MarkLogic®

INSURANCE 360: CUSTOMER, RISK AND OPERATIONS DATA

This whitepaper addresses the key issues the insurance industry is facing today and provides a technology perspective for achieving complete views on your Customer and Risk practices, as well as means to streamline Operational Efficiency.

EXECUTIVE SUMMARY

Risk management, client retention, and business acceleration through operational efficiency are the three most pressing issues facing the insurance sector – and are actually related to the same challenge: no complete view of the truth exists today.

Insurance companies – like other large enterprises – have data widely spread across silos (CRMs, policy & claim management systems, billing systems, EDM, Web, social). So designing an effective data management strategy becomes a real challenge. With new information and new data feeds coming in every day, it is increasingly difficult to achieve timely data integration to support real-time portals for customers and agents as well as data analytics, especially if your operations depend on a relational technology. And, frequently organizations wind up creating new data silos to support new applications – compounding the difficulty of ensuring good data governance.

A McKinsey survey regarding enterprise risk management in insurance, published in July 2016, found that one-quarter of respondents cited "data governance and quality" and another quarter cited "automation and speed of data gathering" as their initial improvement priorities. Both of these concerns stem from the need to validate and centralize data before you can use it effectively. The main problem here is the centralization; legacy systems weren't designed to scale and handle the variety of data needed across the modern insurance company.

Leaders in the insurance industry are adopting a new approach to help them deal with these challenges – they are implementing an operational data hub providing specialized complete views based on consistent, relevant, accurate and trustworthy data – the golden record.

Complete 360° views help business users make the best decision or push the best offer at the right moment, by providing all available information and insights – whether the data is coming from operational structured systems, emails, tweets, or documents.

In this whitepaper we describe why you need a 360° view across your customer and risk data, identify approaches to improving operational efficiency, outline the advantages of implementing a data-centric operational data hub architecture, and provide a practical example of a successful business case within a Fortune 500 Insurance provider.

Integrating Data from Silos

> **"** Insurance is a business of managing risk – but you can't accurately calculate your risk if you can't effectively access and use all your data because it's tied up in data silos."

CUSTOMER 360

Insurance customers no longer behave the same way they used to. The explosion of digital channels has dramatically changed how they interact with agents and insurance companies. So insurance companies must reconsider how they reach, engage and serve them. Customer Experience is the new battleground as carriers strive to differentiate themselves from their competitors, create loyalty and ultimately increase profits.

Customers now dictate which channels they engage through, so it's paramount that organizations respond swiftly and appropriately. Mobile apps and web interfaces are replacing direct agent interactions. The speed of interaction has increased and the actual time spent with the customer is decreasing. If your customer experience is lacking, your customers will shift to agencies and carriers that serve their needs most efficiently. This direct interaction encompasses all phases of the customer life-cycle: quotes must be faster and web based, policy management and annual reviews automated, and the most successful carriers will streamline their claims and loss notification processing.

Agencies are now demanding that insurers become customer-centric and leave behind the current policy-centric model. The old policy-centric business processes keep your customers at arms-length. Field adjusters, partners, and customers want mobile apps and relationship-enabling capabilities, but these are costly and complex to implement with rigid legacy infrastructures.

How do you have a single, consistent – and persistent – relationship with a customer who engages across multiple channels?

In order to effectively engage with customers, Insurance companies need to bolster their technical capabilities to perform a number of key functions in a cost-efficient manner, such as:

- Integrate customer data from all sources and processes into a coherent 360° view
- Ensure data security, especially important with the coming EU GDPR regulation
- Enable powerful search across all data types and emerged social media channels to produce meaningful real-time results
- Future-proof for an ever-increasing volume and variety of incoming data
- Scale and adapt to new load and applications
- Reduce the manual work and focus on value-added activities

RISK 360

Insurance is a business of managing risk – but you can't accurately calculate your risk if you can't effectively access and use all your data because it's tied up in data silos. This threatens both your margins and your competitive position – and leaves you vulnerable to compliance issues as well.

Consider the time your data scientists spend on analyzing data. A Wall Street Journal article states that data scientists spend 80% of their time loading and shaping data instead of actually doing analysis; the right technology can enable your organization to significantly increase the efficiency of your data science teams, freeing time for value-add activities such as predictive analytics.

According to McKinsey, leading insurers are retooling the role of their risk function from incident response and compliance to become an essential partner in advancing the business strategy. This shift in roles requires risk departments to have better tools and a near real-time access to the business operational data. They can no longer afford lengthy cycles of data modeling and ETL; data scientists need to focus on transforming data to actionable information.

> **"** Insurers are building comprehensive and real-time dashboards that measure risk across their lines of business integrating operational data from all the business' applications."

Some of the new tools insurers are building include comprehensive and real-time dashboards that measure risk across their lines of business integrating operational data from all the business' applications. These dashboards are supported by key capabilities such as:

Automating the integration of policy data from all business lines to better track and understand underwritten risks in real-time.
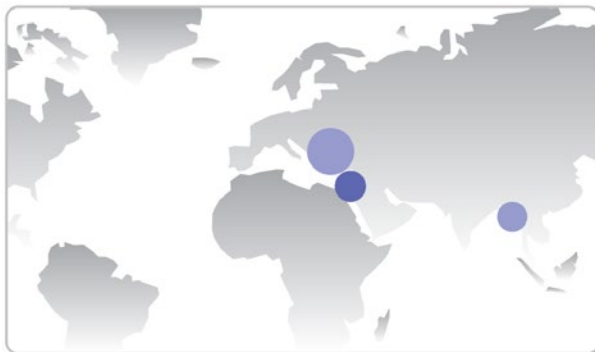
Geospatial capabilities that help actuaries and risk management professionals visualize hot spots and risk distribution, cross-linking internal data with information about traffic, natural catastrophes, weather, demographics, etc. to discover underestimated risks or prevent claims.

Alerting features that trigger messages and enable workflow processes to react immediately upon new information entering the operational hub. Imagine the business process changes made possible when you can discover, classify, and react to new information without the scalability problems normally encountered with database triggers.

OPERATIONAL EFFICIENCY

Insurance carriers are heavily data siloed, with departments relying on disjointed legacy applications and manual processing. Work and data flow between the different departments is complicated and time-consuming. This is mainly the result of 40+ years of internal IT development, started with mainframes and continued with relational databases, SOA architectures, 3-tier packaged software, web portals, data warehouses, data marts, and so on – each new business requirement and technology shift creating a new data silo.

Additionally, insurance firms are traditionally organized by lines of business, meaning that applications are duplicated in each business silo. It is common to see different CRM, quoting, billing and underwriting, and other key systems serving each line of business. Furthermore, insurance data has typically been organized on a policy-centric basis, leading to customer redundancies on each of his/her policies, with various status updates and information.

Consolidation in the insurance marketplace is common, and the M&A activity has turned insurance companies into incredibly complex organizations. Their IT teams and business analysts must accommodate multi-staged data migrations affecting information quality and completeness. The fallout from merger events for an IT department is devastating; legacy systems simply weren't designed with agility and scalability in mind. The solution isn't to replace all these functioning applications, but rather integrate and leverage the data they contain in a single operational hub, as described below.

CHOOSE AN AGILE ENTERPRISE-READY PLATFORM

Before you can consolidate and simplify, the business must understand its data and workflow. Without an agile platform to land and analyze all the data across the businesses it is impossible to consolidate systems. Businesses often spend years with a Hadoop-based "data lake" strategy trying to sort out this data variety problem, usually without success. Landing data in Hadoop is easy; where this approach falls down is in getting data out and turning it into actionable information.

> **"** A recent global research study by MIT's Sloan Center for Information Systems Research quoted in the Wall Street Journal found that firms that 'share business technology across units and departments grow faster and have lower costs than rivals that don't do it as much. By taking advantage of what they already do well, these firms can devote more energy to real innovations.'**"**

An agile database platform will make it easy to get data in and easy to get data out. You also need to ensure that it is enterprise-ready – so you can trust it to run your business-critical operations.

TECHNOLOGY TO SHARE SUCCESS, NOT JUST THE DATA

Research shows that firms can achieve huge cost savings, boost their profit margins and revenue growth by creating technological synergy across functions and business verticals. A centralized, scalable data hub is the clear path to achieving this synergy.

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A NEW ARCHITECTURE: THE OPERATIONAL DATA HUB

Forward-thinking Insurance companies are adopting new approaches that go beyond a discovery-only Data Warehouse or point-to-point SOA data integration. Instead, they align and unify to a data-centric operational data hub architecture – integrating their data with a central, agile platform that can support a variety of analytical and operational business needs.

This data-centric approach (vs application-centric approach) results in a number of key benefits for the firm at an enterprise level:

DATA SECURITY

Market research shows that more than 50 percent of security breaches are the result of a careless employee. This presents companies with three major risks:

- Compliance fees as regulations continue to tighten up with regards to data privacy. EU GDPR coming into effect in May 2018 is just one example

- Brand and reputational damage especially if a lawsuit takes your company to court and into the media

- Customer churn as consumers are empowered to know and make data privacy requests at any time

Minimizing the impact of a data privacy breach due to a human error requires adequate legal and compliance policy and education of employees. Centralizing your data management in a platform with government-grade, granular security controls will ensure that data is only shared with appropriate individuals or organizations.

DATA GOVERNANCE

Another critical factor is that an operational data hub approach is based on a robust framework able to identify where all the sensitive data is located within an organization – even if it comes from multiple systems.

For example, an organization may have gone through multiple mergers and acquisitions, each of which introduces systems that may contain duplicate data. Each of these silos may contain personal data, and it will typically be challenging for an organization to

achieve a view of exactly what data sits where, how it's related, when it was updated, and who or what consumes or accesses it.

CUSTOMER CENTRICITY

The rise of social media has created many opportunities for companies to engage better, faster and more frequently with their customers and gain richer insights. But it hasn't – in many instances – enabled them to fully embrace customer centricity. This is due to the fact that many organizations still rely on relational technology and siloed systems across their departments and lines of business, making it impossible to integrate and analyze social media or unstructured data.

Research by the CMO Council in collaboration with SAS quoted by MarketingProfs has shown that 40 percent of the marketers and 51 percent of the IT employees surveyed viewed Big Data critical to the ability to develop and execute customer-centric programs. However, 52 percent of the marketers and 45 percent of IT professionals said that data that is in silos across an organization makes it difficult to really achieve customer-centricity.

What's important to recognize about this data is that it comes in many shapes and sizes; whether relational data coming from a CRM system, or legal documents, or web data, or marketing pdfs. Having a system that can process any shape of data is important in bringing silos together and creating a truly 360 degree view of that data. Traditional relational systems will struggle with this variety of data.

A SOLUTION TO UNIFY YOUR DATA – OPERATIONAL DATA HUB

The MarkLogic® Operational Data Hub solution helps organizations better leverage information assets – by implementing a data-first enterprise architecture for all business data. The Operational Data Hub architecture brings applications to the data, instead of requiring you to spend time and money moving and copying data between applications. It brings architectural agility to your organization, letting you incrementally implement your data strategy – and embrace change as the norm, not only for data analysis but also for the operations that run your enterprise.

And, because the Operational Data Hub solution is based on the MarkLogic Enterprise NoSQL database platform, you are ensured of enterprise-grade reliability, resiliency, consistency, and government-grade security for your information assets.
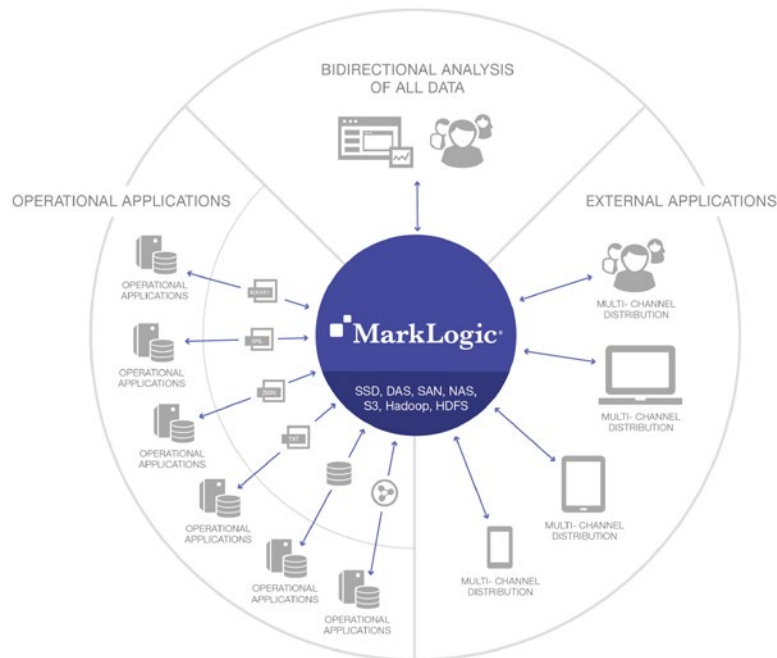
High-level Architecture of an Operational Data Hub

The flexible, agile Operational Data Hub architecture integrates heterogeneous data and provides your organization with powerful data services to support real-time business applications, delivering:

- reduced application delivery time – without sacrificing data governance

- a more efficient Master Data Management strategy

- the agility to manage change and innovate as new business needs arise

- the ability to align analytical activity with operational priorities

CUSTOMER 360 USE CASE

A top 20 US property and casualty insurance company was struggling to compile and maintain a single, well-defined version of its customer and agent data. Prior to MarkLogic, gaining a golden record of the company's customer and agent data involved using massive ETL processes to match and merge customer and agent data from multiple sources. Matching up customer and agent data from new data sources involved in some cases up to 18 months to re-work the data model. These limitations made it difficult to build internal and external applications using its customer data. Customer service agents tasked with verifying policy information for new policy enrollment purposes found it difficult to ensure that they were referencing the correct version of customer data.

In a "bake-off"-style competition, MarkLogic won against the company's existing relational database management system (RDBMS); the company's IT team developed a proof-of-concept application using the MarkLogic Enterprise NoSQL platform in a matter of 3 weeks and 300 hours – while after 1700 hours, the RDBMS team had failed to even load the data. The ability to accelerate our client's IT delivery cycle through the MarkLogic platform was key to their decision to put MarkLogic at the center of their long-term integrated business strategy. MarkLogic is viewed as a critical partner for their operational retooling planned over the next decade.

RELATIONAL VS MARKLOGIC

Real-world results: MarkLogic improves time-to-market, flexibility, and agility for customers around the world.
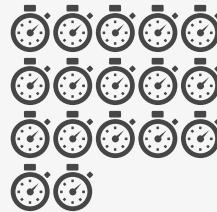
RELATIONAL

MarkLogic®

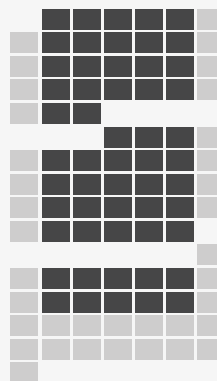**3.5** Developers

2.5 Developers
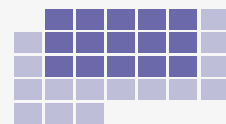
1700 Developer Hours

300 Developer Hours

11 Weeks Elapsed

3 Weeks Elapsed

MarkLogic's native XML and JSON support made it possible to store the golden copy of customer and agent data without ETL delays. This flexible data model enabled the company to quickly match up customer and agent data records from new sources no matter the format of the new source. As a result, customer service agents can quickly verify customer information related to new policy enrollment, enabling higher levels of customer satisfaction and retention.

Our client has named MarkLogic its standard for systems of record and consolidated data stores. Their future vision is for MarkLogic to become the central Operational Data Hub interfacing all data sources and applications. The platform will be used to support online insurance policy enrollment and manage the golden record of all sales agency data, customer data and all consolidated data stores across the enterprise.

RELATED MATERIALS

Webinar: Insurance 360
Listen to our Insurance 360 webinar as well as other recent webinars relevant for the Insurance market.
www.marklogic.com/ondemand/insurance

Solution: Operational Data Hub
Evolve beyond SOA and Data Warehouses and align and unify your enterprise to a data-centric architecture.
www.marklogic.com/solutions/operational-data-hub/

The Untold Story of Rescuing HealthCare.gov
Find out how MarkLogic's technology and team produced results in the most mission-critical project in the history of CMS.
www.marklogic.com/resources/the-untold-story-of-rescuing-healthcare-gov/

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