

EXECUTIVES WARN: SOA DEMANDS MORE THAN JUST TECHNICAL CHANGE

Research shows that SOA implementations require organizational, procedural, and even psychological adaptation

Service-oriented architecture (SOA) is frequently discussed in terms of technology, but successful SOA implementations require cooperation and involvement on many levels.

According to a recent survey, SOA projects have a wide-ranging impact on corporate organizational structures and processes. Ultimately, these deployments impact not just technical change, but also organizational and process evolution.

"We're going to have to be much more nimble," says Rick Allen, assistant vice president of operations at Georgia-based Gwinnett Health Systems. "We're going to have to change our mindsets and our processes."

The survey, conducted by IDG Research Service, polled CIOs at midsize and large enterprises on the changes companies must make in order to ready their operations for SOA implementations. Respondents speak at length about their SOA efforts and the organizational change that IT will, to some extent, need to manage.

"Organizational changes are critical to SOA migration," says Yves Meyer, head of the Project Management Office and Architecture at IXIS, a financial services firm based in Paris. "It causes changes to and within the organization. Operations would have to change the way they do things, for example."

At the same time, CIOs expect to see some significant role changes within the IT department. Read on to see how they look at SOA and operation readiness.

Selling to the Business

Survey respondents point to a host of organizational issues that can impede SOA implementations. Getting business sponsors involved and on board, and getting departmental functionaries to look outside the confines of their own informational silos, are two of the knottiest problems, along with inevitable change management issues.

"We're trying to get buy-in from the business units to not just slough it off as another IT project," says the IT director of a large utility.

"We're trying to get buy-in from the business units to partner with us as we go along, instead of them telling us that they need X and to go do it."

Among the Obstacles

- **Information ownership.** Information has been collected in applications that are frequently divided by departmental boundary lines, and getting both line-of-business and IT staffers to release control of the data that drives their business processes is extremely difficult. Issues of data territoriality continue to vex SOA strategists, and resolving them is a politically-charged process.



"Within the organization, there's going to have to be a culture change to allow more access to individual department's data," says Allen. "You can't have an area like cardiology or radiology saying, 'This is my data. Nobody else can get into it.'"

- **Resistance to change.** SOA requires companies to analyze and map out business processes on a companywide level in order to create services that mirror enterprise processes. But getting business sponsors to agree on a single view of the business is, at best, challenging. Long-held function-specific methods are difficult to change, and political issues also come into play. "This is a major challenge—we have 25 business units, and each of

them does things differently," says Meyer. "Getting them to let us take a look at how they do things and help them to figure out areas of improvement is going to be tough."

- **Partnering with business stakeholders.** Business managers are cited as key stakeholders not only for funding, but also to make sure that services mirror business processes flexibly and intuitively. Getting buy-in for what they often perceive as an IT project is not simple, says the utility CIO. "Even though we're in the same company, it's still different organizations," he points out. "We get some buy-in, but we need more from the business folks."

TIBCO PERSPECTIVE ON SOA GOVERNANCE

While SOA holds out the promise of finally harnessing the true power of integrated enterprise information, it also requires some complex organizational changes.

To maximize IT's return on SOA, an organization must first analyze and examine its organizational processes. The CIO, in particular, should expect to make some rather significant organizational changes in order to ready his group for SOA.

There are a number of issues with traditional IT organizations that prevent them from being able to manage and govern IT effectively. In the SOA model, business services and related reusable integration components are new categories of IT assets, and they are not owned by individual business units, applications development or other IT groups.

Traditional IT governance is based upon an ownership model, and this cannot support an SOA strategy long-term. In SOA, services are developed as shareable, reusable packages of business functionality. Once these components begin to be reused and development picks up, the inadequacies of traditional IT governance become apparent. The benefits of evolving to an SOA framework will not materialize

unless the governance and processes within IT adapt to match the process changes.

"IT groups need to make a move to more centralized oversight and governance to accommodate an SOA framework," says Matt Quinn, VP of product management and strategy at TIBCO. "Research from MIT and other sources has demonstrated the strong link between an effective governance model and a strong return on IT investments."

The top level of governance consists of a senior-level IT steering committee populated with representatives from each business unit and application development group, as well as the enterprise architecture group. This group oversees the following:

- **Vision, strategies, priorities:** Develop an SOA vision and strategy; educate IT and the organization at large about them.
- **Business services portfolio definition:** Define a portfolio of business services and make sure that these services reflect service user needs; manage the evolution of these services, communicate between IT and business stakeholders on service status.

- **Services and implementation life cycles:** In order to ensure effective life cycles, input, buy-in and participation of multiple IT and business groups is required. All of these groups should have representatives on the steering committee.
- **Service policies:** Work with various IT and business groups to specify and govern service policies.

Below that, the program or project management office manages at a slightly more granular level, addressing issues such as services funding, portfolio planning and management, project management and change management. The Enterprise Architecture Group manages SOA and enterprise architecture issues, while IT also fields an Integration Competency Center and Services Development Group.

Beyond that, the CIO must work to establish consistent processes and procedures across each governance area and phase of the services life cycle.

"CIOs need to review their existing methods and perform a gap analysis to identify what's missing for SOA. From this analysis, companies can then develop processes that are tailored to their organization and culture," says Quinn.

- **Selling SOA-related change to the business.**

Respondents nearly universally acknowledge the challenges involved in getting buy-in across the business for SOA implementations. “When you start to bring team members into these projects, you have to explain what you are doing and why something that may not benefit them directly, yet benefits the whole organization, is good for the whole organization,” says the vice president of a financial services company. “That is sometimes hard because they argue that they have performance measurements given to them by their managers, and they worry about how their raise and bonus are going to be measured.” Respondents note that education and training are vital to selling the benefits of SOA. “I think the training and understanding are key, and it’s a slow process,” says the utility CIO.

SOA Governance

SOA initiatives require governance on technical and business levels, and companies approach this task from a variety of angles. With SOA, applications are composed of services built with differing technologies that run on a variety of machines. This distribution and heterogeneity make deployment and management challenging. Capabilities and functions such as security, auditing and logging, maintaining uptime and meeting service-level agreements are performed differently on each platform, and are often hard-coded. This approach results in more development work and often does not provide enough control in managing the services as part of composite applications. Further, it can mean an inability to guarantee levels of security or performance, not to mention requiring more work whenever changes need to be implemented across applications. If these issues remain unaddressed, services often don’t get reused.

CIOs must devise workable ways to ensure that departments use services and processes that originate in other departments. As service use gets more intertwined and complex, knotty issues of ownership arise. For example: Who owns each service? Who pays for service creation and main-

tenance? Who has the right to change a service, particularly if the change affects other service users? Companies approach both issues of governance in a number of different ways.

“We have an architecture group, which is also the governance group,” says Larry Krieb, vice president of the IT Global Information Services Group at Estee Lauder in New York City. “Nothing goes into production without code review by the SOA architecture group.”

Others address this situation by forming an SOA “Center of Excellence,” where enterprise-level architects with SOA expertise and broad perspective have the responsibility to oversee service management across the enterprise. Some turn to their program management office (PMO) to provide an enterprisewide governance method.

“We are putting the governance under our program management office,” says the financial services vice president. “Since we are a large company and we have multi-national projects, we actually do have a PMO.”

Respondents also mention other governance methods, such as a cross-division group to create and manage SOA standards as governance methods.

Changing IT Roles

Many CIOs say that a key part of being prepared for SOA means rethinking how the IT group develops applications—or services, in this case.

In particular, the role of the IT architect takes on increased importance, as architect groups pick up tasks ranging from long-term strategy and planning to SOA governance. “Architects are like a linchpin for making everything happen,” says Krieb. “They understand the whole end-to-end process.”

Process analysts also play an increasing role, because they too have to understand the end-to-end process requirements and map them to the services and applications.

Many CIOs say that a key part of being prepared for SOA means rethinking how the IT group develops applications.

"Process analysts will need to seek out every possible method of optimization," says Meyer. "They will need to understand all the processes and all the tools used to support the processes that push it from one step to the next. These analysts will need to look for improvements in order to add value."

At the same time, developer roles change as they acquire the new skillsets required to re-use services that have been created across the enterprise. "Developers will now have to think enterprisewide," says Meyer. "Individual requests will have to become enterprise requests, so to speak, so that the capability can be reused across the organization and shared by other groups. This is a big shift."

As such, many respondents report issues with resistance to change from their developers. "Overall, there is a mental inertia and a feeling of 'Why do something different?'" says the vice president at a financial services firm. "A developer might be very comfortable doing things the way he or she has been doing things for the last five years. Now a manager comes along and wants to make changes, and there is a natural resistance to change. We can see that."

Measuring SOA Success

Many respondents are in relatively early pilot stages of SOA and hence speak about projected measurements rather than actual practices. But CIOs commonly note that they expect SOA to help them do things faster, both on the business and the IT development side, and that their metrics will reflect that promise.

"We will probably develop some ratios between the volumes of activity performed and the staff that is required to handle the work," says Meyer. "Those are two numbers that would be easy for us to get."

Others cite the ability to get information that was previously unobtainable, increased efficiency and budget, and SLA adherence as projected metrics.

Some of the projects are easy to measure, because the services they manage already exist. "A lot of the SOA concepts are around tapping into capabilities that are already there instead of having to create it and then put it out there," says the financial services vice president. "You may be able

to get information faster, or you are streamlining a process, or you may simply be able to get information or do things that you were unable to do before."

With such a complex challenge, some respondents turn toward vendors to partner with on SOA initiatives. Here, respondents look for companies with industry-specific knowledge, as well as a commitment to open standards.

"They should come to us with pretty good experience in writing these services, but they

should come to us with an ability to look at our application portfolio and help us identify where the opportunities lie for us to get this thing going," says Krieb.

In the end, the survey clearly conveys that CIOs view enterprisewide SOA deployments as far more than a technical project. By addressing the critical elements of process and organizational change and managing the expectations of the business side, they greatly improve the chances of ultimate success. ■

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SOA resources to be found online.

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