

# A Proven Roadmap to Business Agility by Industry

*A selection of success stories that show how some IBM clients  
in key industries have optimized processes to conduct business  
quickly and effectively across dynamic business networks*

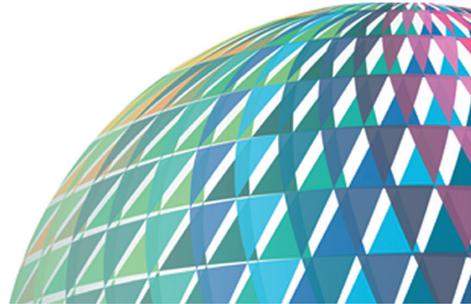




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April, 2011

Dear Client,

As the business world becomes increasingly competitive, complex, and globally connected, organizations have an opportunity to use a combination of technology and new sources of data to adapt more quickly to changing customer needs and emerging market opportunities. The most agile businesses, those able to predict, adapt, and act upon changing external forces will prevail.

By embracing a strategy grounded in business agility, companies can actually thrive during times of instability and uncertainty, while others remain conservative and miss new opportunities for growth.

Enclosed is a selection of success stories that show how some of our clients in specific [industries](#) have optimized processes to conduct business quickly and effectively across dynamic business networks. Our clients have overcome barriers to agility with IBM solutions by

- Defining and improving a core business process with [business process management \(BPM\)](#)
- Strengthening relationships and integrating with customers, suppliers and partners through [service oriented architecture \(SOA\)](#)
- Controlling costs and adding flexibility for a dynamic application infrastructure with [virtualization and cloud](#)

IBM provides the tools, expertise and best practices to guide our clients from the start, one project at a time, with all the engines of agility – BPM, SOA and application infrastructure (including virtualization and cloud).

To your success,

Matt Berry  
Director, WebSphere Demand Generation, IBM Corporation

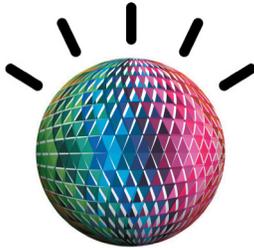
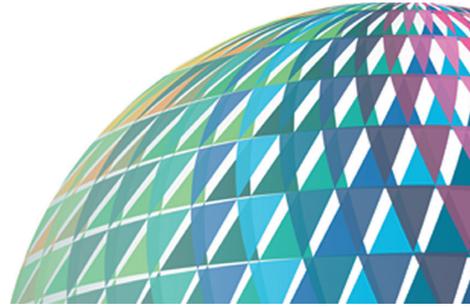
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## [Banking and Financial Markets](#)

Bankers are looking for the agility to enable them to respond to new and changing markets and customers. BPM, SOA and application infrastructure (including virtualization and cloud) capabilities can support agility across dynamic business networks. IBM can help you get started or continue on the roadmap to agility.

**Lincoln Trust Company  
(Business Process Management), North America .....17**  
*An integrated process solution automated several hundred business processes.*

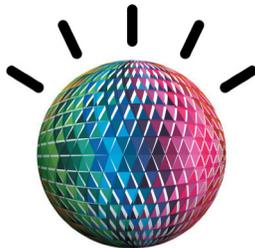
**Major Financial Services Company  
(Application Infrastructure), United States .....25**  
*IBM Business Partner Haddon Hill Group used IBM WebSphere CloudBurst™ Appliance to roll out and roll back configurations for the WebSphere stack, reduce the complexity of large environments and maintain consistency of server configurations..*

**First Citizens Bank (Application Infrastructure), United States .....31**  
*An application infrastructure virtualization solution enables interruption-free application upgrades and consolidation of services on smaller infrastructure.*

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## Communications

Increasing competition, changing subscriber expectations, new regulations and other industry trends are driving the need for service providers to increase their business agility. Business Agility solutions from IBM help communications service providers simplify complex heterogeneous IT environments with a vendor-agnostic, scalable, flexible and secure approach.

### **EMT (Business Process Management), Estonia.....37**

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

### **Telia Sonera Business Services**

#### **(Business Process Management), Finland .....41**

*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.*

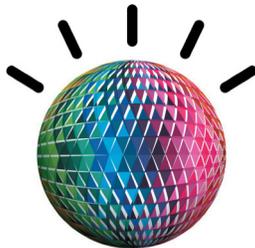
### **Globe Telecom (Connectivity, SOA), Philippines.....47**

*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.*

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## [Energy and Utilities](#)

Changing regulatory requirements, high cost of energy, increasing consumer demands and grid security are just some of the many challenges energy and utility organizations face today. WebSphere solutions help energy and utility providers integrate long-running end-to-end business processes that span multiple applications across complex heterogeneous, legacy IT environments. IBM offers a vendor-agnostic, scalable, flexible and secure approach.

### **New York Power Authority**

**(Connectivity, SOA), United States.....55**

*The New York Power Authority consolidated its billing system, service-enabled SAP® R/3-CCS and integrated four disparate systems through the use of IBM WebSphere® Message Broker, Process Server and Adapter for SAP Software. Using a Smart SOA™ (service oriented architecture) connectivity platform with reusable components, the organization was able to simplify connectivity and deploy a consistent set of business processes.*

**DONG Energy (Business Process Management), Denmark.....59**

*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 re-engineering of DONG Energy's business processes.*

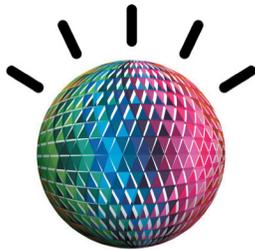
**CenterPoint Energy (Connectivity, SOA), United States.....63**

*CenterPoint Energy plans to use a mix of leading-edge communication technologies, smart meters and first-of-a-kind process innovations to create one of the industry's first intelligent utility networks.*

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## [Government](#)

Government agencies are looking for ways to cut costs while gaining the agility necessary to better serve citizens, such as overcoming lengthy and inefficient eligibility determination and benefit calculation processes, cumbersome tax management systems prone to errors and fraud and growing systemic risks for businesses, communities and civil society at large.

### **City of Madrid (Connectivity, SOA), Spain.....[69](#)**

*Madrid teamed with IBM and IBM Business Partner Indra to create the Centro Integrado de Seguridad y Emergencias de Madrid (CISEM) command center, which combines information from many sources including video feeds, field reports and mobile computers.*

### **Junta de Castilla y León (Business Process Management), Spain.....[73](#)**

*Social Services decided to place all of its programs under a central process management system to automate work and shorten time for delivering services.*

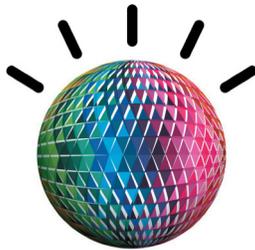
### **Postal Organization (Application Infrastructure), United Kingdom.....[77](#)**

*The company implemented a powerful virtualization solution that intelligently manages the health and workload of application server environments so that applications can adapt to changing market conditions while lowering costs.*

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## [Healthcare and Life Sciences](#)

IBM systems, software and services facilitate transformation to smarter healthcare and life sciences by enabling ecosystem enterprises to improve operational effectiveness and reduce cost, achieve higher quality and improved outcomes for greater value and deliver connected and personalized care.

IBM is a stable and global single source of systems, software and services to enable healthcare and life sciences ecosystem connectivity, collaboration, process optimization and information analytics for business performance transformation and cost-effective management.

WebSphere-based solutions run on virtually every proprietary and open source platform to provide scalability, high availability, connectivity to legacy systems and applications, and designed-in interoperability – the “strength of the stack.”

### **University College London Hospitals**

**(Business Process Management), United Kingdom.....83**

*A Patient Tracking System with Lombardi Teamworks® at its core Alerts signal when a patient is delayed in their treatment pathway before they exceed the 18 weeks from referral to treatment limit.*

### **Wake Forest University School of Medicine**

**(Business Process Management), United States.....87**

*Wake Forest University School of Medicine performs clinical trials and/or coordinates trials for medical research organizations. IBM® WebSphere® ILOG JRules enabled them move majority of the customization from hard-to-maintain program code into relatively easy-to-maintain rules.*

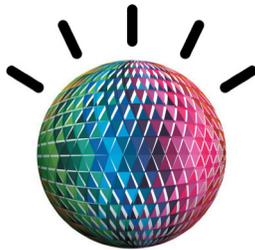
**UPMC (Application Infrastructure), United States.....91**

*UPMC is transforming its systems through consolidation, standardization and—most important—virtualization, which is the key building block of the dynamic infrastructure.*

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## [Insurance](#)

Insurance companies are looking to streamline their processes to drive growth, improve expense ratios and compete effectively in mature and emerging markets. To achieve this, carriers must address some pressing challenges including eliminating process silos that hamper operational efficiencies; creating processes that deliver greater agility and transparency and solidifying distribution and self-service channels.

IBM helps insurers worldwide build agile processes resulting in speed to market gains, rapid product development, higher pass-through-rates and greater transparency to drive profitable books of business. Websphere software and solutions for insurance are widely used by carriers to improve operational efficiencies and effectively enforce risk management practices to sustain profitable growth; enhance agency/consumer interactions and build innovative portals that foster up-sell and cross-sell opportunities and increase sales conversion, retention and acquisition rates and strengthen customer relationships with relevant and timely insights resulting in higher customer wallet share and execution of marketing campaigns that reduce costs.

### **Reliance Life Insurance Corporation (Connectivity, SOA), India.....[97](#)**

*Reliance Life Insurance launched a comprehensive self-service portal solution that has enabled it to expand rapidly and cost effectively in India's burgeoning life insurance market, and gain market insights into the kinds of offerings Indian consumers are looking for.*

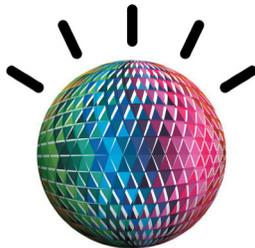
### **Max New York Life Insurance Company (Application Infrastructure), India .....[103](#)**

*MNYL adopted IBM WebSphere Virtual Enterprise software to run a shared server environment for several applications. The solution consisted of a series of dynamic clusters spread across the multiple nodes, with an on-demand routing cluster on the front end.*

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## [Media and Entertainment](#)

As we enter the second decade of this new century, it is a time of tremendous change for the media and entertainment industry in general, and networks and broadcasters in particular. Some of the most pressing challenges include digital media innovation, audience fragmentation and increasing number of channels.

Smarter processes can help handle these changes and exploit new opportunities to reduce time to market, reduce the effort and costs of current operations and optimize systems for multi-site deployment.

### **Tata Sky (Connectivity, SOA), India..... [107](#)**

*Tata chose IBM to build a robust, flexible business model and service-oriented architecture (SOA)-based IT infrastructure to launch its Tata Sky satellite broadcasting service. This “green field” project, in which a business is built from scratch, was the first of its kind in India.*

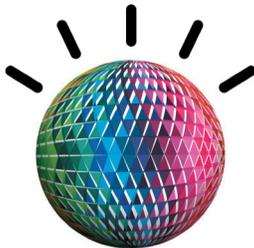
### **Australian Open (Connectivity), Australia ..... [111](#)**

*As the Official Technology Partner of Australian Open, IBM helps Tennis Australia support more than 100 times typical volume during Australian Open and scale down when the tournament is over – without the need to make a large and costly permanent infrastructure investment.*

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## Retail

Retailers are looking to integrate business strategy, automate business processes and reduce infrastructure costs with flexible, scalable solutions that enable them to make intelligent decisions that drive greater agility and better business outcomes.

IBM helps retailers to optimize business processes across the organization, gain visibility into information for automated decision making and provide solutions and scalable infrastructure to support the changing needs of the business

WebSphere offers retailers software and solutions to drive business agility in many areas of the business including improved customer satisfaction and smarter decision making through targeted promotions; time savings and improved visibility into information through optimized vendor trade fund management and increased efficiencies and reduced costs through process optimization.

### **Sears Canada (Connectivity, SOA), Canada ..... [119](#)**

*The SOA initiative offered a framework both on the conceptual and on the technical level that could help overcome issues related to the integration of internal and external business systems. Sears Canada was able to achieve its SOA goal of establishing an expandable foundation and the start of a new culture of services thinking and reuse.*

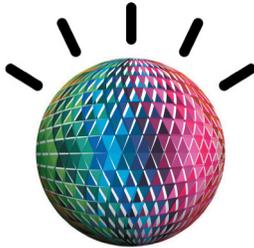
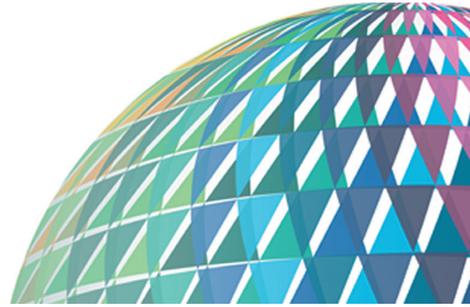
### **Staples (Business Process Management), United States..... [135](#)**

*With its online channel a critical part of its growth strategy, Staples needed a commerce platform that would support and fuel its online business growth—not constrain it. Staples needed more flexibility to pursue creative, customer-centric business strategies.*

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## [Travel and Transportation](#)

Travel and transportation companies need to leverage methods to cut costs while finding ways to increase revenues. BPM, and SOA can provide cost efficiencies and agile solutions to help with customer satisfaction and retention revenue growth opportunities and increasing operational costs.

IBM helps travel and transportation customers worldwide in building more agile solutions that speed up time to market and enable enhanced services to your customers. WebSphere solutions for travel and transportation help to increase customer loyalty and revenues while decreasing costs through process automation and more efficient asset management.

### **Property Exchange and Rental Company (Business Process Management), North America ..... [141](#)**

*The company worked with IBM to implement the WebSphere ILOG JRules business rule management system (BRMS), allowing its business team to more easily maintain and deploy complex decision logic and achieve scalability for its member notification program.*

### **Top 5 U.S. Transportation and Logistics Company (Business Process Management), North America ..... [143](#)**

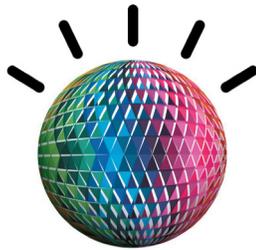
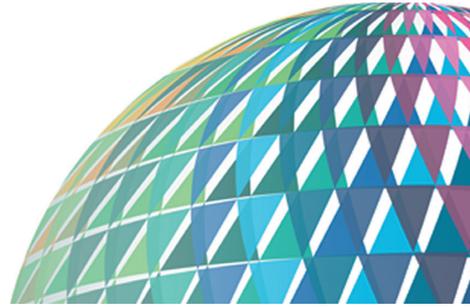
*A resource-hungry focus for many companies in the transportation industry is compliance with regulations—in particular those driven by Sarbanes-Oxley. This transport services company has achieved success here with its billing and payroll systems when it created a flexible management environment that greatly improved operations and compliance with industry regulations in just nine months.*



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# Lincoln Trust Company

## *Process and document management flexibility from integrated process implementations*

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### Overview

#### **Business challenges**

- Client complaints due to lost documents
- Implementation of “shadow applications” (Excel, Access) to make process visible
- Process improvement team decommissioned as it was locked into “analysis paralysis”

#### **Solution**

- Integrated process solution automated several hundred business processes
- Replaced several legacy systems with redundant workflow capabilities
- Key centerpiece of enterprise architecture

#### **Benefits**

- 90 percent reduction in customer complaints due to lost or mishandled documents
  - Achieved expected ROI of 120 percent in less than one year and an overall cost savings to date of USD2.2 million
  - Reduced process cycle times by up to 75 percent in some areas
- 

Lincoln Trust Company is among the country’s leading independent providers of self-directed IRAs, in addition to providing recordkeeping, administrative, and custodial services to 401(k) plans and other defined contribution plans. Lincoln Trust’s extensive expertise with respect to administering accounts that hold alternative assets attracts a wide variety of individuals, businesses, and retirement plan sponsors who want the flexibility to invest beyond traditional assets, including purchasing real estate in an IRA or in another retirement plan. For more information, visit [www.LincolnTrustCo.com](http://www.LincolnTrustCo.com) or call 1-800-525-2124.

### **Need for process improvement**

Lincoln Trust Company was handling incoming retirement account service and transaction requests from more than 100,000 documents they received from the mailroom every month. The various business units of the company attempted to create their own “shadow applications” in Excel spreadsheets and Access databases and then manually filing the immense amount of paperwork.

As a result of the divestiture, the company was forced to reduce its workforce by 75 percent, but the incoming document volume was only expected to decrease by 25 - 30 percent. The alternative assets segment of the IRA business has historically struggled to effectively change their business model due to the complexity and manually intensive nature of alternative assets. As a smaller private company, it was imperative that



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*“We now have tools to map out, study and improve all of our processes. They are user friendly and logical. I’m excited that we’ve embraced the BPM technology and culture that supports the way we want to manage our business.”*

—LaTeca Fields, Business Analyst-Specialized Support Services

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LTC changed its business model to provide an appropriate return on investment. The Lincoln Trust Company Business Process Management (BPM) program was initiated as one of several key initiatives to enable this change to the business model.

The new BPM program had to take into account several “lessons learned” from the company’s past pre-divestiture past. A process improvement team had existed several years prior, but was decommissioned due to lack of meaningful automation solutions, no partnership with IT and was viewed as being locked into “analysis paralysis.” In order to survive, the BPM program had to deliver measurable results early and often.

From a technology perspective, there were also lessons from the past that needed to be integrated into the new program. Prior attempts at process automation using the workflow module of their ECM system failed due to overly complex solutions and scope challenges.

In January, 2007, Lincoln Trust formed an executive steering group and a small BPM team comprised of one project manager, one developer and one business analyst. They formed a two-tiered strategy where they decided they would first use a “common shared process” model that could be rolled out quickly across the enterprise using the workflow features of their ECM system. This model would deliver imaged documents in a basic business process workflow and discontinue paper delivery. After a substantial portion of the business was “paperless,” they would initiate the second tier of the strategy, which would be to implement true, or “first order” business process models for the company’s core business processes. While there would be customizable features for each implementation of the common shared process, in order to provide the necessary speed of implementation, the executive steering group committed to ensuring that their business units would not demand highly specialized features that would slow down the implementations.

Throughout 2007 and into 2008, this strategy was implemented with greater than anticipated success. By July, 2008, fifteen business units’ business process documents, which initiated or supported over 145 business processes, were implemented using the “common shared process” to

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## Solution components:

### Software

- Lombardi Blueprint®, now offered as IBM BPM Blueprint
  - Lombardi Teamworks®, now offered as IBM® WebSphere® Lombardi Edition
- 

resolve the paper problem quickly. However, as the BPM team implemented this process model across the business, they learned that even simple customizations to the workflow model in the ECM system were costly and time-consuming. The team realized that this limited capability threatened the second-tier of the strategy for “first order” business process analysis and automation.

At the same time, as a result of the divestiture and another key initiative to reduce complexity of business applications in an all new SOA compliant IT architecture, the process team was asked to replace some legacy, custom process tracking applications which did not require integration with the document management system.

It was the convergence of these factors that drove Lincoln Trust Company to select a business process management suite (BPMS) that could support the business goals of the BPM program for process analysis and ongoing improvement, as well as the technology goals of the program and the whole range of process technology solutions that would be required as a result in the BPM projects conducted by the business—from simpler, ad hoc human to human processes to more advanced processes that would require not only human to human activities, but integration with their internal and external portals, line of business trust system, partner firm technology and the document management system.

After a careful selection process involving representatives from across the company, Lincoln Trust Company selected Lombardi Teamworks® and Lombardi Blueprint® in August, 2008. Since then they have not only migrated the “common shared model” (with several significant improvements to the model overall) but also several “first order” business process solutions, all served with a shared set of web services that provide the all required integrations, including services for all document management activities.

With its user friendly features and low barriers to usability, the business units of Lincoln Trust Company very quickly adopted Blueprint as a key tool in their BPM project for detailed current and future state business

process documentation and analysis. The BPM program's executive sponsors challenged their management teams to conduct BPM projects for at least five strategic business processes that operate within and across their business units that yielded solutions that were later implemented in Teamworks® but many that did not require process technology as well.

Lincoln Trust Company has implemented numerous business process technology solutions used by all business units in the company in Teamworks. Some of those processes include:

### **Established solutions** **Document manager**

This process serves as a virtual mail station for all teams using processes integrated with the document management system. A virtual "envelope" of documents received in the same physical envelope by mail or fax transmission are delivered to each team that processes the type(s) of request(s) on the documents.

Those teams can perform several different types of actions with the documents in the envelopes. Most commonly, they will initiate a new business process by choosing which process (or processes, in the case where more than one process is required to perform the requests on the documents) to initiate and attach one or more documents from the envelope to it and assign it to a role consisting of team members with rights to perform the process work or to an individual processor. The list of processes displayed to the user is dynamic and will display only processes that are applicable to their business unit. Both the "common shared process" and "first order" process types can be selected to create. Alternatively, the user can also attach one or more of the documents to one or more processes already "in flight" in the cases where the documents represent supporting documentation rather than the first time receipt of a request. Other actions document related actions that can be taken include: document metadata in the document (content) management system can be added or corrected, documents can be redirected or copied to other teams and the team can request original documents from storage in the mailroom. These same document-related actions are available on all other document-enabled processes as well.

When enough information is known about the documents through bar-coding technology and other electronic cues, the document manager process is not required and the appropriate business process is “auto-launched” and documents are “auto-attached” in Teamworks. However, since many of the documents received for the alternative asset related business processes are generated by other firms and difficult to recognize and classify without extremely advanced and expensive character recognition technology, the document manager process enables an intelligent knowledge worker to review them and deal with them appropriately in a structured, visible way.

### Distributions

This process represents one of the newer “first order,” document-enabled business processes. This process can be initiated by a user-friendly wizard on the company’s external portal that walks a client through what can be a very complex, regulation-laden process to take money out of their Individual Retirement Account (IRA). Once the client completes the wizard and submits their request, the external portal initiates the distribution process in Teamworks and attaches a PDF record of the request that is also provided as a confirmation to the client and filed into the document management system as an electronically signed, legal record of the request. The distributions process can also be initiated by the document manager process described above (when request is received by mail or fax). This process has many key features including integration with a “customer value” cube that will prioritize and provide special routing for requests based on a customer’s profitability score, the ability to create ad hoc requests to the appropriate client relations team member for call out to the customer to gather more information/provide status updates, and so on. These requests are sub-processes, related to the distribution “case,” which contains all process information and attached documents for the client relations employee to appropriately handle the outbound call. For the simpler cases of this process, Lincoln Trust Company is currently integrating the process with web services so that the entire transaction is executed “straight through” from the external portal to a client account, eliminating all human process activities.

### Plan establishment

Plan establishment is another more advanced process that Lincoln Trust Company has implemented recently to manage the set up of a new or transfer of an existing employer sponsored retirement plan to the Corporate Retirement Services (CRS) business unit. This is initiated by the sales staff through an application on the company's Sharepoint portal. Through integration with a partner vendor's electronic contract and signature product, called DocuSign, as legal plan setup documents are completed and signed electronically by customers, they are automatically attached to the running process and filed into the document management system. Follow on documents received by mail or fax can also be attached by document manager or other document-enabled processes. The process has a user-friendly checklist feature and the checklist and other process status data is reported to management through dashboard reporting.

### eDelivery

The basic workflow process implemented to handle the rest of the company's document enabled processes is called "eDelivery." This is the "common shared" process model for all other business processes in the company which share a very similar processing pattern and for which a "first order" business process either has not yet been implemented or will not be implemented because it would not provide a return on the investment to build it. However, because of the data-driven implementation of this process, each process (also called "work type") running through eDelivery can take advantage of configuration options such as the ability to choose which process activities are applicable for the work type, whether or not a checklist is required for an activity (and what checklist items should be displayed/stored), whether or not a quality control process is required and what percentage of the work should be reviewed, and so on. Like the other document enabled processes described above, this process provides the user all of the document management activities available to the others for any of the documents attached to the process.

### Service request

This process is one of the simpler, human to human, processes implemented by Lincoln Trust Company to handle ad hoc requests from one business unit to another. It is used by all business units in the company, including some support business units like corporate accounting.

### Remarkable results: Qualitative and quantified

Lincoln Trust Company has adopted a process technology implementation model which enables them to actively keep in touch with the business; whenever the development team has bandwidth outside of new process implementations; they are constantly enhancing existing functionality from a prioritized backlog which allows for progression without consuming their resources completely.

#### Qualitative:

- Implemented a system which no longer requires utilization of shadow (Excel, Access) and home-grown legacy applications to support critical processes
- Gained significantly better process visibility and governance
- Attained a stronger collaboration and understanding of majority of business processes having discovered and mapped them in blueprint

#### Quantified:

- Accomplished the expected ROI of 120 percent in year one and overall cost savings of USD2.2 million to date
- Reduced customer complaints by 90 percent
- Decreased cycle time—Reduced process times in some areas by up to 75 percent
- Eliminated lost documents and the liability associated with such a loss
- Increased overall productivity by over 25 percent initially

### 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 websites:

IBM WebSphere Lombardi Edition: [ibm.com/software/integration/lombardi-edition/](http://ibm.com/software/integration/lombardi-edition/)

IBM BPM Blueprint: [ibm.com/software/integration/bpm-blueprint/](http://ibm.com/software/integration/bpm-blueprint/)

IBM BPM: [ibm.com/software/info/bpm/](http://ibm.com/software/info/bpm/)



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# Company saves millions with IBM WebSphere CloudBurst Appliance

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## Overview

### The need

Major financial services company wanted to consolidate large, complex IBM WebSphere product environments in two data centers and manage configurations efficiently.

### The solution

IBM Business Partner Haddon Hill Group used IBM WebSphere CloudBurst™ Appliance to roll out and roll back configurations for the WebSphere stack, reduce the complexity of large environments and maintain consistency of server configurations.

### The benefit

- Projected 7-figure savings for enterprise WebSphere implementations
  - 13 - 15x times faster time to market (3 - 4 days versus 40 - 60 days)
  - Six months to one year from go-live for investment payback
- 

IBM® WebSphere® Application Server powers the day-to-day operations of many of the largest companies. Many large financial services companies, in particular, are in essence software companies that build their custom applications that create their products on IBM operating systems and IBM middleware.

The result can be WebSphere product environments with hundreds and even thousands of servers that have to be maintained to keep them configured consistently across environments. Provisioning large environments can be labor-intensive, and administrative costs can be pushed upward by the number of steps and decisions involved in designing, installing, configuring and maintaining solutions comprised of different software components.

For example, a major financial services company wanted to consolidate 500 servers across two data centers with 48 blade servers virtualized with VMware. The company needed to be able to respond to its customers by quickly and efficiently building temporary development environments for the holiday sales seasons and taking them down when they were no longer needed. The company also wanted to be able to recreate in one data center its six security zones with complex firewall rules without spending significant man hours on the project.



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*“The important thing about the IBM WebSphere CloudBurst Appliance is that it will dispense a WebSphere Application Server image onto your WebSphere Application Server environment or private cloud, and that application server will be ready in a few minutes.”*

—Phil Schaadt, President and CTO,  
Haddon Hill Group

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The company turned to an IBM Business Partner on the forefront of the effort to help customers reduce cost and gain efficiencies in deploying and maintaining their enterprise WebSphere Application Server environments. The Haddon Hill Group (HHG), based in Oakland, California, was founded in 2003 to address the growing need to link IT investment to business value in organizations that rely on complex computer systems.

“Leaders of large IT operations must deliver highly reliable services across a growing array of applications despite constrained budgets,” says Phil Schaadt, president and CTO of the Haddon Hill Group. “For managers of high-volume, high-complexity, business-critical IT infrastructures, Haddon Hill Group can help improve financial control and performance, governance, reliability and service support using consulting, analysis, hands-on engineering and facilitation methodologies.”

### **Managing computing resources cost-effectively**

For managing complex IBM WebSphere Application Server environments, the Haddon Hill Group chooses IBM WebSphere CloudBurst™ Appliance. WebSphere CloudBurst Appliance is delivered with a new addition to the WebSphere Application Server family, IBM WebSphere Application Server Hypervisor Edition for 6.1 and 7.0.

The WebSphere CloudBurst Appliance dispenses WebSphere Application Server Hypervisor Edition, a virtual image of WebSphere Application Server, into the server environment.

“The important thing about the IBM WebSphere CloudBurst Appliance is that it will dispense a WebSphere product image onto your server environment or private cloud, and that virtual server will

---

## Solution components:

### Hardware

- IBM® WebSphere® CloudBurst™ Appliance

### Software

- IBM WebSphere Application Server Hypervisor Edition for 7.0 and 6.2
  - IBM WebSphere Lombardi Edition
  - IBM WebSphere Process Server Hypervisor Edition for 7.0 and 6.2
- 

be ready in a few minutes,” says Schaadt. “You can do it in a clustered environment. And you can even roll out IBM WebSphere Process Server and get all the settings right in a fully clustered environment with a database connection, in about 90 minutes. And you can also easily manage all the configurations of IBM WebSphere Process Server that you need. All the steps that took up so much time and effort on the part of IT staff have been removed. The savings for companies with large WebSphere implementations can be in the millions.”

## More choices in designing WebSphere environment

In the initial stages of the project for the financial services company, Haddon Hill Group focused on changing the way the company went about provisioning to make it more efficient. “Our HHG QuickStart Program asks basic work process and design questions about the environment that the company has never had the luxury of addressing,” says Schaadt. “These are questions like ‘When do you go about assigning TCP/IP addresses—before or after you do your security tests?’ ‘Do you want to use VMotion on Virtual Center?’ ‘Do you want one or two environments?’ ‘Do you want to be able to exchange environments between IBM Power Systems™ and x86?’ With WebSphere environments so much easier to provision and maintain, companies have more choice in designing their environment.”

HHG began rolling out the new environment with WebSphere CloudBurst Appliance included to manage provisioning and keep servers tuned with the right configuration. IBM WebSphere Application Server Hypervisor Edition is optimized for using WebSphere Application Server in virtualized environments on top of hypervisors such as VMware ESX and ESXi, PowerVM™ and IBM z/VM®.

### **\$3 - 4 million in savings**

Like most of HHG's large customers, the financial services company is focused on maintaining consistency across its environments and enabling very quick rollout and takedown. "Instead of leaving configurations in the infrastructure that have already outlived their usefulness, the company wants the ability to have these environments taken back into the WebSphere CloudBurst Appliance," says Schaadt. "If they ever need them again, they can redeploy these environments quickly, which greatly conserves the company's assets and saves a lot of time."

The ability to roll out and roll back temporary environments to meet special needs with WebSphere CloudBurst Appliance will enable the company to earn millions more in revenue during peak sales seasons.

The company will be able to save \$3 - 4 million in alternative configuration costs by using a WebSphere CloudBurst Appliance in each of its six security zones and using the 'purple box' to reconfigure and manage the configuration of the new physical servers that are set up," says Schaadt. "The company will realize a payback of its investment within six months to a year from go-live."

The customers' own hardware is used to create the environment into which WebSphere virtual images are dispensed and managed by the appliance. At the financial services company, Haddon Hill Group has been working with the company's x86 machines, and will soon be implementing WebSphere CloudBurst Appliance in conjunction with IBM Power Systems and PowerVM-based deployments and WebSphere Application Server.

### 13 - 15x faster time-to-value

In addition to lower cost of maintenance, the WebSphere CloudBurst Appliance represents savings in power, hardware and floor space. “But mostly it is the consolidation and operational cost savings that companies will appreciate,” says Schaadt. “WebSphere CloudBurst Appliance is a configuration and optimization offering, and represents significant opportunities for companies to consolidate servers on a much lower number of machines with the correct configuration that can be managed and maintained with much less effort. It’s making sure that your middleware is provisioned properly and your application runs on it. You can reduce your cycle time, your error rate, the overhead of managing, and the server and license expenses.”

The savings in time-to-market is also dramatic. “We’ve documented this in real time,” says Schaadt. “A development or QA server can take 40 to 60 days to be turned over to operations. Much of this time is consumed with finding the right golden image and verifying it with security. We can reduce that to three-to-four days. WebSphere CloudBurst Appliance provides a catalog of standard configurations for the WebSphere stack, and if you’re authorized, you click and it’s there in an hour.”

The company’s IT leaders realized that even more optimizations could be made to the deployment process on the people side. With that in mind, they have made an investment in IBM WebSphere Lombardi Edition to automate the requests for new development, test and production systems. They will begin to automate the current manual processes of getting work requests from one team to another, then look to improve those processes over time. This innovative use of business process management (BPM) technology will help move the organization down the path to wider adoption of BPM throughout the business.

## For more information

Contact your IBM sales representative or IBM Business Partner, or visit us at: [ibm.com/software/webservers/cloudburst](http://ibm.com/software/webservers/cloudburst)

For more information about the Haddon Hill Group, visit: [www.haddonhillgroup.com](http://www.haddonhillgroup.com)

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Please Recycle

# First Citizens Bank reduces costs and increases availability of online banking services

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## Overview

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■ **Challenge**

Online banking operation needed scheduled downtime to deploy new applications, interrupting users and causing employees to make changes between 2 a.m. and 5 a.m.

■ **Solution**

Application infrastructure virtualization solution enables interruption-free application upgrades and consolidation of services on smaller infrastructure

■ **Benefits**

- 3 to 6 hours of scheduled downtime per month eliminated
- Online banking customers enjoy uninterrupted services
- 20% of application servers taken off the floor



One of the benefits of online banking is that it doesn't keep bankers' hours. Customers can do their banking at 3 a.m. if they wish. "Who needs to do banking at 3 a.m.?" you may ask.

Apparently quite a few people do.

"Hundreds of our customers use our site when everyone else is asleep," says Jon Meyer, vice president, electronic channels and payments, application development and support, First Citizens Bank.

*"WebSphere Virtual Enterprise has taken us a lot closer to feeling confident that we can treat these application servers like a cell of almost mainframe-class power."*

— *Jon Meyer, Vice President, Electronic Channels and Payments, Application Development and Support, First Citizens Bank*



### **Eliminating three to six hours of downtime per month**

“We used to have to interrupt them with scheduled downtime in order to deploy new enhancements to our online banking application, usually once a month,” says Meyer. “We’d bring down the application servers between the hours of 2 a.m. and 5 a.m., roll out the application, bring the site back up and we’d notice: there were many people on the site almost immediately. Needless to say we did not feel comfortable about interrupting those customers. But in order for us to put new versions of online banking applications into production, we typically had to have downtime.”

First Citizens Bank, based in Raleigh, North Carolina, found the solution in IBM® WebSphere® Virtual Enterprise, which enables the bank to deploy new versions of its WebSphere applications in a way that does not impact customers. With 355 branches serving North Carolina, Virginia, West Virginia, Tennessee, Maryland and California, First Citizens Bank is the primary subsidiary of First Citizens BancShares Inc., which has more than \$17 billion in assets.

“We’ve eliminated three to six hours of downtime per month thanks to WebSphere Virtual Enterprise,” says Meyer. By enabling multiple versions to be run in production at the same time, WebSphere Virtual Enterprise intelligently manages WebSphere applications to adapt to changing market conditions.

Each month, bank employees were putting in extra hours in the middle of the night.

“We had people who were working the full week, plus one night on the weekend and another night during the week,” says Bill Bebeau, systems engineer consultant, assistant vice president, First Citizens Bank.

WebSphere Virtual Enterprise ensures that the customer is not interrupted during deployment of new applications. Customers log off and when they log back on again, they have the new application. Employees can perform application deployments at 9:30 p.m. instead of the early morning timeframe. Cautiously, they are moving the window closer to working hours. This ensures First Citizens can deliver superior customer service by minimizing downtime.

### **Better testing of applications**

With WebSphere Virtual Enterprise, the IT team does not have to deal with the phenomenon that applications sometimes perform well in a dev/test environment, but not in production. WebSphere Virtual Enterprise not only enables application upgrades without interruption, it also enables multiple application versions to run in production at the same time. Using production environments that are not released to the public, an analyst can validate the application before it goes to customers.

This eliminates having to perform a second deployment after the first to correct errors and enables the IT team to more intelligently manage their application environments and work smarter. “We can get to a greater level of testing before we make applications public using WebSphere Virtual Enterprise,” says Meyer.

### **Creating mainframe performance and reliability**

Application infrastructure virtualization using WebSphere Virtual Enterprise provides the ability to separate applications from the physical infrastructure that they run on. Workloads can then be dynamically placed and migrated across a pool of application server resources, allowing the infrastructure to adapt and respond to business needs. Beyond virtualization, WebSphere Virtual Enterprise intelligently anticipates and adjusts to application downtime and slow response times by proactively dealing with application and SOA infrastructure issues before they impact customer service. It increases application availability by diagnosing and automatically correcting common application server problems to improve service.

“We can layer more services onto a smaller pool of servers,” says Meyer. “This reduces our IBM WebSphere Application Server footprint, but not from the perspective of reliability or horsepower. We’re performing a form of virtualization that lets us layer more and more load onto these servers with confidence that we are not going to cause challenges. WebSphere Virtual Enterprise has taken us a lot closer to feeling that we can treat these application servers like a cell of almost mainframe-class power.”

WebSphere Virtual Enterprise takes advantage of workload management prioritization and policies to distribute the load in an efficient manner. “We’re using the extended repository of WebSphere Virtual Enterprise,” says Bebeau. “It takes a periodic snapshot of the WebSphere repository. If we make a change and decide that we want to undo it, the software facilitates that change out.”

### **20 percent decrease in server count**

The IT team has become more focused on the same workload, but with 20 percent fewer servers. “As the WebSphere administrator, I think that if there are fewer servers in a cell, there’s 20 percent less administration, which is very attractive. Everybody’s better off with fewer machines to manage,” says Bebeau.

By increasing their focus on the workload, the IT team is discovering solutions to problems that can be leveraged and made available to all customers. One example is enabling customers to view large statements using the online channel.

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## **Solution Components**

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### *Software*

- IBM® WebSphere® Application Server, Version 6.0.2
  - IBM WebSphere Virtual Enterprise, Version 6.1
-



Previously, there was a limit of 120 pages, but now statements of 600 pages are not challenging. With the On Demand Routers of WebSphere Virtual Enterprise distributing the work, the IT team is able to layer the large workload of processing a 600-page statement over smaller online banking transactions without causing pauses in the smaller applications.

The bank profits from having customers view their statements and it saves more money the larger the statement is, since printing and mail costs go up accordingly.

“A small uptake in our technology investment can yield tremendous benefits from a customer point of view in terms of faster document delivery,” says Meyer. “And overall, there’s a reduction in our cost of doing business.”

“The whole idea is doing more with less,” says Bebeau. “We’re increasing customer satisfaction while making employees happier and saving money for the bank. It’s a win all around with WebSphere Virtual Enterprise.”

WebSphere Virtual Enterprise is part of a powerful and comprehensive set of IBM WebSphere cloud computing and virtualization solutions for intelligently managing the infrastructure for SOA applications, services and environments. These solutions deliver robustness and agility to enable applications to achieve smarter business outcomes while helping to lower costs.

#### **For more information**

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

[ibm.com/websphere](http://ibm.com/websphere)

To find out more about WebSphere Application Server, visit:

[ibm.com/software/webservers/appserv/was](http://ibm.com/software/webservers/appserv/was)

To find out more about WebSphere Virtual Enterprise, visit:

[ibm.com/software/webservers/appserv/extend/virtualenterprise](http://ibm.com/software/webservers/appserv/extend/virtualenterprise)

For more information on First Citizens Bank, visit:

[www.firstcitizens.com](http://www.firstcitizens.com)

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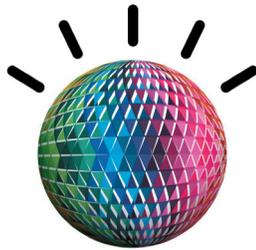
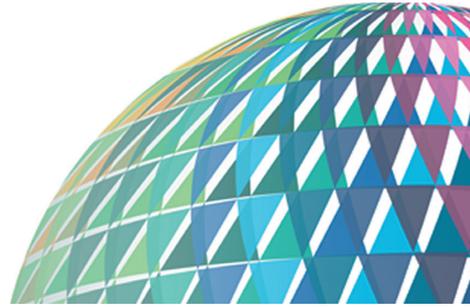
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## [Communications](#)

Increasing competition, changing subscriber expectations, new regulations and other industry trends are driving the need for service providers to increase their business agility. Business Agility solutions from IBM help communications service providers simplify complex heterogeneous IT environments with a vendor-agnostic, scalable, flexible and secure approach.



# EMT gains more flexible, responsive campaign management



*With an IBM WebSphere ILOG JRules solution from Webmedia*

---

## Overview

### Business challenge

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

### Solution

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

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

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

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

### Empowering non-technical staff

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

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



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## Business Benefits

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

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

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

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

## Partnership for success

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

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

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

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

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

— Tiit Tammiste, Chief Information Officer, EMT

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### **Efficient and responsive**

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

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

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

### **For more information**

To learn more about IBM software, contact your IBM sales representative or visit: [ibm.com](http://ibm.com)

To learn more about products, services and solution from Webmedia, visit: [webmedia.ee](http://webmedia.ee)



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# Implementing BPM to drive profitable sales in TeliaSonera Finland

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## 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.

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.



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*“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

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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 move from a reactive to proactive sales approach.

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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 their 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.

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# Globe Telecom:

*Gaining marketing agility with smart promotions*

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## 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

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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.





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## 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.



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## 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

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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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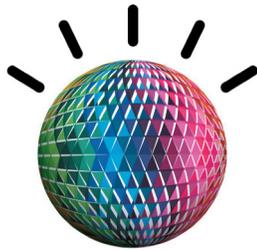
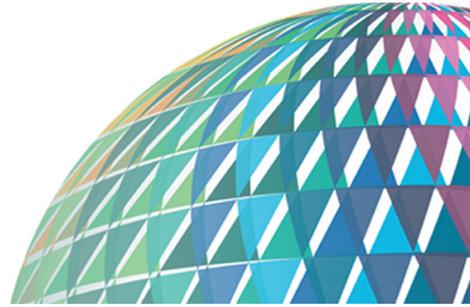
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## [Energy and Utilities](#)

Changing regulatory requirements, high cost of energy, increasing consumer demands and grid security are just some of the many challenges energy and utility organizations face today. WebSphere solutions help energy and utility providers integrate long-running end-to-end business processes that span multiple applications across complex heterogeneous, legacy IT environments. IBM offers a vendor-agnostic, scalable, flexible and secure approach.



# New York Power Authority uses IBM Smart SOA to revolutionize SAP customer billing and integration challenges



## Overview

### ■ Challenge

*Establish a flexible and reusable enterprise system to simplify the integration of SAP with dozens of external interfaces and incorporate human workflow and data reconciliation into the business process.*

### ■ Solution

*The New York Power Authority consolidated its billing system, service-enabled SAP® R/3-CCS and integrated four disparate systems through the use of IBM WebSphere® Message Broker, Process Server and Adapter for SAP Software. Using a Smart SOA™ (service oriented architecture) connectivity platform with reusable components, the organization was able to simplify connectivity and deploy a consistent set of business processes.*

### ■ Key Benefits

- *Reduction in development time for new applications and interfaces*
- *Increased productivity from IT and business professionals*
- *Improved data integrity, billing accuracy and customer satisfaction*

Although Governor Charles Evans Hughes began the effort that led to the New York Power Authority (NYPA) in 1907, it was Governor Franklin D. Roosevelt who established New York's model for public power through legislation signed in 1931. Today the NYPA is the largest state-owned power organization in the U.S.

The NYPA was designed to be a non-profit source of electrical power from which New York's investor owned utilities (IOUs) could buy power at no markup, provided by the NYPA's generating facilities. This has simplified power distribution throughout the state and benefited the consumer, reducing costs that could have risen had the state not stepped in at an early stage.

### **Challenge: Reduce internal complexity**

For the many employees and stakeholders of the NYPA, their lot was one of increasing complexity. Four billing systems representing hundreds of investor owned utilities gave rise to overlapping accounting hierarchies.

Programmers had to keep up 120 interfaces that had been individually developed using point-to-point programming. As a result, they spent most of their time maintaining existing interfaces and could scarcely find time for new applications.

“The industry under deregulation was also forcing us to provide more stakeholders with access to customer information,” says Dennis Eccleston, chief information officer for the New York Power Authority. “The real problem was that we didn’t have the infrastructure to satisfy the demands of the many stakeholders who needed information about our customers. We had to choose. Should we give them a one-time dump of a database knowing that it would grow stale and require a separate effort to maintain the information accuracy? Or should we program access into the source information at the risk of creating another interface that would have to be kept up?”

### **Streamlining business processes with SOA**

With such unpromising alternatives, the NYPA turned to a solution which would provide a single source of information for billing and for customer information inquiries alike—a service oriented architecture (SOA). This business-centric IT architectural approach supports the integration of business as linked, repeatable business tasks or services.

“With SOA we could invest the time once, building a very small front end that represents looking up information



from various systems and aggregating that information in a new way that provides better access to the information,” says Eccleston.

The NYPA decided to start service enabling its source data by streamlining its billing system, turning the four discrete systems into a single consistent environment. As a committed SAP shop, the NYPA’s goal was to integrate its SAP Billing, Customer Care and Services System and simplify the more than 120 interfaces used for customer billing.

The NYPA evaluated several options, including IBM, Tibco as well as a customized solution using SAP Advanced Business Application Programming (ABAP).

“We brought in IBM to demonstrate their product offering and we were impressed with the flexibility of their toolkit,” says Edward Fisher, program manager. “The IBM product set is built on an open standard, which is a big

benefit in extending the solution. Another advantage was the availability of IBM developers to assist us and apply best practices.”

### **Constructing a reusable framework**

To build its SOA foundation, the NYPA chose IBM WebSphere Process Server, IBM WebSphere Message Broker and IBM WebSphere Adapter for SAP Software. These products are core to IBM’s Solution Architecture for Energy (SAFE), a solution driven, comprehensive SOA based enterprise framework that helps reduce cost and risk in the Energy and Utility industry. SAFE and SOA provide flexibility that protects a utility’s investment in their applications, systems and infrastructure.

“The IBM WebSphere Adapter for SAP allows us to work with the various interfaces that SAP provides,” says Eccleston. “We have interfaces that work as a one-way street, pushing data into SAP but returning no information about the success or failure of that particular transaction. In other cases we send in a transaction and the returned

report contains a lot of great detail about its success or failure. To this point, we are using the IBM Process Server to actually review those results, to take certain corrective actions, to take other steps—either to rehabilitate the data or to alert someone that there is a problem with the data as well as what subsequent actions could be taken. This process is streamlined and efficient.”

WebSphere Message Broker is used to route and reformat messages, integrating with the target destinations. In this capacity, the solution provides a means for reuse of data and applications, embracing the use of open standards.

“One of the biggest advantages of the WebSphere environment is that it enables you to reuse what you’ve done,” says Fisher. “When you go about designing an application, in the back of your mind you’re always thinking ‘how can I design and publish it in a way that can be later reused not only for this interface, but potentially for other interfaces down the road?’ The WebSphere toolkit provides the answer.”

#### **Faster development equals greater productivity**

Now that the billing system is SOA-enabled, development is faster. “If a new request comes in to build an application, we have a reusable library that we turn to,” says Fisher. “So before we even get started, we are about 50 percent complete.”

“Reusability means that we develop in weeks rather than months,” adds Eccleston. “It’s a tremendous improvement in productivity.”

#### **Easier access to information streamlines business processes**

The SOA solution allows the NYPA to bill all of its customers within the same IT environment. This has brought a change to the way the organization conducts its business.

“SOA enables us to leverage our billing staff on all sides of the house using one set of business processes that are consistent,” says Eccleston. “We have just a few billing people handling all our functions with one system. This has freed up at least 15 full-time employees for more valuable tasks.” Additionally, now all of the NYPA’s data for reporting comes out of one repository, which supports its business warehouse, giving all its stakeholders a single view of the information.

“We have consolidated four systems into one system, standardized and improved the maintainability of our interfaces, freed staff time for more valuable work, and have one version of the truth which makes us more efficient,” says Eccleston. “IBM provided the software, implementation services, training and knowledge transfer to enable our staff to function on their own. They also provided best practices and partnered with us on how best to

execute the strategy. I am very pleased with the level of effort and type of support that IBM was able to provide in this project.”

*“I am very pleased with the level of effort and type of support that IBM was able to provide in this project.”*

– Dennis Eccleston, Chief Information Officer, New York Power Authority

#### **A foundation for the future**

Looking to the future the NYPA sees IBM’s Smart SOA solution as a platform that can easily expand to integrate additional applications and systems. And one that can support advanced business process capabilities such as complex event handling and business monitoring.

As Dennis Eccleston puts it, “I think the Power Authority has great flexibility with this environment in that it can deal with all types of systems and data; whether it’s external to the company, whether it’s an Oracle or Microsoft SQL Server database, whether it’s delivered via an e-mail attachment or as an FTP file transfer. The environment is so flexible that we can have many different types of data sources, many different types of events that are triggering a series of activities, actions, data to be massaged, transformations, imports, exports, notifications. It’s just very, very flexible.”



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## Solution Components

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### Software

- IBM WebSphere Process Server
- IBM WebSphere Message Broker
- IBM WebSphere Adapter for SAP Software

### For more information

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# DONG Energy: Making the most of the intelligent electrical grid

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## Overview

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### ■ **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."

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## Key Components

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### 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
- 

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## Why it matters

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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.

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## 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

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# CenterPoint Energy breaks new ground in grid reliability through the power of automation

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## Overview

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### ■ **Business Challenge**

*Like the rest of the electric transmission and distribution industry, CenterPoint Energy needs to deliver power more efficiently and reliably in the face of growing consumer expectations, environmental concerns and increasing costs. The company also saw the opportunity to break new ground in grid management practices.*

### ■ **Solution**

*Subject to approval by its regulators, CenterPoint Energy plans to leverage a mix of leading edge communication technologies, smart meters and first-of-a-kind process innovations to create one of the industry's first intelligent utility networks. This mix of advanced technologies, which utilizes a service-oriented architecture (SOA) foundation, will enable near real-time data access and automated processes for a new level of grid reliability, fewer outages and faster response.*



*CenterPoint Energy's electric operations unit delivers electricity to 2 million customers in a 5,000-square-mile area that includes Houston, the nation's fourth largest city. CenterPoint Energy (NYSE: CNP) owns and maintains 3,766 miles of transmission lines and 46,376 miles of distribution lines—enough to go around the world twice—and delivers over 76 million Megawatt hours of electricity annually.*

### ■ **Key Benefits**

- *Reduction in the frequency and duration of power outages through proactive management and automated response*
- *Overall increase in meter reading and grid management efficiency*
- *Near real-time electric use data provided by smart meters to the utility and to the consumer*
- *Extended asset life for distribution and substation equipment through remote monitoring and diagnostics*

When it comes to the electricity that powers homes, schools, businesses and hospitals, most people have little more than a fuzzy idea of what's involved to get it there. This ambiguity disappears when it comes to their expectations, however. They expect the power to be there when they need it, and if it's not, they want the problem fixed as fast as possible—period. In the greater Houston area, it's the responsibility of CenterPoint Energy's ([www.CenterPointEnergy.com](http://www.CenterPointEnergy.com)) electric transmission and distribution business unit to meet this expectation for 2 million customers. The company

## Setting the foundation for a more efficient, reliable power grid through automation

### Potential Market Benefits

- Greater electric reliability—reduction in the frequency and duration of power outages through proactive management and automated response
- Potential for retail energy providers to increase new time-of-use rate structures and additional services
- Increase in customers' ability to manage their own demand for power, which may encourage greater energy conservation

*“We expect that the Intelligent Grid will improve electric power line grid planning, operations, and maintenance, enabling us to deliver power more efficiently. We also expect the technology to contribute to fewer and shorter outages.”*

– Tom Standish, Group President,  
Regulated Operations,  
CenterPoint Energy

owns and maintains the grid of power lines that connect electric generators to users. One of the outcomes of electric restructuring in Texas in 2002 was the creation of a new layer in the market, comprised of competitive retail electric providers that sell power and services directly to customers and, in effect, pay CenterPoint Energy (CNP) for the use of its power lines.

While a new electricity market in Texas was perhaps the most visible outcome, a changing regulatory environment—both at the state and federal level—also intensified the challenges that CNP faced as a business. Like other transmission and distribution providers around the country following the Northeast blackout in 2003 and the severe hurricane seasons in 2004 and 2005, CNP was looking for ways to “harden” the grid by making it better able to resist outages and fluctuations in power quality.

As envisioned in the U.S. Department of Energy’s “Grid 2030” plan, the goal was to bring many of the defining attributes of the information superhighway—such as resiliency and intelligence—to the nation’s electrical grid. Regulators were also encouraging changes on the demand side, most notably giving electricity consumers the means to change their consumption patterns based on near real-time usage data, transparency and time-of-day pricing—all of which will allow the consumer to be an interactive participant in the electric market. While the future vision was clear, the best way to implement it was anything but.

### CenterPoint Energy’s business challenges

CNP faced a series of operational challenges. For one, material costs—driven by the growing demand for transformers, cables and conductors, as well as increases in the costs of the copper, aluminum and steel they are made of—continue to rise, along with franchising fees and taxes.

CenterPoint Energy also realized that only a fundamental change in its business and operational structure would provide a viable, long-term answer. What makes this story stand apart, however, is that CNP opted for revolution over evolution by resolving to comprehensively change the way it operates. Looking beyond short-term strategies, the company saw its challenge as an opportunity to provide much-needed leadership for an industry in flux, and saw IBM as the ideal organization to help it articulate and realize its vision of a next generation power grid.

Drawing upon expertise and technology from nearly every part of IBM, CenterPoint Energy established a roadmap for building an Intelligent Utility Network, or IUN. Traditional grid management systems provide only the most basic information on operational status and have no way to gather information from—or deliver information to—the homes and businesses they serve. As such, they enable only a limited

“top-down” view, with essentially no rapid view from the “bottom up.” Today, field crews must be on site to identify the location and cause of power outages. In the future, technology will pinpoint the outage location. The core premise of IUN is that by improving the transparency of the entire grid—to the meter and beyond—energy delivery companies like CenterPoint Energy will have a more granular, real-time view of conditions on the grid. This will vastly improve the ability to leverage information, make the grid more reliable and operations more efficient.

While the broad goals embodied by IUN are not new, their realization has been held back by technological barriers, the most fundamental being the lack of a viable communications infrastructure that spans the distance from a utility’s backend systems to its customers’ meters. While utilities may be able to detect a problem using their current systems, they are often unable to ascertain the nature of the problem until crews arrive on-site. It is because of this gap that utilities like CenterPoint Energy are forced to rely on physical visits by field staff to diagnose and fix problems, as well as to activate/deactivate service and read meters.

### The solution

Designed in collaboration with IBM, CenterPoint Energy’s proposed IUN solution will address these issues through the innovative application of leading-edge technologies—including broadband over power line (BPL)—and its work with IBM Research to develop first-of-the-kind failure detection capabilities that go beyond what was previously thought possible. The fact that BPL, which sends a broadband signal over distribution wires (utilizing solutions from IBM Business Partners Corinex and Artech), leverages CNP’s existing assets is just one benefit. The bigger story is how the company’s future BPL infrastructure, when deployed by IBM Global Technology Services, will provide a single conduit for a wide range of grid-related activities, with advanced meter services, the use of the meter as a sensor on the grid (with its own address), and the deployment of home area network monitoring and control representing prime examples.

Using meters from IBM Business Partner Itron that have two-way communications capability, CNP has successfully tested automated meter reading as well as more advanced capabilities such as remote connection and disconnection of service, both of which promise to reduce the incidence of costly “truck rolls” to the customer’s premises. Meter data management software from IBM Business Partner eMeter (running on IBM BladeCenter® servers and managed by IBM Global Services Strategic Outsourcing) will control the flow of meter data to and from CNP’s backend systems. The fact that these meters have the built-in capability to wirelessly send and receive data with everything from individual appliances to thermostats within customers’ homes and businesses opens up a range of new service opportunities down the road.

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## Solution Components

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### Software

- IBM WebSphere® Message Broker

### Servers

- IBM BladeCenter

### Services

- IBM Global Business Services
- IBM Global Services Strategic Outsourcing
- IBM Global Technology Services
- IBM Research

### IBM Business Partners

- Itron, Inc., eMeter, Corinex, Artech
- 

*“While we see this initiative as helping to transform us as a company, many of the results and innovations that come out of it will help to transform the energy transmission and distribution industry as a whole.”*

– Don Cortez, Division VP,  
Operations Technology,  
CenterPoint Energy

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## Smarter power

As part of its pioneering deployment of an intelligent utility network, CenterPoint Energy will be putting in place an SOA framework that will better enable a wave of innovations, including a first-of-a-kind outage detection capability that features self-healing within the grid and fully automated dispatching.

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One of the key insights in the project was that simply having a communication infrastructure wasn't enough when it came to supporting its future service requirements. Instead, CenterPoint Energy needed an architecture with the inherent flexibility to support a growing number of services and thus fully leverage its communication backbone. To that end, IBM Global Business Services will be designing a service-oriented architecture (SOA)-based service delivery framework that employs IBM WebSphere Message Broker as an enterprise service bus to enable different services to share grid data in real time. Using this framework as a foundation, the IBM-CNP team will be able to redesign and automate many of the core processes used to manage the grid. The most revolutionary improvement will be in the area of fault detection. Using data gathered from first-of-a-kind analytical techniques developed by IBM Global Business Services and IBM Research, CNP will be able to not only detect problems, but also to diagnose faults and their precise location so it can send the right crew with the right equipment to fix the problem.

Complementing this quantum increase in grid transparency are process automation efforts designed to drastically cut the duration of outages and to mitigate their effects on customers. Automation will not only let the company operate more efficiently, but will also provide the basis for a self-healing capability within the grid. The proposed solution, when approved by the company's regulators, will detect outages the moment they happen—enabling the system to reroute grid traffic around the problem automatically to minimize its impact.

As a storm-prone city situated on the Gulf Coast—and the home to a large base of energy-hungry businesses—Houston is the ideal testing ground for one of the world's first true IUN solutions. Don Cortez, Division VP, Operations Technology, and a driving force behind the IUN project, sees CenterPoint Energy's work with IBM as strengthening the foundations of its business and providing leadership for other transmission and distribution service providers around the world. "We're working to implement all those things that people dream about in a newly deregulated energy market—all very new ideas," says Cortez. "With its unparalleled track record in translating technology innovation to sustainable market success, we saw IBM as the right kind of partner to help us succeed."

#### **For more information**

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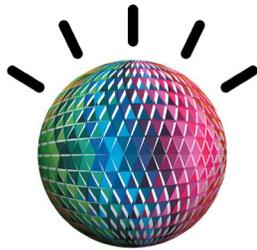
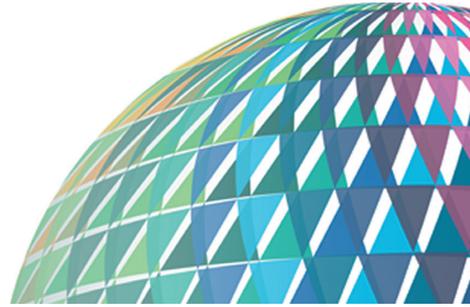
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## Government

Government agencies are looking for ways to cut costs while gaining the agility necessary to better serve citizens, such as overcoming lengthy and inefficient eligibility determination and benefit calculation processes, cumbersome tax management systems prone to errors and fraud and growing systemic risks for businesses, communities and civil society at large.





## City of Madrid

*Coordinated emergency response raises public safety to a new level*

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### Overview

#### The Need

Following the 2004 Madrid train bombings, the city sought to radically improve its emergency response capability.

#### The Solution

Madrid teamed with IBM and IBM Business Partner Indra to create the CISEM command center, which combines information from many sources including video feeds, field reports and mobile computers.

#### What Makes it Smarter

Because of insight generated by a comprehensive, real-time view of events across the city, emergency managers can better assess needs, prioritize and coordinate actions, and proactively deploy assets to address—and potentially prevent—multiple, complex incidents.

#### The Result

“The most innovative aspect of the center is its scope—the integration of all the people involved and the systems they use.”

— Fernando Garcia Ruiz, head of innovation and development, Department of Security, City of Madrid

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On March 11, 2004, Madrid suffered a major terrorist attack when several commuter trains were bombed. As with the 9/11 attacks in the United States, this tragic incident highlighted the need for greater coordination among first responders. “The different emergency entities—the police, the fire department, the ambulance service and the mobile police—intervened independently, and all of them had disparate communication systems and technologies,” says Fernando Garcia Ruiz, head of innovation and development, Department of Security for the City of Madrid. There was no way to organize a unified response to incidents, and there was a lack of centralized command and control.

A key lesson was that more than one major incident can happen simultaneously, and emergency assets may be needed in more than one place. Different incidents may be related, or have nothing to do with one another—without a clear overall picture, it may be impossible to tell if there is an important pattern emerging. This potential for complexity poses a significant challenge for emergency managers. They not only need to coordinate activity, but also require a thorough understanding of everything happening in the metropolitan area so as to properly allocate limited resources to provide the best response to each incident. In addition, proactive measures such as limiting access to impacted areas, or crowd and traffic control for public events, has to be included in the mix.

The need, therefore, was not only for top-down coordination, but also for the ability to capture and integrate information to give managers the understanding and insight required to quickly make the right decisions.

### A centralized model for command and control

In the aftermath of the March bombings, the Madrid City Council took action to better protect the public by commissioning an advanced emergency command center for the city—the Centro Integrado de Seguridad y Emergencias de Madrid, or CISEM.





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## Business Benefits

- Unified view of incident data enables faster, better decision making with the ability to handle multiple, complex situations simultaneously
  - Emergency response time reduced by 25 percent
  - Enables end-to-end coordination of emergency and municipal assets
  - Robust, wireless infrastructure connects diverse first responder agencies with shared, interoperable equipment and protocols
  - SOA infrastructure seamlessly integrates agencies, systems and information
- 

The mission was ambitious, but clear-cut: reduce emergency response time, integrate information, standardize procedures and protocols, provide seamless coordination and planning, enable shared use of resources, optimize information management and promote prevention through better planning.

IBM Business Partner Indra, a leading regional systems integrator specializing in the public sector, teamed with IBM to provide the integrated, service-oriented IT infrastructure that would make CISEM a reality, along with needed business process transformation to enable coordination among all of the stakeholders.

### Building an emergency infrastructure from the ground up

“The key to CISEM is integration—of information, systems, data sources and people,” Garcia says, “but it was a challenge. Not only do we have to integrate all the applications currently used by the different entities, but we also have to integrate other external organizations, like Madrid 112, the video surveillance center, and the M30 highway control center.”

Because each of the first responder agencies had its own communication technology, a common mobile infrastructure had to be deployed. Most vehicles, from police cars to ambulances to fire engines, are equipped with mobile wireless computers or PDAs that are connected to CISEM. The mobile infrastructure is critical; it provides true interoperability among the various agencies and also enables a two-way interchange of information—which gives managers vital, on-the-scene input that helps them develop a better understanding of what is happening in the field.

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## Smarter Public Safety:

## Faster, more precise emergency response

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### Instrumented

Information from first responders, the public, video surveillance, traffic control and other sources is fed into the CISEM system.



### Interconnected

CISEM integrates information, people, processes and systems to enable better coordination and situational awareness for first responders.



### Intelligent

A holistic, real-time view of incidents gives commanders an understanding of how complex emergencies affect the city as a whole, enabling them to more rapidly and effectively assess and respond to incidents, and thus better protect the public.



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## Solution Components

### Software

- IBM DB2® Everyplace®
- IBM Tivoli® Directory Integrator
- IBM WebSphere® Everyplace Connection Manager
- IBM WebSphere Everyplace Deployment
- IBM WebSphere Integration Developer
- IBM WebSphere MQ
- IBM WebSphere Process Server
- IBM WebSphere Transformation Extender

### IBM Business Partner

- Indra
- 

*Commanders are now able to understand how complex and/or multiple incidents affect the entire region.*

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The effective coordination of responders depends on reliable communications, so close attention was paid to creating a reliable way to keep all agencies in touch. A multilayered, redundant communications infrastructure links to existing telephony systems, VoIP, satellite communications, a private radio network and 3G wireless networks to ensure continuous communication. IBM WebSphere® Everyplace® Connection Manager provides seamless, reliable, secure access to CISEM resources by automatically selecting the best available network and encrypting all communications. IBM Tivoli® Directory Integrator adds an additional layer of access security.

CISEM's need to maintain consistency across all emergency resources makes the rapid development, integration and uniform rollout of information and applications essential, so IBM helped build a flexible, powerful SOA platform to enable it. New information flows and business processes are built and managed using IBM WebSphere Integration Developer and IBM WebSphere Process Server. Dissemination to field units takes place quickly and easily, thanks to IBM DB2® Everyplace and IBM WebSphere Everyplace Deployment, with an underlying support layer that includes IBM WebSphere MQ and IBM WebSphere Transformation Extender for system messaging and data formatting. This robust software platform helps CISEM managers adapt to fast-changing needs without disruption to vital services—a key capability in fulfilling their core mission of protecting the public.

### Flexibility and insight

The combination of forward-looking system design and end-to-end integration gives emergency managers in Madrid the tools needed to not only deal with today's threats, but also handle rapidly evolving situations and technologies as they emerge. Any sensor input—video, data or voice—from any source can be readily incorporated into the data stream and accessed by anyone who needs it.

Situational awareness is now at an unprecedented level. Not only do commanders at CISEM understand the full situation, but those in the field are also made aware of the status of other teams and resources.

This single, unified view of status and events reduces confusion and enables far faster and more effective decision making. Managers are now better able to deploy the right assets the first time, reducing response time by 25 percent.

Perhaps most significant, though, is the entirely new dimension that CISEM has given to emergency management. Commanders are now able to understand how complex and/or multiple incidents affect the entire region, and can allocate and deploy emergency resources in a truly coordinated and effective manner that takes into account all of Madrid's needs, not just those of a single incident.

In addition to CISEM's new capabilities, Fernando Garcia concludes by emphasizing that "CISEM is built for change. We have more flexibility to innovate in our day-to-day operations, but we are also better equipped for any major challenges the future may have in store. The beauty of it is that it allows us to make incremental changes without ever interrupting our emergency operations."

### For more information

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ODC03154-USEN-00



# Castilla y León regional government adapts quickly to new laws

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## 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.

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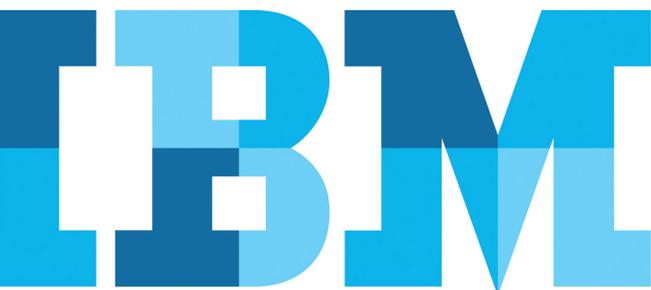
The regional government of Castilla y León, one of Spain's 17 autonomous regions, administers a broad range of social programs through its Social Services agency. More than 50,000 people benefit from the agency's social assistance programs for the disabled and elderly, and for child protection.

### 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



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*“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

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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.



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“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.”

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## 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

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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

Contact your IBM sales representative or IBM Business Partner. Visit us at: [ibm.com/software/data/advanced-case-management](http://ibm.com/software/data/advanced-case-management)

For more information on Thales, visit: [www.thales-is.com](http://www.thales-is.com)

For more information on Junta de Castilla y León, visit: [www.jcyl.es](http://www.jcyl.es)

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**WebSphere** software

## Postal organization delivers superior customer service and reduces costs with IBM WebSphere Intelligent Management Solutions

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### Overview

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#### ■ Challenge

Major consulting firm needed to implement a new application hosting environment for a large mail services organization that would integrate applications with legacy systems and accommodate daily spikes in usage while minimizing hardware and software requirements.

#### ■ Solution

The company implemented a powerful virtualization solution that intelligently manages the health and workload of application server environments so that applications can adapt to changing market conditions while lowering costs. Consultant implemented an enterprise service bus solution to integrate applications with back-end databases without using costly and complex point-to-point programming.

#### ■ Benefits

- 10 servers consolidated onto four-server infrastructure
- Cost saving with consolidation of servers onto application infrastructure virtualization environment
- Higher availability of business-critical applications



Try as they may to please the public, postal organizations have been losing money on both sides of the Atlantic. One large national mail services organization is an example. It was not only in the red, it was facing competition, dealing with a regulator that was following them closely and struggling with adversarial labor unions.

Seeking to renew itself, the mail services organization set its sights on becoming the best postal operator in the world. The challenges led to a history-making 2.2 billion USD outsourcing deal with a major consulting firm and two smaller companies that are now working independently with the mail services organization.

*“WebSphere Message Broker provides proven performance, throughput and availability. It gives us the flexibility we need to keep applications running.”*

— Assistant Engineer, consulting company



*“With WebSphere Virtual Enterprise, downtime is reduced dramatically because the automatic agents pick up the fact that an application has crashed and either restart the application server or take it out of use.”*

– *Enterprise Architect, consulting company*

In addition to running the mail services organization’s data centers, data networks, voice services and desktop computers, the consulting firm was responsible for maintaining more than 600 business application systems.

#### **Neither snow nor rain nor application outages**

From the start, the consultant knew that it was going to be hosting one key business-critical application that needed a new operating environment: a tracking application that follows the delivery of items from data entered into handheld computers by postal carriers in the field at each stage of the delivery process. Customers can log on to the Internet and track the status of an item as it makes its way through the system.

The application had been running on a mix of technologies. Availability was troublesome and costs to maintain the servers were running high. The consultant wanted to provide a cost-effective, efficient hosting environment.

“The resilience and reliability of the system is quite important because this application is going to be key to the mail tracking system,” says an assistant engineer at the consulting company. “We’re going to use this infrastructure for other types of tracking applications in the future.”

“Several such tracking projects will need to be delivered at once using a common platform for the application services and for the application components,” says an enterprise architect at the consultant. “Demand for these applications spikes at certain times of the day, as carriers usually generate most of this activity during the morning hours. We need to be able to bring on extra application servers when required to meet this variable demand.”

#### **Delivering superior customer service**

The consultant wanted a platform that would minimize hardware and software requirements without affecting the environment’s resilience. It was interested to learn what IBM could provide to help automate and facilitate management of the environment.

The consultant evaluated several middleware providers, including BEA and IBM, to run the applications in a flexible environment that could be adjusted to respond to variable needs. The consultant chose IBM WebSphere® Virtual Enterprise, Version 6.1 to provide the application infrastructure virtualization capabilities that

flexibly manage the mail services organization's tracking applications to improve service, application performance and better manage server health. Two On Demand Routers run on two IBM System p5® 510 Express™ servers with AIX® Version 5.3, and two more System p® servers run IBM WebSphere Application Server Network Deployment, Version 6.1 along with the WebSphere Virtual Enterprise software.

The new Virtual Enterprise environment was designed to provide a platform to run new J2EE™ applications that had previously run on 10 servers.

### **Monitoring application health**

BEA was the incumbent vendor for the mail services organization's application server environment, but programming with BEA WebLogic had led to corrupted code which was proving very difficult to eradicate.

"We looked at the functionality and scalability of WebSphere Virtual Enterprise and found that it provides mainframe functionality in terms of being able to monitor server health and bring on resources when you need them," says another assistant engineer at the consulting company. "With WebLogic, we would be pretty much stuck with a much less functional solution."

### **Deploying a service oriented architecture**

The consultant also implemented an enterprise service bus infrastructure to integrate the tracking applications with its legacy databases. For its enterprise service bus, the consultant chose IBM WebSphere Message Broker, Version 6 for its ability to provide a broad platform for application infrastructure and integration.

"WebSphere Message Broker provides proven performance, throughput and availability necessary to run the important tracking applications," says the first assistant engineer. "It takes data from different sources such as .NET and IBM WebSphere MQ, transforms the data and pushes it out to the database. It gives us the flexibility we need to keep applications running."

"The solution was deployed in a service oriented architecture using Web services in addition to an enterprise service bus," says the enterprise architect. "It can be enhanced quite easily in the sense that the pieces can be decoupled and moved around."

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## **Solution Components**

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### *Software*

- IBM WebSphere® Virtual Enterprise
- IBM WebSphere Message Broker
- IBM WebSphere Application Server Network Deployment
- IBM WebSphere MQ

### *Servers*

- IBM System p5® 510 Express™
-



### Reducing rising costs through consolidation

Thanks to IBM, the mail services organization has benefited from cost savings. The consultant will be reducing the server count as it consolidates three or four more of the organization's applications onto the WebSphere Virtual Enterprise servers. The IBM structure of two servers running WebSphere Virtual Enterprise and the tracking applications along with two servers running WebSphere Application Server will take the place of 10 servers that formerly housed these applications. Managing the tracking applications will cost less per year due to fewer manual interventions, and there is less cost for servers and CPU time. Consolidating hardware will also reduce energy costs.

In addition, if the consultant needs to do any management of the servers, it can seamlessly swap servers in and out of the solution with no downtime to users. The WebSphere Virtual Enterprise Health Policy function has eliminated the down time caused by a memory leak in a problematic application, which was previously going down every two-to-three days. The WebSphere Virtual Enterprise solution prevents outages by moving the workload to another server.

"With WebSphere Virtual Enterprise, downtime is reduced dramatically because the automatic agents pick up the fact that an application has crashed and either restart the application server or take it out of use," says the enterprise architect. "With dynamic clusters, we can manage workloads autonomously, taking information from the cluster members on the health of the servers." WebSphere Virtual Enterprise has made the whole environment more resilient as it automatically recovers from system failures elsewhere in the infrastructure, which was previously a manual task.

The health of the cluster is maintained, and so is the health of the mail service organization with the new IBM technology that helps it provide superior customer service. IBM WebSphere provides a powerful and comprehensive set of cloud computing and virtualization solutions for intelligently deploying and managing SOA applications, services and environments to achieve smarter business outcomes. These solutions deliver robustness and agility to enable applications to adapt to changing market conditions while lowering costs.

### For more information

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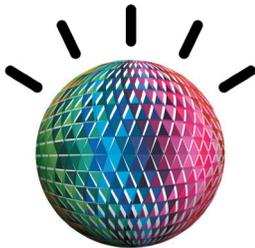
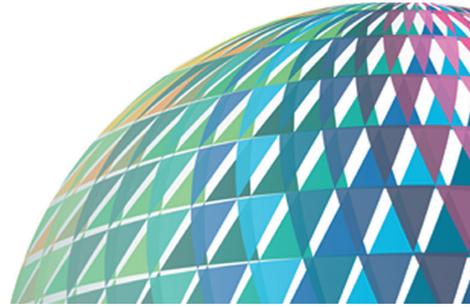
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## [Healthcare and Life Sciences](#)

IBM systems, software and services facilitate transformation to smarter healthcare and life sciences by enabling ecosystem enterprises to improve operational effectiveness and reduce cost, achieve higher quality and improved outcomes for greater value and deliver connected and personalized care.

IBM is a stable and global single source of systems, software and services to enable healthcare and life sciences ecosystem connectivity, collaboration, process optimization and information analytics for business performance transformation and cost-effective management.

WebSphere-based solutions run on virtually every proprietary and open source platform to provide scalability, high availability, connectivity to legacy systems and applications, and designed-in interoperability – the “strength of the stack.”



# University College London Hospitals (UCLH)

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## Overview

### 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 Lombardi Teamworks® 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 meeting 18wkRTT
  - 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 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 UK government stated that patients should start treatment within 18 weeks (18wkRTT) of referral from a GP. All healthcare trusts within the UK had to adhere to these challenging requirements by December 2008.

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 Lombardi Teamworks business process management system to develop a comprehensive patient tracking system (PTS).

UCLH used Lombardi 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.



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*“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 Lombardi Teamworks-based PTS enables UCLH to model 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.

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 two 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.

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## Solution components

### Software

- Lombardi Teamworks®
  - Lombardi Blueprint®
- 

## 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 Teamworks® 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 five 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?

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® WebSphere® Lombardi Edition, please contact your IBM marketing representative or IBM Business Partner, or visit the following websites:

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# Wake Forest University School of Medicine

*Web-based data collection forms for clinical trials*

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## Overview

Wake Forest University Baptist Medical Center is an academic health system comprised of North Carolina Baptist Hospital and the Wake Forest University's Health Sciences Division, which operates the university's School of Medicine.

### Business challenge

Clinical trial-based research studies typically last several years and undergo many changes during this time. Maintenance costs can easily far outstrip the cost of initial development. The vast majority of these changes involve the data collection instruments and processing logic.

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Wake Forest University Baptist Medical Center comprises 1,056 acute care, rehabilitation and long-term care beds and has been ranked as one of "America's Best Hospitals" by U.S. News & World Report since 1993. Wake Forest Baptist is ranked 32<sup>nd</sup> in the nation by America's Top Doctors for the number of its doctors considered best by their peers. The institution ranks in the top third in funding by the National Institutes of Health and fourth in the Southeast in revenues from its licensed intellectual property.

## Challenge

The advancement of medicine depends significantly upon clinical trials. Whenever a new procedure or medication is created, it must be thoroughly tested before it can be used by the medical community. An

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### Solution

IBM® WebSphere® ILOG JRules, a key offering in IBM's line of business rule management system (BRMS) products, allows developers to base the most dynamic parts of their sites upon rules. Changing the logic only requires changes to rules. In many cases, changes no longer require any programming changes at all, and are done by non-programmers on the study staff. The use of JRules' Business Action Language allows both programmers and nonprogrammers to work with the business logic in plain language terms that are much easier to manage.

### Benefits

- 80 percent increase in productivity
  - USD1 million return on investment (ROI)
  - First release in 30 days
- 

essential part of this testing is data collection and management. The data collected from the participants in a clinical trial serve as the foundation of the research. As the study progresses and findings result in changes to trial conditions, it is vital to effectively manage the rules that apply the changes to the collected data. It is also vital to know which rules were in effect at any given period in the study's life cycle.

### Solution

The Division of Public Health Sciences at the Wake Forest University School of Medicine performs clinical trials and/or coordinates trials for medical research organizations, including hospitals and pharmaceutical companies. The division has come to rely on the Internet as an important research tool. Its development of Web-based data collection and management software has been greatly simplified by using JRules to do the heavy lifting. Every study is largely unique, requiring custom, study-specific data collection forms and instruments. JRules has enabled the division to realize significant reductions in both labor and time to deployment for websites by moving the vast majority of the customization from hard-to-maintain program code into relatively easy-to-maintain rules that are written in relatively easy-to-understand plain language.

It used to take a week or more to code a typical custom data-collection Web form. Now, a University developer can often do several in one day. Data entered into the forms must be validated on a per-item and item-versus-item basis. Cross-form data validation is also required. Forms have their own workflows depending upon the data entered, and a website's overall workflow may vary according to processing rules. Typical study projects have 30 or more Web forms with an average of 100 rules per form. All of these rules can now be done with JRules instead of program code. Developers can build a custom study website in a fraction of the time it used to take. Startup development time for a typical study has been reduced by six months or more. By separating the custom rules from the common ones, the developers have truly realized the "Holy Grail" of program-code reuse in that most of the common code is reusable from one study to the next. But JRules rule-authoring tools allow the developers to deliver the custom fit desired by researchers for their studies.

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## Solution Component

### Software

- IBM® WebSphere® ILOG JRules
- 

*“Every kind of form has processing that can be captured in rules. I think anyone who uses forms extensively should externalize their processes in rules, rather than program code. You gain a tremendous maintenance advantage. You can just change the underlying rules to customize the form behavior. IBM WebSphere ILOG JRules allows us to do this to a degree that has impressed us greatly.”*

— Don Babcock,  
Lead Programmer and Architect,  
Division of Public Health Sciences at  
Wake Forest University School of Medicine

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## Benefits

The developers have been very successful with JRules:

- Productivity has increased by an estimated 80 percent.
- Project ROI has been estimated at about USD1 million.
- A fully functional set of Web-based forms can be produced and deployed in just a few weeks.
- Auditing requirements are easily satisfied with JRules’ built-in rule reports.
- Rule reuse shortens development time and helps ensure uniform application of processes across clinical trials.
- Data validation takes less time and is consistently applied.
- Research findings can be quickly and easily reproduced and documented in reports.
- Rules can be shared and compared across projects

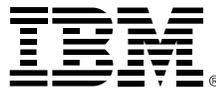


Prior to the introduction of JRules, a typical study website could take six months to a year for a developer to program. Today, that same site can be built in as little as a month. Where development constraints used to limit the Public Health Sciences division’s developers to supporting only one or two studies at a time, they are now able to cover half a dozen or more.

## For more information

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# UPMC takes healthcare delivery to new levels with dynamic infrastructure

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## Overview

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### ■ Business Challenge

*UPMC, an integrated global health enterprise, sought to lower the cost and complexity of its IT infrastructure to enable the continued investment in next-generation clinical systems and to lay the foundation for the best possible patient care.*

### ■ Solution

*Now in the middle of a landmark, eight-year strategic partnership with IBM, UPMC is transforming its systems through consolidation, standardization and—most importantly—virtualization, which is the key building block of the dynamic infrastructure. Relying on IBM products and services, the mid-stream effort has already resulted in the reduction of hundreds of servers across the UPMC network.*

### ■ Key Benefits

- *US\$80 million in capital and operating cost reductions*
- *Over 220 percent increase in processing capacity*
- *Significant reduction in IT infrastructure floor space requirements*
- *83 percent reduction in number of AIX® servers*



*Widely recognized for its innovations in patient care, research, technology and healthcare management, UPMC is an integrated global health enterprise and one of the leading nonprofit health systems in the United States. Based in western Pennsylvania, UPMC is the region's largest employer, with 50,000 employees and nearly US\$8 billion in revenue.*

When UPMC joined with IBM in an eight-year, US\$402 million partnership designed to transform its IT infrastructure, the deal was viewed as a watershed in how IT vendors and their customers work together. Today, with the deal at the halfway mark, the UPMC and IBM collaboration has met the original expectations and, in many instances, has exceeded them. What continues to make the partnership unique is how the companies' shared vision of the future of healthcare delivery is cemented by a shared commitment to fostering healthcare innovation.

The predominant focus of the partnership is on transforming UPMC's entire IT infrastructure to lay the groundwork for the future, an effort that

*“Today most of our servers are virtual, not physical. The virtualized infrastructure flexes to meet processing peaks; the staff can respond to the demands of UPMC faster. We are more productive, more agile, and more reliable, at a lower cost point. It works well”*

— *Paul Sikora, VP of IT Transformation, UPMC*

## Lowering the cost of healthcare innovation through IT efficiency

### Business Benefits

- US\$80 million in capital and operating cost reductions through virtualization-driven efficiencies
- Over 220 percent increase in processing capacity without an increase in support staff
- Significant reduction in IT infrastructure floor space requirements, freeing up space for revenue generating services
- 83 percent reduction in number of AIX servers
- Expected increase in average utilization per server from three percent to nearly 80 percent
- Faster integration of acquired healthcare operations

*“We don’t worry about computer capacity and performance anymore, it’s just there. Having the newly transformed, virtualized infrastructure behind the scenes is contributing to improving our patient care and lowering costs. I can’t imagine running something like our Electronic Health Record systems without it”*

– G. Daniel Martich, MD, Chief Medical Information Officer, UPMC

is far reaching in scope and subject to major challenges—most or all of which are shared by major healthcare providers today. UPMC’s strategy is to lower the cost of healthcare innovation through IT efficiency based on the simple idea that having the resources to meet future demands—operational, clinical and technological—requires the maximum efficiency of IT resources across the entire enterprise. This story revisits the initial goals and drivers of the partnership and, more importantly, tracks its progress according to key milestones. A key takeaway from the UPMC-IBM experience is that a well conceived transformation strategy can not only adapt to changing circumstances or intensifying trends, but indeed thrive under them.

### Gauging progress

When the project was conceived, all key measures of information processing activity, including the volume of data and the number of applications, were projected to grow sharply, producing a commensurate increase in infrastructure and support costs. The transformation plan put forward by IBM was designed to effectively uncouple growth from cost by remaking the IT infrastructure through consolidation, standardization and—perhaps most importantly—virtualization. Since the project began, however, UPMC’s information processing volume has grown even faster than the plan’s initial aggressive expectations. That IBM was able to not only meet—but actually exceed—its infrastructure efficiency goals is compelling evidence of the robustness of the virtualization framework that UPMC and IBM put into place.

Here’s the path it took to get there. Having evolved from a major academic medical center to Pennsylvania’s largest integrated healthcare delivery system—with revenues of nearly \$8 billion and 50,000 employees—UPMC has acquired a reputation as one of the nation’s most respected and influential healthcare providers and as an innovator in patient care, research, technology and healthcare management. As part of its growth strategy, UPMC also acquired several hospitals (now numbering 20) along with numerous other kinds of care facilities. While such acquisitions strengthen both the clinical breadth and depth of the UPMC network, they also tend to complicate the IT picture by adding to the heterogeneity—and overall complexity—of its infrastructure, as each new acquisition brings its own set of applications. Moreover, because it made integration inherently more difficult, this reality conflicted directly with UPMC’s vision of leveraging information from across its entire network for the benefit of its patients.

### Breaking the cycle

Resource efficiency was another huge driver for the project. Historically, UPMC’s IT costs had been propelled inexorably upwards by what seemed to be an ironclad logic. More applications—and more users of those applications—meant more data, which in turn meant more servers to buy and more people required to run them. The growing requirement for servers and storage also consumed more and more of

the UPMC's physical space, which could otherwise have been used for clinical—and revenue-generating—purposes. UPMC's leaders saw that rising IT costs were ultimately at odds with its long-term goals around innovation and patient care, a dynamic likely to intensify given the ongoing tightening of resources in the U.S. healthcare market. The central goal of the IBM-UPMC partnership is to break this linkage by going down a completely new path for its IT strategy by consolidating and standardizing its disparate server and storage resources, and aggressively implementing virtualization. "Virtualization isn't an option," observes Paul Sikora, vice president of IT Transformation at UPMC. "It's a necessity."

And, by all appearances, it's working. Indeed, judging by the results UPMC has been able to achieve—even in the relatively early stages of the project—the virtualization strategy being implemented by IBM is exceeding even the most optimistic projections. The most telling indicator of the project's success is the difference between UPMC's actual capital and operating costs (related to IT) and those that would have been incurred had it taken no action. As discussed previously, a key backdrop for this comparison is the surge in processing and storage volume that resulted from the faster-than-projected expansion in the scope of UPMC's industry-leading electronic health records adoption. In the "baseline" case—that is, had no action been taken—UPMC would have needed to more than double its number of servers, to nearly 300. Instead, it was able to reduce the number of servers by two thirds, and the consequent reduction resulted in an avoidance of US\$80 million in capital and operating costs.

At a strategic level, the project is succeeding because it has enabled UPMC to uncouple the inevitable growth in its processing capacity from the growth of its IT costs, thus rolling back what had become a major threat to its future investment in new treatments and the technologies they require. More broadly, this breakthrough—whose fundamental enabler is IT virtualization—is allowing UPMC to rewrite the rules that govern its resource decisions. By simplifying its IT infrastructure through virtualization, for instance, UPMC is able to support over 220 percent more server capacity without the need to hire any additional support staff. On top of that, the server consolidation afforded by its virtualization strategy enabled UPMC to significantly reduce its floor space requirements. In addition to enabling UPMC to avoid facilities expansion that would have been needed under the baseline scenario, consolidation freed up space that UPMC can now repurpose for revenue-generating clinical activities.

### **The tools of virtualization**

The transformation making these benefits possible is being implemented by IBM Global Technology Services. Working in close cooperation with UPMC and following a phased approach, IBM's role is comprehensive in scope, including the

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## **Solution Components**

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### *Software*

- IBM WebSphere® Application Server
- IBM WebSphere Business Integration
- IBM Tivoli® product suite
- IBM Cognos®
- IBM FileNet®

### *Servers*

- IBM System x®
- IBM System z®
- IBM BladeCenter®
- IBM Power Systems™
- IBM TotalStorage® Enterprise Storage

### *Solution*

- IBM Component Infrastructure Roadmap

### *Services*

- IBM Global Technology Services
  - IBM Healthcare and Life Sciences
  - IBM Research
  - IBM STG Services
  - IBM SWG Services
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## **Smarter Healthcare**

By transforming its IT infrastructure through consolidation and virtualization, UPMC has achieved more than a quantum improvement in resource efficiency. It has improved the delivery of healthcare while reducing operating costs. Changing the link between processing and resource needs has enabled UPMC to combine an ambitious clinical agenda with both a lower rate of IT investment growth and improved reliability.

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design and definition of a virtualized, dynamic infrastructure, the consolidation and migration of applications to the new system, and the optimization of applications to maximize performance.

IBM hardware products at the core of the effort include IBM System x®, Power Systems™, System z® and BladeCenter® servers, as well as IBM TotalStorage® Enterprise Storage Servers, which are running the two UPMC storage databases that were consolidated from 40. Virtualization within and across these resources is enabled by IBM's Advanced POWER® Virtualization, which performs partitioning and dynamic load distribution for Power Systems servers, and VMware's Virtual Infrastructure 3, which will be used to consolidate more than a thousand Intel®-based servers to 20 IBM System x servers. In the latter case, the utilization rates of the servers are expected to increase from the current average of three percent per server to nearly 80 percent. To manage the infrastructure centrally and efficiently, the solution employs a common toolset based on IBM Tivoli® products. The modular, standardized nature of the solution means UPMC can integrate new acquisitions into its network faster—enabling the more prompt realization of the acquisition's operational and clinical goals.

If anything, the importance and urgency of healthcare as an issue has only risen since the outset of the transformation project, as has the intensity of public discourse over how to address the resource challenges for the industry—and for society as a whole. This, in turn, only strengthens the value proposition underlying UPMC's transformation strategy.

While Sikora acknowledges the long road ahead, he sees the merits of UPMC's efforts as beyond dispute. "We have standardized our hardware and operating systems. We have aggressively implemented almost all of our enterprise systems in a highly virtualized common infrastructure. As a result, we have more open floor space today than we did four years ago. We use less power today than we did four years ago. We support more applications, using fewer physical servers than we did four years ago." Sikora concludes, "Today most of our servers are virtual, not physical. The virtualized infrastructure flexes to meet processing peaks; the staff can respond to the demands of UPMC faster. We are more productive, more agile, and more reliable, at a lower cost point. It works well."

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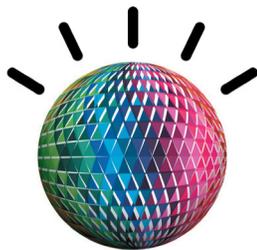
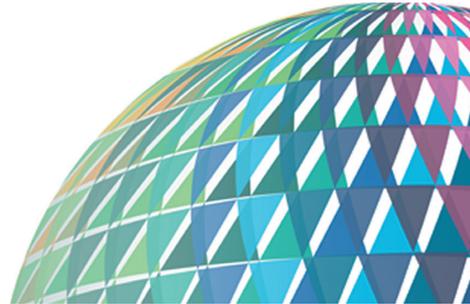
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## Insurance

Insurance companies are looking to streamline their processes to drive growth, improve expense ratios and compete effectively in mature and emerging markets. To achieve this, carriers must address some pressing challenges including eliminating process silos that hamper operational efficiencies; creating processes that deliver greater agility and transparency and solidifying distribution and self-service channels.

IBM helps insurers worldwide build agile processes resulting in speed to market gains, rapid product development, higher pass-through-rates and greater transparency to drive profitable books of business. WebSphere software and solutions for insurance are widely used by carriers to improve operational efficiencies and effectively enforce risk management practices to sustain profitable growth; enhance agency/consumer interactions and build innovative portals that foster up-sell and cross-sell opportunities and increase sales conversion, retention and acquisition rates and strengthen customer relationships with relevant and timely insights resulting in higher customer wallet share and execution of marketing campaigns that reduce costs.





# Reliance Life Insurance Corporation

*Gaining market leadership with breakthrough self-service*

---

## Smart is...

*Gaining the agility and insight to sense and respond to customer needs better, faster and more profitably than competitors*

Reliance Life Insurance launched a comprehensive self-service portal solution that has enabled it to expand rapidly and cost effectively in India's burgeoning life insurance market, and gain market insights into the kinds of offerings Indian consumers are looking for. By optimizing its product portfolio, Reliance was able to double its market share and become one of the most competitive companies. Getting the right products and features to market 50 percent faster enabled Reliance to emerge as an innovator in India's life insurance industry.

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Sometimes a combination of conditions and events can come together to create an ideal—even once-in-a-lifetime—market opportunity. Earlier in this decade, only one in five insurable Indians owned a life insurance policy, thus creating a huge reservoir of untapped demand for India's life insurance providers. Demographic forces such as the aging of the Indian population and rising per capita income had begun to change the way people thought about life insurance, bringing the undercurrents of demand closer to the surface.

India's deregulation of its life insurance industry helped unleash that pent-up demand. On the supply side, a market once dominated by a monopoly was soon crowded with no fewer than 20 providers, each determined to get its share of a flood of new policies.

## Gearing up for growth

The ability to achieve rapid customer growth was an important factor in the emergence of one recent market entrant, Mumbai-based Reliance Life Insurance, and effective strategic management of its growth set Reliance apart from its competitors. To translate market potential into new customers, Reliance and its peers needed to establish the business infrastructure—the channels, people, processes and systems—required to handle the influx. These companies also needed to develop the right mix of life insurance products to align with diverse customer needs.





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## Business benefits

- Reduced time required to develop new services and features by more than 50 percent
  - Reduced customer/agent service costs nearly 50 percent
  - Saved millions of dollars in capital expenditures for branch and call center build-out
  - Achieved 100 percent YOY average growth in new business premium (NBP) within four years
  - Doubled market share to become #4 (based on NBP)
- 

Reliance saw channel strategy as perhaps the most decisive and fundamental business issue it needed to address to achieve its ambitious growth goals. Reliance recognized that physical branches would be an essential part of the mix, but had to figure out how many were necessary. As a company in high-growth mode, Reliance was intent on preserving capital and minimizing its ongoing operating expenses. Making self-service a core part of the channel mix accomplished both goals, because it reduced Reliance's need to invest in branch and call-center facilities, staffing and other associated infrastructure. Beyond low-cost growth, Reliance also saw self-service as a way to gain the advantages of increased speed to market and agility over more branch-dependent competitors.

### Breaking new ground in self-service

The solution was a self-service portal called Lifeline. Designed to maximize its versatility, the Lifeline portal delivers services to all of Reliance's key stakeholder groups, from customers and prospects to the company's employees and agents. The portal provides customers with a one-stop experience through which they can research and purchase insurance plans, manage their portfolios and pay their premiums. Agents can use the platform to get a unified, cross-sectional view of their customers' portfolios and gain the insights to make intelligent cross-selling recommendations that provide optimal coverage for customers.

Reliance's market share has doubled since introducing Lifeline, making it one of the market's five top companies. One important element is the flexibility enabled by its SOA-based infrastructure. Using the components of the IBM Insurance Process Acceleration Framework, Reliance and IBM designed the solution as a series of composite



*“My job was to inspire people to think differently about self-service, to go beyond what any other [life insurance] companies in India have done.”*

—C. Mohan, chief technology officer,  
Reliance Life Insurance Company Limited

business services, connected across an enterprise service bus (based on IBM WebSphere® Process Server and IBM WebSphere MQ). When Reliance wants to introduce a new service or extend an existing service to a new audience, its developers can configure much of the new service by repurposing existing building-block services (such as an address change or a fund switch), reducing the time and cost of developing new services by 50 percent or more.

In addition to speed, realizing the market’s full growth potential also requires insurance providers to optimize their product portfolio to ensure they have the right mix of products, options and features. Keeping this alignment is a challenge in any market because needs are always changing. Through the intelligence analytics enabled by the Lifeline solution, Reliance has outpaced its competitors in its ability to draw these insights. Storing all of its customer and transaction information within a consolidated data warehouse enables it to see the big picture as to which product offerings are successful and which are not. In the case of linked insurance products, for example, Reliance can see at a glance what types of asset allocations its customers prefer and make changes accordingly. Because it gives product developers increased visibility into customer trends, the Lifeline solution gives Reliance a powerful market intelligence tool whose insights have helped optimize its product offerings.

**Smarter insurance: Optimizing the product portfolio to maximize market share**



**Instrumented**

The Lifeline portal solution is integrated with Reliance’s core insurance systems in near-real time, ensuring accurate and consistent portal data.



**Interconnected**

The portal’s real-time integration with core systems provides agents with a unified, cross-sectional view of their customers’ portfolios.



**Intelligent**

Storing all customer and transaction information within a consolidated data warehouse gives product developers and market planners insights into which product offerings are most effective and which are not.



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## Solution components

### Framework

- IBM Insurance Process Acceleration (IPA) Framework

### Software

- IBM WebSphere® Business Modeler
- IBM InfoSphere™ DataStage®
- IBM WebSphere Integration Developer
- IBM InfoSphere QualityStage™
- IBM WebSphere Portal
- IBM WebSphere Process Server
- IBM WebSphere MQ
- IBM DB2®

### Services

- IBM Global Technology Services – Integrated Technology Services
- 

*“Our vision of self-service as a way to enhance our growth strategy has proven highly successful. With IBM’s technology, insight and continued support, we’re building the foundation for long-term market leadership.”*

—C. Mohan

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## ► The inside story: Getting there

### The impetus for change

Going the self-service route was the idea of the chief technology officer, C. Mohan, who also served as the project’s main champion within the company and a key technology visionary. The key element of that vision was to push the boundaries of self-service in the Indian life insurance market, where such solutions were not common at the time. At the outset of the project, Mohan issued this challenge to the solution-development team, which consisted of IBM Global Technology Services and internal Reliance staff. “My job was to inspire people to think differently about self-service, to go beyond what any other [life insurance] companies in India have done,” says Mohan.

### Selling the growth benefits

Before selling the project internally, Mohan directed his internal IT team to create an initial blueprint of the solution that he could use to demonstrate its capabilities to key line of business (LOB) stakeholders, including the CEO. The value proposition focused on the Opex and Capex advantages of self-service over an equivalent expansion in branch locations and call-center facilities. But for an LOB audience that placed a premium on speed to market, one IT-related benefit—the reusability of modular IT services enabled by the use of an SOA approach to designing the solution—was especially resonant. “In a hyper-growth market [like India], the ability to get a new offering to market in half the time can translate directly into greater market share,” Mohan explains. “That made the benefit of SOA something everyone on the business side understood.”



### Taking advantage of speed and agility

When Reliance launched its most recent market expansion plan—focused on India's rural and micro insurance segments—it had an advantage as it sought to tap those segments' vast potential. Reliance's advanced self-service capabilities enabled it to move faster than its competitors in addressing these segments, because it was not bound by the need to invest in additional branch and call-center infrastructure as a prerequisite to action. As Reliance continues its expansion, the Lifeline solution will lessen both the costs and risks of its growth. In just the first year after the introduction of Lifeline, operating expenses decreased by nearly US\$770,000.

Reliance's stated goal is to rise to number one within the next few years. According to C. Mohan, the company's advanced self-service capabilities represent an important addition to its competitive arsenal. "Our vision of self-service as a way to enhance our growth strategy has proven highly successful," says Mohan. "With IBM's technology, insight and continued support, we're building the foundation for long-term market leadership."

## For more information

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## Max New York Life Insurance Co. Ltd.

*Optimizes the utilization of system resources*

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*“IBM WebSphere Virtual  
Enterprise software helped  
us reduce infrastructure  
complexity and costs.”*

— Max New York Life Insurance Co. Ltd.

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Max New York Life Insurance Co. Ltd. (MNYL) is a joint venture between Max India Limited and New York Life International. MNYL employs more than 15,000 people in over 40 offices across India. Its corporate headquarters is in Gurgaon, Haryana.

### The Need

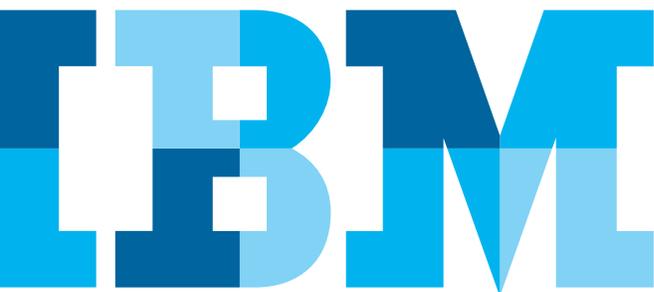
MNYL was using IBM WebSphere® Application Server Network Deployment software to host various business applications. Previously, IT administrators were required to maintain several isolated environments, leading to management complexity and suboptimal utilization of hardware resources. MNYL sought ways to reduce hardware and software licensing costs as part of a companywide initiative. It wanted a solution to bring siloed applications into a shared infrastructure, without compromising system availability.

### The Solution

MNYL adopted IBM WebSphere Virtual Enterprise software to run a shared server environment for several applications. The solution consisted of a series of dynamic clusters spread across the multiple nodes, with an on-demand routing cluster on the front end. The dynamic clustering, automated health management and intelligent routing capabilities provided a resilient and efficient platform for MNYL to manage its business applications.

### The Benefits

- Reduced hardware infrastructure by approximately 50 percent, through management of more applications on fewer servers
- Increased availability by responding to unhealthy application servers with improved health policies
- Enabled early problem detection and resolution with a proactive email notification feature, resulting in early problem detection and resolution



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## Solution Components

- IBM WebSphere® Application Server
  - IBM WebSphere Application Server Network Deployment
  - IBM WebSphere Virtual Enterprise
  - IBM System p®
- 

## For more information

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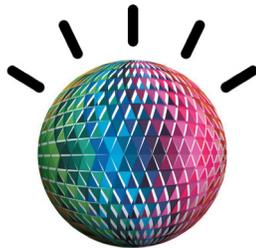
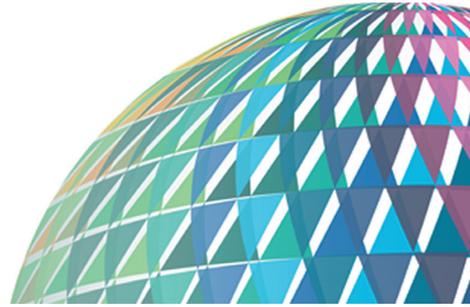
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## [Media and Entertainment](#)

As we enter the second decade of this new century, it is a time of tremendous change for the media and entertainment industry in general, and networks and broadcasters in particular. Some of the most pressing challenges include digital media innovation, audience fragmentation and increasing number of channels.

Smarter processes can help handle these changes and exploit new opportunities to reduce time to market, reduce the effort and costs of current operations and optimize systems for multi-site deployment.



# Tata Sky: Launching a major satellite TV business with unprecedented speed

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## Overview

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### ■ Business Challenge

Major Indian conglomerate TATA Group wanted to become a pioneer in the country's newly opened direct-to-home (DTH) satellite television market. To reach its ambitious growth and market penetration goals, the company needed to gain the first-mover advantage by launching its offering faster than its competitors.

### ■ Solution

Starting with a clean slate, TATA chose IBM to build a robust, flexible business model and service-oriented architecture (SOA)-based IT infrastructure to launch its Tata Sky satellite broadcasting service. This "green field" project, in which a business is built from scratch, was the first of its kind in India.

### ■ Key Benefits

- Launched its business in a short time—about six months after work began
- Crossed the one million connections mark in its first year of operations
- Achieved goal of in-home installation within a specified time limit with immediate service access



In the enormous consumer market that is India, occasionally an opportunity arises that can create incredible growth and profit—provided those who seek to capture it can move quickly enough. That was the situation facing TATA Group, one of India's oldest and most respected business conglomerates, when the government decided in 2004 to grant a precious few licenses for direct-to-home satellite TV broadcasting. "The key business challenge in a country like India is meeting customer demands—which are very dynamic—under the regulatory purview of the country," says Chakrapani Perangur, CIO of Tata Sky.

*“Tata Sky is leaping ahead to garner eight million connections by 2012. We are the first DTH company across the globe to achieve the significant milestone of crossing one million connections in the first year of our operations and are confident of achieving the eight million mark as well.”*

— Chakrapani Perangur, CIO, Tata Sky

## Laying the foundation for record growth

### Business Benefits

- Launched business in only six months, starting from scratch
- Crossed the one million connections mark in its first year of operations—the fastest growth rate in world history for this kind of business—and is on track to reach a target of eight million connections by 2012
- Achieved goal of in-home installation within a specified time limit with immediate service access
- Provided seamless integration of customer service across all channels including call centers, over-the-counter or via the Web
- Leveraged IBM's expertise in operational and business support systems as well as business process definition to create a robust joint solution within a highly compressed time frame
- Positioned Tata Sky to take advantage of IBM Media Hub to create a media-enabled service-oriented architecture

*“IBM’s product maturity and expertise was the right fit for Tata Sky in helping us communicate our vision to our subscribers.”*

– Chakrapani Perangur

Tata Sky recognized the significance of the opportunity in the broadcasting business. To become a major player in the new market, the company had to launch an entirely new business beginning with no infrastructure or existing processes at all—and do it very quickly, in order to beat out the competition in what was sure to become a hotly contested drive for new subscribers. This “green field” project would be an unprecedented effort in India, and would significantly test TATA's ability to innovate and rapidly create a flexible, scalable and viable business model.

### Offering viewers a choice

What attracted TATA to the DTH business was the technology's customer value proposition. Pay television in India has long been dominated by cable companies, but the available services left much to be desired from the customer point of view. Viewers had to pre-pay for packages that contained many channels they were not interested in.

TATA saw an opportunity to give viewers a better choice by changing the pay-television business model, and also realized it could leverage new technology to vastly improve the customer experience, both in terms of broadcast quality and customer service. The digital DTH service enables over 160 channels of customizable content, interactivity and DVD-quality picture with CD-quality sound.

The ability to better accommodate regional needs was also a key differentiator. India is a polyglot country: there are 17 official languages and some 22 state languages. With the ability to easily customize content for local markets, Tata Sky would be able to give viewers more relevant content.

### Speed and integration are essential

TATA Group teamed with broadcast partner STAR to create Tata Sky, and incorporated it soon after the government's opening of the market. IBM was enlisted to help launch the broadcaster at the end of 2005. In early 2006, work began on creating the actual infrastructure for the company and the service was launched a mere six months later.

Tata Sky knew that launching the business fast was only part of the path to success. The new company would also have to do business better than its competition. That meant not only more broadcast choices, but also a better customer service experience.

The vision was to make the experience seamless, enabling quick and easy sign-up and customer service no matter how the customer chose to interact with the company, be it over the telephone, via the Web or over the counter at a retail outlet. And once signed up, installation should be fast, efficient and painless, with immediate activation.

In order to accomplish this, all of Tata Sky's applications and business processes would have to be highly integrated. The company opted for best-of-breed applications from SAP (for Enterprise Resource Planning), Siebel (for Customer Resource Management) and others.

Tata Sky turned to IBM Business Partner Tata Consultancy Services to help integrate these applications and create the underpinnings of the new business. Tata Consultancy Services and Tata Sky teamed to define business processes and build a service-oriented architecture for the new company's IT needs. The green-field nature of the business was an advantage here, says Chakrapani Perangur. "We could work seamlessly with the IBM Business Partner team in putting the right architecture in place and fine tuning it without getting bogged down by legacy systems."

IBM Software Group Services deployed a full suite of WebSphere® products to create the SOA platform, including WebSphere Application Server, WebSphere Process Server and WebSphere Message Broker, which together form the architecture's integration layer – the means by which different applications are made visible to one another and are able to pass data back and forth. By linking all of the company's applications in this way via the SOA's Enterprise Service Bus, information could be shared and processed across the entire company seamlessly.

While Tata Sky's SOA infrastructure serves its business processes alone at present, it provides a flexible platform for potential future uses such as management of the media itself. The decision to adopt SOA positions Tata Sky to leverage IBM Media Hub, which enables the Enterprise Service Bus to handle rich media content.

### History-making results

Perangur points to the flexible service capabilities and outstanding growth of the company as evidence of the wisdom of the company's decision to create an integrated SOA-based infrastructure. "The flexibility that SOA has enabled us to bring into the customer relationship management software is amazing," he says. "Tata Sky is leaping ahead to garner eight million connections by 2012. We are the first DTH company, across the globe to achieve the significant milestone of crossing one million connections in the first year of our operations and are confident of achieving the eight million mark as well."

The company is young and wants to excel in customer service continuously. Already able to meet its core promises of rapid installation and immediate activation, better viewing choices, better broadcast quality and superior customer service, Tata Sky is leveraging its SOA infrastructure and relationship with IBM and

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## Solution Components

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### Software

- IBM WebSphere Application Server
- IBM WebSphere Process Server
- IBM WebSphere Message Broker

### Services

- IBM Software Group Services

### IBM Business Partner

- Tata Consultancy Services
- 

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## Smarter IT for Media & Entertainment

Seeking to enter the newly opened direct-to-home Indian satellite television market, TATA chose IBM to launch a new business starting from scratch. Tata Sky, the service-oriented architecture-based business resulting from this first-of-its-kind "green field" project, was launched in only six months. Within a year of its operations, the company had signed up its one-millionth connection—a world-record growth rate for direct-to-home broadcasting.

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IBM Business Partner Tata Consultancy Services to make the company more efficient by building in real-time business monitoring capabilities and an improved customer self-service portal. Perangur concludes that the choice was a good one. "IBM's product maturity and expertise was the right fit for Tata Sky in helping us communicate our vision to our subscribers.

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## Australian Open takes tennis to millions of online viewers worldwide with IBM

### Overview

#### ■ Business Challenge

Deliver an entertaining and engaging experience to tennis fans worldwide; cost-effectively scale to support 100 times normal capacity for just two weeks each year

#### ■ Solution

A hosted technology infrastructure that cost-effectively transforms data into rich content and flexibly adjusts to fluctuating demand

#### ■ Key Benefits

50% increase in Web site traffic from previous year; 100% Web site availability; 40% reduction in cost per visit since 2004; 23% reduction in energy consumption since 2004; 25% reduction in cooling demands since 2004



In January 2008, Australian Open staff watched as traffic to its Web site grew nearly 50 percent. It was a significant achievement for Tennis Australia, the organization responsible for Australian Open, and one that represents the franchise's success in bringing fans around the world closer to the ultimate tennis experience.

How did the organization do it?

According to Tennis Australia staff, the ability to leverage information in new ways and serve it up in real-time without interruption is helping raise the organization's game.

*“IBM technology is at the heart of the tournament. It provides an end-to-end solution that reduces the complexities for our team and enables us to achieve flawless delivery.”*

– Dr. Chris Yates, Chief Information Officer, Tennis Australia

*“IBM enables us to deliver a fresh approach year after year by combining tournament data from disparate systems and delivering it in a meaningful format to tennis fans.”*

– Dr. Chris Yates

“In the past few years, we’ve introduced a number of innovations to help improve the amount and types of information that we can disseminate to tennis fans worldwide, to the media, to officials and to the players themselves,” says Dr. Chris Yates, Chief Information Officer, Tennis Australia. “It’s drawing excitement for the game and engaging fans.”

Helping make this possible is IBM, the Official Technology Partner of Australian Open. Since 1993, IBM has played a major role in Australian Open, providing the event infrastructure and manpower to support all facets of the tournament—from event management to the end-to-end scoring system that feeds all the organization’s information channels, including the Web site, on-court scoreboards, results kiosks, graphics interface for television broadcasters and Match Update Centre.

“We essentially grow from a small-to-medium-sized business to something the size of a small city and we only have two weeks to pull it all together,” explains Chris. “IBM technology is at the heart of the tournament. It provides an end-to-end solution that reduces the complexities for our team and enables us to achieve flawless delivery.”

#### **Offering a virtual seat to the action**

One of the organization’s most visible efforts to increase the tournament’s fan base is the AustralianOpen.com Web site, which IBM designs, publishes, produces and hosts. In 2008, a record of 7.4 million unique users visited the site more than 30 million times generating nearly 220 million page views. This represented a 50 percent increase in traffic over the previous year.

Helping drive this dramatic increase has been new features such as IBM SlamTracker. With SlamTracker, fans can now interact with the draw and see their selected players and the schedule integrated within the draw. An interactive venue map allows fans to see what’s happening on all courts with active matches. Fans can roll their mouse over the map to see who’s playing on each court and, when a court is selected, can follow the match on the upper-scoreboard area. Demonstrating the popularity of this feature, there were more than 6 million downloads of the SlamTracker application during the two week tournament.

“IBM enables us to deliver a fresh approach year after year by combining tournament data from disparate systems and delivering it in a meaningful format to tennis fans,” says Chris.

What’s more, Chris emphasizes, this is all done in real time, helping solidify the popularity of the site.

“Getting the information out quickly is critical,” says Chris. “IBM provides us with live feeds into the Web site so fans worldwide can follow the action as if they were sitting courtside. This has made a significant difference.”

### Non-stop action

During the two weeks of Australian Open each year Tennis Australia must shine. As a result, Tennis Australia needs the Web site to be 100 percent available, scalable and secure. To do this, IBM uses a flexible, self-managing infrastructure based on Service Oriented Architecture (SOA), and multiple geographically dispersed servers, virtualized as one, to scale up to support a massive increase in traffic of more than 100 times its typical volume. It then scales down when the tournament is over—without complicating IT management and without the need for Tennis Australia to make a large and costly permanent infrastructure investment.

“We have one basic rule and that is never to let the technology get in the way of tennis,” says Chris. “Working with IBM, we’ve been able to ensure that our infrastructure can handle all our requirements without a problem.”

And, as Chris points out, IBM has kept the action going even when the unexpected occurs.

“None of us anticipated a 50 percent increase in site traffic this year,” says Chris. “But even with this huge increase, we never experienced any sort of problem with speed or information availability. There was no downtime or any issues whatsoever.”

### Protecting its investment

Any high-traffic Web site can easily become a target for hackers and the Australian Open Web site is no exception. On the first day of the Australian Open, more than 12,000 attempts to access the site were blocked. Protecting the site is a sophisticated security system from IBM that enables:

- *Real-time analysis and prevention of malicious Internet attacks before they gain access to the AustralianOpen.com infrastructure.*
- *Automatic detection of any active security threats, risky user behavior, performance issues and security policy violations.*
- *Mitigation of threats and supplemental support to existing firewalls and intrusion prevention technologies.*
- *Centralized management and monitoring of the security systems.*

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## Solution Components

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### *IBM Service Management Solution:*

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Service and Application Provisioning,  
Application Availability, Energy  
Management, Security Compliance

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### *Solution Components:*

- IBM Enterprise Workload Manager
- IBM Proventia® Network Intrusion Prevention System (IPS)
- IBM Proventia Management SiteProtector
- IBM Proventia Network Anomaly Detection System (ADS)
- IBM Tivoli® Monitoring
- IBM Tivoli Enterprise Console®
- IBM Tivoli Provisioning Manager
- IBM Tivoli Security Compliance Manager
- IBM BladeCenter®
- IBM System p5™ 550 Express servers with POWER5™
- IBM System i5® 520 running Linux® on POWER™
- IBM Global Business Services
- IBM Global Technology Services

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### *IBM Application Integration & Infrastructure Solution*

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### *Solution Components:*

- IBM DB2® Express
  - IBM DB2 for Linux
  - IBM Workplace™ Web Content Management
  - IBM WebSphere® Business Integration Server
  - IBM WebSphere Message Broker
  - IBM WebSphere Application Server
  - IBM Retail Store Solutions
-

*“Making sure our Web site can’t get hacked into is a key issue. With IBM, we have been able to keep it tightly locked up and prevent unauthorized access.”*

– Dr. Chris Yates

“Making sure our Web site can’t get hacked into is a key issue,” says Chris. “With IBM, we have been able to keep it tightly locked up and prevent unauthorized access.”

#### **Advantage Australia**

Like many organizations today, Tennis Australia has faced shrinking IT budgets and rising energy costs while having to deliver more services to its constituents. Through numerous IT innovations, IBM is helping Tennis Australia overcome these challenges.

For example, by virtualizing the environment so multiple workloads can run on the same physical server, IBM has reduced the number of servers required to support the Australian Open Web site from 60 servers to just 9 servers. This has driven tremendous savings in both cost and energy consumption. In fact, since 2004, while visits to the organization’s Web site have grown by more than 33 percent, the cost per visit has been reduced by more than 40 percent. Energy consumption has been reduced by 23 percent and cooling demands by 25 percent.

Similarly, the implementation of IBM technologies to create a Service Oriented Architecture offers a flexible platform for continued innovation. With this platform, Tennis Australia can distribute and transform scoring information where and when it’s needed. This infrastructure enables the organization to deliver nearly 250 million score updates to fans worldwide without missing a beat.

Additionally, by using a SOA approach, changes to both content and presentation styles can be easily incorporated so the organization can add new features each year and staff can easily address last-minute tournament changes. For example, in creating SlamTracker, IBM was able to reuse code from the IBM On Demand Scoreboard and present the data in a new way, without adding complexity or impacting the backend applications.

#### **Delivering game-changing insight**

IBM has also helped Tennis Australia provide players with the information they need to take their games to the next level. One key example is the Match Analysis DVD that IBM creates for men’s and women’s singles matches at the Rod Laver and Vodaphone Arenas. With these DVDs, players and coaches can search the video by point, set or statistic, such as unforced errors, to analyze the player’s performance and make adjustments accordingly.

“The Match Analysis is a huge plus in supporting our players and providing them with the resources they need to develop their game further,” says Chris.

**Keeping the pressure on**

Each year, Tennis Australia and IBM deliver additional services to help attract new fans and support the players. And 2009 is expected to be no exception.

“We want to expand what’s available to the players on the Web site so they find their draws and get the information they need,” says Chris. “In terms of the fans, we want to keep increasing the information available and enable fans to personalize their experience by building their own Web pages with the information that they want from Australian Open.”

In the end, it will not only improve the tennis experience, but drive better business outcomes as well for Tennis Australia.

“Ultimately our mission is to make Australia the greatest tennis-playing nation in the world,” says Chris. “Being able to keep fans involved and give players the information they need is essential in helping us meet this goal.”

*“The Match Analysis is a huge plus in supporting our players and providing them with the resources they need to develop their game further.”*

– Dr. Chris Yates



**For more information**

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For more information about Tennis Australia and the Australian Open, visit:

[AustralianOpen.com](http://AustralianOpen.com)

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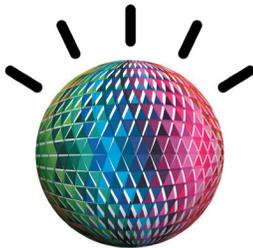
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## Retail

Retailers are looking to integrate business strategy, automate business processes and reduce infrastructure costs with flexible, scalable solutions that enable them to make intelligent decisions that drive greater agility and better business outcomes.

IBM helps retailers to optimize business processes across the organization, gain visibility into information for automated decision making and provide solutions and scalable infrastructure to support the changing needs of the business

WebSphere offers retailers software and solutions to drive business agility in many areas of the business including improved customer satisfaction and smarter decision making through targeted promotions; time savings and improved visibility into information through optimized vendor trade fund management and increased efficiencies and reduced costs through process optimization.





## **SOA helps Sears Canada keep pace with change.**

*Multichannel retailer uses services to integrate vendor  
product data with its line-of-business applications*

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- 14 Lessons learned**
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**Introduction**

Sears Canada, a retail powerhouse with a strong heritage in large brick-and-mortar stores and a comprehensive product catalogue with associated merchandise pick-up locations, offers today's consumer a full multichannel shopping experience. Sears Canada operates 196 company-owned stores, 178 dealer stores, and 64 home improvement showrooms, and 1,850 catalog merchandise pick-up locations. The Sears Canada group of stores also includes 106 Sears travel offices and a Canada-wide network of maintenance, repair and installation service providers.

With extensive legacy experience in managing catalogue sales, Sears Canada made an early entry into e-commerce beginning in the mid-1980s. In 2006, Sears Canada relaunched its Web site using Amazon Commerce in order to optimize the breadth of product selection and the quality of experience offered to shoppers. In many ways, the retail market for consumer goods has been turned on its head by the explosion of options available online – such as quality ratings and rapid price and product feature comparisons.

As a result, consumers have higher expectations than ever before for high quality merchandise, a broad selection of brands, and good pricing deals, no matter where they shop. To remain competitive in this fast paced, dynamic consumer market – where a better price may be only one click away – Sears Canada has focused on improving its ability to rapidly maintain, update and expand its distribution of products while keeping costs low.

Today, the company partners with about 3,000 suppliers to make sure all of its sales channels – stores, catalogue and online – are fully stocked with the right mix of products that consumers want at the right price. This DeepView

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### Solution components

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#### Software

- IBM WebSphere® Application Server
- IBM WebSphere Enterprise Service Bus
- IBM WebSphere Message Broker
- IBM WebSphere® MQ
- WebSphere Service Registry and Repository.

#### Hardware

- IBM AIX®
- IBM System p® servers

case study examines Sears Canada's Service Oriented Architecture (SOA) initiative to help improve the agility with which it can interact with these partners.

### Streamlining business and IT processes

For Sears Canada, improving agility in the supply chain has meant addressing both business and IT challenges. From the business side, it needs to streamline its internal processes to enable it to achieve faster time to market even as it reduces the cost of bringing new merchandise to its customers. From the IT side, it needs to streamline development and integration to enable it to exchange data with its suppliers more efficiently and expeditiously.

The IT infrastructure team at Sears Canada felt that if they could create a more efficient and cost-effective approach to software development, they would be able to be more responsive to requests from the business and better able to keep up with the fast pace of business change. After researching SOA, says Middleware and Integration Architect Miki E. Uhlyarik, the team recognized it as "a valuable concept that we could apply. SOA offered us a framework both on the conceptual and on the technical level that could help us overcome issues related to the integration of internal and external business systems."

As a first step, Uhlyarik's team anticipated how the company might benefit from its SOA journey and outlined the following goals:

- *Enable code reuse to eliminate repeated coding and recoding of the same integration*
- *Reduce development costs over the long term to the benefit of both the IT group and the business*

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Highlights

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***A primary driver for SOA for Sears Canada was the promise of eliminating the need to create custom code for each point-to-point application integration.***

***A complex IT environment and inflexible legacy development processes limited the company's business flexibility.***

- *Increase business flexibility and agility*
- *Speed the exchange of information with business partners, a critical business issue*
- *Establish a standards-based architecture and consistent methodology*
- *Enable the changing of system platforms, software components and vendors should the need arise.*

**Enabling code reuse with SOA**

Uhlyarik's group at Sears Canada focuses on IT infrastructure. It helps the application developers with infrastructure-related issues and sets up their development environment. It also supports the development teams throughout the entire application lifecycle, from the design and pilot of concepts through development, deployment and production. Of all the long-term goals the infrastructure team considered before embarking on its Service Oriented Architecture (SOA) journey, the one that resonated the strongest with Uhlyarik was eliminating the need to code and recode the same integration. Other goals such as reducing development costs and increasing business agility would be easier to reach if the team could find a way to improve code reuse.

One major responsibility of the infrastructure team is to integrate new functionality with the company's legacy systems, which still run a very large part of the business and act as the main repository of corporate data. Sears Canada operates a varied IT environment that includes: IBM mainframe systems running IBM z/OS®; midrange platforms running IBM AIX®, Sun Solaris, Microsoft® Windows® and IBM AS/400®; programming languages like COBOL, PL/I, Java™, C/C++, VB and RPG; and software packages from Vantive and PeopleSoft. It also runs a variety of applications built in-house.

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**Highlights**

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***The time required to test and retest new connections made delivering new functions a slow process.***

The crux of Sears Canada’s IT problem lay in the legacy development process. “We still faced point-to-point, fairly rigid connections. We couldn’t very easily replace components. What’s more, any change to one component had to be made in all the other components,” says Uhlyarik.

This approach created a problem: “We found ourselves developing the same type of point-to-point applications over and over again.” Although each connector was essentially the same, each had to be custom coded by hand, which proved a costly proposition. The company, in effect, was paying for the same connectivity repeatedly. It was unable to reuse code.

This IT problem had major impact on the business by hindering change. A successful retailer needs to change quickly to keep pace with shifting customer tastes. However, Sears Canada can only change as quickly as its developers can code, test, and recode again. Furthermore, the testing of the new functionality with the old functionality consumed a lot of our resources, Uhlyarik reports. The connectors can take weeks to code and test. And the lack of a framework for development and change management led to inconsistent, unpredictable results.

The infrastructure team had deployed middleware, such as IBM WebSphere® MQ and IBM WebSphere Message Broker. Although the middleware helped, it wasn’t enough by itself. The team needed a new approach, namely SOA.

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Highlights

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***Once the Sears Canada IT team decided to explore SOA, it began immediately to prepare by building skills and bolstering the IT infrastructure.***

***Gaining IT management support early in the planning stage was critical to securing the funding needed for upfront investments.***

**Investing in SOA skills and infrastructure**

Starting essentially from scratch, the infrastructure team realized it had to prepare before it could begin employing an SOA approach to coding services or building applications. To lay the groundwork for SOA it did three things:

1. *Created a Center of Excellence to educate the IT staff about SOA and support subsequent SOA-based development*
2. *Provided training in SOA principles and methods*
3. *Bolstered the IT infrastructure to support new applications and transaction volumes.*

The team quickly established an SOA Center of Excellence (CoE) and began publicizing it. The CoE initially functioned as a SOA information, education and training clearinghouse for the company. The CoE leveraged Sears Canada's more than 30-year partnership with IBM to raise their understanding of SOA and begin orienting people in the new approach.

Sears Canada also initiated IBM training programs to close the skills gap that frequently hinders SOA projects, especially in the early stages. The IBM training addressed SOA concepts, Web services, XML and security. These were hands-on training courses, complete with labs.

The team even began educating management long before even a single service had been developed. "We found that we needed support from IT management because SOA required a major investment to be made before the actual applications could be put in place," says Uhlyarik.

The investment was directed primarily toward IT infrastructure enhancements, messaging middleware, and tools. To that end, the company installed a

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**Highlights**

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*The first SOA pilot focused on speeding the exchange product data between the Sears suppliers and the company's legacy systems.*

set of IBM System p® servers running AIX to host IBM WebSphere Application Server. The production environment is configured for high availability. In addition, Sears Canada set up separate server environments for staging and for development. The company also acquired IBM WebSphere Enterprise Service Bus (WebSphere ESB), which it implemented right away, and WebSphere Service Registry and Repository.

These steps alone meant it would take months if not a year or more before the first application was deployed. During this period, the team enlisted management support, created a steering committee to direct the initiative, and began building a solid business case for SOA based on a measurable, positive ROI. With management on board, training underway, the SOA CoE and steering committee in place and the business case being publicized, Sears Canada was ready to embark on its first actual SOA project—a pilot or proof of concept.

**Selecting a pilot project for the SOA proof of concept**

The company's initial implementation focused on a simple system integration bus intended to streamline integration. For that, it created a Web services gateway, mediation flows and JAX-RPC to implement certain common infrastructure components that Web services-based applications would need. This effort stayed within the Sears Canada IT infrastructure group. It was successful and was put into production. Then the team went looking for an application requiring deeper-level integration and a higher level of reuse. This project would be the pilot implementation of WebSphere Enterprise Service Bus.

Given the highly competitive retail environment, one of the goals established by the infrastructure team—to speed the exchange of information across all of the company's business partners and suppliers—looked like it might make a

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Highlights

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***Manual rekeying of product data and manual integration between Sears and its vendors' systems added time and cost to making new merchandise available for sale.***

good SOA pilot project. Specifically, the company needed to exchange product data between its 3,000 suppliers and its internal database and IBM CICS® systems. The exchange of this product information—sizes, colors, various product attributes—is essential to getting products in front of Sears customers in a timely way. Until the information is in the system, Sears has no way to market and sell the product through any of its channels.

The supplier data arrives as an XML file containing product descriptions. Until recently, the exchange was handled by a combination of manual input and re-input and hand-coded point-to-point integration of the Sears and vendor systems—a labor-intensive process that slowed the company’s ability to introduce new merchandise and added to its costs. Uhlyarik’s team chose to pilot SOA by creating a supplier information exchange service (see Figure 1). Initially the team would test the service with one vendor. After that, the plan was to roll it out to all vendors. “It will save a great deal of time spent retyping and scanning the data each time it is updated. And with 3,000 suppliers, just think of the potential savings,” notes Uhlyarik.

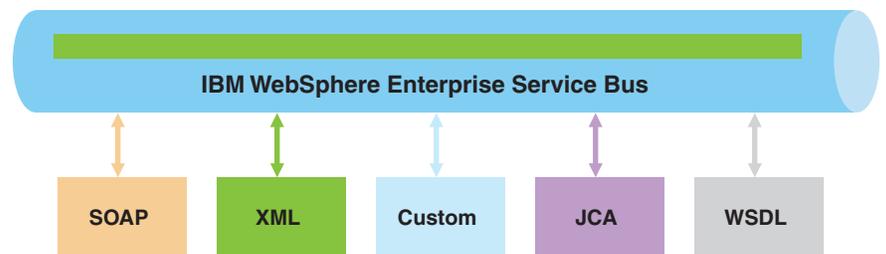


Figure 1. Sears Canada selected implementing a supplier information exchange service, using WebSphere Enterprise Service Bus as the integration engine, for its initial SOA pilot.

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Highlights

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***Developers working in the traditional point-to-point mode turned the SOA integration pilot into a speed test—which they won because of insufficient testing of the new ESB.***

***Once initial configuration issues were resolved, the IT team could move ahead with rolling out the service to new suppliers—establishing new integrations with just a few mouse clicks.***

When the team brought the idea to the developers, however, the developers insisted they could build the connectivity applications faster using their old custom coding approach. This suddenly became not just a simple pilot but an unexpected test of the new and unproven enterprise service bus (ESB) as the developers forced a contest between themselves and a team using the ESB.

It turned out to be an unfair test. The plan called for using a Web service to push information about the supplier's products via the ESB to the Sears CICS application. Problems, however, quickly cropped up. Uhlyarik's team had not yet fully tested the ESB. There were security and network configuration issues that still had to be resolved. It was no surprise that the custom developers could beat the ESB-based approach under such circumstances. The infrastructure team realized it had jumped the gun with the ESB.

**Moving from pilot to production**

The ESB situation would be completely reversed with subsequent suppliers. With the lessons learned from the pilot and the configuration issues resolved, the infrastructure team prepared to move ahead with rolling out the supplier information exchange service to other suppliers. The ESB team can now make the supplier information exchange service available for other suppliers with just a few clicks, while the custom developers continue to create more custom point-to-point connections. WebSphere ESB converts messages as needed to maintain the flow of information through the system, as illustrated in Figure 2.

The savings will grow dramatically with each supplier joining the system. "We have to look ahead two or three years to see the payback," says Uhlyarik. But already, Sears Canada can clearly see the ROI advantages ready to be realized.

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Highlights

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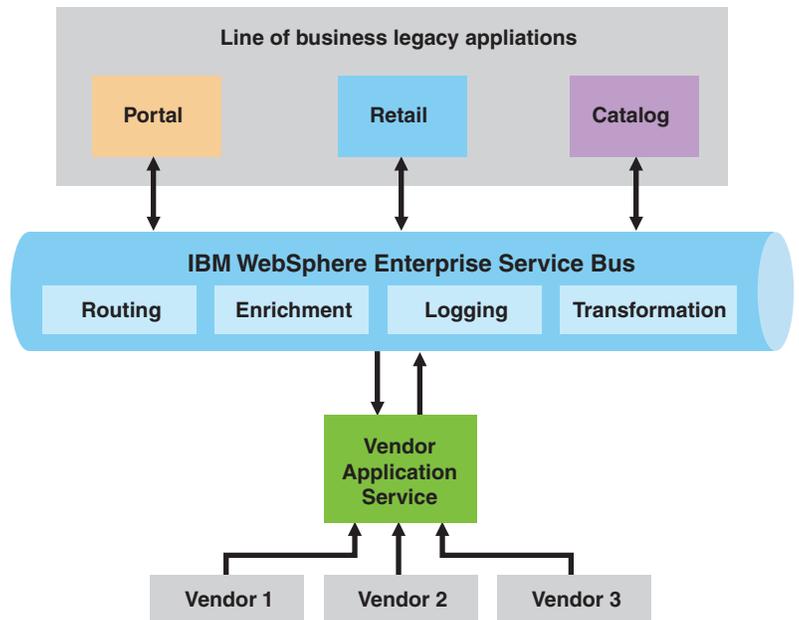


Figure 2. WebSphere Enterprise Service Bus handles any-to-any data format and protocol conversions as well as enabling services such as data enrichment and validation.

**Two groups worked on the initial Sears SOA pilot—an infrastructure team that worked on integration, and an application team comprised of business analysts, programmers and testers.**

#### Defining roles and responsibilities

The Sears Canada SOA effort consisted of two teams, Uhlyarik’s infrastructure team and an application team. The integration team was composed of two people on the development side and four people on the staging and production side, although these people also work on other projects. The application team comprised business analysts and testers as well as programmers, and its numbers ranged from eight to twelve people.

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Highlights

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***Based on the pilot, Sears Canada anticipates reusing 5–15 percent of integration code in enabling vendor data exchange—enough to deliver attractive ROI.***

Going forward Sears Canada came up with a sensible division of SOA responsibilities:

- *The infrastructure team would create and own the infrastructure components and common functionality as shared services. These would include Services Registry, Web services monitoring, auditing, logging, SLA management, and security.*
- *Application teams would create and own the business functions built as Web services.*

Later a third team was created to work on yet another platform. At this point Sears Canada ended up with three teams working on three different platforms connecting to a Web service in the back end. “I don’t think that the staffing numbers are sufficient. We should have had a larger team,” Uhlyarik adds.

**Tallying up the benefits**

Every IT initiative at Sears Canada must be based on a clear business case with a positive payback. In the case of vendor data exchange, the infrastructure team estimated 5–15 percent of code was suitable for reuse and calculated that the effort would deliver an attractive payback even at a seemingly low 5 percent level of reuse.

“That was just what we estimated for the development stage. We did not estimate and include the value of standards enforcement, the value of governance enforcement, and the value of a secure production environment.

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### Highlights

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***Although the percentage of reusable infrastructure from this program may be small, the savings will be substantial when the supplier information service is extended to 3,000 participants.***

***To extend deployment of SOA to automate integration and interoperability between disparate applications, Sears needs to first focus on evangelizing the benefits of the services approach.***

Our senior management, however, understood that value too,” says Uhlyarik. In addition to hard-dollar savings realized through reuse, the benefits Sears Canada expects to receive from its SOA investment include:

- *Greater flexibility*
- *Increased responsiveness (agility)*
- *Increased efficiency*
- *Faster deployment of products and services*
- *Improved customer, dealer, supplier, and partner experience*
- *Improved developer productivity*
- *More reliable code and fewer support problems*
- *More efficient maintenance.*

#### **Next steps**

A number of challenges still remain as Sears Canada moves forward with using services to automate the integration required for data exchange and increase interoperability among its existing packaged and legacy applications and those of its suppliers and partners. Primary among the challenges is the need to spur further adoption and reuse. Other challenges fall into three broad areas: technology, security and governance.

*Adoption.* Following the initial issues with the ESB, some developers have been reluctant to try it, and the business units, always in a rush to get their projects completed fast, have not forced the issue. Driving SOA adoption will entail continued efforts to evangelize SOA and establish a pervasive service reuse mindset among developers and business managers. Education, training and mentoring through the CoE are key to effecting this change.

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**Highlights**

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***Establishing centralized, managed approaches to security and governance are also high on the list of next steps.***

*Technology.* First on the list of technology challenges is to fine tune the configuration and implementation of WebSphere ESB, followed by the deployment of W Service Registry and Repository. The success of these steps must be widely publicized.

*Security and governance.* Sears Canada is employing WebSphere ESB to provide sufficient segregation and separation of the vendors participating in the information exchange service. Similarly, the infrastructure team is looking to WebSphere ESB as well as WebSphere Service Registry and Repository to support its planned governance initiative, which primarily will take the form of restrictions placed on access to data and on authorization to make changes. “Restrictions already exist and additional restrictions are likely. You can assume the SOA environment will become more restrictive rather than freer from a security and governance standpoint,” Uhlyarik notes.

These challenges certainly are not daunting, and Sears Canada is well along in overcoming them. “Our major objective was to change the culture and put a foundation in place for SOA that can be expanded and will help us to move forward,” says Uhlyarik. Culture change, of course, comes slowly, but through the success of the supplier information exchange service and the efforts of the CoE, the culture is changing. In that regard, the Sears Canada SOA initiative already can be considered a success.

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Highlights

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***Better planning, deeper training and increased staffing are the key success factors that Sears Canada identified during its SOA pilot.***

**Lessons learned**

From both the uncertain start and the subsequent SOA success, the infrastructure team has drawn some valuable lessons:

- *Plan better for pilots and proofs-of-concept to avoid problems—specifically, the team realized it should have tested the ESB more extensively before directing developers to try it under production circumstances*
- *Invest in more and better training sooner—although the company brought in IBM training early on, more training is always beneficial*
- *Plan for sufficient licenses from the outset—SOA needs a sizeable team, at least initially, and the infrastructure team had not budgeted for sufficient licenses*
- *Assign more people to the effort—along with the license issue, the team underestimated the number of people needed to move as quickly as they wanted*
- *Fully build out the infrastructure (hardware and software)—the infrastructure team would have liked to have had WebSphere Service Registry and Repository in place sooner*
- *Address security concerns at the start—security issues that the team had not expected to address until later cropped up almost immediately*
- *Enlist more technology vendor assistance earlier—vendors like IBM have a wealth of SOA knowledge and experience that should be tapped from the very start.*

**Conclusion: overcoming setbacks on way to successful SOA**

SOA projects frequently experience setbacks along the way. The ESB configuration issues experienced by Sears Canada turned out to be straightforward to resolve. The early setback, however, did not prevent Sears Canada from achieving its initial SOA goal of establishing an expandable foundation and the start of a new culture of services thinking and reuse.

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**Highlights**

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***Senior IT and business management has endorsed SOA and committed funding to moving adoption forward—which is perhaps the best measure of success.***

The identification of even a small percentage of code, 5–15 percent, as good candidates for reusable infrastructure services translates into a substantial annual payback as the services are developed, deployed, and reused. Related improvements in efficiency, productivity, and speed to market add to the payback.

The biggest sign of the success of the Sears Canada SOA initiative, however, can be seen in the response of senior IT and business management to the effort. Observes Uhlyarik: “Our 2009 plan with SOA was approved at very high level, the executive level. The plan has made it through a very rigorous analysis where a lot of projects just fell by the wayside. We have the commitment from our internal IT senior management and from the business management to go forward next year.” That represents success by any measure.

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# Staples makes it easy for online customers and becomes a more flexible and successful business.

## Overview

### ■ **Business Challenge**

*With its online channel a critical part of its growth strategy, Staples needed a commerce platform that would support and fuel its online business growth—not constrain it. Staples needed more flexibility to pursue creative, customer-centric business strategies.*

### ■ **Solution**

*Teaming with IBM to deploy a powerful and flexible online commerce platform, Staples leveraged it to create a series of groundbreaking services on Staples.com that have set a new standard for delivering customer value.*

### ■ **Key Benefits**

- *60 percent increase in online conversion rate*
- *Increase in customer satisfaction*
- *30 percent increase in peak transaction volume with no adverse impact on performance or reliability*



*With 2006 sales of \$18.2 billion, Staples serves consumers and businesses ranging from home-based businesses to Fortune 500 companies in 22 countries throughout North and South America, Europe and Asia. Staples Business Delivery is a unified selling channel that combines Staples.com and Staples' catalog business.*

In the decade since online retailing burst onto the scene, the role it plays within retailer strategies continues to evolve. At first seen as a necessary supplement to retailers' traditional strategies, online stores now play a first-tier role within retailers' overall channel portfolios—and their importance continues to grow. Behind this steady progress is a long trail of challenges that have been overcome, as retailers have gained more experience and commerce technology has become more mature and standardized.

*“By giving us the means to create an innovative, more customer centric buying experience, the IBM solution is helping us deliver more value to customers, which has helped us increase their satisfaction and loyalty.”*

– Pete Howard, Senior Vice President, Staples Business Delivery

### Business Benefits

- 60 percent increase in online conversion rate
- Increase in customer satisfaction
- 30 percent increase in peak transaction volume handled, reaching a high of 9,000 orders per hour (or 2.6 transactions per second) with no adverse impact on performance or reliability
- Ability to bring differentiating services and programs to market more rapidly and efficiently
- Support for rapid business growth through increased infrastructure scalability and resiliency

Some of the biggest improvements in online commerce practices have been in the area of multi-channel integration, creative merchandising, product search and the overall streamlining of the user experience. With the kinks that plagued the early days of Web commerce largely worked out, online retailing has clearly reached a new level of sophistication, manifested by the growing share of revenue retailers have gleaned from their online sales.

But online retail is a perpetual work in progress, with the boundaries of the online purchasing experience continually being pushed by the retailers that have done much to shape it to date. Staples, whose aggressive development of its Web channels has placed it among the top two eRetailer sites, is one such retailer. The growing volume of business generated by its two sites—Staples.com® (targeted to small businesses and home offices) and StaplesLink.com® (targeted to larger businesses)—has been a major factor in the company's overall top-line growth. Both channels figure prominently in the company's long-term growth strategy.

To achieve the high rate of growth it envisions in the small business/home office segment, Staples realized it needed to realign the technology that powered Staples.com to make it better able to support the company's business strategies and meet the growing competitive demands of the market. Perhaps the most basic requirement was the ability of the Staples.com infrastructure to handle volume surges with no loss of performance or reliability, which customers have come to expect. But while Staples viewed reliability and performance as foundational requirements, it also realized that the ability to execute business initiatives with speed and flexibility was increasingly essential to staying ahead of the competition and delivering an online experience that kept customers coming back. Due to complexity and functional limitations, its existing systems fell short.

### Lessons from within

For guidance, Staples only had to look inside the company. Not long before, Staples had worked with IBM Global Business Services to move the StaplesLink.com site to an entirely new platform based on IBM WebSphere® Commerce. The result was a sharp improvement in performance and scalability. Seeing this positive experience as directly relevant to the future of Staples.com, the company again teamed with IBM Global Business Services in a broad engagement involving software, hardware and services. The new, more consolidated Staples.com architecture is built on IBM System p™ servers, chosen for their power, scalability and efficiency. IBM WebSphere Commerce, the key software element of the solution, runs on IBM WebSphere Application Server and utilizes IBM DB2® to store the site's customer and transaction data. IBM Global Business Services worked closely with Staples in designing, deploying and integrating the solution with Staples' backend systems (using IBM WebSphere MQ).

*“The fact that we are more flexible and responsive as a business made us a leader in the office supply market.”*

—Christine Putur, Vice President,  
Information Systems, Staples North  
American Delivery and Supply Chain

In the big picture, Staples saw its new commerce platform as the foundation of a new way of interacting with its customers. And while the new platform's performance and scalability would prove essential to future growth, its biggest strategic benefit would be in enabling Staples to create a truly unique retail experience built around the needs of the customer. While the benefit of customer-centric features like personalization and customer profiling were well established, Staples sought to take them to an altogether new level. Underpinning Staples' emerging vision was an awareness of a changing dynamic in the online office supply marketplace. For one, Staples saw customer retention becoming a higher strategic priority, largely because of the high cost of establishing new customer relationships. At the same time, it saw that its customer base was becoming increasingly pressed for time and demanding of speed and simplicity. To Staples' strategists, the new commerce solution helps meet this challenge by making it easier to bring groundbreaking capabilities to market more rapidly. In this way, the Web site is able to support Staples' "easy" brand promise.

### Meeting the need

To better understand its customers' needs, Staples went straight to the source, conducting an extensive field study designed to gather fine-grained details of customer ordering behavior. One of its central findings was that customers were in desperate need of a more organized way to inventory and order their office supplies. Staples responded by rolling out a service called Easy Reorder, which uses a customer's ordering history to calculate ordering patterns and create a comprehensive, pre-assembled list that is updated with each order. With its research pinpointing the rebate submission process as another pain point for customers, Staples also introduced Easy Rebate,<sup>®</sup> which enables customers to submit rebates online, with all supporting information automatically forwarded by Staples. These examples show how Staples is focusing its innovation efforts on creating a truly differentiated experience that makes life easier for its customers, encouraging more browsers to buy and more buyers to return. The fact that conversion rates—the share of online shoppers that go from browsing to buying—have risen 60 percent attests to the effectiveness of this approach.

With a superior customer experience driving more business on Staples.com, the company's powerful new infrastructure has more than kept pace. This was in evidence on Black Friday (the day after Thanksgiving) in 2006, when volume on Staples.com exceeded 9,000 orders per hour (or 2.6 transactions per second) with no impact on performance or reliability. This record—a 30 percent increase over the previous volume mark—attests to the inherent robustness of

## Key Components

### Software

- IBM WebSphere Commerce
- IBM WebSphere Application Server
- IBM DB2
- IBM WebSphere Message Broker
- IBM WebSphere MQ

### Servers

- IBM System p

### Services

- IBM Global Business Services
- IBM Software Group Lab Services

### Timeframe

- Design, deployment and integration:  
2 years

## Why it matters

*Staples teamed with IBM to create a series of first-of-a-kind services on its Staples.com site that deliver revolutionary order automation capabilities. Staple's newfound ability to introduce stand-out services faster than its competitors has contributed to 30% online sales growth—making it the number two online retailer.*

WebSphere Commerce and the System p platform, which represent the core of the Staples.com architecture. Importantly, it also reflects the impact of specific IBM core technologies like the dynamic caching capability of WebSphere Application Server—known as WebSphere DynaCache—which contributes to the site’s consistently high level of performance.



### **A more flexible future**

While Staples sees intensifying competition in the retail office supply market as a significant challenge to its growth goals, it considers the online channel a powerful source of differentiation. A key reason is that online channels represent the fastest way for retailers to respond to customer needs with new services and other sources of value. By combining a scalable processing infrastructure with the rich functionality of the WebSphere Commerce platform—Staples now has more flexibility to execute creative business strategies rapidly—without the encumbrance of complex systems. The goal of increased business flexibility has also driven Staples to introduce a service oriented architecture (SOA) framework into its broader IT strategy, with the aim of uncoupling and sharing services across the Staples enterprise. These efforts, made in collaboration with IBM, employ IBM WebSphere Message Broker as the core integration technology.

Pete Howard, Senior Vice President of Staples Business Delivery, the division responsible for Staples.com, sees the new commerce platform as an important pillar of future growth. “By giving us the means to create an innovative, more customer-centric buying experience, the IBM solution is helping us deliver more value to customers, which has helped us increase their satisfaction and loyalty,” says Howard, pointing to a 28 percent increase in 2006 companywide online revenues—to \$4.9 billion—as evidence. Christine Putur, Vice President, Information Systems, Staples North American Delivery and Supply Chain, added: “In addition to providing a rich customer experience from a business feature perspective, we are also able to scale the environment as the business grows and provide excellent performance for our end users.”

### **For more information**

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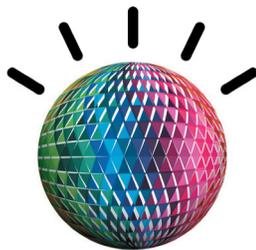
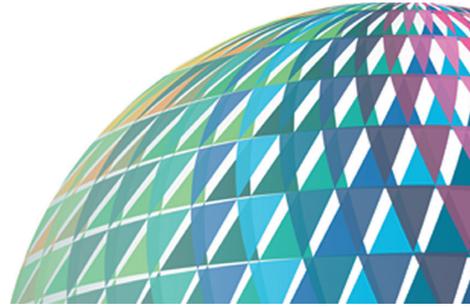
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## [Travel and Transportation](#)

Travel and transportation companies need to leverage methods to cut costs while finding ways to increase revenues. BPM, and SOA can provide cost efficiencies and agile solutions to help with customer satisfaction and retention revenue growth opportunities and increasing operational costs.

IBM helps travel and transportation customers worldwide in building more agile solutions that speed up time to market and enable enhanced services to your customers. WebSphere solutions for travel and transportation help to increase customer loyalty and revenues while decreasing costs through process automation and more efficient asset management.



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

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## Overview

### Property exchange and rental company

#### Industry

- Travel and Transportation

#### Products

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

For more information, visit:  
[ibm.com/websphere](http://ibm.com/websphere)

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

## Challenge

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

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

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

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

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## Solution

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

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

## Benefits

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



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## Top 5 U.S. transportation and logistics company Transport Services centralized billing

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### Overview

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*A resource-hungry focus for many companies in the transportation industry is compliance with regulations—in particular those driven by Sarbanes-Oxley. This transport services company has achieved success here with their billing and payroll systems.*

#### ■ **Business need:**

*North America's third largest logistics company, this transport services company supplements or fully supports the transportation needs of customers in a wide variety of industries. Operating out of more than 300 sites, the company depends heavily on their IT systems to meet contracts. To bring coherence to its billing and payroll systems, the company decided to centralize the contract management systems used by its Dedicated Contract Services Division and support them with powerful software for implementing policies.*

#### ■ **Solution:**

*With operations spanning the United States, Canada and Mexico and customers like Wal-Mart, Ford and Procter & Gamble, this transport services company's billing and payroll systems were becoming increasingly complex fast. The solution was to centralize the systems to ensure consistency and compliance. This led them to IBM® WebSphere® ILOG JRules, the top seller in the business rule management system (BRMS) market. The company created a flexible management environment that greatly improved operations and compliance with industry regulations in just nine months.*

#### ■ **Benefits:**

*Besides centralized systems that are easier to maintain, the company has experienced benefits that include:*

- *Increased revenue through billing of contractual activities that were being missed with manual systems*
- *More accurate payroll management through automation*
- *Faster billing cycles from more comprehensive invoices derived from rules for rate management*
- *Externalized reporting of key performance indicators time*

*A big plus has been the complete acceptance of the new IT architecture by field offices. Centralizing and automating the systems have reduced the workload of site personnel. They now focus more on logistics and have greater confidence in meeting home-office requirements.*



This transport services company is one of the largest transportation logistics companies in North America. It provides customized freight movement, revenue equipment, labor and systems services tailored to meet their customers' requirements.

### **Challenge**

The company's billing and payroll systems were spread out over 300 sites. This made safeguarding, maintaining and updating them extremely complex. By bringing their management under

one roof, the company can better control the applications and keep them in synch with operations and regulations. JRules makes this solution possible by providing a central repository for storing the rules applied by the systems. Changes are made to the rules in the repository and automatically disseminated to the billing and payroll applications. This enables personnel throughout their network of offices to benefit immediately from changes to the rules.

*“IBM WebSphere ILOG JRules has been a great investment for us. It gives us compliance with Sarbanes-Oxley and automates where only manual processes were used. Operating efficiency is up and missing dollars are coming in. We have visibility into our business that we never had before.”*

*-- Transport services company*

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**Products and services used**

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*Software*

- IBM® WebSphere® ILOG JRules

*Services*

- IBM® ILOG Professional Services
- 

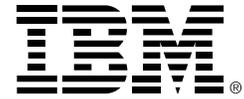
**Solution**

The initial release took about 11 man-months to make. As many as 25 developers participated in the project, with up to eight focusing on the JRules module. The module constituted about 20 percent of the project. The company credits IBM Professional Services with much of the success of the project. The consultants played a critical role in addressing technical issues, taught project developers how to use JRules and helped define the architecture of the rule module.

**Benefits**

- Central management
- Faster implementation of policies
- Compliance with Sarbane-Oxley and other regulations





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