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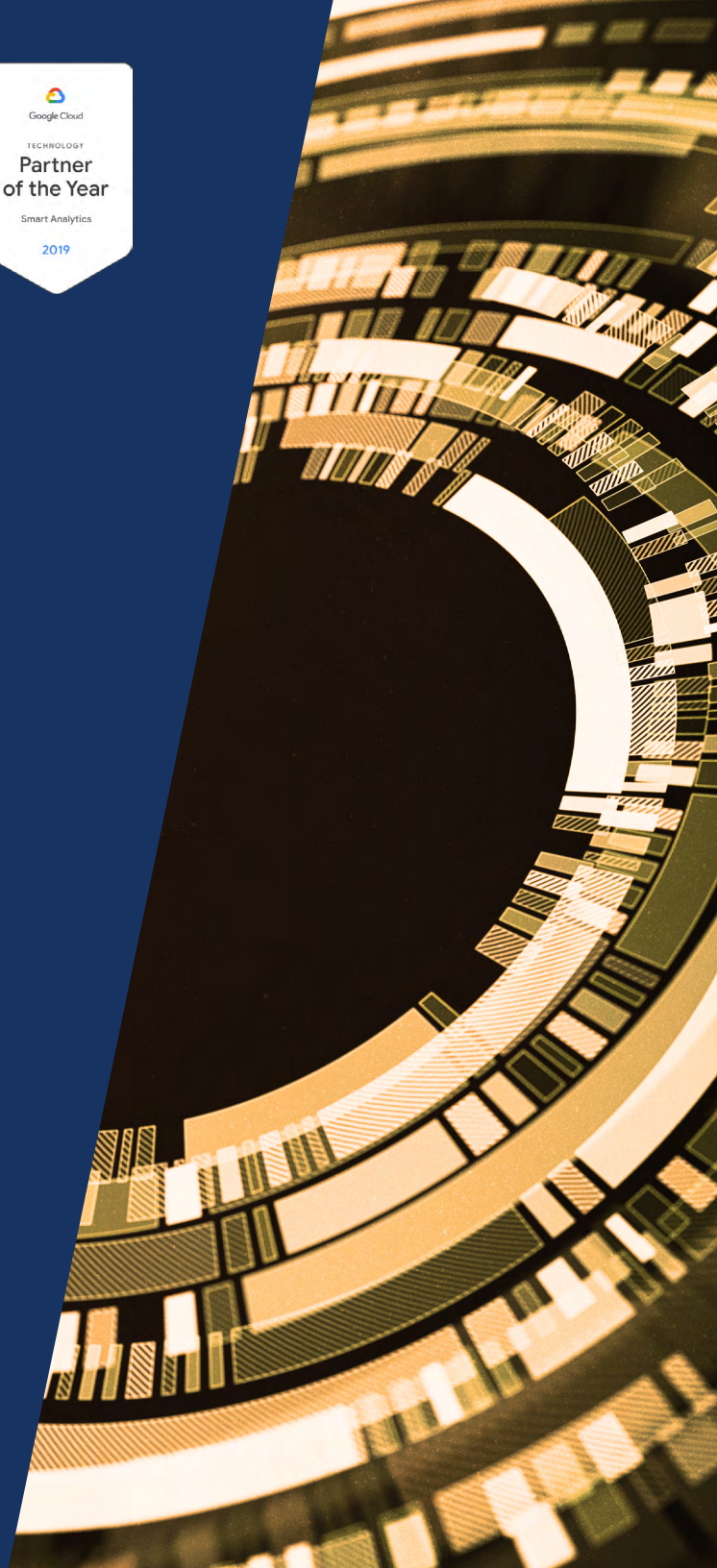
Insuring the Future through Data

Google Cloud and Confluent event streaming can help you deliver innovative new insurance products while reducing cost and risk.



A new breed of insurtech players is disrupting the insurance industry. They are born in the cloud and typically reach customers online rather than through traditional brokers and agents. Plus, they offer a new kind of highly personalized experience that relies on predictive technology to create individualized premiums and self-service claims management. Examples include Lemonade, Ethos, and Root Insurance.

Traditional insurance companies are having trouble keeping up. Many rely on legacy technologies and batch processing to support routine processes, such as underwriting, customer onboarding, and claims adjustment. Data may be scattered across multiple disconnected systems, which can make it hard to perform the analyses companies need to innovate. For example, only 10% of insurance CEOs say they have comprehensive customer data.[1]

To succeed in this environment, insurers must adopt more advanced, predictive technologies and unify their data so it can be accessed and processed in real time. That is why a growing number of insurance providers are choosing Google Cloud with event streaming made possible by Apache Kafka® and Confluent. Together, these technologies can combine disparate data in real time to help you:

- → Create a digital and personalized experience
- → Improve operational efficiency and reduce costs
- → Manage risk by detecting fraud and improving compliance with regulations

This e-book explains how insurers can use Google Cloud with Confluent event streaming to create a modern insurance experience while controlling costs and risk.

Why insurers are moving to the cloud

The insurance business is as old as commerce itself. Traders in ancient Babylonia, China, and Greece all developed insurance-like strategies for reducing risk. Despite this long history, the insurance industry is changing fast—and it is rapidly adopting cloud technology.

According to a survey by Accenture, 70% of insurance leaders say they have already done formal planning and analysis on moving legacy applications to the cloud.[2] In fact, they have earmarked 11% of their IT budgets for cloud through 2022.[3]

A convergence of several trends, which we will explore on this page, is driving these investments in cloud technology.

Accelerating demand for self-guided sales and services

Millennials and Gen Z represent a fast-growing market for insurers. This new generation of insurance consumers, however, prefers using digital channels to interacting with sales reps and insurance brokers. In the U.S., 58% expect to use a robo adviser by 2025, while 71% want access to self-service technology as well as human advice.[4]

For insurance companies that want to stay competitive, a website or digital portal where customers can get price quotes, buy policies, submit claims, and check the status of claims is a must-have. Building a scalable digital presence is much easier when you are in the cloud.

Increasing investments in predictive analytics

Insurance is all about using data to accurately forecast risk. Not surprisingly, predictive analytics—often powered by machine learning—are extremely attractive to insurance providers. More than 80% of insurance industry CEOs polled in a PwC survey say that artificial intelligence (AI) either is already a part of their business model or will be within the next three years.[5]

Research also suggests that predictive analytics may have benefits for both front- and back-office activities. For example, with predictive analytics, life insurers plan to enhance their customer experience by offering faster service (84%), more personalized experiences (71%), easier access to policy details (64%), and more mobile-friendly interactions (58%).[6]

Moving to the cloud is an important step toward designing a platform that can unify data and handle big computational loads.

Streamlining operations

Insurance companies are laser-focused on maintaining profitability without compromising the customer experience. To do this, they must continually improve efficiency and minimize operational costs. When asked about their plans to drive growth over the next 12 months, 70% of insurance CEOs said they would rely on operational efficiency to drive profits.[7]

Moving to the cloud can help insurance companies begin to automate manual processes and make a transition from batch processing to real-time computing. Adding real-time data pipelines with solutions like Kafka can add further efficiencies and improve the customer experience at the same time.

Rising—and more sophisticated—insurance fraud

Unfortunately, fraud tends to evolve in lockstep with technology, and today's insurers are coping with more fraud than ever before. According to the FBI, the total cost of insurance fraud (not including health insurance) is more than $40 billion per year.[8] And the National Health Care Anti-Fraud Association estimates conservatively that health care fraud costs the nation about $68 billion annually—about 3% of the nation's $2.26 trillion in health care spending.[9]

Moving to the cloud—and adding real-time event streaming—can help insurers adopt more advanced fraud detection techniques that rely on big data and predictive analytics to spot fraud earlier and mitigate losses.

What event streaming is—and why insurers need it

A brief overview of event streaming

Events

Every customer transaction creates data. Developers call such a transaction—including premium payment, claim filing, and account notification of a life change—an *event*.

Event streaming

Also called event stream processing (ESP), real-time data streaming, or complex event processing (CEP), event streaming is the continuous processing of real-time data directly as it is produced or received, as opposed to the older paradigm of batch processing.

Event-driven architecture

When an event streaming platform is at the core of an organization's architecture, it becomes possible to centralize all data and distribute it to every application or system within the organization.

An event is a collection of information at a given point in time. For example, it can be a customer's request for a quote on a new policy, a claim submission, or a payment. Event streaming is a new paradigm that sees data as a continuous stream of events. These streams can be contextualized with historical data points to generate new events—such as a personalized premium or risk assessment—in real time.

Insurance companies can use event streaming to capture customer and risk data in real time, power predictive analysis, and make better decisions. Kafka is an open source, distributed streaming platform that is today's de facto standard for event streaming. Founded by the original creators of Kafka, Confluent offers enterprise-scale solutions that make Kafka easier and more cost-effective to secure, operate, and integrate seamlessly with Google Cloud.

How Google Cloud and Confluent can position insurance companies for the future

Google Cloud has embraced automation to make the cloud easy to use and to help insurers and other businesses accelerate their digital transformations. Confluent makes it enormously easier to collect and synthesize data in real time. By combining the power of Google Cloud with event streaming from Confluent, insurers can speed achievement of business goals like transforming the insurance experience, streamlining operations, and reducing risk and fraud.

Transform the insurance experience while growing revenues

Insurance has a reputation for providing a customer experience that is less than stellar. Applying for a policy can often entail completing a stack of paperwork and undergoing multiple interviews. "Cookie cutter" premiums do not recognize each customer's true risk. Submitting claims—and waiting for approval—can be a lengthy and stressful experience.

Using automation to make the overall insurance experience more customer-friendly can change this perception, helping insurers sell more. For example, prospects are 20% more likely to purchase a life insurance policy as the underwriting and application process gets closer to real time.[10] Moreover, the same real-time data and analytics that can improve your customer experience can also identify new cross-sell and up-sell opportunities.

Google Cloud and Confluent support the rapid creation of innovative and convenient customer experiences that also drive revenues by allowing insurers to integrate customer and actuarial data from many sources in real time.

Personalized premiums

Historically, insurance premiums have been calculated based on customers' demographic characteristics and their claims history. Those traditional premium models are blunt instruments that don't drill down into each customer's individualized risk.

Today, much more information is available to insurers, including data from wearable fitness monitors, vehicle trackers, and other Internet of Things (IoT) devices. By collecting this data and pairing it with predictive analytics, you can generate personalized premiums and price quotes for each individual customer. For example, John Hancock has altered its marketing and pricing strategies by using data imported from fitness trackers to generate a steady stream of data about buyers in return for price discounts on life insurance.[11]

Event streaming makes it easy to gather IoT and other customer data in real time, so you can provide personalized price quotes in seconds rather than in days.

Predictive support

Insurance is a service-intensive industry. The terms and conditions of policies can be complex and difficult for both businesses and consumers to understand. Many insurance companies rely on call centers to answer customer questions. These calls can be quite lengthy when customers have to explain their specific circumstances and policy details to service reps.

Today's insurers have more options. AI-powered chatbots can help answer customers' common questions and even walk them through updating a policy or submitting a claim. Using customer profiles and behavioral data, these chatbots can deliver an ultra-personalized experience on demand. They can take the heat off busy call centers and help insurers reduce service costs.

Meanwhile, predictive analytics can also give call centers a complete view of each customer they handle, including their most recent activity and the questions they are most likely to ask. Event streaming allows you to gather and process customer data in real time, so you can offer personalized and predictive customer support over multiple channels.

Smarter cross-selling and up-selling

When prospects and customers interact with your brand through email, chatbots, and messaging with service reps, they generate a large body of written content. The same is true when customers leave comments on social media and review sites. By using natural language processing (NLP)—a form of machine learning—to analyze all this text, you can uncover customer needs and pain points and even fuel recommendation engines and next-best-offer models.

Event streaming lets you unify text from inside and outside your organization in real time to power NLP models, so you generate highly relevant offers and recommendations, up-sell and cross-sell more effectively, and grow revenues.

Improve operational efficiency

Almost every aspect of insurance operations requires data-intensive analysis. Assessing claims requires analysis of data from multiple sources about a specific incident and then determination of its coverage status under the terms of a policy. Processing an application requires some kind of underwriting process or risk assessment that synthesizes data from multiple sources. Forecasting revenues and risks also requires an immense amount of data, especially when it looks more than a few months into the future.

Google Cloud and Confluent event streaming allow insurers to access data from multiple sources in real time, thereby improving efficiency across the board.

Better and faster claims processing

Claims processing is an essential part of every insurance business. Companies must first verify that each claim is valid and covered by the terms and conditions of the policy in question and then determine a fair payment. Because customers depend on insurance payments to get on with their lives and business activities, it is also critical to process claims quickly.

For smaller claims, AI can use incident and customer data to assess claims fast and calculate a payment amount. For larger claims that may need to be processed by humans and undergo multiple rounds of review, real-time automation can ensure that customers can get claim status updates from your website or customer service portal. Typical statuses include first notice of loss (FNOL), claim assignment, referral, review, negotiation of service, and settlement.

Event streaming lets you gather claims and customer information in real time to power efficient, AI-enabled claims adjustment and real-time customer reporting. Because it can pull data from your legacy systems, it can eliminate delays associated with batch processing and data exports.

Simplified mergers and acquisitions

Many insurance companies have grown by acquiring other, smaller insurance companies. This can be an excellent business strategy, but it can also lead to a very complex technology environment. Over time and through multiple mergers and acquisitions, insurance companies can accumulate hundreds of legacy systems and data stores. For example, many companies end up with multiple application, policy, agent, actuarial, claims, and payment systems—and some of those systems may run on mainframes.

While most insurers have long-term plans in place to consolidate these systems, this kind of work can take often take years. With event streaming, you can capture data from legacy systems in real time and make it available to new apps, which allows you to modernize critical functions before your systems integration and consolidation work is completed.

Accelerated order processing and enrollments

Whether or not to offer a policy to an individual or business can be a big and complex decision. Underwriting and risk assessment require many different types of data. As noted previously, some insurance companies are providing personalized premiums on demand via self-service websites and customer portals powered by AI and real-time data. In addition to personalized price quotes, insurers can also automate the underwriting process for smaller policies, using AI to make near-instantaneous risk assessments. This ability can save you hundreds or even thousands of hours a year and allow you to approve and enroll new customers faster.

With event streaming, you can get—in real time—all the data you need to approve potential new policy holders automatically or refer their applications for additional underwriting.

Easier and more accurate event forecasting

Insurers must accurately forecast the likelihood of future events to effectively manage their own risk. For example, insurers that offer flood insurance must understand the probability of floods in every location they cover, and they must continually update their forecasts as new data becomes available.

Accurate forecasts are extremely valuable as insurers set prices and design new policies. At many insurance companies, forecast development requires someone to either export data manually from multiple systems or wait for batch processes. This is both extremely time-consuming and likely to produce less-than-accurate reports based on data that's at least somewhat out of date.

Predictive analytics that combine AI with multiple disparate sources of data—especially in real time—can help insurance companies build more accurate risk models so they can understand their true exposure at any given time. To return to the flood insurance example above, the ability to combine real-time weather data from multiple sources could help insurers to forecast hurricane paths more accurately and mobilize their adjusters to the correct locations.

Event streaming lets you quickly and easily feed predictive apps and models with all kinds of real-time data, so you always have a complete picture of your business and the challenges you may face in the future.

Minimize fraud and financial risks

Insurance companies are focused not only on their customers' risks, but also on their own. Two major risks that insurers face are fraud and financial uncertainty. Nearly three-quarters of insurance leaders surveyed say fraud has increased either significantly or slightly in the past three years.[12]

Meanwhile, insurers must carefully gauge their financial and liquidity risk when investing their premiums. If their investments are not profitable enough, they may be forced to raise rates. Likewise, too many illiquid investments can make it painful for insurers to pay unexpectedly large volumes of claims. With Google Cloud and Confluent, you can obtain the real-time data you need to apply advanced fraud detection and financial risk management techniques.

Detecting fraud

Common fraud types include "padding" or inflating actual claims, misrepresenting facts on an insurance application, submitting claims for injuries or damage that never occurred, and "staging" accidents.[12] Predictive analytics with AI and machine learning can help insurers detect fraudulent activities. Already, up to 90% of insurers are using technology to combat claims fraud, and about half are using it to combat underwriting fraud.[12]

With event streaming, you can detect fraud based on real-time data, so you can find fraud faster and minimize losses.

Reducing financial risk

Insurance companies must manage their investment portfolios actively and continually track their risk, both to protect their business and to comply with regulations. With predictive analytics and AI, you can forecast how market shifts could impact your investment portfolio. These insights can help you identify contingency plans and events that will trigger them.

Event streaming, when combined with predictive analytics, lets you produce accurate risk management forecasts in real time. You can also use it to continually monitor your investments and flag potentially worrisome trends.

Take the next step

Google Cloud and Confluent together provide a strong foundation that allows insurers to accelerate their digital transformations, redefine the insurance experience, and manage costs and risk. With Google Cloud and Confluent, you can be ready to grow your insurance business no matter what's next.

Learn more about getting started with Google Cloud and Confluent:

www.confluent.io/partner/google-cloud-platform

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ABOUT CONFLUENT

Confluent, founded by the original creators of Apache Kafka®, pioneered the enterprise-ready event streaming platform. With Confluent, organizations benefit from the first event streaming platform built for the enterprise with the ease of use, scalability, security, and flexibility required by the most discerning global companies to run their business in real time. Companies leading their respective industries have realized success with this new platform paradigm to transform their architectures to streaming from batch processing, spanning on-premises and multi-cloud environments. Confluent is headquartered in Mountain View and London, with offices globally.

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