Hiscox gains a leading edge in online insurance

Accelerating speed to market with unified management of business rules

Overview

The need

In the UK, EU and US, Hiscox sells a variety of general liability and household insurance products through various channels, including online and via call centres. Creating, managing and updating the complex business rules for each product was a laborious process for the IT department – and reducing speed to market for new and updated offerings had become a key business driver.

The solution

Starting with its UK household insurance business, Hiscox used IBM WebSphere® Operational Decision Management to build a central repository for rules governing eligibility, underwriting and rating, which integrates with multiple web and call centre systems. The company then created a first-of-its-kind solution for its US direct insurance business that guides the customer through the policy application process in real time via a dynamic website. Decision Center (a module that provides a repository and environment for business user management of rules) has also been used to simplify data validation in the company's data warehouse.

Hiscox is a leading general insurance company that operates in the UK, US and worldwide. It is listed on the London Stock Exchange (LSE: HSX), employs approximately 1,250 people, and received gross written premiums for just under £1.5 billion in 2011. The company has two main business areas: it is an underwriter for Lloyd's of London, and it has a retail business which provides general liability and household insurance for businesses and private individuals.

Like most retail insurers, Hiscox understands the importance of bringing its products to market via different channels, and has put a significant emphasis on its online presence as a means of driving business growth. However, its insurance offerings are governed by a complex array of business rules for each product – and managing these rules across both online and traditional channels was a significant challenge.

"We wanted to create a single repository for creating, managing and updating the business rules, and take advantage of our service-oriented IT architecture to integrate them with the systems that manage the different sales channels," says Chris Waters, Head of Architecture at Hiscox IT. "In this way, when we make changes to a product, we only need to update the rules once, and the logic will flow through to the relevant websites and call centres automatically."

Hiscox had already invested in IBM WebSphere Operational Decision Management (formerly known as WebSphere ILOG® JRules), and saw it as an ideal platform for this initiative. The first project was to build the rules for a new rating engine for the UK household insurance business.

"When a customer applies for one of our household products, we need to assess three main things based on the information they have provided," explains Chris Waters.

"First, whether they are eligible for the product they have selected – for example, if they have chosen a contents insurance policy that is designed for homes with up to five bedrooms, but they actually have six bedrooms, they won't be eligible for that specific product.

Business Benefits

- Hiscox was one of the first insurers to provide real-time online direct insurance quotes in multiple US states – giving it a head-start on the competition and triggering significant business growth.

- Dynamic, rule-based generation of online questionnaires reduces the time and cost of creating or updating products: changes can be rolled out within a week, with 70 percent less development effort than a traditional static website would require.

- Hiscox now has a platform for business rule management that enables it to reduce IT cost and complexity as it phases out several legacy ratings engines.

- The solution will eventually enable analysts and other end-users to manage business rules themselves, with little or no need for support from the IT team.

"Second, what are the conditions under which we will agree to underwrite the policy? Is the house in a flood zone? Do we require the customer to install a burglar alarm before we will endorse their policy? Third, we need to rate the policy so that we can provide the customer with a price for the product.

"Each of these three areas – eligibility, underwriting and rating – has its own business rules, which are managed using WebSphere Operational Decision Management and fed into a calculation engine together with the customer's data. The results are then turned into an insurance quote and displayed to the customer on the website in real-time, so they can decide whether they want to purchase the product there and then. Alternatively, if the customer phones our call centre for a quote, the customer service representative can generate a price for them – based on exactly the same rules and delivering the same result."

Following the success of this initial solution, Hiscox embarked on an even more ambitious project to launch an online direct insurance service for small business customers in the US.

"The situation in the US is more complex, because we are selling three different products – general liability, professional liability and business owners' policies – to companies in 50 industries across 24 states, each of which has its own insurance regulations," says Chris Waters. "We need to gather a lot of information from each customer before we can get to the rating stage, and we calculated that there were approximately 5,000 different possible journeys that a customer could take through the website based on the questions we need them to answer.

"Building a set of static web pages to cover all the options would have been extremely time-consuming, and updating them when we needed to make a change to one of the products would have been difficult to manage. So we looked to WebSphere Operational Decision Management for a smarter approach."

The Hiscox team created a set of business rules that govern which questions each applicant needs to answer. For example, if an applicant answers "yes" to a question about whether they would like to add professional liability insurance to their general liability policy, the rules will initiate appropriate follow-up questions about their professional liability status. As the applicant proceeds with the online application process, the rules engine feeds the appropriate questions to a web generator, which dynamically creates the web pages in real time. As a result, the applicant only needs to answer the questions that are relevant to their situation; at the same time, Hiscox is able to collect all the information it needs to rate the customer and provide a quote.

Solution Components

Software
- IBM WebSphere® Operational Decision Management
- IBM InfoSphere® Change Data Capture

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— Chris Waters, Head of Architecture, Hiscox IT

"When we launched the direct insurance service in the US, we only knew of one other insurance company that was able to offer liability insurance online, and they were only operating in one state," says Chris Waters. "So our multi-state system was really the first of its kind, which put us way ahead of the competition. As a result we have seen very rapid growth in that area of the business, and although other insurers have subsequently launched their own online direct insurance websites, our leadership has given us an important head start."

Making changes and launching new products

One of the most important strengths of Hiscox's approach is that when new regulations are introduced, or the needs of the business and its customers change, business rules can easily be added or updated to reflect the evolving situation.

"In normal circumstances we manage change requests on a monthly cycle," comments Chris Waters. "But we can actually create, test and roll out a new rule in about a week if needs be. Compared to a more manual approach where changes need to be hard-coded into several different systems, it's a considerably simpler and faster process. For example, the dynamic generation of the web pages in the US system saves about 70 percent in terms of development time because there's no need to rewrite static web pages every time we update the questions."

Enhancing data quality

Besides these customer-facing applications, the WebSphere Operational Decision Management solution is also being used to facilitate Hiscox's own internal data management.

The company's data warehouse, which stores current and historical information used for analytical purposes, collects data from a number of transactional systems via IBM InfoSphere® Change Data Capture. This data is copied to a landing area where it undergoes a series of validation and coding processes, which are managed by rules held within the Decision Center component of WebSphere Operational Decision Management. The validation and coding are performed via batch processing, but WebSphere Operational Decision Management can also support real-time processing.

"To enhance our ETL [extract, transform and load] process without increasing its complexity, we use Decision Center to manage validation and coding on a business level," says Chris Waters. "This helps Hiscox maintain excellent data quality and consistency. Best of all, Decision Center is relatively easy for users to learn, even if they don't have deep technical knowledge. As a result, the rules can managed by our business analysts, which gives them greater control of the data they use in their daily work, while freeing up the IT team to focus on other tasks."

Looking to the future

On the longer term, Hiscox plans to make wider use of tools like Decision Center to help subject-matter experts in other areas of the business create, manage and update their own business rules. This self-service approach should make life easier for both business users and IT staff.

"We are keen to maximise our return on investment by using WebSphere Operational Decision Management widely within the business," says Chris Waters. "From the three different projects we have already mentioned, it's clear that this is a very flexible product with many possible applications – and we are eager to introduce more self-service capabilities so that the users can solve their own problems without needing to wait for support from IT."

He concludes: "From an insurance industry perspective, the WebSphere solution gives us a single, comprehensive platform for rule-driven business process management. Over the long term, we plan to replace our legacy ratings systems with this unified solution and harness our service-oriented architecture to deliver even greater standardisation and control across all business units, products and channels."

For more information

To learn more about how IBM can help with business rules and operational decision management, contact your IBM sales representative or visit: **ibm.com**/operational-decision-management/