IBM Business Process Management Success Stories

IBM Business Process Management Success Stories

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Vice President, BPM, SOA, WebSphere and Industry Marketing
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IBM Business Process Management Success Stories
Table of Contents

Austin Energy **9**
Seeking to improve service and reliability, Texas utility Austin Energy saw the need—and opportunity—to transform how it delivers electricity.

Ball State University **13**
Ball State University needed to improve process efficiency and leverage existing investment in legacy applications. By adopting an IBM BPM solution, the university saved time and money across its operations and gained new flexibility to make application changes.

Bank of the West **17**
Bank of the West reduced loan process times to one day and expects to save US$1.5 million over five years.

Bharti Airtel **19**
Bharti Airtel faced dropping average revenue per user (ARPU) and skyrocketing growth; it needed to find a way to execute flawlessly using as much automation as possible.

Crowley Maritime **23**
Crowley needed to reposition its business operations to meet the challenges of its second century of operations -- including reducing operating costs; increasing profits and ROI of existing routes/platforms; and addressing legacy application modernization.

DONG Energy **29**
Increasing marketplace and regulatory demands along with a need for future infrastructure reinvestment drove Danish utility company DONG Energy to look for a way to better manage and utilize its electrical distribution network in order to respond to outages faster and more efficiently.

ESADE Business School **33**
Today's colleges and universities are bound more than ever to look beyond the ivy-covered walls in order to help prepare students for an ever-changing future.

Globe Telecom **37**
Globe Telecom needed to reach a new level of agility in the creation and management of promotional service offerings.

Homeloan Management Limited **43**
HML, a financial outsourcing company, recognized the need to improve, streamline and increase overall control of the processes within the credit management area.

IBM **49**
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.

IBM Business Process Management Success Stories
Table of Contents

Impol d.d. **53**
Impol needed to build up a Risk Management System to control complex business processes.

J.B. Hunt **57**
Using advanced techniques, IBM solutions with case management capabilities are helping J.B. Hunt achieve its goal to transform the way driver detention events are captured, administered and invoiced so that staff can optimize revenue from each delivery.

JM Family **63**
JM Family improves process efficiency and accuracy to realize approximately $202,000 in annual projected savings and eliminate annual printing of 168,000 pages.

Junta de Castilla y León **69**
Spain's recent passage of a law promoting care and autonomy for dependent people compelled the agency to reengineer its IT systems to comply with new regulations as well as provide better service to citizens.

Large State Tax Department **73**
A large tax agency in the U.S modernized its IT infrastructure with service oriented architecture.

Reliance Life **77**
Utilizing the power of technology to create a comprehensive self-service infrastructure to provide employees, agents and customers of Reliance Life Insurance with the information they need, when they need it, through a variety of channels.

State of Texas
Health and Human Service Commission **81**
HHSC needed to evolve to a multichannel business model and provide better and more varied services over the phone, at hospitals, in community centers, at agency offices and via the Internet. Its SOA solution met all these needs and leveraged an existing $350 million IT investment.

TeliaSonera **85**
TeliaSonera wanted to achieve world-class sales time usage, reduce inefficiency in sales process that in turn improves profitability per sale and gains more face-to-face time with customer.

University College London Hospitals **91**
UCLH elected to use the IBM WebSphere Lombardi Edition business process management system to develop a comprehensive Patient Tracking System.

IBM Business Process Management Success Stories
Index

Customer	Country	Industry	Page
Austin Energy	United States	Energy & Utilities	9
Ball State University	United States	Education	13
Bank of the West	United States	Banking	17
Bharti Airtel	India	Telecommunications	19
Crowley Martime	United States	Travel & Transportation	23
DONG Energy	Denmark	Energy & Utilities	29
ESADE Business School	Spain	Education	33
Globe Telecom	Philippines	Telecommunication	37
Homeloan Management Limited	United Kingdom	Financial Markets	43
IBM	United States	Computer Services	49
Impol d.d.	Slovenia	Telecommunications	53
J.B. Hunt	United States	Transportation	57
JM Family	United States	Automotive	63
Junta de Castilla y León	Spain	Government	69
Large State Tax Department	United States	Government	73
Reliance Life	India	Insurance	77
State of Texas Health and Human Services Commission	United States	Government	81
TeliaSonera	Finland	Telecommunications	85
University College London Hospitals	United Kingdom	Healthcare	91

Austin Energy

Leading the way to the smart grid

Overview

The Need
Seeking to improve service and reliability, Texas utility Austin Energy saw the need—and opportunity—to transform how it delivers electricity.

The Solution
Austin Energy partnered with IBM to create one of the United States' first Intelligent Utility Networks (IUNs) with the ability to centrally manage, monitor and control the grid to an unprecedented degree.

What Makes it Smarter
Austin Energy's leading vision of an improved electrical grid has shown how best practices, combined with technology, can yield real benefits including the savings of over 660 megawatts of electricity.

The Result
Austin Energy has created "smart grid 1.0," which adds integration, intelligence and control to the existing grid. Next is "smart grid 2.0," which aims to go beyond the meter and into the premises, integrating electrical devices into the system.

When it comes to the future of energy and making our infrastructure sustainable, what's needed is a carefully considered, multifaceted approach. That fact was clear to Texas utility Austin Energy in the first few years of this century, when the company conceived a grand vision for the transformation of its entire operating model—a vision that has evolved into an Intelligent Utility Network (IUN) or smart grid. Austin Energy is at the forefront of the drive to create a better way to generate, deliver and manage power and is among the thought leaders in smart grid implementations.

The utility's vision is to make better use of resources, improve service to its customers, become more responsive to outages and encourage conservation. To achieve these goals, Austin Energy devised a mosaic of approaches to transform the grid.

The brilliance of Austin Energy's idea is that it does not focus only on technical solutions. For example, the utility is looking to make use of off-peak generation capacity (power that is less expensive to produce) to make ice, which is then used to cool buildings in downtown Austin the next day. It's a stunningly simple idea; a non-technological answer to the issue of energy storage and peak load reduction.

In the course of its multifaceted efforts, Austin Energy has implemented many of the features that have become the hallmark of Intelligent Utility Networks. These include initiatives such as Web portals that give customers feedback on their energy usage and an energy-trading initiative that encourages conservation. Reliability is improved by infusing the electrical infrastructure with advanced technology ranging from smart electrical meters that give Austin Energy new insight to sense-and-respond capabilities that allow the grid to "heal" itself by automatically rerouting power in the event of a failure.

Business Benefits

- Creates an integrated IT infrastructure that spans the entire enterprise, increasing transparency
- Employs a powerful software framework for development, management and operations, enabling better service levels
- Provides end-to-end monitoring, control and management of generation and distribution to improve responsiveness and utilization of resources
- Monitors over 500,000 devices directly, providing a wealth of data to the utility
- Gives direct feedback to customers on energy usage
- Saves hundreds of megawatts of electricity and helps manage peak loads

Not a project, but an ongoing quest

The realization of Austin Energy's vision is far from complete. It is a journey, one that began several years ago and will continue as new methodologies and technologies are developed. Currently, the utility's intelligent utility network services one million consumers and 43,000 businesses through the management of 500,000 devices (meters, sensors, computers, and network equipment) that generate about 100 terabytes of data annually. This is what Austin Energy refers to as "smart grid 1.0"—the addition of integration, intelligence and control to the existing grid. Next is "smart grid 2.0," which aims to go beyond the meter and into the premises, integrating electrical devices themselves into the system.

It is the integration of Austin Energy's many initiatives that yields real benefits and can make a significant difference. However, for the vision to become a reality, Austin Energy first had to build a strong technology foundation with the ability to accommodate not only current goals and initiatives, but also growth and new projects far into the future.

Austin Energy partnered with IBM early on to develop a roadmap and Business Process Management solution enabled by a service-oriented architecture (SOA). IBM's Solution Architecture for Energy and Utilities (SAFE) Framework helps makes IT an integral part of the business and facilitates the addition of new services and capabilities. The openness, flexibility and adaptability of the SOA-based SAFE Framework are key to the utility's strategy, because these attributes enable the ready integration of information and data communications throughout the grid.

The initial engagement, which laid the architectural groundwork for a series of ongoing projects, involved a team comprised of Austin Energy, IBM and IBM Business Partner Ascendant Technology.

Smarter Energy

Unleashing the power of the Intelligent Utility Network

Instrumented

Hundreds of thousands of energy grid assets and devices are deployed throughout the grid, from smart meters to monitoring systems for substations and more.

Interconnected

Devices on the network are monitored and controlled centrally, creating a self-healing capability.

Intelligent

Smart devices on the grid enable new information, never before available, to be gathered. This allows Austin Energy to monitor consumption and respond to outages far more quickly.

Solution Components

Framework

- IBM Solution Architecture for Energy and Utilities (SAFE)

Software

- IBM WebSphere®: Application Server, Business Modeler, Enterprise Service Bus, Portal v6, Portal Enable, Portal server, Process server
- IBM Tivoli®: Access Manager for Business Integration, Directory Integrator, Identity Manager
- IBM Rational®: ClearCase®, ClearQuest®, RequisitePro®, Software Architect, Unified Process
- IBM Lotus®: Quickr™, Sametime®, Web Content Management, Web Content Manager

Services

- IBM Global Business Services
- IBM WebSphere Software Services: ISSW – Lab Services
- IBM Rational Software Services: Deployment Services
- IBM Lotus Software Services: ISSL – Lab Services

Austin Energy partnered with IBM to develop a service-oriented architecture that enables the ready integration of information and data communications throughout the grid.

It included the development of an SOA reference model and included a Web application server, process integration, and portal and security products. These provide essential capabilities to support the many facets of Austin Energy's new operational model.

For a transformation as sweeping as that conceived by Austin Energy to succeed, the utility had to put in place a robust software platform that could enable everything from tight systems integration to rapid application development. On the business side, the enterprise needed to be unified through better connections between operational and business units, as well as personnel.

To create a foundation for these capabilities, Austin Energy deployed a suite of software from the SAFE Framework including IBM WebSphere®, IBM Rational® and Tivoli®, along with Lotus®—a platform that provides the requisite tools to handle all future projects as well as run the business more efficiently. Because the entire framework software stack is built on open standards and designed for seamless integration and interoperability, Austin Energy now has powerful, end-to-end, enterprise-wide capabilities that enable it to bring new applications online faster and respond more quickly to changing business needs.

The engagement with Austin Energy has been notable for the high degree of teamwork. IBM expertise, insight and industry knowledge has been a vital link between Austin Energy's vision and its execution. The utility has always had a good understanding of how to tackle individual challenges using best-of-breed methods; IBM has provided the ability to tie it all together and create true synergy, making the whole more than the sum of its parts. In the course of its longstanding relationship with Austin Energy, there has been a mutually beneficial transfer of knowledge. Austin Energy has tapped the deep understanding and insight of IBM to bring its projects to fruition. IBM, by helping Austin Energy to find practical, real-world ways to meet its goals, has been able to refine and develop the idea of the IUN through hands-on experience—knowledge that could help other utilities achieve similar transformations.

Real results for today and tomorrow

Much of Austin Energy's vision has now, in the space of a few short years, become a reality. The company has led the way in the creation of new energy systems—an optimized grid that is transparent, more efficient, self-healing, adaptive and responsive to customer needs. It's already yielded impressive results. Through demand management initiatives, the utility has been able to save over 660 megawatts of electricity. The Intelligent Utility Network also provides new business capabilities that enable Austin Energy to close many service orders in hours instead of days or weeks. Austin Energy is clearly at the forefront of the drive to build a smarter planet, making a difference not only for today's customers, but for future generations as well.

For more information

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IBM Case Study

WebSphere software

Ball State University captures revenue opportunities and streamlines operations with BPM and SOA

Overview

- ***Challenge***
  Improve process efficiency and leverage existing investment in legacy applications
- ***Solution***
  Implement IBM BPM Powered by Smart SOA solution to enable reuse of services across systems to eliminate data inaccuracy problems, enhance existing applications and deploy new ones
- ***Benefits***
  - *Recapturing lost enrollment income*
  - *Saving time, money and scarce human resources with reuse of services*
  - *Improving problem solving by unifying .NET and mainframe IT silos*
  - *Ability to access correct address information for students and parents*
  - *Increasing student satisfaction with better customer service*

When Ball State University started down the BPM Powered by Smart SOA path, it did not envision that it would become a services-based developer—it just wanted to fix a problem it was having with addresses.

Recently rated the number-one wireless university in the United States, the 20,000-student institution in Muncie, Indiana, has encouraged a belief that it can solve many problems with technology. Therefore, when an irate parent complained that an invoice had been sent to the wrong address, whereas a solicitation for a donation from the alumni department had been sent to

> *"By adopting the SOA approach using WebSphere Business Modeler, IBM Process Server and IBM WebSphere Integration Developer, there is no application or information that we cannot reach."*
>
> – *Fred Nay, Director of Computing Services, Ball State University*

the correct address, the president of the university responded with fortitude and resolve. The ball started rolling toward a major IT overhaul of the university's 30-year-old application environment that harbored overlapping address databases and many other problems.

The first project employed services to resolve name and address inconsistencies across 40 address databases. However, the service-oriented approach has provided BSU with a lot more opportunities for improvement than it had foreseen.

"By enabling services as an intermediate layer, separated from the presentation layers and residing within a coherent architecture, we were able to use our existing portfolio of business logic as well as introduce a focus on the business processes that are required to make the university work," says Fred Nay, director of computing services, Ball State University.

Preserving existing interfaces

Making these changes happen behind the scenes—a major goal of the project—meant running each update through an IBM WebSphere® Enterprise Service Bus that would mediate the changes coming from different systems. Virtually instantaneously, the service bus would apply the updates across the underlying applications, keeping them all in sync. From an architectural standpoint, this model preserved existing user interfaces in the application layer—whether Oracle, 3270 browser or something else—and added a layer beneath that routed the updates to the service bus.

The service bus analyzes the data to determine which systems need to be updated, then mediates and coordinates the application of the updates to the underlying databases—including a newly created master database for addresses. Rather than holding the data itself, for now the master database contains only the keys to the records and the rules that need to go along with the data.

"Eventually, if the president wants to write to a parent or Accounts wants to send an invoice or a refund, they will both use this same master database to find the address," says Nay. "We are still using the master database solely for synchronization between systems. So what is really happening now is that each time a letter goes out, the address still comes from one of the original data stores—but at least we know that all the data stores have the same address."

Recapturing lost revenues

The IT team is looking for opportunities to solve more difficult problems using IBM BPM Powered by Smart SOA. For example, with WebSphere Process Server, they have been able to choreograph the SOA services required to give students an end-to-end Web-based registration process. Today, students have online access to course information and course availability, plus any prerequisites or permissions required, and they can complete the registration process online. The student's registration triggers a search in multiple databases, such as enrollment records and student accounts. If the student owes the university more than $50, the system will generate a notification to the student that the balance must be paid before registration is allowed.

The university and its students have both benefited from this new SOA-based capability. Students have near real-time information regarding the availability of and requirements for online courses, enabling them to quickly and easily make decisions about whether to register for a course, find a different course instead or wait until the next term. Waiting lists for courses are shorter as a result, and student satisfaction is higher. In addition, this project helped the university recapture lost revenues by increasing the number of successful enrollments.

"By using SOA services to tie together course availability, registration and accounts receivable applications, we are able to deliver greatly improved service to all, as well as reduce the semi-manual work previously required, giving university staff more time to spend on more valuable activities," says Nay.

The next major initiative for the team will be to introduce a registry and repository. "That looks as if it will be a challenging enterprise—finding all the metadata and the services and making sure they are correctly tied together so that if a change occurs in one area, then it is reflected accurately in other areas," Nay says.

Reuse of services saves time and money

SOA has been beneficial to the university in several ways; the common theme among the primary benefits of SOA is that it provides a metaphorical "view from above" that wasn't possible before—a view that's both higher and broader in perspective. And when combined with BPM, SOA can be even more effective.

According to Nay, the biggest tangible benefit that the university has seen from the SOA adoption is the IT staff's ability to work more closely together. "In the past, there had always been a .NET silo and a mainframe silo, and the two areas solved problems independently rather than coming together to solve mutual problems," he says. "Because they are now working on an SOA approach, I have them working together in ways that weren't common before."

Solution Components

Software

- IBM WebSphere® Business Modeler
- IBM WebSphere Enterprise Service Bus on z/OS®
- IBM WebSphere Integration Developer
- IBM WebSphere Process Server on z/OS

Server

- IBM System z®

Another benefit comes from being able to solve problems with a process approach rather than a silo approach. “We are using business process modeling and the IBM WebSphere Business Modeler tool to describe flows and interactions within different areas,” says Nay. “WebSphere Business Modeler can then export into Business Process Execution Language (BPEL); BPEL can be pulled into the WebSphere integration tools, becoming part of the creation of integrated processes. This helps us focus on process issues across silos, instead of having to look at issues within siloed areas.”

Nay believes that by reusing services, logic previously usable in only one place can now be exploited wherever needed. “For example, we can create a service that performs a grade lookup for the Distance Education project,” he says. “We can reuse that service repeatedly across different systems to solve different problems, saving time and money. By adopting the SOA approach using WebSphere Business Modeler, IBM Process Server and IBM WebSphere Integration Developer, there is no application or information that we cannot reach.”

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WSC14088-USEN-00

Bank of the West approves loans in one day with IBM ECM and BRMS solutions

Overview

Bank of the West
San Francisco, California
www.bankofthewest.com

Industry
- Financial Services

Products
- IBM® FileNet® P8
  - IBM FileNet Content Manager
  - IBM FileNet Business Process Manager
  - IBM FileNet eForms
- IBM WebSphere® ILOG JRules
- IBM WebSphere Application Server

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ibm.com/software/ecm

BANK OF THE WEST

"IBM software helps us reduce the time to process and approve loans from nearly one week to less than a day. This has been critical in our ability to maintain a competitive edge."

– Michael Begovich, Senior Vice President, Risk Management, Bank of the West

With more than 700 offices in 19 midwestern and western states, the US$67 billion-asset Bank of the West offers a full range of business, corporate, personal, trust and international banking services.

Challenge

As Bank of the West more than doubled in size, primarily through acquisitions, manual processes made it difficult to quickly and efficiently process commercial loans. Delays arose as applications were routed through approvals via interoffice mail. If, during the credit review process, additional information was required, the documents had to be returned to the originating branch and then resubmitted. As a result, while the risk management team could typically respond to a loan application the same day it was received, approving loans could take nearly a week given the process delays.

Solution

Bank of the West implemented IBM® FileNet® eForms, IBM FileNet Content Manager, IBM FileNet Business Process Manager and IBM WebSphere® ILOG JRules business rules management system (BRMS) software to move from a manual, paper-based process to an efficient, automated paperless system. This integrated Enterprise Content Management (ECM), Business Process Management (BPM) and BRMS solution uses active content via eForms to trigger business processes and it separates business rules from the processes themselves so the company's Credit Administration team can update credit conditions, approval requirements and special approval privileges without IT assistance. The result? An increasingly agile organization that can respond quickly to customer needs and changing market requirements.

With nearly 750 loan transactions processed through the system monthly, it was important that the eForms have the same look as paper forms so employee adoption would be seamless. FileNet eForms and BPM software enable bank staff to complete loan forms online—populating borrower information from the loan accounting system into the credit request document—and then easily route the applications through credit review and approval.

"The more we move from paper-based to paperless processes using IBM software, the more our loan officers can concentrate on our customers and strengthening those relationships."

– Michael Begovich

This integrated ECM, BPM, BRMS system confirms each approver's credit authority and requires certain critical data boxes to be completed before allowing the file to be saved and transmitted. Additionally, where permitted, it can identify overrides of declined credit decisions and creates the form for staff to justify and report on the override action. Upon credit approval or denial, an e-mail notification is automatically generated to advise business units of credit decisions and risk grade changes.

If credit reviewers need additional information, loan officers can immediately update the forms online and then instantly share the new document. This has helped eliminate lengthy delays due to interoffice mail and enabled staff to approve new loans the same day they are received when additional information is required. Previously this process could take up to a week when corrections and additional information were sent by interoffice mail. Additionally, the solution has helped streamline auditing and reporting processes. Risk management staff can now generate end-of-month reports of data collected by the system, including borrower industry, collateral and risk categories, for credit reviewers to evaluate. Before, each branch had to manually pull paper copies of the reports and then send them via interoffice mail to the risk management office for review.

The agile IBM ECM software has also enabled Bank of the West to automate more than a dozen processes across customer service, cash management and employee requisitions. For example, customer service representatives can enter customer inquiries directly into electronic forms which are automatically routed to the appropriate department for resolution. Approximately 5,000 Bank of the West employees use IBM ECM software today and the bank expects that number to grow as it continues to automate cumbersome paper-based processes. IBM WebSphere Application Server software provides a performance-based application foundation for building, deploying and managing a reliable, available and scalable ECM and BPM solution.

Benefits

- Reduced approval turnaround from nearly a week to less than one day
- Expected savings of about US$1.5 million over five years
- Improved staff productivity to enable employees to focus on strengthening customer relationships

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IMC14328-USEN-00

Managing 110 million subscribers like clockwork

Overview

Challenge

Bharti Airtel faced dropping average revenue per user (ARPU) and skyrocketing growth; it needed to find a way to execute flawlessly using as much automation as possible.

Solution

Bharti Airtel's SMART SOA™ solution with IBM® WebSphere® technologies enables the company to outsource its IT to IBM and other strategic partners and integrate its systems in order to automate routine transactions and hone customer service.

Key Benefits

- Ability to provide flawless service to 110 million customers at low margins
- Employee productivity improved using business activity monitoring
- Real-time responses to customer requests

If Bharti Airtel's 110 million subscribers were a country, it would be the 11th largest in the world—smaller than Japan, but larger than Mexico. Bharti Airtel is India's largest cellular service provider and the world's third-largest single-country mobile operator. In India, Bharti Airtel's subscribers represent less than one-tenth of the existing opportunity, so there is a lot of room for growth, but how do you manage an enormous subscriber base and still grow cost effectively?

The cost-conscious consumer and the cut-throat competition make for a difficult operating environment. For example, there's the challenge of servicing a user base with steadily declining average revenue per user (ARPU). In India's rural areas, where the company is finding most of its new customers, that figure drops to about 50 or 70 Rs., or approximately $1.25 per month. That covers the cost of a few telephone calls at $.01 - .015 per minute. If it doesn't, Bharti Airtel has more than 10 competitors who would be happy to take the fare. But does it cover the cost of a service call? Not unless the business processes are automated to the highest degree possible and the service is absolutely stellar—there's no room for error.

Integrating strategic partners

One way Bharti Airtel keeps costs under control is by outsourcing its IT operations. IBM handles more than 80 percent of this business, cutting across 700 applications and 3,000 to 3,500 servers, but the remaining 20 percent is handled by strategic partners who represent an integration challenge.

"How do I bring together the utility model for the entire infrastructure?" asks Mehul Shah, chief architect. That's where the principles of service-oriented architecture (SOA) come in along with the concept of reusable services.

The SOA framework that Bharti Airtel has put together is entirely based on the IBM WebSphere stack of technologies that starts with IBM WebSphere Application Server, and includes IBM WebSphere

Smarter telecommunications

Bharti Airtel faces a competitive market and low average revenue per user (ARPU) numbers, which means that it must automate its business process in order to grow and provide outstanding current service to its enormous 110 million subscriber base. Thanks to a SMART SOA solution based on IBM hardware and software, the telecommunications giant is executing like clockwork, and working smarter the larger it becomes. Business intelligence linked to its dashboard business activity monitoring solution enables the company to tweak its customer service and resolve any bottlenecks.

Portal and WebSphere Business Services Fabric. In addition, the company is using IBM DB2® for data management and IBM Cognos® 8 Business Intelligence 8.4 for business intelligence. The IBM software runs on IBM Power Systems™ servers. "Our SMART SOA enables all the pieces to work together even though we have a fairly heterogeneous environment," Mr. Shah observes. "That's what enables us to provide a great quality of service at a low cost to our customers. With our SMART SOA, our business runs like clockwork."

Real-time responses

An example of the type of transaction that has to run flawlessly by itself is transferring money into a customer account to provide more call time. "We are largely a prepaid model," says Mr. Shah. "To recharge an account at Rs. 10, the customer sends one short text message and the account is recharged in real time. In the process, the transaction goes through 3 to 5 systems, and there are 8 to 10 million of these transactions daily. Without the SMART SOA solution, it would not be possible for all these different products to talk to each other. This solution has made us more agile."

According to Mr. Shah, Bharti Airtel's telecom business could be built of 600 to 800 software services integrated into the SOA. To date, the company has built approximately 150 reusable services handling seven to eight million transactions per day. "We are more than halfway through the journey," he says.

Solution Components

Server

- IBM Power Systems™

Software

- IBM® WebSphere® Application Server
- IBM WebSphere Portal
- IBM WebSphere Business Services Fabric
- IBM Cognos® 8 Business Intelligence 8.4
- IBM DB2®

"Thanks to IBM, we're working smarter the bigger we get. Our partnership with IBM has brought us the right level of business understanding and the right level of technology understanding to achieve this kind of scale and agility."

—Mehul Shah, Chief Architect, Bharti Airtel

Improving customer service

The SOA dashboard tells Mr. Shah how many customer service activations have happened up to the hour in each of the tiers. The SOA dashboard tracks 150 services in three tiers. Tier one and tier two are urban areas, and tier three is rural areas.

"The reason it is important to track them this way is because they are different business models and different channels that we work with," he says. "And we make different investments in them. So it's very important that we know what's happening on an hourly and daily basis, and that aggregates to weekly, monthly and quarterly. For instance, the dashboard tells me if there are any activation backlogs over 25, so that we can address the issue of employee productivity and ultimately improve customer service."

Enabling hypergrowth

Bharti Airtel activates three to four million new customers per month. "Without SOA, adding three million customers per month would be a stretch," says Mr. Shah. "SOA is an enabler of our hypergrowth."

Soon there will be 600 to 800 reusable services that will be part of the SOA fabric. "The data collected through these services will migrate into the SOA dashboard as well as into an analytical solution framework, which we will be building with IBM Cognos," he says.

"This will help us slice and dice data to get a picture of employee productivity, sales force productivity, service activation times and quality of service. Thanks to IBM, we're working smarter the bigger we get. Our partnership with IBM has brought us the right level of business understanding and the right level of technology understanding to achieve this kind of scale and agility."

For more information

Contact your IBM sales representative or IBM Business Partner, or visit us at: **ibm.com**/websphere

For information on Bharti Airtel, visit: www.airtel.in

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Please Recycle

Crowley Maritime plots its course and lowers the boom on costs with Service Oriented Architecture

Solution from IBM and Ultramatics, Inc., leads to reduced application delivery time and costs, improved efficiency and productivity

A diversified organization employing almost 5,000 people, Crowley Maritime operates globally in a variety of businesses with a mantra of "Small Company Mentality, Big Company Efficiency." Founded by Tom Crowley in 1892, and run by his son Thomas B. Crowley and grandson Thomas R. Crowley, Jr. since, Crowley Maritime began with a single 18 ft. rowboat servicing ships and sailors in San Francisco Bay.

Overview

The Challenge

To support business flexibility and agility; including:

- *Address legacy application modernization*
- *Improve increasing integration complexity*
- *Reduce operating costs*
- *Increase profits and ROI of existing routes/platforms*
- *Implement a "sustainable" solution so that IT can more easily adapt to future business requirements*

The Solution

IBM WebSphere Process Server V6, IBM WebSphere Message Broker for Multiplatform V5, IBM WebSphere MQ V5, IBM eServer zSeries 890 in a Service Oriented Architecture designed and implemented by Ultramatics, Inc.

The Benefit

- *Application delivery time and costs reduced by half*
- *$15,000 saving per integration interface; anticipated $225,000 savings over previous practices*
- *Significant improvement in efficiency, productivity, business flexibility*
- *Errors and omissions reduced*

"This directly translates to $225,000 in savings for Crowley over our previous practices. Not to mention the soft dollar implications on resource utilization, costs and efficiency as those resources can now focus their efforts on other fronts."

Jerry Dresch,
Director of
Application Services,
Crowley Maritime
Corporation

Participation in IBM PartnerWorld Industry Networks enabled Ultramatics to maintain perspective on Crowley requirements

Benefits

- $15,000 saving per integration interface; anticipated $225,000 savings over previous practices
- Application delivery time and costs were immediately cut in half
- Enterprise specific standards and effective SOA governance led to significant operational efficiencies and productivity improvements
- Errors and omissions reduced
- Creation and exposure of services called for by applications within SOA leveraged for every new application rollout
- Technology simplification, application modernization as a result of reusing legacy assets rather than replacement

Over the following century, while maintaining family control of the company, the Crowleys have grown and transformed the business into a major provider of maritime services ranging from tugs and barges to containerships, with operations from Central America and the Caribbean to Alaska's North Slope. Now nine years into the job of Chairman, President, and CEO, Thomas B. Crowley, Jr. has guided a carefully paced streamlining and repositioning of the company to meet the new challenges of its second century of operations. As Crowley Maritime has grown, it has accumulated business lines and strategies that needed reexamining and improvement in light of changing market conditions that have made 'return to core competencies' the new reality for many industries.

Crowley, with headquarters in Oakland, California, and primary logistics operations in Jacksonville, Florida, found the innovations it needed in a Services Oriented Architecture (SOA) solution designed and customized by IBM and Ultramatics, Inc., an IBM Premier Business Partner, headquartered in Tampa, Florida.

Ultramatics used IBM WebSphere® Message Broker for Multiplatform V5, IBM WebSphere MQ V5, IBM eServer™ zSeries® 890 in the solution, which formed the Advanced Enterprise Service Bus (ESB) and adapter framework at Crowley.

One early benefit was a reduction — by at least half — of the usual time and costs incurred in tying new, third-party applications into the Crowley core infrastructure, which included a legacy mainframe-based customer-information system. With a 30-year-old system that was heavily customized, this was no small achievement. Under previous practices, integration projects typically ate up about 300 work hours of people in the Crowley information technology group.

"We had a spider web of point to point connections, with custom-built application interfaces needed at both ends," said Jerry Dresch, Director of Application Services, at Crowley. Dresch explained: "Prior to the implementation of WebSphere Message Broker and our ESB, Crowley was heavily dependent on point to point integration."

The ESB is the IBM Advanced Enterprise Service Bus, a foundation for IBM's Service Oriented Architecture. The IBM Advanced ESB is a robust middleware solution that defines the backbone for corporate integration. It represents a combination of technologies that are responsible for connecting disparate application components without each application component having complete dependency on other application components (inclusive of programming language, platform, operating system, transport, etc.) The ESB becomes the intermediary between all component technologies, and introduces an information pipeline that acts like a kind of information superhighway for incoming and outgoing messages regardless of the applications that connect to it. An application component will plug into the ESB via its published interfaces and necessary adapters. Likewise, applications can be easily added or removed as business demands dictate without concern of complex integration requirements in a rigid environment.

Anticipated $225,000 in savings

"Normally, it could take our team at least 300 hours to develop integration components for our systems and new applications," Dresch said. "In the event that a change needed to be made, a long and tedious process had to occur. This first step in our SOA Strategy has led to a direct dollar savings of $15,000 per integration interface, which are now implemented as reusable services."

"As reuse of the SOA platform continues and these numbers hold true," Dresch continued, "we will see this savings on at least 15 new integration interfaces over the next 24 months. This directly translates to $225,000 in savings for Crowley over our previous practices. Not to mention the soft dollar implications on resource utilization, costs and efficiency as those resources can now focus their efforts on other fronts."

More important for Crowley Maritime were the strategic benefits, which are part of the ongoing savings and increased operational efficiencies. Early results were seen in the first half of 2006, when a major business initiative at Crowley was launched. This major initiative, implementation of a transportation management system for inter-modal transportation, was purchased and launched in late 2005, effectively "plugging into" the adapter framework and the ESB that Ultramatics and Crowley had already brought into production earlier that year.

This particular inter-modal transportation management system automates the routing of Crowley cargo containers — several hundred per day — to dozens of terminals across North America. The application manages and improves operational efficiency of the intermodal portion of Crowley Maritime's ocean shipping business. As the first true test of the ability of the Crowley Service Oriented Architecture to easily integrate with a substantial package, the adapter framework and Enterprise Service Bus performed above expectations and with unprecedented flexibility.

"Right away in Pennsauken (New Jersey)," said Ed Ramsey, manager of the Crowley Integration Team, "we were seeing efficiencies we had never seen before. The routes chosen were, on average, better, cheaper and faster," he continued. "So we're raising the quality of services we can provide. We're increasing customer satisfaction. And we're seeing fewer empty containers on the back-haul trips."

Legacy Modernization as a direct benefit of Service Oriented Architecture

The Crowley/Ultramatics' team has built at least 20 major interfaces for the Enterprise Service Bus by way of the adapter framework – including interfaces to equipment control systems, the legacy Accounts Receivable system, Customer/Vendor information system, and others. One major component of the success of these projects though was utilizing a proven methodology of 'service enablement' for several legacy systems/applications that continue to serve Crowley very well.

Key Components of the Crowley Maritime Solution

Software

- IBM WebSphere Message Broker for z/OS V5
- IBM WebSphere MQ V5
- Service Oriented Architecture designed and implemented by Ultramatics, Inc.

"It's a sustainable architecture — not a solution to be implemented today for a benefit today. It allows this customer to build a really strategic core infrastructure — one they can keep building on."

Sean Jensen,
Sales & Marketing Manager,
Ultramatics, Inc.

“Having delivered SOA to several customers, Ultramatics worked closely with Crowley to describe and document SOA & Integration Best Practices as related to addressing items like legacy modernization,” said Sean Jensen, Sales and Marketing Manager for Ultramatics.

Ultramatics helped Crowley add years of life to several back end legacy systems/applications by creating “service enabled” adapters to older, heavily customized systems/applications. In effect, as new packages like the transportation management system (or any other new package) were implemented, they could be seamlessly integrated and thus communicate with every Crowley back end system. The methodical approach leads to significant “reuse” as portions of those same interfaces are leveraged for new packages.

“Our ‘Best Practices’ message is one of Ultramatics’ strongest competitive advantages. Our core competencies are centered on the IBM WebSphere and Rational technologies because they are the most robust, most comprehensive and most reliable…but the ability to show new prospects that your firm can help them bypass some of the common pitfalls/mistakes that other have made is one of the strongest messages we can bring to the table.”

Saru Seshadri,
President & CEO,
Ultramatics, Inc.

“One of our biggest successes from my perspective,” Ed Ramsey adds, “is that our financial leaders love how easily we were able to leverage the interfaces we created for the legacy Accounts Receivable system. By way of service enablement, two additional operational systems can invoke the services on the legacy AR system as needed. Bringing the total to three financial systems using and reusing the same interface, these financial leaders were more easily able to view the core data that was so important to them. Ultramatics had alluded to benefits like this as a byproduct of the Service Oriented Architecture during our roadmap sessions, but the quick visibility of these benefits to the business was impressive.”

The ability to create services for legacy applications has subsequently added life to legacy applications that were not ready for replacement (due to years of heavy customization and unique abilities of that existing package). “The integration framework took care of it all.”

These benefits are expected to multiply during 2006 and 2007 as other key corporate processes — including financial systems, human resources, and business-to-business interactions — were brought into the integration framework.

‘Enterprise view’ wanted

The challenges that led Crowley to Ultramatics had been mounting for several years. Facing the reality that the Crowley business would be making several acquisitions of other businesses as well as establishing new partner relationships to fill gaps in services and operations (partnership with trucking companies, for example), Crowley sought expert guidance from Ultramatics in the area of “Integration Best Practices.”

The question of how to support each future integration requirement was growing urgent since Crowley already had three smaller lines of business whose information systems had not yet been integrated into the core business operations.

This complexity was even seen in accounts receivable, since many customers were buying services of different kinds from two or more of the Crowley business units. Each unit had developed its own style of tracking, pricing and servicing a specific customer — some literally paper- and pencil-based.

“Crowley felt that, in some cases, they were leaving money on the table and could improve profitability with some segments,” said Saru Seshadri, President and Chief Executive Officer, at Ultramatics.

Crowley management wanted, first of all, a single enterprise view of its business processes and revenue flows. Managers wanted to view metrics for transaction monitoring (like a business dashboard) as well as wanting operating lines to interact in real time with a unified customer-information database. Equally important, they wanted any new business application that the company might want to adopt to be easily integrated into the core infrastructure.

Dresch said each point-to-point link between a new application and the core infrastructure “had to be built laboriously in-house. Reliability and manageability were becoming really difficult. Data transfers with some of the third-party applications were increasingly prone to failure. We never knew what we were getting into when the business decided it wanted to install a new application. We did know we couldn’t keep living like that.”

That was the situation when, in early 2004, Crowley engaged the consultants at Ultramatics for advice. Ultramatics specializes in business-process integration and service-oriented architectures. The Ultramatics team spent most of the rest of 2004 working side-by-side with Crowley management and the in-house technology group, studying the company’s history and what it was trying to do strategically going forward. “They became a trusted advisor to our business,” said Dresch.

Positioning itself as a “go-to” partner in the transportation industry, Ultramatics approached Crowley from the position of “Best Practices” in their vertical market. Having delivered at other transportation industry customers, Ultramatics spent the education time needed for Crowley to understand the strategic importance of implementing a “sustainable” and robust solution, one that would answer their current pains around point to point integration, but also be positioned for future, unexpected desires from the Crowley business.

The upshot was the implementation, starting in 2005 and continuing into 2006, of the Crowley SOA solution. IBM middleware was the foundation. Saru Seshadri, President of Ultramatics adds, “Our ‘Best Practices’ message is one of Ultramatics’ strongest competitive advantages. Our core competencies are centered on the IBM WebSphere and Rational technologies because they are the most robust, most comprehensive and most reliable - but the ability to show new prospects that your firm can help them bypass some of the common pitfalls/mistakes that other have made is one of the strongest messages we can bring to the table.” Seshadri adds, “we quaintly call this our “battle scars” when talking with new customers about SOA strategies and the need for an iterative approach to Service Oriented Architecture. It simply cannot be a ‘Big Bang’ approach, or you lose some of the governance and strategic value that SOA delivers to an enterprise.”

How SOA works

Sean Jensen, sales and marketing manager, for Ultramatics, explained that the magic of SOA is that it supports the reusability of components and provides easy access to those components when needed – on demand.”

Jensen said the combination of IBM WebSphere MQ and the Message Broker were the “heart” of the SOA at Crowley. “SOA serves as the central medium, doing the required translations and conversions, and tracking down reusable components wherever they may reside, instantly, automatically, and supplying them to wherever they may be needed,” Jensen said. “That eliminated all the massive tweaking that had to be done at the application level previously.”

“It makes for a very flexible and strategic infrastructure that serves as the linchpin for everything else that they do,” Jensen continued. “It’s a sustainable architecture — not a solution to be implemented today for a benefit today. It allows Crowley Maritime to build a really strategic core infrastructure — one they can keep building on.”

Ultramatics, IBM PartnerWorld®, and SOA Specialty

When Ultramatics opened its doors in 2001, “we found immediate, mutual benefits in working with IBM,” said Seshadri. Ultramatics became an IBM Premier Business Partner in 2003. “And now we’re in many IBM programs. Recognized and certified as an IBM Business Partner as “SOA Specialty” certified, Ultramatics participates in IBM programs such as vertical-industry workshops and co-marketing projects that are tightly integrated to the Ultramatics business vision and increasing the core competencies.

With SOA Solution Galleries in Tampa, Florida, and Chennai, India, Ultramatics delivers vertical domain solutions in the areas of Healthcare, Transportation, Banking, and Telecom. In 2006, Ultramatics was recognized by IBM with the "Beacon Award" nomination for excellence in solution delivery.

Ultramatics participates in IBM PartnerWorld Industry Networks, which offers a rich set of incremental industry-tailored resources to all PartnerWorld members who want to build their vertical market capabilities and attract potential customers in the markets they serve worldwide. Whether a company focuses on one or more industries — or serves small, medium or large companies — IBM has the technology and resources to help members more effectively meet their clients' needs.

Ultramatics is an "optimized" member of the travel and transportation industry, which means it has developed further specialization by optimizing its applications with IBM on demand technologies, achieving success with its own on demand solutions and meeting other criteria.

Other networks are automotive, banking, education and learning, electronics, energy and utilities, fabrication and assembly, financial markets, healthcare and life sciences, insurance, media and entertainment, retail, telecommunications and wholesale.

Seshadri said Ultramatics used the network benefits "various ways over the past year to solidify our position at Crowley. The program helped us maintain a strategic perspective on Crowley requirements from a vertical industry perspective." The vertical industry perspective is important to Ultramatics. It focuses on the vertical markets of transportation, healthcare, telecommunications and banking. Ultramatics' offerings are branded as UltraStart Business Solutions and include IBM software, integration services and skill transfer.

For more information

Please contact your IBM sales representative or IBM Business Partner. Or you can visit us at: **ibm.com**/ondemand

For more information about ISV resources from IBM PartnerWorld, visit: **ibm.com**/partnerworld/industrynetworks

For more information about Ultramatics, Inc., visit: ultramatics.com

Regarding an iterative approach to Service Oriented Architecture:

"It simply cannot be a 'Big Bang' approach, or you lose some of the governance and strategic value that SOA delivers to an enterprise."

Saru Seshadri,
President & CEO,
Ultramatics, Inc.

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DONG Energy: Making the most of the intelligent electrical grid

Overview

- ***Business Challenge***
  Increasing marketplace and regulatory demands along with a need for future infrastructure reinvestment drove Danish utility company DONG Energy to look for a way to better manage and utilize its electrical distribution network in order to respond to outages faster and more efficiently.
- ***Solution***
  DONG Energy teamed with IBM to implement an Intelligent Utility Network, installing remote monitoring and control devices that give the company an unprecedented amount of information about the current state of the grid. The new solution also involves extensive analysis of the data provided by the remote devices, as well as reengineering of DONG Energy's business processes.
- ***Key Benefits***
- *Potential to reduce outage minutes by 25-50 percent*
- *Fault search time reduced by one-third*
- *Estimated capital savings on planned grid reinforcements of up to 90 percent, when fully implemented*

DONG Energy: moving towards the future

DONG Energy is Denmark's largest energy company, formed in March 2006 by the merger of six diverse companies in the fields of electrical and gas distribution and sales, power generation, and oil and gas exploration; it is an energy company in the truest sense of the word.

The electrical distribution arm of DONG Energy faces a number of challenges going forward:

- *Regulations require DONG Energy to meet benchmarks for capital and operating expenditures.*
- *New regulations for quality of service (outage frequency and duration) will become effective in 2008.*
- *DONG Energy will soon become a publicly traded company, which means it will have to meet not only regulatory standards, but shareholder expectations as well.*

These existing and impending factors drove DONG Energy to look for ways to optimize its operations, specifically with regard to quality of service. The company's ability to find problems in the grid and repair them quickly had to be improved.

Enter the Intelligent Utility Network

Electrical distribution companies around the world are facing challenges similar to those confronting DONG Energy. The demand for energy is increasing, and electrical grids are being severely stressed. The path forward is the Intelligent Utility Network (IUN), which uses information technology to improve the management – and therefore the performance – of electrical grids.

Business Benefits

- Potential to reduce outage minutes by 25-50 percent
- Fault search time reduced by one-third
- Estimated capital savings of up to 90 percent, when fully implemented
- Provides competitive advantage by improving the quality of electrical service through faster, more efficient response to outages
- Allows DONG Energy to more fully utilize existing assets to respond to surges in demand, helping the company avoid capital expenditures for additional capacity
- Enables more effective long-term capital investment planning based on live data, helping DONG Energy to invest in new infrastructure more wisely

"It turns out that the real key isn't the fact that we've got visibility into the grid, though that was our initial goal. It's that we now have information available on grid performance that we didn't have before. We can do a lot with that information."

– Peter Vinter, power grid specialist, DONG Energy

DONG energy

While companies all over the world are investigating IUN initiatives, DONG Energy has taken a leadership role and is one of the first in Europe to actually implement an IUN solution in a distribution network.

A key limitation of existing grids is a lack of information about what's going on in the field. While major assets such as generation plants and transmission lines are monitored, electrical companies today have little or no visibility into the current state of the entire distribution grid – in many cases they do not know a failure has occurred until customers start calling and complaining that their power is off, and finding the fault literally means sending a truck out to isolate the problem by a process of elimination. In this respect, the way electrical grids operate has not changed for many years.

One form of the IUN solution – the one that DONG Energy is implementing – eliminates this limitation by deploying inexpensive remote monitoring devices from IBM Business Partner PowerSense out in the grid. The devices employ unique optical current sensors and tell the company instantly not only that a fault has occurred, but where it is. Devices like this can also, in some cases, control other equipment such as substation switches, raising the possibility of remotely isolating the fault, rerouting power and getting much of the grid back up and running in a matter of minutes.

Building a business case with unexpected benefits

The ability to quickly locate and isolate faults was the capability that drew DONG Energy to the idea of an IUN, says Peter Vinter, power grid specialist at DONG Energy. "For a couple of years, we'd been working on ways to introduce measurements on equipment that was previously inaccessible," he says. "But we needed to know if it would be a cost-effective way to meet our quality of service goals. Would it be better to monitor old equipment or invest in new, more reliable equipment that would go unmonitored? We had to develop a business case that would let us make that decision appropriately."

DONG Energy engaged IBM Global Business Services to help build a business case that would assist DONG Energy in making the decision. IBM was chosen because it has taken a leadership role in developing IUN solutions, and also has deep industry-specific expertise in the energy sector. Working with DONG Energy, IBM was able to uncover significant additional benefits

beyond improvements in operational efficiency, showing how the company could not only improve its asset utilization, but also make far more informed and intelligent decisions about future capital expenditures.

The business case confirmed that DONG Energy's pursuit of an IUN solution was a good move, according to Vinter. "Our quality of supply will improve considerably. We can reduce minutes of power lost by 25 to 50 percent and reduce our fault search time by one third."

But the IBM Global Business Services consultants helped DONG Energy see that an IUN solution could do far more. "It turns out that the real key isn't the fact that we've got visibility into the grid, though that was our initial goal," Vinter says. "It's that we now have information available on grid performance that we didn't have before. We can do a lot with that information."

One of the additional benefits is being able to drive equipment closer to its true limits. All such equipment has a rated capacity, which is set conservatively to ensure reliable, continuous service. It is possible to overload the equipment for a certain time without it failing – but to do so safely, one must know its current status. With remote monitoring technology, DONG Energy now has that information in real time and is able to intentionally drive its equipment safely up to – or even beyond – 100 percent of rated capacity when needed to respond to temporary peaks in demand. In this way, the company can defer investing in new capacity and make better use of its current funds.

A second, and far more significant, benefit of the information provided by the IUN is its applicability to long-term planning. An electrical distribution infrastructure has to be designed to handle peak loads. Historically, utility companies have had to estimate these loads based on usage patterns and anticipated growth, and build in enough capacity to handle any eventuality. This means that most electrical grids are overbuilt. "With the information provided by the new solution, we have real peak load data for individual grid components to work with, so we can optimize our capital expenditures," Vinter says. "It can make those investments far more cost-effective – we estimate we can save as much as 80 to 90 percent on reinforcement of the existing grid by making use of the hidden grid capacity. It's an entirely new dimension that's been added to our planning process, and it's transforming the way we do business."

Key Components

Software

- WebSphere® Application Server
- WebSphere MQ
- WebSphere MQ Explorer
- WebSphere Message Broker
- WebSphere Message Broker Toolkit
- WebSphere Eclipse Platform
- Rational® Software Architect
- JRules software

Services

- IBM Global Business Services

IBM Business Partner

- PowerSense

Why it matters

By leveraging the information provided by devices that monitor and help manage the electrical grid, DONG Energy is able to not only respond to outages faster, but also make more efficient use of existing electrical infrastructure assets and plan more intelligently for future improvements. This leading solution, one of the first implemented in Europe, helps DONG Energy maintain a high quality of service for its customers, reduce capital expenses and more effectively plan for the future.

Reinventing the business

An important consideration in the implementation of an IUN is how to handle the flood of new information that the technology generates. To achieve the long-term planning benefits uncovered by the IBM team, a great deal of analysis must be performed using new analytic tools, and the information needs to be integrated with the company's existing IT systems and applications.

The IBM Global Business Services consultants worked closely with DONG Energy to model the company's existing business processes, determining what changes would need to be made based on input from DONG Energy. The IBM team then took the new processes and designed service-oriented architecture (SOA) IT infrastructure to accommodate them, integrating it with DONG Energy's existing systems. SOA makes IT processes far more flexible and scalable, improving DONG Energy's responsiveness.

Vinter notes that by going beyond DONG Energy's original goals, the solution has the potential to radically change the business. The company is looking into merging new data with its business processes, to improve outage management, network operation and planning. "The transformational part of this is really the information. The real question is, what can we do with all this information now that we've got it? With this solution, we're able to take that raw data and turn it into actionable business knowledge. That's what's going to allow us to succeed in the future, helping us make the best possible use of our existing assets and enabling us to identify where we need to make investments later on."

For more information

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

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Spain's ESADE Business School and IBM make teaching more effective and learning more fun with INNOV8

What distinguishes an institute of higher learning from the norm is much more than a fine heritage and long-held traditions. While taking pride in the past, today's colleges and universities are bound more than ever to look beyond the ivy-covered walls in order to help students prepare to take their places in a future that's constantly changing.

In alliance with IBM, ESADE Business School demonstrated its commitment to prepare skilled, imaginative leaders for the business world of the 21st century when it implemented a course that takes place in a compelling virtual-learning environment at its campus in Barcelona, Spain. Based on IBM INNOV8, the course is presented as a 'serious game,' a novel teaching method that makes learning both relevant and fun. What is most significant is that INNOV8 makes learning more effective than traditional classroom lectures and exercises alone.

IBM collaborates with ESADE and with educators worldwide through the IBM Academic Initiative, offering a wide range of benefits and resources to help teachers guide students through learning the skills necessary to compete, keep up with and set the pace in the workplace that awaits them. Participating faculty members gain online access to IBM technologies and courseware which they can download and use for their own teaching purposes.

Reaction to the course from the students has been overwhelmingly positive.

After graduating in 2009 with a master's degree in financial management, Covadonga Garcia Calvo, from Vigo, Spain, aims to begin a career as consultant or in the finance department of a multinational company. "The course was beneficial

ESADE
Business School
Ramon Llull University

"With imagination, our students are learning how to solve problems that may not even exist yet."

Javier Busquets,
professor and
director of MIS department,
ESADE Business School

for my career goals because in INNOV8 I had to apply my skills, knowledge and common sense to be successful," she said. "I was able to learn from my mistakes and put all the business theory, skills and knowledge acquired while earning my degree into practice, just like I will have to in real life."

Claudia Herrera, from Mexico City, Mexico, is seeking a degree in advanced management through the ESADE student exchange program. She also has her sights set on a career in consulting. "In my future career it will be crucial for me to know how to find the best way to solve a problem. With INNOV8, I was able to practice strategies in order to reach an objective," Herrera said. "It helped me to understand in a practical way how things work when a problem arises in a company and how you have to deal with different kinds of people in order to succeed."

Javier Busquets, a professor and director of the management of information systems (MIS) department at ESADE, has been collaborating with IBM for more than six years. He is the recipient of an IBM Faculty Award for his research in service science and innovation. And, together with Joan Ramon Mallart, a lecturer in the same department, he was granted an award by the North American Case Research Association for a case study analyzing the technological innovation strategy of the IBM Banking Industry Solution Center in Barcelona. Mallart is also a consultant with IBM Global Business Services and serves as the IBM Academic Initiative Ambassador to ESADE. Busquets said that the role of IBM Ambassador is key in the relationship between IBM and ESADE and that Mallart's unique perspective makes him particularly effective.

"Our IBM Ambassador understands the workings and complexities of both a huge corporation and an educational institution," said Busquets. "He brings to us an important mix of diverse realities and that's a great value in our development of courses that help students bridge the gaps between business management and information technology."

Both men were instrumental in bringing the INNOV8 course to ESADE, teaming with Miguel Allue, also an ESADE lecturer, and Jordi Busquets, a manager at the IBM Innovation Center in Barcelona and guest lecturer at ESADE.

High standards and an entrepreneurial spirit

ESADE was founded in 1958 by a small, but innovative group of businessmen. Associated with Spain's prestigious Ramon Llull University system and with campuses in Barcelona and Madrid, Spain, and in Buenos Aires, Argentina, ESADE is now internationally recognized for its entrepreneurial spirit and high standards in its Master of Business Administration (MBA), Executive Education and Bachelor of Business Administration (BBA) programs.

The Wall Street Journal named ESADE the "top international business school" in both 2006 and 2007 and, in 2008, ranked the ESADE Executive MBA program as number one in Europe -- a rating based on the results of interviews with graduating students and hiring companies, for whom "workplace relevance" and "quality of course content" were cited as significant rating factors.

A course geared for a new generation

When 'INNOV8: A BPM Simulator Course' was introduced to 30 BBA students in the fall semester of 2008, ESADE became one of the first educational institutions to incorporate serious gaming into its course curriculum. Serious games are computer programs that, rather than for entertainment, are used as training tools to simulate real-world situations.

"Raised in a world of video games, the current generation of students learned young to think fast, act fast and make real-time decisions," said Mallart. "So they feel tremendously at ease discovering and absorbing new concepts in this way."

Attending lectures, studying and writing papers will always be an important part of student education at ESADE. But the INNOV8 simulator course takes learning way beyond the traditional project or study group where theories and examples are researched, analyzed and discussed. INNOV8 allows students to 'step into' a dynamic virtual business environment and actually experience how individuals and teams interact and need to collaborate in the real world. Students gain practical insight and experience as they apply the various business and technology strategies they've studied and can observe in real time how the decisions they make can affect an organization's performance.

The ESADE course was developed jointly by faculty members and the management and support team at the IBM Innovation Center in Barcelona. It is based on IBM INNOV8, an interactive, three-dimensional (3D) business simulator, and incorporates IBM WebSphere® Business Modeler, a software program that enables users to visualize, document and model business processes. The course objective was to give students a broad business perspective, helping them learn and apply a combination of business process management (BPM), component business modeling (CBM) and Service Oriented Architecture (SOA) concepts and practices. CBM is a technique used to identify and map activities across lines of business and isolate those that show potential for growth, innovation or improvement. SOA is an approach to IT architecture that supports integrating business processes as linked, repeatable tasks, or services.

ESADE and IBM put together a full 30-credit-hour course that integrates INNOV8 with BPM, CBM and SOA theory and concepts and links all of those with the WebSphere Business Modeler to create realistic scenarios that students may actually encounter some day. Through practical experience, today's students were able to envision how they will improve their effectiveness as tomorrow's business leaders, applying SOA and other techniques to respond quickly and intuitively to changing market expectations and business demands.

Let the games begin!

For the first run of the ESADE INNOV8 course, students played the 'Smart Customer Service' game on their classroom computers using the keyboard and mouse. Their challenge was to improve customer service while managing the call center at a fictitious technology company. A producer of hi-tech devices, the company had recently acquired another company with a complementary product line which now had to be supported by the customer service department. Players sharpened their problem-solving skills while mapping out business processes, identifying bottlenecks and exploring 'what if' scenarios.

During the game, each student player proceeded through the simulation as an avatar (an on-screen persona representing herself or himself in the form of a 3D model), interacting with other employees to gather information. As in real life, there were stumbling blocks -- the information they acquired was sometimes inconsistent and some workmates simply did not want to recognize problems or accept changes to existing processes. All along the way, players made their own decisions and were given multiple choice questions as a guide.

Scoring was based on a student's ability to obtain the right information from the right stakeholders, and how they sorted it all out to determine an appropriate business process solution. Afterwards, players shared successes and failures as they engaged in team evaluations and analyses of their individual and collective results.

The four lecturers agree that the INNOV8 course has been a true journey of discovery, both for the students and for themselves as teachers.

Enhancements to the BBA course for the 2009 fall semester will include an upgrade to the latest version of INNOV8 and two additional games -- 'Smarter Supply Chain' and 'Smarter Traffic' -- in which student players will be challenged to manage a supply chain for greater efficiency and profitability and to regulate the flow of traffic through cities, all while reducing environmental impacts. In addition, the games will be included in a new, two-semester MBA course called 'Strategic Management of Technology and Innovation,' led by the same team of ESADE and IBM lecturers.

"Play is a natural way for people to make use of their natural talents," declared Javier Busquets. "With imagination, our students are learning how to solve problems that may not even exist yet."

For more information

For more information, contact your IBM representative. Or you can visit **ibm.**com

For more information about the benefits and resources offered through the IBM Academic Initiative, visit **ibm.**com/academicinitiative

Find out more and give INNOV8 a test drive at **ibm**.com/innov8

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Globe Telecom:

Gaining marketing agility with smart promotions

Overview

The Need
Globe Telecom needed to reach a new level of agility in the creation and management of promotional service offerings.

The Solution
In a joint engagement, IBM and Nokia Siemens Networks designed and built a SOA-based service creation and delivery platform that enables Globe to rapidly and cost-effectively create service offerings from reusable service components.

What Makes it Smarter
Globe is able to drive revenue improvement from hundreds of simultaneous targeted promotions, which are enabled by the integration of customer intelligence, behavior segmentation, profit simulation and promotion execution—all delivered through an integrated and automated solution.

The Result
"We can react very quickly to promotional opportunities when they arise."

— Mario Domingo, Head of Product Design and Creation, Globe Telecom

Within the global market for mobile communication services, the Philippine market stands out for a number of reasons. One is its extremely rapid growth, having gone from single-digit penetration to 80 percent in less than a decade. Another is the fact that no country in the world generates more SMS text messages than the Philippines. What may top the list of notables, however, is the fact that nine of every 10 mobile users do so through prepaid plans. The popularity of prepaid reflects a variety of social and economic factors, including a high degree of price sensitivity among the average Filipino mobile customer.

For the country's mobile operators, the prepaid phenomenon has led to a unique competitive dynamic, with a window of opportunity for gaining (and losing) customers opening much more often than the fixed-term service contract model. Each time a consumer's prepaid account balance reaches zero, the customer has the choice of replenishing with its existing provider, signing with a new provider or letting service lapse altogether. That's the central reason that the rate of customer churn in the Philippines—and most other prepaid markets—is extremely high. Add this to the market's maturity and price sensitivity and you get a recipe for cutthroat competition.

Seizing opportunity through agility

In such an environment, success comes to the fast, nimble and intelligent—defined by the ability to target market opportunities with tactical campaigns, monitor their effectiveness and fine tune them in short order. That's exactly how Globe Telecom—the number two provider in the Philippines, with 27 million customers—is approaching the competitive challenge. Globe specifically recognized that the most effective way to attract and retain the value-conscious Philippine mobile customer was to spur action through time-limited marketing promotions—for example, reload HSDPA service with PHP30 and also get 24 hours unlimited SMS product. Call it opportunistic marketing in the extreme.

Business Benefits

- Expected one-year payback period
- 600 percent increase in promotion effectiveness
- More than 95 percent reduction in the time and cost of developing new promotions
- Improved uptake of services through the smart delivery of promotional offers
- Improved ability to offer "long-tail" promotions and services
- Increased market share and revenue through improved customer experience and more effective promotional campaigns

While Globe's marketing staff had no shortage of creative promotional ideas—or the energy to carry them out—the company's heavy reliance on its traditional vendors (particularly IN) to develop new services put a major drag on its agility. Under a typical scenario, it took roughly 10 months and most often several hundreds of thousands of dollars to develop and bring a new service to market. Moreover, the fact that each of Globe's lines of business operated its own service creation silo made the creation of bundled, composite service promotions equally complex due to integration requirements.

Mario Domingo, Globe's Head of Product Design and Creation, recognized the opportunity to transform service creation from a liability into a source of major competitive advantage by making it faster, less expensive and—by extension—far less of a risky proposition. Domingo's vision was to create a service delivery platform that would use open, SOA-based connections across its infrastructure that would vastly simplify the assembly and provisioning of new services. Domingo and his team saw IBM—by virtue of its track record, technology and resource breadth—as best positioned to help Globe realize the vision.

The Inside Story: Getting There

The Challenge ... Within telecom providers, the move to a service delivery platform almost always arouses a protective instinct on the network operations side of the company—a reluctance to allow any initiative that could threaten the performance and stability of core network systems. Globe was no exception. Attempts in previous years to advance its flexible service delivery vision had run into strong skepticism about the risks of any model that altered the long-standing reliance on traditional telecom equipment vendors—skepticism that resonated among senior management.

The Breakthrough ... The breakthrough came in the form of an innovative project proposal that combined IBM's SOA-enabled Service Provider Delivery Environment (SPDE) framework and service delivery expertise with the core telephony expertise of Nokia Siemens Networks (NSN). The SPDE Framework enabled Globe and NSN to integrate process optimization with business analytics. In addition to complementing its technology and expertise, IBM's teaming with NSN gave Globe's network operations and senior management the comfort and assurance they needed that the integrity of core network systems would remain intact.

Keeping It Small … Equally important to buy-in was a business case under which the solution would be deployed in small, manageable increments and business value would be realized almost from the start. In part, this approach acknowledged the bigger risks of disruption that "big bang" deployments posed. More essentially, however, it reflected Domingo's belief that the best way to build support was on a foundation of solid, irrefutable results. To further strengthen support, Domingo and his team engaged IBM to run information workshops outlining the benefits and implications of the new strategy throughout the company.

Lessons Learned … Looking back at the engagement as a whole, Domingo sees the openness with which Globe was willing to work with IBM and NSN is a key reason for its success. "Our trust in the deployment team enabled us to treat them as de facto members of our internal staff. Our work together with the IBM and NSN team was as much a partnership from the sales process all the way through to delivery. Because we've collaborated so closely with IBM and NSN, we've essentially ended up with an extended knowledge pool in terms of what we should be deploying, how we should go about it and what are the best practices. This collaboration was critical."

Smarter Telecommunications

Gaining tactical agility with smarter promotions

Instrumented

Information delivered from the customer handset enables Globe to measure the success of promotional activity and ongoing behavior.

Interconnected

Using SOA to abstract connections between the network and IT systems enables Globe to dramatically simplify service creation.

Intelligent

Leveraging information gathered from handsets, Globe is able to identify the optimal service promotion for each customer—and the best time to deliver it.

Solution Components

Framework
- Service Provider Delivery Environment (SPDE)

Software
- IBM WebSphere®
- IBM Tivoli®
- IBM Rational®

Servers
- IBM BladeCenter®

Services
- IBM Sales and Distribution
- IBM Software Group

"Our ability to develop new service promotions quickly has given our marketing people the means to be more aggressive—and has made our programs more effective."

— Mario Domingo

Within just three months of signing the contract, IBM and NSN had developed and commercially launched the first marketing promotion that leveraged the new solution. Targeted to Globe's channel partners, it was to yield a 600 percent increase in sales. The use case is that "magic" point—the open window—when a customer walks into a retailer to replenish a depleted balance. At that point, the retailer is the strongest potential influence over which mobile provider the customer chooses.

The best way for providers to tap into that potential is to provide cash incentives—an approach Globe has long practiced. The problem was that the traditional (manual) method of recording new subscribers at the point-of-sale and sending it upstream for processing took a long time, requiring retailers to wait as much as six months for payment. Not the strongest incentive for advocacy.

Using the new service platform—known as the Toolbox—Globe developed a smart incentive promotion that records new customers instantly at the point of sale by capturing information within an activation text message sent by the customer. The message not only captures the identity of the retailer, but also automatically provisions the promotional service package for the customer. Most importantly for the retailer, receipt of incentive payments from Globe is nearly immediate, which is probably the biggest reason that the new retailer promotion model yielded a greater than 600 percent increase in sales, as compared with 15 percent under the older promotion model.

The efficiency of the Toolbox solution derives from its ability to create libraries of reusable service assets, which can then be assembled into composite service offerings. In creating new services, Globe's developers use IBM Rational® Application Developer for WebSphere® and Rational Software Architect to help simplify the design, development and deployment of new promotions and services, while IBM Rational Performance Tester, Rational Functional Tester and Rational Service Tester for SOA Quality help staff to identify the presence and cause of system performance bottlenecks, automate functional and regression testing and improve the quality of Web service-based SOA applications.

Timely delivery yields results

Another way Globe is using the Toolbox to seize customer opportunities is through the intelligent sensing needs, and the ability to respond to it in a targeted, timely and compelling way. The key to opportunistic marketing is awareness. Using the Toolbox solution, Globe's marketers can configure triggers that automatically detect when, for example, a customer's promotional use of three hours worth of high-speed data service is minutes from expiring. At that point, Globe can deliver a personalized, time-sensitive marketing promotion—the right offer, at the right time—thereby substantially improving uptake rates, and minimizing the customer's chance of letting his/her balance reach zero, and ultimately improving market share.

Globe's adoption of flexible service delivery is a powerful example of how "long-tail" promotions—those that are generally short lived, highly targeted, and able to be created cheaply and rapidly—are emerging as the primary engine of long-term revenue growth and profitability for telcos. The 10 months and several hundred thousand dollars it used to require to create a new service is now down to an average of thousands and less than a week from conception to execution—a level of efficiency that enables Globe to offer several promotions per week. Says Domingo: "We can react very quickly to promotional opportunities when they arise. Just as important, we can detect in near real time whether the mechanics of our promotion are working—and if they're not, we can change them almost instantly." On the strength of the low cost and flexibility enabled by the Toolbox solution, Globe expects to achieve full payback on its investment in less than a year.

Aiming for number one

Domingo sees Globe's new service creation platform as figuring prominently in the company's strategy of delivering a superior customer experience and smart retailer incentive programs to become the number one provider in the Philippines. "Our ability to create and execute smart service promotions with speed and agility gives us a strong opportunity to take leadership in the marketplace," says Domingo. "IBM's help in refining and achieving this vision has been crucial to our success."

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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ODC03164-USEN-00

Streamlining credit management processes

HML
the ability in financial outsourcing

Overview

Business challenges

- Reduce reliability on manual tasks to drive the collections process
- Increase accuracy and eliminate risks of human error

Solution

- Automate repeatable, efficient, consistent credit management strategies across the client base

Benefits

- Savings of 22 full-time employees due to the elimination of manual tasks
- System able to respond quickly to any changes in client strategies
- Elimination of manual intervention resulting in improved compliance

HML is a financial outsourcing company and the largest mortgage servicer in U.K, providing outsourced mortgage administration solutions to over 30 U.K. and Irish lenders, and has around 1,800 staff operating out of four U.K. locations. The company was established in 1988 and is a wholly-owned subsidiary of Skipton Building Society. The client portfolio includes some of the largest players in the U.K. and U.S. financial markets and currently the company is managing approximately GBP45 billion of assets.

Improve, streamline and increase process control

In 2007, HML recognized the need to improve, streamline and increase overall control of the processes within the credit management area. The need to respond quickly to the changing market conditions and to maintain focus on regulatory requirements were key drivers for process improvement. The CREWS Programme (CREdit management Workflow System) was initiated to address these needs alongside the introduction of LEAN techniques.

The CREWS program objective was to automate repeatable, efficient, consistent credit management strategies across the client base. A team including business and IT members worked closely with Lombardi, who implemented the business process management toolset, to ensure a robust and responsive system.

"By moving more capabilities to this award winning world-class platform, the credit management process is streamlined, made more efficient and consistent."

— Paul Swinson, CREWS Programme Manager, HML

The workflow functionality enables HML to model and automate the complex credit management strategies of each of its clients, comprising over 50 different strategies. The tool has 400 business rules, uses 100 data attributes as the basis for its decisions and is being used by over 350 HML credit management consultants.

Challenges

- The Credit Management function was heavily focused on manual tasks to drive the collections process.
- Staff had to run reports from the core system and split this work by process area. The reports were exported to excel spreadsheets, manually manipulated and pushed out to staff.
- Report segmentation was also used to identify data to populate outbound calling strategies within the dialler system.
- Operational management information was produced using reports and Excel spreadsheets.
- Letter production was equally manual with staff working from lists and manually requesting letters using screens in the core system.
- Due to the high degree of manual intervention this opened up risks around the possibility of human error and of accounts 'falling through the gaps.'

Solution Component

Software

- Lombardi Teamworks®

The key innovations

- Engagement with HML's client base has significantly improved by working closely with them to understand their credit management strategies in detail and how these translate into process models.
- Staff training is now much easier, thanks to the way in which processes are clearly defined, and the use of 'coaches' to guide staff through work items based on the specific task they are working on.
- By automating non-value add manual processes such as the identification and distribution of work items, staff have more time to liaise with customers to achieve positive results. This has therefore resulted in an increase in staff morale and overall engagement.
- Managers now have access to real time dashboard reporting which gives an instant view of key data such as SLA reporting. This enables resource allocation based on work levels.

Overcoming challenges

The key management challenge was the timescales set for deployment and roll out to HML's clients. Having a single team enabled dedicated Subject Matter Experts from the business, IT and Testing resource to fulfill the clients' expectations.

The key business challenge was to increase HML's understanding and acceptance that the current process had real scope for optimization. Also, it was necessary to dispel the myth that BPM is a replacement for staff. To counter these issues, change champions were nominated from the impacted areas. They were provided with detailed information and involved in the business readiness activity, which in turn aided operational buy-in at the user level.

With CREWS being the first implementation of BPM technology in the organization, a centre of excellence was created. This is made up of modelers, developers and testers following documented best practice and strict standards.

At a high level, the organization embraced BPM and considers it an enabler for process change, control and efficiency. This provides flexibility in resource deployment to manage workloads.

Benefits

The CREWS project has achieved savings of 22 FTE's due to the elimination of manual tasks. This translates to a cost saving of GBP400,000 per year.

Speed of change to strategies is key to HML's clients in the current marketplace. CREWS has provided a platform to quickly manage this change without the need for lengthy development, test and deployment.

HML's clients benefit from a number of features:

- The elimination of manual intervention, has enabled HML to remove the type of errors that arise from manual intervention, and ensure consistency and accuracy, making sure that all borrowers are treated in accordance with the client's strategies, or those developed through HML's analytics, and within a strict TCF framework.
- Elimination of manual intervention also means improved compliance, so that strategies and processing are both effective and fully in accordance with Financial Services Authority (FSA) regulations.
- Clients benefit from better credit management results, with the aim of getting pre-litigation accounts to 'cure'—get back to a point where there are no arrears. Automation leaves HML consultants more time to liaise with customers and field counselors and achieve positive results.
- Lombardi Teamworks® offers HML increased flexibility, with the system able to respond quickly to any changes in client strategies by updating the relevant business rule.
- Productivity improvements.

In an environment where arrears are a rising problem and the FSA frameworks in which to deal with them are increasingly strict, CREWS enables HML to provide its clients a consistent service in accordance with TCF, and an approach which they are confident will have the optimum success rate in terms of getting borrowers back on track.

Why BPM from IBM?

Business Process Management (BPM) software and services from IBM help organizations optimize business performance by discovering, documenting, automating, and continuously improving business processes to increase efficiency and reduce costs.

For more information

To learn more about IBM's version of Lombardi's Teamworks offering, IBM® WebSphere® Lombardi Edition, please contact your IBM marketing representative or IBM Business Partner, or visit the following Web sites:

IBM WebSphere Lombardi Edition:
ibm.com/software/integration/lombardi-edition/

IBM BPM: **ibm.com**/software/info/bpm/

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IBM Case Study

WebSphere software

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.*

Solution Components

Software

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

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.

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

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WSC14102-USEN-00

WebSphere. software

IMPOL implements Risk Management Solution with WebSphere software from IBM

Overview

- ***The Challenge***
  Build up a Risk Management System to control complex business processes
- ***The Solution***
  Integration of SOA toolbox to modify the existing data structure, integration of physical market with LME (London Metal Exchange) market
- ***Why IBM***
  SOA is one of the incremental path to strategic flexibility and IBM is market leader in SOA. High flexibility of WebSphere software
- ***Key Business Benefit***
  Return on Investment in five months
- ***Business Partner***
  Alcad d.o.o.

IMPOL's mission: Processing of light-weight metal, especially aluminium, into products that ensure buyers the highest possible value.

As a leading manufacturer of Aluminium and Aluminium-alloy products IMPOL looks back to 180 years of tradition. Automotive, construction- and electro industry are the most industrial consumers who need high quality and high specialized aluminium products like profiles, rods, bars, foils and other rolled products which lead to a product range of almost 150 000 tons per year.
IMPOL – based in Slovenska Bistrica – is located right in the middle of its biggest customer – the European Union.

"If you want to be successfull in the metal industry, it is not enough just to be good at buying raw materials and selling your products to customers. You have to combine those basic skills with the proper use of futures, hedging and option tools and other financial instruments that are available through the London Metal Excange."

– Tanja Brkljačič , Executive Director for Purchasing & Risk Management, IMPOL

Key Components

Software

- WebSphere Business Modeller
- WebSphere Integration Developer
- WebSphere Process Server
- WebSphere Business Monitor

Casting, rolling, extruding and drawing the aluminium are the prime work stages. IMPOL produces customer specific light weight components for processing in different industries:

- *rods and bars for automotive and aircraft manufacturers*
- *foils for highly specific pharmaceutical and electrical uses or just simply for packing a snack*
- *profiles to be needed in manufacturing of building elements & interior design, heating radiators or sections of bicycle rims*

1700 employees are using advanced technologies for manufacturing high-quality products from Aluminium and its alloys. IMPOL offers to their customers maintenance and services at a high level of quality. By introducing and implementing continuous process improvements IMPOL guarantees flexibility and long-term customer satisfaction.

To assure competitiveness IMPOL expects to achieve Return on Investment as quick as possible. The main risk is the constantly increasing price volatility of raw Aluminium traded on the London Metal Exchange (LME), one of the world´s largest metal markets.

Tanja Brkljačič, Executive Director for Purchasing & Risk Management, IMPOL, was the initiator to build up a Risk Management System to stabilise the business processes: "I saw, this was essential. If we want to operate succesfully in the future, we had to solve several problems: The existing ERP data system was not supporting to enter the purchasing and sales contracts with LME formulations as required by the market and processes of the so-called physical market (i.e. purchasing primary Aluminium as our raw material and selling our Aluminium products – such as rolled and extruded products) were not connected from the LME price of view. We did not know the real risk arising from the volatility of Aluminium prices and because of that, whether the profit is done through the operating business in the production, or because of favourable LME price movements and exchanges. The amounts of contractual agreed sales margins were under high impact of LME price volatility and a profitable margin could be turned into a loss by unfavourable LME price movements."

IBM business partner Alcad d.o.o. helped IMPOL to develop, together with IBM, a Risk Management System based on a highly flexible Service Oriented Architecture (SOA) created with IBM WebSphere software. Using the IBM WebSphere Business Modeller enabled Alcad d.o.o. to describe the complex process. "In the course of optimizing and simulating this process we saw the high flexibility of IBM WebSphere", Tanja Brkljačič described, "and we knew IBM's Service Oriented Architecture offered us the right product strategy."

"IBM's WebSphere technology with it's maximum of investment protection was the right decision to achieve a system which provides reliable, complete and manageable information together with interactions and high reliable transactions."

– Branko Hmelak, Director Alcad d.o.o.

The engineers of Alcad d.o.o. modified the data strucures of the ordering process to support strategic purchasing and sales. The next step was to summarize purchasing and sales quantites for each single LME delivery term of the London Metal Exchange.
One of the most important improvements was the connection between physical sales with the right purchasing contracts. IMPOL is now to in control of its total risk position each day.
Alcad d.o.o. deployed also a common view of contractually agreed upon and actually achieved production margins for each single sales contract.

Integration of the WebSphere toolbox

A key tool in the SOA toolbox was the IBM WebSphere Integration Developer V6 which enabled Alcad d.o.o. to transform many of the existing IT assets into highly efficient, flexible and reusable services. These functions could easily mixed and matched to quickly address evolving business process requirements. Going forward, the client will be able to assemble and reassemble services from its native CICS on Z/VSE and Linux on System Z platform and integrate them seamlessly with web services offered by the London Metal Exchange and other financial institutions. IBM WebSphere Process Server V6, another essential element of the SOA environment, provides a high performance business engine that enables IMPOL to create business processes tailored to meet its business goals. Having the process server in place, it is very easy to quickly deploy all the available services enterprise wide. IMPOL uses also the IBM WebSphere Business Modeller V6 software to extend in-depht business process oversight both to its internal business personnel and to Alcad IT personnel. It enables the collaboration in the development of clear, concise business rules and Key Performance Indicators (KPIs). That can be used to closely monitor the client´s risk management process. Rounding out the solution, the IBM Business Monitor V6 tool offers a customized dashboard view with intuitive features and KPIs that generates alerts and other forms of notification to help key personnel facilitate ongoing business process improvements.

"IBM's WebSphere software helped us to integrate purchasing an sales items with all the hedging activities of the LME market. Now we are able to handle the risk of Aluminium price volatility and this is the best basis for further improvements and business developments."

– Tanja Brkljačič , Executive Director for Purchasing & Risk Management, IMPOL

WebSphere software enables IMPOL to react quickly on the volatile aluminium market

The SOA environment is expected to offer the client the flexibility it needs to adapt services from its existing IT environment to align with web services offered through the LME and other financial institutions in order to provide the right people with the right information at the right time to achieve its business goals.

“Process integrity was the key point of this system and now we have reached the integrity of the whole commercial activities connected with the LME market supported by reliable, complete data and information,“ explains Tanja Brkljačič. “LME prices are changing from minute to minute and this means that without one-line data basis and secured access, we were not in a position to manage all these demanding time-based activities. Each transaction must be executed on a high level of consistency and reliablity.“

Successfull SOA implementation

For the succes of this project it was important to run business as a globally integrated company. IBM's WebSphere technology with its maximum of investment protection guaratees to achieve a system which provides reliable, complete and manageable information together with all required interactions and high reliable transactions.

SOA improves visibility into business operations, integrates historically separate systems and offers new services for customers without having to worry about the underlying IT infrastructure.

“IBM is a strategic partner,“ declares Tanja Brkljačič. “In the next two or three years we will extend SOA functionality at IMPOL by implementing more services and achieve company-wide integration of SOA.“

For more information

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For more information about IMPOL and Alcad visit:
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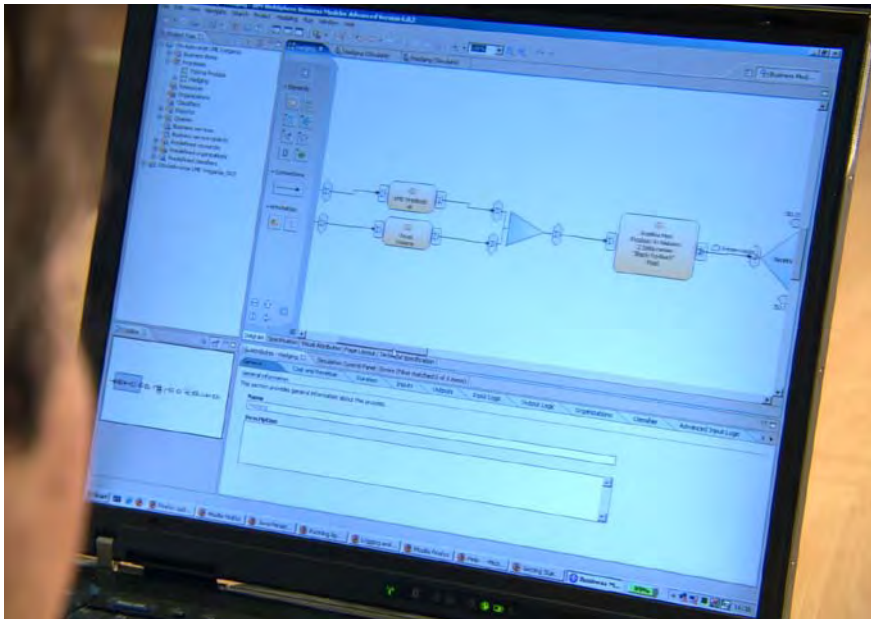

WebSphere Business Modeller

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J.B. Hunt transforms operations to reduce costs and increase revenue

Overview

Challenge

Manually managing tens of thousands of documents increased operational costs and affected staff's ability to accurately bill clients for services.

Solution

Using advanced techniques, IBM solutions with case management capabilities enable staff to approach each delivery as a distinct case and track, assess and bill delays and other exceptions based on the terms of each client's contracts.

Benefits

Anticipated $1 million in revenue with real-time visibility to delay information; better driver utilization; 83 percent reduction in staffing requirements for billing operations

J.B. Hunt, one of the largest transportation logistics companies in North America, focuses on the safe and reliable transport of full truckload freight to a diverse group of customers throughout the continental United States, Canada and Mexico.

The challenges of manually managing tens of thousands of documents associated with the daily shipment transactions included an increasing amount of physical space devoted to document storage; delays in finding and accessing specific documents held in storage; risk of misplacing or losing a document; as well as costs and delays in making and forwarding copies. In 2000, J.B. Hunt made an initial investment in IBM software to address these problems.

Based on the success of the initial application, J.B. Hunt applied its experience and IBM advanced case management strategies to address more complex business challenges, attacking three problematic areas—billing, dray carrier management and driver delay management.

Billing

The existing billing process was complex, labor intensive and time consuming. Data was being entered manually. Customer service agreements required invoices to be generated using different rules for each customer, yet there were no means to centralize and coordinate the numerous billing rules. It became increasingly difficult to produce

"The success of the HAWK Power Detention System has demonstrated the value and potential of IBM software. As a result, other divisions within the company are exploring advanced case management techniques as a way to remove non-value-added work and add dollars to the bottom line."

—Tarek Taha, Engineering Manager, J.B. Hunt

timely and accurate billing at month's end, requiring additional customer service efforts. Billing issues threatened to affect J.B. Hunt's customer service reputation and cash flow.

Dray carrier management

J.B. Hunt often relies on independent carriers to transport rail containers to the nearest railway terminal. Coordinating shipment assignments and payments for independent carriers—known as dray carrier management—was primarily a manual processes, dependent upon knowledgeable staff to coordinate hundreds of independent carriers transporting thousands of containers annually. J.B. Hunt realized IBM software could be leveraged to significantly improve dray carrier management by replacing manual work with automated processes.

Driver delays

Upon pickup or delivery, carriers allot a certain amount of wait time—typically one to three hours, depending on the service-level contract. When a driver is detained longer than the allotted time, charges accrue. Tracking and reporting "detention" time was primarily the responsibility of administrative staff. In reality, accurate tracking and reporting was difficult to obtain. When delays were reported, the process of accurately applying these customer charges required extensive searches through data-intensive mainframe screens, e-mail documents and printed customer agreements. Legitimate charges were sometimes missed due to interpretation errors, time constraints and volumes of information requiring manual processing.

Solution Components

Software

- IBM® FileNet® Business Process Manager
- IBM FileNet Content Manager
- IBM FileNet eForms
- IBM FileNet Email Manager
- IBM FileNet Image Manager

The goal was a complete transformation in the way driver detention events are captured, administered and invoiced so that staff can optimize revenue from each delivery.

Moving to an advanced case management model

J.B. Hunt worked with IBM to implement advanced case management strategies so it could approach each delivery as a distinct case and track, assess and bill delays and other exceptions based on the terms of each client's contracts. During phase one, J.B. Hunt initially applied third party capture software along with IBM imaging and business process management software to deal effectively with the high volumes of documents—bills of lading, delivery receipts, claims documents, accounts receivable, accounts payable, and driver logs—associated with customer transactions. The solution reduced, if not eliminated, the need for file cabinet storage, prevented the loss of documents, allowed employees to quickly and securely access the necessary documents electronically, streamlined document processing, and set a precedent for the business value of IBM software.

J.B. Hunt applied IBM software to improve its billing process by eliminating manual processes, establishing a central set of billing rules to improve billing accuracy, and identifying and rectifying any bottlenecks in the automated process.

J.B. Hunt then focused on improving dray carrier management by using the solution to automatically process work assignments and carrier payments. The solution effectively eliminated the time-consuming, manual task of scheduling carriers and confirming deliveries previously coordinated by J.B. Hunt staff and transferred these responsibilities to the individual carriers who could remotely access the Web-based portal, accept or reject pickup or delivery assignments and submit paperwork required for payment. The carrier electronically sends in paperwork once a job is complete, automatically triggering a payment from J.B. Hunt.

The most significant application of IBM software involved a sophisticated integration of multiple technologies and information sources—customer data, contracts, legacy systems, real-time monitoring and satellite-linked computers. The goal was a complete transformation in the way driver detention events are captured, administered and invoiced so that staff can optimize revenue from each delivery.

J.B. Hunt's HAWK Power Detention system uses case management capabilities to capture and bill chargeable driver detention events using Web-based GUI screens. Delays are automatically identified through satellite-linked computers installed on every J.B. Hunt truck. Once a delay is identified, an e-mail is generated and sent to the detaining facility, notifying the customer of possible charges. These notifications, built using IBM® FileNet® Content Manager and IBM FileNet Email Manager, are determined by the specific contractual agreement between J.B. Hunt and the detaining customer. Highest priority delays are funneled to the next available J.B. Hunt delay specialist, ensuring timely processing. For customers requiring authorization for delay charges, HAWK leverages IBM FileNet Business Process Manager, FileNet eForms, FileNet Email Manager and FileNet Content Manager, to send an electronic form requesting approval.

Once all contractual requirements have been met, charges are automatically processed and sent to the customer for payment. As a result of the increasingly valuable benefits that IBM demonstrated, other operating segments within J.B. Hunt are considering advanced case management strategies as a way to potentially increase process efficiency and improve service quality.

"The success of the HAWK Power Detention System has demonstrated the value and potential of IBM software," says Tarek Taha, engineering manager, J.B. Hunt. "As a result, other divisions within the company are exploring advanced case management techniques as a way to remove non-value-added work and add dollars to the bottom line."

Optimizing business outcomes

Beginning with the initial application for managing the volumes of documents associated with shipment and customer transactions, J.B. Hunt was able to:

- Reduce cost, risk and inefficiency of paper document storage and retrieval
- Centrally and securely manage critical corporate documents
- Provide employees with instant and secure access the necessary documents

Applying IBM software to the billing process allowed J.B. Hunt to:

- Increase efficiency and accuracy by eliminating manual tasks in the billing processes
- Improve billing accuracy by establishing a central set of billing rules
- Improve automatic billing from 60 to 95 percent
- Easily identify and rectify any bottlenecks in the automated process

The dray carrier management application enabled J.B. Hunt to:

- Eliminate cost and inefficiency of manually processing dray work assignments and payments
- Allow independent carriers to remotely accept pickup and delivery assignments, submit invoices, and automatically generate payment for services

The sophisticated HAWK Power Detention system allowed J.B. Hunt to transform the entire process, providing the specific benefits of:

- Automatically monitoring driver delays and applying the appropriate billing charges
- Improving driver morale increased driver revenue potential as a result of the ability to promptly handle driver delays
- Eliminating errors and saving additional costs and time as a result of automating the process
- Netting the company more than $1 million annually

For more information

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Please Recycle

JM Family improves customer service and employee productivity

Overview

Challenge

Enable service associates to access all relevant information regarding a customer's case and provide a quick and certain answer regardless of where the loan/lease servicing request is initiated.

Solution

IBM software with case management capabilities delivered the framework to help ensure the right information is available for case progression and resolution where needed.

Benefits

Annual projected savings of approximately $202,000; faster response to customer inquiries; eliminated approximately 168,000 pages of paper being printed annually; improved corporate records compliance

JM Family Enterprises, Inc. is a recognized leader in the automotive industry. JM Family's visionary business practices have enabled the company to capitalize on market trends and maintain a rapid rate of growth. It is currently ranked No. 28 by FORTUNE® as one of the 100 Best Companies to Work For, its 12th consecutive year on the list. The company is also ranked No. 8 on Computerworld's list of "100 Best Places to Work in IT."

Founded in 1968 by Jim Moran, JM Family has grown from a core distribution business into a diversified automotive corporation whose principal businesses focus on vehicle distribution and processing, financial services, finance and insurance products, retail sales, and dealer technology products and services. The company is a US$8.4 billion force in the industry with about 4,000 associates nationwide.

JM Family's World Omni Financial Corp. (World Omni) is a diversified financial services company, headquartered in Deerfield Beach, Florida. World Omni provides a broad range of automotive financial products and services to consumers, dealers and lenders.

Growing content challenges case management

JM Family's World Omni call centers had already established a reputation for quality customer service. More than 700 customer service associates located in Mobile, Alabama and St. Louis, Missouri annually processed tens of thousands of automobile loans and leases. However, the process was complex, involving volumes of paper documents, frequent interaction with customers, and multiple information sources

"The major business objectives in our organization are excellence in customer service and increased productivity of our associates. IBM brings the advanced expertise and necessary case management features to enable these objectives."

—Keith Tempinski, Director, Enterprise PMO, JM Family Enterprises, Inc.

and systems. Each of these loan/lease servicing transactions had to progress through a specific sequence of steps involving many associates, approval levels and audit steps.

Known challenges to productivity included manual processing of forms, faxes, e-mail and letters associated with the loan/lease servicing process. The volumes of paper involved in the process made it difficult to accurately and efficiently comply with the corporate records policies. Hard to find documents, combined with rekeying of data into various information systems, frequently delayed loan/lease service transaction completion. When customers inquired about loan/lease servicing request status, customer service associates were unable to access all relevant information to provide a quick and certain answer. Ideally, JM Family wanted the two call centers to operate as one virtual call center with customer service associates able to respond to inquiries regardless of where the loan/lease was initiated.

Optimizing case progression and resolution

Given JM Family's reputation for technical innovation, it recognized that an advanced case management approach could be a key enabler in improving the quality of customer service as well as the productivity of the customer service associates. Additionally, it could help staff improve additional business processes throughout the organization.

Solution Components

Software

- IBM® Cognos® 8 Business Intelligence
- IBM Enterprise Records
- IBM FileNet® Business Process Framework
- IBM FileNet Business Process Manager
- IBM FileNet Content Manager
- IBM FileNet eForms
- IBM FileNet Process Analyzer

The combination of business process, electronic forms and systems integration enabled automation of the entire loan/lease servicing process to help ensure the right information is available for case progression and resolution when needed.

JM Family used IBM® software to gain the advanced case management insights it needed to make the customer experience seamless. The solution delivers an integrated process that combines electronic forms, business process and systems integrations to optimize process automation. A flexible framework provides customer service staff with access to all relevant content for each case at every step regardless of the content source. And the platform enables process design that automatically records the status of key processes as well as participants involved in reviews and approvals to support corporate and regulatory compliance and auditing.

Here's how it works: IBM FileNet® Business Process Framework helps the company manage information and customer requests arriving from multiple sources such as phone, fax, mail or e-mail. When a loan/lease request is received, an associate begins the process by completing the appropriate electronic forms or templates and electronically attaching any associated documents. IBM FileNet eForms software is designed to make data entry efficient and accurate through the use of data verification, auto completion, and integration with external data sources. Data contained in electronic forms eliminates the need to rekey data and, via integration, also enables the sharing of data with mainframe and client server systems that are part of the loan/lease servicing process.

In conjunction with business process rules, information contained in the electronic forms controls the routing to the appropriate loan/lease processor, thereby eliminating delays inherent in a manually executed system. The combination of business process, electronic forms and systems integration enabled automation of the entire loan/lease servicing process to help ensure the right information is available for case progression and resolution when needed.

To facilitate auditing and protect against legal and regulatory risks, JM Family designed the process to automatically record the status of key processes as well as the participants involved in reviews and approvals. By using IBM Enterprise Records software, JM Family was able to automatically capture and retain loan/lease documents in accordance with corporate compliance policies.

Eliminating paper documents improved the loan/lease process and provided a corresponding "green benefit"—approximately 168,000 pages of paper are no longer printed annually.

"The major business objectives in our organization are excellence in customer service and increased productivity of our associates. IBM brings the advanced expertise and necessary case management capabilities to enable these objectives," says Keith Tempinski, Director, Enterprise PMO, JM Family Enterprises, Inc.

Continuous improvement with case analytics

Case managers need insight into workloads and processes to optimize case handling and to confirm that service associates are achieving key performance metrics. To support this, JM Family used IBM FileNet Process Analyzer software to record loan/lease servicing performance metrics. These data are then used by IBM Cognos® software to create daily performance reports, allowing continual monitoring of the automated loan/lease servicing process and the individual customer service associates participating in the process.

Improving business outcomes

Working with IBM, JM Family achieved its primary goals of improved customer service and increased call center productivity. Customer service associates can now quickly determine the status of a loan or lease service transaction—a task that previously required significant manual effort. Comprehensive view of a customer's case allows associates to update account data and have these applied systematically and consistently across all systems involved in the process. As a result of the automated business processes, loan/lease transactions are now completed more quickly.

JM Family also achieved secondary goals of data quality improvement, paper reduction, improved compliance with corporate records requirements, and the ability to monitor process performance metrics. JM Family estimates projected savings of approximately $202,000 annually and anticipates further savings as additional business processes become automated.

Improved data quality and reduced audit costs

By eliminating many processes that required substantial rekeying of data across systems, JM Family reduced data errors to help ensure that consistent, accurate data was transferred among systems. The new business processes were designed to automate World Omni approval authorities and implement firm controls, thereby reducing the amount of auditing required. JM Family estimates an annual savings of $68,000 attributed to the reduced cost associated with the audit steps.

Greener productivity

Paper, formerly printed and routed for transaction approvals, was the root of much process inefficiency. Eliminating paper documents improved the loan/lease process and provided a corresponding "green benefit"—approximately 168,000 pages of paper are no longer printed annually.

Compliance made easy

The paper-based loan/lease process made it difficult to comply with corporate records standards. With the elimination of paper documents and the implementation of the new loan/lease process, critical corporate records are now declared automatically at key steps in the process and retained according to the file plan established by JM Family.

Performance monitoring via IBM Cognos

Not only has JM Family improved the loan and lease processes, but the company's progressive IT culture motivated it to strive for continual process improvement. JM Family uses the process metrics gathered by the IBM FileNet Process Analyzer software as input to IBM Cognos software to create daily reports on associate activity and overall process performance. With this data JM Family can quickly identify associates who may benefit from coaching and determine if adjustments need to be made to any part of the process.

Business process platform serves future process improvements

JM Family's investment in IBM software allowed it to obtain the productivity, quality and cost benefits described above. More importantly, JM Family recognized that IBM's advanced case management strategies provided a proven means to deliver future productivity improvements, specifically in the area of business process management, as JM Family continues to transform itself through optimization initiatives.

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Please Recycle

Castilla y León regional government adapts quickly to new laws

Overview

Challenge

With Spain's new law promoting care and autonomy for dependent people, this regional agency needed to confirm that eligibility verification and benefits were consistently applied.

Solution

Using advanced case management strategies from IBM, the agency created a centralized process-oriented management system for granting benefits and automating work that helps staff deliver equal and timely service to eligible citizens.

Benefits

Reduced time to process benefits; enables agency staff to support a greater number of cases; supported rapid compliance with new law and provides flexibility for implementing future policy changes.

The regional government of Castilla y León, one of Spain's 17 autonomous regions, administers a broad range of social programs through its Social Services agency. More than 50,000 people benefit from the agency's social assistance programs for the disabled and elderly, and for child protection.

Keeping pace with changing regulations

Spain's recent passage of a law promoting care and autonomy for dependent people, including the elderly and disabled, dramatically increased the number of cases that the region's Social Services agency had to process. The law not only introduced new social benefits, but backed them with precisely defined eligibility criteria. However, because data about citizens was kept in various offices, eligibility verification was often inconsistent. Additionally, agency staff found that citizens who were eligible for services were not always treated the same way for each comparable case due to inconsistencies in the process.

Applying advanced case management strategies

To support the new law and improve services to qualifying citizens, the Social Services agency launched its new Social Services Unified Access System (SAUSS) that acts as a single point of contact for citizens and enables agency staff to manage case progression and resolution consistently across all offices. The SAUSS project included the application of advanced case management strategies using IBM® Software to create a

"By combining the strengths of IBM Software and services, we are dramatically reducing the time to process benefits, allowing the staff to put more focus on handling exceptional cases."

—José María Molina, Project Director, IT Department Social Services, Social Services Management, Family and Equal Opportunity Council, Junta de Castilla y León

centralized process-oriented management system for granting benefits, automating the agency's work and shortening service delivery. The solution includes the following software products:

- IBM FileNet® Content Manager software provides a central repository for citizen information that can be shared by case managers across all branches and offices, thus eliminating redundant information.
- IBM FileNet Business Process Manager automates business processes to help ensure equal and timely service and payments to all eligible citizens.
- IBM WebSphere® ILOG® JRules business rule management system (BRMS) software facilitates the development, deployment and maintenance of the business rules that govern the complex decisions to be taken in the process. For instance, a rule-based decision service is used to score applications and assess eligibility.
- MicroStrategy software is used for statistics and scorecard balancing.

"We identified the advanced case management capabilities of IBM Software, including business rule management, as key in helping us cope with regulatory and internal policy changes," says José María Molina, Project Director, IT Department Social Services, Social Services Management, Family and Equal Opportunity Council, Junta de Castilla y León. "We chose IBM Software because of the depth of its functionality, robustness, and ease of use and integration."

Solution components

Software

- IBM® FileNet® Business Process Manager
- IBM FileNet Content Manager
- IBM WebSphere® ILOG® JRules

IBM Business Partner

- Thales

"As each application is processed faster and more accurately, the agency can now deliver social benefits more efficiently."

—José María Molina

The SAUSS system was assembled by Thales, a system integrator and IBM Business Partner. Two people—one from Thales and the other from the agency—were primarily responsible for developing the rules of the system. They prepared for the project by attending an IBM Software training course given by IBM Software Education Services. In all, the project lasted one year. The system was developed to run in a Java™ environment with Microsoft® Windows® 2000.

Flexibility to support changing laws

Because all business rules governing the new system are stored in a central repository, the agency's IT department no longer has to recode applications associated with SAUSS when new policies and regulations are passed. The agency's policy managers can access the rule repository through a web-based interface to review, modify, test and redeploy rules to implement changes directly. Furthermore, as the decision logic is managed separately from business processes, policy changes can be implemented without requiring any changes to the processes which rely on them. In addition, policies can now be changed in one place for use by multiple processes and applications, reducing maintenance time and cost.

Handling a greater number of cases

The new system has greatly improved the productivity of approximately 1,500 agency and municipality personnel. It allows them to more easily handle the greater number of cases resulting from the introduction of the new law. Because the system automates the processing of most of the paperwork, agency staff can instead focus their time on handling exceptional cases. The solution's powerful, user-friendly interface allows case managers to review, validate and maintain cases directly to confirm compliance with legal requirements.

Even though the number of cases has increased significantly, each application is processed much faster, enabling the agency to deliver services in far less time on average. What's more, the agency can easily confirm that transparent and fair decisions are applied through consistent scoring and rules-based eligibility criteria across all agency centers and municipalities.

"By combining the strengths of IBM Software and services, we are dramatically reducing the time to process benefits, allowing the staff to put more focus on handling exceptional cases. As each application is processed faster and more accurately, the agency can now deliver social benefits more efficiently," says Molina.

For more information

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WSC14109-USEN-03

WebSphere software

Large State Tax Department enables paperless filing with IBM SOA solution

Overview

- ***Challenge***
  Separate siloed applications were costly, cumbersome and inefficient to maintain, and taxpayers were frustrated with paper tax forms
- ***Solution***
  Modernization of applications with SOA to enable efficient processing of tax returns
- ***Benefits***
  - *Lower processing costs for agency*
  - *Improved customer satisfaction with easy online tax preparation and processing*
  - *Taxpayers able to prepare tax returns more easily and quickly with higher degree of accuracy*
  - *More than $220 million in fraudulent claims discovered through automation*
  - *Reduced number of business exceptions to process from faulty forms*

A large tax agency in the U.S. has recently modernized its IT infrastructure with service oriented architecture (SOA).

The agency processes more than $75 billion annually in personal income tax, sales tax, property tax and business taxes. Taxpayer information for each of these tax types was processed and housed in separate, highly specific applications that were not accessible via the Internet.

For the agency, the use of multiple systems was cumbersome and inefficient because of the duplication of effort it required. It was also quite costly to maintain and make updates—which were necessary on a regular basis due to frequent changes to the tax code.

To make itself more user friendly, the agency launched an initiative to create a Web interface that would enable taxpayers to file their taxes online.

For taxpayers, the application structure made contacting the tax agency frustrating and time-consuming because they had to deal with a different division for each tax category. What's more, taxpayers could only contact the agency by phone or through the mail—and the only way to file taxes was by completing and submitting paper forms.

To make itself more user friendly, the agency launched an initiative to create a Web interface that would enable taxpayers to file their taxes online.

Early steps toward a services-based approach

In the 1990s, the tax agency had created in COBOL what would today be called services. These could invoke the necessary business logic for service oriented architecture (SOA). Since then, the business components that the agency developed in COBOL have become the bedrock for a more formal adoption of SOA.

For its modernization project, the agency chose to adopt IBM technology for its SOA. SOA's standards-based approach gave the agency the flexibility to revise its approach in response to changes in technology.

The agency migrated some of its back-end applications such as IBM CICS® from a Unisys mainframe to an IBM mainframe. It chose to rewrite other mission-critical transactional tax processing applications in Java™ and move them to an IBM Power Systems™ server with IBM AIX®, orchestrating the whole as business transactions with IBM WebSphere® Process Server. Other important features that come with business process management, such as monitoring and dashboard provision, were layered on top.

The nuts and bolts of modernizing

The agency used a variety of tools in converting its COBOL code to Java. IBM Rational® Application Developer software was the key tool for developing pure applications. Following a service component architecture approach, the tax agency used IBM WebSphere Integration Developer to assemble components into business processes and to create the modules that run on WebSphere Process Server.

The tax agency was innovative in how it displayed JavaServer™ Pages (JSP™) and how it permitted users to customize what they needed into "tab sets"—writing its own frameworks and tools to expedite progress. IBM WebSphere MQ transports JSPs to IBM WebSphere MQ Bridge, which queries the message obtaining the necessary response from CICS.

Throughout the project, the agency developed a strong relationship with IBM, relying on IBM's expertise to help reduce the project's risk factors. Indeed, IBM provided more than consultative expertise; it devoted full-time staff who were responsible for managing project delivery, including finding necessary resources for each step.

From green screen to dynamic data and processing

To further its primary goal of improving customer relationships—and its own reputation—the agency put its paper forms into electronic format and enabled taxpayers to file them via a Web interface. Agency users would also utilize a Web interface consistent with the taxpayers' interface—a significant advance over the text-based "green screen" interface that had long been in place in the agency.

In order to digitize the process of filing tax forms—and transfer the entered data directly to the agency's data management system—the agency created HTML/XML forms that precisely matched the paper forms for the client side, and corresponding JSPs to represent the forms on the agency end. The JSPs provided a front end to the legacy systems through tab sets, which were defined to enable role-based access to different portions of the data.

The Web interface that enables end users to interact directly with relevant tax data was built in XML using IBM Lotus Forms. The Lotus Forms interface represents XML data in high fidelity on the screen so that it looks just like the paper form taxpayers are used to seeing.

The agency is reusing the JSPs to enable internal and external users of the online tax forms—taxpayers, tax preparers and the tax agency's own staff—to see exactly what has been typed into the form, either electronically or on printouts.

A further benefit is that XML is easy to change, enabling easy changes in tax forms that change every year due to legislation.

To achieve secure, authenticated access, the agency opted to employ IBM WebSphere Commerce software. The agency used the software to offer a "catalog" of business processes from which taxpayers and tax preparers can choose. WebSphere Commerce provides robust authentication, role-based access and security-rich transaction capabilities, so the agency—and its users—can be assured that their information is protected.

Solution Components

Servers

- IBM Power Systems
- IBM System z®

Software

- IBM AIX
- IBM CICS
- IBM Rational Application Developer
- IBM WebSphere Integration Developer
- IBM WebSphere MQ
- IBM WebSphere MQ Bridge
- IBM WebSphere Process Server
- IBM Lotus Forms

Exceeding expectations

The largest benefit the tax agency has experienced so far is a reduction in its processing costs, which can be attributed to moving its core processing functions off the older Unisys mainframe to a high-performing Power™ system.

With the delegation of organization-specific authentication rules by WebSphere Commerce, third-party system users such as H&R Block can access certain applications and manage their employees' user IDs and passwords themselves, conserving human resources for the agency.

Increased efficiency and accuracy

By converting its COBOL based tax-calculation business rules to Java, the tax agency moved that processing into the hands of business partners—something that had been impossible with the old system.

Taxpayers are able to prepare their tax returns more easily and quickly, with a higher degree of accuracy. Software vendors are able to update their products quickly when the tax code changes, potentially enhancing their competitive position and leading to increased revenue. Third-party tax-preparation specialists can prepare their clients' tax returns more quickly, with a high degree of confidence that the return is accurate and in compliance with the most current tax regulations. Finally, the tax agency receives fewer faulty returns, so the number of business exceptions that it must process is reduced.

Cutting the cost of fraud

In addition, fraud has been significantly reduced through the ability of IBM Lotus Forms to provide completely auditable records. Should an item appear to be entered incorrectly, the document is tagged for review. Within the first year of use, the agency denied more than $220 million in fraudulent claims by collecting, loading and reviewing information.

The agency's use of XML and Lotus Forms, backed by services, marked a major advance in the efficiency, quality and timeliness of the services the agency offers its external constituents; it also resulted in greater accuracy and increased productivity internally. At the same time, the flexibility inherent in SOA has enabled the agency to continue reaping value from its legacy investments.

For more information

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WSC14061-USEN-00

WebSphere software

Helping to Insure Information Accessibility at Reliance Life

Overview

- ***Challenge***
  Utilizing the power of technology to create a comprehensive self-service infrastructure to provide employees, agents and customers of Reliance Life Insurance with the information they need, when they need it, through a variety of channels
- ***Solution***
  Creating an efficient, scalable, comprehensive, self-service solution that allows Reliance Life to achieve its goal of building a virtual office and an end-to-end self-service portal. At the same time, ensuring that the solution's assets can be reused and extended to future efforts
- ***Key Benefits***
  - *Streamlining processes and reducing Turn Around Time (TAT) in policy issuance and claims disbursement*
  - *Providing consistent and updated information as and when needed*
  - *Enhancing customer, agent and employee convenience*
  - *Empowering customers by making information accessible through self-servicing facilities*

Over the last decade, the Indian insurance industry has undergone a substantial change, from being the domain of nationalized players to attracting foreign direct investment. Globalization and the consequent creation of new companies have sharply increased the competitive intensity and dynamism of the insurance business. This has fostered a need for greater flexibility in operations and processes to gain competitive advantage.

As the industry has changed, so too has the customer-provider relationship. Insurance distribution is no longer the old "Feet on Street" (FOS) agency model but has become sophisticated and more effective with technology playing a greater role in enhancing services.

Key Components

Products

- IBM WebSphere® Business Modeler
- IBM WebSphere DataStage®
- IBM WebSphere Integration Developer
- IBM WebSphere QualityStage
- IBM WebSphere Portal
- IBM WebSphere Process Server

Services

- IBM Composite Business Services

About Reliance Life Insurance Company Limited

Reliance Life Insurance Company Limited (Reliance Life) came into existence in 2003 and is a part of the Reliance - Anil Dhirubhai Ambani Group. Since 2003, Reliance Life has carved a niche for itself in the insurance sector in India and has achieved the following:

- *An incremental market share of 4.1 percent in new business premium for the Financial Year 2007-08 (from 3.9 percent in April 07 to 8 percent in February 08 (Source: IRDA))*
- *1.7 million policies in just 2 years of operation*
- *Increased its distribution network by opening 600 branches in 10 months taking the overall branch network above 740*
- *Continues to be among the fast growing Private Life Insurance Companies with a YOY growth of 195 percent in new business premium as of March 08*

Reliance Life is also one of the two life insurance companies in India to be certified ISO 9001:2000 for all processes. Thus, it has leveraged accessibility and product innovation to gain market prominence.

Creating efficiency through virtual office

Reliance Life had ambitious objectives:

- *Open 400 new branches across India*
- *Achieve market leadership in the private sector by March '09*
- *Achieve break even in results by 2009–10*
- *Ensure continuous innovation and development of products*

Reliance Life selected IBM to help it implement its "virtual office" due to IBM's proven expertise in implementing innovative technology in the insurance sector. IBM also offered comprehensive solutions to increase flexibility and market visibility.

The IBM team worked closely with Reliance Life to fully understand the existing infrastructure and strategy for the future. With the business roadmap clearly defined, the IBM team set about designing a solution that would meet not only the current requirements but would form the base for Reliance Life's expansions.

As the first stage, IBM and Reliance Life decided to leverage the power of the Internet to create a Virtual Office. Implemented as a comprehensive portal, the Virtual Office would act as the focal point of real-time interactions for customers, agents and employees alike.

Prospect	Customers	Agents	Corporate	Employees	Business
Publishing info • Company info • Product brochures • Quotations • Illustrations **Buying policy on net** **Online premium payments** **General information on insurance** **Career**	**Publishing info & utilities on Web** • Product brochures • Quotations • Industry news • Illustrations **View portfolio** • Customer personal data • Policy summary • Proposal status **Personal profile maintenance** **Unit statements** **Fund switch** **Complaint registration**	**Publishing info & utilities on Web** • Product brochures • Quotations • Industry news • Illustrations **Agent portfolio** • Commission data • Client diary – policy details/client details/reminders/ proposal status • Lead tracking **Personal profile maintenance** **Statements & reports** **Complaint registration**	**Member's inquiry** **Change in member's name** **Add/delete member** **Inquiry on due date** **Claim detail** **Fund status**	**Single sign on** **Publishing info & utilities on Web** • Product brochures • Quotations • Industry news • Illustrations • Industry/Co. news **Career/E-mails** **Payroll/E-travel** **Reimbursement advance settlement** **Complaint registration** **Discussion forum knowledge management**	**Dashboards**

In order to achieve its ambitions, Reliance Life decided to incorporate technology to create a Virtual Office that would help its:

- *Customers - view products, pay premiums, buy policies online, view documents required for claims*
- *Agents - view details of interested customers and service their needs. The agents now have a unified view of the customer and can service customer requirements more intelligently by suggesting products that fill gaps in the portfolio*
- *Employees - manage customer activities and their own company-related activities*

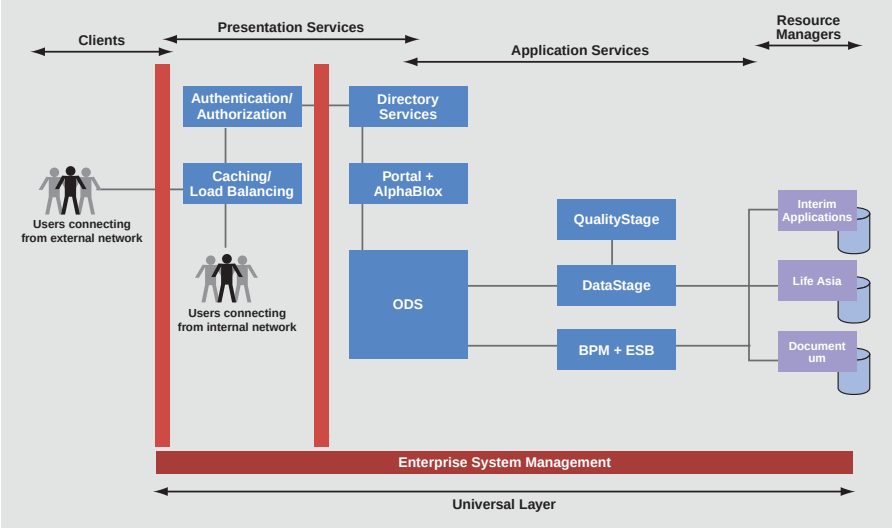
The Virtual Office would increase accessibility and reduce redundant processes and procedures, increasing Reliance Life's ability to react instantly to customer demands—giving it an edge in an extremely competitive market.

IBM—Helping insure technology

The IBM team managed the entire lifecycle of the project from solution design to implementation and delivery. The new infrastructure was built with composite business services to speed implementation and enable re-use. The solution was deployed using components of the IBM Insurance Process Acceleration framework including WebSphere® middleware with open-standards-based technology. As a result, the infrastructure could incorporate various backend systems and be customized to meet Reliance Life's specific requirements.

IBM and Reliance Life decided to leverage the power of the Internet to create a Virtual Office. IBM WebSphere Portal and WebSphere Process Server were used to create a comprehensive portal that would streamline the delivery and presentation of information; making information available to the right people at the right time.

IBM WebSphere Portal software provided a business mashup framework and the advanced tooling needed to build flexible, service oriented architecture (SOA)-based solutions, as well as scalability to service the needs of a growing organization. In addition, WebSphere Process Server helped ensure interoperability and flexibility as part of the SOA through adoption of popular standards, such as BPEL, Web services, JMS and XML.



Reliance Life chose IBM WebSphere Integration Developer and IBM Rational® Application Developer as the development platforms because of their rapid application development capabilities.

IBM WebSphere Integration Developer helped Reliance Life develop and deploy solutions rapidly because:

- *It can import models from the IBM WebSphere Business Modeler and so helps jump start the implementation.*
- *It allows for visual development of SOA-based integration solutions across WebSphere Process Server through the use of drag and drop facility.*
- *It enables wiring together of reusable service components*

These IBM software components helped Reliance Life create a single, comprehensive source of information enabling disparate business units to work together more efficiently.

The Results

The IBM self-service solution, deployed with the IBM Insurance Process Acceleration framework, helped Reliance Life achieve the following objectives:

- *Reduced time to provide new products to the market*
- *Increased sales by allowing agents faster access to information*
- *Improved information access for all the stakeholders through multiple channels*
- *Improved customer service by enabling end users to utilize self-service options*
- *Increased internal efficiencies through redesigned workflows*

The IBM cross-brand solution provides a consistent and unified contact with customers across the organization, supporting the company's ambitious growth objectives. With this solution in place, the company has been able to grow significantly, becoming the third largest private insurer in India in 2008.

For more information

Contact your IBM sales representative or IBM Business Partner, or visit us at: **ibm.com**/websphere

For more information on Reliance Life, visit: www.reliancelife.co.in

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WSC14095-USEN-00

IBM Case Study

WebSphere software

Texas Health and Human Services Commission supports multichannel business model with SOA solution

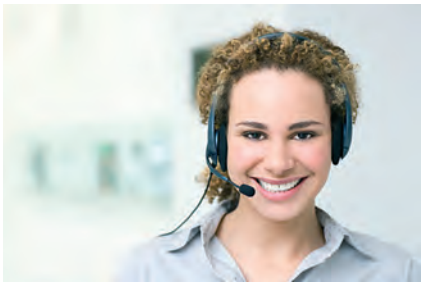
Overview

- ***Challenge***
  Improve the service provided to clients by increasing the number of ways in which clients could contact the agency, support more programs, increase operational efficiencies and enhance accountability—all while reducing costs
- ***Solution***
  A new business model offering clients better and more varied service over the phone, at hospitals, in community centers, at HHSC's offices and via the Internet, supported by a service oriented architecture leveraging existing applications
- ***Benefits***
  - *Customers have multiple channels to use to access the agency*
  - *$350 million legacy investment converted to support a multichannel business model*
  - *Project management realigned to support business objectives*

Social services organizations are looking to evolve as technology has made it possible to service clients in a variety of ways, including Web self-service, call centers and mail, in addition to the traditional face-to-face channel.

Until recently, the face-to-face option was the only channel supported by the Texas Health and Human Services Commission (HHSC). The HHSC oversees the operations of the state's health and human services system, providing administrative oversight of some health and human services programs and directly administering others. HHSC is responsible for approximately 8 million clients, 40,000 employees and an annual budget of $54 billion.

> *"The fact that we were able to take our $350 million legacy investment in IT and convert it to support the new business model went a long way toward our achieving acceptance."*
>
> – *Mohammed Farooq, Chief Technology Officer, State of Texas Health and Human Services Commission*



The agency wanted to improve the service it provided to clients, increase the variety of ways in which clients could contact the agency, support more programs, increase operational efficiencies and enhance accountability—all while reducing costs.

The previous IT infrastructure was inherently decentralized and lacked coordination, making it extremely difficult for the state's 12,000 case workers to act in concert. Individual offices across the state operated independently, and they did so at great expense. The state was spending $350 million a year to support those 12,000 case workers.

A proliferation of technology platforms—with a cost of ownership that was rising relentlessly every year—impeded the flexibility of HHSC's overall IT base, with the result that the system could not adequately meet the needs of its business users. In turn, the organization itself was not agile enough to satisfy its many stakeholders, including clients, employees and other agencies.

Stepping into the future

The commission decided that it needed to implement a new business model to offer its clients better and more varied service over the phone, at hospitals, in community centers, at HHSC's offices and via the Internet. It would need a new technology model to support this multichannel approach.

"We wanted to rationalize the $350 million expense of supporting 12,000 case workers," says Mohammed Farooq, CTO of HHSC. "We also wanted to enable business process outsourcing (BPO) to ensure that the addition of new client channels would not be burdensome. In the long run, we did not want HHSC to look after all client interactions; we wanted, for example, the state's call centers to have the flexibility to be outsourced to private vendors."

Designing a roadmap

Tasked to extend existing IT assets, Farooq decided to introduce a new paradigm to change the way the organization used technology. One of the first implementers of Web services with XML during his previous employment at Commerce One, Farooq decided to put this expertise to work in designing a distributed, standards-based computing platform and implement a service oriented architecture (SOA) to achieve HHSC's goals.

HHSC established a long-term plan mapping out steps and milestones for the next five years. The plan had four primary elements:

- *Moving to a shared IT platform*
- *Enabling the provision of business capabilities across programs*
- *Adopting a development methodology focused on satisfying business requirements*
- *Employing an explicit project management framework*

The IT team working with Farooq established maturity levels for each aspect of the plan so that it could assess not only its progress each step of the way but also the business benefits and relative costs. The final aspect of the roadmap was the establishment of a Project Management Office (PMO), which was charged with accommodating all enterprise-class business transformation projects.

Gaining acceptance

Obtaining executive buy-in on the approach was the next step, followed by building the business case for the plan. Farooq stresses that the primary factors in gaining acceptance were the facts that IT assets would be re-used, thus lowering costs, and that the IT team committed to delivering predefined capabilities at predetermined costs, at regular intervals. “Because we were going to re-use existing assets, we would be able to deliver new capabilities more quickly and at a lower cost than if we built everything from scratch,” he says.

Implementing IBM technology

Many of the HHSC’s workflows were already automated, but because they had been hard-coded, they provided little flexibility. SOA services orchestration requires the abstraction of business rules from the process layer in order to enhance development flexibility. Weighing the costs of migrating existing applications to a new platform versus adding technologies on top of the existing platform, the commission chose the latter. “We determined that the most cost-effective approach would be to incrementally add new SOA infrastructure layers to what we already had,” says Farooq.

In the case of the workflow engine, the team standardized on J2EE™ as the application platform and added IBM WebSphere® Process Server to run on top of the existing IBM WebSphere Application Server. “In this way, we did not have to change the transaction platform but still obtained flexibility at the top level,” Farooq comments.

Solution Components

Software

- IBM WebSphere Application Server
- IBM WebSphere Process Server

Focusing on people

With this technology came an even greater emphasis on business process management (BPM). “Once people started really looking at the organization and its workforce through ‘SOA glasses,’ they could see things in a completely different light,” says Farooq. “We placed more emphasis on organizational redesign and workplace transformation than we did on technology.”

Leveraging a $350 million investment

After a six-month pilot period, the new system had full management support, and universal acceptance was not far behind. “The fact that we were able to take our $350 million legacy investment in IT and convert it to support the new business model went a long way toward our achieving acceptance,” says Farooq.

The development of shared services presented an added advantage, providing the same capability with increased capacity and scope, within six months.

“In addition, the new methodology enabled us to see and report on the specific business capabilities that had been enabled at any given point, rather than simply whether a particular release had been completed,” says Farooq. “The key change was that project management was no longer totally focused on delivering projects; it was strategically aligned to the goals of the HHSC. This involved distinct realignments that went from the local level to the medium and middle levels of management all the way through to executive management.”

Four years after the beginning of its transformation efforts, 60 - 70 percent of the project is complete. HHSC provides multichannel support for its customers. In addition, HHSC now has an accepted SOA model and is moving forward. “Right now our attention is on performance management—both IT and business,” says Farooq. “Performance management matters if you are going to execute business and IT change.”

For more information

Contact your IBM sales representative or IBM Business Partner. Visit us at:
ibm.com/websphere

For more information on the State of Texas Health and Human Services Commission, visit:
www.hhsc.state.tx.us

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WSC14082-USEN-00

Implementing BPM to drive profitable sales in TeliaSonera Finland

TeliaSonera

Overview

Business challenges

- To achieve world-class sales time usage
- Reduce inefficiency in sales process
- Improve profitability per sale
- Gain more face-to-face time with customer

Solution

- Transform sales process from reactive to proactive
- Standardize and reduce unnecessary variation

Benefits

- Reduced the time spent by sales on post-sales phases
- Improved relationships with customers
- Greater management visibility

TeliaSonera Business Services is a part of TeliaSonera the telecommunications company formed as a result of the merger between Swedish company Telia AB and Finnish telecom operator Sonera Corporation in December 2002. With the number of subscriptions in 2009 reaching approximately 144 million in the majority-owned operations and associated companies, TeliaSonera is at the forefront of the adoption of mobile and internet-based services in the Nordic and Baltic markets. It provides high quality telecommunications services, including packaging and carrying audio, images, data, information, transactions and entertainment.

The Company's aim is to be a world class service company offering quality network services and products cost efficiently.

"Lombardi's platform has helped us on our way to transforming our sales process from reactive to proactive providing us with the standardization, visibility and agility that we need to be competitive."

— Tuukka Heinonen, Head of Business Process Management, Business Services Finland

The Business Services division works with TeliaSonera's business customers selling a variety of telecommunications services. The marketing team of 300 sales people and sales support staff sell products to new and existing customers managing the process from market making and customer insight to order and delivery.

Driving profitable sales; Improving customer relationships

Changes in the telecommunications market with increased competition have presented the Company with a number of challenges. Price erosion and eroding market share within the Finnish B2B markets have driven the need to review how the sales process operated and seek to improve the SGA (Selling, General and Administration) value per customer. The sales operation had a number of issues in terms of visibility, rework, operational costs and time delays.

It was identified that the sales representatives needed more face-to-face time with customers so that they could listen to their business challenges and help to reveal solutions. This would improve the customer experience and help to differentiate the Company from its competitors. For this to be implemented the processes needed to be in place to transform the perception of customer relations to a more holistic process-driven approach.

Analysis of the sales representative's time usage identified that a disproportionately high amount of time was given over to managing the service fulfillment and service assurance functions once the sale was completed (approximately 40 percent). With a very small amount of time (relatively) spent on analyzing the prospect, preparing the offer, offering and negotiation; and managing the contract process. The aim was therefore, to reverse this ratio and more from a reactive to proactive sales approach.

Solution Components

Software

- Lombardi Teamworks®
- Lombardi Blueprint™

The target—world class sales time usage

The Company recognized that business process management offered the building blocks to enable it to work to achieve strategic agility.

Starting with Sales, Business Services established its first business process management initiative. Its aims were clearly stated:

- Full visibility
- Capability to orchestrate the processes
- Process metrics and dashboard in place

Using Lombardi Teamworks®, Business Services transformed the sales process from one which suffered from process variation, complexity and lacked measurement; to a system that has a clearly defined process, managed execution and measurable results. BPM brings standard ways of working to the whole value chain, enabling the Company to forecast more accurately the future revenue and orchestration of a range of tasks and activities (Human-to-human, human-to-machine and machine-to-machine).

Lessons—management, collaboration and action

This was the first introduction of business process management to TeliaSonera and as such it was a learning curve for all those involved. Some of the key lessons which the organization learned were that:

- Strong management sponsorship is a must in order for there to be success. BPM in this context reflects a large-scale change management and business initiative which will not achieve its aims if it does not have support at a senior level as well as an effective communication strategy to encourage understanding across the organization.
- Business and IT collaboration needs to happen so there is a core team working together which is empowered and has the necessary experience. The team must involve end-users and mid-managers from the beginning so that there input as well as their buy-in is captured.
- It is easy to be delayed by overanalyzing rather than getting started. Focusing on a limited project and “right enough” as a starting point can be better than waiting for the perfect scenario. And finally, an iterative approach works best when developing new processes.

Business impact

Using Lombardi Blueprint™ collaborative process modeling and prioritization tool and Teamworks BPM suite TeliaSonera has designed and automated the sales business processes so that they are controlled and easily managed.

Gained full *visibility*

- Sales cases (values, products) and customer visits
- All support requests are routed automatically to the right expert
- Managing the sales funnel phases, timestamps to all activities
- Identification of process bottlenecks (when using Lombardi Teamworks Optimizer)

Built the capability to *orchestrate*

- The BPMS tool has helped the business to renew the sales funnel process.
- Internal Operation Level Agreement's (OLAs) were established, enabling optimized resource usage.

Implemented process *metrics* **and a process management dashboard**

- Real-time reporting and defined searches in place
- Cost per sales and cost per transaction measurements implemented in further development

Moving towards *funnel and activity management*

- Learning Curve: Migration from previous way of managing takes time
- Focus on increasing efficiency and effectiveness

Standardization **of sales process**

- Help units define and harmonize daily responsibilities and ways of working
- Diminish variance

Reduced the *time spent by sales on post-sales* **phases**

- Defining and connecting sales support activities and skill-based task routing provides management with the tools to reduce the time spent on post sales activities.
- Further sales time reduction will come after implementing order processing, which will be handled in a current B2B transformation program.

Business Services business customers are experiencing improved efficiency and its sales people have seen a positive change as they are able to focus more on the sales relationship and less on administration. As TeliaSonera looks to achieve increased profitability and improved operational efficiency process visibility, management and improvement will be core to realizing those aims.

Why BPM from IBM?

Business Process Management (BPM) software and services from IBM help organizations optimize business performance by discovering, documenting, automating, and continuously improving business processes to increase efficiency and reduce costs.

For more information

To learn more about IBM's version of Lombardi's Teamworks offering, IBM® WebSphere® Lombardi Edition, please contact your IBM marketing representative or IBM Business Partner, or visit the following Web sites:

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University College London Hospitals (UCLH)

Overview

Business challenges

- Implement a management system to meet Government standards
- Track 500,000 patients annually
- Model patient treatment pathways
- Interact with huge amounts of data from a number of existing databases

Solution

- A Patient Tracking System (PTS) with IBM® Websphere® Lombardi Edition at its core
- Alerts signal when a patient is delayed in their treatment pathway before they go over the 18wkRTT
- Patient details entered once on to the system rather than multiple entries

Benefits

- Able to manage and demonstrate how they are meeting the 18wkRTT mandates
- Fewer patient delays
- Reduction in patient complaints
- Greater insight into resource planning

University College London Hospitals NHS Foundation Trust (UCLH), situated in the west end of London, is one of the largest NHS (National Health Service) trusts in the United Kingdom and provides first class acute and specialist services. The new state-of-the-art University College Hospital, which opened in 2005, is the focal point of the trust alongside six cutting-edge specialist hospitals.

Managing 500,000 patient pathways

UCLH handles approximately 500,000 patients every year which are referred to the Trust via General Practitioners (GPs) and other NHS hospitals. In 2004 the U.K. government stated that patients should start treatment within 18 weeks of referral from a GP (also known as 18wkRTT or 18 week Referral To Treatment). All healthcare trusts within the UK had to adhere to these challenging requirements by December 2008.

"A vital part of the PTS, is the business process management platform which provides the real-time tracking, enables parameters to be set and creates the notifications and alerts allowing us to know what stage the patient is at in their pathway and how long they have been at that stage."

— James Thomas,
IT Director of University College London Hospitals NHS Foundation Trust

The new targets presented the UCLH with the challenge of implementing a complex management system that could:

- Handle high volumes of data
- Pull information from 270 disparate clinical IT systems
- Model patient treatment pathways
- Crucially, provide real-time notifications and alerts. For example, provide alerts about patients in danger of breaching the 18 week target, so that resources can be proactively directed to ensure clinical services are delivered on time.

UCLH began working with their managed IT service provider in June 2007, investigating the possible technology solutions. The hospital elected to use the IBM WebSphere Lombardi Edition business process management system to develop a comprehensive Patient Tracking System (PTS).

UCLH used IBM® BPM Blueprint for a series of process discovery sessions, which led to a mapping of the administrative processes. Although highly complex, it was found that around two-thirds of the documented processes were identical and that the variations were concerned with how different therapy and care services needed to be handled.

The IBM WebSphere Lombardi Edition-based PTS enables UCLH to model and implement processes to manage various patient pathways, and link directly to those core IT systems which hold information about patient appointments, diagnostic tests and about treatment so that when treatment is first administered, whether therapeutic or a period of advised observation, this is all noted and managed. "*The new Patient Tracking System (PTS) not only enables us to better manage our clinical pathways and resources, but also helps us improve the patient experience by reducing uncertainty in the scheduling of treatments*"; explains James Thomas, IT Director of University College London Hospitals NHS Foundation Trust.

Solution Components

Software

- IBM® WebSphere® Lombardi Teamworks
- IBM® BPM Blueprint

UCLH receives about half of its referrals from other hospitals, so in many cases the 18wRTT 'clock' has already started at another hospital. Patient tracking is imperative so that the clinicians can intervene and react as soon as delays, blockages or lack of progress in the patient pathway are highlighted. An additional consideration for UCLH is that its patient pathways are particularly complex because of the variety of clinical services that are delivered. It can be difficult to know where a patient is in their pathway as particular complaints and conditions can be dealt with by different individual specialists.

Thomas says: "*As an illustration of the magnitude of the task, our Trust cancer team previously tracked every one of its cancer patients, about 270 yearly, manually through their treatment pathway from outpatient, through diagnostics and therapy. There is a target of 62 days for the treatment of cancer patients and the management of this process took a team of seven full-time people. If we extrapolate that then we are talking about the Trust needing to employ an extra 800-900 people to manage the treatment of our 500,000 patients annually.*"

Looking at the 18wRTT it is clear to see that the system needed to be significantly different to a manual process—it had to be automated and it had to work seamlessly with the existing core information systems. These core systems had been developed over time or specifically designed for an individual function and offer a disparate set of systems from which to extract information. The new Patient Tracking System needs real-time details about the patient in order to track progress.

Patient Tracking System in action

The new PTS is configured such that if, for example, the process between a patient being seen in outpatients and being booked for a diagnostic MRI scan is more than 2 weeks, an alert will be sent. The Trust at this stage already knows that it is going outside the pathway it has set in order to deliver 18 Week RTT for this individual and this allows it time to get back on track. Previously, each appointment list was managed individually by the department concerned with no awareness of where a patient had to wait in the pathway or for how long. As an automated process it is much more efficient and allows much earlier rectification of issues.

Lessons

Mapping processes—Due to time constraints UCLH conducted a top-down process review at the beginning of the program which enabled them to quickly put a pilot in place and demonstrate its value. However, a more in-depth process discovery and mapping exercise involving input from people at all levels would offer more insight into the process. UCLH found that its six hospitals did not have standard approaches, but had legitimate variations which needed to be configured into the platform.

Impact

UCLH has not only been able to manage and demonstrate how it is tracking the patient process, it has also found additional benefits to introducing the PTS. A review of the introduction of the PTS at the National Hospital for Neurology and Neurosurgery (NHNN) (part of the UCLH NHS Trust) demonstrated a number of positive outcomes from the deployment of the system.

- Fewer patients "slip through the cracks" in terms of their appointments or admissions being delayed—Based on data for a two week period it appears that the PTS was able to highlight that about 45 patients per day were not progressing as planned along the pathway from referral, through outpatients to admissions or discharge. Of these 45 patients a day, 16 patients' issues were resolved within 24 hours. Without the new IBM WebSphere Lombardi Edition platform, it is likely that these issues would not have been recognized and rectified so quickly.
- Reduction in patient complaints regarding administrative processes—Prior to implementation the NHNN received on average 5 complaints a month regarding cancellations and waits. Following the introduction of the PTS there were on average 1.5 complaints per month regarding cancellations and waits, a 70 percent decline in complaints.

- Reduction in data errors caused by patients being entered multiple times on the system. Although there is no historical data for this, making it difficult to quantify the impact, it is clear that less manual inputs will have had a positive influence on data errors.
- Recovery of an additional GBP3 million of fee—Before the introduction of the PTS, the manual administration processes meant that patients and services were not always accurately tracked, as a result UCLH was not being paid for all the services that it provided. Following the initial deployment UCLH estimates that it will be able to recover an additional GBP3 million in fees per year from the health authorities that refer patients to its hospitals.

The introduction of the Patient Tracking System has demonstrated the value of business process management at UCLH. Senior management is now reviewing how BPM can be introduced at enterprise level within the Trust.

Why BPM from IBM?

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