may be complex and are unique to each contract. Management and accuracy of calculations has room for improvement.



The Media and Entertainment industry includes various use-cases for DiCoN to improve payment issues

Participation payments take

30—60 days

to process

Recording Industry Association of America
estimates that global music piracy causes

\$12.5b in losses

annually

Warner Brothers battled a

900m lawsuit

over copyright infringement in 2017

Payment distribution



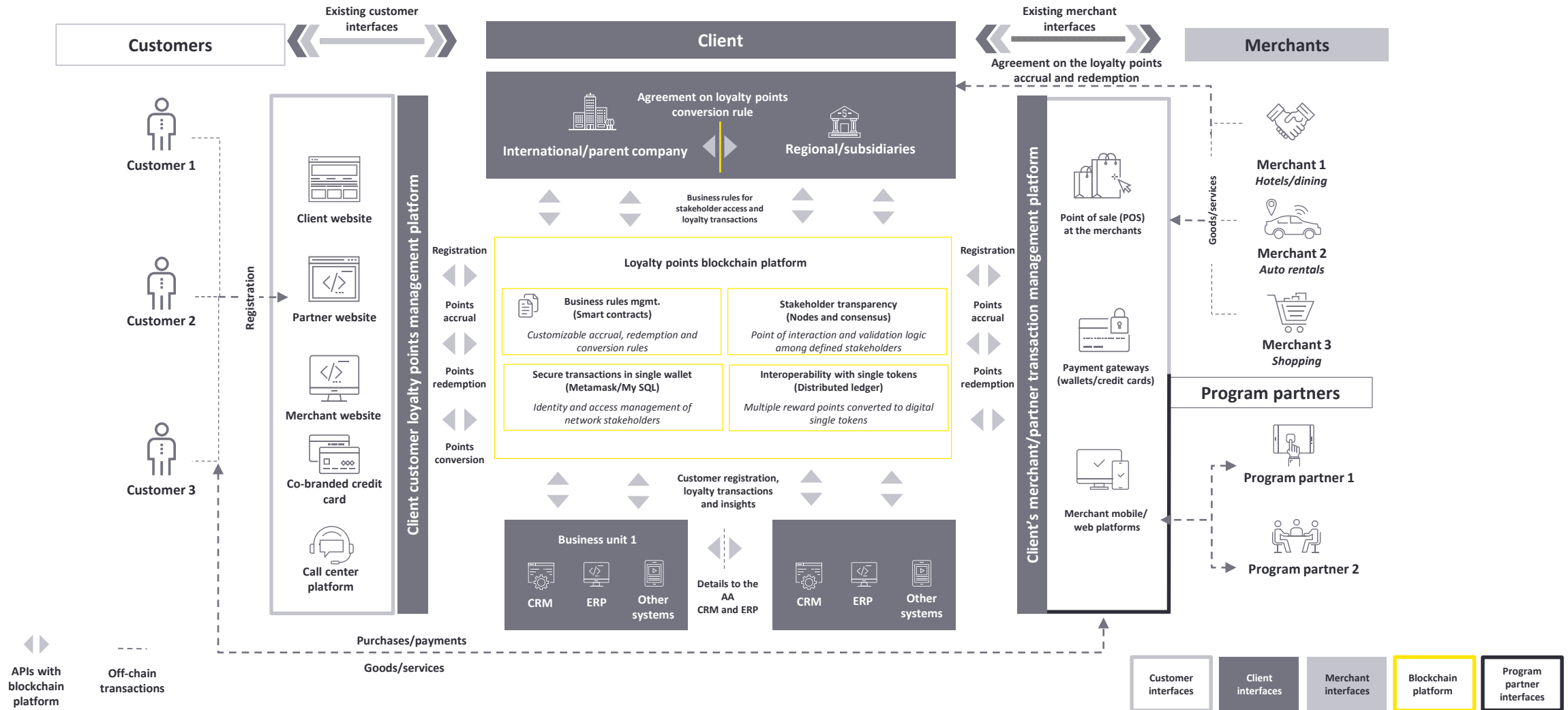
Complex value chains with multiple revenue sharing parties have created opaque systems. The result has been data inaccuracy, mistrust and delays in payment distribution.

Merchandise licensing

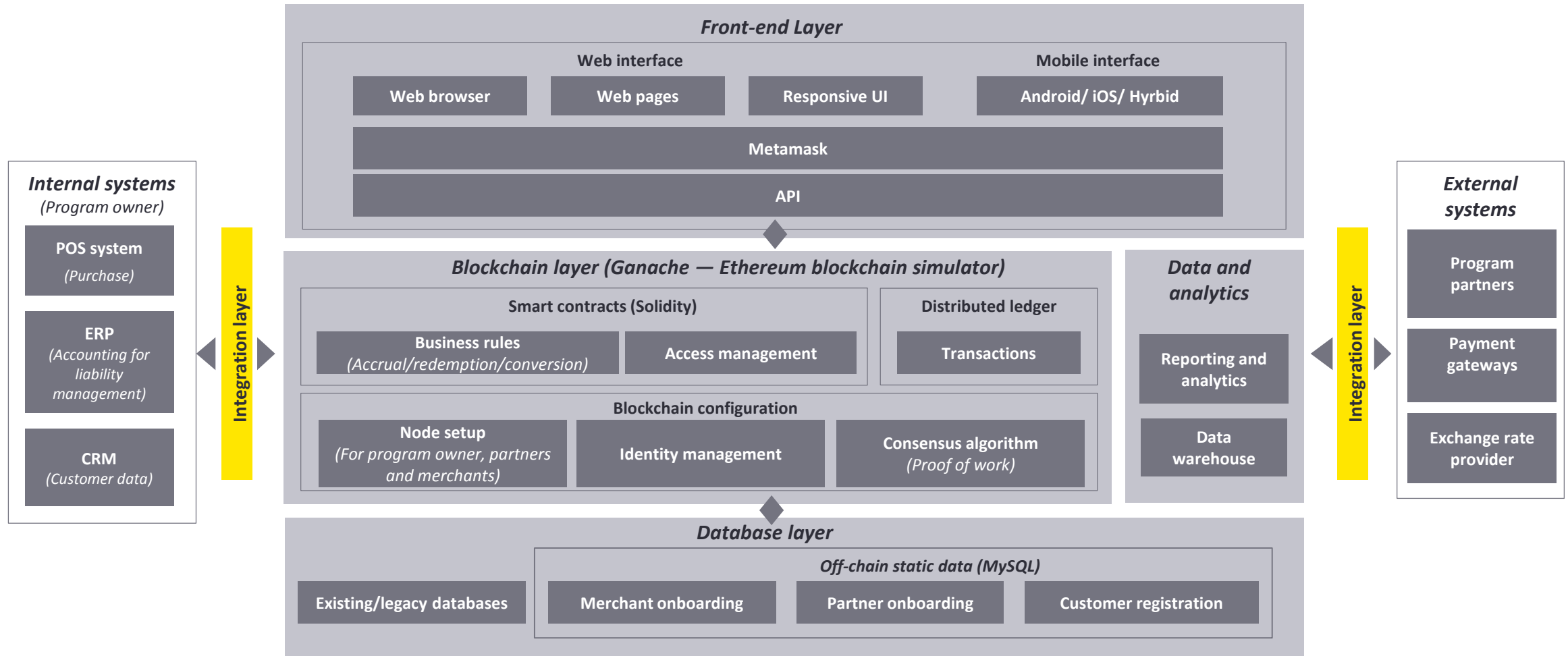


Marquee brands have difficulty ensuring rights and compensation when licensing out their likeness to thousands of vendors across numerous distribution channels. The current systems results in payment delays, mistrust and litigation.

Appendix : Loyalty solution technical snapshot — illustrative



Appendix : Loyalty technical architecture



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