IBM

SOA Infrastructure solution: Increasing IT flexibility and performance

A new business computing model – Service Oriented Architecture (SOA) – can eliminate these barriers by allowing companies to rapidly alter IT strategies and create composite applications built from loosely coupled, reusable, standardized functions called "services." SOA has proven to be highly successful, enabling companies to improve business responsiveness while making optimum use of IT investments.

IBM helps clients leverage an integrated, optimized IT architecture framework we call the On Demand Operating Environment (ODOE). This framework is based on the concept of SOA. However, in order to take advantage of the benefits that can be afforded by this approach, companies must ensure their underlying IT infrastructure is aligned to support it. An IT infrastructure that is fully enabled for SOA provides highly integrated, automated and responsive IT resources that support the application layer.

Highlights

- **Assesses client's IT readiness for transition to SOA**

- **Provides an implementation roadmap for SOA infrastructure**

- **Helps deliver rapid deployment and performance with specialized combinations of hardware and software**

- **Enables automation of and improves IT management functions in an SOA environment**

In today's highly dynamic business environment, a company's IT infrastructure must be flexible and align with and support changing business strategies needed to sustain competitive advantage. Discrete, poorly integrated "silos" of applications and information result in complex, costly infrastructures and rigid processes that are significant barriers to success.

ON **DEMAND BUSINESS**™

SOA Infrastructure solution: The starting point for SOA implementation

Businesses looking to create an IT infrastructure for SOA must address several core requirements. They must have a clear picture of the current state of their IT infrastructure, an understanding of what it needs to successfully support SOA, and a way to maximize the value of existing IT investments.

The IBM SOA Infrastructure solution combines IT transformation services, as well as software and hardware to address an organization's specific requirements. Using a collaborative, consultative approach, this solution can help minimize cost and risk by leveraging existing IT assets and supplying needed integration, tools and expertise.

The solution is organized into three specific project areas:

- *Ensuring readiness by addressing IT infrastructure needs*
- *Using SOA "appliances" to deliver rapid deployment*
- *Improving SOA management through automation*

This project-based approach uses established IBM methodologies and leverages IBM expertise in SOA – enhancing manageability, affordability and time-to-value.

The IBM SOA Infrastructure solution is a flexible set of offerings. It is a family of related products and services that can be customized to meet the needs of individual clients. IBM works with each client to determine how and where to proceed – some companies may be in the process of implementing an SOA-ready IT infrastructure, while others may be just beginning. Others still may already have an SOA environment in place and require assistance with optimizing it.

SOA Readiness

This project area is an excellent way to get started with SOA infrastructure implementation. It addresses the "as-is" and "to-be" states of a company's existing IT environment to determine the changes needed to fully enable an SOA infrastructure. This helps ensure a smoothly running deployment environment as processes and applications are reorganized into a set of shared assets and reusable service components.

The emphasis is on enabling the underlying infrastructure to help applications/services deliver maximum performance and efficiency. This might include identifying and filling gaps in the IT infrastructure, or replacing/upgrading components to better suit SOA by deploying leading middleware such as IBM WebSphere® or IBM's scalable, flexible servers.

Existing IT assets are leveraged to the maximum extent possible, which helps keep costs down and protect IT investments.

For any stage or extent of SOA adoption, this project can deliver value by streamlining and optimizing the deployment environment, which in turn can enhance performance, availability and scalability.

SOA Appliances

This project area employs specialized devices combining hardware and software that can be "plugged into" existing infrastructure to provide enhanced functionality that supports SOA requirements. The appliance approach helps speed and simplify the deployment of these capabilities.

For example, since SOA relies heavily on open communication standards such as XML, there is the potential for increased messaging traffic to cause performance bottlenecks and security issues. IBM DataPower® offerings are designed specifically to address this issue by providing a dedicated, secure, high-performance appliance to handle XML traffic.

SOA Management

One of the most important considerations for SOA infrastructures is IT management. A shared IT resource pool relies on automated provisioning, virtualization and administration of functions – these capabilities need effective management. SOA Management is built on advanced software such as the IBM Tivoli® Composite Application Manager suite of offerings. It also leverages the IBM Virtualization Engine™ capabilities of IBM servers, helping to improve responsiveness, strengthen integration, enhance efficiency of the infrastructure and reduce risk.

How IBM can help

The goal of the IBM SOA Infrastructure solution is to help businesses create an advanced, flexible and scalable IT infrastructure that is ready to handle the challenges of a rapidly changing marketplace through SOA. With an SOA-ready infrastructure in place, businesses can achieve greater responsiveness, improve productivity, reduce cost and accelerate time-to-value.

The IBM SOA Infrastructure solution is just one of the initiatives underway at IBM to help companies generate more business value from IT. Other solution areas, such as IT resource optimization and IT security have been designed to work together with the SOA Infrastructure solution to make IT infrastructures more effective, efficient, responsive and resilient.

IBM has demonstrated a strong commitment to the SOA concept, with more than US$1 billion invested in SOA and over 300 SOA-related patents.

IBM offers a project-based approach that encompasses complementary hardware, software and services. Our ability to deliver a tailored, end-to-end solution for SOA-enabled infrastructure is an important advantage and a compelling value proposition for our clients.

IBM's depth and breadth of expertise is unparalleled, with best practices and deep industry knowledge developed from thousands of successful SOA engagements worldwide; products proven in thousands of implementations; and years of experience with virtualization technology and other advanced capabilities. The integrated IBM approach leverages both our expertise and our advanced technology to provide a more robust, innovative solution to the challenges of IT in a rapidly changing world.

For more information

For more information about how IBM can help you deploy and manage your IT infrastructure in an SOA environment, contact your IBM representative, or go to:

ibm.com/solutions/itsolutions

Key SOA concepts

Service Oriented Architecture is a critical part of an On Demand Operating Environment. The key is the concept of modular, reusable and open service components that work together to deliver optimum functionality. To be successful with this model, clients must align and enable their underlying IT infrastructure.

What is…
…a service?
*A **repeatable business task** – e.g., check customer credit; open new account*

…service orientation?
*A way of integrating your **business as linked services** and the outcomes that they bring*

…service oriented architecture?
*An IT **architectural style** that supports service orientation*

…a composite application?
*A set of **related and integrated services** that support a business process built on SOA*

…SOA infrastructure?
*An IT infrastructure that is enabled to **support the use of service components***

IBM. ®

ODB-0180-00