



# *Blockchain Use Cases*

## Supporting Artifacts for GEA 2.0

15th Jun 2019

Final

Strictly Private and  
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## Type of Industries

### **1. General Finance Use Cases**

1.1 Intercompany Transactions (PTP)

### **2. IPS Use Cases**

2.1 Automotive Industry: Tracking and Tracing (PTP)

2.2 Automotive Industry: Procure to Pay (PTP)

2.3 Oil and Gas: Procure to Pay (PTP)

2.4 Oil and Gas: Joint Venture Billing (OTC)

2.5 Production & Revenue Accounting (OTC)

### **3. CM Use Cases**

3.1 Franchise Billing (OTC)

3.2 Consignment Stock (PTP)

3.3 Vendor Money (PTP)

### **4. TMT Use Cases**

4.1 Total Content Ratings (OTC)

4.2 TV Distribution Licensing (OTC)

4.3 Home Video (OTC)

4.4 Participants and Residuals (OTC)

4.5 Music Royalty Distribution (OTC)

4.6 Cable Operators and Content Providers (OTC)

4.7 Advertising Fraud (OTC)

### **5. Real Estate Use Cases**

5.1 Construction Funding and Payment Process (PTP)

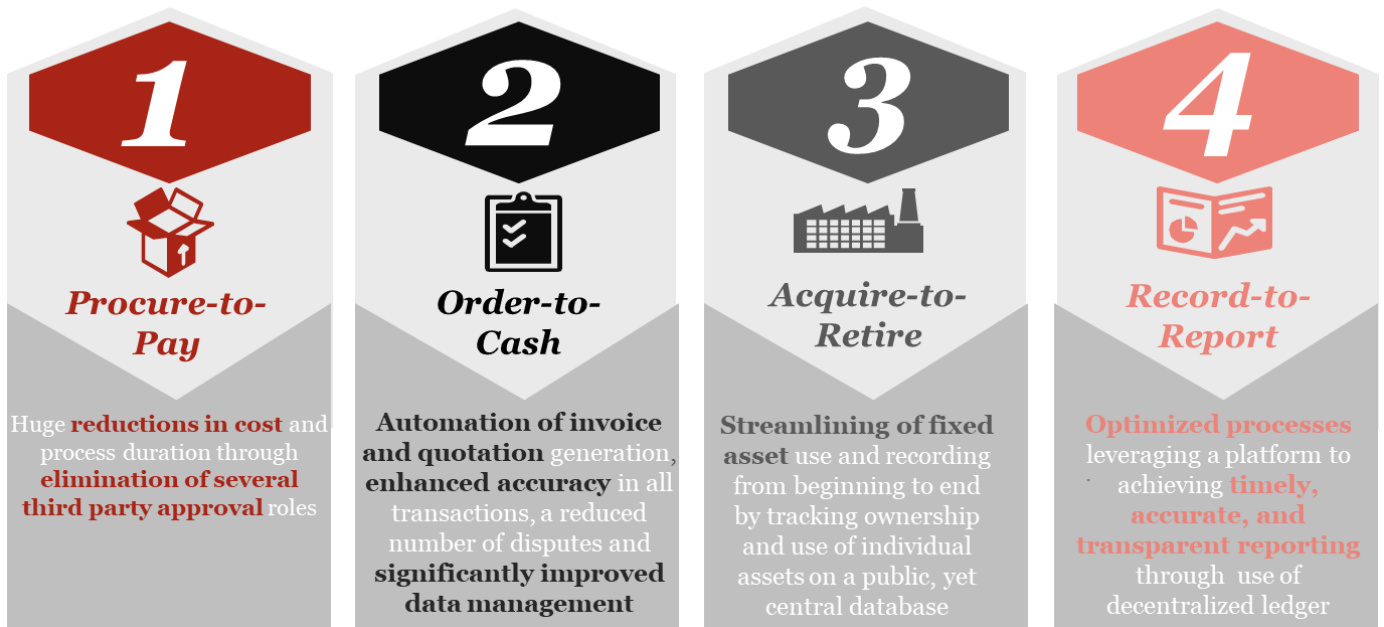
5.2 Property and Cash Flow Management (OTC)

5.3 Digital Vault Application to the Mortgage Lifecycle



## 1. General Finance Use Cases

Blockchain revolutionizes each cycle within the Finance function

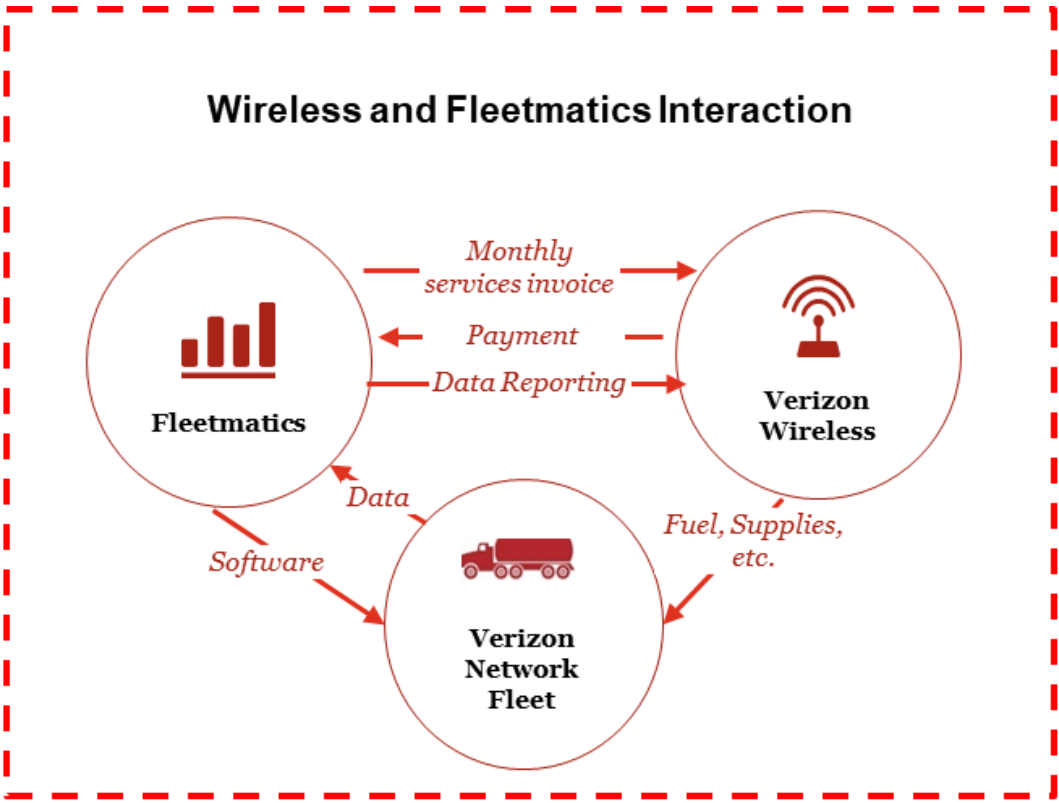


### 1.1 Blockchain Use Case: Inter Department Transactions

**Inter Department data and services invoicing** can be a complex and time consuming process due to ownership of data, batch and manual reporting, and antiquated billing and invoicing processes.

Data integrity lays in the hands of the owner and payment of services is based upon the reliance of the accuracy of this data

**Sensor technology** can capture and monitor throughput volumes real-time, and it can be connected to Blockchain to create single source of truth on which can prevent inaccuracies and create immutable transaction records to speed up the invoicing and payment processes. **Smart contracts** enable autonomous matching that would execute contracts against nominations and minimum volume commitments.



**By enhancing data capture, invoicing and settlement, the intercompany billing through Blockchain can significantly reduce mismatches and improve the month-end close cycle by shifting the focus to more value-added activities**

1.1 Benefits of Blockchain for Inter Department Transaction

Some **Pain Points** across the Inter Department process include:

- Ownership, reliability, and integrity of data
- Manual reconciliation of separate legal entity ledgers and transactions
- Complex intercompany service agreements and enforcement of execution

How does blockchain address these Pain Points?

Real Time Data Collection	Smart Contracts	Shared Ledger Reduces Reconciliations
<ul style="list-style-type: none"> <li>• Sensor technology can monitor throughputs real-time and recorded on an immutable ledger</li> <li>• Reporting on top of a Blockchain can offers tighter control of data integrity</li> <li>• Increases traceability and ease for audits and reviews</li> <li>• Smart sensors and Blockchain can provide real time insight to key drivers and performance indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Smart contract contains terms and trigger events from services agreements</li> <li>• Payments calculated based on agreed-upon throughput volume using Blockchain</li> <li>• Data transfer reviewed and approved simultaneously by multiple parties with reduced hand-off and synchronized volumetric data with monthly invoices</li> </ul>	<ul style="list-style-type: none"> <li>• Distributed ledger provides counterparty transparency by having simultaneous access to view transactional data and allows for quick approval process</li> <li>• Eliminate manual extraction and reconciliation of intercompany transactions</li> <li>• Reduce intermediary parties for manual preparation of invoices and settlement</li> </ul>



### 1.1 Inter Department with Blockchain Smart Contracts

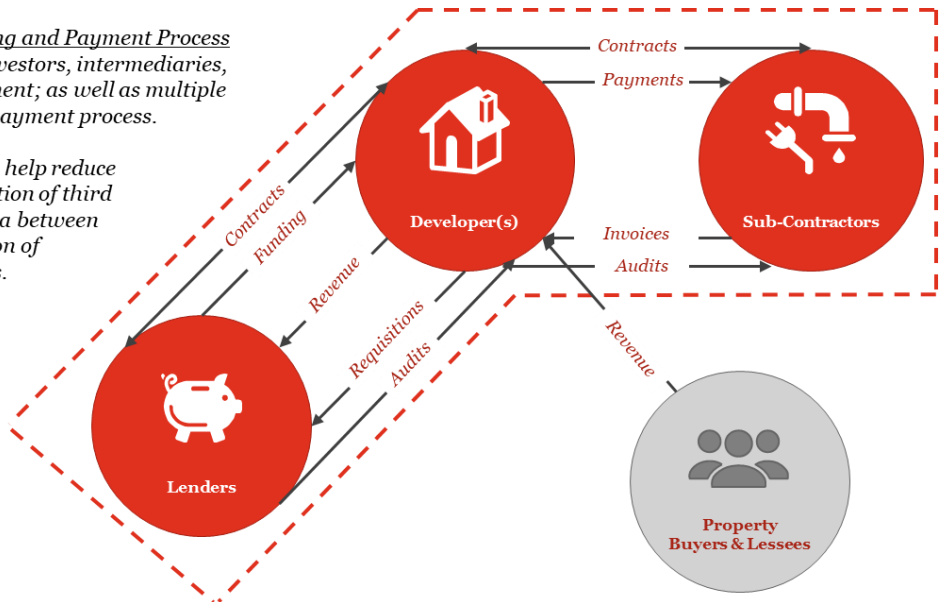
	1 Contract Terms on a Smart Contract	2 Capture Transaction Details	3 Distributed Ledger / Smart Contract	4 Execute Smart Contract	5 Reporting
	1 Contract Terms Codified on a Smart Contract	2 Capture Transaction Details	3 Distributed Ledger / Smart Contract	4 Execute Smart Contract	5 Reporting
Current State	Requirements are manually captured across Excel workbooks and invoicing is issued in batch allotments for monthly service	Data is captured, stored, analyzed and distributed in batches.	Resourcing requirement for issuance of invoices, reconciliations, and matching	Ambiguity around contract fulfillment and completion	Lack synchronization between data source inhibits loads and comparability; cash reporting is burdensome and time consuming
Blockchain Enabled	Terms / business rules are recorded on a smart contract on Blockchain to enable execution based on parameters	Automated digital workflow captures key data at source level and provides traceability	Data fed into immutable / distributed source of record that can be traced, audited and recorded by all relevant parties involved	Terms of smart contracts will be automatically executed, minimizing delays or disputes while automating the invoicing process that can be readily shared with counterparties	Data stored in distributed ledger that is audited and confirmed by counterparties are automatically interfaced with reporting software

## Real Estate Use Cases

### 5.1 Blockchain Use Case: Construction Funding and Payment Process

The Real Estate Construction Funding and Payment Process is complex due to the multitude of investors, intermediaries, and sub-contractors requiring payment; as well as multiple layers of validation involved in the payment process.

Smart contracts on a blockchain can help reduce delays in funding through minimization of third party approval, transparency of data between participants, and automatic execution of payments based on established rules.



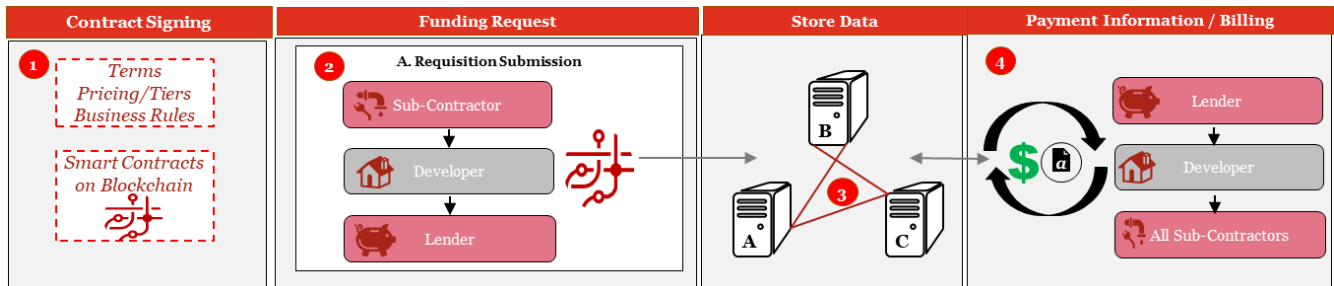
What Pain Points does Blockchain address for Construction Funding and Payment Process?

- Time consuming funding requisition submission process
- Manual funding approval and disbursement with risk for fraud and disputes
- Sporadic cash flow and labor intensive reconciliation



*How does Blockchain address these Pain Points?*

Lengthy Requisition Process	Fraud / Disputes	Cash Flow
<ul style="list-style-type: none"> <li>Recurring reconciliation processes no longer needed</li> <li>Streamline and potentially automate manual aggregation of required documents in requisitions</li> <li>Smart Contracts can digitize and standardize all required documentation, facilitate notifications to parties for required materials</li> <li>Provide lenders with ability to verify / perform due diligence rapidly</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in disputes about requisition due to precise data</li> <li>Fewer audits needed to verify Sub-Contractor on-site work (some physical checks will still remain)</li> <li>Funding approvals and disbursements can be automated through smart contracts</li> <li>Mitigate the number of disputes, and resolution time, through smart contract verification</li> </ul>	<ul style="list-style-type: none"> <li>Real-time payments and reporting executed by smart contracts</li> <li>Minimize reconciliation by smart contract verification of payment</li> </ul>
<b>*Bonus Benefits</b>		
<ul style="list-style-type: none"> <li>Automatic payment execution encourages sub-contractors to enter costs before draw closes</li> </ul>		

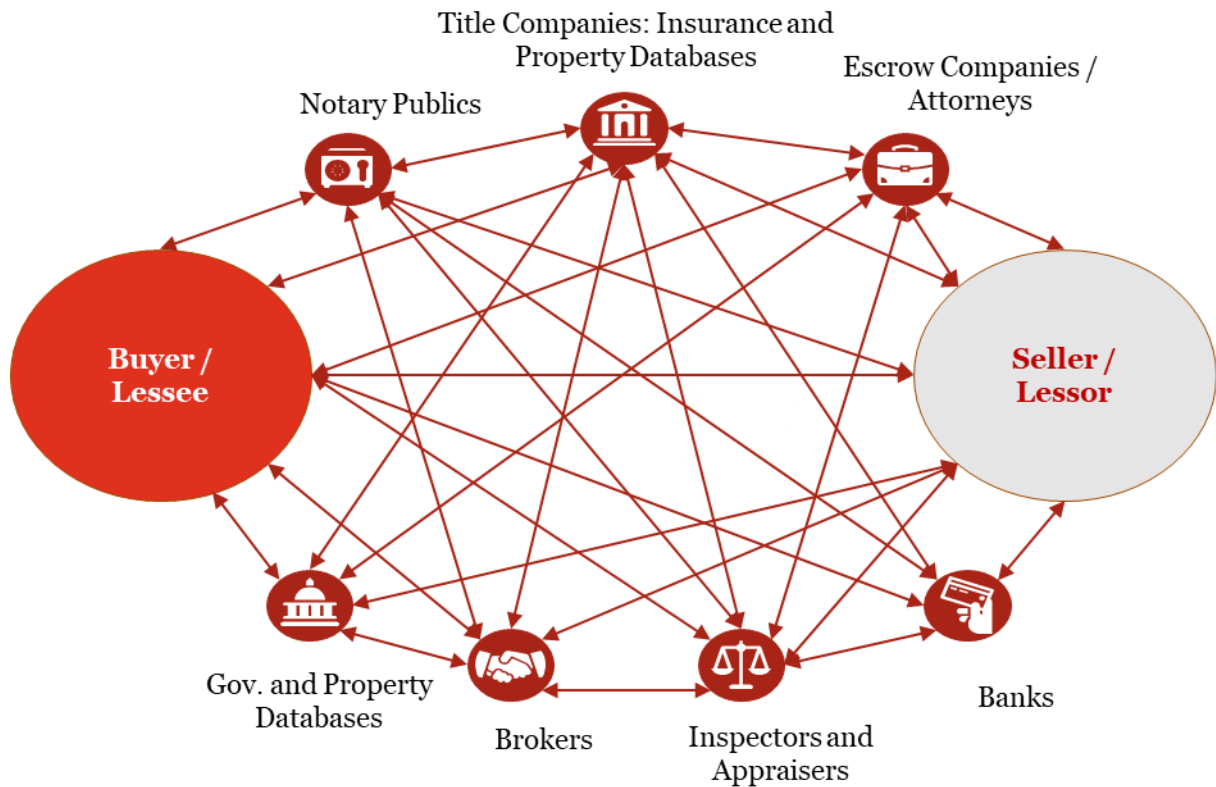


	Contract Signing	Funding Request	Store Data	Payment Information/Billing
<b>Current State</b>	Manual signing and storage (physical paper or across databases)	Requests are submitted manually by the sub-contractor(s) to the developer, who then submits the requisition(s) to the lender	Documentation needed to approve the request is assembled from various participants and stored locally by stakeholders in different formats	Payment is disbursed manually by the lender after extensive review
<b>Blockchain Enabled</b>	Smart Contract agreement digitally signed on blockchain (includes terms, conditions, etc.)	Request is submitted to the blockchain, which distributes the information to all parties	Documentation is uploaded and immutably recorded in a single format viewable by all stakeholders simultaneously	Payment is approved and disbursed automatically via smart contract

**Blockchain Use Case: Digital Vault Application to the Mortgage Lifecycle**

*In the Real Estate industry, the sales and leasing process tends to be unwieldy, opaque and expensive, mainly due to a number of middlemen and 3rd parties that need to be involved.*

*Blockchain and smart contracts can help to eliminate many of these middlemen and make the entire process more transparent and timely*



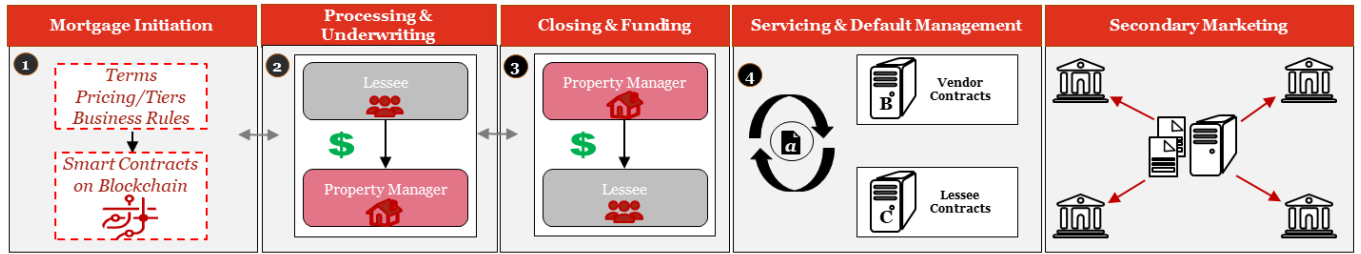
*What Pain Points does Blockchain address for the Digital Vault Application to the Mortgage Lifecycle?*

- Complex network of middlemen
- Lack of transparency for secondary securitization markets
- Lengthy lifecycle for both the lifecycle and audits

*How does Blockchain address these Pain Points?*

Complex Network	Lack of Transparency	Lengthy Lifecycle
<ul style="list-style-type: none"> <li>• Permanently remove specific parties in value chain (ex: title companies)</li> <li>• Reduces role of multiple parties (ex: escrow companies &amp; legal teams)</li> <li>• Provides all parties with real time access to data</li> <li>• Buyer: Reduces cost associated with numerous middle men</li> <li>• Seller: Fewer interactions required in Sales and AR</li> </ul>	<ul style="list-style-type: none"> <li>• Atomic level of data available to provide immediate identification of mortgages for securitization</li> <li>• Reduced risk of fraud</li> <li>• Transactions recorded and verified by all parties</li> </ul>	<ul style="list-style-type: none"> <li>• Make data available in real-time to all parties</li> <li>• Reduce effort needed to audit any process / documentation</li> <li>• Reduce number of contact points in the value chain</li> </ul>
<b>Bonus Benefits</b>		
<ul style="list-style-type: none"> <li>• Transformative change to streamline the mortgage lifecycle to be significantly more efficient</li> </ul>		

Digital Vault Application to the Mortgage Lifecycle enabled with Blockchain Smart Contracts



	Mortgage Initiation	Processing & Underwriting	Closing & Funding	Servicing & Default Management	Secondary Marketing
<b>Current State</b>	Originator leverages multiple systems / databases to record required information	Manual process to store multiple documents	Due diligence requires manual efforts to confirm all standards and requirements were met	Contract Management requires verification of transactions and identify defaults	Manual Evaluation across databases required to identify loans that meet criteria for securitization
<b>Blockchain Enabled</b>	Loan-level data is stored in "digital vault" that can be verified by all parties in value chain	Documents are digitally time stamped and immutable, including the 1003, underwriting conditions, FICO, etc.	Provides proof that all institutional, investor, and regulatory standards were adhered to prior to funding	All transactions are recorded and stored, available in near real time and streamlines reconciliation process	Provides seamless access to historical info; allows for loans to be indexed, searched, and flagged for securitization