

Infor Open SOA:

DELIVERING GREATER BUSINESS
AGILITY THROUGH SERVICE-ORIENTED
ARCHITECTURE ENABLEMENT

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EXECUTIVE SUMMARY

Much has been written about the forces driving companies to adopt a service-oriented architecture (SOA) in the pursuit of greater IT agility and lower total operational costs. Their customers are demanding more services, often for less. Their trading partners are demanding more opportunities to collaborate across the entire supply chain. Globalization is changing the way many businesses operate, creating new value chains and altering the competitive landscape.

The intense interest in SOA — on the part of IT providers and companies that depend on IT — is evidence that service-oriented architecture represents a major transformation in the way technology is used to achieve business value.

As one of the world's leading enterprise software providers, Infor has developed a customer-driven SOA strategy to meet the near and long-term business needs of its customers. Called "Infor Open SOA", this strategy is fundamental to everything we are doing to deliver more value to customers today and in the future. Infor Open SOA enables businesses of all sizes to derive the benefit of SOA with reduced overall complexity. It can play a major role in helping companies of all sizes grow and become more competitive in the markets they serve.

In this whitepaper, we provide an overview that defines SOA and puts it into the business context of the past, present and future. Additionally, we build on this overview with a detailed analysis of Infor Open SOA, which is based on four key principles: Provide Customers Choice, Enhance and Empower Technology Diversity, Open Standards Providing Vendor Neutrality and Ensure SOA Enablement is Part of Every Product We Deliver.

The Infor SOA approach is pragmatic and, to that end, provides the reader with the five key initiatives that Infor is executing to deliver SOA enablement to our customers:

- Establish a Blueprint
- Service-Enabling Existing Solutions
- Master Data Management
- Standardized Business Services
- Process Orchestration

Following the discussion of implementation, we outline the business benefits companies can expect from implementing Infor Open SOA. These include the ability to acquire new services without a full software upgrade, support for composite solution roll out, insulation against technology change, rapid integration with existing systems and distributed deployment of solutions.

SERVICE-ORIENTED ARCHITECTURE: AN OVERVIEW

Why Businesses Need an SOA. The service-oriented architecture approach has attracted the interest of companies worldwide because it is the most promising technology strategy for meeting the business imperative to increase agility while lowering total operating costs.

Business and IT executives at many companies are focused on SOA because they realize there is a monumental mismatch between their current competitive and market pressures and the ability of their existing software and systems to deliver improved bottom-line results. In today's hyper-competitive global business environment, companies have to sense and respond to demand "real-time" across a network of customers, suppliers and their own employees while managing the risks associated with compliance requirements. In most companies, the installed software is incapable of supporting the fast and easy communications across the enterprise and value chain that business needs dictate.

The appeal of SOA lies in its ability to help customers enable their existing software and systems to support greater reuse of software assets, interoperability among solutions and faster and more cost-effective adaptation.

SOA has become a viable approach to improved business systems as a result of several developments in recent years. The emergence of pervasive Web connectivity, increased security capabilities and development of business document standards such as OAGIS (Open Application Group Integration Specification) have facilitated the growing interest in SOA. This change in attitude within companies to accept a more open, collaborative approach to business is also stimulating interest in SOA.

Service-oriented architecture defined. A service-oriented architecture is an architectural approach to solving enterprise business problems. It is neither a language nor a specific product.

At its fundamental level, a service-oriented architecture is a loose coupling of software components that can be assembled and reassembled to complete specific business processes. In this sense, the SOA approach differs from the traditional approach of building large, complex software solutions that effectively perform prescribed tasks but cannot easily be adapted to address changing business problems.

A service-oriented architecture is like the blueprint of a city. Just as a city establishes standards for how it will provide basic services like water or electricity to homeowners and businesses, SOA provides a similar blueprint that guides how business information will be shared with individual applications. SOA is also analogous to a city blueprint in that it doesn't mandate the inner workings of individual applications just as a city doesn't stipulate the number of rooms in a house or the size of the kitchen.

In SOA, clearly defined business documents based on a standard are passed between business processes requesting them to execute a business service based on the content of the document. The standard business document is a modern version of what existed when business processes were primarily paper-based. For example, in the past when companies prepared a paper-based purchase order there was one original and three or four duplicates. The duplicates were mailed, faxed or sent via electronic data interchange (EDI) to other departments within the company or within the supply chain. The content of the PO was broadcast to the other parts of the business requesting them to perform a service based on the PO document.

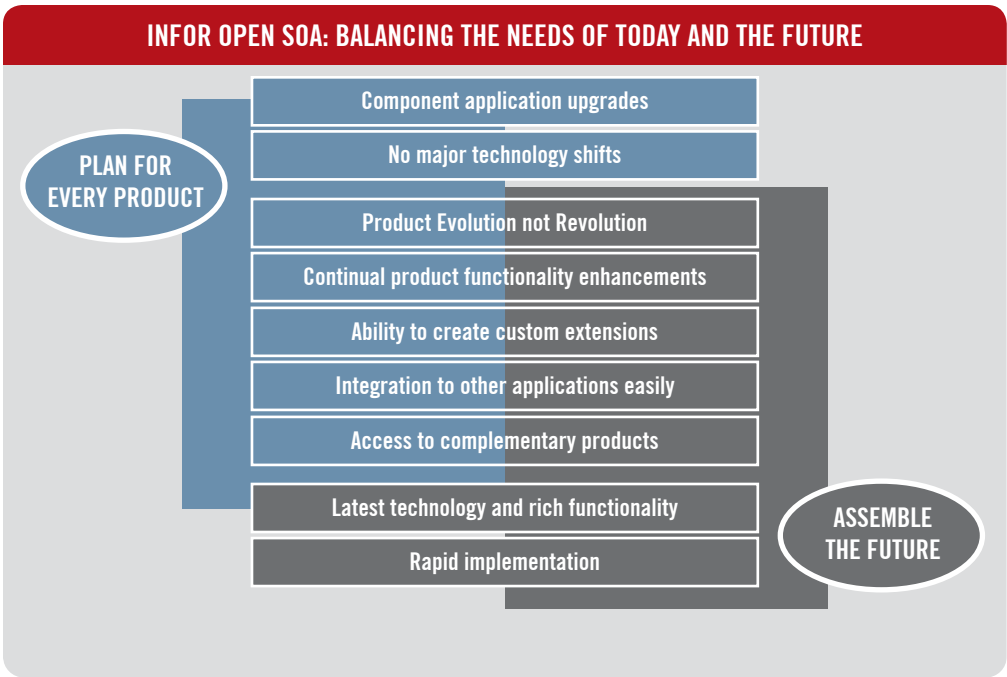
SOA represents a leap forward in enterprise software. The SOA approach is the third major transformation in enterprise software since applications were first introduced to replace manual, paper-based business processes. The first major era can best be described as procedural software, which dates to the 1970s when large applications were introduced to solve business problems. Though they were effective in performing the prescribed business task, there was a downside. With procedural software it was difficult and complex for companies to adapt their internal technology systems to get application extensibility as well as vertical industry and geographic-specific functionality.

In the early 1990s, the procedural approach was replaced by the object-oriented software architecture trend. Though the object-oriented software architecture made it easier to overcome the procedural architecture problem with adapting technology infrastructures. But this software model failed to enable companies to keep costs down through software reuse.

SOA solves business problems in ways that overcome the downsides associated with both procedural software and object software. With SOA, it's possible for companies to more easily adapt to change because their software can be reconfigured by a business analyst without having to change core packaged software.

The status of SOA adoption. Though investment in SOA is common across the enterprise software industry, the approach varies. Many vendors are using SOA as a way to advocate that their customers undertake major, costly product and technology upgrades that introduce substantial risk with business disruption. In addition, many application vendors create their own proprietary infrastructure to support their response to the SOA technology revolution. In this scenario, the associated learning curve and increase in maintenance and support costs can multiply as SOA is applied across the many applications supported in a typical customer's enterprise.

The Infor approach to SOA. In developing the Infor strategic approach to SOA, we have listened to our customers and developed a strategy enabling us to service-enable our customers' existing software assets driving new levels of agility without undertaking an expensive and time-consuming major "rip and replace" software upgrade. Infor Open SOA, is delivering SOA value to the marketplace in ways that balance our customer's needs for today as well as their future requirements. As the graphic below illustrates, Infor has taken into consideration a wide range of customer-focused considerations in developing Infor Open SOA.



INFOR OPEN SOA: UNDERLYING PRINCIPLES

Infor Open SOA protects customer's near and long-term interests by adhering to four fundamental principles. Each principle has been developed based on a single overriding customer-driven principle — “What is good for our customer is also good for Infor.”

Provide Customers Choice. Infor Open SOA enables companies to control how and when they introduce new, more current business systems and technologies. For many companies, continuing to leverage their current investment in hardware and software while moving to an SOA architecture is, by far, their best option. Unlike some software vendors who assert that the only way to leverage SOA is to adopt their latest proprietary technologies, Infor has developed their SOA strategy so customers are not forced into technology upgrades before they are ready. With Infor Open SOA, companies can begin adopting and leveraging a service-oriented architecture, by leveraging their existing infrastructure. This can be accomplished by using a centralized software deployment model, a decentralized software deployment model or a combination of both. In essence, Infor Open SOA offers companies an evolutionary approach to SOA adoption that helps them avoid costly and unnecessary disruption in their business.

Embrace and Empower IT Diversity. Infor has taken into consideration the existence of diverse products, systems and environments within most companies. Infor Open SOA makes it possible for our customers to receive the benefits of SOA while maintaining the coexistence of their IT assets. This approach differs from other software vendors who use SOA as a leverage point for customer convergence on a single platform — their proprietary platform, rather than using SOA as a way to deliver value from existing IT investments. We believe the cost to replace major components in an effort to leverage SOA would defeat the objective and produce a negative return on investment for most customers.

Promote Open Standards and Vendor Neutrality. Virtually all IT vendors promoting SOA assert they are committed to open standards. However, openness can be a matter of degrees. What many vendors declare as open are fundamentally proprietary approaches with some aspects of openness and minimal adherence to standards. The risk to companies implementing a partially open SOA strategy is that over the long-term they may be forced to stay with a particular vendor when a different course of action could prove less costly with better results. Infor believes that if an approach is not totally open, it's not open at all. We developed Infor Open SOA so it is independent of platform, transport protocols, while embracing semantic messaging standards. For example, we use the OAGIS Business Object Documents standard for governing the exchange of business information between Infor solutions to increase flexibility and enable greater reusability.

Make SOA enablement a Part of Everything We Do. Perhaps the most compelling Infor Open SOA differentiation is our overall integration into the company's product strategy. Infor Open SOA is not a product that companies will buy. Instead, it is a pervasive and transparent capability that is being incorporated throughout the Infor product portfolio. In short, Infor Open SOA provides the blueprint for incorporating SOA capabilities throughout the company's product portfolio. When you purchase an Infor solution, you won't have to choose whether or not to acquire SOA capabilities. It is included automatically, providing incremental new value above and beyond the specific functionality of any one solution. Threading SOA enablement into every solution is an acknowledgement that the service-oriented architecture approach is redefining what enterprise software is and how it works to produce greater business value for customers.

INFOR OPEN SOA: IMPLEMENTATION

At Infor, we are taking a practical approach to the adoption of service-oriented architecture that will help customers control how and when to introduce new technology into their environments. To help companies fully leverage the SOA architecture, we have developed five basic initiatives that are being applied to Infor applications so customers can make an orderly transformation from their current technology infrastructure to one that is fully SOA-enabled.

Establish a Blueprint. Infor is committed to delivering greater business agility and lower cost of ownership through SOA enablement of our applications. Our implementation of SOA is based on a detailed blueprint for inter-application communication and coordination of processes. This design provides clear direction and documentation on how Infor will use SOA principles to deliver robust composite solutions to our customers that reduce complexity and provide seamless process execution. These blueprints will help customers with predominantly Infor environments and heterogeneous environments plan for successful deployments.

Service-Enabling Existing Solutions. Most of today's enterprise applications were not originally designed to be componentized down to a specific callable business service that can be invoked across multiple platforms and technologies. The improvement in cross-application and cross-platform communications enabled by Infor plays a key role in helping organizations cost effectively overcome problems associated with heterogeneous IT environments.

Service-enabling Infor applications makes it possible for companies to derive value by more easily plugging in new modules or writing more specific functionality such as that focused on specific vertical industry requirements. For example, a company that has service-enabled its Financial application can more easily add a new tax module to meet a new market requirement. At a higher level, service-enabled applications also make it easier for our customers to make a more substantial change such as adding a new warehouse management solution to an existing IT environment. In addition, we are using service-enablement to provide out-of-the-box integrations that are more flexible and reduce deployment costs.

Master Data Management. As SOA deployments expand, the ownership of data becomes critically important. Master Data Management solves this by establishing ownership of all critical shared data for a set of business services. When deployed, changes to business information such as the addition of a new customer are made once and then broadcast to all other business processes that use that data. This facilitates information analysis and business decisions based on one version of the truth. It also streamlines operations and reduces errors because information is only entered once. Additionally, it supports the treatment of software functionality or functional processes as a business service because the participating applications are freed from responsibility for capturing data and confirming its accuracy.

Standardized Business Services. Sub processes exposed as large grain business services provide greater reuse and are less costly to integrate and manage. As large complex applications are componentized down to the smaller business services, customers can easily alter the sequence of business services and more easily match software functionality to very specific and continually changing business requirements.

The increasing number of Infor business services will allow customers to more easily support the physical separation of business tasks. For example, in many companies business functions are physically separated with finance at one site, manufacturing in another site or even another country. Separating applications into business services enables companies to more easily deploy focused software functionality to the physical location where it is needed and, in doing so, create a more agile technology infrastructure. This is in keeping with the notion of a blueprint that establishes how certain activities are to be conducted, but not exactly how they are conducted, or by whom or where.

Process Orchestration. Process Orchestration integrates decoupled Infor and third-party applications through coordinated and controlled execution of business services. Standardized tooling allow business analysts to respond to change in real time by relying on software reuse and reconfiguration of existing business processes. Customers save time and value through greater agility and the reduction of overall cost of ownership by eliminating costly custom development.

Advancements in standardized process orchestration tooling allow customers to focus on viewing business processes and people-intensive processes as interrelated aspects of a single business process improvement. This is consistent with the Business Process Execution Language (BPEL), an emerging standard sponsored by the leading technology vendors. Infor is committed to BPEL as well as a new industry initiative to extend BPEL to include Web services. The new informal specification, BPEL4People (commonly known as WS-BPEL), is intended to support the broadest range of scenarios involving the interaction of people and business processes. As these standards continue to evolve and become ratified, Infor will work with their ecosystem of partners to ensure compatibility and support.

INFOR OPEN SOA: ACHIEVING TANGIBLE BUSINESS BENEFITS

Acquire new services without full upgrade. The Infor approach to service-oriented architecture is predicated on the belief that customers should have the flexibility to make focused upgrades of individual business services and business processes. It's never in the customer's best interest to endure the time and expense of a comprehensive software upgrade when their business is only demanding new functionality in one area. Infor Open SOA allows companies to make focused upgrades to service-enabled applications without requiring a modification elsewhere in the system. It's essentially plug and play capability for new functionality, regardless of the size.

Support composite solution rollout. Infor Open SOA supports splitting software applications into business services that can be assembled and reassembled to address different business challenges. By isolating functionality more effectively than in a traditional software architecture and using the master data approach, Infor Open SOA enables companies to efficiently address new requirements from their existing software capabilities. The flexibility afforded by using componentized software is a core value of SOA and one of the drivers to facilitate greater business agility.

Insulate against technology change. The well-defined interfaces enabled by Infor Open SOA make it possible for Infor to incrementally upgrade software, giving customers more flexibility and choice to add new capabilities like RFID, a new server or computer-telephony integration without replacing their entire infrastructure. In addition, Infor Open SOA is open and vendor neutral so customers maintain complete flexibility in what solutions they purchase, when and from whom.

Provide rapid integration with existing systems. Infor Open SOA helps companies minimize the time and expense of integrating new applications or services into an existing infrastructure. Stories abound of companies that failed to achieve the anticipated ROI from a new software capability because the implementation was slowed by integration problems. Infor Open SOA can help companies avoid this kind of risk by leveraging standard interfaces that facilitate rapid integration with existing systems.

Enable distributed deployment. Infor Open SOA enables the logical separation of software capabilities so companies with internal processes managed by different locations, business functions or trading partners can deploy the software capabilities to only the locations where they are needed. As a result, companies have the flexibility to choose when, where and with which processes to adopt a centralized or decentralized approach. Distributed deployment capabilities are particularly useful in joint ventures and where sub-contractors play a prominent role. For example, if a company has its manufacturing and warehouse management activities in different locations, Infor Open SOA helps deploy the precise functionality needed at each location.

WHAT'S NEXT: THE CUSTOMER CHOOSES

Like any breakthrough advancement, service-oriented architecture represents both risk and potential reward for companies that depend on software. It can be risky and self-defeating if decisions made early provide only short-term benefit or no benefit at all. For users of Infor software, the key to making SOA pay off in the near-term and long-term by retaining choice and flexibility. Companies that keep their options open and avoid getting locked-in to any one vendor or to any set of technologies, can leverage the business agility they need to compete and survive.

The philosophy behind Infor Open SOA can be captured in a single phrase: Delivering customer value by balancing the needs of today and the future. With Infor Open SOA, customers interested in using SOA capabilities to achieve significantly better flexibility and performance from their business systems can choose when, how and where to take advantage of Infor's SOA enablement. In other words, we've made getting started on the path toward achieving business value with SOA easy and efficient.



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