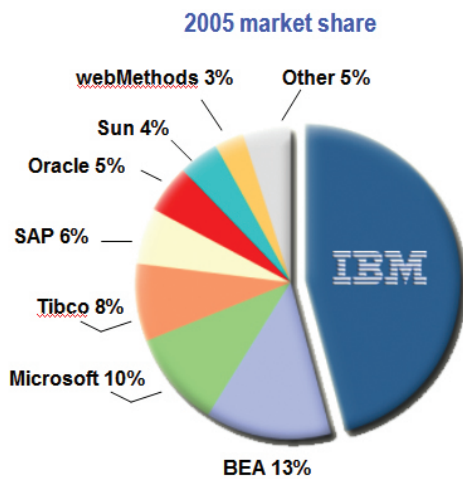


flex·ponsive*

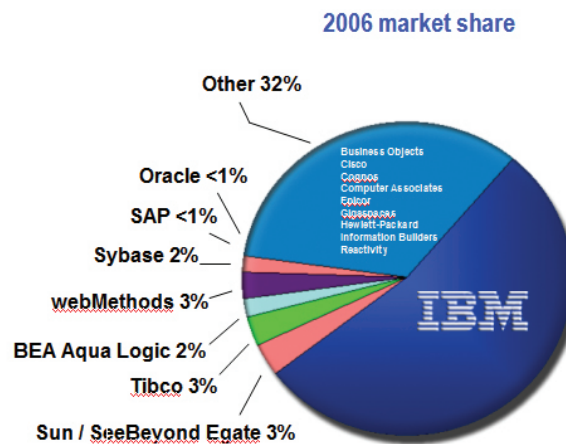
* description of a company that responds with lightning speed and agility to rapidly changing business needs

* IBM and SOA: Business is our middle name.

By bringing business and IT into tighter alignment, service oriented architecture (SOA) creates enduring impact on the organizations that use it. Companies are now better able to embrace business models that are based on sensing and rapidly responding to market conditions, and to radically reduce time and effort between business intent and IT execution.



Source: Wintergreen Research, 2006
Software engine and components only



Source: Wintergreen Research, April 2007
Software engine and components only

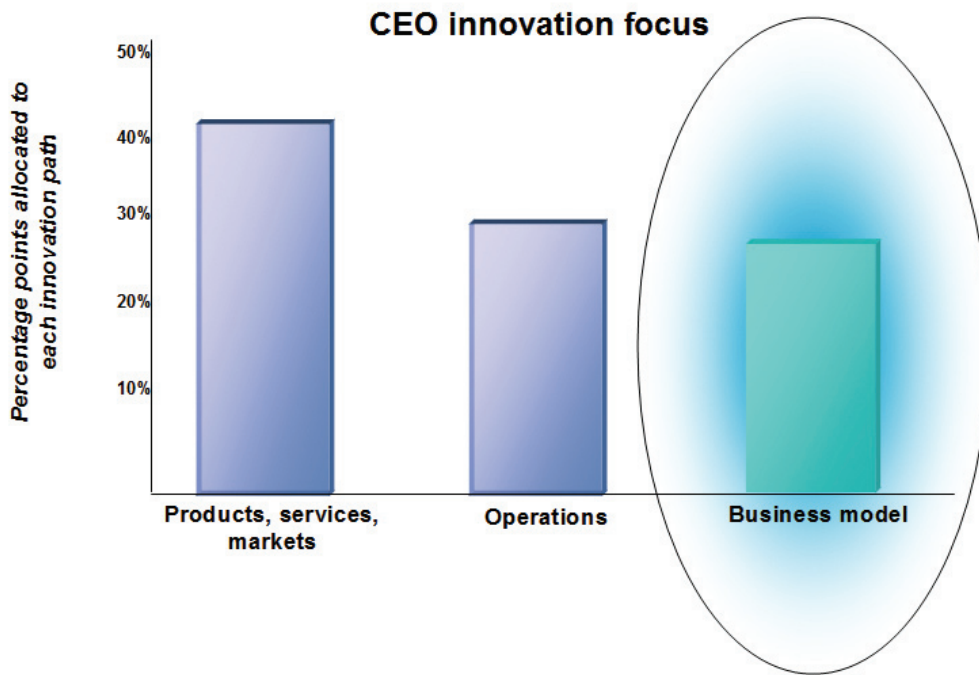
IBM is the clear leader in the SOA market.



Across the map and across industries, increasing competitive pressures and accelerating market evolution have given business leaders their new mandate: the need to innovate. Announcements IBM is making today support that need to innovate through offerings that will help:

- Drive deeper alignment of business and IT by enabling business models based on agility and flexibility.
- Deliver enduring impact of higher value for customers including business impact, technical impact and personal impact.

To survive and thrive in today's world, it's not enough to cut costs; CEOs must find new ways to evolve their businesses and achieve profitable growth. In the latest IBM Global CEO study, two-thirds of the more than 750 participating CEOs said they believed their organizations would need to introduce fundamental, radical changes in the next two years to respond to competitive pressures and external forces, and they are focusing 30 percent of their innovation efforts on their core business model, specifically the structure or financial model of their business.¹ However, fewer than half say that they have managed this magnitude of change successfully in the past.²



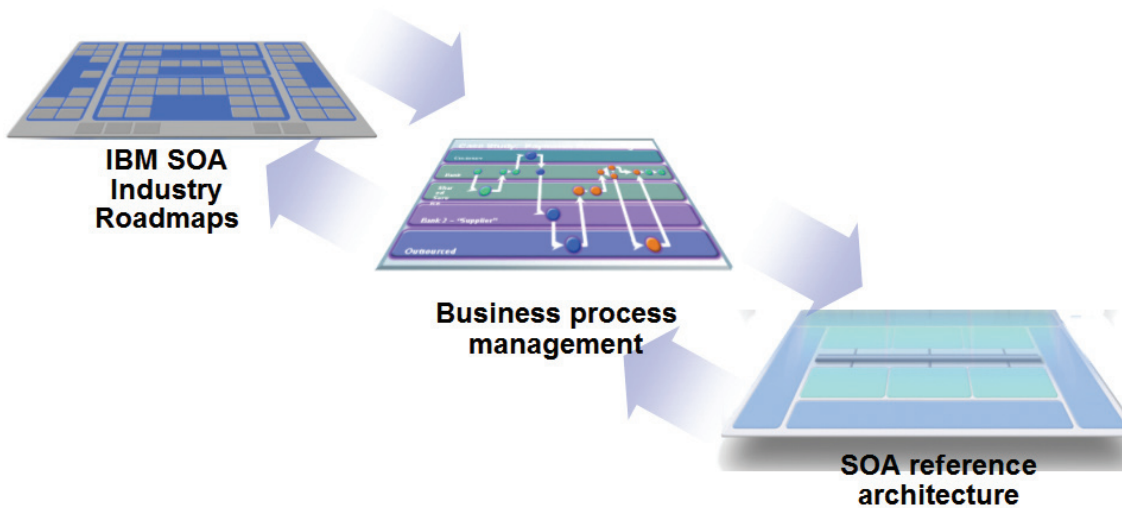
In response to increasing demands for innovation, SOA is bringing business and IT together.

Business and IT alignment: Bridging the gap

As business processes and the IT systems that support them become increasingly intertwined, part of the difficulty of managing innovation and change comes from the constraints of inflexible and spaghetti-like point-to-point custom connections among systems that exist in almost every business. Traditionally, business leaders tracked key market drivers and made business decisions to point the organization in the right direction while IT leaders have had to work overtime to overcome the limitations of existing IT systems. Although these systems contain rich organizational information and help form the foundation for key business processes, too often the functions they deliver are too rigid and brittle to meet the flexibility and agility needs of the business. This situation has led to a gap between the business leaders charting the course of the business and the IT leaders implementing the change.

However, in many organizations, SOA is well on the way to bringing business and IT closer together so that business direction and implementation happen in concert. SOA is a business-driven IT architectural approach that supports integrating the business as linked, repeatable business tasks, or services. Unlike past paradigm shifts, it is having a pronounced effect on the very business models that define the organizations that use it. Companies are now able to embrace business models that are based on sensing and rapidly responding to market conditions rather than stubbornly defending outdated positions. And they are already seeing the results. In a study by the IBM Institute for Business Value on the business value of flexibility and SOA, whereas 97 percent of respondents originally justified their projects on cost savings, 51 percent showed revenue growth and 100 percent saw increased business flexibility.³

To better understand how to take advantage of these changes, be sure to get a copy of the thought leadership paper from IBM entitled *The Future of Business*.



Companies approach SOA based on business priorities.

Business impact: SOA-enabled business-model innovation

The key to business-model innovation in a world of fast-changing opportunities and constantly evolving competitive environments is rapid innovation and flexibility. Innovative companies are already evolving their organizational structures and taking advantage of strategic partnerships. For the first time, because of SOA, firms can assemble the capabilities they need in new and different ways, taking advantage of best-of-class service providers and industry best practices where they provide a strategic advantage.

To help drive these more-flexible business models, today IBM is announcing *IBM SOA Industry Roadmaps* that accelerate the path from business concept to business value. IBM SOA Industry Roadmaps include a business blueprint to establish your business direction, and the supplies you need to get there. These road maps are based on long-term industry outlooks and new IBM business blueprints that enable organizations to create a greater alignment between business and IT. The road maps start by offering thought-leadership papers to help outline industry challenges and how those industries can benefit through greater flexibility driven by SOA. These thought-leadership papers then drill individually into specific business scenarios, describing how those processes are typically run today and how they will be improved in the future with SOA. Each thought-leadership paper also includes a recommended SOA entry point (discussed in detail in the next section) so businesses know the best place to start to drive immediate business benefits.

IBM SOA Industry Roadmaps also include IBM SOA Industry Frameworks that provide industry-specific content available from IBM to support a client's solution. IBM SOA Industry Frameworks contain composite business services and IBM Business Partner content that are built on a common foundation. Composite business services are packaged, interrelated, reconfigurable groups of optional software modules called *business services* that perform individual tasks tailored to the relevant industry's users, policies and methods. The foundation on which they are built is made up of industry-specific domain models and defined product capabilities from the IBM SOA software portfolio.

IBM is announcing a number of IBM SOA Industry Frameworks that address these industry- and domain-specific areas, and plans to follow with more later in 2007:

- Banking (payments), to help realize a significant return on investment in electronic payments processing
- Healthcare (member enrollment), to improve provider loyalty
- Healthcare (benefits and eligibility verification), to optimize the benefit and eligibility inquiry process used by providers
- Insurance (agent collaboration), to provide real-time access to policy, claims and related data through multiple modes of communication
- Retail store integration, to deliver a personal shopping experience
- Telecommunications (OSS), to improve order-to-cash efficiencies
- Telecommunications (Internet Protocol [IP] multimedia service), to speed time to market for new converged voice, video and data services

IBM SOA Industry Roadmaps are designed to help IBM clients deploy SOA solutions that deliver business value. These road maps do not imply "all or nothing" or "big bang" commitments, but rather support an incremental approach with each project undertaking increasing reuse and agility. When coupled with industry skills, know-how and leading methodologies from IBM Global Business Services, IBM SOA Industry Roadmaps provide an end-to-end offering for companies to drive business-model innovation. To complement the road maps, IBM Global Services is also introducing six new professional services, including SOA strategy, SOA diagnostic, and SOA design, development and integration services, to help provide the experience that can assist clients in implementation.



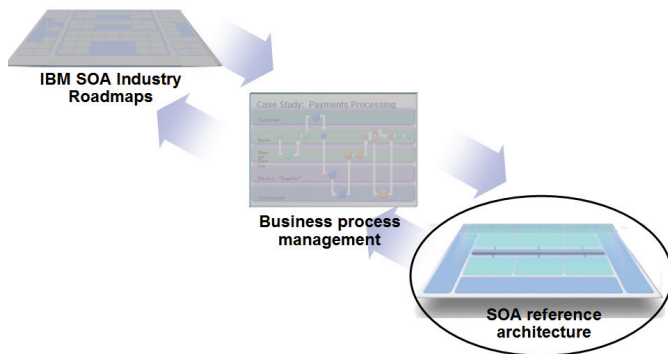
“We no longer want to invest the time and resources in two- or three-year initiatives. Business is changing so fast these days that we can’t afford to roll something into production that represents the thinking of three years ago.”

–Greg Booker, head of group architecture, St.George Bank

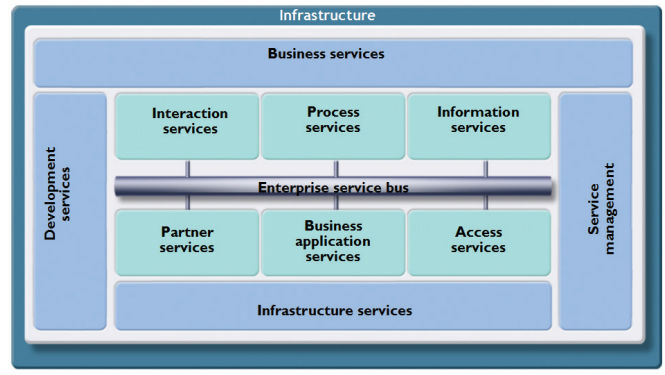
Technical impact: Laying a foundation of flexibility with SOA

At the same time that businesses are reassessing their business models and strategies for competing, they need to ensure that their IT systems are not a gating factor to growth. Instead, IT systems must evolve from being cost centers to being change enablers that can continue to support an ongoing innovation model. This process involves identifying the IT infrastructure, software, services and skills that can support IT flexibility through SOA.

The IBM SOA reference architecture presents a way of looking at the elements involved in increasing service orientation within any organization or IT environment. Organizations getting started with SOA or extending their existing SOA projects can use the reference architecture for gap analysis and to make plans for moving forward to higher levels of value.



Building the SOA technical foundation



IBM SOA reference architecture

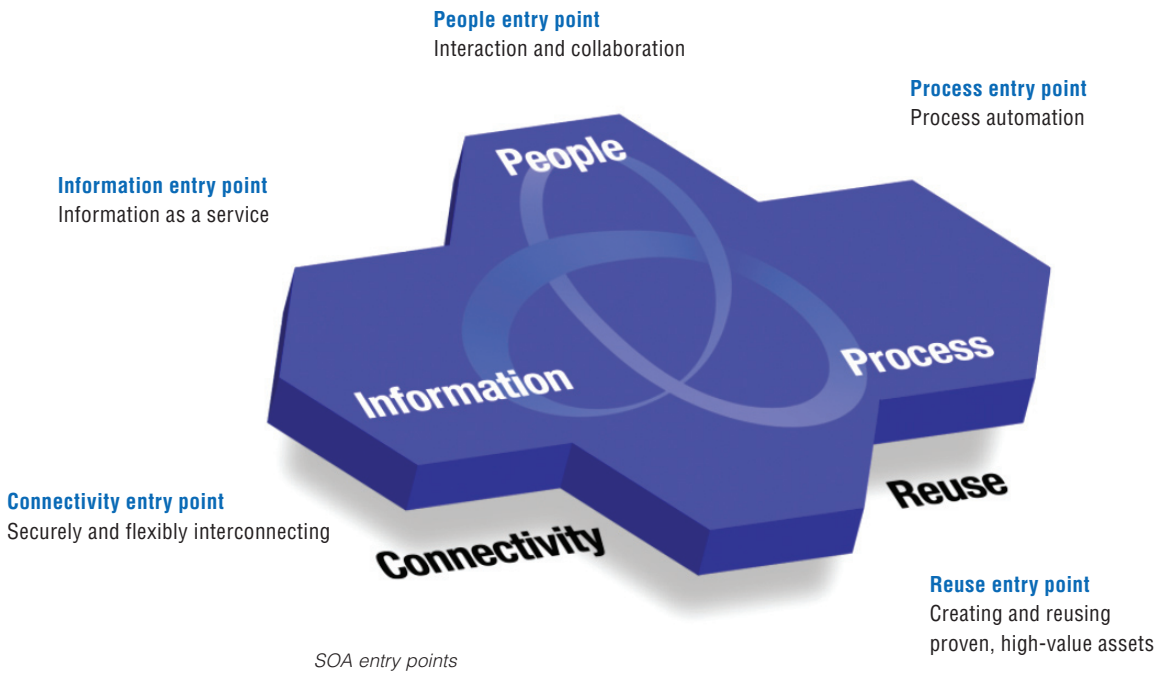
SOA entry points

To make the most of the power of SOA, it is critical to do more than just use the reference architecture and build a plan for laying the SOA foundation. It is also critical to make sure that the initial exposure to SOA provides the maximum business value through high-impact projects that meet the short-term needs of the organization as well as the long-term business and IT alignment objectives.

IBM has helped break down these barriers to getting started with the successful introduction of the SOA entry points, used in thousands of IBM client engagements worldwide. The SOA entry points build on the SOA reference architecture and are a series of modular, well-defined projects that help organizations get started with a clear, focused objective, while beginning to lay the groundwork for broader initiatives. The entry points include people, process, information, reuse and connectivity.

IBM is continuing to enhance its support across all of the entry points with new offerings that will help organizations deliver initial value from their entry-point projects and then attain higher value over time as they build on those initial projects. Given that IBM has the most experience with SOA of any vendor, it uses this learning to help ensure that these enhancements meet client needs as they mature in their deployments. These offerings include new and enhanced software, hardware, and professional services capabilities, such as:

- People— IBM WebSphere® Portal, providing the ability to dynamically assemble enterprise mashups with easy-to-use capabilities within SOA
- Process— IBM WebSphere Process Server for System z, combining process-automation capabilities with the industry-leading quality of service of the IBM System z™ platform
- Information— dynamic warehousing, using SOA to extend beyond traditional data warehousing and reporting to support more-dynamic business insight
- Reuse— IBM Web Services Feature Pack for WebSphere Application Server, extending industry-leading IBM Web services expertise to enable clients to reuse existing investments in a standardized fashion
- Connectivity— IBM WebSphere DataPower® SOA Appliances, delivering enhanced SOA connectivity and improved interoperability to help speed time to market and lower costs



Also, as client implementations have progressed, there has been an increased focus on how to ensure that the infrastructure and management for their SOA can support this growth. IBM has in turn extended its portfolio of offerings to help clients overcome these challenges. These offerings include:

- New professional services workshops and assessments of an organization's infrastructure architecture and IT process effectiveness compared with business objectives for SOA and the IBM reference architectures and best practices (IBM infrastructure strategy and planning workshop for SOA, IBM infrastructure readiness for SOA)

- Fully tested configuration of IBM software on IBM System p™ for common SOA use cases that can significantly shorten deployment time (IBM System p configuration for SOA entry points)
- Overall improvements to security and management for SOA environments, such as identity management and transaction-performance management (IBM Tivoli® Federated Identity Manager, IBM Tivoli Composite Application Manager for SOA)



People

- *WebSphere Portal*
- *Application and Infrastructure Services — Portal Infrastructure*



Process

- *WebSphere Process Server on System z*



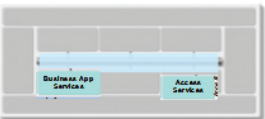
Information

- *Dynamic warehousing*



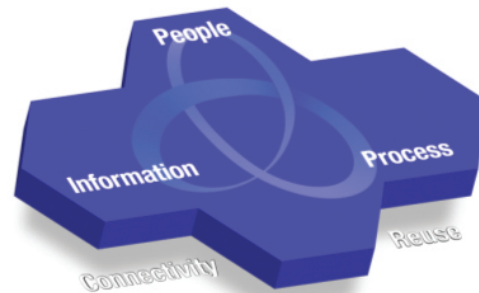
Reuse

- *WebSphere Application Server feature pack for Web services*
- *IBM Rational Business Developer*
- *IBM CICS® Transaction Server*



Connectivity

- *WebSphere DataPower SOA Appliance*



Cross entry points

- *System p configurations for SOA entry points*
- *Infrastructure strategy and planning workshop for SOA — professional services*
- *Infrastructure readiness for SOA — professional services*

New and enhanced support for SOA entry points



“With IBM software, we’re in the process of establishing a flexible, highly integrated IT platform that will not only streamline internal operations, but will also help us expand our offerings to better serve our customers.”

–Krish Hari Anand, CTO, Indecomm Global Services

Business process management enabled by SOA

As business and IT strengthen alignment and as organizations build on their initial entry-point projects to deliver higher value, they can use business process management (BPM) to tie together their people, processes and information. BPM bridges the gap between the top-down business-led approach and the bottom-up IT approach to process, business model and operational improvements. By providing a common vocabulary for both business and IT to address projects, BPM gives all participants a way to jointly deliver the solutions that will help businesses realize their strategic intent.

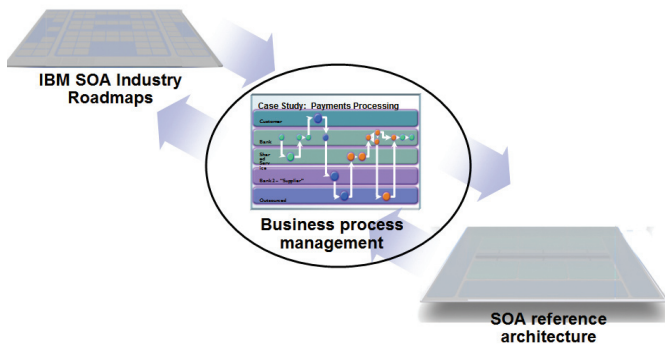
BPM is defined as a discipline combining software capabilities and business expertise to accelerate process improvement and facilitate business innovation.

BPM enabled by SOA provides a flexible architectural style in support of efficient process change and rapid process deployment.

BPM enabled by SOA helps make the business more responsive—helping to ensure that what is planned is the same as what is delivered. Initially, processes are documented and analyzed to provide an understanding of which processes create value and which processes are redundant, duplicated and inefficient. IBM is helping make the marriage of financial analysis and business-process analysis a reality with a campaign to put the simulation and financial-analysis capabilities of IBM WebSphere Business Modeler into the hands of as many users as possible. WebSphere Business Modeler, with in-depth return-on-investment (ROI) analysis and forecasting capabilities, is being used by approximately 1500 IBM Business Partners—as well as in nearly 300 courses at almost 100 universities.

Next, to align business strategy with execution, BPM enabled by SOA provides an environment where processes, tasks and activities (both human and system) can be represented as services that allow the effective creation and assembly of improved processes. SOA-enabled processes help improve communication among business-process analysts, process designers and integration specialists, along with the process owner. Through industry standards, business rules and frameworks, SOA-based process design and assembly are accelerated.

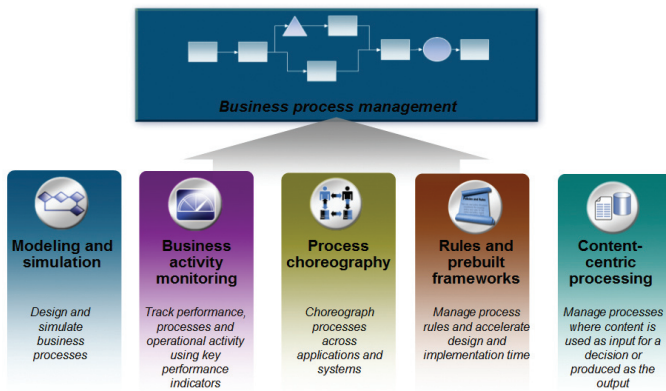
Following design, the deployment and execution occur on a technology platform that automates and streamlines the processes. Integration and ultimately the choreography of all process activity across an enterprise flow through an SOA-enabled process engine, helping to ensure consistency, linkages and an orchestrated business model.



BPM bridges the gap between the top-down business-led approach and the bottom-up IT approach.

* “RouteOne provides financing to 22,000 car dealerships across the country. Our business is based completely on Web services. In fact, if Web services didn’t exist, we couldn’t do what we do here.”

–Joel Gruber, CIO, RouteOne



Five components of BPM.

Through business activity monitoring (BAM), running processes are assigned key performance indicators (KPIs), and performance is observed and managed. Visibility and alerts to small problems are provided before they become big ones, and data is harvested to continue to optimize and improve the process model. IBM has expanded IBM WebSphere Business Monitor to provide broader BAM capabilities across multiple applications, giving clients the ability to manage performance across a broader environment of process activities.

This continuous, iterative approach to process improvement is made easier through the use of SOA. Successful organizations are using BPM enabled by SOA to drive business-model innovation in areas such as increasing customer satisfaction, helping to ensure regulatory compliance, building stronger trading-partner ecosystems and, ultimately, helping to deliver faster revenue growth.

Reducing the time and costs of deploying new business processes is also a key customer concern. To accelerate deployments, IBM also delivers policies, rules and prebuilt frameworks through IBM WebSphere Business Services Fabric, a platform for building next-generation business solutions.

The new version of the fabric provides support for globalization and enhances standard operating-environment support. Also available with WebSphere Business Services Fabric are optional industry content packs that contain industry-specific reference templates. Currently, IBM is offering industry content packs for insurance and healthcare and has plans to expand to banking and telecommunications.

To expand and grow capabilities across the full spectrum of BPM opportunities, IBM is continuing to invest in content-centric BPM offered through IBM FileNet. With this new release, IBM provides integration between FileNet Process Designer and WebSphere Business Modeler to enable models created in WebSphere Business Modeler to be deployed in a FileNet environment. Further, WebSphere Business Modeler is the common modeling and simulation tool for combined deployments. For BAM, WebSphere Business Monitor monitors FileNet BPM and is the common tool for combined BPM deployments. Lastly, IBM WebSphere Service Registry and Repository now supports FileNet P8 BPM, further solidifying IBM’s overall set of capabilities and strategy for BPM enabled by SOA.

To complement the software enhancements with industry expertise, IBM is also announcing a new BPM enabled by SOA services-engagement offering. The services engagement integrates business solutions to accelerate deployment of new business processes, taking advantage of deep industry expertise, benchmarking best practices, methods, tools and reference materials.

Additionally, IBM has enhanced and expanded its BPM methodology. The methodology, which provides line-of-business (LOB) leaders with a road map of execution points necessary for successful BPM initiatives, connects overall business strategy with required process capabilities and relevant BPM software needed to deliver process performance. IBM has expanded the number of practitioners trained on the methodology and broadened the linkage of traditional BPM methods with the latest in SOA-enabled BPM software.

* Why are clients choosing IBM?

- **Open standards.** IBM provides comprehensive Web services support across its software portfolio to deliver outstanding ease-of-use, security, interoperability and expandability. And IBM goes beyond mere standards support with its long-standing commitment to driving enhancement and adoption of Web services and other open standards throughout the industry.
- **Mission-critical SOA.** IBM enables organizations to identify assets and their relationships to business processes, enabling them to build for the future—not just for today. Working with IBM enables clients to connect all systems, old and new, with reliability and security, and engender available and responsive connectivity among systems.
- **Service-enabling what you have.** With IBM, companies can become more functionally service oriented so that they can quickly and economically rearrange the components that make up a business process as the need arises.
- **Business driven and business involvement.** SOA from IBM enables the true alignment of business and IT functions that the successful companies of the future will need.
- **Learning from experience.** Based on thousands of client engagements, IBM is the acknowledged SOA leader, and brings the benefit of this expertise to all of its SOA offerings and activities.

SOA governance and service life-cycle management:

Critical to overall SOA success

To support their SOA entry-point projects, successful organizations are using proven SOA governance techniques to gain oversight and control over their SOA projects and their services, as well as promoting effective reuse. These techniques enable organizations to efficiently guide the service life cycle through design, development, quality testing and eventual retirement, as well as promoting reuse by providing access to information about the service, such as quality of service, fees, descriptions and locations.

Using a registry or repository can help centralize this information much like a card catalogue centralizes information about books in a library. This centralization makes it easier to find information about a service, and establish and enforce policies about who has rights to access or alter the service. This approach, in turn, helps ensure that services are used correctly for effective SOA governance.

IBM has made the new IBM Rational® Asset Manager (which is a development-time registry) completely compatible with the run-time-focused WebSphere Services Registry and Repository to help track key information about services throughout their life cycles.

As services are reused and shared among various departments within an organization, how can funding for use of the service and future enhancements in the service be distributed equitably? IBM has enhanced the Tivoli Composite Application Service Manager with new service-usage-monitoring capabilities so that companies can do things like assess higher usage fees against groups who frequently access a specific service, and lower fees against groups who access the same service more sparingly.

Are you ready?

Are you prepared for today's evolving business realities? Can you rearrange your business processes to take advantage of a new market opportunity before your competitors? Are there obstacles that distract you from being more flexible and agile? The answers to these questions can define the winners and losers in today's fast-changing world. The enduring impact of SOA is driving the alignment of business and IT. Prepare yourself today.

To learn more about SOA from IBM, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/soa



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This document discusses strategy and plans, which are subject to change because of IBM business and technical judgments.

¹ IBM Global CEO Study 2006

² From "New Language of Business" by Sandy Carter

³ Institute for Business Value Study