

*Imagine if*



## **Healthcare Revitalized**

**Reduce Costs, Increase Productivity, Deliver Best Outcomes  
with IBM ILOG Business Rule Management System (BRMS)  
and Optimization Software**



According to a recent McKinsey Global Survey (May, 2009) of 367 health care executives, 14% of payers, 2% of providers and 6% of pharmaceutical companies said they were prepared for ongoing reform and the new economic environment. Those who feel prepared are focusing on customer service, IT, product design and medical management as innovation areas most likely to yield the majority of benefits in the next one to three years.

### **Smarter is ...**

Smarter healthcare processes go beyond basic automation by adding intelligent decisioning capabilities for greater agility, speed and transparency. This automation not only cuts costs by reducing manual tasks and human errors—it also delivers the right answer to the right person at the right time. Smarter healthcare processes also provide for faster change, allowing you to adapt to regulatory and market changes in real-time or days, instead of weeks or months. With smarter healthcare processes, operational risks and costs are significantly lowered, clients and staff are more satisfied, and higher revenue is supported with tools for growth through better information and change management.

Smarter healthcare processes are resilient processes that can help you avoid costly human error, deliver optimal outcomes, increase revenue and improve productivity as you better adapt and respond dynamically to the changes around you. They can help you accomplish critical tasks that many healthcare organizations find nearly impossible today, such as creating customized health insurance plans at the optimal price or remote patient monitoring systems that can quickly validate critical lab results, changing data from multiple sources sending alerts to hospital staffers.

*Imagine if you could work smarter. Imagine if you were better prepared for anything.*

## **CASE STUDY**

### **Optimizing processes for greater efficiency**

#### **Streamlined claims processing, rating and lab assignment.**

Vision Service Plan. Imagine processing one million claims per month with a pass-through rate of 80+% with productivity gains of 30%. Imagine obtaining comprehensive audit trails of rules and decisions rendered; ensuring consistent enforcement of regulatory and corporate guidelines across processes and channels.

Prior to adopting a Business Rule Management System, VSP was hard-coding rules. As a result, implementing rule changes took months, having an adverse impact on speed to market, productivity and efficiency objectives.

Now VSP has externalized business rules using IBM ILOG WebSphere® JRules; using rules across processes in a service oriented architecture (SOA). By doing so, VSP has

achieved consistent and accurate validation and processing of claims, pricing of products and enforcement of regulations that vary from state to state.

*"ILOG's BRMS provides the level of flexibility we need in order to quickly address changing business conditions and continue delivering the most effective customer service. ILOG's software will allow us to continue generating value from our legacy system, which is a critical factor in helping make business rules a core technology throughout our enterprise architecture."*

**Kyle Kent, Director of Information Technology Architecture, Vision Service Plan (VSP)**



## Why do you need to invest in smarter processes now?

### HEALTHCARE CODE BLUE

The over-riding driver facing the healthcare industry now is escalating costs which are having an adverse effect on the industry and nation at large. Impending healthcare reform and regulatory changes will require that payers, providers and pharmaceutical companies streamline their processes to ensure competitiveness, resilience and superior care while reducing operational risks and costs. It will require an unprecedented degree of operational flexibility to respond and adapt to these changes.

### Key Payer and Provider Challenges

Imagine your day-to-day operations free from:

- High claims processing and fraud costs caused by an inability to ensure consistency in how claims are processed and settled

- High operational costs and decreasing revenue from a semi-automated member enrollment process and lack of upsell and cross-sell functionalities
- Lack of customized, individualized healthcare offerings (group plans)
- Elevated compliance risk — to changing regulations (JCHAO, HIPAA, ICD-10 codes, etc. – and more on the way) requiring greater transparency across processes, systems and channels
- Risk of errors when providing patient care – from incorrect selection and administration of drugs to an inability to ensure that the appropriate critical results are passed on to the appropriate primary and secondary care providers in a timely manner

## CASE STUDY

### Delivering best outcomes

#### Life-Saving Patient Monitoring – Alert Notification System.

Major medical institution. Imagine a technology that can help you overcome process silos enabling you to improve responsiveness and transparency. Imagine identifying changing patient conditions and delivering critical lab results to the appropriate physicians, nurses and caregivers in a timely manner while ensuring compliance with JCHAO requirements. Imagine a patient with high levels of potassium, suggesting the possibility of a cardiac event. A dashboard lights up to notify the nurse and doctor on duty to check the levels every couple of hours or, if needed, notifies the doctor to respond immediately; dramatically reducing the amount of time it takes to react to potentially life-threatening conditions.

A major medical institution is using WebSphere ILOG BRMS within its patient monitoring system to streamline its alert notification process. Prior to selecting a BRMS, the provider

had several semi-automated, paper-intensive and siloed processes spanning a chain of communication involving lab technicians, bedside nurses, physicians and pharmacies, resulting in errors, delays and lack of transparency. In addition, this was having an impact on the provider's ability to deliver critical lab results and medication alerts to nurses and physicians in a timely manner.

With a streamlined BRMS-based alert notification system, the medical institution is able to validate changing patient conditions taking into account critical lab results and other important medical factors to determine when to trigger an alert and to whom that alert should be sent, with rule execution occurring in milliseconds.

Since using the system, the provider has lowered the risk of transmission errors and noted a marked decrease in the amount of time it takes for nurses and doctors to react to conditions. Moreover with the new system in place, they also have comprehensive audit trail of rules and decisions rendered to support JCHAO reporting requirements.



Many of these business challenges are linked to common, fixable IT challenges across all healthcare organizations:

- Disjointed processes and multiple technologies with lots of manual practices resulting in process silos
- Legacy systems where business rules that govern these processes are either embedded as code or decentralized (residing in multiple locations) making it very difficult to cope with ongoing changes whether these pertain to how to enroll a member, process and settle a claim, or to enforce rules that monitor changing patient conditions and trigger alerts
- Lengthy implementation times when introducing a new product, rolling out a new healthcare initiative or implementing any regulatory change – essentially, significant time to market constraints

Healthcare organizations that are preparing for a more sustainable future are investing now in technology that elevates communication between doctors and patients, and helps health insurers streamline their processes, going beyond basic automation by adding a decisioning layer, with rules and analytics, to make better medical decisions, across the board. Those who invest now could begin to experience ROI within months.

### **Building Smarter Healthcare Processes With IBM ILOG Software**

Leading healthcare companies rely on IBM ILOG software to deliver dramatic improvements in operational efficiency across a wide range of processes, including:

- Clinical alert notification
- Remote patient monitoring
- Drug utilization and treatment selection
- Staff scheduling
- Donor matching
- Clinical trial management
- Compliance reporting
- Claims processing and fraud detection
- Member enrollment
- Customized health plans (product selection & recommendation)
- Underwriting
- Billing
- Accounting
- Rating

*Imagine if you could deliver personalized medicine or products that could scale efficiently across processes and systems*

### **CASE STUDY**

#### **Reducing non-compliance risk Anxiety-free compliance reporting.**

Global Pharmaceutical Company. Imagine being able to respond to changing state regulations 50% faster than you do now with A+ audit trails.

Prior to using a BRMS, this leading pharmaceutical company was unable to effectively enforce compliance to changing state regulations. With multiple systems in place, enforcement of regulations was predominantly a manual process or required hard coding of rules which was a lengthy endeavor. As a result, they were unable to support changing regulations in a timely manner or provide necessary audit trails and reports to their compliance officers and regulatory bodies when needed.

The pharmaceutical company decided to streamline its processes and use a BRMS to centrally maintain and manage all of its compliance rules. ILOG BRMS is used to automate and enforce regulatory rules that vary from state to state. Validation rules are applied to how much the pharmaceutical company can spend on meals, gifts, entertainment, grants or compensation when promoting and selling drugs in various states. Moreover, with the new system in place, the company's compliance officers are able to directly create and maintain the business rules while obtaining comprehensive audit trails of rules and generate reports as needed. In being able to respond quickly to changing state regulations, the organization has eliminated the risk of penalty and regulatory scrutiny for noncompliance.



### **About IBM WebSphere ILOG Business Rule Management System (ILOG BRMS)**

By switching from manual or highly siloed processes to BRMS-enabled smart processes, healthcare organizations are automating and adding decisioning capabilities across processes, systems and channels. With ILOG BRMS, you can eliminate decision silos by externalizing business logic from your application code. It is the most flexible way of creating, maintaining and implementing decision services – automated decision points within business systems.

#### **Key benefits:**

- Streamlines and stabilizes processes by externalizing decision logic
- Enables re-use of decisions across different processes, applications and systems
- Provides an effective means to manage large and evolving sets of rules

- Enables automation of complex, highly variable decisions
- Centrally maintains and manages rules across processes and channels
- Empowers business users with the ability to test, create and maintain business rules and perform ‘what-if’ scenarios
- Obtains comprehensive audit trails of rules and decisions rendered

## **CASE STUDY**

### **Increasing productivity and satisfaction Optimal staff scheduling.**

Major Regional Hospital System. Imagine being able assign personnel fairly while minimizing overtime and maximizing patient care -- within seconds. Imagine the following scheduling outcomes:

- Eliminate scheduling errors by 100%
- Reduce planning time by over 50%
- Productivity gains of 2,000hr/wk
- Safer medical care and greater employee and patient satisfaction

Prior to using IBM ILOG CPLEX, the leading mathematical optimization software, scheduling staff at the hospitals used to be so complex that it was often described as a “nightmare.” It was done centrally, with input from the different departments, and then revised at the department

level to accommodate employees’ requests. This meant the main staffing office rarely had an accurate schedule for the employees, and overtime costs often got out of hand. Moreover, improper staffing put the quality of the hospitals’ medical care at risk.

Using IBM ILOG CPLEX, the hospital is creating accurate and optimal schedules within seconds taking into account complex criterion including mandated staffing levels, best practices, skill sets, union regulations, overtime compensation guidelines, vacations, shift trading and employee preferences. It assigns personnel with the objective of minimizing overtime and other costs while maximizing the quality of medical care. Both employees and patients have expressed greater satisfaction, and the main staffing office always has the most up-to-date schedule.



### **About IBM ILOG Optimization**

More than 1,000 universities, as well as 160 members of the Global 500, use IBM ILOG optimization software to solve the world's most challenging mathematical problems. IBM ILOG optimization software is used by leading hospitals, health insurers and pharmaceutical companies around the world.

#### **Key benefits:**

- Maximize operational efficiency
- Improve utilization for any sort of resource and assign the best resources to each task, at the best possible time
- Uncover solutions to the toughest challenges
- Explore alternatives in minutes
- Cope with the most difficult trade-offs that nobody had ever considered
- Extract the maximum yield from every resource
- Cope with the toughest conflicts

#### **Measurable return on investment, fast**

See results within months or even weeks and experience significant return on investment (ROI). Costs drop, earnings increase and service improves. Customers are happier, and so are your employees.

### **Next Steps**

#### **Request a custom demo**

Our interactive demonstrations are performed either online or on site and are scheduled at your convenience (depending on the availability of our product experts). We will be happy to travel to your site for groups of five or more.

#### **Request a Discovery Workshop**

Two day, complimentary workshop designed to help business and IT teams work through their project questions together, ensuring that BRMS is the right solution to the right problems before making a BRMS investment.

#### **Start small with a Quick Win Pilot**

Imagine if you could deploy working business rules in 9 weeks. With a Quick Win pilot, you start small, applying business rule management to a particular solution in a pilot setting. Starting with a few key business rules, you will actually deploy a subset of your business decision system to demonstrate and validate the implementation process. This pragmatic and incremental approach is designed to deliver extremely fast ROI.

#### **Talk to a live person**

These specialists are available to assist you in your WebSphere ILOG BRMS solution identification and research. You can email or phone them directly.

#### **Contact us**

We will respond within 48 hours.

For general questions:

[ilogg@us.ibm.com](mailto:ilogg@us.ibm.com)

1-800-for-ILOG



© Copyright IBM Corporation 2009

Route 100  
Somers, NY 10589  
U.S.A.

Produced in the United States of America  
08-09  
All Rights Reserved

IBM, the IBM logo, ibm.com, Smarter Planet and the smarter planet icon are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at [ibm.com/legal/copytrade.shtml](http://ibm.com/legal/copytrade.shtml).

Other company product or service names may be trademarks or service marks of IBM others.

References in this publication to IBM products or services do not imply IBM intends to make them available in all countries.