Case Study

Allianz Benelux

For major insurer Allianz Benelux, graphs are at the core of its data strategy, positioning them for the future and allowing them to be truly customer centric

INDUSTRY
Insurance

USE CASE
Customer Centricity

GOAL
Analyze current and future risk environments to enhance customer service

CHALLENGE
Relational data analytical solutions were too limited and too computer intensive

SOLUTION
Neo4j graph database to provide linked data view of the customer

RESULTS
– ~€2m business value have been identified since Neo4j came on-stream in early 2018
– Strengthening of overall customer portfolio quality as result of preventing harmful or fraudulent activity

The Benelux subsidiary of the €130bn insurance giant Allianz turned to graph technology to better understand customers and the risk environment. With Neo4j, Allianz gets a full 360-degree view of its customers, which is all set to add incredible value for its customers while also saving money for the firm by avoiding costly inefficiencies through intelligent fraud detection.

The Company

With over 2,000 employees, Allianz Benelux is a truly cross-border organisation serving the three countries of Belgium, The Netherlands and Luxembourg. Allianz Benelux offers insurance solutions in everything from property and casualty to life and health, in a predominantly broker-mediated market.

The Challenge

One of Allianz Group's most successful data-driven operations is Allianz Benelux data office. Allianz Benelux has an estimated annual turnover of €4bn. Having gone through a long series of mergers and acquisitions, however, its customer data has become dispersed and incomplete, a situation which can lead to operational inefficiencies and ineffective customer service.

As the company's chief data and analytics officer, Sudaman Thoppan Mohanchandralal, puts it, "We need to secure customers from risk, not just today but into the future. We can only do that by having full insight into the risk environment and with an ability to predict it for our customers."

Dr. Jan Doumen, head of the School of Expertise of the data office, and strategic theme lead for Customer & Broker Information and Insights, adds: "The best way to understand your customers and the risks they are exposed to on a daily basis is by storing, analyzing and visualizing them through connected data. Graph technology does this at scale, which means we no longer have to rely only on highly demanding, traditional relational technologies."

For example, as a truly customer-centric insurer, Allianz takes a zero-tolerance stance on fraud. Historically, building internal visualizations of suspicious behaviors with relational technology had been far too demanding. Fraud countermeasures, such as network tracking, were simply too difficult to build in a relational database. Sudaman calls this inefficient process a "2 by 2" approach, where SQL database-style tables with rows and columns don't inherently offer the deep, contextual data connections fraud detection and prevention requires. It does not allow them to extract warm data.

Graph technologies allow spotting potentially fraudulent activity in Allianz's ecosystem by visually revealing the fraudster's concealed illicit connections. Bringing all the customer data into a graph database also allows Allianz Benelux to reveal the true risk exposures and detect uncovered risks or overlapping coverages, in particular in a motor or household context.

The Strategy

One of the main reasons that Allianz Benelux likes graphs is how it mirrors the way humans approach problems, as we unconsciously think and draw graph-like structures to solve problems. Sudaman and Jan are both strong believers that graph is the sine qua non for data analysis in data-driven organisations, and that added with traditional data warehouses, it will fundamentally change the way we handle and learn from data.

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– Sudaman Thoppan Mohanchandralal, Chief Data and Analytics Officer, Allianz Benelux

– Dr. Jan Doumen, Head of the School of Expertise of the Data Office / Theme Lead for Customer & Broker Information and Insights, Allianz Benelux

Traditional data storage and processing techniques do not yield them the warm data where their competitive advantage resides.

"We were convinced that graph database technology would allow us to build complex, rich data structures," states Sudaman. "Not only would a graph database make the work of our data scientists and analysts easier, it would also help business and operations colleagues to easily access and understand graph-based insights."

"It is the combination of multi-node, multi-connection snapshots of customers and the much more efficient search possibilities coming from graph technology that we believed would revolutionize the way our internal business handles customers' risks," adds Jan. "It is also the extraction of warm data which is not possible otherwise that will interest our business," says Sudaman.

The Solution

After an extensive market evaluation, Allianz Benelux decided to make Neo4j its primary graph platform, due to its scalability, elasticity, enterprise readiness and market dominance.

"We were impressed with the solid graph theory that underpins the product," Sudaman confirms. "We also soon saw that it was the only truly enterprise grade graph software we could find on the market."

"When we were showing Neo4j internally, this graph-based way of discussing problems was immediately meaningful to colleagues, and we almost instantly had a buy-in," Jan adds.

Jan describes the help Neo4j offers. "When you're trying to think about your customer, if you start with their location and their house, the address that they live in and the other people that appear to also be living in that address, you start to quickly build a picture of the kind of relationships this particular person has with other people."

"When we were able to get to a level with Neo4j to show colleagues this very 360-degree view of a customer, it was so much easier for them to understand rather than through a table with rows and columns. This obviously will enable them to personalise their services towards our customers."

The Results

After a successful initial proof of concept, Allianz Benelux has quickly adopted this new, powerful way to secure the future of their customers.

That success has resulted in straightaway business benefits: "Over the course of two years, €2 millions of operational profit value was identified. This value is even structurally underestimated," Sudaman and Jan confirm. Such fast, positive impact is attributed to the way graphs make existing Allianz Benelux systems more performant, as well as aiding in internal scrutiny of complex, divergent data connections.

"We can foresee many further uses for graphs here," Sudaman notes. "That includes data scouting and contextualising for business relevance as well as an analytical engine to help solve customer problems at Allianz."

Summing up the impact of working with Neo4j, for Jan, "We have extended our customer view beyond the normal policies, including brokers, subjects of insurance and claims. We can easily spot customers having policies with different brokers and learn why this is, we can see customers gradually moving their policies from one broker to another, and we can spot subjects appearing in multiple policies. We can see individuals appearing in multiple (at first sight unrelated) claims, and finally we are moving from descriptive to genuinely predictive analysis."

Next steps with Neo4j at Allianz Benelux center, Sudaman predicts, will be a further "industrialization" of more core processes with graph databases allied with machine learning.

Neo4j is the leader in graph database technology. As the world's most widely deployed graph database, we help global brands – including Comcast, NASA, UBS, and Volvo Cars – to reveal and predict how people, processes and systems are interrelated.

Using this relationships-first approach, applications built with Neo4j tackle connected data challenges such as analytics and artificial intelligence, fraud detection, real-time recommendations, and knowledge graphs. Find out more at neo4j.com.

Questions about Neo4j?

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