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An SOA Approach Will Boost a Bank's Competitiveness

Don Free, Annemarie Earley, Maria Luisa Kun

Banks that are moving toward service-oriented architectures for core processing systems will be positioning themselves for future speed and agility. SOA's "code once, use many times" mode is becoming a key requirement for the future.

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WHAT YOU NEED TO KNOW

A service-oriented architecture will let banks and their solution providers respond rapidly and efficiently to changing demands on their core processing systems. However, banks must navigate carefully through the "hype" and challenges that this technology raises. Banks that don't embrace the SOA approach will significantly decrease their competitiveness.

STRATEGIC PLANNING ASSUMPTION(S)

Through 2007, excellence in implementing SOA will be the key emerging, worldwide nonfinancial competitive differentiator for banking solutions application architecture (0.7 probability).

ANALYSIS

To better respond to rapid and unpredictable changes in market demand, customer requirements and channel offerings, many financial firms are assessing application architectures that support their retail and commercial core banking processes. One architectural approach that is gaining traction among financial firms is service-oriented architecture (SOA).

Gartner defines SOA as an application topology in which the business logic of the application is organized in modules (services) with clear identity, purpose and programmatic-access interfaces. Services behave as "black boxes." Their internal designs are independent of the nature and purpose of the requester. In SOA, data and business logic are encapsulated in modular business components with documented interfaces. This clarifies design and facilitates incremental development and future extensions. An SOA application can also be integrated with heterogeneous, external legacy and purchased applications more easily than a monolithic, non-SOA application.

SOA enables software components on a network to be "location transparent" (that is, the service can be provided via any system and not be contingent on a special server). Therefore, SOA is about reuse, encapsulation, interfaces and, ultimately, agility. However, every technology has its costs and SOA is no exception; deriving reuse requires development process discipline.

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How Banks Can Use SOA

When a bank or technology provider of core banking systems has standardized architectural elements, it can build dynamically on them. Moreover, when a bank broadens the data or process requirements for one channel, it can simultaneously extend that greater capability to all channels in a reliable and cost-effective manner, requiring adjustments only to the user interface. For example, if a bank provides fund transfer capability for accounts at other institutions, it must enable the flow of additional account information (such as the external bank's transfer number). The use of a standardized SOA enables that bank to do this only once, follow only one data path and make the information available to all applicable channels.

The SOA approach to core banking architecture — which is superficially similar to the object-oriented (OO) method that some financial firms adopted in the 1990s — is now common among Tier 1 financial firms. The difference between OO and SOA is that OO was about source code (reusable objects imported in the source code) and SOA is about runtime reuse (applications reused over a network). These market-leading firms typically have substantial financial resources and tend to be early adopters of new technologies (Type A). Their embrace of SOA is

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understandable because of the importance of flexibility and streamlining that it offers. The modular approach of the OO method now requires standards conformance and semantic consistency to foster interoperability — especially for front-to-back-office integration and external (to the bank) integration.

Gartner believes that SOA has a brighter future than OO because of a more mature messaging middleware architecture available to financial firms, but also due to the adoption of a universally accepted standard for SOA — Web services. This is especially so among smaller banks, which are adopting SOA to get the most out of their limited IT budgets and other resources. Until now, midtier banks had to rely on customized software packages from a single vendor, and assumed all of the maintenance costs and function limitations inherent in a single, proprietary set of solutions. In a 2004 Gartner survey that examined the strategic approach to application design by banks, more than 75 percent believed that SOA would be a contributor to their development initiatives (see Figure 1).

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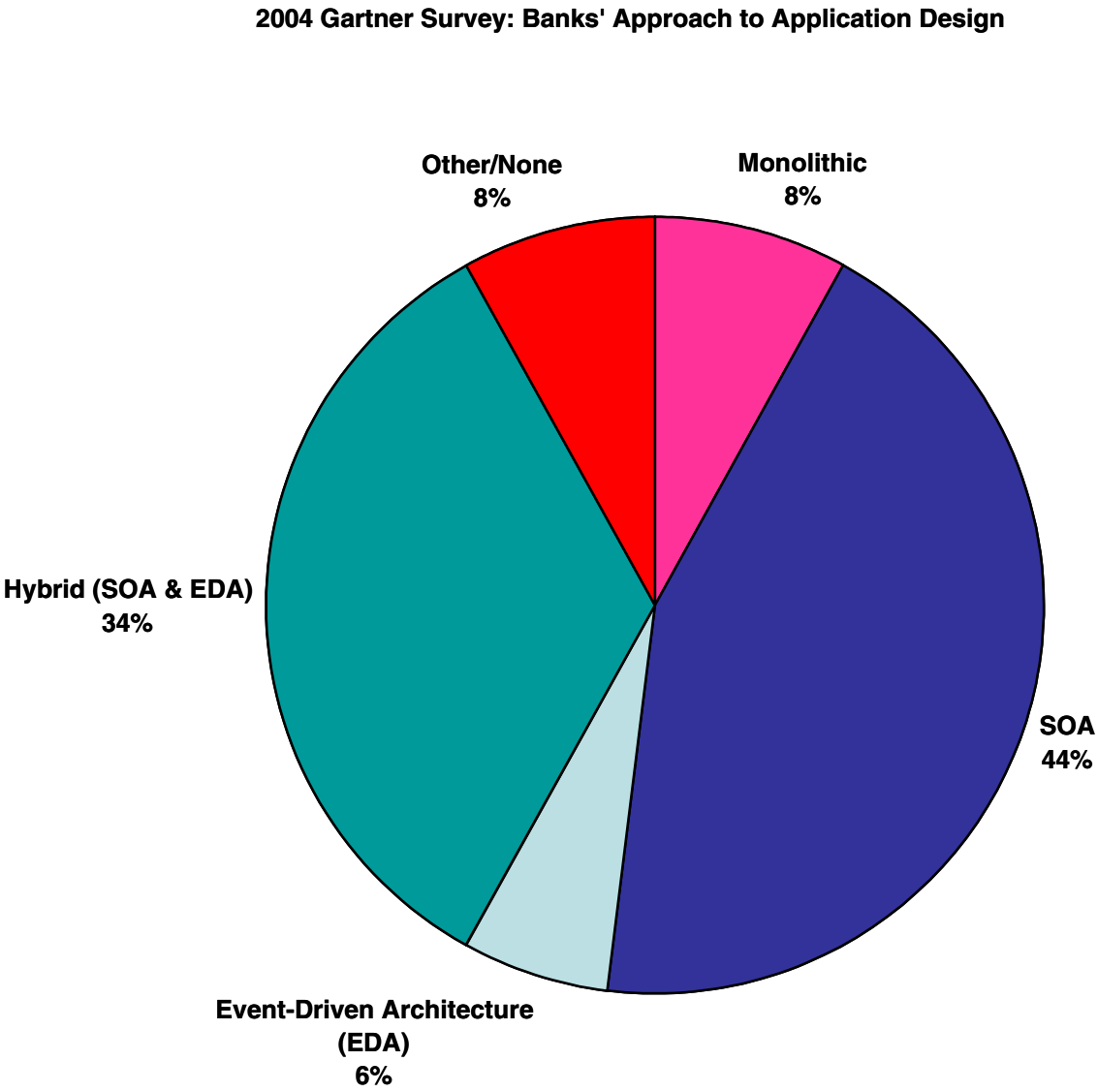
Figure 1. Impact of SOA on Bank Approach to Application Design



Source: Gartner (June 2005)

To address this growing interest in SOA, technology vendors serving the financial services industry are partnering with application integration providers to offer a standard set of component integration. For example, Siebel Systems is partnering with such application integration providers as Tibco Software to provide standard middleware for its customer relationship management products.

SOA Enhances Responsiveness to Market Demands

The chief benefit for banks of this application design is clear. A bank will be more capable of building and implementing a new application in response to customer demand, or replace or modify an application that is outdated or expensive to maintain, provided that the published information about service is consistently maintained. Core banking technology providers that pursue component-based architecture also benefit by:

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- Meeting the "custom fit" requirements of prospects with fewer custom modifications
- Providing leading solutions as market requirements shift

Standardization — and the identification of common or shared processes and requirements — is driving the growing adoption of SOA in the financial services industry. This architectural approach leverages the commonalities of the applications' internal intelligence and creates standardized processes for reuse across the organization. This facilitates the connection and "componentization" of the systems a bank needs to offer the full breadth of functions that customers demand.

For example, a bank that identifies wealth management as a potential market opportunity, but which hasn't yet offered such services, can implement wealth management functionality quickly and inexpensively by drawing on service components — within the application layer — created for other applications, such as money market or fixed-term products. This, of course, requires that both business process owners (wealth management and money market) ensure that commonly shared business requirements are embedded within the components. SOA enables a bank to embed components in its new wealth management application for a standard "enterprise" customer-facing look and feel, but also enables the bank to deliver pointed functionality to certain segments within retail banking.

The middleware or presentation layer brings and fosters standardization. This approach provides relative and logical pathways for the use and reuse of information and processes by installed components and future applications. Different channels, such as automated teller machines and call centers, may use similar transaction sets. For example, funds may be transferred by a variety of different channels. However, if the different channels share common transaction sets and capabilities, few connectivity paths are required — and new components and capabilities can be introduced as demand is identified.

Benefits of an SOA Approach

SOA offers significant benefits to financial firms and their core banking systems providers:

- Reduced time to market and lower cost for new product and service offerings. In an era of increased customer demands and expectations, as well as internal pressures spurred by such factors as mergers and acquisitions, banks must bring new applications to market faster than before. Standardization makes the key application demand of new product offerings — the development of new, and the intelligent reuse of, services — significantly simpler and cheaper.
- The ability to deliver a customer-focused experience. SOA fosters reuse, which promotes consistency across channels and applications. Because banks often must introduce new service capabilities to address a small, but profitable, market segment, SOA lets them do so without redeveloping or creating new intelligence for a broad set of applications. This, in turn, enables a bank to continue to present the same "face" to its customers regardless of the channel accessed.
- Simpler and less-expensive application maintenance. The standardization inherent in the SOA approach, which results in more functions being performed by less computer code, makes application and capability maintenance significantly less complex and more cost-effective. Because fewer components are affected, reduced development/project complexity and lower operational risk are the rewards.
- Reduced operational risk. A fully implemented SOA provides a bank with a highly predictable application environment that reduces risk in day-to-day operations, due to

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the minimization and isolation of change to the production systems. Banks that fail to take this approach must constantly change their interfaces as external and internal requirements change. This introduces significant risk and the need for near-continuous testing to ensure that the customer "touchpoints" and the back-end processes do not fail, while ensuring that one data or service change doesn't adversely affect other data changes integrated through an interface.

- Leveraged channel capabilities. Banks with limited resources tend to seek packaged applications. In doing so, they can better leverage SOA-embedded core banking systems by making new channel deployment and back-end application logic more practical and affordable. Such banks typically lack the depth in IT resources and skills that larger banks claim. SOA offers such banks, midtier banks in particular, greater capabilities as well as reduced development and maintenance risks without relying on proprietary systems from a single provider.
- Incremental deployment. Services can be developed and deployed in an incremental fashion without immediately requiring the bank to move all of its application portfolio to SOA.

SOA Improves a Bank's Competitive Position

SOA is becoming particularly attractive for banks because of a challenging economic climate and the resulting constraints on IT spending. With revenue increasing for many financial firms (see "Vertical Markets Responded to Fluctuating Business Issues in 2004"), many IT projects that were put on hold are now being scrutinized for their ability to support business objectives. Infrastructure requirements remain a high priority industrywide, and spending in 2004 was at levels comparable to 2003.

Gartner believes that spending on SOA infrastructure is essential, especially for midtier banks, to realize increased operational efficiency and reduced time to market. We expect near-term adoption of SOA by smaller banks will be low because they probably will wait for packaged solution providers to roll out the architectural capabilities.

Service-oriented core banking architecture will likely be a key success factor for banks, particularly for midtier and community banks that wish to be niche market players. The ability to bring specialized niche product and service offerings to market, quickly and inexpensively, will enable these institutions to compete with much larger banks. Many smaller banks have developed the capability to offer the same products and services as their larger competitors simply by adding a capability — for example, asset liability management, demand deposit accounts or private banking — on a modular basis and without re-engineering their architectures. Gartner believes this will be the coming preferred architectural approach for financial firms because they can't (or won't want to) obtain all of the functionality they'll need from a single vendor.

Banks are recognizing that they can't expect to be the manufacturers of every product and service they offer their customers. Because of the rapidly changing financial services environment, banks must become distributors and receivers of other companies' products and services. A flexible and open architecture will make it easier, be less time-consuming and minimize expenses to meet the demands of the most-desired and profitable customers. Few banks will be able to buy or build new capabilities quickly enough to satisfy market requirements without SOAs.

Technology Providers Will Focus on Core Banking Applications

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Vendors recognize that the market demand for SOA is growing. Most larger technology providers of core banking applications, such as i-flex solutions and Infosys, already offer component systems based on the SOA approach (or are developing them). Many vendors that focus on smaller banks, such as Fidelity Information Services (its Integrated Financial Solutions unit), have not yet completed their moves toward SOA. Gartner believes such providers will target SOA solutions when smaller, resource-challenged banks risk losing market share to regional and larger banks that can tap rich resources. We believe that the SOA approach to core processing will be a key requirement for vendors and specifically relevant for the outsourcing offering in the lower banking tier.

Recommendations

Banks must resolve these key challenges when adopting SOAs:

- Reconciling the "hype" of SOA with their own, specific needs.
- Identifying and prioritizing obstacles to success to avoid cost overruns and possible project failure, and to achieve the promised productivity gains and an attainable return on investment.
- Taking incremental steps to leverage SOA.
- Recognizing that very well managed SOAs attain no more than 30 percent to 40 percent reuse of available services.
- Establishing a governance process. They must orient the structures of their organizations and align project/development methodologies around centralized, librarian functions to enable reuse of SOA components.
- Deploying effective end-to-end operations management. There are more moving parts in an inherently distributed SOA (such as middleware, gateways, adapters, networks and servers).
- Seeking openness in any SOA product offering, such as administrative tools for access. They must determine which services are accessible and available for use.
- Understanding that the ease of use and maturity of core banking systems middleware vary among technology providers' approaches to SOA.

Key Issues

What architecture models and technologies will enable FSPs to adapt to major industry trends such as straight-through processing, the real-time enterprise, corporate performance measurement and risk management?

Acronym Key

EDA	event-driven architecture
OO	object-oriented
SOA	service-oriented architecture

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REGIONAL HEADQUARTERS

Corporate Headquarters
56 Top Gallant Road
Stamford, CT 06902-7700
U.S.A.
+1 203 964 0096

European Headquarters
Tamesis
The Glanty
Egham
Surrey, TW20 9AW
UNITED KINGDOM
+44 1784 431611

Asia/Pacific Headquarters
Level 7, 40 Miller Street
North Sydney
New South Wales 2060
AUSTRALIA
+61 2 9459 4600

Latin America Headquarters
Av. das Nações Unidas 12.551
9 andar—WTC
04578-903 São Paulo SP
BRAZIL
+55 11 3443 1509

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