

CELENT

FINDING THE PERFECT NAIL FOR THIS HAMMER

DLT and Blockchain in Action in Insurance

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EXECUTIVE SUMMARY

As with most emerging technology, DLT's initial hype has led to a clearer understanding of its real potential and shortcomings. For now, its promise to revolutionize insurance has fallen short.

Distributed Ledger Technology (DLT) and blockchain—a specific type of DLT—provide a secure and clear record of truth that enables verified consensus and reconciliation of transactions, leading to greater operational efficiency, cost reduction, fraud reduction, transparency, faster payments, and innovation of new products, such as parametric or peer insurance. The value of DLT-based solutions is greater when multiple parties are involved and need simultaneous access to a single dataset with reliability and traceability.

Insurance processes have many features that could benefit from a shared ledger approach. Generally, there are multiple parties involved in the value chain, including prospects, insured, agent, insurer, customer service representative, estimator, claims adjuster, auditor, regulator, lawyers, and courts of justice.

Any or many of these parties may be actively involved at different times throughout the life of a policy. Relevant information is added to different data sources by different parties at various times, resulting in multiple sets of facts. Settlement, balance sheet, and reconciliation functions occur repeatedly, at different times, by different participants—both while a policy is in effect and after it has expired.

The level of DLT adoption is still low in insurance but has interesting potential, especially in providing an immutable audit trail that promises to reduce costs, collapse time, and increase service. However, customers' personal data and policy information residing on blockchain must comply with existing privacy and data protection regulations. In addition, decentralization strengthens information exchange and reduces the benefits of information asymmetry. This provides new challenges for price management, product development, and claims services, among others.

Completely fulfilling the promise of blockchain requires substantial changes in the business process. However, these alterations bring attractive benefits. A single, immutable source of truth that can be accessed globally and is updated in near real time would greatly help eliminate the failures in cost and service involved in the insurance supply chain.

INTRODUCTION

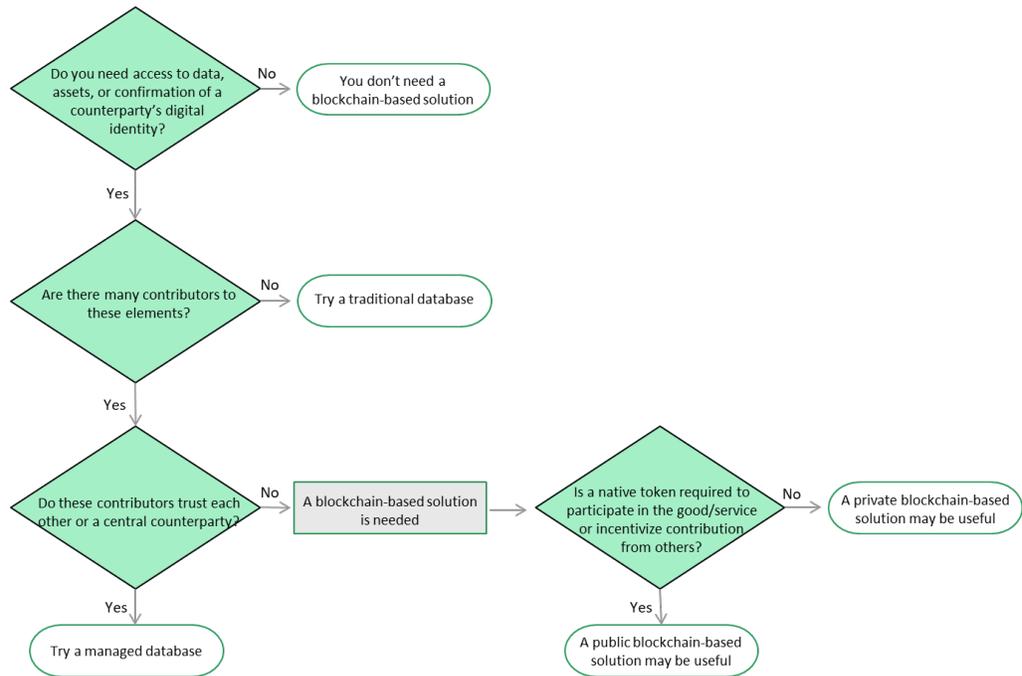
Since 2014, Celent has been monitoring the potential and use of blockchain, and then DLT, in the financial sector. At first it was associated with the banking world, especially fintech startups and in the area of payments. Since then it has evolved and is being used by leading financial institutions and in the capital market industry in a variety of use cases. Most recently we've seen traditional insurers and neo-insurers moving into production initiatives that not so long ago were only in proof of concept (PoC) or pilot mode.

However, as with most emerging technology, the initial hype has led to a clearer understanding of its real potential as well as its shortcomings. For now, the initial promise of DLT to revolutionize insurance has fallen short.

As with any promising and new technology, DLT and blockchain are often discussed in terms of being a proverbial "hammer" for many solutions, which in turn look like nails. The fact is that many potential applications could be built on a number of different technologies and platforms.

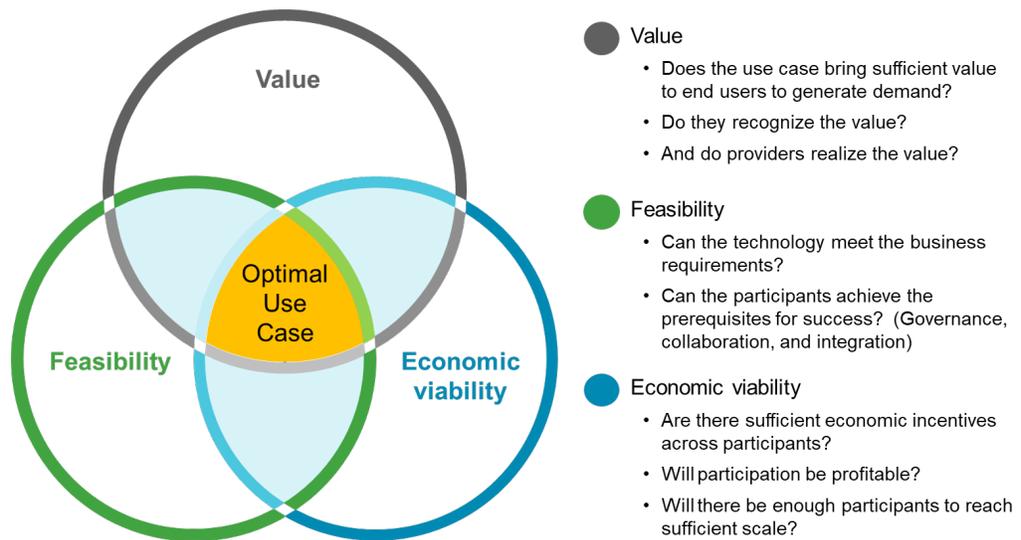
How does an insurer identify solutions that are best suited to blockchain and have the greatest return potential? The decision flow shown in Figure 1 attempts to simplify finding the answer.

Figure 1: Do I Need a Blockchain-based Solution?



Source: Celent

The transformative opportunity of applying DLT in insurance is being discussed. Unlike with other technologies which transform at the firm level, its major potential is bringing transformation at the market level. However, this is one part technology and five parts other factors. To be transformative, a DLT use case must land in the middle of the golden triangle of market value, overall feasibility, and economic viability (Figure 2). Therein lies the challenge. While the technology has increasingly proven its feasibility, it must be coupled with other success factors: effective governance structure, collaborative culture, integration with legacy systems, and a win-win business model. Furthermore, it must be viewed as the best solution by participants. If not, another solution/provider will outcompete it.

Figure 2: Use Case Golden Triangle

Source: Celent interviews and analysis. This framework builds on the classic user experience framework of desirability, feasibility, and viability.

Many examples of potential applications published to date describe a very broad vision that extends across the entire insurance value chain: using DLT and blockchain to mutualize the industry, establishing new peer-to-peer exchanges, etc. These scenarios propose a full substitution of the current value chain or describe a new exchange that operates in parallel with the existing traditional approach.

In our view, the initial value will result from initiatives that are much less broad.

Instead of creating value from a new exchange, the benefits will be the result of eliminating significant discontinuities or frictions of information between various parties in existing business processes. The central objective will be to reduce or eliminate service gaps and inefficiencies that have traditionally been tolerated as inherent costs of insurance transactions: extended wait times, high settlement costs, extensive fact negotiations, etc.

The ideal candidates are those processes with numerous parties, managing data at different times, and involving multiple settlement, balance sheet, and reconciliation routines.

Celent analyzes three use cases¹ in insurance that show strong promise to land in the golden triangle: subrogation, risk transfer through reinsurance, and parametric insurance. As we discuss these and other use cases, we focus on the applications and networks being built on top of DLT and blockchain platforms, that is, where the tech rubber meets the commercial road and economic viability becomes paramount.

¹ The cases and vendors presented in this report are not an exhaustive list, but a fair evidence of what's going on in the market. The fact that a vendor is mentioned in this report does not constitute and should not be interpreted as an endorsement by Celent.

DLT and blockchain-based technology shows promise not only in addressing today's pain points but also in enabling insurers to meet the future needs of their customers. In the commercial space, consider the fourth industrial revolution, characterized by a new era of supply chain management and data collection and analytics driven by technological advancements (e.g., artificial intelligence, robotics, internet of things, and 3D printing). This will change the way commercial customers do business with suppliers as well as their customers. For example, car manufacturers making the leap to real time parts ordering and car sharing will suddenly have to be able to readily make and accept remote low-value payments. As a result, their financial needs will change, including payments, cash management, insurance, and financing. The same will occur in areas such as trade finance and international commerce, for example.

DLT and blockchain-based technology is well positioned to be able to meet next generation requirements for recording digital events, providing a single source of trusted truth for all stakeholders, and enabling events to trigger automatic action via smart contracts.

THE GOLDEN TRIANGLE

While many use cases can be supported by DLT, a few have grasped considerable attention among insurers and vendors. We believe that the three use cases described in this section are the first of many to come that aim to improve the terms of data interchange in the insurance ecosystems.

Subrogation

One of the primary objectives of an insurance company is to reduce exposure and loss ratios, hence claims management functions come under heavy scrutiny.

Claims is also an area where insurers can visibly impact the customer experience: for example, through touchless or straight-through processing for simple claims. However, some complex claims often are outsourced or sold to subrogation companies. Big brokers may use various third party administrators (TPAs) to outsource claims.

Claims processing requires an ecosystem to resolve claims, disputes, and recoveries. Usually there is poor visibility of progress on claims and a need to manage different data requirements within timelines across TPAs, other insurers, subrogation, brokers, banks, arbitration, and internal legal services or external attorneys.

Additionally, the same set of information is used across different parties. An additional challenge reflects compliance and auditing needs, whereas not all the information-related claims files are available on demand, on time, and at a centralized location. A new exposure of a claim can result in an impact on the insurer's reserve and thus expose them to be out of compliance with the regulatory agencies.

The current process is ripe for improvement—putting in place the infrastructure to process claims, securely and transparently, resulting in faster processing time and increased recovery.

In 2018 alone, the total amount demanded and issued through the subrogation process was over \$9.6 billion for all insurance carriers, according to USAA and State Farm, two companies that have put in place a blockchain-based solution to jointly manage their subrogation process.

State Farm and USAA²

State Farm and USAA have put in production a blockchain-based joint subrogation solution for auto claims. Every year, about 75,000 subrogation checks are exchanged between State Farm and USAA.

The companies began working together in early 2018. By using real claims data, they tested how blockchain technology can improve the speed of the auto claims subrogation process. After development and testing, full automation was achieved in early December of 2020.

State Farm's blockchain journey started in late 2016 when Bitcoin started to get on the radar of financial institutions and other large enterprises. State Farm established a group in their labs department to explore and prioritize blockchain opportunities.

The team initially focused on working across multiple business lines, such as the claims department, underwriting, and financial services. The objective was to educate them on the capabilities of the technology and identify and evaluate possible blockchain use cases that State Farm thought could be of value.

In the spirit of learning by doing, they aligned a few of the identified business opportunities with some development teams to create early prototypes. Since then their work has evolved toward a focus on product delivery and realization of business value.

Leveraging blockchain for netting of subrogation payments between insurers has been one of State Farm's top use cases for a few reasons:

- The solution benefits from leveraging the strengths of blockchain technology.
- The type of data involved in processing the risk is already being shared by the organizations involved and does not include highly sensitive customer information.
- There is business value and a clear ROI.
 - The US auto insurance industry today exchanges thousands of individual claims subrogation payments each day in the form of paper checks via snail mail and through highly manual processes.
 - The project was broken down in phases. The phases were aligned with ROI and business value projections. Each phase provided additional insights on the realization of their initial projections and assumptions.

Through this joint solution State Farm and USAA were able to digitize the subrogation process by tracking transactions electronically, its proof of agreement, and calculating a net for the organization's existing electronic payment system to enable an electronic payment exchange.

² Source: Celent from USAA and State Farm public announcements about the initiative; Insureblocks' podcast (Ep.69) with Dustin Helland, Blockchain Product Strategy and Implementation Manager at State Farm.

State Farm’s blockchain solution is built on a Quorum blockchain, based on Ethereum. The company believes that while the solution could be also achieved by a centralized third party managing a shared database, there is more value in using a blockchain-based solution. It provides direct insights into the transactions, auditability, and is tamper proof on a distributed ledger that is on site and managed by the participating organizations, instead of a centralized neutral third party.

However, the auto claims subrogation blockchain project required a different approach as they were working directly with competitors. State Farm involved a team from legal, security, risk, compliance, public affairs, the business, and the IT departments that were supporting the existing processes. Getting that support and buy-in required education, collaboration, and consistent transparency.

With the move to full production, the companies hope to see other insurers sign on to participate. State Farm and USAA are having initial conversations with several insurance companies. To facilitate adoption, they’ve enabled other insurers to get involved easily and at a low entry investment through a beta test. This involves providing them with access to a node where they can test the application and run through some scenarios with State Farm and USAA. They also provide insurers with a full copy of the code if they’d like to set up their own node and run the same test scenarios.

Gigaforce

Gigaforce platform (Giganet) is a SaaS blockchain-based platform designed to expedite claims processing in an ecosystem of insurers, subrogation companies, TPAs, and collection agencies in the insurance industry.

Table 1: Giganet in a Snapshot

Distributed Ledger Network	A digital system for recording the transactions of assets related to the claims information across multiple organizations.
Cloud-hosted	Provides mobility, data accessibility, and connectivity from any channel and anywhere. Connects with existing legacy or core applications.
RPA and Bot Integration	Solution comes with prebuilt data adopters for scraping, using RPA/Bot for the leading core insurance systems.
Remote Claims / Case Management	Provides an organized view of information: coverage type, insurer details, policy number, insurance limits, party insured within that policy, the policy’s effective and expiration dates, and other useful information across organizations.
Chain Interoperability and Value-Added Service	Complete encryption and security of content using the blockchain platform and its integration with other blockchains and other data enrichment sources with a minimal touch.
Data-driven Analytics and Unstructured Data Capability	AI/ML-driven models read data from claims files, and contention builder/scoring module expedites claim processing.

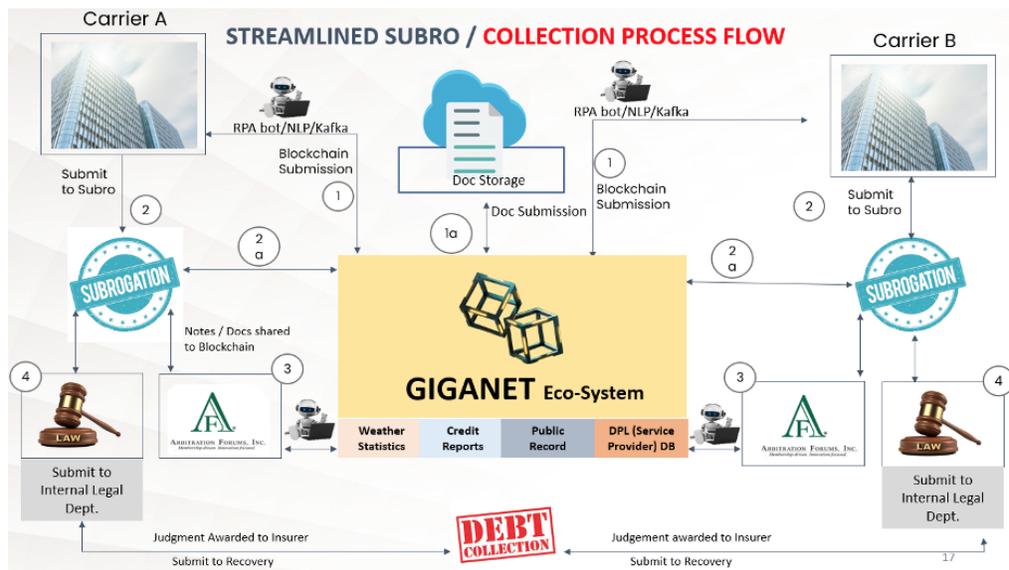
Smart Contract Predefined program for any given action to execute automatically, without human intervention. Allows expedited claims processing like netting, chipping, or automatic payment settlement between the insurers or any multiple parties.

Source: Gigaforce

With Giganet each member in the chain owns its ledger and interacts with the other party’s ledger for any transaction. DLT ensures data integrity, security, and auditability on a real time basis. Smart contract ensures automated distribution of funds transfer and its integrity with core systems.

RPA and other automation technology are used to automate various aspects of the claim’s lifecycle. An AI/ML-driven claims risk model reads data from claim files, witnesses, and pictures.

Figure 3: Subrogation Data Flow



Source: Gigaforce

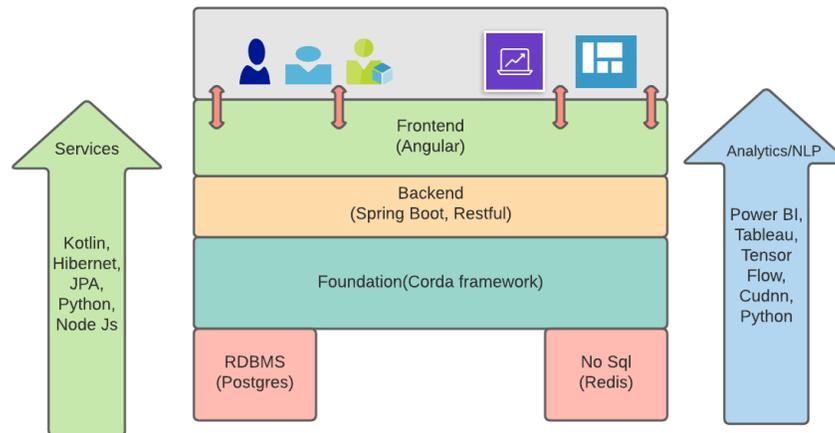
Gigaforce is currently working with [National Service Bureau](#) (a national debt recovery agency) and [Latitude Subrogation Services](#) (a subrogation servicing company). They are in pilot with a couple of insurers and law firms.

To-date Gigaforce has processed:

- Over 11,000 claims
- 200,000 Events
- Over \$2 million worth of claims
- 225,000 money collection transactions
- Over one terabyte of claims data

Giganet runs in Amazon Web Services (AWS) and uses the Corda framework as a foundation.

Figure 4: Giganet’s Technology Stack



Source: Gigaforce

The application has a front end developed in Angular, using Spring Boot, and with options of relational and NoSQL database management systems. Other technology included is used for analytics and enabling services.

Addenda³

Addenda was a blockchain-based motor insurance subrogation ecosystem in the UAE. This is a case of a “hammer looking for the perfect nail” situation, as described by its founder.

The focus on subrogation arose from seeing how manually intense this process is. Addenda chose to focus on auto insurance because they wanted to start with something that’s both high volume and low value in claims. Property insurance has very high value but low volume. Medical insurance involves a large amount of personal information, which opens a new set of challenges. Auto insurance ticked all the boxes.

On average, over 20 documents need to be exchanged per auto claim in the UAE. With over 2,000 claims happening per day that’s 40,000 documents moving back and forth via courier or fax between the insurance companies. The way the process is traditionally managed can result in inefficiencies such that a \$1,000 claim can take between 3 months and 2.5 years to reconcile on the back end.

³ Source: Insureblock’s podcast (Ep. 83) with Walid Daniel Dib CEO and co-founder of Addenda; [The National News](#).

The solution

What the blockchain-based solution did is provide transparency on how much each participant owes the other. Every insurance company had access to a single point of truth where there is no need for reconciliation.

While a centralized database managed by a third party could have been a solution—and there actually was an attempt to do this that failed—a blockchain-based solution was a better fit and avoided the issue and concerns around data security that UAE insurers have. It also provided them with an opportunity to collaborate and save money in the process.

Addenda provided insurance companies with the option to host their data on their own nodes. Addenda was the custodian of the network, but insurance companies controlled their private and public keys. Documents were encrypted and stored on a Microsoft Azure UAE cloud.

The blockchain-based subrogation solution for auto claims was ready by December 2018 and Addenda signed their first client, Watania, in July 2019. Seven more insurance companies signed after that.

The team at Addenda built an ROI calculator on Excel that considers the number of claims in subrogation, per month, along with different cost elements such as labor, supplies and printing, and physical and digital storage.

However, the government has quite advanced and faster processes to deal with car accidents. If the parties agree on who is liable, they each take a few pictures and a police report is issued within half an hour via a URL and is sent along with the pictures to the insurance company. From here it was obvious that the back-end process could be improved.

Despite such opportunity and after a few years in the market they decided to pivot its business model and become an insurer. This meant they had to cancel the existing contracts. At the time of such decision, eight major insurers were using its blockchain in the UAE and a pilot was in place involving five insurers in Bahrain. It had also signed up six insurance companies in Kuwait. On top of that, the company had raised \$1.2 million (Dh4.4m) from a group of investors including Oman Technology Fund, 500 Startups and AB Accelerator – the FinTech-focused venture capital arm of Arab Bank.

Pivoting the business model was a founder-led decision backed by its investors, seeking for larger returns.

It's unfortunate to see an initiative like this get closed after having demonstrated to their customers there was value in what was being done.

Most of the eight insurers participating in the Addenda consortium in UAE were based out of Abu Dhabi. Their CEOs meet on a regular basis to decide what the next features should be.