



**How CIOs can drive growth,
business flexibility and innovation
in a flex-pon-sive* company.**

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Growth, business flexibility, and innovation are the results of a flex-pon-sive* company

In some ways, today's business environment is similar to the Internet era when, in the rush to embrace the Internet and to get a competitive edge, companies became preoccupied with e-commerce. In fact, instead of imagining a hybrid world, everyone said "clicks would replace bricks" and that retail would be changed forever. Others thought that it was not just about the transactions; they saw the larger vision of e-business. E-business was a new way of doing business. You can see the similarities to where we are today – the rush to adopt emerging technology and the misconception that business changes suddenly rather than gradually.

And today, there is a bigger world emerging on the horizon. From the work that IBM has been doing with business leaders and from the client engagements that IBM has been able to participate in, they have produced a study by the Institute of Business Value (IBV) on the business value of flexibility in this new world. The IBV did a study on the business value of service-oriented architecture (SOA). What they found was that those companies moving to what we would call the flex-pon-sive* world were seeing the results in flexibility from SOA.

***What is SOA?** SOA is a business-driven IT architectural approach that supports integrating your business as linked, repeatable business tasks or services. SOA helps today's businesses innovate by ensuring that IT systems can adapt quickly, easily, and economically to support rapidly changing business needs. It helps customers increase the flexibility of their business processes, strengthen their underlying IT infrastructure, and reuse their existing IT investments by creating connections among disparate applications and information sources.*

Flex-pon-sive*, a term I'll talk more about in the next section, describes the capability to respond with lightning speed and agility to rapidly changing business needs. While 97 percent of them justified their first SOA project based on cost, 100 percent of them saw increased business flexibility, and 51 percent showed increased revenue growth. Now this is on a deep dive of 30

Highlights

A global survey of CEOs conducted by IBM indicates that the need to innovate is a top priority.

Business flexibility is key to achieving innovation through collaboration.

customers who are actually plunging into this innovative and flex-pon-sive* world today but doing so with an understanding lost in the e-business world. This new model will require that business changes, but at an incremental pace. This study complements the IBM Global CEO Study, which showed that companies were pursuing growth again and only secondly cost-cutting. Since that study was completed, competitive pressures have only increased—due to advances in technology, the rapid advent of globalization, and the consequent flat world. If there's any change, it's the insertion of an important qualifier—profitability. Profitable growth is now at the top of the list.

And in a follow-on study, our recently released IBM Global CEO Study 2006, 765 CEOs in every major industry told us that the pressures to achieve profitable growth had introduced a new mandate—the need to innovate:

- *Two-thirds of the CEOs believe their organizations will need to introduce fundamental, radical changes in the next two years to respond to competitive pressures and external forces.*
- *Fewer than half say they've managed this magnitude of change successfully in the past.*

With the growing sophistication about how and where innovation occurs, companies know that business flexibility is the driver. New ideas don't just come from inside their company but from wikis, blogs, partners, customers, and even competitors. This world requires collaboration to solicit the ideas and flexibility to respond to those ideas. The insight is that CEOs now say that more of their ideas for innovation come from partners and clients than from their own employees.

The interesting commonality here is that all of these new ideas come from some sort of collaboration, but to act on those ideas, business flexibility must be a number-one priority.

Highlights

Business process innovation is the biggest differentiator, not product or service features.

Aligning business and IT can enable business process innovation.

Among all the CEO areas of focus we examined, business flexibility and collaboration showed the clearest correlation with financial performance, whatever the financial metric—revenue growth, operating margin growth, or average profitability over time. Beyond product or service innovation, more CEOs are looking to business process innovation as a key competitive advantage. As one CEO puts it, “Products and services can be copied. The business process and the model is the differentiator.” And another CEO commented that new product introductions in his industry only offered one month of market exclusivity before they are duplicated in the marketplace.

This whole discussion is key because it shows that a few of the top areas that a CIO needs to tackle are the alignment of business and IT, especially around joint goals, and a focus on those processes that will allow companies to differentiate themselves.

So the key questions that need to be addressed are:

- *What are your company’s business goals and how do you align your whole company, including business and IT, around those goals?*
- *What governance mechanisms do you have in place to drive those goals and the mandates throughout your corporation?*
- *What flexibility and innovation are needed for those goals to be reached?*
- *What business processes need innovation in order to be successful?*
- *How does your company create an environment of innovation and the power to act upon it?*

Highlights

Flex-pon-sive* companies are flexible from both business and IT perspectives.

A company cannot continue to be successful if it comes up with some superb ideas through powerful focus and collaboration but fails to act upon them, or is not flexible enough to respond quickly to market forces. Governance and a focus on the right processes coupled with flexibility to act are all critical for a flex-pon-sive* company.

So the bottom line is that companies must have change to innovate. Now given that every business is so tied to technology, this conclusion places a premium on the underlying technology that runs your company.

What does flex-pon-sive* mean?

Business flexibility is a key element in a company's growth strategy. The terrain for today's businesses is fraught with competitors, complexity, regulations, consolidation, demanding customers and business models that must change quickly and precisely. To navigate successfully, these organizations must be flexible—from both a business and IT perspective—and that's the core of flex-pon-sive*.

What is flex-pon-sive*? *It is the description of a company that responds with lightning speed and agility to rapidly changing business needs. This company must have a focus on processes that are enabled for change through IT.*

Highlights

Flex-pon-sive* companies don't respond to the environment, they drive the environment.

It is not just looking at the business side or the IT side but knowing that power comes from linking the two together. It is the ability to become more responsive to changing market conditions, including opportunities, customers, and competitive actions.

Companies need to be flexible enough to identify new opportunities and respond to them rapidly and economically, and to react to any customer or partner demand as well as to external threats. They need to accurately plan and manage demand, shorten product development lifecycles, and consolidate systems and information from constant M&A activity. Some examples of business flexibility challenges include the ability to establish a single view of customers as a means to drive sales, connect supply chains in order to better respond to customer demand changes—e.g., out-of-stock products or the need for new products, or to provide consistent multichannel access for customers in order to increase customer loyalty.

So we are not just talking about any flexibility, but the flexibility that matters to a company's bottom line. Flex-pon-sive* companies have the flexibility that drives them to not just respond to the environment, but drive the environment forward. Successful CIOs combine the power of IT and business to drive the market into new places. Flex-pon-sive* companies enable flexibility and quick reaction time, which are very important qualities in uncertain situations.

Highlights

SOA should be recognized as an organizationwide business strategy, not just an IT project.

Executive buy-in is critical to enabling business flexibility through SOA.

Now, how do you convince the business?

Behind every successful SOA is the Business. With its promise of using existing technology to more closely align IT with business goals, we have seen that SOAs have proven to help companies realize greater efficiencies, cost savings, and productivity. Still, as many CIOs have learned, without executive endorsement, an SOA will be relegated to the confines of IT as opposed to being recognized as an organizationwide business strategy. While no two organizations are exactly alike, there are consistent themes that arise when aiming for approval to build an SOA. For those many IT leaders who are facing the seemingly daunting challenge of presenting the importance and value of an SOA strategy to the executive suite, following are ten tips for selling SOA to the Business Leader.

- 1. Don't call it SOA:** Explain the value and benefits in business terms that reflect the organization's goals such as cost reduction, productivity, competitive advantage, etc. before diving into a technical conversation.
- 2. Vision, not version:** Outline the immediate and long-term results from this strategy while avoiding discussions about specific version numbers.
- 3. Build consensus throughout the company:** Prove the value of SOA through small test projects conducted with volunteer departments in the organization. Make sure to include those department leaders when you later roll out the SOA.

Highlights

Your C-level peers need to clearly see the advantages of SOA.

Make your case with simple messages that articulate value.

4. Start small yet live large: When selecting those small test projects, choose to integrate and automate those business processes that can have the most widespread, positive impact across the organization.

5. Watch the three letter acronyms: While it's easy to get caught up in the technical jargon that is fully understood among peers, remember that three letter acronyms (TLA) can sound as eloquent as pig Latin when trying to convince your CEO of a major, new strategic undertaking.

6. Get to the powerful points: Without relying on complex slides that can deter from the true purpose of the meeting.

7. Conviction and prediction: Articulate goals for each step along the SOA path. By publicly stating and achieving realistic goals for the organization based on an SOA—increasing productivity or decreasing costs by XX percent—you can bolster confidence in the project and overall strategy.

8. Reference third party validation (see the next section in detail!): Cite analyst data on the growth and adoption of service oriented architectures and point to relevant SOA success stories within your industry (and by your competitors).

9. The close: SOA what? Outline specific before-and-after scenarios of the impact of SOA on your particular organization to help disarm any naysayer and gain CEO approval.

10. Qualify and quantify: Set goals, track performance, and refine methodologies at every step along the way. Be sure to share the results with interested parties on a regular basis to demonstrate the success of your company's SOA journey. The opportunity to evangelize SOA to company executives is rare. To make the most of your extended elevator pitch, remember to articulate business benefits, reiterate bottom line results, and illustrate the companywide value of an SOA.

Highlights

SOA provides the best option for supporting flexibility, growth and innovation.

The services that make up an SOA are components that can be combined in new ways to gain new functionality.

SOA and Web 2.0 become the enablers

A flexible business—a flex-pon-sive* business—requires flexible IT. Innovation requires change, and SOA makes it easier for companies to change. Given this focus on business flexibility, growth, and innovation, the technology that most expedites these business goals is SOA. According to most of the analyst firms, SOA will become the de facto standard for business flexibility and collaboration among companies.

SOA is all about an approach that views a business as linked services and considers the outcomes they bring. Because it is built on open standards, it is a way for businesses to tap in to their existing technology investments and link together previously fragmented data and business processes flexibly—creating a more complete view of operations, potential bottlenecks, and areas for growth.

As we learned, advances in open standards and software development tools have now made SOA applications easier to develop. This, however, does not mean that everyone is deploying SOA applications; the market is at the early stages of adoption. Services that join together to support business processes within SOA are designed in such a way that different parts can operate independently of one another. Because of this, any one feature can be changed

Highlights

Web 2.0 focuses on collaboration and an enhanced user experience.

without breaking other parts of the application. This makes companies that have adopted principles of SOA much more responsive to changing business requirements than those that rely on traditional software development, where one feature change could derail an entire application.

The companies that master SOA technology operate more efficiently than their competitors and adapt more quickly to changing business conditions in their industries. And Web 2.0, a term that refers to the next generation of services available on the World Wide Web, facilitates the collaboration aspects, and SOA enables the infrastructure for flexibility. In contrast to the first generation, Web 2.0 gives users an experience closer to desktop applications than traditional static Web pages.

A great example of how this works is a retailer deciding whether to issue a credit card to a customer. It could use the technology to tap different sources and pull together information on a customer's credit-worthiness and buying habits. A bank can use the same computing services to handle account transfer requests, whether they are coming from a teller, an ATM, or a Web application, avoiding the need for multiple applications. A manufacturer could measure more closely what is happening in its production process, and then make adjustments that feed back instantly through its chain of suppliers.

Highlights

Companies should take a business-centric view of SOA to achieve innovation goals.

SOA enables profitable growth, both through revenue growth and cost-cutting. SOA enables innovation through collaboration and flexibility.

So your checklist here includes:

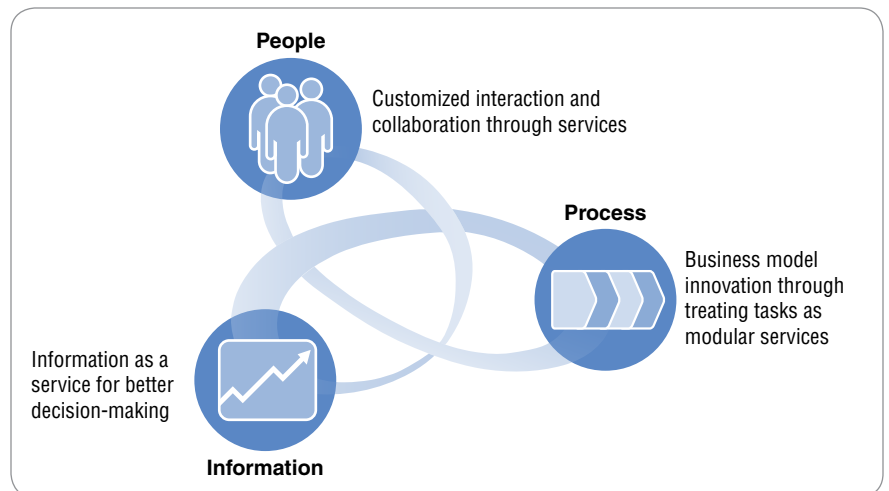
- *Understand SOA and Web 2.0.*
- *Develop the skills needed to embrace these new technologies.*
- *Understand the business implications of them.*

Learning from other companies is critical around the entry points

The companies that master SOA technology are able to operate more efficiently than their competitors and be quicker to adapt to changing business conditions in their industries. Meeting innovation priorities requires the ability to change flexibly, and companies should take a business-centric view of SOA (as opposed to an IT-centric view) to achieve these innovation goals (see Figure 1 on the next page). A recent study of more than 500 companies conducted by Mercer Management Consultants showed that these companies are approaching SOA from entry points of people, process, and information or all three. The lessons learned from the SOA entry points are furthered by the IBV study around SOA business value. This study of approximately 30 customers reveals some other lessons around revenue growth and cost cutting. Fifty-one percent of clients interviewed for this study expected their SOA deployment to grow their revenue. Most of that expectation was on taking an existing process and unlocking its potential. To explore this in a real-world setting, review a bank's processes like residential mortgage systems, credit card systems, or loan servicing systems. Following the IBM case study, an evaluation of those processes should reveal reusable parts like "submit loan application," "perform credit check," "determine credit line," or "calculate interest rate." SOA frees up IT to be able recombine in new ways these reusable parts to create new products, like tailored home equity lines of credit, for example. With SOA, the business strategist is free to innovate.

Highlights

Enterprise transformation can begin with a set of entry point projects.



*Figure 1
Companies are taking an increasingly business-centric approach to SOA.*

There are three companies that started from one of these entry points whose stories serve to again illustrate the lessons that can be learned from other company's experiences. Enterprise transformation powered by an SOA is really the holy grail the customer seeks. This enterprise transformation can begin with a set of entry point projects as a way for customers to start their transformation journey. For an overview, see Figure 2 on page 23.

Highlights

Pacorini built a framework of integrated online processes for information retrieval and workflow.

People and collaboration

Success story: Pacorini

Pacorini is an international company based in Trieste, Italy. It provides the delivery of coffee, metals, foods, and general cargo. The company processes these goods for quality control and schedules them to arrive just when they are needed in the customer's supply chain management (SCM) process. A highly regarded international company, Pacorini has 22 locations and 550 full-time employees; it comprises several different companies across three continents and 11 countries. As a market leader in the delivery of green coffee, Pacorini has maintained its competitive position up to now by offering timely customer service. However, although it used advanced technologies and leading SCM software, the company's internal business processes were not integrated. It was a challenge to manage siloed information, and to provide consistent customer service in a 24x7 world. Consequently, Pacorini was concerned about its ability to stay ahead of its competition.

Starting with an analysis of its current business processes to define priority tasks and link them together using streamlined workflows, Pacorini built a framework of integrated online processes. The company put in place an SOA to construct information retrieval and work processes using repeatable information services, customized to fit every task in a consistent manner. The company has implemented an order-enabled portal solution for both internal and external customers. It has also deployed a system-to-system order management solution with its largest coffee customer in Italy. Pacorini is now in the process of applying the communications standards it developed with its largest customer to nine of its other top ten customers. In the future, it will extend this solution to customers in metals, freight forwarding, and distribution areas. Online ordering will enable the company to automate approximately 30,000 transactions this year, a projected savings equivalent to four full-time employees.

Highlights

businessMart needed a solution to simplify the interface management and provide a platform for the exchange of business process information.

Success story: businessMart

A second example of the people entry point in action is businessMart. businessMart AG was founded in February 2000 and currently employs a workforce of 28. businessMart conceives and realizes electronic marketplaces and e-business systems for commerce, industry, and handicraft in sectors with catalog-based articles. Measurable improvements and savings are achieved with the consistent orientation to the sector processes of its customers and to the in-depth integration of the computer systems of the suppliers and customers. The broad spectrum of services from businessMart ranges from conception through technology modules all the way to the founding of independent, market-leading, portal-operating companies. businessMart now carries out the ordering processes of more than 60 suppliers with nearly 3,000 customers and more than 25,000 orders per day. businessMart currently operates two sector portals, and additional projects are in preparation.

Better integration—but how?

The continuous growth of the portals gives businessMart AG increased transaction revenues and clear growth in subscribers. Accordingly, more and more outside systems have to constantly be connected to the portal. The decisive headstart in technology—the far-reaching integration of the computer systems of suppliers and customers into the portal—was to be expanded even further to be able to be converted much more economically. businessMart went in search of a solution that would significantly simplify the interface management and provide a reliable, flexible, and easily controllable platform for the exchange of business process information.

Highlights

Business processes no longer had to be conducted through the bottleneck of a portal center, but rather could be processed in parallel.

Conversion of the architecture

businessMart created an SOA and implemented it throughout the entire portal. Within that context, the technology components were connected in independent individual modules, so-called “services.” With them, business processes no longer had to be conducted through the bottleneck of a portal center, but rather could be processed in parallel in the allocated modules. The architecture connects the customer systems with the available applications. In that regard, a central interface is employed for all of the portal components. The use of the component architecture makes a significantly faster development possible. The computer systems of new clients may now be integrated just as quickly as separate modules. Efficient and reusable application modules are created, resulting in software maintenance and care that is significantly more economical. In addition, the consistent use of fallback rules ensures that the system stability is not threatened by the failure of a single (outside) component.

The advantage of the new solution

The decisive additional value arises for the customers of businessMart AG through the now unrestricted transferability of individual portal services to outside software systems. The most important portal functions can now also be used directly in the customers’ usual software via Web service interfaces. In order to call up product details with pictures, exploded diagrams, operating instructions, or even supplier searches, the customer no longer needs to exit his or her own merchandise information computer system. These portal services are seamlessly integrated into the software and passed online from the portal. The customers of businessMart profit from faster and more comprehensive possibilities for intervention: Time-consuming, manual information processes were digitized and have thus been made more economical.

Highlights

In the future, companies will no longer exchange their order information only by means of contacts; they will instead allocate applications and have joint access directly to IT services.

For the integration of the customers' various back-end systems, businessMart uses IBM's SOA-enabled software to connect 16 different SAP systems. Marketplace participants now can simplify the flow of information, as well as increase their sales and reduce their procurement costs.

In e-business, the contribution margin killers are unclear order positions that generate manual questions by telephone and annoyances through wasting time. This step can now be processed significantly more efficiently through the portal: If the system recognizes an obsolete article number, an unclear entry of a packing unit, or even a format error, the supplier or the customer is contacted in real time. The supplier or customer can immediately remedy the problem directly in the portal through a correction or through the creation of a conversion rule.

Well equipped for the future

With the transfer of the portal functions to the systems of the customers and suppliers, the first step was taken in the expansion of the business model. In the future, companies will no longer exchange their order information only by means of contacts; they will instead allocate applications and have joint access directly to IT services. A portal will have to take over the role of the interface management to keep the complexity at an acceptable level for the market partner. While in search of a modern technology base, businessMart also found an engine for an evolutionary step.

Process

Success story: COSCON

COSCON is China's largest shipping container company. As a leader in the shipping and logistics services market, COSCON has 127 container vessels, and has shipped more than 320,000 containers to date. Its ships are regularly

Highlights

To become more competitive, COSCON integrated its existing EDI applications by deploying an SOA.

deployed to ports across the globe, each with its own regulations. To support these diverse requirements, COSCON had an electronic data interchange (EDI) system that consisted of 21 different applications with a variety of architectures and development languages supported on multiple servers. As COSCON's business continued to grow, its complex IT system hampered the company's ability to respond quickly to its ports of call and its external and internal customers.

To become more competitive, COSCON integrated its existing EDI applications by deploying an SOA. The open-standards-based technology approach enabled COSCON to connect its silos of data and software applications to allow its internal business to better interoperate with its customers, partners and suppliers. This solution leveraged the existing resources within COSCON and augmented them with a solution that improved productivity, allowing for more efficient communication and enabling COSCON to quickly react to changing market conditions.

With countries constantly changing their customs requirements, with a change occurring every two to three days and almost one month per change required in the current system, the need for flexibility – becoming flex-pon-sive* – was critical to the deployment. Because of these demands, COSCON chose to implement its process integration using SOA. The process entry point was chosen so that the communication between IT and business could be improved as well. Some of the processes COSCON chose to focus on were

Highlights

COSCON has experienced a dramatic increase in internal efficiency and has achieved higher levels of customer satisfaction.

adding ports and reports that the business side needed. By taking the process and creating business services of the key tasks, COSCON was able to meet government (customs) regulations and to integrate with many applications in different languages. COSCON deployed an SOA approach to consolidate multiple EDI systems and processes.

COSCON has experienced a dramatic increase in internal efficiency and has achieved higher levels of customer satisfaction. COSCON can now respond more quickly to the changing regulations set by foreign ports. In addition, COSCON has reduced the time it takes to configure and modify its IT system from two to three months to just two to three days. This time savings and greater development efficiency have resulted in higher customer satisfaction levels and have offered sizable cost savings. In addition, it allows COSCON's business personnel to communicate with IT staff and better understand the IT system, and the IT people can also better understand business operations. Much like we discussed earlier, this alignment of IT and business is crucial for business flexibility.

“Over the past few years, we have witnessed an increase in demand for our shipping services. This increased interest has placed additional pressure on our business, helping us realize that we needed to revamp and invest in our internal technology infrastructure to position our business for future growth,” said Mr. Ma Tao, Deputy General Manager of Information Technology, COSCON.

Highlights

Isolated business processes and outdated software limited ACI Global's ability to deliver innovative support services.

Success story: Automobile Club of Italy

All the way across the globe, another example of the process entry point is Automobile Club of Italy (ACI). Whether navigating the crowded streets of Rome or maneuvering the narrow roads that hug Italy's coastline along the Adriatic Sea, drivers count on ACI to deliver emergency roadside assistance.

As the nationwide provider of roadside services, ACI relies on technical support from ACI Global, which maintains a call center that provides 24x7 assistance. ACI Global has agreements with automotive manufacturers, fleet and car rental agencies, tour operators, banks and insurance companies to provide multiple products and services via its call center. Center operators handle approximately six million contacts annually, using advanced technologies to provide customers with timely and effective service. The complete ACI operational network includes 3,000 assistance vehicles, 1,000 operating centers, and 5,000 operators.

ACI Global strives to develop, implement and maintain value-added services that simplify the operations of its customer companies. The firm had been generating such improvements primarily through continually offering customers new and innovative services that encouraged increasingly rapid response times to roadside emergencies. Unfortunately, isolated business processes and outdated software design efforts limited ACI Global's ability to redefine its business offerings, frequently delaying the delivery of new products and services.

Highlights

ACI Global created an integrated, automated call center that is expected to improve call response times by 20 percent and operator productivity by 30 percent.

To satisfy customer expectations for new and innovative services and speedy response times, ACI Global wanted to implement a standardized, flexible design infrastructure that would encourage the rapid creation and delivery of new business functions, in turn streamlining several call center processes and hastening service delivery.

ACI Global worked to design and implement an automated call center, called “Centrale Operativa,” built on an SOA. Now, ACI Global staff members can leverage the SOA’s open-standards capabilities to easily design new support services for customer operators, including automated call-routing systems and improved call tracking and management. The SOA also encourages the reuse of code and processes to further streamline the creation of new services.

ACI Global expects automation and integration to lead to a 20 percent improvement in customer call response times and a 30 percent increase in call center operator productivity.

These lessons were learned:

- *It was very important up front to involve all the stakeholders.*
- *Focusing on the business needs made for a smoother production rollout.*

Highlights

Pep Boys set up its foundational technical base for SOA with a focus on connectivity and reuse.

Information

Success story: Pep Boys

In 1921, four young neighborhood entrepreneurs in Philadelphia, Pennsylvania, pooled US\$200 each to start what has become the largest automotive aftermarket retailer in the United States. Today, Pep Boys Auto employs more than 22,000 people at its 593 stores in 36 states and Puerto Rico, and reported over US\$2.2 billion in sales in 2004. Pep Boys differentiates itself from competitors by being the value alternative to car dealerships, providing exceptional customer service. And it's the only retailer that serves all four segments of the automotive aftermarket—do-it-yourself, do-it-for-me, buy-for-resale, and replacement tires.

Pep Boys is leveraging SOA to drive its business goals. In 2003, Pep Boys started to work on its point of service (POS) and service work order system (for bay service), and realized it did not have the right architecture nor the right applications. The first thing Pep Boys did was to set up its foundational technical base for SOA with a focus on connectivity and reuse. In this phase of its SOA deployment, Pep Boys leveraged a wide array of existing systems, including IBM IMS™, IBM CICS® and older Java™ technology. It used a standards-based approach, making approximately 45 calls to back-end systems using Web services (WSDL interfaces). Pep Boys built roughly 200 functional services. No migration of data was required.

Highlights

Pep Boys started its IT transformation by replacing its outdated POS environment with an IBM Open POS solution.

For the next phase, Pep Boys extended its deployment to include choreography of several retail processes, including returns and invoicing/billing. It choreographed processes/workflows consisting of 15 to 20 services. This put the key pieces in place for Pep Boys to push new and enhanced functions to its employees in the store. The capabilities enabled by the SOA allowed sales reps to have enhanced, more productive customer interactions. They were able to turn POS screens around so that sales reps could up-sell/cross-sell using new functionality. At the same time, Pep Boys created and was able to use a single view of the customer for various in-store activities. This is where Pep Boys focused on the information entry point. The initial pilot was completed in four months at 12 stores, and the total rollout to 590+ stores was completed in April 2005.

Pep Boys started its IT transformation by replacing its outdated POS environment with an IBM Open POS solution—a next-generation POS configuration built on Java technology-based 360Commerce software running on IBM Store Integration Framework, a specialized instance of an SOA architecture for retail customers, and comprising hardware, an operating system and services from IBM.

The business benefits of this SOA entry point of information in combination with other SOA entry points were that Pep Boys experienced faster checkout and increased responsiveness to customer needs and enhanced employee productivity and efficiency. “Now we can take debit cards, which have a lower fee rate than credit transactions,” explains Pep Boys’ Bob Berckman, Sr. Director of Store Solutions.

Highlights

Companies employing SOA entry points face process challenges and cultural issues, too.

Connectivity and reuse

Though in its infancy now, these SOA entry points promise to unleash capability much as the Internet—the prior technology evolution of comparable magnitude—already did. Companies employing SOA entry points face more than just technical challenges—there are process challenges and cultural issues, too. In Figure 2, you can see the view of how the entry points work in the real world. From the users and consumers at the top, where the services are exposed to people, to the way that processes are broken down into reusable assets made up of application and information components, this picture shows that the company that can link these pieces together has a more powerful, flexible view.

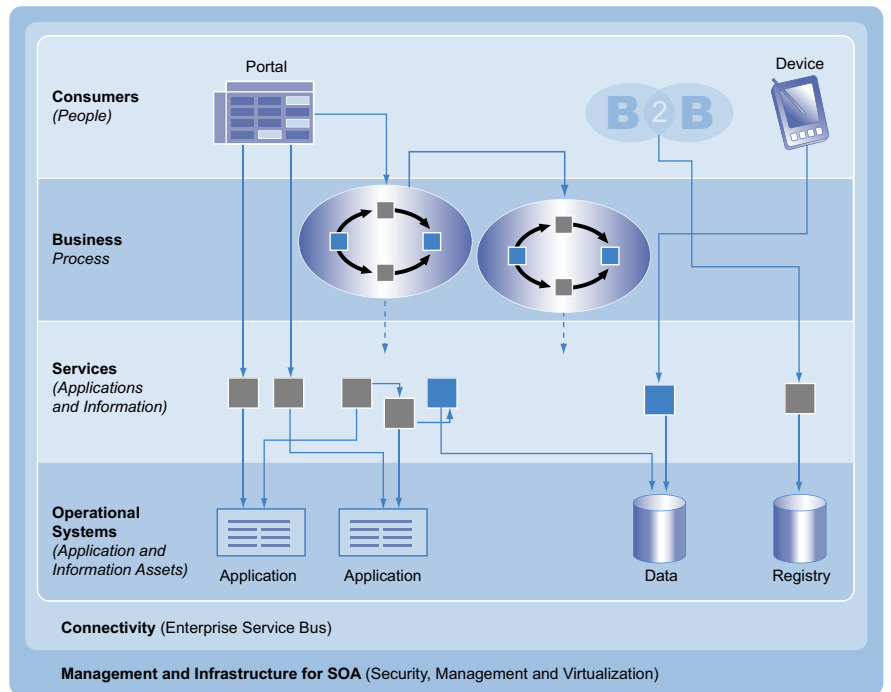


Figure 2
The flex-pon-sive* agenda through SOA.

Highlights

A great way to get started on this flexible IT piece of the equation is to take a self-assessment. In fact, with the assessment on ibm.com/soa, you can assess both the business readiness and IT readiness jointly. Answering a set of questions about the business, your technology, and your goals shows your location on a maturity curve. It also suggests projects to begin your enterprise transformation and help you learn the areas before a larger rollout.

So your checklist here includes:

- *Understand what other companies are doing with flexibility and SOA.*
- *Determine how your company can best use an SOA entry point.*
- *Take the SOA assessment to see where your company might begin.*
- *Begin a pilot project to learn.*

Unlock the business value multiplier

People-, process-, and information-centric approaches will yield results that can deliver strong ROI.

The next step to SOA value comes when you start to link across the entry points of people, process, and information. This combination is when you start to realize a Multiplier Effect, and your company's SOA business value accelerates. Entry points to get started with SOA projects can deliver significant value on their own. People-, process-, and information-centric approaches will yield results that can deliver strong ROI. However, the power can be exponential when clients apply SOA capabilities to people, process, and information aspects of a business in combination. We call this the Multiplier Effect, and it will change the way you approach SOA.

The Multiplier Effect promises to deliver even greater value to clients by linking people, process, and information through SOA. The promise is that businesses will not only be integrated but also built for change—built to adapt as market conditions demand greater attention by all parts of the business and

Highlights

Composite business applications will become as predominant as the monolithic applications that exist today.

a shift in resources in another. It's no great accomplishment to hard-wire a few databases to a user interface, which, in turn, presents information mapped to a particular process. The real value is creating flexible linkages of all three in a dynamic environment. Clients are continually upgrading and changing processes, applications, databases, and views into the business. Through SOA, all parts of the business—its people, the key processes, and the critical information—can stay linked and supported through that continual change.

In Figure 3, begin your view at the top where we see the entry points we have been discussing. The companies that have started their journey have seen higher return on their investment by combining the entry points of people, process, and information. This increase in flexibility and responsiveness comes from the focus on business process management (BPM) and composite business services, which are made up of pre-built domain-specific modules that form

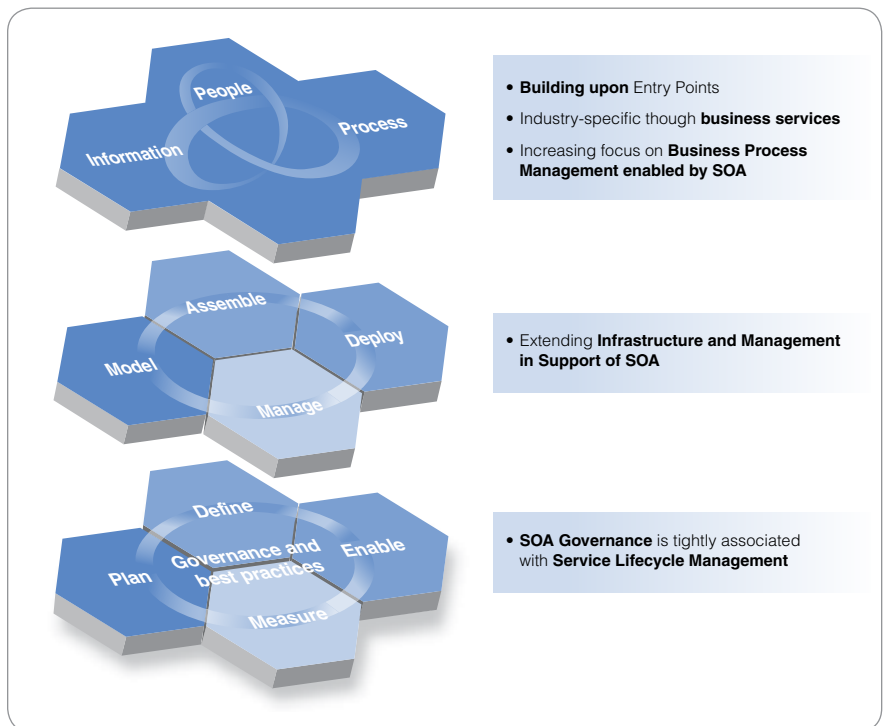


Figure 3
People, business processes, and information sources interact through SOA.

Highlights

Security, management and virtualization are all different in a highly flexible, SOA domain.

highly customized applications. Composite business applications will become as predominant as the monolithic applications that exist today.

Those same companies, which have seen the value of moving up the stack, also see the power of the right infrastructure. Security, management, and virtualization are all different in a highly flexible, SOA domain. These infrastructure services enhance resilience and security to accommodate decentralized services.

So your checklist begins here:

- *After your first SOA project, begin to see the linkages of people, process, and information. As you incorporate an SOA approach to address an immediate business problem, progress on the path to a broader SOA enterprise adoption.*
- *Business process management is more than a technology; it is a discipline.*
- *Composite applications will blend with monolithic applications. Check out the SOA Business Catalog at ibm.com/soa to see where the future is moving.*
- *Make sure you evaluate your infrastructure and management capabilities to support your SOA projects.*

Background

Success story: s.Oliver

(From the IDC white paper sponsored by IBM, "Service Oriented Architecture as a Business Strategy," doc 204313, November 2006)

s.Oliver Bernd Freier GmbH & Co. (s.Oliver) is a multinational retailer of apparel and accessories for men, women, and children. Founded in 1969 in Rottendorf, the company is one of the fastest-growing textile companies in Germany. With more than 2,350 employees, the firm currently operates 49 mega stores under its own management and approximately 240 stores that it

Highlights

s.Oliver reviewed the company's entire systems and application infrastructure with an eye toward innovation.

runs in conjunction with partners. Its continuously revolving collections are represented in 1,000 branded shops and departments and distributed through 1,330 stores in over 30 countries throughout Europe. s.Oliver's aggressive growth strategy has the company in line to double its revenues from €820 million in 2005 to reach €1.5 billion by 2010, fueled by further geographic expansion and partnering models.

The fashion industry is very fast-paced, as companies such as s.Oliver compete to stay ahead of the curve of consumer preferences. The firm must be able to quickly identify trends and turn over new products, continually introducing new styles and products to stay competitive. Such volatility places heavy demands on the firm's IT environment to be in lock-step with the business, with the latest product information, and subsequently support these offerings throughout all operational aspects of the business, from creation through the entire order and fulfillment process.

The company also must frequently enhance its Web presence with features to support what has increasingly become a critical go-to-market and partner integration channel. With its international reach, s.Oliver must support multiple languages and currencies, yet maintain strong brand control.

The business challenge

When Stefan Beyler, CIO and board member, joined s.Oliver in 2002, he and his team completely reviewed the company's entire systems and application infrastructure with an eye toward innovation. With many corporate divisions and an expansive product portfolio that typically turns over every four weeks, the firm's overall IT approach needed to be addressed in a whole new way. The company's systems environment had to better reflect the overall business strategy; therefore, according to Beyler, s.Oliver's strategy was not about installing

Highlights

s.Oliver's CIO was faced with the challenge of creating an environment that could readily adapt to new business requirements and processes.

a new application, system or server, its strategy was all about speed and agility. The firm must be able to recognize and exploit market trends in real-time, apply modern logistics, leverage e-commerce and mobile technologies, and continue to promote a highly collaborative and creative corporate environment.

The company's IT staff of nearly 100 employees is responsible for worldwide operations with a shared services model supported by two major data centers, one in Germany and the other in Hong Kong. s.Oliver's IT environment is a heterogeneous mix of many applications that have been acquired over the past few decades, including two major ERP systems and varied database and information sources. Thus, the team needed to manage a tremendous amount of interface logic (estimated at 1,500 data interfaces), and with such a rapidly changing business environment, this was becoming a daunting and nearly impossible task. The cost of making changes to application integration logic, which required custom coding, was also a widening concern.

Beyler was faced with the challenge of creating an environment that could readily adapt to new business requirements and processes, and manage increasing volumes of information. With corporate expectations of maintaining efficiency and keeping down cost, holistically changing over the company's existing base of applications was not an option. Utilizing SOA to create an on demand business environment was determined to be the ideal approach that s.Oliver needed, as it would provide the mechanism to address growth and change yet allow the IT environment to evolve in an incremental fashion with minimal risk, disruption, and expense.

Highlights

The portal enables collaboration and distribution of critical information across the enterprise to facilitate faster processes and decision making.

The SOA solution

The company created the s.Oliver Federated Integration Architecture (SOFIA). In September 2005, s.Oliver's IT team began implementing information-centric services to support its highly critical order process and was live in production by the end of February 2006.

One of the critical requirements for s.Oliver's evolving SOA strategy is to utilize technology that can coexist and leverage its heterogeneous application and data resources. It is also important for the company that any new software introduced adhere to open standards for interoperability and investment protection to minimize future vendor dependencies. The company chose to leverage an IBM suite for BPM enabled by SOA.

Another important part of the s.Oliver IT environment is its use of the people entry point and portal infrastructure to provide access to over 250 applications and centralized information services, simplifying the user interface and addressing multiple languages the company must support. The portal also enables collaboration and distribution of critical information across the enterprise to facilitate faster processes and decision making.

One of the key business values behind the SOA construct is in its inherent flexibility to address change, allowing s.Oliver additional speed to market. This platform allows the IT team to incrementally address new product requirements with minimal impact to upstream applications. The company is recognizing significant cost savings from the reduced efforts of the IT staff to continually maintain hard-wired integration logic.

Highlights

SOA is about providing the business with what it needs.

By applying its SOA strategy, the IT team has thus far been tremendously successful—a sure sign is the volume of requests flowing in from the business. “An interesting point to note,” stresses the s.Oliver CIO, “is that the business stakeholders do not see these as SOA projects, nor do they need to have any technical understanding of what a service entails. It is all about providing the business with what it needs.”

To facilitate achieving this level of business alignment, normally a business leader is involved with each project to provide that critical link. A team of eight IT professionals is dedicated to the overall SOA strategic agenda; however, for its long-term success, the entire IT community must support the vision and adhere to the reference framework.

Beyler points out the criticality and complexity of outlining and addressing all the processes involved for SOA governance. This includes guidance on how to determine and document requirements, development practices, versioning, monitoring and management, security, and assignment of responsibilities for the many tasks involved in creating and maintaining services. The CIO notes that there is a lot to learn, and it requires a good level of process understanding. The company already had a robust IT governance practice in place; however, it needed to add “SOA thinking” to the equation. To support further automation and SOA governance, the team also anticipates it will leverage a services registry and repository solution in the near future.

Lessons learned and looking ahead

The company already had a robust IT governance practice in place; however, it needed to add “SOA thinking” to the equation.

According to Beyler, “SOA is a business project, not a technology project,” and the most significant contributor to its success is addressing the people aspect of the equation. This involves rallying support throughout the entire IT organization, convincing developers through IT operations to cooperate across the many processes and dimensions of SOA design and governance. One activity that Beyler noted to be extremely useful was arranging for IBM SOA training for the s.Oliver IT staff. He noted it was very helpful to have the workshop’s agenda address the many activities and roles throughout the IT and SOA lifecycle.

Highlights

For s.Oliver, SOA is seen as enabling competitive differentiation for the company, allowing the company to rapidly introduce new products to market across its many businesses and lines.

Success, however, involves cooperation and acceptance across the entire business. Many IT organizations look to corporate management to help drive cooperation in the development and use of new technology. However, to Beyler, it is the IT department's ultimate responsibility to drive adoption throughout the company by providing good portal and application features and functions that have an impact on the business.

One of the next technical milestones the company has set its sights on will involve combining operational and non-operational data within its SOA environment, to support both transactional and data warehouse services. Another will be incorporating service orchestration on top of its enterprise service bus to facilitate functional and process service requirements. Another key business requirement for s.Oliver will be to support offline processing; thus, Beyler and his team will be investigating how to incorporate an SOA-managed client capability.

For s.Oliver, SOA is seen as enabling competitive differentiation for the company, allowing the company to rapidly introduce new products to market across its many businesses and lines. From a business perspective, the company plans to address functional business processes within its SOA environment to take advantage of the flexibility this architecture enables, including tasks involved in bringing product from design through production, supply chain management, and sales.

Governance is critical

The importance of SOA governance is critical as your company moves forward. SOA requires an efficient business and technology governance mechanism to make sure that IT efforts meet business needs, and as a means of controlling what services are deployed and how those services are used.

Highlights

Governance is designed to enable organizations to realize the full potential of flexibility.

Governance is designed to enable organizations to realize the full potential of flexibility. It addresses issues that, if left unattended, may be inhibitors to gaining the flexibility and time-to-market benefits associated with SOA. These are essential issues surrounding the lifecycle of a service. Effective SOA governance is more than just technology. It calls for a lifecycle approach that integrates an organization's people, processes, information, and assets.

IBM, in its internal use of SOA, found governance to be that secret to success. "From our point of view, SOA governance is an integral and significant aspect of our overall IT governance, which includes managing process, applications, data, and technology," says Catherine Winter, Team Leader for IBM Enterprise Architecture Governance. IBM started by identifying the appropriate processes and roles/responsibilities. IBM then set up the IBM Architecture Board to govern and manage its SOA environment, and IBM allowed that governance mechanism to help optimize IT assets across the entire corporation.

The keys to effective governance to address are:

- *Establishing decision rights for your SOA environment*
- *Defining appropriate services*
- *Managing the lifecycle of service assets*
- *Measuring effectiveness.*

Success Story: People's Bank of China—Lifecycle of Service Assets in action
China's federal bank avoids US\$1 billion in infrastructure and development costs and eases management of the country's treasury when it implements a nationwide, real-time tax and customs payment collection system based on a service oriented architecture.

Highlights

Owned by the Chinese government, the People's Bank of China (PBC) has been the driving force behind the Chinese commercial banking market since 1949. PBC, which serves as a clearinghouse for the Chinese banking industry, employs approximately 100,000 people at 32 first-line branches, 300 second-line branches, and 2,000 third-line branches.

The federally run PBC collects and processes tax and customs payments from all of China's 600 million taxpaying citizens. Historically, the nation's 32 provincial governments would first collect the payments from local banks and then submit the collections to PBC. Delays in this process, as money changed hands from the banks to the provinces and finally to PBC, allowed some provinces to accrue interest on the collections, which complicated management of the national treasury. To simplify and accelerate the process, PBC wanted to collect directly from the local banks. However, such a change would require it to integrate its tax- and customs-processing systems with thousands of different bank systems. The challenge was for PBC to create an efficient exchange system across all of China, without investing massive amounts of time and money in integration development projects.

PBC can now collect tax and customs payments from the local banks in real time by leveraging a cost-effective SOA.

PBC can now collect tax and customs payments from the local banks in real time by leveraging a cost-effective SOA. By enabling seamless integration between the disparate banking systems, open-standards-based software automatically routes roughly 13 million transactions per day between PBC and the commercial banks, while minimizing the need to hard-code integrations. PBC can efficiently add to or modify the services in the SOA as needed, to accommodate new requirements or implement new functionality with relative ease.

Highlights

PBC built an all-new treasury application infrastructure and SOA that will support more than 800,000 users.

PBC has seen business results of an estimated cost cutting of approximately US\$1 billion in infrastructure and development costs by taking the SOA approach and has eased management of the national treasury by eliminating processing delays. In addition, it gained business flexibility—flex-pon-siveness*—needed to adapt and improve the exchange system in the future.

To accomplish these goals, PBC built an all-new treasury application infrastructure and SOA that will support more than 800,000 users. Through the SOA environment, they route messages (transactions) to and from the external institutions, handling about 13 million messages per day. To ensure a smooth development process for the system's real-time transaction applications, a team of 20 developers, ten testers, five analysts, one project manager, and two executives added new processes and development methodologies to the SOA environment. Because of this focus on the Lifecycle of Service Assets through Development and Delivery, PBC will be able to reuse application components to integrate new applications quickly and maintain existing applications easily.

The business value of the SOA environment in PBC is that PBC can now easily interface with more than 150 diverse merchant banking, tax, and customs institutions across China, effectively centralizing and standardizing the collection of national treasury information. Using the solution, citizens can submit tax and customs payments online in real time via their bank accounts. Tax preparation that used to require as much as four hours to complete can now be entered and submitted in less than ten minutes.

Highlights

In total, the integrated, SOA-enabled system will help PBC save more than US\$1 billion in national treasury infrastructure, maintenance, and development costs.

PBC is able to easily adapt to changing LOB requirements. The integrated environment helps speed the bank's development process and eliminates wasted resources.

In total, the integrated, SOA-enabled system will help PBC save more than US\$1 billion in national treasury infrastructure, maintenance, and development costs.

Infrastructure and management complete the picture

To realize the value of SOA initiatives, companies are taking a planned approach to extending existing infrastructure and management capabilities in support of those projects. SOA requires thinking about these areas in a slightly different way. By securing effectively across the people, process, and information boundaries spanned by SOA projects, you can save money, reduce risks, and ensure compliance. Managing efficiently to gain visibility and control of SOA services and the components underneath them is critical for SOA project success.

By nature, SOA services can be virtualized. Making sure the infrastructure to support services is virtualized allows clients to place and prioritize the services for optimal business performance.

The keys to effective governance to address are:

- *Establishing the right set of security for your services*
- *Defining management within the context of SOA*
- *Determining your virtualization needs to drive performance and the right use of resources.*

Highlights

For ING to continue its success, it needed to reduce the time and cost of managing employee access to information while ensuring that staff could quickly respond to business change.

Success story: ING and SOA-enabled infrastructure and management

In 2005, ING became the sixth largest European financial institution, based upon market value, up six positions from only one year earlier. According to ING executives, this change is a reflection of the company's success in offering innovative and low-cost customer-focused services through a variety of distribution channels, including Web services, call centers, intermediaries, and branch offices. However, like many companies out there, ING was facing a growing number of industry regulations and increasing sophistication of its business services. For ING to continue its success, it needed to reduce the time and cost of managing employee access to information while ensuring that staff could quickly respond to business change. Focusing on its entitlement program, ING needed a streamlined approval process that leverages electronic forms and intelligent workflows to enable managers to request and approve authorization requests online. In addition, it was important to its business goals that ING provide a self-service capability so employees could change their passwords without the assistance of help-desk personnel.

The implementation of a common identity management system was a key milestone on the journey to deploying a broader strategic SOA environment for ING. The removal of security components from each individual application enabled the implementation of a common centralized set of security controls. This allows the organization to reduce development and deployment costs, ensures the consistent application of security policy, and provides users with a simple, convenient single-sign-on capability across a wide range of services. The benefit of this decision was a host of business benefits: the total projected

Highlights

savings of €15 million (US\$20 million) a year; projected 50 percent reduction in the number of administrators assigned to support identity management processes within 18 months; anticipated 25 percent savings in help-desk administrative costs; ability to reduce time and cost associated with regulatory reporting; and the ability to reduce turn-on time for new users from ten days to less than 24 hours.

Summary

Your journey begins with a focus on a real business problem, not on SOA.

To begin the journey of becoming a flex-pon-sive* company takes both business and IT acumen with a special focus on your business models and processes. Your journey begins with a focus on a real business problem, not SOA. How do you grow? How do you become more responsive? How do you ensure you have the right skills needed on both the business and IT side? Start small on your journey and build those needed talents and capabilities because, in the long run, SOA will enable your success.

Highlights

A trusted partner like IBM provides both the business acumen and the advanced technologies to build your journey upon.

Those who succeed have the longer term in mind—they're flex-pon-sive* in a global world and they leverage the best practices and learning of other companies. Maximize your company's journey with a shorter time to value by considering the following:

- *Focus on the area that will change the game in your industry.*
- *Address the area of focus with flexible IT—and SOA—to begin growing your revenue and ensuring flexibility. The SOA entry points are built on business-centric views and are flexible enough to fit your needs. These entry points are more than just hype; they have solid experience woven into the patterns for success.*
- *Leverage the best practices of leaders in your industry and others. Remember that the new game is the focus on business models and business processes.*
- *Governance is critical for cross-business cultural change that will be required. And a secure, robust infrastructure is needed to scale and support your SOA projects and undertakings.*
- *A trusted partner like IBM provides both the business acumen and the advanced technologies to build your journey upon. Because the world is changing, it is not just about technology. It is about the combination of business and IT.*

Highlights

The New Language of Business: SOA & Web 2.0 offers a deep dive into the issues raised in this white paper.

For more information on becoming a flex-pon-sive* company

If you are interested in learning more about how to make your business more agile and successful through IT systems that are “Built for Change” versus “Built to Last,” Sandy Carter’s recently published *The New Language of Business: SOA & Web 2.0* offers a deep dive into the issues raised in this white paper. In the book, Sandy takes readers through a specific roadmap on how, where, when, and why to embrace an SOA strategy. Highlights include:

- *More than 40 customer case studies*
- *The IBM roadmap for SOA and Web 2.0 deployment*
- *Top ten SOA “Don’ts”*
- *And a review of best-practice methodologies behind hundreds of successful SOA implementations in over 50 countries.*

Save 35 percent off the list price by pre-ordering your copy today at www.ibmpressbooks.com/carter, using the coupon code: CARTER654X during the checkout process (promotion available until end of June 2007).



About the author

Sandy Carter is Vice President, SOA and IBM WebSphere® Strategy, Channels and Marketing for IBM Corporation. Sandy is responsible for driving IBM's cross-company, worldwide SOA marketing initiatives, and in this role, helps oversee the company's SOA strategy across software, services, and hardware and sets the company's SOA marketing direction. Sandy has played a critical role in helping to identify SOA acquisition targets and ensure the successful integration of these organizations into the IBM SOA portfolio. Additionally, she directs SOA messaging and content, leading a global team in driving customer demand for IBM and IBM Business Partner SOA solutions.

Sandy holds a Bachelor of Science degree in math and computer science from Duke University and an MBA from Harvard, and is fluent in eight programming languages. For more information, please visit Sandy's blog at: http://www-03.ibm.com/developerworks/blogs/page/SOA_Off_the_Record.

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