

Achieving Business Agility with Decision Management

*How ten customers are using business rules and
events to improve operational decision-making
for better business outcomes*



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How 10 customers are using business rules and events to improve operational decision making for better business outcomes

Your most routine decisions can have the biggest impact on P&L .

Those everyday operational decisions – decisions about customer offers, service levels, eligibility or pricing -- can make or break your year if you don't make them fast enough or well enough. They add up, transaction by transaction, customer by customer, process by process, and can act as an opportunity or risk multiplier depending on whether you get them right and how quickly you can adapt them to meet new business requirements.

To achieve better everyday business results, organizations are turning to business rule management, or a combination of business rules and business events processing, to improve the timing and quality of the operational decisions that are driving key business processes and applications, such as claims processing, member enrollment, campaign management, payments processing, medical monitoring and customer care.

This eBook features ten customer stories from a variety industries and business use cases. Through these stories, you'll learn how organizations are using the intelligent decision automation capabilities, provided by rules and events, for fully automated interactions, back-office decision support or to provide decision guidance for personal interactions with customers.

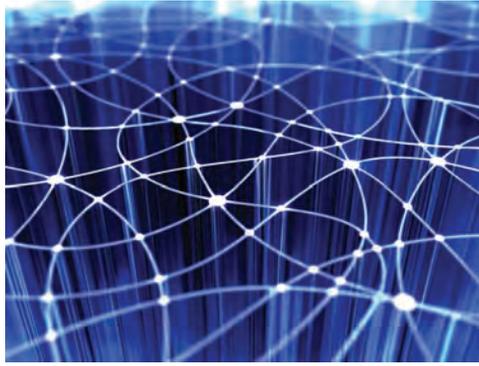
By using business rules and events to help automate, govern and improve operational decision making you can:

- Shorten your response time to market opportunities and threats
- Improve process automation, flexibility and efficiency
- Move decision making to the points of contact with your customers
- Enable smarter personalization and self-service for your customers
- Increase decision visibility and control for worry-free compliance
- Lower IT maintenance costs and increase decision reuse across applications and processes

Whatever the application or process, intelligent decision automation is ensuring that data being collected is put to work, that decisions can be made consistently across channels, and that business policies and regulations are followed.

For more information about these decisioning technologies, click [here](#) or visit:

<http://www-01.ibm.com/software/websphere/products/business-rule-management/decision-management/>



[WebSphere Business Rule Management Systems](#)

A business rule management system (BRMS) enables organizational policies – and the operational decisions associated with those policies, such as claim approvals, cross-sell offer selection, pricing calculations and eligibility determinations – to be defined, deployed, monitored and maintained separately from application code. WebSphere ILOG BRMS provides the ability for non-technical business users to be directly involved in business rules management, enabling flexible decision automation for applications and processes that are subject to complex, variable and evolving business rules.

Visa Europe, United Kingdom 7

Visa Europe teamed with IBM to develop a high-performance clearing and settlement platform serving 4000 member institutions. To handle a wide variety of local conditions, the platform enables Visa business users to rapidly assess and adjust thousands of business rules governing operations.

Benecard, United States 13

Benecard, a leading provider of prescription benefit programs, chose the IBM WebSphere ILOG JRules Business Rule Management System (BRMS) to streamline and automate its claims process.

Texas Education Agency, United States 15

Texas Education Agency was struggling to respond quickly to regulatory rule changes in its Teacher Certification Program because applications were dependent on business rules that were embedded within years of programming code.

Heathnow, United States 21

HealthNow had multiple legacy systems, manual and disjointed processes in place. This was having an impact on their ability to respond quickly to changing regulatory, internal and external mandates.

EMT, Estonia 23

To target customers more effectively, EMT uses multi-channel marketing campaigns, driven by sophisticated business rules. Creating and editing these rules was complex, creating significant work for the in-house and external development teams.

Property Exchange and Rental Company, United States 27

With over 3 million lines of code in its complex 35-year-old legacy mainframe system, the property exchange and rental company found itself facing several critical business issues. The system also limited the modes of member notification and threatening revenue.



WebSphere Business Events

IBM WebSphere Business Events helps businesses detect, evaluate, and respond to the impact of business events based on the discovery of actionable event patterns.

- Improves line-of-business insight and awareness around event driven business conditions
- Enables business users to define and manage business events that facilitate taking timely, proactive actions
- Reduces total cost of ownership (TCO) through codeless implementations, enacted by business users, often without incurring IT development or implementation costs
- Provides the ability to detect, decide, and dynamically react to simple and complex relationships between people, events, and information
- Increases business agility by enabling faster responsiveness to customers, suppliers, and changing market needs
- Reduces TCO for composite applications requiring the combination of event pattern detection, traditional workflow, and activity monitoring functionality
- Enhances existing Business Process Management (BPM) and service-oriented architecture (SOA) infrastructures

Korean Credit Card Company, Korea 29

As a countermeasure to continuous and fierce wallet share competition, this credit card company needs to capture changes in customers' behavior, execute effective marketing and eventually maximize existing customers' value.

Healthcare Company, United States..... 31

The healthcare company wanted to engage thousands of clinics to deliver injection therapy, but it needed Complex Event Processing software to confirm all of the arrangements automatically. It chose IBM WebSphere Business Events, saving 90 percent of the costs of care.

Case Western Reserve, United States 35

With more than one in four existing bridges either structurally deficient or functionally obsolete, the college's Department of Civil Engineering needed greater insights into the operating conditions and structural deterioration of bridges to better assess the current and future reliability of these structures.

IBM, United States 37

Needing to minimize errors in IBM product and price catalogs, IBM used WebSphere Business Events and other WebSphere products to enable a real-time enterprise capable of business event processing.



Visa Europe

Processing payments with unprecedented agility and reliability

Smart is...

An open clearing and settlement platform that allows Visa Europe to create and implement vast numbers of complex business rules faster than ever before.

Visa Europe addressed the unique nature of the European market by building a **new payment platform** which houses tens of thousands of business rules governing payment clearing and settlement. An open business rules management system **speeds time-to-market** and gains **cost efficiencies**. The result is greater business agility and competitiveness for both Visa Europe and its 4,000-plus member institutions. Simulation capabilities are soon expected to allow business users to **become more proactive, predicting and assessing the impact of changes** to key business rule parameters.

The European marketplace is highly complex. Efforts to unify it from an economic and commercial standpoint have been under way for decades, yet to this day it is still comprised of many discrete markets, currencies and sets of regulations. One of the latest efforts to strengthen the market through unification, led by the European Union was the creation of the Single Euro Payment Area (SEPA) and ratified by European Union member states adopting the Payment Services Directive (PSD, 2007/64/EC).

The SEPA initiative created a common set of rules for payments in countries using the Euro, under which all electronic payments are considered domestic, even those that take place across national borders. The goal was to create greater efficiency and promote commerce.

A strategic response to these specific and unique European member institutions business drivers was required and, as a result, Visa Europe became a dedicated European payments provider and wholly independent organization from the global payments provider Visa Inc.

A complex landscape calls for a new approach

Growing Visa Europe in response to the nature of the European environment became a challenge while remaining part of the global Visa Inc organization and global set of demands for change. This made it difficult to make responsive changes to shifting regulations and market conditions. This is why the creation of a dedicated European organization was deemed a wise move.

The issue is one of complexity. Each time a Visa card is used anywhere in the world, an authorization takes place and a transaction is created between the issuer's financial institution and that of the merchant. At the end of each day, all of those millions of transactions must be settled.





Business benefits

- Allows customized rules to be brought to market much faster, typically three times faster than before, providing market differentiation through greater agility
- Reduces the cost of business rule maintenance, with savings of over 25% experienced to date.
- Will enable the creation of the most appropriate business rules using “what if” scenarios based on real data
- Makes the rule management process directly accessible to business users, adding flexibility and responsiveness
- Offers massive scalability and high performance, with 30,000 business rules supporting over 500 transaction types in 36 diverse markets

Every transaction is run through a set of business rules that govern the fee charged, the exchange rate applied, and other validation parameters such as proper formatting. These rules must be changed periodically, for example to adjust fees in response to market conditions, add new members or accommodate new regulations.

Under the legacy Visa Inc. global payments platform, each of these business rules was effectively hard-coded into the system, making it very difficult to bring new rules to market. Implementing a single policy change could take up to 18 months from the time of initial request to go-live—and while any given parameter might not need to change very often, the sheer number of them means that there is always a change that needs to be made.

When extended across the 36 countries, multiple currencies and thousands of members served by Visa Europe, it's easy to see the management challenge posed by this rules-based clearing and settlement process. “For the European market, there are literally tens of thousands of business rules to consider,” says Justin Snoxall, vice president and head of development services for Visa Europe. “It's a uniquely convoluted landscape that can make doing business difficult. For example, with so much to consider and the limitations of the legacy system, introducing new products or services could take a long time. This hampered our efforts to enter new markets.”

Breaking the business rule logjam

Visa Europe's answer to the management challenge was to chart its own course. The new organization used its independence to create a separate authorization platform and clearing and settlement platform that would integrate with the Visa Inc. global system while adding a high degree of flexibility and agility to the payments process.

Smarter banking:

Leveraging insight to build better business rules



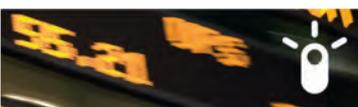
Instrumented

Live transaction and market data is collected from 36 markets and brought together in the high-performance Visa Europe Clearing and Settlement Service.



Interconnected

A business rule management system combines real-world information with business logic that enables rules to be tailored and bespoke to market and in some instances individual member institutions.



Intelligent

With deeper understanding of the potential impact of changes, Visa Europe will be able to address the needs of its members more effectively—creating true market differentiation.



Solution components:

Software

- IBM DB2®
- IBM WebSphere® Application Server
- IBM WebSphere ILOG® JRules
- IBM AIX

Services

- IBM Software Services for WebSphere
-

“[VECSS is] a tremendously powerful concept, and a much more efficient, effective way to do business for both us and our member institutions.”

—Justin Snoxall, vice president, head of development services

Called the Visa Europe Clearing and Settlement Service (VECSS), the new platform uses IBM WebSphere® ILOG® JRules at its heart, markedly different from the older mainframe-based solution. The tens of thousands of business rules that govern its function are no longer hard-coded. They are stored as rules and gain further context from member institution business parameters stored in an IBM DB2® database, which allows them to be managed consistently and changed easily through a built-in business rules management system (BRMS). Rule changes now involve far less expenditure of staff time, resulting in savings in the maintenance costs associated with updates and reducing the total cost of ownership.

More significant, though, is the speed of change made possible by the new system. “The time it takes to change a business rule has gone from nine months to only three,” says Snoxall. “Within 13 months we’ve made 60 rule changes, while migrating members over to the new system at the same time. The BRMS actually has the potential to make changes within days and longer term even overnight, so should the business need arise for more rapid change, we’ll be ready,” Snoxall says. “It’s a whole new level of capability that’s a far cry from the legacy mainframe-based system.”

The scalable VECSS system is also much more efficient than the earlier clearing and settlement platform, which increases the quality of service to members. Since launch, it has been able process in excess of one billion transactions every six weeks. At peak times, VECSS is able to process over 8,000 transactions per second.

The efficient transaction handling and rule management offered by the system is very important in the context of Visa Europe’s unique business environment. The requirements of the member institutions are so widely varied that the organization is called upon to provide a high degree of customization. “Clearing and settlement follows a distinct set of processes from end to end, but not all payment transactions are processed in the same way,” Snoxall says. “We need to take into account specific conditions per region, contract type, customer—a whole host of variables.” The result is over 500 transaction types to deal with, which require 10,000 editing and validation rules, plus another 20,000 fee calculation rules. All of these must be managed effectively, which is made far simpler by the flexible solution.



► The inside story: Getting there

“The way we approached the development of VECSS was not what one might expect because of the nature of our organization,” says Justin Snoxall. “We provide payment processing services to financial institutions, but Visa Europe is not a commercial service provider motivated by profit. Rather, it is a cooperative association devoted to serving the interests of our member financial institutions. Each of them has a say in what we do. So one of our major tasks was to gain their support for the VECSS project.”

An organization with such a large number of stakeholders might naturally chart a conservative course when implementing change, aiming to take the path of least resistance. “While we could have continued to use the global Visa Inc clearing and settlement platform, we saw the opportunity to create a far more capable solution and seized it,” Snoxall says. “I think our leadership showed great foresight in creating Visa Europe and empowering us to develop our own technology solution.”

To ensure internal support, transparency was essential. “Our members were kept informed of the project status and objectives, with care being taken to demonstrate the business value of the plan at all times,” Snoxall notes. “It’s a collaborative environment and we have strong relations with all of our members. As a result, the buy-in for the project was very smooth.”

The interaction with members played an important role in the way the project unfolded, Snoxall says. “We did encounter a few reservations about the ability of our organization to deliver on its own, so we looked for a partner who could be more than a systems integrator. We decided to go with a strong vendor who complemented our own capabilities, and the members gave us their full support.”

A new way to find the best answer

The flexibility made possible by VECSS has added considerably to the competitiveness of both Visa Europe and its members. New institutions can be added to the network much more quickly than ever before, and at less cost. New regulations are accommodated faster, and changes in status or the services provided to a given member are made with ease.

Enhancements are planned to leverage insight based on real-world data to determine the most suitable business rule for each situation. “The potential of the system is very exciting for our business users,” Snoxall says. “The ease of management is only the beginning. Once fully deployed,



they will be able to run 'what-if' scenarios that test the effect of any given rule change before implementing it. The BRMS will provide guidance for adjustments to the rule parameters, to deliver the desired result. That should help us reliably set the appropriate fees to maximize both member profitability and service utilization, while ensuring that members in different markets are treated equitably."

To make certain that the deployment would support the company's goals, Visa Europe sought assistance from IBM Software Services for WebSphere. Using the proven ILOG Solution Implementation Standard deployment methodology, IBM applied its extensive WebSphere ILOG BRMS implementation experience to help ensure the solution's success.

An engagement with IBM ILOG Professional Services across the architecture, design and construction phases helped to manage implementation risk and ensure that the significant performance requirements were achieved. "The IBM team played an important role in the success of the project," says Snoxall. "Their expertise dovetailed with ours to create a far more robust solution."

Achieving true business agility

The ultimate goal is to enable Visa Europe's general business users to manage business rules directly, making all needed adjustments before releasing the rule to IT for quality assurance and deployment. Each rule, and the change management process, are designed to be easily accessible and understood by line-of-business employees. This will result in even greater business agility by further speeding time-to-market.

Making it possible for business users to manipulate the rules themselves has important implications for the alignment of business and IT objectives at Visa Europe. By handing much of the change management process over to business users, IT can step back and devote more resources to the organization's future roadmap, such as the creation of innovative new services.

This potential to make business users a part of the picture is where the real power of the system lies, according to Snoxall. "What VECSS gives us is tools that can put key capabilities into the hands of users. They become an integral part of the process, rather than mere consumers of it. That's a tremendously powerful concept, and a much more efficient, effective way to do business for both us and our members. The better the service they can provide to their customers, the more accepted Visa becomes—and that's what's going to help us fulfill our vision of Visa becoming 'the world's most trusted currency'."

For more information

To learn more about how IBM can help you transform your business, please contact your IBM sales representative or IBM Business Partner.

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Benecard builds a smarter claims process with WebSphere ILOG JRules

Overview
<p>Benecard www.benecardpbf.com</p>
<p>Industry</p> <ul style="list-style-type: none"> Healthcare and Life Sciences
<p>Products</p> <ul style="list-style-type: none"> IBM® WebSphere® ILOG® JRules IBM WebSphere Application Server IBM DB2® IBM Cognos®
<p>For more information, visit: ibm.com/websphere/industries/healthcare</p>

“We chose Websphere ILOG JRules for its ease of use and advanced rule management features that address the needs of both our business and IT users.”

—Michael Perry, CIO, Benecard

Benecard, a leading provider of prescription benefit programs, chose the IBM® WebSphere® ILOG® JRules Business Rule Management System (BRMS) to streamline and automate its claims process. The company works with an expansive network of pharmacies nationwide and provides prescription drug programs and specialized services to organizations across the public and private sectors.

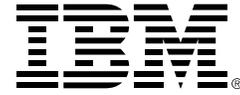
Challenge

Processing and settling claims is a critical service for Benecard and its customers. A claim transaction encompasses everything from service and regulatory compliance to the impact on a company’s profitability and ability to attract and retain customers.

Ensuring that claims are processed and settled in a timely manner with the utmost transparency and accuracy was a key requirement for Benecard. Moreover, it wanted to make certain that the claims system it had in place delivered the agility to support a complex distribution channel, create and deliver customized programs to public and private sector clients, and meet changing market, regulatory and corporate demands easily.

Solution

To address its requirements, Benecard built a new claims system in a Service Oriented Architecture (SOA) based on IBM WebSphere ILOG JRules. The company aimed to improve collaboration between business and IT by allowing senior pharmacist business users to work with a business analyst to define, test, create and maintain business rules. These business rules are used throughout the claims process for validation such as member, claim and clinical data verification; pend management; claim segmentation and assignment; adjudication; payment and settlement; overrides; notification triggers; and automation of regulatory guidelines that vary from state to state, including Health Insurance Portability and Accountability Act (HIPAA) compliance. Plus, IBM WebSphere ILOG JRules supports better reuse and creation of shared decision services to help improve the efficiency of adapting claims processes over time.



WebSphere ILOG JRules is deployed on WebSphere Application Server in an SOA. Business rules are maintained in the central rule repository, a key component of ILOG JRules, enabling the company to easily structure and deploy rules across the claims process for greater consistency and accuracy in both batch and online environments. DB2 is used as the standard database with IBM Cognos for business intelligence and reporting capabilities.

The new BRMS-based system allows Benecard to obtain a comprehensive audit trail of rules and decisions rendered. Moreover, users can easily structure and deploy business rules that govern the claims process at any given time. This level of control enables claims to be settled quickly and accurately resulting in greater operational efficiency and customer satisfaction.

Benefits

- Speed-to-market gains of over 70 percent
- Reduction in claims processing time and costs by 30 percent
- Increase in pass-through rate by over 80 percent
- Ability to roll out new programs and add members faster
- Obtain comprehensive audit trails of rules and decisions rendered at any given time

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Texas Education Agency responds to rule changes 90x faster with IBM ILOG

Overview

The need

Texas Education Agency was struggling to respond quickly to regulatory rule changes in its Teacher Certification Program because applications were dependent on business rules that were embedded within years of programming code.

The solution

The agency chose the WebSphere ILOG JRules Business Rule Management System to externalize its business rules and represent them in common business language that subject matter experts could easily manage without using programming code.

The benefit

- Much faster implementation of rule changes in the application that teachers depend on for certification (days versus months).
 - Much less time spent on rules administration
 - Reduction in costs for maintaining rule changes
-

The Texas public school system has been in existence since 1854, and today is one of the largest public school systems in the United States, with 4.6 million students in 1,200 school districts and 320,000 school staff. The Texas Education Agency (TEA) implements educational programs according to the laws and business rules that are passed down by the Texas legislature and the Texas State Board of Education.

The legislature meets every two years, and the Board of Education meets more frequently, which means that the rules change quite often. This presents a challenge to programs which the agency manages, such as the Teacher Certification Program.

The Teacher Certification Program used to be a separate agency—the State Board of Educator Certification Agency—and later became part of the TEA. It manages teacher credentialing, serving as a customer relationship management system for educator certification. The program keeps track of teacher training and certificates, and administrates the process by which educators take tests and receive their certifications.

Responding to fast changing regulatory environment

“Because of the changing regulatory climate for teachers, we have to be very responsive in deploying the rule changes into our applications,” says Rick Goldgar, chief technology officer and deputy chief



“Changing rules used to take up to six months or more, but by segregating the rules from the code these changes can be done and tested in days, with faster time to production and much lower maintenance costs.”

—Rick Goldgar, Chief Technology Officer and Deputy Chief Information Officer, Texas Information Agency



information officer for the Texas Education Agency. “Teachers need to know what they have to do in order to be certified. Sometimes this involves changing their curriculum when they are still studying to become teachers, so they need to have clear guidance as soon as a new regulation is passed.”

However, the TEA has a legacy of many years of rules programmed into the teacher certification application. There are actually three applications that were developed separately. A legacy application was written by the State Board of Educator Certification Agency before it became part of the TEA. An enhancement of that application was written as a separate application and interfaced with the legacy code. And a third separate piece was the reporting application.

Solution components

Software

- IBM® WebSphere® ILOG® JRules Business Rule Management System
 - IBM WebSphere Application Server
 - IBM WebSphere Business Process Modeler
 - IBM WebSphere Process Server
-

The rules governing teacher certification were buried within thousands of lines of C#, ASP, Java™, XML and SQL programming, and it literally took months to find the right code in order to change it. “It was not uncommon for us to take six months to find the right code and issue the revised guideline,” says Goldgar. “Sometimes we would make changes in the application just before the new rule went into effect, which didn’t give the teacher a lot of time to plan.”

Easy-to-maintain business rule management system

TEA needed to segregate the business rules from the application to make them easier to maintain. “We wanted to formalize the rules in business language that subject matter experts—our customers—could understand and help maintain,” says Goldgar. “In addition, we had to minimize the number of steps required to go from a change in legislation to its implementation.”

The TEA looked at several choices for managing their business rules, including some open source choices, and selected IBM® WebSphere® ILOG® JRules Business Rule Management System (BRMS). “We undertook a project of Business Process Management using the JRules BRMS, which involved examining the way we were doing our current business and looking for ways to make it better,” says Goldgar. “Since the business rules were driving our business, we had to come to a common understanding of what the business rules were.”

The initiative consisted of several steps. Goldgar’s team had to understand the context for a business rule, what it is used for and how to construct one. The rules had to be made rigorous. There could be only one way to interpret the rule. The team had to segregate the rules into

the JRules BRMS, so that there would be one place for them to be managed. Finding common rules patterns enabled the team to re-use those patterns many times to simplify maintenance. In addition, the team had to represent the rules in common business language which would empower subject matter experts to maintain the rules.

A magnitude faster implementation of new rules

Business rules exist within a domain which defines their context. They use a formal conditional syntax which includes an antecedent and consequence. The antecedent is an “if-then” clause and the consequent has one of multiple values. Words such as “educator” and “student” have specific meanings.

“We have what looks like English in JRules and it’s all in one place,” says Goldgar. “If a person wants to find out whether an individual is qualified to get a certification for teaching gifted and talented students, they invoke whatever rules relate to that. And the place they go to look them up is in the WebSphere Rule Team Server where they are maintained in plain English instead of being embedded in a bunch of Java or C# code.”

The difference is dramatic. “Changing the rules used to take up to six months but with ILOG it takes days,” says Goldgar. “Overall, we’re spending much less time on maintenance.”

Building a service oriented architecture

TEA is using a service oriented architecture (SOA) to deploy the JRules Rule Execution Server with IBM WebSphere Application Server, IBM WebSphere Business Process Modeler and IBM WebSphere Process Server.

“Over time TEA is shortening development cycles and lowering costs, doing more with less by using a component based architecture to refactor old systems and develop new systems,” says Goldgar. “Tools like the JRules BRMS and other WebSphere products allow us to go quickly and directly from formalized business needs to deployment.”

“SOA allows us to disintegrate a monolithic application to a set of services that are working on the WebSphere backbone. The rules interface easily using JRules on that backbone.”

With IBM WebSphere ILOG JRules BRMS, Business Process Management and the IBM set of tools for developing a service oriented architecture, TEA has a new method for dealing with changes in the regulatory environment. “We’re working smarter because our customers get what they want directly,” says Goldgar. “IBM gives us the tools to go to simple English business rules in JRules that implements changes the customer wants. That’s a huge benefit to the teachers who use the system because it’s more agile and responsive to their needs.”

For more information

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ibm.com/software/websphere/products/business-rule-management

For information on Texas Education Agency, visit: www.tea.state.tx.us/

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HealthNow Builds a Smarter Member Enrollment Process with Websphere® Process Server and ILOG® JRules

Overview

HealthNow New York Inc.

Industry

- Healthcare

Products

- IBM® WebSphere® ILOG® JRules
- IBM Websphere Process Server
- IBM Websphere Message Broker
- IBM WebSphere Portal
- IBM Websphere DataPower®
- IBM InfoSphere™ MDM Server
- Cognos®

Business Partner

- Leveraging Technology Inc.

For more information, visit:

www.ibm.com

www.healthnowny.com

HealthNow New York is the leading healthcare company in Western New York. Since 1936, it has been a pioneer in providing quality healthcare services to companies and individuals in the region. With approximately 680,000 insured members, HealthNow New York provides a full spectrum of healthcare services including disease and care management, pharmacy benefit management and physician and hospital quality incentive plan among others.

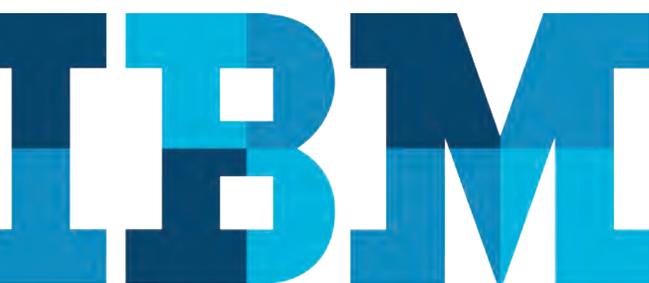
Challenge

A changing regulatory landscape, customer demands and cost pressures continue to impact health insurance companies of all types and sizes. Carriers are increasingly looking to streamline their internal processes to address growing complexity in healthcare and create greater efficiencies to remain competitive.

Like most health plans, HealthNow had multiple legacy systems, manual and disjointed processes in place. This was having an impact on their ability to respond quickly to changing regulatory, internal and external mandates. Integrating and maintaining these systems was a costly and resource-intensive endeavor. Moreover, business rules that

“Providing innovative products and services while improving the availability, quality, and cost of healthcare is central to our corporate vision. We chose to partner with IBM as their suite of technologies met our business and IT objectives at an enterprise-wide level. Websphere Process Server and ILOG JRules have enabled us to automate, optimize and monitor critical business decisions within our core processes such as member enrollment while delivering tangible benefits.”

—John Walsh, Chief Enterprise Architect, HealthNow New York Inc.



governed core processes such as member enrollment were hard-coded making it difficult to implement policy changes and perform critical tasks in a timely and cost-effective manner. The enrollment process was predominantly paper-intensive with several manual touch-points thus elevating the risk of errors and delays.

Creating a streamlined and efficient enrollment and plan change process for its members was a key goal for HealthNow. Furthermore, the company wanted to ensure that the enrollment system would deliver end to end visibility into the process with the utmost of agility and speed to support its near and long term business and IT objectives.

Solution

To address their requirements, HealthNow built an agile BPM and BRMS-based member enrollment system in a service-oriented architecture (SOA). IBM® Websphere® Process Server and IBM® ILOG® JRules are used to automate, optimize and monitor key business decisions throughout the enrollment process from determining eligibility and applicable coverage, easily identifying pending enrollment and exception cases, processing new member application and current member policy changes, to enforcing regulatory compliance, disseminating tasks and triggering notifications as required.

Building a flexible architecture which facilitates the creation of shared decision services was central to achieving this objective. This will enable HealthNow to ensure that regardless of where the transaction is coming from; enrollment and regulatory guidelines are consistently and accurately enforced across the process and channels with the utmost of speed and transparency. Moreover, the carrier now has the foundation in place to extend the usage of business process management (BPM), business rule management system (BRMS) and business intelligence (BI) technologies to other processes in the future.

Benefits

With the new Websphere Process Server and ILOG JRules based member enrollment system in place, the company has experienced such benefits as:

- Speed to market gains of over 50%
- Ability to introduce new behaviors into systems in days rather than weeks or months
- Reduction in enrollment time and administrative costs
- End-to-end visibility into the enrollment process resulting in greater clarity, accuracy and consistency
- Increased collaboration between business and IT
- Productivity gains with fewer people and man hours spent to create, test and deploy rules
- Comprehensive audit trail of rules and decisions rendered



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Please Recycle

EMT gains more flexible, responsive campaign management



With an IBM WebSphere ILOG JRules solution from Webmedia

Overview

Business challenge

To target customers more effectively, EMT uses multi-channel marketing campaigns, driven by sophisticated business rules. Creating and editing these rules was complex, creating significant work for the in-house and external development teams.

Solution

EMT worked with Webmedia, an IBM Business Partner, to create a simpler way to manage business rules, using IBM WebSphere ILOG JRules.

Based in Tallinn, EMT is one of Estonia's leading mobile telecommunications providers; it owns and operates network infrastructure and develops and markets services and solutions both within Estonia and internationally. The company has more than 80 retail stores and branch offices across the country, and employs 500 people.

EMT's success can partly be attributed to its sophisticated approach to marketing, which leverages numerous channels to communicate special offers and promotions to existing and prospective customers.

“Whatever method the customer wants to use to interact with us – whether they visit one of our retail stores or our e-shop, or log in to our self-service Web site, or call our customer service team, or just look at their phone bill – we are able to make them the same offers,” explains Alar Jõeste, Project Manager for the Development Team at EMT. “The systems that push these offers out through the channels use a complex set of business rules to decide which marketing content is displayed to which customers – for example, corporate customers might be offered a discount at one rate, while consumers are offered a different rate. At any given time, there could be more than 15 simultaneous campaigns running through EMT's channels.”

Empowering non-technical staff

New campaigns often require new business rules to be created, or existing ones to be modified. The rules are based on Java code, and whenever the marketing team wanted to launch a campaign, it was necessary to submit change requests to the IT team.

“There were several different repositories for business rules, and it could be difficult just to find the right lines of code – let alone change them!” says Alar Jõeste. “Even a minor change could often require significant development effort, distracting our IT team from more



Business Benefits

- Back-office staff can create rules that define how campaigns and services will be used and whom they will target – without any need for programming knowledge
 - IT teams spend less time programming rules and can focus on more strategic projects
 - Simple rule changes can be implemented in less than two days, instead of being tied to the standard monthly development and testing cycle. As a result, new campaigns and services can be launched more quickly.
-

strategic projects. Moreover, these change requests became part of our monthly development cycle, so it could take up to a month for the new rule to be tested and released. This made it difficult for marketing to react quickly to the latest trends.”

EMT began to look for a more efficient way to manage business rules. The team wanted to implement a single central repository for all rules, and also make it easier to implement minor changes without significant development effort.

“When we started looking for solutions, there was really only one product on the market that could deliver what we needed: IBM WebSphere ILOG JRules,” says Alar Jöeste. “It translates business rules written in Java into a simpler language, so even non-technical staff can make changes to them. We saw this as a huge advantage, because it would allow the marketing team to define their own campaign targets and reduce work for the IT team.”

Partnership for success

EMT worked with its long-term IT partner, Webmedia, to implement the WebSphere ILOG JRules solution. The initial design and deployment of the solution took around four months, and the system is still being developed and extended.

“Webmedia is one of our closest partners, and has been helping us with IT support and development for many years,” explains Alar Jöeste. “They understand the logic of our business and know how we work, so they are able to deliver solutions that really meet our needs. WebSphere ILOG reduces our development workload – so, ironically, we actually need less help from Webmedia than we did before. Nevertheless, Webmedia has embraced the solution, which shows that they have our best interests at heart.”

IBM WebSphere ILOG Rule Team Server provides a browser-based interface that enables business users to define, store and edit business rules easily, while Rule Execution Server deploys them into production safely. For developers, Rule Studio provides a more sophisticated Eclipse-based development environment, which can switch between rules and Java code effortlessly.

“More complex rule-changes still need to be implemented by developers – whether they are from our in-house team or from Webmedia,” says Alar Jöeste. “But in general, standard campaigns can be managed by the back-office without much help from us. As a result, it is now possible to create, test and release a campaign within a couple of days – significantly faster than when we were tied to the monthly release schedule.”

“IBM WebSphere ILOG JRules is making a major contribution to the efficiency of our marketing and sales processes, helping us get campaigns and products to market more quickly, reducing workload for our IT team, and reducing our reliance on external IT suppliers.”

— Tiit Tammiste, Chief Information Officer, EMT

Efficient and responsive

In addition to the benefits for the IT and marketing teams, the solution also helps dealers in the retail stores deliver better offers to their customers. Previously, the dealer would have to read through a list of all campaigns and decide which was most appropriate for each customer. Now, the solution can calculate the best offers for each customer based on their age, phone usage, professional status and other factors – so it is easier for the dealer to present a compelling offer, which may help to close the deal.

“As well as marketing campaigns, we are also using the WebSphere solution to manage the business rules that govern the sale of packages and services,” says Alar Jõeste. “There are many complexities here, and having a coherent set of business rules helps us make important decisions more easily.”

Tiit Tammiste, CIO of EMT, concludes: “IBM WebSphere ILOG JRules is making a major contribution to the efficiency of our marketing and sales processes, helping us get campaigns and products to market more quickly, reducing workload for our IT team, and reducing our reliance on external IT suppliers. It is hard to quantify the benefits, but we are confident that the ability to react more quickly to an ever-changing marketplace will help us reduce costs and gain competitive advantage in the Estonian telecommunications sector.”

For more information

To learn more about IBM software, contact your IBM sales representative or visit: ibm.com

To learn more about products, services and solution from Webmedia, visit: webmedia.ee



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Please Recycle

Property exchange and rental company modernizes business rules with IBM WebSphere ILOG JRules

Overview

Property exchange and rental company

Industry

- Travel and Transportation

Products

- IBM® WebSphere® ILOG® JRules
- IBM Software Services

For more information, visit:
ibm.com/websphere

A property exchange and rental company provides vacation exchange and travel services to businesses and consumers; an exchange program; and vacation rentals, ranging from city apartments to country cottages and to villas. It also provides advisory, research, asset management, and turnkey solutions and services.

Challenge

With over 3 million lines of code in its complex 35-year-old legacy mainframe system, the property exchange and rental company found itself facing several critical business issues. The company could not respond to changing market needs in real time or readily access the many rules related to property usage, pricing or other issues. As a result, member satisfaction suffered and the group was forced to maintain a costly call center through which 90 percent of vacation exchanges and rentals take place. The system also limited the modes of member notification, threatening revenue by impacting membership and exchange fees.

The complexity stemmed from legal contracts between the company and its participating affiliates that govern pricing and conditions of property usage. These rules are maintained by IT, not the business teams.

“Thanks to [IBM WebSphere] ILOG JRules, we now provide our 3.8 million RCI members with personalized vacations within seconds and real-time access to the world’s largest vacation exchange community.”

— Senior Director—Information Technology, Property Exchange and Rental Company



Solution

The company sought to revamp its legacy system by moving to a Service Oriented Architecture (SOA). The company worked with IBM to implement the WebSphere ILOG JRules business rule management system (BRMS), allowing its business team to more easily maintain and deploy complex decision logic and achieving scalability for its member notification program.

The company chose to create an Enhanced Search application with the JRules BRMS as the back-end platform managing all the time-share rules. The new SOA platform features one central exchange platform and more than six services, including pricing and member communications services. The rules can now be written by business analysts, changed in real time and easily searched and monitored by the business teams. The company was also able to shift support from its costly call center to the more affordable web channel.

Benefits

- Support for more than one membership delivery mechanism increases revenue opportunities around membership and exchange fees
- Capability for business teams to maintain rules reduces IT overhead
- Improved member satisfaction through improved searchability across its network of affiliate properties and reduced failed searches
- Ability to change the rules in real time and respond to market changes in hours or days instead of weeks or months
- Decreased mainframe utilization costs—70 percent overall decrease and 98 percent decrease related to web channel shift



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Please Recycle

Korean Credit Card Company

Improving marketing outcomes with smarter campaign management

Seoul, Korea

“Credit card companies can now enhance customer service while using limited marketing resources.”

A credit card company headquartered in Seoul, Korea is one of the fastest-growing credit card companies in South Korea. The company is a Korean market leader in premium cards and is one of the largest card issuers in the country, having experienced an eightfold market share increase in seven years and nearly 8 million cardholders.

The Opportunity

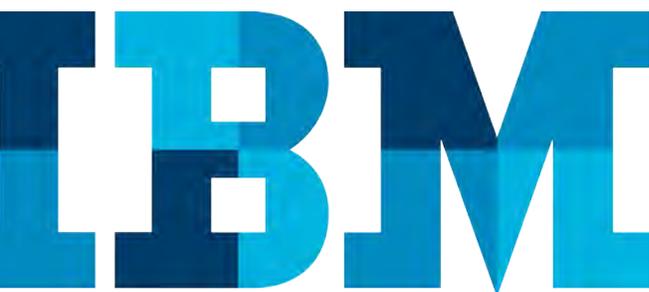
As a countermeasure to continuous and fierce wallet-share competition, this credit card company needs to capture changes in customers' behavior, execute effective marketing and eventually maximize existing customers' value. To meet its goals, the company needed to introduce a new marketing management plan, integrate contact records and establish a fatigue rule management system that monitors all marketing touches to prevent overexposure to specific customers.

What Makes It Smarter

The client implemented a Campaign Management System, a Real-time Marketing System, and a Transaction Management (TM) System. The Campaign Management System was established to quickly share and analyze results from diverse campaigns/events to provide integrated offers across multiple product channels. The Real-time Marketing System was established after defining campaign fatigue and event-based marketing (EBM) to optimize response rates through targeted offers to each customer based on actual purchase patterns.

Real Business Results

- Allows the company to better manage the customer's experience by detecting, in real time, various events that happen to customers and structuring the best actions to take in response
- Customer history is now available for real-time analysis, and available for cross-channel, integrated marketing and real-time marketing campaigns
- Increases the rate for marketing success by providing integrated offers, and sharing the results through diverse campaigns and real-time marketing activities



Solution Component

- IBM® WebSphere® Business Events
-

For more information

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Please Recycle

Healthcare company cuts the cost of injection therapy by 90% with IBM WebSphere Business Events

Overview

■ Challenge

Provide patients with delivery network for injection, injection training, and infusions of biologic pharmaceuticals and vaccines to lower cost of care and make regular injections more convenient, accessible and affordable

■ Solution

Implement Web-based solution enabling patients to be scheduled in an easy, convenient manner to appropriate clinical resources who follow consistent protocols

■ Key Benefits

98% reduction in effort and 1/3 the elapsed time to develop automatic monitoring of arrangements involved in injection therapy appointments; 90% less cost to care for patient with injection therapy compared to doctor's office or hospital setting; exponential growth in revenue due to functionality of IBM WebSphere® Business Events



Thanks to a new class of specialty pharmaceuticals known as biologics, millions of patients are experiencing relief from conditions such as rheumatoid arthritis, cancer and allergies. But unlike oral medications, biologics must be injected, which creates a problem for many patients who need to receive the drug therapy on a regular basis. Until recently, options for delivering injection or infusion therapy have been expensive and inconvenient.

Doctors, for instance, often charge their full office visit fees for an injection and only offer appointments during weekdays so that patients have to take hours off work. Hospitals are even more expensive, and “walk-in” clinics may not have personnel who are properly trained to deliver injection or infusion therapy.

Enter a new healthcare company that works with 10,000 clinics nationwide where medical personnel are trained to inject the biologics, as well as vaccines.

These clinics, which include urgent care, clinics and community pharmacies in 50 states, typically operate with 40 percent of their capacity underutilized. The company reserves these underutilized hours for patient injections, injections trainings and vaccines. Patients are scheduled through the Internet to the location closest to them and the time that's most convenient, even in the evening or on the weekend, and the appointment is booked directly into the clinic of choice. The company charges a small fee for the service and arranges for health insurance plans to pay for most of it, leaving the patient with a small copayment—far less than what doctors and hospitals charge.



Looking for Business Event Processing software

“We started with a great idea, but it totally depended on our being able to implement a real-time software solution that would monitor, sense and respond to the entire patient care process ensuring everything was in order,” says the CIO of the company. Once the patient has made an appointment for an injection, the company has to confirm that the clinic’s certification and training are up to date, that the drug is available and received at the location and that the insurance company has agreed to pay. If any of those conditions have not been met, the software must be able to escalate the problem to the human level so that other arrangements can be made.

“In order for us to operate on the scale that we wanted to, the vast majority of administrative tasks had to be automated,” says the CIO. “I needed a complex logistics system with monitoring and I stumbled onto Business Event Processing [BEP].” BEP is a type of software that understands the information contained in the events flowing through an organization and acts on them. “Financial markets use BEP extensively,” the CIO says. “That’s how the credit card company knows to call you if an irregular transaction has been made with your credit card.”

Through his Internet research, the CIO discovered IBM WebSphere Business Events (named AptSoft Director for BEP at the time), a BEP product. “I looked at their demo online which pertained to a financial services situation, and I replaced the financial terms with healthcare terms. I found that I could use that model to monitor locations for clinical and operational readiness, to make sure that all of the events that need to occur for a patient to get a specific therapy, have happened and we would receive data back on the outcome of that event. We chose the product and it has worked out extremely well.”

The company has built all its applications on IBM WebSphere Business Events—all the applications that drive the business. Aside from the event processing application, the company has created applications for locating clinics, detailing the patient’s insurance plan, clinical configurators and monitoring the resources at the clinic.

The intuitive user interface of WebSphere Business Events provides drop-down menus for programming the logic of the events that must take place and their dependencies.

Exponential revenue growth

Today the company is in the process of increasing the number of clinics it deals with from 10,000 to 15,000. Through agreements with major health plans and employers, the company now offers more than two million Americans access to convenient, affordable health care for biologic services.

“We started off two years ago with nothing but an idea, and this year we’re doing a huge amount of business,” says the CIO. “And all of that is directly attributable to WebSphere Business Events.”

Healthcare solution for less time and cost

Prior to his work at the company, the CIO worked for a healthcare company building an application that was similar to the one he is working on for this company, but less complex. His team had 40 developers and the project took 18 months. At the company, the CIO and one other developer worked for six months to create the original product that launched the business—that’s a 98 percent reduction in effort and 1/3 the elapsed time.

The IT staff at the company numbers seven people. “We’ve kept costs very low even though we’ve grown astronomically,” says the CIO. “Today, when we want to sign up a new health plan, add clinics or enhance the application to include additional events, we can do the necessary programming with WebSphere Business Events in days or weeks rather than months, keeping the cost of doing business low.”

90 percent less cost for treatment

The cost to patients for treatment is as much as 90 percent less cost for treatment less than the cost of treatments in doctors’ offices and hospitals. “In one case, we saved a patient \$800 per month,” says the CIO. And the complex process of enabling this service is handled automatically, virtually eliminating administrative overhead.

Most importantly, the company has shifted the healthcare model to one that is consumer driven. “The consumer has the incentive to make the right decision,” says the CIO. “This is really the best medicine for the healthcare crisis.”

Key Components

Software

- IBM WebSphere® Business Events
-

“Today, when we want to sign up a new health plan, add clinics or enhance the application to include additional events, we can do the necessary programming with WebSphere Business Events in days or weeks rather than months, keeping the cost of doing business low.”

– CIO of Healthcare Company



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Recyclable, please recycle.



Case Western Reserve University, Case School of Engineering

Through a first-of-a-kind joint research project, Case Western Reserve University and IBM are advancing the monitoring of the structural health of civil infrastructures like bridges to improve safety



Cleveland, Ohio
case.edu

“Having the ability to evaluate disparate events recorded by sensors affords us the capability to dynamically assess the integrity of material that supports our nation’s roadways, with reduced man power. In the end, we want to help provide a cost-effective means to maintain our bridges and ensure everyone’s safety.”

— Dr. Brian Metrovich
Associate Professor of Civil Engineering,
Case Western Reserve University

Case Western Reserve University is one of the country’s leading private research institutions, offering a unique combination of forward-thinking educational opportunities in an inspiring cultural setting. Its leading-edge faculty engage in teaching and research in a collaborative, hands-on environment. Its nationally recognized programs include arts and sciences, dental medicine, engineering, law, management, medicine, nursing and social work. Within the Case School of Engineering, the Department of Civil Engineering actively conducts research and is involved in sponsored programs funded through commercial, state and federal grants that advance knowledge and improve the quality of human life. An associate professor of Civil Engineering at this university led this first-of-a-kind research project related to “smarter bridges.”

The Opportunity

With more than one in four existing bridges either structurally deficient or functionally obsolete, the engineering school’s Department of Civil Engineering needed greater insights into the operating conditions and structural deterioration of bridges to better assess the current and future reliability of these structures.

What Makes It Smarter

Understanding traffic patterns and other operating conditions on the nation’s interstate bridges, as well as stress factors such as corrosion, is vital to helping inspectors and engineers more efficiently assess and maintain these structures. A new solution allows sensors to be added for continuous real-time monitoring. Damage data from a truck passing can now be correlated across sensors that measure different physical (acoustic, strain) parameters. By detecting complex patterns of events from these sensors, automated notifications can trigger alerts when

What if you could effectively monitor the safety and structural integrity of thousands of bridges and tunnels across the country?



Solution Components

- IBM® R3 Messaging
 - IBM WebSphere® Message Broker
 - IBM WebSphere Business Events
 - IBM DB2®
 - IBM Cognos® 8
-

safety thresholds are exceeded. Now damage to bridges can be estimated—and prevented—with increasing accuracy.

Real Business Results

- Projected to save money by efficiently using funds for limited maintenance
- Improved monitoring efficiency without compromising safety
- A vast improvement in the quality of the nation's transportation infrastructure will lead to safer conditions for commercial and private travel

For more information

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Please Recycle

IBM increases revenue and improves customer service with IBM business event processing solution

Overview

■ Challenge

Identify errors in the IBM product and price catalog before they occur and impact customer satisfaction and revenue

■ Solution

Real-time enterprise enabled by business event processing capable of recognizing situations as they arise, interpreting them and responding to errors in the complex process of assembling product and price catalogs

■ Benefits

- Reducing errors in product and price catalog
- Increasing revenue with correct product information
- Reducing complaints and improving customer service
- Focusing less time on resolving problem reports



With almost 400,000 employees and close to \$100 billion in revenue, IBM stands today at the forefront of an industry that is revolutionizing the way in which enterprises, organizations and people operate and thrive.

In a company of such size, delivering products to the marketplace is a giant task, one that depends upon providing complete and up-to-date product and price information to customers and business partners. The process of creating, updating and publishing IBM product and price catalogs is complex and highly distributed across applications in the enterprise. Providing the correct data depends on the synchronization of multiple data points in the information flow. In order for the process to succeed, the right information must be provided at the right time.

By resolving data quality problems and minimizing errors in its product and price catalog, IBM has helped to improve credibility, enhance customer satisfaction and increase revenue.



Otherwise, information in the catalogs is either missing or inaccurate, customers and business partners are frustrated, and revenue is lost. When something goes wrong, tracing back through the flow to determine when and where a failure occurred is complex and time-consuming.

Becoming a real-time enterprise with BEP

For this reason, it was advantageous for IBM to have a tool not only to help in problem determination efforts when problems occur, but also to help identify data errors before they impact customers.

In order to identify the patterns that may lead to catalog errors—and quickly and appropriately act upon the detection of these patterns—IBM needed to capture, evaluate and correlate multiple events from the various systems and organizations that are involved across the enterprise. The type of processing needed for this problem is called business event processing (BEP).

BEP is applicable in business scenarios where many components need to come together in real time in order for a task to be completed. A BEP framework can enable companies to become real-time enterprises, capable of recognizing situations as they arise, of anticipating and responding to threats before they occur, and of discovering and capitalizing on opportunities.

BEP detects complex patterns across many events and uses rule-processing algorithms for event correlation and abstraction. By looking at the relationships between the events, BEP systems can “connect the dots” and extract previously unavailable insights to enable faster and better operational decisions.

The anatomy of situational awareness

An **event** is an abstraction that represents the fact that something happened or is happening, such as a stock trade, a customer order or an address change.

Event producers and **event consumers** in an enterprise environment consist of applications, files, databases, feeds, people, sensor data, etc. A computer application creates an **event object** (a computer record) to signal or report the event.

A **notification** is a computer message (for example, an XML message) that consists of an event object.

The framework for performing BEP is called a Predictive Real-time Operational Business Intelligence Tool (PROBIT). The architecture is divided into layers of abstraction as follows:

- *The **external environment layer** consists of all the applications and systems, including people, in the enterprise.*
- *The **sensing and actuating layer** consists of components that sense and act upon events in the external environment. Sensors detect and capture the events that happen in the environment and can also publish a notification message to the broker component in the connectivity layer. The actuator typically changes the state of the environment.*
- *The **connectivity layer** routes events from event producers to event consumers.*
- *The **higher-level sensing layer** is where we detect complex event patterns.*
- *The **cognitive layer** houses business rules and receives and deals with multiple events to detect patterns in the environment.*

Building predictive business intelligence

Having decided to use BEP to meet its data quality challenges, IBM had to construct a PROBIT using the necessary architectural components. These were close at hand, since IBM itself provides the software products that are needed to deploy a BEP solution.

Business activity monitoring provides visibility over operational performance. IBM WebSphere® Business Monitor is a comprehensive business activity monitoring software product that provides users with a real-time, end-to-end view of business processes and operations. WebSphere Business Monitor provides customizable business dashboards that calculate and display key performance indicators (KPIs) and metrics derived from business processes, business activity data and business events from a wide range of information sources.

IBM WebSphere Message Broker provides the connectivity layer—a powerful information broker that allows both business data and information, in the form of messages, to flow between disparate applications and across multiple hardware and software platforms. Rules can be applied to the data that is flowing through the message broker in order to route, store, retrieve and transform the information.

The core of the framework, or the cognitive layer, is IBM WebSphere Business Events, which serves as the event correlation engine for identifying patterns of interaction among multiple disparate events at run-time. The interaction sets, or event correlation rules, can be created with the WebSphere Business Events build-time environment. WebSphere Business Events provides a basis for full support of BEP.

Solution Components

Software

- IBM WebSphere® Application Server
 - IBM WebSphere Business Events
 - IBM WebSphere Business Monitor
 - IBM WebSphere Enterprise Service Bus
 - IBM WebSphere Message Broker
-



Deploying a PROBIT in an SOA environment

In a service oriented architecture (SOA) environment, information services constitute most of the sensing and actuating for the event processing component. WebSphere Business Monitor can provide dashboard and monitoring functionality. Connectivity and interoperability services can be implemented using IBM Enterprise Service Bus (ESB) products such as WebSphere Message Broker or IBM WebSphere Enterprise Service Bus. The BEP services which consume and process events can be implemented using WebSphere Business Events.

Increasing revenue and improving customer service

By resolving data quality problems and minimizing errors in its product and price catalog, IBM has helped to improve credibility, enhance customer satisfaction and increase revenue.

IBM experiences many of the same challenges that its customers face, regardless of their size. Many companies can benefit by becoming real-time enterprises. IBM has documented the BEP framework and all the associated reference implementations as the basis for an engagement model allowing reuse of the framework in other service engagements to support any end-to-end business process.

For more information

Contact your IBM sales representative or IBM Business Partner. Visit us at:

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