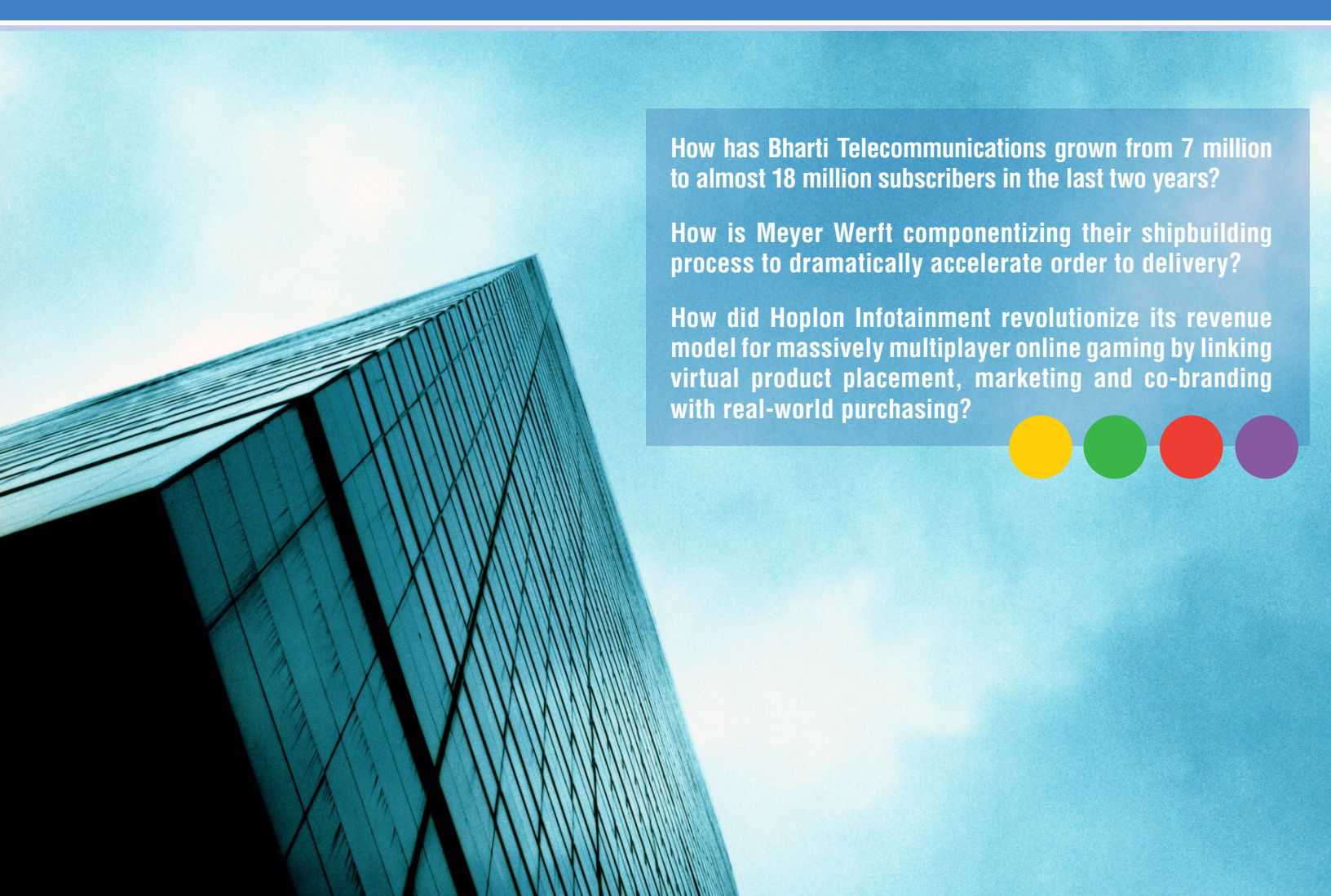




**Smart SOA: Reimagine more from your business.**



How has Bharti Telecommunications grown from 7 million to almost 18 million subscribers in the last two years?

How is Meyer Werft componentizing their shipbuilding process to dramatically accelerate order to delivery?

How did Hoplon Infotainment revolutionize its revenue model for massively multiplayer online gaming by linking virtual product placement, marketing and co-branding with real-world purchasing?



These companies and others like them are a new class of truly agile organizations that are rising to the challenges posed by this era of unprecedented change; they are thriving while others struggle. These globally integrated enterprises deliver unique value, tap into the power of globalization and forge a strategy of componentization. Globally integrated enterprises partner with other best-in-class organizations to bring value to the market, not only through innovative products and services, but also through innovative business models that often transform the very nature their of their industry.

Globally integrated enterprises are agile enterprises. They recognize no boundaries in selecting and collaborating with their partners and are able to effortlessly switch these partnerships to better meet their customers' needs. To win, these agile organizations are able to effectively sense change and respond to it by making informed decisions about changes to their own business model.

### **Becoming a globally integrated enterprise**

Organizations that have transitioned successfully into globally integrated enterprises have not only defined their winning strategy; they have also put it into operation. They have delivered sustainable agility in their systems through approaches such as service oriented architecture (SOA) in a way that supports their business needs. They have given themselves the tools to optimize their business processes and made it a practice to continuously and innovatively refine them. They have established continuous alignment between IT and the business to create competitive advantage.

# AGILITY: the ability to quickly and effectively respond to changes, opportunities and threats.

## Smart SOA: A smarter approach to agility

For globally integrated enterprises, SOA is a preferred method for delivering sustainable agility. As a business-driven IT architectural approach, SOA supports integrating the business as linked, repeatable business tasks, or services. This flexible approach allows organizations to update or reorchestrate or even incorporate new tasks to meet changing business conditions without rebuilding their systems.

The most successful organizations—those transitioning to global integration—implement SOA with a focus on business value and use tested and proven techniques. They are partnering with vendors who will help them realize and maximize their returns.

With significantly more experience than other vendors and the largest market share,<sup>1</sup> IBM is uniquely positioned to embed guidance based on real customer deployments into SOA—an approach we call Smart SOA.



Essentially, Smart SOA is a set of guiding principles we developed from working with the more than 5700 customers who use our SOA offerings. Smart SOA benefits both business and IT by extending the business value of deployment. Smart SOA demands that the principles of simplicity and robustness be applied regardless of what SOA style you select. Smart SOA also recognizes that your needs are evolving, and while you want to make sure that you are meeting basic needs with basic projects, you also want to make sure you have room to grow when your needs evolve and become more advanced.

### The right Smart SOA style for you

Your Smart SOA style depends on your business needs and priorities. With Smart SOA, you can find value at every stage of the continuum, from basic to advanced initiatives:

- Foundational – *start with focused proven, high-ROI projects*
- Extend end-to-end – *innovate and optimize higher profile, core, end-to-end business processes for broader ROI*
- Transform – *innovate the business model by using IT for strategic advantage for ROI across the enterprise*
- Adapt dynamically – *initiate major shifts from the business side without direct IT involvement in this aspirational stage in which technology becomes invisible*

	<b>Value to business</b>	Greater agility in specific, departmental business areas	Optimization and innovation across end-to-end business processes	Business model innovation to support the globally integrated enterprise	Predictive business automatically responding to market forces
		Foundational	Extend end-to-end	Transform	Adapt dynamically
		Basic			Advanced
	<b>Value to IT</b>	Focused, proven, high-ROI projects	End-to-end business process management to innovate and optimize	IT for strategic advantage and business model innovation	Technology becomes invisible
	<b>% functions expressed as services</b>	<10%	<40%	<80%	<80%
	<b>% of services reused</b>	<5%	<20%	<50%	<50%

Smart SOA delivers distinct value with every style regardless of where you choose to engage.

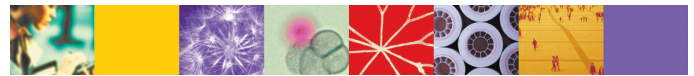
## Innovating your business model

Transforming into a globally integrated enterprise requires developing new, innovative business models that differentiate you from the competition. In order to effectively put these new business models into practice, you will need to consider the people, processes and information of your business; you will need to take a holistic approach to operations that span your business, processes and IT. IBM's Smart SOA business offerings will help you operationalize your business strategy.

To help clients assess and develop innovative business models, IBM developed a Globally Integrated Enterprise Assessment offering. This professional service offering identifies and benchmarks business models' capabilities against world-class standards.

Glimpse the future of your industry in the next decade and beyond. IBM's Industry 2020 series delivers compelling insights around key industry trends with access to more than 35 original thought leadership projects a year, spanning all industries as well as the eagerly anticipated series of CEO and CIO studies. Take the long view with this thought leadership and prioritize how you want your business to look in the future.

When you know where you are, you have taken an important step towards becoming a globally integrated enterprise. The next step is to promote service orientation in your business by decomposing your activities into individual functional services and prioritizing those business processes that are core and differentiating, and that give the organization a competitive advantage. Again, you can conduct this exercise yourself, or IBM can assist with more than 70 component business models to help you.



### IBM: Committed to providing industry solutions

- Prioritize your business processes using IBM's 70+ component business models
- Gain compelling insights around key industry trends with access to more than 35 original thought-leadership projects a year, spanning all industries
- Speed your time to value by using SOA solution assets, plus the more than 4500 available in our business catalog and Industry Content Packs
- Fast track your projects with the IBM SOA Solution Acceleration Team



“By moving to a service oriented architecture on IBM System z™, we have gained the ability to think more about business problems and work through business solutions. At Aurora Health Care, we no longer talk about the technical challenges; we talk about what is possible.”

— **Duane Wesenberg, Vice President Enterprise Applications, Aurora Health Care**

## Optimizing and innovating end-to-end business processes

Where does this innovation and optimization come from? The discipline of business process management (BPM). BPM combines software capabilities and business expertise to accelerate process innovation and optimization. When BPM is enabled by SOA, core processes can be broken into individual services, giving the processes flexibility, and therefore, the business agility. Leveraged in the right way—that is, not just modeling processes, but also simulating outcomes and what-if scenarios, using business rules to guide process flow, and monitoring key business metrics to refine processes—BPM enabled by SOA becomes a critical part of transforming into a globally integrated enterprise. For maximum impact, globally integrated businesses use BPM enabled by SOA to look at their processes from end to end, across departments and divisions, breaking down functional and organizational barriers. IBM's offerings support this comprehensive approach to BPM enabled by SOA:

### Model, analyze and simulate business processes

IBM WebSphere® Business Modeler goes beyond helping you document the business processes you depend on for differentiation; it allows you to run simulations to forecast outcomes if you altered the process. Modeler allows you to take an iterative approach to these simulations, quantify the results and arrive at an optimal process design—before putting a single change into action!

### Accelerate deployment with industry-specific best practices

An industry-focused approach to business process innovation can help you magnify the value of your efforts and speed your time to value. Using IBM WebSphere Business Services Fabric and its associated prebuilt, customizable IBM Industry Content Packs can help you leverage industry standards along with best practices gleaned from thousands of customer engagements and years of research and development. IBM has enhanced existing Industry Content Packs with additional business services and added new Industry Content Packs in banking, health care, insurance and telecommunications.

### Measure results to continuously optimize and innovate

To promote continuous improvement of your processes, you'll want to empower the right people in your organization to track relevant metrics and key performance indicators (KPIs) in the right context. IBM offers comprehensive business activity monitoring (BAM) and then builds on that foundation to give more in-depth and industry-specific context.

Enhancements to IBM WebSphere Business Monitor put the power of monitoring in the hands of the business users through direct control of the creation of new KPIs within the dashboards and the ability to manage alerts without involving IT. For an integrated view of your business and IT environment, the IBM Business of IT Dashboard provides overall monitoring, real time measurement against predetermined metrics, alerts, notifications and reporting.

The IBM Benchmarking Wizard, available through IBM Services, allows you to compare your performance to standard cross-industry metrics. It also makes it possible to quantify another kind of business metric that IBM is pioneering: key agility indicators (KAIs) to help you project how well you are poised for the future. These KAIs can help assess operational costs, efficiencies and quality measures.

### *Staying competitive, making better decisions with BPM*

Globally integrated enterprises never stay still; they continue through this cycle for reoptimization and innovation of their end-to-end business processes. For globally integrated enterprises, following this cycle from modeling to measuring is a critical part of staying competitive and making better decisions about the direction of their business as conditions evolve.



## Ensuring continuous alignment between IT and business

When you want to take advantage of market shifts, implement new strategies, and optimize existing processes, IT must move in lockstep with business – not just at a particular point in time, but on an ongoing basis. As changes happen rapidly on the business side, those changes need to be immediately supported by the IT side.

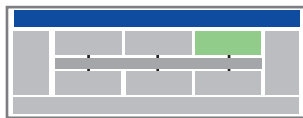
Service oriented architecture provides a common language to the business world that guides organizational direction and the IT world implementing those changes. The service oriented approach means that businesses can update and alter tasks or introduce new tasks at the speed that the business requires, ensuring that IT implementation is continuously linked to business intention. With its Smart SOA approach, IBM helps you marry your IT projects to your business goals, promoting IT convergence with the business. Smart SOA also ensures that you gain business value for all of your SOA projects, from foundational to advanced projects.

## Start foundational projects with SOA entry points

IBM has consistently been at the forefront of removing barriers to SOA adoption, beginning with the introduction of the SOA entry points. IBM developed these entry points by creating detailed SOA scenarios or business use cases, synthesized from best practices in use in the market. These well-defined, repeatable, projects focused on people, process, information, reuse and connectivity, have been the first taste of high-ROI SOA for thousands of customers. IBM developed these entry points by creating detailed SOA scenarios or business use cases, synthesized from best practices in use in the market. Rather than advocating a particular starting point based on product heritage like some vendors might, the IBM SOA entry points provide a set of options that help you identify projects that meet your specific business needs. The entry points projects will also lay the foundation for your future efforts. IBM's SOA offerings are designed to grow with you, delivering more sophisticated functionality when you need it so that you can build on what you have rather than replacing it.



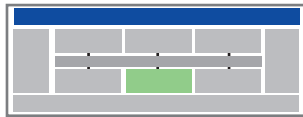
**Process:**  
• WebSphere Process Server



**Information:**  
• DataMirror Transformation Server



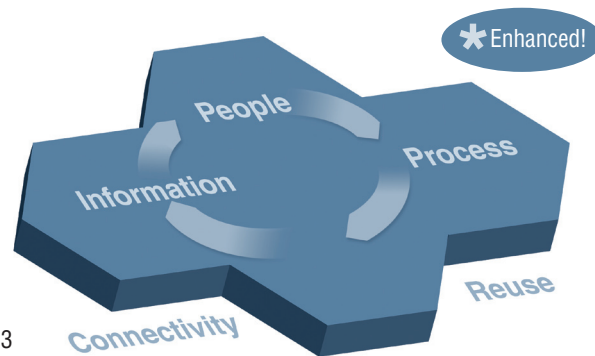
**People:**  
• WebSphere Portal Accelerators



**Reuse:**  
• WebSphere Application Server Feature Pack for EJB3  
• IBM Rational Transformation Workbench



**Connectivity:**  
• WebSphere Datapower  
• WebSphere Adapters



**Cross-SOA entry points**  
SOA Design, Development and Integration Services

IBM continues to invest heavily in our offerings that support the SOA entry points.

IBM continues to enhance the entry points with product-level enhancements within each entry point, as well as the introduction of the SOA Sandbox – downloadable software, tutorials and quick-start guides for developers offered free of charge. IBM is also rolling out SOA configurations for leveraging existing and packaged applications, SOA security and management, as well as configurations specifically for IBM System p™ servers to help reduce deployment time for common SOA use cases. In addition, IBM has professional services geared toward getting you started.

#### SOA entry points extended with Web 2.0

Just as globally integrated enterprises don't stand still, neither do the SOA entry points. IBM is making it easier to extend the entry points with Web 2.0. SOA and Web 2.0 are not an "either-or" proposition; they exist along side each other within organizations. In fact, IBM is incorporating support for Web 2.0 in a whole host of software traditionally associated with SOA. Web 2.0 extends SOA by enabling the creation of user-created applications, a rich user experience, user-customized information services, and simple access to services.

IBM allows users to pursue their initiatives using SOA and Web 2.0—not one or the other. For example, WebSphere MQ now has an HTTP Bridge that enables developers using Ajax and RESTful Web services to leverage a reliable delivery platform.

#### *Taking SOA to the next level for greater agility, differentiation and value*

As SOA gains ground within the enterprise, initial pilot projects tend to expand their scope to become enterprise-wide. As this happens, SOA becomes the preferred approach for delivering mission-critical business processes, and performance and reliability become increasingly important considerations. You'll want to ensure integrity at all levels of execution.

#### Enabling process integrity – for transactions, interactions and information

To truly gain value from end-to-end business processes supported by SOA, you will need to ensure the same kind of integrity in your transactions, information, and interactions that you would expect from processes supported by traditional, tightly coupled systems. However, maintaining integrity across a highly distributed process is a more complex problem than in a single, closed system. Process integrity is the ability to conduct reliable business activity in a secure, scalable SOA environment with seamless integration at every level.

What makes this nontrivial is that it must all take place in a highly distributed environment. Let's say a business process taps into eight systems to accomplish eight individual tasks. Maybe it's a globally integrated supply chain process. Now let's say step number eight suffers an outage. Suddenly the last item in inventory was taken by someone else. Could the other seven steps in the process be rolled back and returned to their original states, or would inventory be allocated incorrectly until the problem was manually fixed? Maintaining the integrity of individual services and sources of information is not enough; integrity needs to be maintained across the entire process.

IBM has built process integrity into its offerings with the thoroughness it deserves, taking into account the specific needs of transaction integrity, information integrity and interaction integrity. Unlike vendors who are only able to provide integrity in certain aspects of an overall process, IBM addresses process integrity at all levels of the SOA environment.



“When you have a big idea, you need to find a partner who can also think big, and—just as important—deliver big. IBM understood our goals better than anyone and helped us to articulate a solution for making it a reality.”

—**Ton van Schie, CEO, Cashferium**

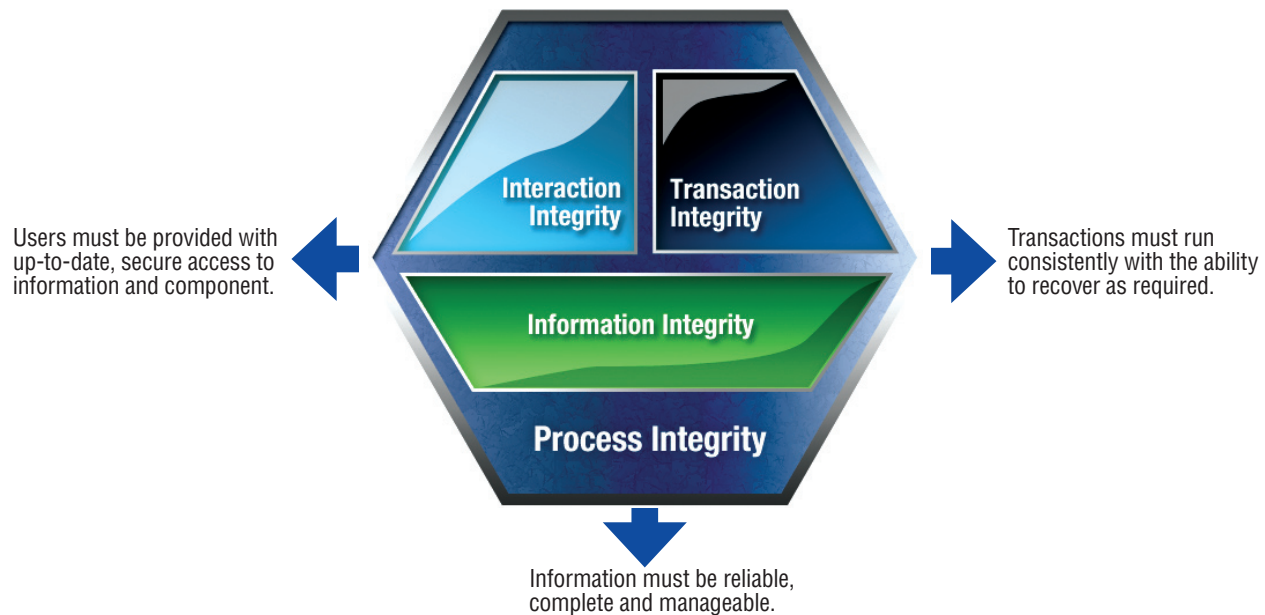


IBM SOA offerings are also designed to deliver the robust security and quality of service that your business processes demand. With support for process integrity throughout the SOA portfolio, you can confidently use IBM SOA for your critical end-to-end business processes.

- **Transaction integrity:** Executing transactions consistently with the ability to recover as required  
*IBM WebSphere Process Server provides flexible execution of business processes driving long-running transactions and has enhanced human task support. IBM has enhanced its complete set of enterprise service bus (ESB) offerings. WebSphere Message Broker has improved Web Services support, support for large file processing, and connections to applications through standardized adapters; WebSphere ESB has a new service retry capability; and WebSphere DataPower® Integration Appliance*

*XI50 provides a hardware-based connectivity option with extended support for WebSphere MQ and WS-Reliable Messaging as well as streamlined multi-step transaction processing. WebSphere MQ provides robust, reliable transactional messaging with improved support for Web Services and is extended for faster access to data with Low Latency Messaging.*

- **Interaction integrity:** Providing users with up-to-date, secure access to information and content  
*IBM's enhanced WebSphere Portal, new accelerators (for self service, collaboration, enterprise suite and dashboard) and IBM Lotus® Forms improve a business's ability to ensure interaction integrity. These enhancements deliver personalized, role-based access in a secure, transparent manner across multiple sources – within a portal framework that is highly secure and scalable. Lotus Forms delivers dynamic access to critical processes to ensure interaction completeness.*



*Process integrity is the ability to conduct reliable business activity in a secure, scalable SOA environment with seamless synchronization among services, human tasks, information, domains and users.*



- **Information integrity:** Ensuring reliable, complete and manageable information

*Information integrity makes consistent, accessible, trusted information readily available at all stages of the process.*

*Enhancements to the popular IBM Information Server deliver improved deployment capabilities and innovative use of metadata to speed the development cycle, while a new version of IBM IMS™ provides SOA-enabled integration from a scalable, available, safe, and easily managed data-server environment.*

Achieving SOA operational success and avoiding rescue missions IBM can further assist you by acting as a trusted, experienced guide toward Smart SOA. IBM can help you answer nagging questions about your SOA health – is your IT infrastructure ready to support that next incremental SOA deployment? What is causing that unexpected shortcoming? Are we ready to grow? Are we achieving the value we thought we would? IBM SOA Healthchecks are the right prescription to help you avoid rescue missions and learn what activities are necessary to achieve good SOA health. SOA Healthchecks can help you examine how you are doing operationally within SOA projects to identify current problem areas, as well as recognize areas that need to be addressed for future SOA needs. They help give you confidence to know that you are performing as you should be and maximizing SOA value.

Establishing oversight and control of globally integrated processes Proven SOA governance techniques can help your organizations gain oversight and control of your SOA projects and your services, as well as promoting effective reuse. These techniques can help your organizations to develop a customized approach to SOA governance and to then efficiently guide the service life cycle through design, development, quality testing and eventual retirement. These techniques can also help you to promote reuse by providing access to information about the service, such as quality of service, fees, descriptions and locations.



#### **Gartner Magic Quadrants: IBM in the Leaders Quadrant**

- Gartner, Inc., “Magic Quadrant for Application Infrastructure, 2Q07,” by Simon Hayward, Massimo Pezzini, Jess Thompson, Yefim V. Natis, 1 June 2007.
- Gartner, Inc., “Magic Quadrant for Application Infrastructure for New Service-Oriented Business Application Projects, 2Q07,” by Yefim V. Natis, Massimo Pezzini, Jess Thompson, Kimihiko Iijima, Michael Barnes, Daryl C. Plummer, Simon Hayward, 31 May 2007.
- Gartner, Inc., “Magic Quadrant for Application Infrastructure for Back-End Application Integration Projects, 2Q07,” by Jess Thompson, Michael Barnes, Kimihiko Iijima, Benoit J. Lheureux, Paolo Malinverno, Yefim V. Natis, Massimo Pezzini, Roy W. Schulte, Simon Hayward, 7 June 2007.
- Gartner, Inc., “Magic Quadrant for Application Infrastructure for Composite- Application Projects, 2Q07,” by Massimo Pezzini, Michael Barnes, Kimihiko Iijima, David Gootzit, Yefim V. Natis, Daryl C. Plummer, Jess Thompson, Dale Vecchio, Janelle B. Hill, Simon Hayward, 7 June 2007.
- Gartner, Inc., “Magic Quadrant for Business Process Analysis Tools, 2H07-1H08,” by Michael J. Blechar, 8 June 2007.
- Gartner, Inc., “Magic Quadrant for e-Commerce, 4Q06,” by Gene Alvarez, 8 February 2007.

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**Personal impact: Make yours today**

A survey at IBM IMPACT 2007 conference found that 68% of respondents considered the combination of broad business expertise and deep IT skill (a combination described as t-shaped skills) to be a prerequisite to SOA success. Without the right skills in place, the journey to becoming a globally integrated enterprise becomes much longer and more arduous.

IBM is addressing today's critical SOA skills shortage through a plethora of new educational offerings, from academia to on-the-job, and from business to technical. IBM is also pleased to introduce INNOV8: A BPM Simulator. With this new business-process management game, IBM provides a compelling, 3-D virtual-learning environment to deliver real world skills to universities and business partners.



“Using a combination of IBM technology and services, FDF is able to focus on achieving our strategic vision of network-centric operations through the combination of technology, organizational processes and a cooperative culture.”

**– Major General Markku Koli, Chief of Operations, Finnish Defence Forces**



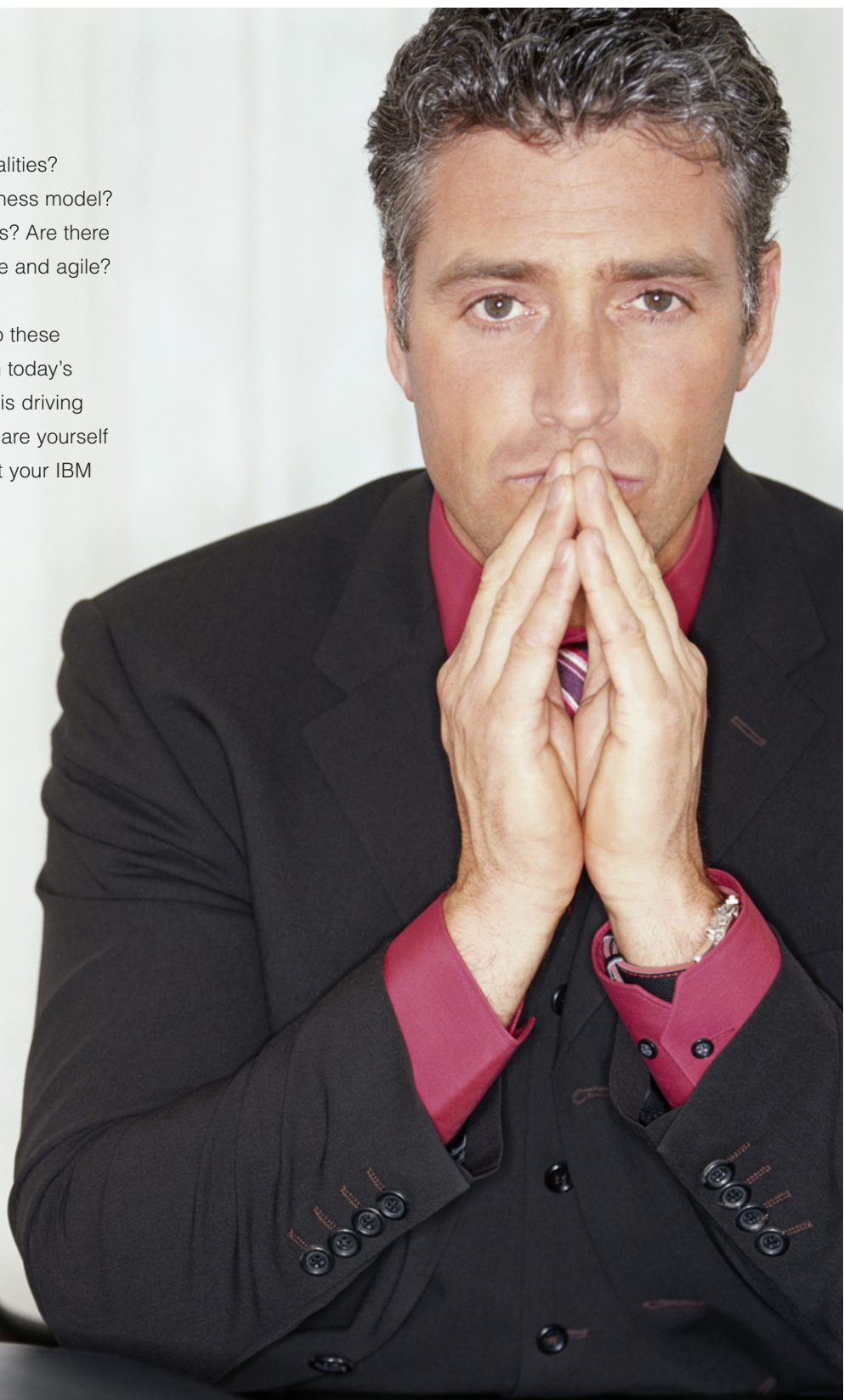
*Smart SOA from IBM - trusted, experienced guidance based on the 5700 customers already using our SOA offerings*

## Are you ready?

Are you prepared for today's evolving business realities?  
Are you ready for the implications of a global business model?  
Are you ready to optimize your business processes? Are there  
obstacles that distract you from being more flexible and agile?

Don't be fooled by SOA imposters. The answers to these  
questions can determine the winners and losers in today's  
fast-changing world. The enduring impact of SOA is driving  
the continuous alignment of IT with business. Prepare yourself  
today. To learn more about SOA from IBM, contact your IBM  
representative or IBM Business Partner, or visit:

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





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<sup>1</sup> Source: WinterGreen Research, April 2007 SOA engines and components only