

The Secret Strategy of CIOs: Service-Oriented Architecture

C-suite executives around the world are adapting their corporate strategies to a new age of competition in which customers call the shots and define the winners. The savviest chief information officers (CIOs) at the same companies are keeping pace with a secret weapon. But they rarely tell outsiders its real name.

Increasingly, these CIOs are stripping out legacy hardware and software and implementing a new set of technologies collectively known as "service-oriented architecture," or "SOA."

The goal of SOA is to structure corporate IT systems on the basis of business-side strategies and initiatives. CIOs are moving away from legacy platforms and practices historically defined by the needs of underlying software and hardware systems.

But many CIOs are careful to keep the term SOA below the radar screen of chief executives, chief financial officers, and other C-suite colleagues who run business strategy, says Tracy LeGrand, chief architect and vice president of technology strategy and architecture at Ameriprise Financial Inc., the large financial-services firm headquartered in Minneapolis, Minn. "If I'm in an elevator with my CEO, I'm not going to talk about 'SOA,'" says LeGrand. "Instead, I might tell him we're working on an approach that maximizes our investment in systems, or one that enables change or business innovation."

LeGrand says he and other IT executives don't discuss the technical details of SOA, which can be complex and esoteric. Instead of delivering a jargon-laden verbal schematic, they describe the business results.

Service-oriented architecture organizes IT systems around business tasks and services rather than specific applications or hardware. The approach is designed to make IT more efficient and easier to update. SOA helps programmers build new business applications more quickly, easily, and cheaply by assembling them from stand-alone software that accomplishes such tasks as logistics planning or billing. When managed adeptly, SOA can align information technology more closely with business goals and help identify and fill customer needs.

Proponents say the methodology is gaining momentum. Roughly 60 percent of U.S., European, and Asian-Pacific companies surveyed in 2006 by Forrester Research Inc., a technology market research firm, were employing SOA or expected to do so soon.

Examples of success are becoming common. Pacific

Gas and Electric Company, headquartered in San Francisco, is one of the largest U.S. utilities, serving 15 million people. It introduced service-oriented architecture as part of a business transformation effort to be more responsive to customers. The IT system is now enterprise-wide and supports billing, customer care, automated meter reading, and supply chain integration. Company officials call SOA the glue that holds together disparate systems. They say it has cut costs by millions of dollars a year and helped the utility quickly develop new services. That in turn has lowered costs for customers.

SOA has also penetrated the health-care and financial-services industries. Credit Suisse Group and the Hartford Financial Services Group Inc. have had early successes with the approach, according to Eric Newcomer, coauthor of

Understanding SOA with Web Services (Addison-Wesley, 2005). The AMR Corporation, Amazon, and Motorola Inc. have also used SOA to reduce IT costs while increasing flexibility.

Newcomer says companies around the world are realizing that the rush to computerize has resulted in a jumble of proprietary databases, custom-made communications, and specially written code. "Now they're pausing to look at the mess and figure out a way to untangle it," he explains.

At Ameriprise, LeGrand says, SOA has helped the century-old company achieve key corporate goals. Like many companies with long histories and ambitious acquisition strategies,

Ameriprise became an amalgamation of products, services, and IT systems. These legacy systems were held together ingeniously but nonetheless threatened to hamper progress. Individual and institutional customers were stymied by the technology jumble. Moving funds among accounts was tricky.

SOA, according to LeGrand, offered Ameriprise a strategic and systematic approach to integrating layers of legacy IT even as new technology arrived through acquisitions. Customers interested in a range of products and services were provided a seamless experience.

The move to SOA took part in stages. "We wanted to integrate data of acquired companies, their products, and their clients so we could adapt to business change more quickly," says LeGrand. As Ameriprise developed common standards for data management, technology executives quickly saw the need to integrate services. The company's services now fall



Tracy LeGrand,
Ameriprise Financial Inc.

into three baskets: enterprise reuse, shared reuse, and specialized. The arrangement guides developers and offers them flexibility. Enterprise reuse describes services used throughout the corporation. Shared-reuse services are those employed at the business unit level. Specialized services are unique to individual projects. The technology service areas are linked to key business processes: customer management, asset management, and money movement (or the shifting of funds among various products and accounts).

LeGrand notes that SOA is an approach that Ameriprise continues to hone. "We're in the midst of a journey," he says.

Because SOA is defined in terms of specific business goals, success is impossible without a shared vision, says Newcomer. "There have been difficulties getting efforts off the ground, and that has to do with questions like, Why should I help someone in another department when I have my own worries?" he says.

CIOs play a vital role in the early stages. They can encourage the shared vision at the outset, or they can unwittingly undermine the initiative when they characterize SOA's benefits in the wrong terms, says John A. Thomas, a vice president at the management consulting firm Booz Allen Hamilton who specializes in large-scale systems engineering and integration services. "If the CIO comes across to his executive peers as a tech guy talking about a new technology instead of a business guy showing them how technology can be a differentiator, it's not going to happen," Thomas says.

Charles Suito had an advantage when he introduced SOA at a tech-friendly institution, the M.D. Anderson Cancer Center at the University of Texas in Houston, one of the leading U.S. cancer research centers and hospitals. Even so, Suito decided the new approach would work best if installed in increments. His goal was to shift the center's paper records to an electronic medical record system and put each person's information in its entirety into one secure patient file. The hospital serves about 70,000 patients a year, each of whom generates reams of data, including medical care reports, clinical research results, and lab reports.

Suito, director of the center's medical record development and support department, began by dividing the transition process into steps. He implemented features in priority order, adding new ones only after earlier pieces had proven successful. He says the incremental approach made the project easier to manage. It also moderated risks and built support.

"Among my peers, there was some skepticism about whether it would work," says Suito. "We didn't really worry about convincing people; we'd just deliver features." Suito developed a tiered system that allowed hospital departments to

"plug in" as data became available. From a handful of data sources, the system now handles about 30 sources. As many as 3,000 cancer specialists can use it at once.

While Ameriprise and the M.D. Anderson Cancer Center turned to SOA to simplify complex, historic systems, HireRight Inc. of Irvine, Calif., used it to help speed growth. HireRight, a 12-year-old, Internet-based personnel recruitment and screening service, meshed disparate software to create applications more quickly and at a lower cost than it had previously been able to do.

Now developing a new application can be as easy as snapping two existing services together and making a few tweaks, says Stefano Malnati, vice president of engineering for HireRight Inc. "SOA means you don't have to reinvent from scratch, so things take less time," he says.

Another benefit of the approach was that HireRight could develop interfaces between its own system and those of its customers and suppliers. The company's products are now all based on one technology platform used by HireRight, its large corporate clients, and software vendors that support the company.

Under the old system, HireRight's developers routinely had to create, maintain, and modify computer code for different interfaces. SOA has simplified the process. Malnati says that has allowed HireRight to take advantage of new market opportunities by creating new applications in a few days or weeks, instead of months or years.

HireRight is one of a growing number of companies embarking on an SOA journey. Along the way such companies are discovering ways to make IT more efficient, to save money, and to help achieve business goals in new ways. Executives intrigued with the promise of SOA can start by considering what efficiency and productivity improvements they would like to accomplish com-

pany-wide. Answers will come from an analysis of existing software systems and applications and questions such as: Where does data live in the IT infrastructure? How do our systems communicate and share information? How do users access the data, and how would they like to be able to view and manipulate it?

SOA offers businesses the potential to improve data access and ultimately help employees and customers make faster, more informed decisions.



Charles Suito,
Anderson Cancer Center,
University of Texas



Stefano Malnati,
HireRight Inc.

The reports in this section are the first two in a series of three pieces sponsored by the Microsoft Corporation in strategy+business that examine strategic trends. The third report, on business process management, will appear in the magazine's Summer 2008 issue. The articles in the series are created by the publishing department of strategy+business and will be available on the magazine's Web site, www.strategy-business.com.