



WebSphere. software



Delivering smarter business outcomes in today's economy with IBM SMART SOA and IBM WebSphere software.



Soon there will be two billion people on the Web, one trillion things connected to the Internet, and they will be interconnected not only with each other, but with their systems and the world around them. Our world is getting smarter. The key question: Is your organization in a position to not only survive, but also succeed in this smarter world? Organizations that can answer yes are both agile and have the ability to optimize cost—critical in today's economy. In terms of agility, 98 percent of CEOs expect their organizations to undergo significant business model changes in the near future, but many of them are concerned with the ability of their organizations to handle this change.¹ At the same time, companies are spending the largest percentage of IT budgets on maintenance, including energy, which limits the flexibility for new, business-building investments.

To optimize costs and drive agility, organizations are looking at their business processes and the applications and services that support them. To help ensure that your organization remains competitive and can respond quickly in today's dynamic business environment and uncertain economy, you need to optimize these processes, applications and services.

An IBM SMART SOA™ application foundation and IBM WebSphere® software can help you drive this optimization by providing the ideal infrastructure for building, deploying and managing all types of applications and improving operational efficiency through process automation. You can connect and integrate these applications for a nearly seamless and security-rich flow of information within your organization, with customers, partners and suppliers, and do so with the speed required in today's marketplace.



Innovate, optimize and simplify your application infrastructure

Leveraging an IBM SMART SOA application infrastructure

One way to help ensure that your business is agile and cost optimized is to take a close look at the infrastructure supporting your business applications. These applications are at the core of your business, driving your differentiation and allowing you to respond to changing customer wants and needs. To help ensure that these applications are meeting the demands of your business and performing optimally, you need an IBM SMART SOA application infrastructure.

IBM WebSphere software delivers the infrastructure for building, deploying and managing all types of applications, helping to ensure that they deliver on business objectives regardless of the situation. At its core, it provides a high-performance foundation for creating and implementing agile and reusable service-oriented architecture (SOA) applications and services. And it can allow you to intelligently and proactively manage that application infrastructure even when the situation calls for extreme processing capability, while helping to optimize your cost.

Application foundation

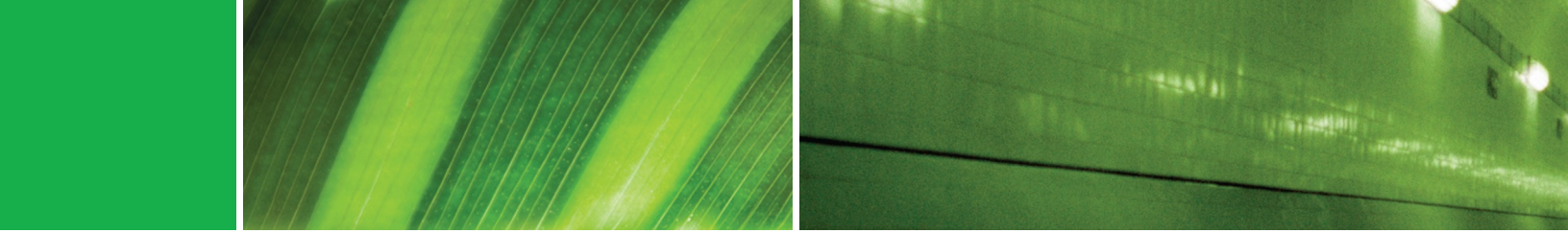
Business applications are central to your business—from mission-critical and key company-wide apps that are all-important to the ongoing success of your organization to targeted, departmental-level apps that help solve some of your most immediate and tactical issues. An IBM SMART SOA application foundation from IBM WebSphere software provides the innovation and performance that allow you to build, deploy and manage robust, agile and reusable SOA applications and services of all types. This foundation helps you deliver on business objectives while reducing application infrastructure costs across mainframe and distributed environments.

Drive customer satisfaction

It's especially critical during a down economy that your business applications deliver expected performance, or you risk losing valuable customers and partners to competitors who can do better. An application foundation that allows your business applications to perform at the highest levels is a key first step in satisfying customers and partners, and, when built around IBM WebSphere software, it can help cut costs.

An IBM SMART SOA application foundation built around IBM WebSphere software helps you satisfy customers and partners by helping to ensure that your applications are secure and available when needed. Through advanced clustering, data replication services and innovative workload distribution, an application foundation from IBM supports faster application response and less waiting. And with security domains that deliver granular and flexible control, you can help prevent costly security breaches. Whether it's the protection of private customer account information, such as medical records, or confidential company information, such as an airline's pricing models, the IBM SMART SOA application foundation provides the security needed to better protect you and your customers.

But the benefits of a high-performing application foundation don't have to be limited to just customers and partners; you can also benefit internally by reducing costs associated with running your business applications. And, who doesn't need to reduce costs in this economic environment? The performance-enhancing features of the IBM SMART SOA application foundation give you the potential to support the same or larger number of business services with fewer IT resources. Existing workloads can be consolidated up to



30 percent by using these capabilities—which can help save you money and free up resources.² Additionally, you can reduce your energy consumption associated with your application foundation through a decreased footprint made possible through provisioning.

All in all, IBM WebSphere software delivers an IBM SMART SOA foundation designed to drive performance that benefits everyone.

Reduce cost through simplification

Companies know they need to more efficiently respond to change, and do so within tightening budgets. In order to meet these sometimes conflicting needs, it's critical that developing and managing applications become simpler. Fortunately, there is a smarter way. With the IBM SMART SOA application foundation, you can leverage the latest technologies to simplify development and management of all types of applications in your organization, helping you to both better respond to change and reduce costs.

The IBM SMART SOA application foundation and IBM WebSphere software provide an integrated set of tools to help you quickly build the applications and services you need at a lower cost. And when your needs change, that change is simplified through inherent backwards compatibility that eliminates the need to rewrite applications from scratch, helping save time and money.

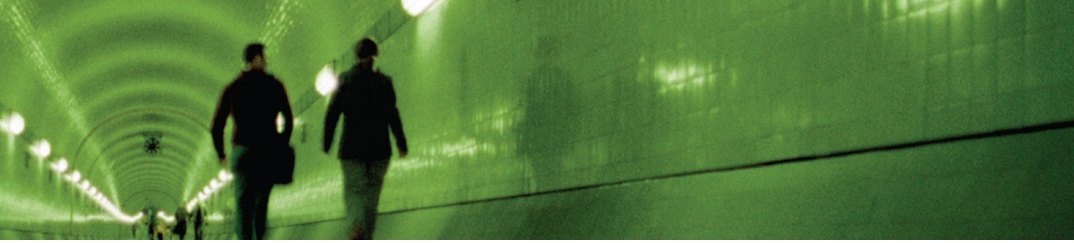
Simplification also comes by eliminating the one-size-fits-all approach. Some applications require the highest quality of service, but other, less critical or situational applications warrant simpler, less costly solutions. A simplified application foundation provides alternatives that match solutions and needs. For less critical applications, such as a hospital cleaning

scheduler, IBM delivers an open source foundation that meets needs at the appropriate level. Or, when your needs are more situational and potentially short-lived, IBM WebSphere software also provides an appropriate solution. For example, when your marketing department is looking to quickly merge key marketplace information with internal data to determine the best path for a promotional effort, IBM facilitates the aggregation of disparate services so they feed into a single application through the use of an application foundation based on dynamic scripting languages that require more readily available and less costly development skills.

Finally, the IBM SMART SOA application foundation helps simplify and reduce costs once your applications are deployed. It enables centralized management functions that let you view and monitor multiple locations from a central site, helping to reduce costs and streamline your IT operations.

Reach customers in new ways

Despite economic challenges, competition and innovation are moving full speed ahead. Customers and partners have come to expect instant interactions with the companies they choose to do business with. Your company needs to provide rich user experiences on the Web, such as online chat and click-to-call, to stay competitive. Increasingly, you are being asked to provide this experience around the clock, at any location and through multiple device types. The demand for realtime access to your business from mobile phones and other wireless devices is becoming widespread. At the same time, with tough economic conditions, you are challenged to deliver innovation to your customers cost-effectively.



The IBM SMART SOA application foundation and IBM WebSphere software provide you with the technology needed to deliver innovative new applications that meet the demands of customers and partners, extending your services to anyone, virtually anywhere in the world, and allowing your organization immediate insight and interaction with customers, partners and suppliers. Whether it is Web 2.0, Session Initiation Protocol (SIP), dynamic scripting languages or other top programming models, the IBM SMART SOA application foundation delivers. A major retail bank is improving its customer service by offering an innovative Web 2.0-based application to its customers to enable online banking to occur around the clock from mobile devices. New applications can be implemented on a build-as-you-go basis, which allows simple add-and-execute capabilities and project-level solutions as new business and marketplace requirements arise.

And because of the tools made available within the IBM SMART SOA application foundation and the use of open standards, you can enable your existing applications as services, setting you up to cost-effectively reuse them across your organization as often as needed. For example, one industrial company automated manual processes that used spreadsheets by quickly creating a new Web application that reused existing software from both an enterprise resource planning (ERP) system and an internal portal application.³ This enabled it to reduce its total cost of ownership by 40 percent. In addition to helping dramatically improve your ROI, service-enabling and reusing existing applications that are proven to work in your organization and with which your team are familiar can help lower risk and speed time to market.

Application foundation

IBM WebSphere Application Server

*IBM WebSphere Application Server
Community Edition*

IBM WebSphere sMash

*IBM Customer Information Control System (CICS®)
Transaction Server*

IBM CICS tools

*IBM Rational® Application Developer for
WebSphere Software*

Intelligent application infrastructure management

The cost of managing and running today's business applications, whether enterprise-wide or at the departmental level, is far exceeding the cost of the software itself. At the same time, the need to rapidly adapt to changing marketplace conditions has never been greater, but adapting is costly. To meet business needs while controlling costs, you need to be able to optimize the management of your business application infrastructure. IBM WebSphere software provides a powerful and comprehensive set of solutions for intelligently managing the infrastructure for SOA applications, services and environments. These solutions deliver robustness and agility to enable applications to adapt to changing marketplace conditions while helping to lower costs. Now *that's* the way to achieve smarter business outcomes.



Reduce rising costs

Leading industry analysts indicate that maintenance and energy expense is rising at a much faster rate than the expense associated with actual technology. In fact, administration and management costs are now the largest portion of the IT budget, with more than 70 percent of the IT budget focused on maintaining existing applications.⁴ Further, it is estimated that 40 percent of data center customers report that power demand is outstripping supply. Limitations of the existing power transmission network, or “grid,” are constraining the ability of companies to expand existing data centers or build new ones. On average, for every 100 units of energy piped into a data center, only three are used for actual computing. In these difficult economic times, reducing operational and energy costs has become an imperative.⁵

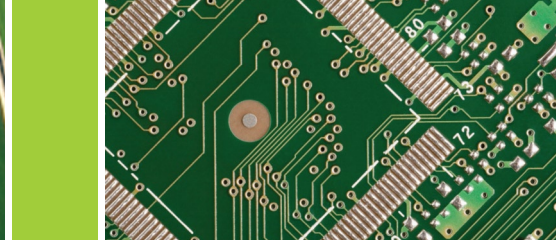
IBM WebSphere software allows you to manage your application infrastructure more intelligently and, as a result, deliver bottom-line reductions in infrastructure administration and maintenance costs. Through intelligent traffic shaping and flow control technologies that start and stop applications and services on demand, IBM WebSphere software can help users to fully utilize existing application servers, rather than experience typically 10 to 15 percent utilization.⁶ By fully utilizing application servers, you can potentially achieve hardware and energy cost savings of up to 40 percent through consolidation and reduction in future purchases of applications and physical servers. Bottom line is you get to reduce energy requirements for both applications and physical servers.

Energy costs are not the only savings IBM WebSphere software can help you realize. Centralized management functions and a flexible job manager can cut administration costs and allow for more cost-effective management of geographically dispersed sites. In addition, IBM WebSphere software-based applications and products can be deployed into a cloud computing environment. This can be a powerful way for cost-effective technology usage, paying just for the applications and SOA services you use.

Deliver superior customer service

Increasingly savvy customers and employees demand 24x7 access and top-notch customer service across an expanding range of channels, applications and services. In this economic downturn, retention of the most valued customers is more critical than ever. Customer dissatisfaction resulting from unplanned downtime can mean the difference between profit and loss. The average cost per hour of unplanned downtime is US\$42,000 per 1,000 transactions.⁷ IBM WebSphere software can deliver an infrastructure that helps keep your applications up and running, meeting service level agreements and helping to ensure that users stay satisfied.

Core to intelligently managing your application infrastructure is the ability to virtualize that infrastructure. IBM WebSphere software separates applications from the underlying infrastructure, creating a virtual pool of application server resources. This helps ensure that critical applications can always meet service level agreements. For example, when insurance companies see a huge increase in homeowner and auto claims following a



natural disaster, the last thing they want is to increase the pain of their customers by providing a slow or down claims application. With IBM WebSphere software, the claims department doesn't have to worry, as the critical claims application will be able to utilize unused application server capacity typically allocated to less-burdened, lower-priority applications.

Beyond virtualization, IBM WebSphere software 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. And downtime during application upgrades can be eliminated by running multiple versions in production at the same time.

Roll out new services faster

Many of the assets that comprise today's infrastructure are rigid, siloed and outdated, driving cost and complexity to unsustainable levels while hampering organizational maneuverability and stifling innovation. In addition, more than 70 percent of IT budgets and resources is spent maintaining existing applications. The result is a growing new application backlog, with the average new application taking up to six to nine months to deploy. However, innovative new products and services are the lifeblood of rapidly growing companies. They represent a substantial portion of corporate sales and profits. In an environment of heightened competition, the inability to quickly roll out new applications and services means declining marketshare and lost revenue.

IBM WebSphere software can help reduce application delivery backlogs by enabling more rapid delivery of innovative new applications and services to the marketplace. IBM WebSphere software uses existing underutilized application server resources for rapid provisioning. Further, it enables efficient management of the deployment environment with an improved console command assistant, wizards, and a stand-alone thin administration client. Finally, IBM WebSphere software allows you to modernize and transform IBM System z® applications into an SOA environment through integrated mainframe tools. In combination, these capabilities allow organizations to more quickly seize new opportunities. For example, telecommunication providers can quickly provision new mobile phones and plans faster than their competitors to gain marketshare.

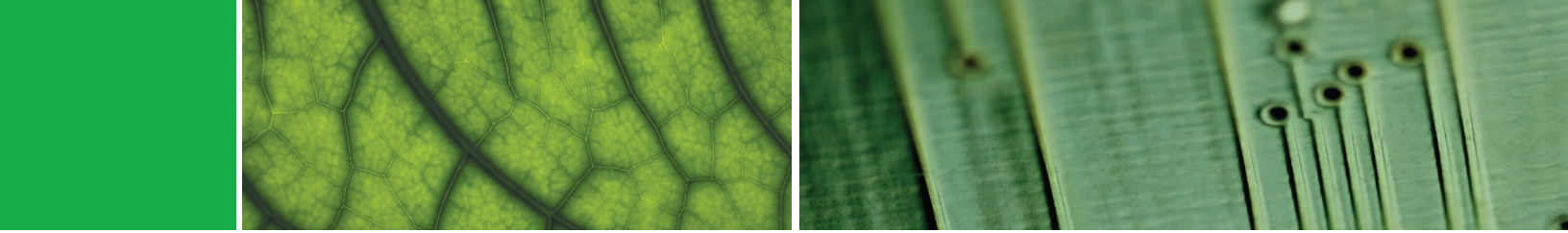
Importantly, these benefits can be realized in virtually any environment—data centers, geographically dispersed sites, shared-services infrastructures, and virtualized hardware and cloud computing environments. It provides the flexibility and agility your SOA application infrastructure requires to meet the needs of customers today and in the future.

Intelligent application infrastructure management

IBM WebSphere Application Server Network Deployment

IBM WebSphere Virtual Enterprise

IBM Problem Determination Tools for z/OS®



Extreme transaction processing

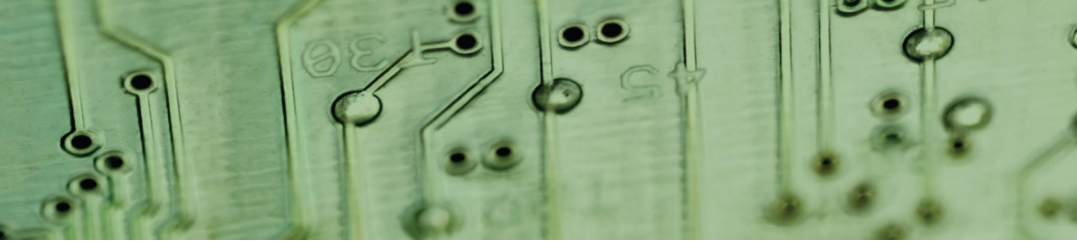
Today's dynamic business environments and economic uncertainty mean organizations must work smarter to remain competitive and respond to changing customer demands. Key to working smarter are business agility and cost optimization. Our planet is becoming increasingly smart and interconnected. As more people around the planet join the digital world, they drive exponential growth of business and nonbusiness transactions for everything from Web commerce and radio frequency identification (RFID) processing in dynamic supply chains to online social networking and gaming. To meet demands, organizations need to help ensure that critical applications that experience huge demand levels, that require immediate response or that grow to massive scale can deliver. IBM WebSphere software delivers extreme transaction processing (XTP) capabilities to help ensure that you have an IBM SMART SOA software-based application infrastructure that can support your most demanding business-critical applications. IBM WebSphere software allows you to overcome traditional IT performance limitations to generate the levels of global scale, process efficiencies and business intelligence needed for smarter business outcomes (e.g., sustainable competitive advantage, maximized revenues and avoidance of potential fines stemming from inconsistent response).

Support transaction-intensive services

Growth of the digital population engaging in Web commerce, realtime financial activity, technologies such as RFID or enablement of realtime access to massive amounts of business data is driving up the number of transactions and the speed with which they must be processed. As the transaction load grows, there is a proportional growth in back-office activities that are required to complete the business transaction life cycle.

The IBM SMART SOA approach enables efficient use of your business assets. When it comes to extreme workloads, it is important to keep those assets as close to the data they operate on as possible. Closeness means the business logic and the business data can interact extremely quickly, getting the response back to the user effectively in realtime. IBM XTP offers a business-ready, elastic, persistent data store that places the business data right next to the business logic and keeps it there as the business scales up, even to the extreme.

To help ensure that the complete transaction life cycle can scale to the extreme along with the realtime part of the transaction, IBM offers technologies to allow practical reuse of business assets in the batch space. A key part of this takes those massive jobs, such as reporting or trade reconciliation runs, and breaks them into small chunks that can be processed in parallel. Because realtime and batch processing deal with a lot of the same resources, it is important to coordinate their efforts to share resources collaboratively rather than combatively. IBM has solutions that make for collaborative business solutions across the whole transaction life cycle.



Deliver realtime and predictable responses

Certain types of transactions have explicit time constraints. Trades need to happen in a specific window of time, or the profit could become a loss. Control systems need to process transactions within a given timeframe, or satellites could crash.

There are also tight time tolerances for human Web interactions in areas such as dynamic insurance rates and supply chain pricing as well as in sporting areas where thousands, if not millions, are engaged in realtime interactions. That insurance quote or the price for those supplies must come right back, as there are other places to buy. Game movements in a massively multiplayer online game need to be processed instantaneously, or gamers will lose interest and go elsewhere.

Your application infrastructure must be capable of processing these transactions within the mandated time window, each time and every time, regardless of the workload size. Whether you have 200 gamers or 2 million, they should not be able to tell the difference.


IBM XTP offers the convenience of the Java™ language as the programming environment, where you can readily find development skills, with realtime execution for realtime applications. Your users will experience the same speed of response, undetectable to the human eye, every time a transaction is executed.

And this solution offers a business-ready, elastic, persistent data store that places the business data right next to the business logic and keeps it there as the business scales up, even to the extreme. More than a data cache, this data store can dynamically adapt to the size and shape of your infrastructure while providing the business resilience to help ensure that no data is lost once placed into its care.

Reach new business opportunities

The digital population is of such a size and has such expectations that any entry into new services, such as online gaming and trading and even certain commerce areas, demands the capacity to handle tens of thousands of transactions almost immediately. Many of your existing business services may be holding you back, tied to the limitations of traditional IT business solutions.

IBM WebSphere software has the solutions to take your business past those limitations. With an IBM SMART SOA application infrastructure in hand, enabled for extreme transactions, there is a whole range of opportunities that are now within your reach—opportunities that demand instant scalability and agility while managing business risks.



IBM XTP offers a data caching solution that will scale out to the extreme levels these new opportunities demand. IBM WebSphere software offers the execution run time and development environments to produce innovative applications quickly with today's available skills, because time to market is critical to success. The IBM solution enables you to keep up with the whole transaction life cycle, in realtime, through reconciliation, so your business does not get behind. These capabilities are designed with the business integrity required to manage business risks and meet regulatory requirements. The adaptive techniques necessary are built in, so it will not take an army to configure and maintain the solution.

Learn more about application infrastructure from IBM WebSphere software

IBM is recognized as an undisputed marketplace leader in application infrastructure, with a leading marketshare. IBM has helped more than 7,022 organizations worldwide align their business and IT to deliver real business value with SOA. Contact us to get started with an IBM SMART SOA application infrastructure solution, or learn more and read about client successes at:

ibm.com/software/websphere/products/aptransaction

Extreme transaction processing

IBM WebSphere eXtreme Scale

IBM WebSphere Real Time

IBM WebSphere Extended Deployment Compute Grid

IBM WebSphere Business Events eXtreme Scale



Aligning IT with business goals

Leveraging IBM SMART SOA connectivity and integration

Especially in today's tough economy, companies continue to look to SOA as a foundation for its agility and alignment of IT to business goals. Whether just starting out on a basic SOA project or a more comprehensive and advanced enterprise-wide deployment, organizations find SOA connectivity and integration fundamental for linking any business processes, applications and information together. Although every SOA project has its goals and architecture, almost each aligns to one or more of three major business and IT needs and associated SOA adoption patterns. For providing fast, flexible, reliable access to business information across the organization, companies often leverage enterprise service bus (ESB) messaging and enrichment; enabling trust, management and security across business applications requires service visibility and governance; and for making it easy for the organization's customers, partners and suppliers to conduct business with it, companies extend their SOA connectivity to partners and customers.

ESB messaging and enrichment

Today's dynamic business environments and economic uncertainty mean organizations must work smarter to remain competitive and respond to changing customer demands. Key to working smarter is both business agility and cost optimization. In order to achieve these goals, organizations must reduce their IT complexity to be able to quickly and easily deliver on the needs of the business while enabling continued innovation.

IBM WebSphere software provides an IBM SMART SOA approach to untangle costly and debilitating IT complexity associated with point-to-point connectivity and integration, while maintaining the highest levels of reliability. As a result, IT is able to cost effectively deliver fast and flexible application integration to improve the flow of information across an organization, position the business to adjust to dynamic business requirements and enable IT to nearly seamlessly bridge to new connectivity technologies that are in such high marketplace demand today. The end result for the business is additional revenue opportunities and a higher return on investments.

So, where do you start? With many companies today, this agility and savings begins with an SOA pattern called an ESB that provides a fundamental, reliable messaging layer, plus value-added services for intelligently connecting services and systems across the enterprise. Together, we call this ESB messaging and enrichment.

Extreme reliability

Transactions and process interactions are critical for any business; organizations need absolute assurance that even system failures will not affect their delivery. Organizations also need to know that they are not exposed to costly security breaches that can compromise the company's integrity and put it at risk or in noncompliance with corporate or legally issued mandates. Additionally, many businesses today rely on realtime information and data feeds whose assured delivery cannot be left to chance. Many enterprises often find themselves struggling to deliver these critical requirements without prohibitive cost, complexity and hard-to-manage infrastructures.



IBM WebSphere software provides solutions for universal and guaranteed delivery of services, messages, process actions, files and events to help organizations reduce the costs and process disruptions associated with data loss, as well as address security and compliance goals. Moreover, with solutions for ultralow-latency messaging, IBM WebSphere customers are able to confidently publish time-sensitive data that is critical to making up-to-the-second marketplace decisions.

IBM WebSphere software helps organizations reduce the risk of information loss and the need to reconcile communicating IT systems by using queuing and transactional facilities that help preserve the integrity of messages throughout the network. It supports a unified solution that is proven and reliable; organizations can help ensure that there are no unnecessary costs and that process disruptions are minimal.

As an example, one major diversified healthcare company that discovers, develops, manufactures and markets innovative products and services that span the continuum of care—from prevention and diagnosis to treatment and cure—extends its products and services to more than 130 countries across the world. This company had been using a system that was error prone, and communications between the ERP platform and manufacturing execution system could get lost or out of sequence. This introduced risk into the process whereby out-of-date chemicals and other supplies could be used inadvertently in the manufacturing process. Also, in the event of data loss, decisions were being made by humans (instead of computer systems), which increased the incidence of error.

To address this problem, the healthcare company adopted a solution based on IBM WebSphere MQ software to facilitate more reliable integration among systems. The solution integrates the company's enterprise databases with any system using the IBM WebSphere MQ software, allowing users to share information in near realtime. By installing the solution to transport data via IBM WebSphere MQ software, the company was able to avoid spending between US\$6 million and US\$7 million to recode more than 150 programs to accomplish the same goal.

Fast and flexible application integration

In any organization, no matter how big or small, many different business applications are bought or built and deployed to meet growing and changing business requirements. For example, a finance department may be using an ERP application, sales may leverage a customer relationship management (CRM) system and warehouse operations may deploy an inventory control system. Each of these may provide excellent departmental value, but for many businesses today, it is necessary to extract all the value it can from every system and share those across an organization. In the case above, it means the business must integrate its ERP solutions to its CRM system to its inventory application. For IT, this means the number of interfaces for integrating each application grows, and continues to grow as more applications are interconnected. Over time, these application integration interfaces begin to resemble a “spaghetti code” of point-to-point connectivity. The IT infrastructure grows increasingly complex, mirroring the IT department in complexity that limits the flexibility and speed with which it can bring on new applications or change existing ones.



IBM WebSphere software addresses this complexity by providing solutions to decouple complex integration logic from each application and unify that integration into a simple solution. This integration hub provides a single integration solution to enable access to practically any system from virtually any other system by centralizing the transformation application data or the transport protocol used by the systems, so IT can easily connect business applications regardless of the platform, network or device. Further, this approach enables IT to expose and combine its existing applications as new business services opportunities with almost no impact to the current IT environment.

Atlas Air is the world's largest cargo airline, as well as the world's largest fleet operator of Boeing 747s. Over the past several years, Atlas Air's operations had become increasingly complex and process intensive. Its infrastructure was also complicated, comprising a variety of "homegrown" messaging applications that did not integrate well with its back-end systems. Atlas Air needed to simplify this infrastructure and coordinate the various moving parts, and it decided to do so by implementing a middleware solution that was based on SOA. The company replaced its existing messaging system and now has the ability to integrate realtime information with process workflows, improving efficiency, reducing costs and enhancing its ability to respond rapidly to customer needs.

Reduce integration costs

How can IT reduce its costs without sacrificing the work required of it by the business? How can IT free up resources for new initiatives when it barely has the resources it needs for its current workloads? Studies show that up to 70 percent of IT budgets

go to simply maintaining existing systems. Much of this maintenance is associated with the same complex, point-to-point integration interfaces between applications that prevent IT from being fast and flexible. Because of that complexity, where applications are connected in a tangled web of interfaces with a single application integration change, IT is forced to spend its time, personnel and budget mapping how that change will affect all the other applications that may be connected to it. In essence, one simple integration change or addition creates a cascading effect on the entire application ecosystem.

However, IBM WebSphere solutions can significantly reduce the maintenance costs associated with integration complexity by decoupling connectivity and integration logic from the application and offloading this to a central integration hub, in much the same way, for example, that today's intelligent telephone systems removes the integration complexity of a phone call, mobile call, fax or data call. Now, with this centralized integration hub, when IT needs to change one application, it only has to devote a fraction of its resources to that one change into that solution that decouples assets from the specifics of their implementation and directly addresses a key problem with IT: the complexity caused by too many interfaces and interactions in application programs. It helps businesses reduce maintenance costs so that organizations can reinvest those funds into projects that will help them succeed. These solutions help identify key business events as they take place and help businesses take immediate action. When using an ESB, IT can make all the events taking place throughout the infrastructure visible to help make timelier, highly competitive business decisions.



1-800-FLOWERS.com is the world's largest florist and gift shop, with revenues approaching US\$1 billion. It has 14 brands that sell everything from popcorn to gift baskets to gourmet food and children's gifts. 1-800-FLOWERS.com needed to replace multiple, diverse, siloed e-commerce systems with a unified technology platform. The new platform adds flexibility and agility, making it significantly easier to launch new Web commerce brands—allowing the company to try new business strategies with little risk. In addition, the shared platform facilitates cross-selling and information sharing across the enterprise, which helps 1-800-FLOWERS.com gain maximum benefit from its many business units.

Bridge to next-generation interconnectivity

For years, IT departments have been building infrastructures that support the complex needs of their businesses. Now there is more pressure than ever on IT to align to new business challenges and develop innovative ways to meet marketplace demands. Today, that includes demands for new connectivity to enterprise systems—in particular, increased demand that leverages the ubiquitous World Wide Web for simplified, Web 2.0 interconnectivity. Additionally, many business models necessitate the need for differentiated services delivery and various qualities of service offerings for various transactions or data delivery, including, for instance, the low-latency delivery of financial data.

IBM WebSphere solutions enable mediation and service enrichment capabilities as a means to seamlessly bridge to meet growing demand for implementing representational state transfer (REST), asynchronous JavaScript and XML (AJAX) ,

HTTP, hypertext preprocessor (PHP) or other Web 2.0 technologies to back-end systems, many of which were never designed for this type of integration. This bridging helps open the door to a wide range of new services from existing assets, allowing the business to increase the value, return and benefits of decoupled applications and reusable services.

As the official technology partner of the Australian Open, IBM needed to help Tennis Australia support more than 100 times the typical Web site traffic volume during the Australian Open and scale down when the tournament is over—without the need to make a large and costly permanent infrastructure investment. The solution was hosted technology infrastructure that cost-effectively transformed data into rich content and flexibly adjusted to fluctuating demand. As a result, the Australian Open achieved a 50 percent increase in Web site traffic from the previous year, 100 percent Web site availability, a 40 percent reduction in cost per visit since 2004, a 23 percent reduction in energy consumption since 2004, and a 25 percent reduction in cooling demands since 2004.

ESB messaging and enrichment

IBM WebSphere MQ

IBM WebSphere Low Latency Messaging

IBM WebSphere Message Broker

IBM WebSphere Enterprise Service Bus

IBM WebSphere DataPower® Integration Appliance XI50

IBM WebSphere DataPower® Low Latency Appliance XM70



Service visibility and governance

Today's dynamic business environments and economic uncertainty mean organizations must work smarter to remain competitive and respond to changing customer demands. Two keys to working smarter are business agility and cost optimization. In order to achieve these goals, organizations need to eliminate costly redundancies, promote reuse of existing services, and make sure these services are secure, reliable and of high quality.

IBM WebSphere software provides customizable, scalable and automated IBM WebSphere service visibility and governance solutions, helping organizations manage, trust and secure services and documents in an SOA. As a result, organizations can rapidly bring new services to the marketplace, help reduce business application risk, increase staff productivity and potentially lower maintenance costs while maximizing return on their assets.

Manage what you have, no matter where

IBM WebSphere service visibility and governance solutions help ensure awareness of available applications, services and documents throughout the organization by providing the capability to publish and find them quickly, reliably and flexibly. As a result, organizations can break unhealthy silos and provide a nearly seamless view of comprehensive service information and documents to all interested parties. In fact, these solutions can help organizations save 50 percent to 70 percent just in file management costs alone.

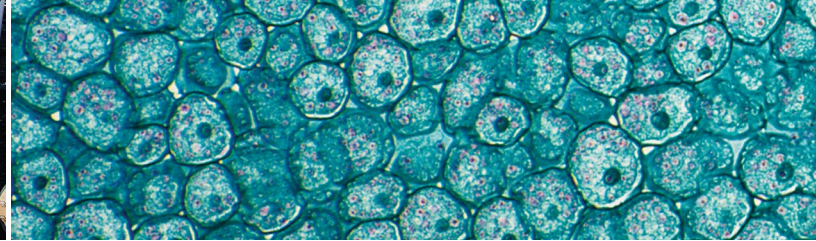
IBM WebSphere service visibility and governance solutions also help manage and automate service upgrades and service level expectations, helping businesses to minimize critical service outages while avoiding unnecessary inefficiencies.

A financial holding company managing more than US\$1.2 trillion of client assets required a solution to improve time to market for new applications and services while reducing the costs to integrate and maintain all existing applications. Compared with the company's homegrown solution, IBM WebSphere service visibility and governance solutions will provide a 15 percent increase in software reuse, a 25 percent reduction in integration costs and a 50 percent improvement in application maintenance productivity. That equates to a cumulative benefit of US\$5.5 million in three years for the company, with a break-even point in just 11 months.

Trust existing services, accelerate service reuse

IBM WebSphere service visibility and governance solutions enable governance of the service life cycle from creation to consumption. That helps mitigate business risk by leveraging proven, high-quality and resilient services as building blocks for mission-critical business applications and processes. In addition to helping to reduce risk, service life-cycle governance promotes reuse, helping organizations to not only speed time to market and improve collaboration but also dramatically increase utilization of their resources.

IBM WebSphere service visibility and governance solutions also enable consistent, enterprise-wide enforcement of the organization's operational and governance policies, thereby helping the organization to not only align its business goals with IT but also implement organization-wide recommended practices.



Upon deploying IBM WebSphere service visibility and governance solutions, a leading U.S. provider of insurance products with annual sales of more than US\$4 billion benefited from consistent compliance with SOA policies, a significant increase in staff productivity, and increased availability and flexibility of integrated applications and business processes. The company achieved a payback period of just nine months on its investment and expects to achieve an ROI of 721 percent over a three-year period.

Protect mission-critical services and documents

IBM WebSphere service visibility and governance solutions can help reduce complexity and lower the costs of securing services and applications with highly scalable solutions based on open standards. That helps organizations effectively address security needs and control access to applications, services and documents based on roles and rights customized to suit their business needs.

Finally, IBM WebSphere service visibility and governance solutions help organizations achieve, maintain and demonstrate industry and regulatory compliance with robust data protection, integrated policy enforcement and extensive auditing capabilities. For instance, these solutions can enable customers that need to address data security requirements to rapidly deploy Payment Card Industry (PCI)-compliant solutions, avoid large fines and cut development costs by more than 30 percent.

A United States-based firm backed by global auto manufacturers leveraged IBM WebSphere service visibility and governance solutions to connect 22,000 franchised dealers to a single, highly secure, scalable and flexible credit application management system, considerably shortening credit application processing time.

Service visibility and governance

IBM WebSphere Service Registry and Repository

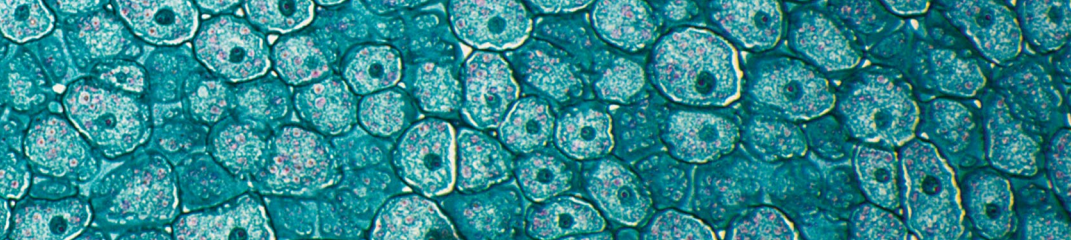
*IBM WebSphere Service Registry and Repository
Advanced Lifecycle Edition*

*IBM WebSphere DataPower® XML Security
Gateway XS40*

IBM WebSphere MQ File Transfer Edition

Extend connectivity to customers and partners

Today's dynamic business environments and economic uncertainty mean organizations must work smarter to remain competitive and respond to changing customer demands. One key to working smarter is business agility, helping ensure organizations can quickly and easily capitalize on opportunities and respond to new situations. However, this needs to be done with an eye toward controlling cost. IBM WebSphere software allows enterprise architects, system integrators and developers to increase the speed and reliability with which SOA applications and services can be extended beyond organizational walls to partners, suppliers and customers, and provides a fast and reliable way of unlocking packaged business applications, accelerating the delivery of industry-specific information and consolidating partner management and business-to-business (B2B) efforts.



Unlock siloed business information for enterprise-wide reuse

Businesses rely on many different types of systems, applications and information stores for their ongoing success, from mission-critical, enterprise-wide applications to industry-specific or departmental-level applications. As organizations and businesses grow, and the number of systems and applications supporting them expands, it's easy for information to become siloed or locked, rendering it inaccessible to other parts of the business. This helps to create a very inflexible enterprise environment, which impacts every aspect of the organization and often prohibits business processes from being automated and flowing nearly seamlessly.

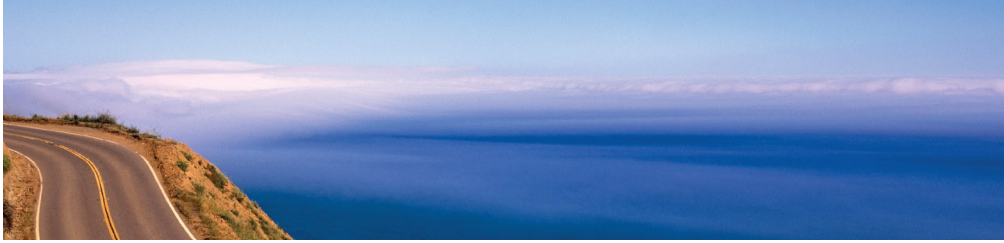
IBM WebSphere software provides a fast and reliable way of unlocking business information contained in packaged or other core business applications such as SAP and Oracle, even legacy applications. As a result, organizations are able to leverage otherwise siloed information, by service-enabling critical applications, promoting their reuse and fostering increased return on their original investments. With the use of graphical service discovery tools to quickly create standard application interface points that can be reused again and again, enterprises are able to reduce the number of hard-coded, custom interfaces required and limit the management and maintenance costs associated with those interfaces by as much as 75 percent. This approach also improves data integrity and quality of time-sensitive information by providing direct access to applications in realtime. Further, by service-enabling applications for reuse, organizations can aggregate disparate data types from multiple information stores more easily to provide new, composite business views and services.

In one example, a European retailer leveraged IBM WebSphere software to facilitate realtime information sharing throughout its enterprise. The solution provides a flexible and open exchange of information, aggregating critical business information from more than 500 retail outlets. This allows company decision makers to obtain a comprehensive view of up-to-date sales and inventory figures for each location, from which they are able to schedule product deliveries exactly when they are needed. Furthermore, with access to current sales data, marketing plans and promotions are customized for each location or region, increasing revenue and sales. And, because the company no longer has to rely on File Transfer Protocol (FTP) and postal mail to gather information, it has reduced administrative and information-gathering costs by 20 percent.

Cost-efficient industry transformation solutions

Compliance with industry-specific data formats and regulations can add another level of complexity and cost to enterprise systems. If a business cannot provide its data in a certain, required industry format, then in essence that information also becomes siloed and reduces its true value. Many integrators attempt to address their industry connectivity needs with homegrown solutions; however, this approach typically does not address the problems of ongoing maintenance of the solution, changing standards, data validation and error handling.

For industry-specific data solutions, enterprises can leverage predefined IBM WebSphere industry packs, including healthcare, financial services, insurance and electronic data interchange. Complex industry transformations can be deployed quickly and with relative ease, and can increase transaction



volume while providing additional flexibility and fostering adaptability to industry changes. Moreover, IBM WebSphere solutions help to remove risk from projects that require strict conformance to mandatory and advisory guidelines required by regulatory bodies or industry service providers.

Centralize and consolidate partner transaction and process management

In today's global economy, where one business is so often dependent on many others for supplies or services, organizations are increasingly having trouble managing the growing number of partner transactions. To thrive in today's dynamic economy and business environment it's imperative to have an effective strategy and solution to take advantage of the efficiencies, cost savings and marketplace opportunities an integrated partner, supplier and customer base can bring.

With its leading partner transaction and process management offerings, IBM WebSphere software provides users with a consolidated B2B trading partner and transaction management environment, allowing enterprises to integrate industry partners, customers and suppliers from all parts within a single environment. As such, companies can both simplify and increase their capacity for partner transactions and sharing of business processes while reducing the associated overhead that often limits or eliminates B2B projects. Automated partner transactions can help organizations dynamically manage supply and value chains, giving them the ability to adjust product and service offerings to meet changing customer requirements, and expanding revenue opportunities with new routes to the marketplace and access to connected customers.

In the end, businesses around the world need to work smarter. With IBM WebSphere software they can do this by extending their SOA to unlock the full potential of assets. This can create an agile environment that helps ensure all parts of an organization can quickly and easily capitalize on opportunities and respond to new situations. You can increase the speed and reliability with which SOA applications and services can be extended beyond organizational walls to partners, suppliers and customers and provide a fast and reliable way of unlocking packaged business applications, accelerating the delivery of industry-specific information and consolidating B2B efforts.

Extend connectivity to customers and partners

IBM WebSphere Adapters

IBM WebSphere Transformation Extender

IBM WebSphere DataPower® B2B Appliance XB60

IBM WebSphere Partner Gateway

Learn more about SOA connectivity from IBM WebSphere software

More than 10,000 customers have been simplifying their IT infrastructure with connectivity solutions from IBM WebSphere software for over a decade. Contact us to get started with an IBM SMART SOA connectivity solution, or learn more and read about client successes at:

ibm.com/software/websphere/products/appintegration



Seize opportunity through the power of change

Dynamic business processes

All organizations expect change, and most expect it to be rapid and unpredictable. Yet only a handful of organizations are truly prepared for just how swiftly the business landscape can become unrecognizable. Economic uncertainty, global competition and new business processes are driving today's business imperatives of agility and cost optimization. Dynamic business processes can help you meet these challenges.

Dynamic business processes are the key to thriving in any economic environment by enabling you to respond faster to changing customer expectations and business demands. By documenting, deploying and continuously optimizing business processes with IBM Business Process Management (BPM) powered by IBM SMART SOA software, you can implement agile business models to outmaneuver competitors, empower business users to effectively respond to threats and opportunities, boost operational efficiency and help optimize costs.

Based on IBM's experience with more than 4,600 BPM engagements worldwide, we've consolidated our clients' business needs into three distinct categories to better understand how organizations are leveraging BPM today. Individual business needs typically drive organizations toward one or more of these BPM adoption patterns.

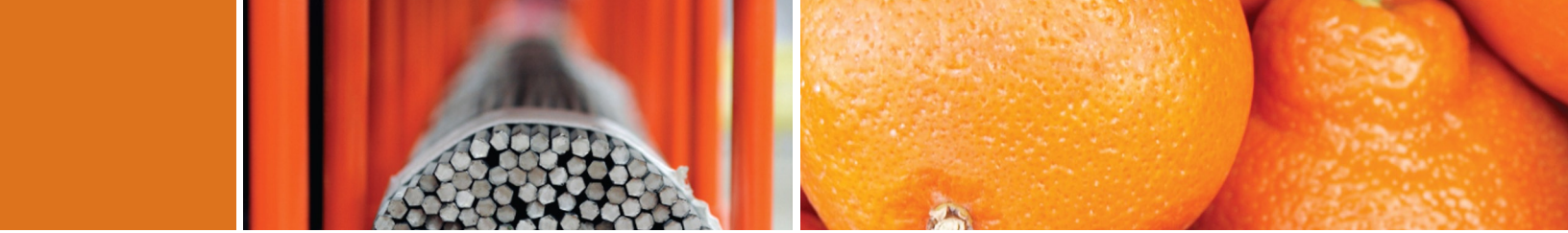
Process automation: helping to optimize costs and improve business performance

A natural starting point for many businesses interested in BPM, process automation is a relatively straightforward idea with a potentially profound impact on your company's performance. Put simply, your business performance is defined by the processes that drive it. The cost of manually orchestrating every activity of an end-to-end process can be staggering. Worse, it can have a direct, negative impact on customer experience.

By automating processes, you transform manual, disjointed activities into streamlined, repeatable ones with consistent results, saving you time, helping you optimize costs to make the most of your investments and allowing your organization to work smarter. You end up with streamlined manual tasks and accelerated overall efficiency, positively impacting quality, cycle times, resource allocation, compliance efforts, cost optimization and—perhaps most importantly—customer service.

IBM can address the spectrum of automation, from straight-through processing to solutions that integrate expert human skills. IBM process automation capabilities include:

- **Full process automation.** For jobs that can be entirely automated without any human interaction, the process is fully automated. This arrangement can yield substantial and rapid ROI, eliminate labor and shorten cycle times.



- **Collaborative human workflow.** For jobs that require some level of human interaction, the process is controlled and automated by a process engine that routes process-relevant information, updates back-end systems and presents data to human users.
- **Exception/complex case handling.** For tasks that require further analysis, explicit personal approvals or physical work, full automation is available. But the system is designed to be flexible, allowing employees to intervene and circumvent processes if preferred.

Supporting consistency in compliance

Given the staggering number of regulations, demanding service level agreements and complex processes, inconsistency in process is no longer an option. Manual processes don't just limit your ability to determine whether tasks are performed in the right sequence—they eliminate your ability to prove you're in line with regulations or internal controls. IBM process automation helps ensure that processes are run consistently, making steps visible, measurable and auditable. Based on SOA, IBM process automation combines the flexibility of loosely coupled open systems with the reliability of tightly coupled systems. The result is an agile infrastructure that offers the integrity to deliver nearly seamless processes spanning disparate systems and legacy systems.

Enabling efficiency within integration

In today's climate, it's essential that you integrate employees, partners and customers. But with differences in systems, applications and interfaces, that integration can be nearly impossible. This limits your ability to provide the right level of service to customers, and it takes away from your potential for

profitable operation. With an IBM process automation solution, you potentially avoid hard coding a variety of complex integrations, gain flexibility and agility, and optimize your costs. You also know that each step in the process is linked with the same inputs and outputs, helping to ensure consistent responses nearly every time.

Benefiting from the business results

To reap the significant benefits of process automation, there are several underlying IT requirements, including support of business process automation and monitoring, high-volume scenarios, mission-critical business processes and open standards. The IBM BPM solution combines process flows, manual tasks and ESB capabilities in a flexible SOA engine capable of orchestrating assets across applications, systems and people into highly optimized processes. It provides a consolidated view of business process content, enabling contextual collaboration in a security-rich, role-based environment.

Process automation

IBM WebSphere Process Server

IBM WebSphere Integration Developer

IBM WebSphere Business Modeler



Transform insight into action: Gain the visibility you need to respond to rapid change

In a business environment characterized by rapid change, you need the visibility to elicit the best response to changes in the marketplace and the agility required to formulate that response in a timely manner. The challenge, of course, is creating differentiation from your competition. But key differentiators are not always limited to individual products or service offerings; they're often closely intertwined with the business processes themselves. And without visibility into process performance, optimization of those processes becomes a guessing game.

The key to success is a clear and actionable view of all levels of your business processes. You need realtime visibility to mitigate risks and make the most of opportunities—while meeting and exceeding customer expectations and executing at the lowest cost possible.

Solutions from IBM can deliver clear, concise, actionable views into operational processes to your organization, extending and enhancing BPM by providing business users with new levels of insight that IBM BPM solutions can help you turn into action. The agility you gain enables you to better take advantage of potential opportunities and more easily overcome unexpected challenges, helping you work smarter and gain a competitive advantage. It also reduces the historical barriers to process change and optimization, integrating rich analytic tools and providing end users with:

- **Enhanced insight into business processes**, which enables organizations to fully realize the value of process insight and helps them act on it to make smarter business decisions.
- **Increased visibility into operations**, which delivers a clear, concise, realtime view into operational processes.
- **Improved ability to take action**, which helps business users take insight from those views and put it into action by optimizing processes.

Leverage deeper process insight

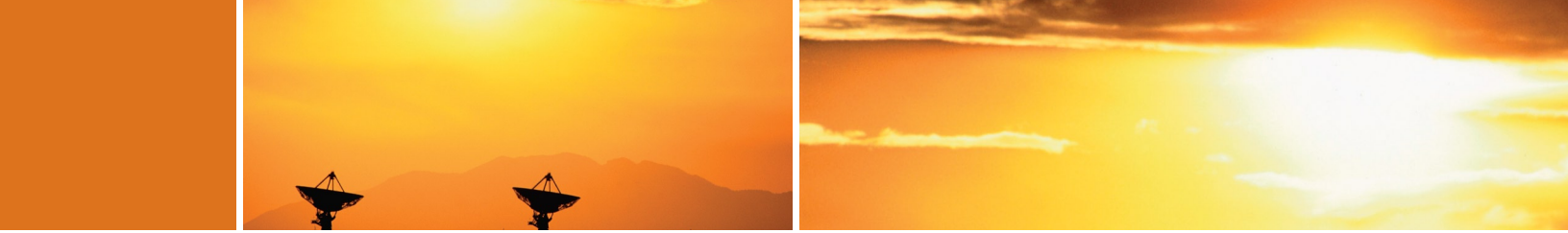
When you lack a clear view of business processes, you lack a clear view of business opportunities. But by monitoring business activity with an IBM BPM solution, you gain the ability to analyze data across processes and systems with a consolidated view of key performance indicators (KPIs) through customizable, role-based dashboards. KPIs and industry templates defined in IBM BPM solutions enable users to proactively monitor critical indicators.

Gain insight into process performance

With the right level of business intelligence, you extend insight into business processes to show the ultimate impact of process performance. IBM provides that level of intelligence, enabling you to compare past and current operational performance with established metrics. IBM BPM also offers extended offerings that can help you identify crucial business events—and with event volumes exploding at exponential rates, this effort can resemble the search for a needle in a global haystack. With business event processing, you gain the insight to determine when an actionable business event, or pattern of events, from one or more disparate sources across the enterprise, has occurred and then coordinate the right response at the right time—whether the event or event pattern represents an opportunity or a threat.

Take quick, decisive action

Insight is vital, but it's the action you take in response to that insight that's key. And if taking action is the key, then the ability to take action quickly is what unlocks true business potential. The IBM BPM suite works with a flexible, extensible business user interface to enable users to interact with business processes and collaborate across various media, from desktops to mobile devices and Web-based interfaces.



Adapt and respond dynamically: Increase business agility

In today's world, business leaders universally agree on one thing: Change is inevitable. With businesses growing, becoming global and acquiring other companies, this change is leading to potential issues with IT. Companies are dealing with overlaps and duplications in systems. And legacy systems are making it difficult to document activities for compliance regulations.

Transform insight into action

IBM WebSphere Business Monitor

IBM WebSphere Business Events

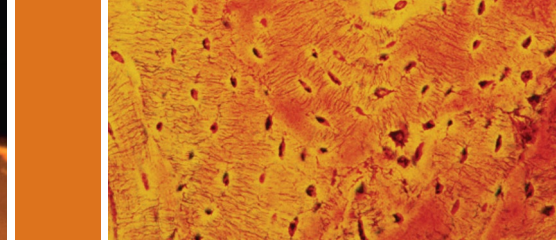
In these times of constant change, you need a cohesive set of tools that enables you to harness the power of smarter technology, making you more agile and turning IT challenges into business opportunities. While traditional approaches to BPM can yield strong business results through speed and efficiencies, dynamic process management leverages the benefits of SOA to enable you to respond quickly and cost-effectively to change and rapidly evolving business needs, effectively unlocking the power of your own resources to help optimize your total ROI.

Core offerings in the IBM BPM suite allow you to harness the power of change by helping you optimize business processes, integrating with existing business applications and systems to provide:

- Powerful simulation and rapid deployment capabilities designed to help you optimize processes and refine them over time.
- End-to-end process insights that enable realtime process changes, allowing you to foster closer collaboration between IT and your business strategy and objectives through increased process visibility, tracking and monitoring.
- Rapid process change, achieved through business service policy configurations rather than through application recording.

Model, simulate and deploy business processes

By modeling business processes in “current” state and “desired” state, you gain a better understanding of how you can optimize to increase performance. With the IBM BPM suite, sharable, reusable business services driven by business service policies enable organizations to define, manage and execute changes to business processes through configuration. IBM BPM solutions help you work with policies, enabling you to react to changing business needs, helping to provide an ever-increasing ROI, and facilitating modeling, visibility and monitoring.



Monitor, predict and act on business processes

To better understand how you can improve processes, you need to see them. IBM BPM solutions give you comprehensive monitoring and analysis tools, allowing you to better understand areas where you can improve processes, and helping you visualize and evaluate KPIs. Using intuitive, customizable dashboards, you gain realtime insight into process performance. And multidimensional analytics help predict future performance. All so that when you're ready to actually make the change, you can do so quickly and confidently.

Help increase ROI and gain competitive advantage

The key to optimizing ROI is making the most of what you have. IBM BPM solutions do just that by using IT assets you already have in place and bringing them into a "dynamic environment." A BPM solution from IBM can help you mitigate risk and avoid wasted time and money by ensuring that outcomes meet business objectives. Not only can this help increase ROI, but it also helps speed it up. A change that before may have taken months may now be completed in hours, enabling an almost immediate impact.

Adapt and respond dynamically

IBM WebSphere Dynamic Process Edition

IBM WebSphere Business Services Fabric

Learn more about IBM BPM powered by IBM SMART SOA software

IBM is exceptionally positioned to deliver BPM for your organization. As a current leader in BPM marketshare, IBM is recognized for marketplace-leading BPM offerings by numerous analyst firms. IBM provides a nearly unbeatable combination of BPM and SOA products and services, as well as one of the largest ecosystems of BPM partners in the world. In fact, IBM has helped more than 4,600 customers in 30 countries improve their business processes—and those numbers expand every day. To learn more about the IBM BPM suite of offerings or to find out how your organization can benefit from BPM, contact your IBM sales representative or IBM Business Partner. Or, to learn more and read client successes, visit:

ibm.com/software/innovate



IBM WebSphere software for smarter business outcomes

IBM WebSphere software has a long history of helping clients transform their businesses and integrate their business and IT environments. IBM's leadership in industry and business solutions has helped organizations better align their corporate assets with their strategic initiatives and achieve their requirements to improve service, reduce cost and manage risk. There are many important considerations when building a dynamic infrastructure optimized by connectivity, processes, applications and services:

How to get started

IBM can help assess the potential benefits of any of the solutions discussed in this brochure for any size business through proven tools, assessments and workshops by key initiatives to measure business impact. In addition, IBM will collaborate with you to build the right blueprint for success. Contact an IBM sales representative to get started today.

To learn more

For more information about IBM WebSphere solutions, contact your IBM sales representative or your IBM Business Partner, or visit:

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