

Presentation for ATIS  
Microsoft Blockchain Strategy for CSPs  
10/23/2018

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What is Blockchain?

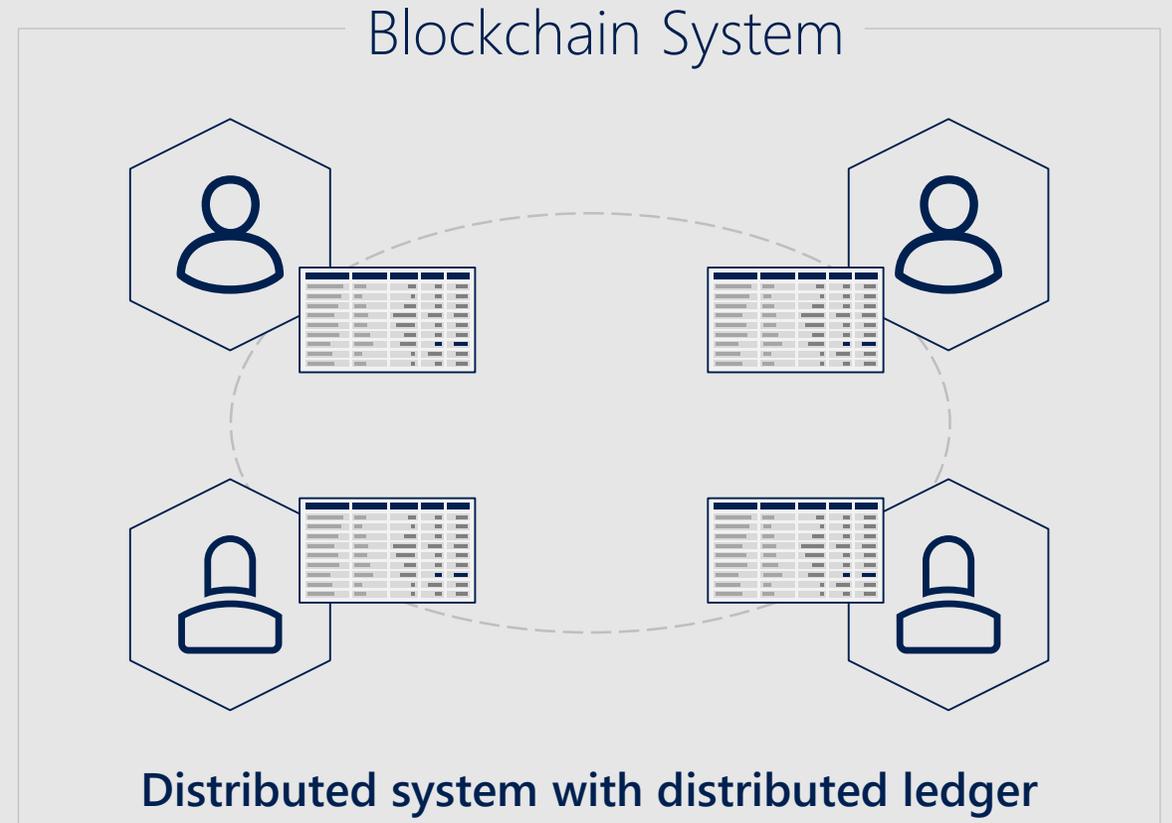
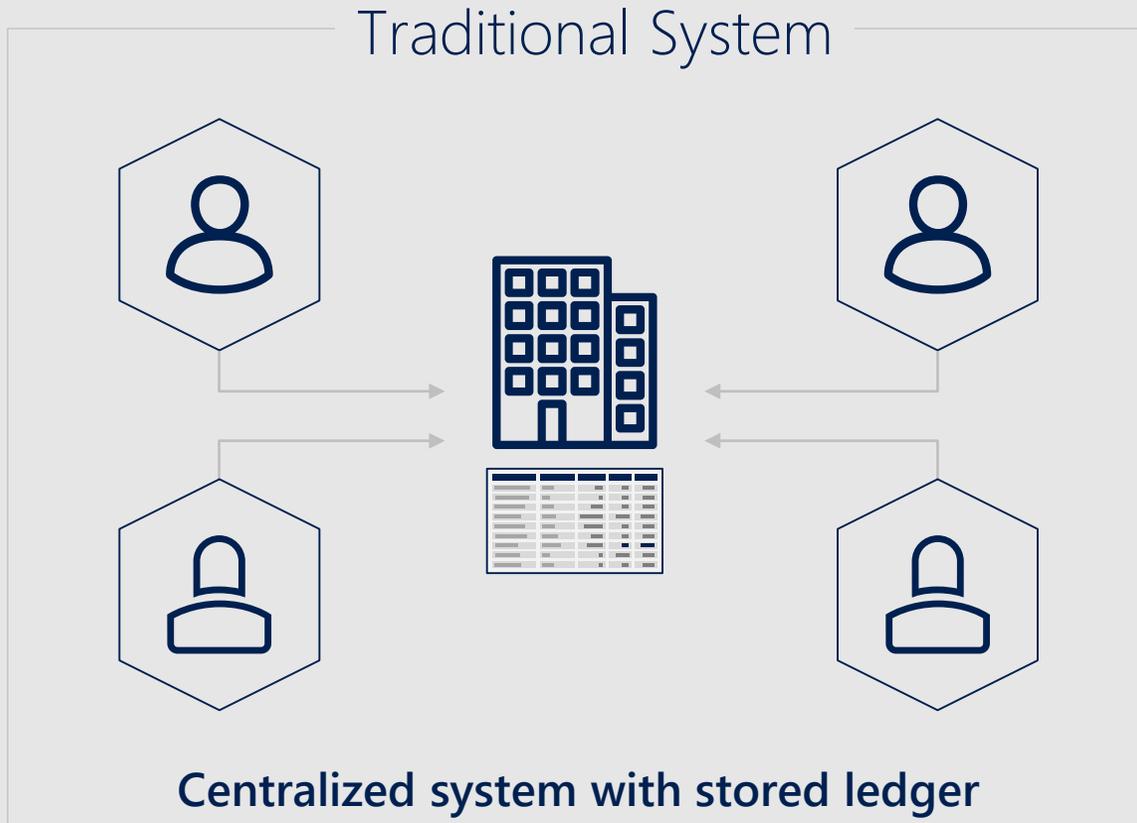
# Blockchain establishes a secure, shared source of truth



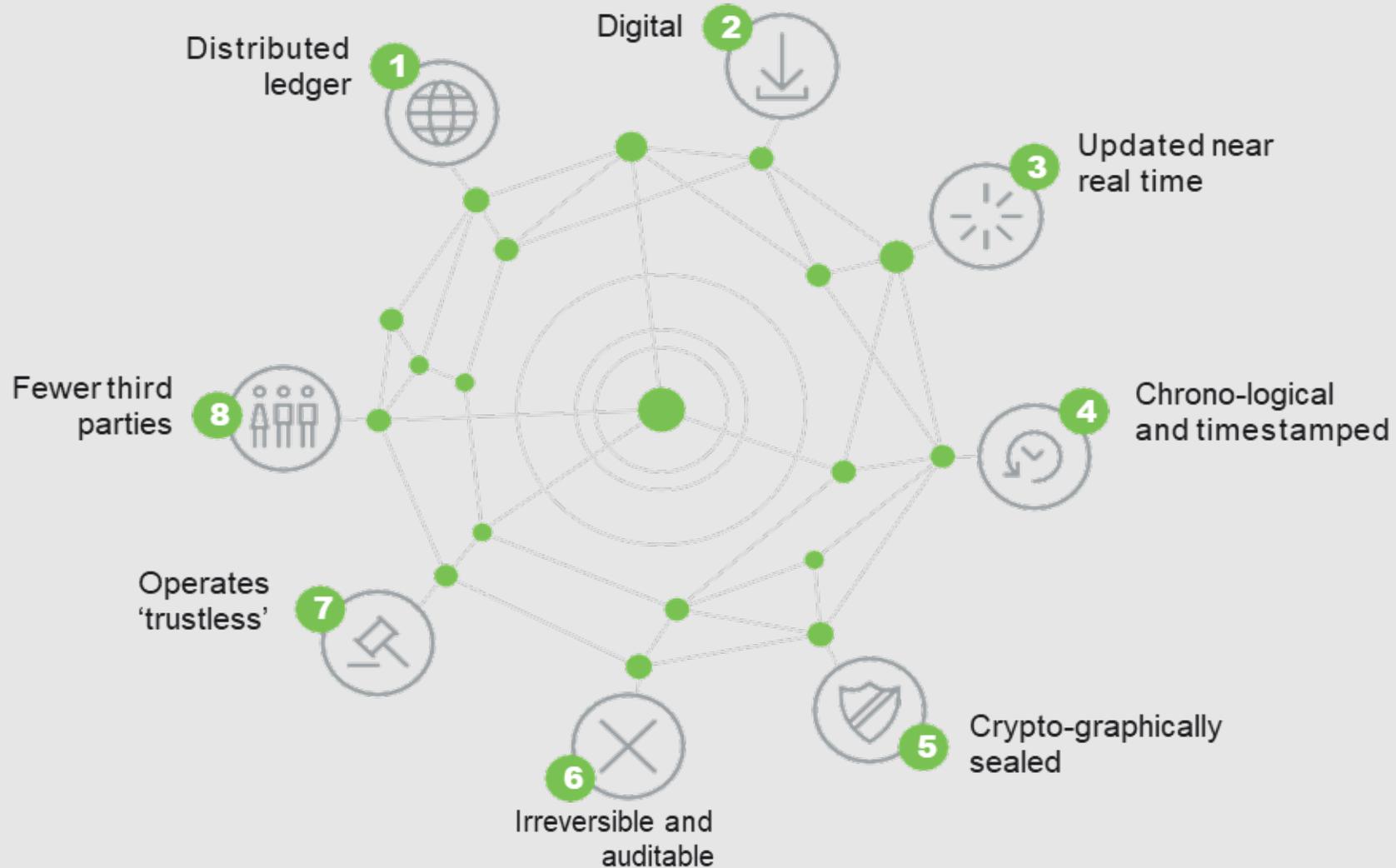
- | Data is stored in a ledger—  
a record of every transaction
- | Everyone in the network has an  
individual, identical copy
- | The ledger can only be updated by  
network consensus, and  
information can't be altered or  
deleted without the knowledge of  
the whole network

# Data is shared in a blockchain network

- ◆ Traditional ledgers are centralized and use 3rd parties and middlemen to approve and record transactions
- ◆ Blockchain safely distributes ledgers across the entire network and does not require any middleman



# Blockchain's Key Characteristics



Where is Blockchain valuable?

# Customers looking for similar set of outcomes



## Reduce cost

Remove friction and enable direct interaction between parties

## Mitigate risk

Reduce security threats from fraud, hacking, and data manipulation

## Reimagine processes

Digitize processes beyond the four walls of your own business to reshape market dynamics

# When your project meets certain criteria

Answering a few questions can determine if blockchain is appropriate



# Blockchain shows tremendous potential across industries

## Manufacturing



Asset tracking  
Real time auction  
for supplier  
contracts  
Supply chain  
transparency

## Retail



Loyalty tracking  
Product  
provenance  
Logistics  
management

## Insurance



Claims  
Management  
MBS/Property  
Payments  
Fraud detection  
Automated  
underwriting

## Banking and Capital Markets



Bond Issuance  
Trade Finance  
Loan Syndication  
Post Trade  
Settlement  
Cross Border  
Payments  
Derivatives Trading  
KYC/AML

## Government



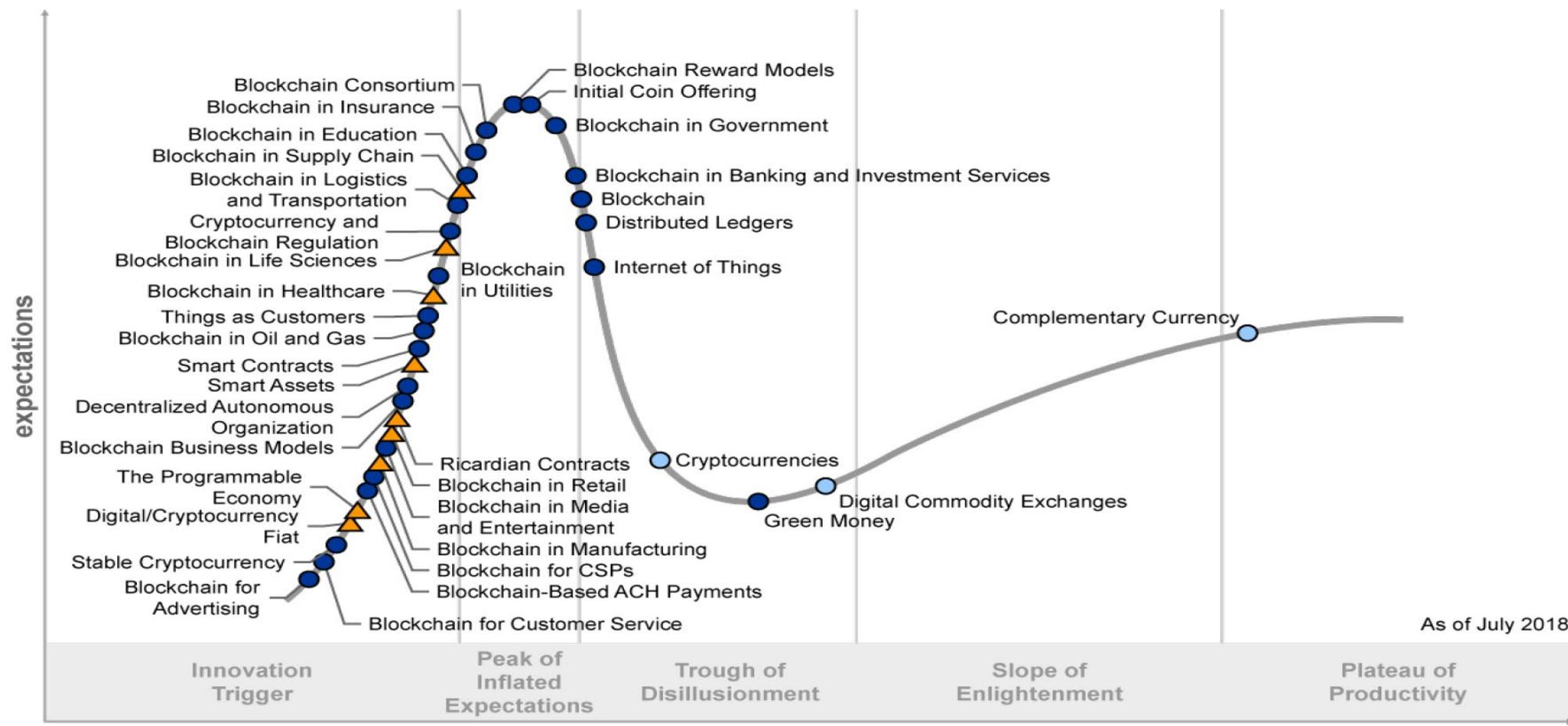
Licensing and ID  
Benefits  
distribution  
Aid tracking  
Military security

## Health



Personalized  
medicine  
Records sharing  
Compliance

# Gartner Hype Cycle for Blockchain in Business



As of July 2018

Plateau will be reached:

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau

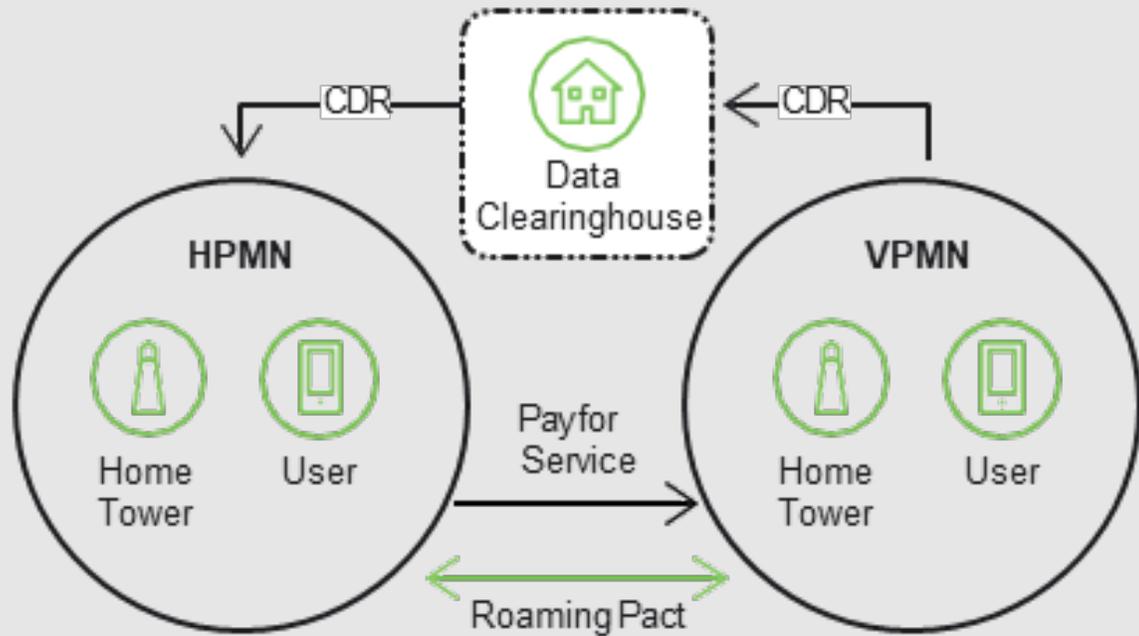
Blockchain for Communication Service Providers  
(Telco)?

# Potential Use Cases for CSP

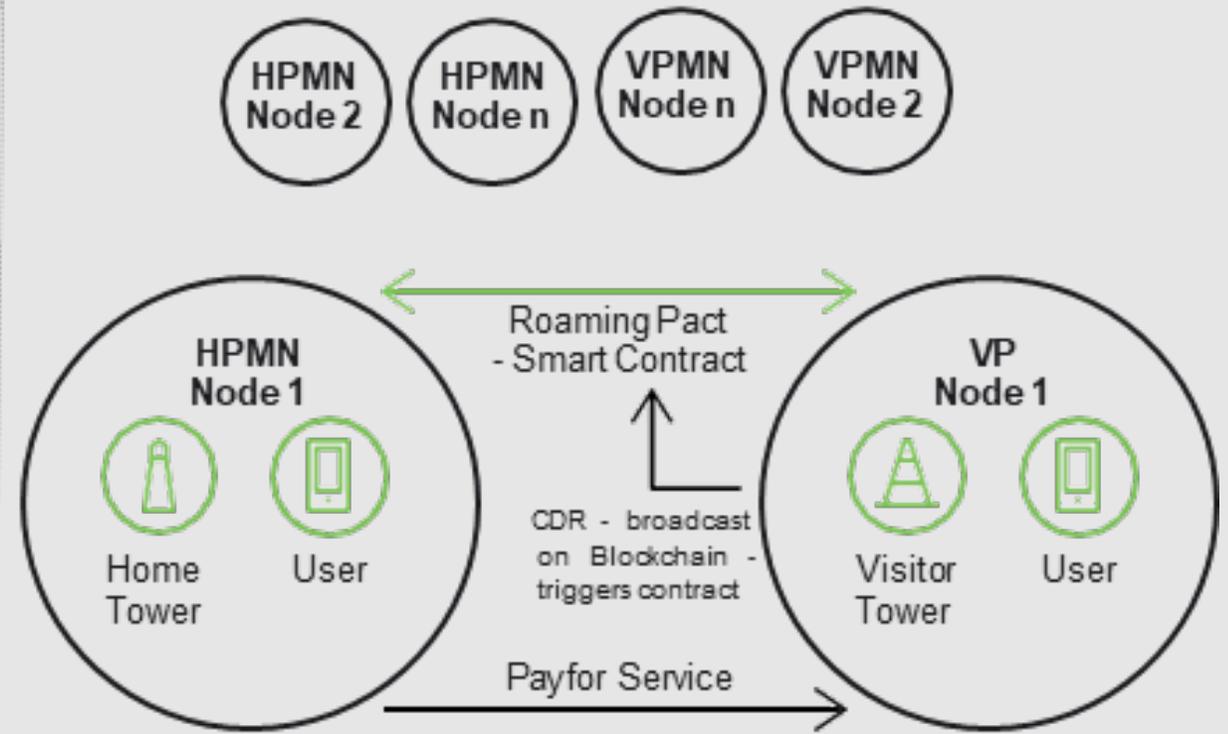
Current Core and VAS Opportunities		Upcoming Telecom Trends Opportunities	
<b>Focus area</b>			
<b>Fraud Management</b>	<b>Identity-as-a-Service</b>	<b>5G Enablement</b>	<b>IoT Connectivity</b>
<p><b>Description</b></p> <p>Implement blockchain for data and value exchange within and between networks to reduce fraud</p>	<p>Provide eSIM solution and identity and authentication services based on cryptographic identity</p>	<p>Platform to enable a new generation of access technology selection management, required for the realization of 5G network potential</p>	<p>Enable peer-to-peer connectivity for IoT devices in cost-efficient self-managed networks</p>
<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Reduced losses due to fraud</li> <li>• Reduced costs for fraud detection applications</li> </ul>	<ul style="list-style-type: none"> <li>• Decreased costs of implementing Identity Management</li> <li>• Additional revenue stream</li> </ul>	<ul style="list-style-type: none"> <li>• Common platform to provide seamless connectivity</li> </ul>	<ul style="list-style-type: none"> <li>• Common platform for IoT devices to communicate</li> <li>• Enable micropayments</li> </ul>

# Use Case – Roaming Fraud Prevention

## Current System

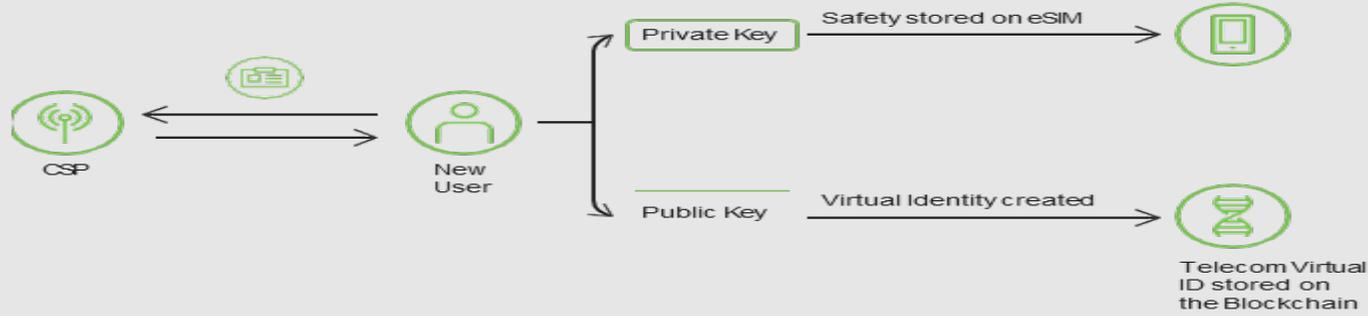


## Blockchain Alternative

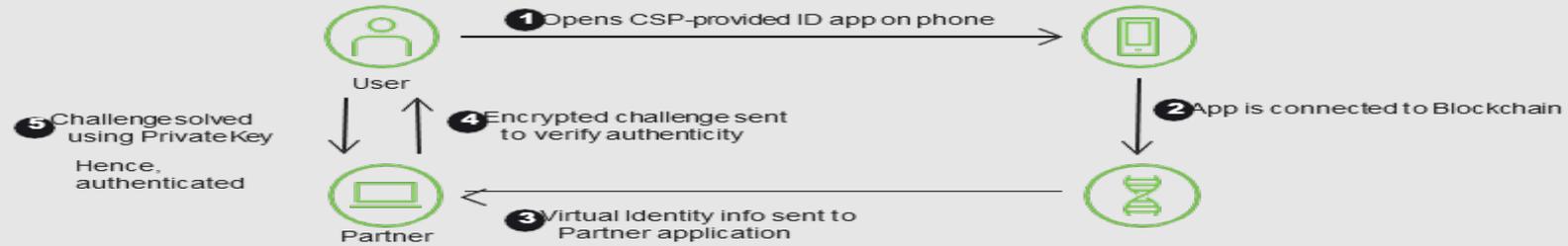


# Use Case – Identity-as-a-service and Data Management

## ID Creation



## ID Authentication



## Data Management

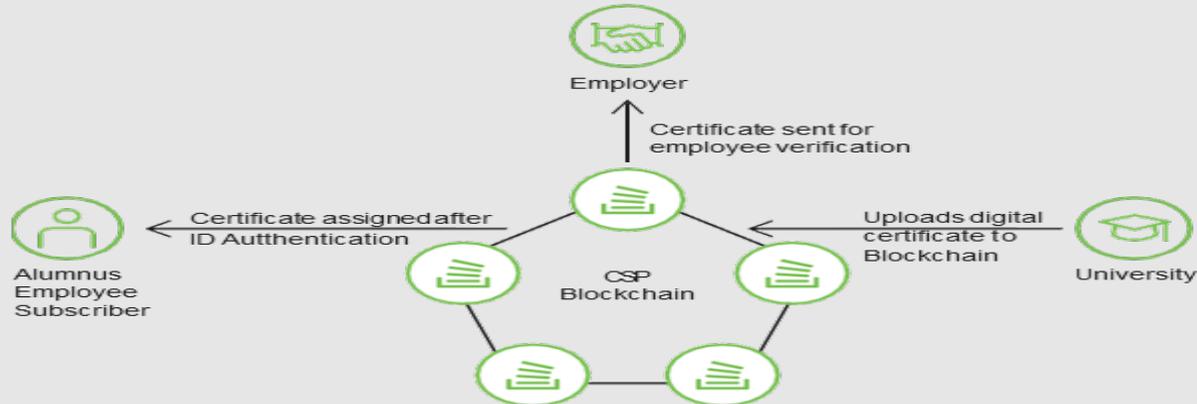


Figure 7: Identity-as-a-Service and Data Management use case

# Use Case – 5G Enablement

## AS-IS – Access Network Discovery and Selection Function (ANDSF)

### Access Technology



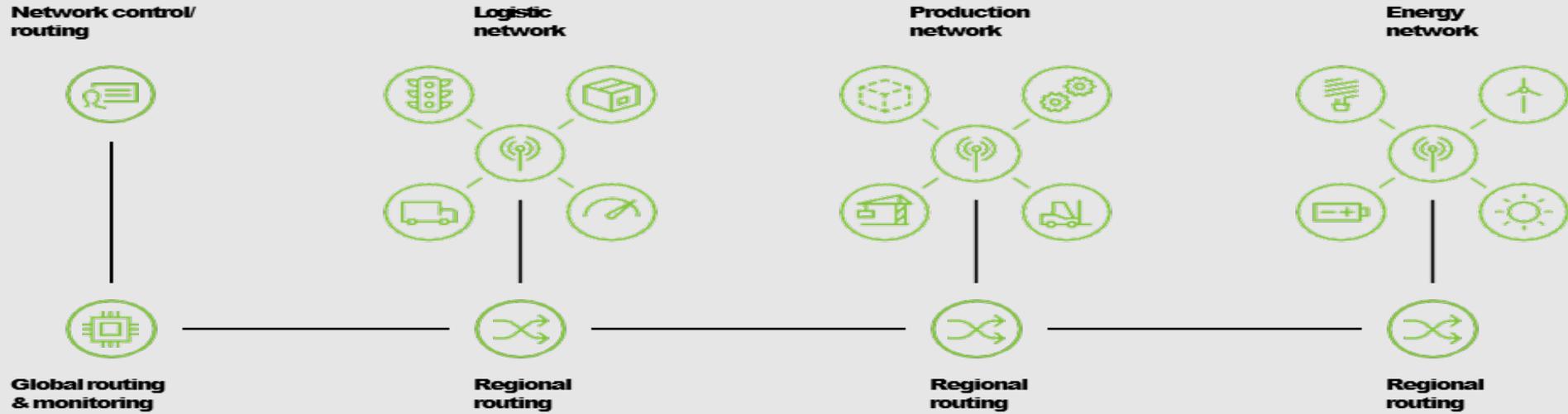
## TO-BE – Blockchain (BC) enabled seamless rating and charging

### Access Technology

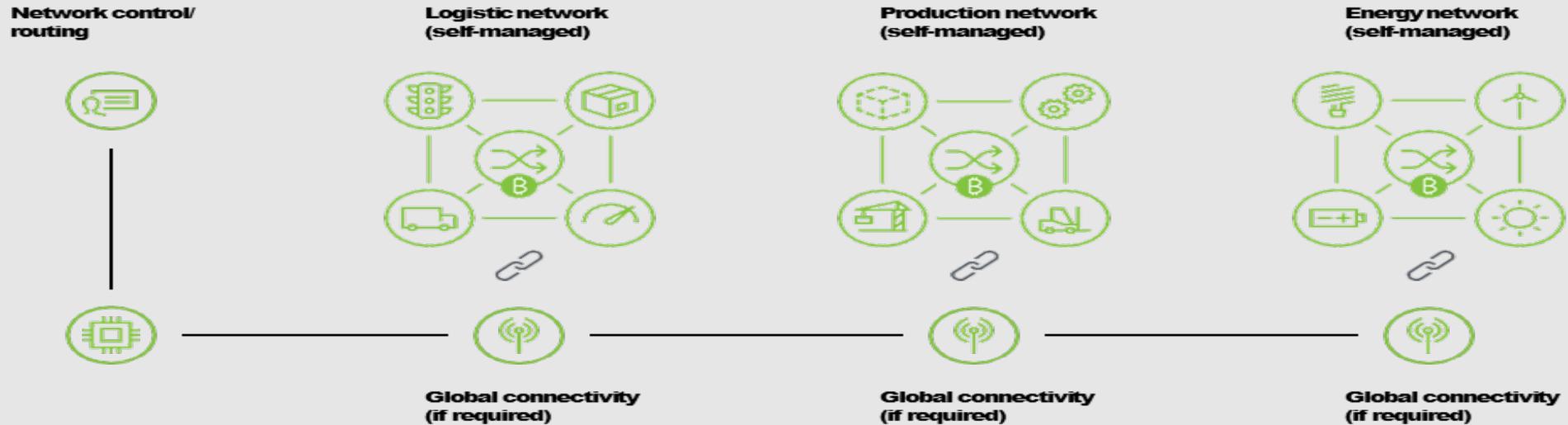


# Use Case – IoT Connectivity

AS-IS - Building of diverse managed Low Power Wide Area Networks (LPWAN) for IoT/M2M purposes



TO-BE - Blockchain (BC) self-managed peer-2-peer (P2P) networks connected for IoT/M2M



# Microsoft's Strategy for Blockchain

# Microsoft's Strategy for Blockchain

- **Open Marketplace** – Allow partners and customers to monetize and make available blockchain solutions through Azure marketplace
- **Easy Network** – Make it as easy as possible to deploy a blockchain network within or across subscriptions
- **Open Cloud** – Support as many blockchain stacks as possible
- **Enterprise-Grade Services** – Allow blockchain developers to easily connect their blockchain applications to other core services, such as AAD

# Blockchain with Microsoft

## Blockchain on your terms

Open cloud

The most regions

True hybrid

Deep partner bench

## Integrated with your business

Identity, key management  
with AAD and Key Vault

Middleware support  
in Azure

IaaS, PaaS, & SaaS

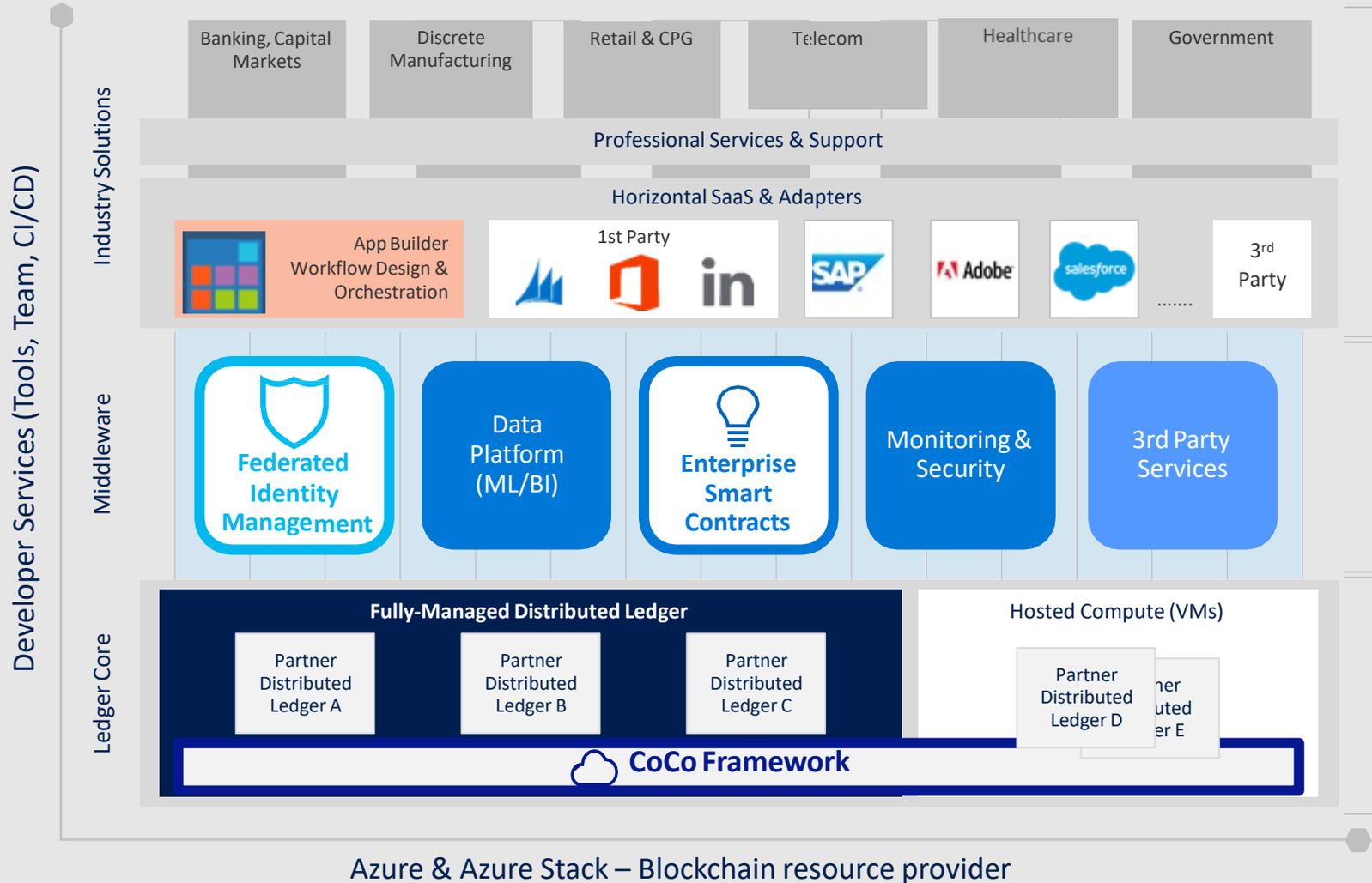
## For the enterprise

Secure off-chain  
integration

Security, confidentiality,  
scalability

Compliance

# An Enterprise Friendly Platform



Connect to existing apps and workflows

Coordinate with relevant tools

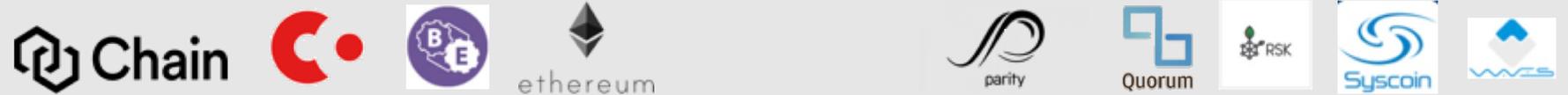
Ledger agnostic platform



# Choose from open source DLT solutions

## *platform components*

### Ledger Protocols



### App Accelerators



### Blockchain Dev Tools



### Development Frameworks



### Containers

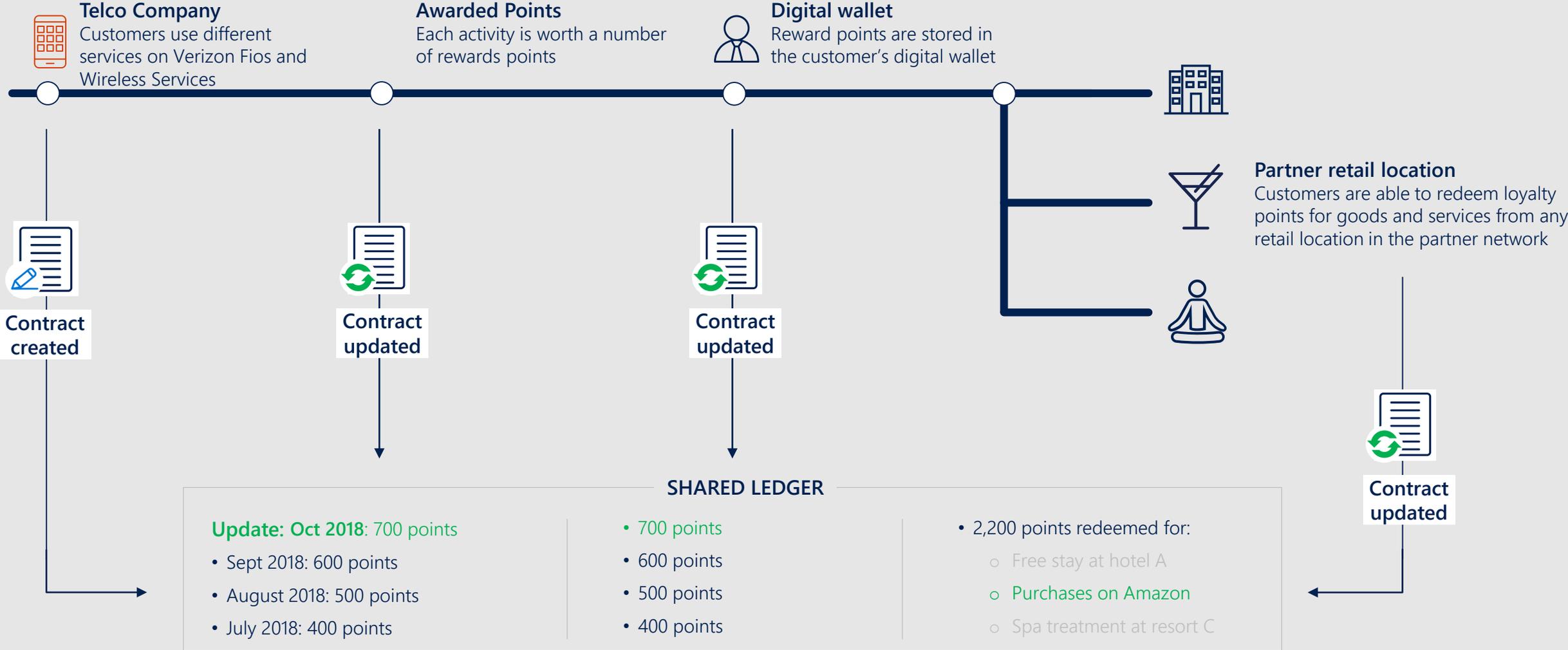


### Infrastructure



# Blockchain – Detailed Use Cases for Telecom

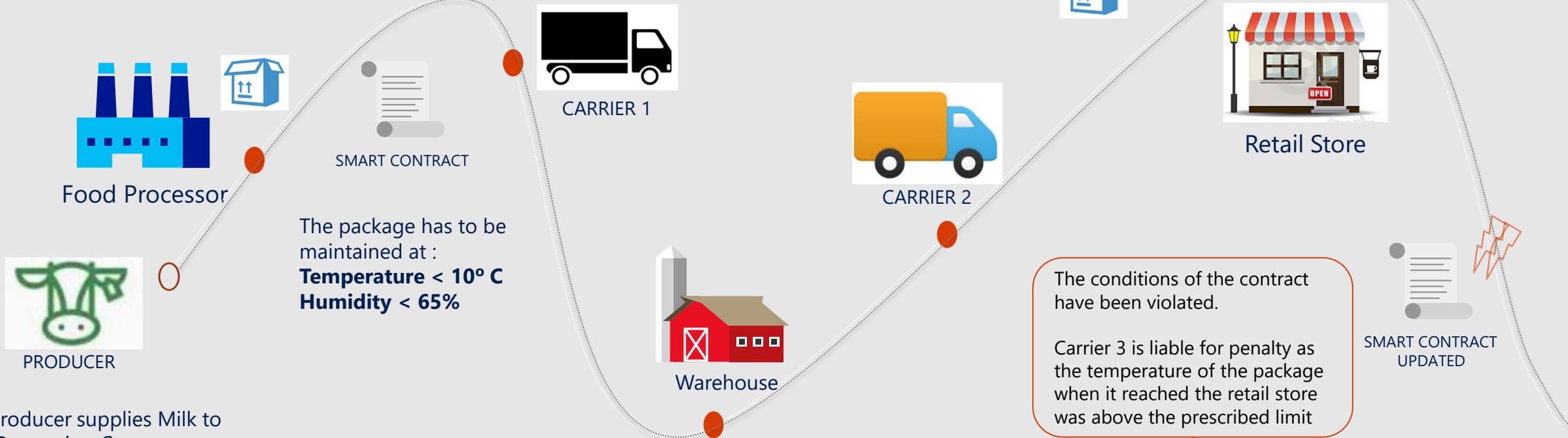
# Detailed Use case – Reward Points Management



# Detailed Use case - Supply Chain with IoT and blockchain

The Food product is sealed in an IoT enabled package for shipping

The terms of shipping are registered using a **smart contract** on the Blockchain



Milk producer supplies Milk to Food Processing Company

At various points in the journey, the IoT device from the package sends the Temperature & Humidity data which are recorded on the blockchain



SHARED LEDGER			
Origin	8°C 60%	Warehouse	9°C 64%
		Carrier 2	9°C 64%
		Store	11°C 66%

# Telecom Regulatory Authority of India

## Fights spam calls in India with a blockchain-based ecosystem

<b>Challenge</b>	The Telecom Regulatory Authority of India (TRAI) seeks to curb the major nuisance of unsolicited commercial communication (spam calls), as unregistered telemarketers use fraudulent tactics to gain consent from customers.
<b>Solution</b>	TRAI enlisted Tech Mahindra and Microsoft to create a solution using Microsoft Azure blockchain technology that provides a transparent and verifiable system to mitigate the spam calls.
<b>Benefits</b>	<ul style="list-style-type: none"><li>• Provides a new way to monitor and enforce compliance throughout the telecom ecosystem.</li><li>• Ensures compliance with regulations.</li><li>• Mitigates loopholes used by fraudsters and spammers to reach customers.</li></ul>

**Tech  
Mahindra**



“ This distributed ledger technology (DLT)-based solution will enable enterprises to stop financial frauds and perpetration of misleading financial information by unregistered telecom marketers. ”

— Rajesh Dhuddu,  
Global Practice Leader, Blockchain, Tech Mahindra

# AT&T

## Helps businesses save costs and automate processes with blockchain technology

<b>Challenge</b>	AT&T seeks to help businesses reduce costs and risks and to simplify their business processes. The company recognized the opportunity to use blockchain technology to help exchange information through clear permissions in a highly secure way.
<b>Solution</b>	AT&T added Microsoft Azure blockchain technology to the automation and critical monitoring capabilities of its IoT solutions, bringing additional transparency and accountability to complex supply chains.
<b>Benefits</b>	<ul style="list-style-type: none"><li>• Automates and digitalizes business processes.</li><li>• Provides better resources to track and manage information across multiple parties.</li><li>• Improves security and enables better management of transactions through complex processes.</li></ul>



▶ [Watch](#)



“Blockchain is far more than just Bitcoin or cryptocurrency. It’s transforming the way many companies conduct business.”

— Andy Daudelin,  
Vice President, Alliances Business Development, AT&T Business

Thank You