

Management

Security

Registry/Repository

Empowering your business with **SOA**



Enterprise Integration & Management Challenges

Executive Overview

Most enterprises have multiple applications implemented in different languages and platforms and have business processes that require these applications to work together. Executing these business processes manually is slow, error-prone, expensive and very likely to adversely impact customer satisfaction and organization effectiveness. Enterprises with legacy systems/applications need a better way of integrating applications in a way that will allow their internal, non-expert, IT resources to maintain and evolve existing integrations rapidly and cost-effectively.

Common Enterprise IT Infrastructure Challenges Include:

▶ Heterogeneous Systems

Integrate and interoperate across incompatible platforms, schemas, interaction models, protocols and formats

▶ Rapid Change

Incrementally update services, processes and infrastructure

▶ Business Process Automation

Automate business processes and workflows in enterprise

▶ Distributed Processing

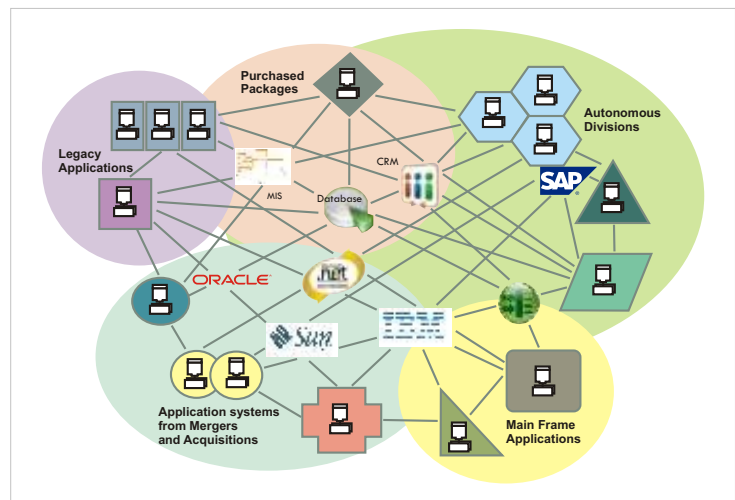
Ensure reliability and availability across internet, WAN and security domain stacks

▶ Need for Visibility, Control and Automation

Manage and govern a heterogeneous infrastructure with multiple product/technology stacks

▶ Security

Achieve authentication, authorization, identity propagation and single sign-on in a federated architecture built on multiple standards



Challenges with legacy integration

SOA Overview and Benefits

Service Oriented Architecture (SOA) empowers enterprises to achieve rapid and cost-effective integration, business process automation and increased agility in their businesses by leveraging existing software resources. Existing applications are exposed as services and these services are orchestrated to build composite applications to achieve enterprise integration and business process automation.

Leading companies are tackling the complexity of their applications and IT environments with Service Oriented Architecture (SOA). With SOA approach, IT organizations focus more resources and budget on innovation and on delivering new business services. The most significant benefit of SOA are realized when changes are necessary to an application. The reason is that SOA addresses fundamental challenges with traditional approaches and allows business users to assemble and modify composite applications.

SOA adoption is over 70% in Fortune 500 companies and over 55% in the SMB space. SOA is no longer a choice but an imperative.

- Source : IDC

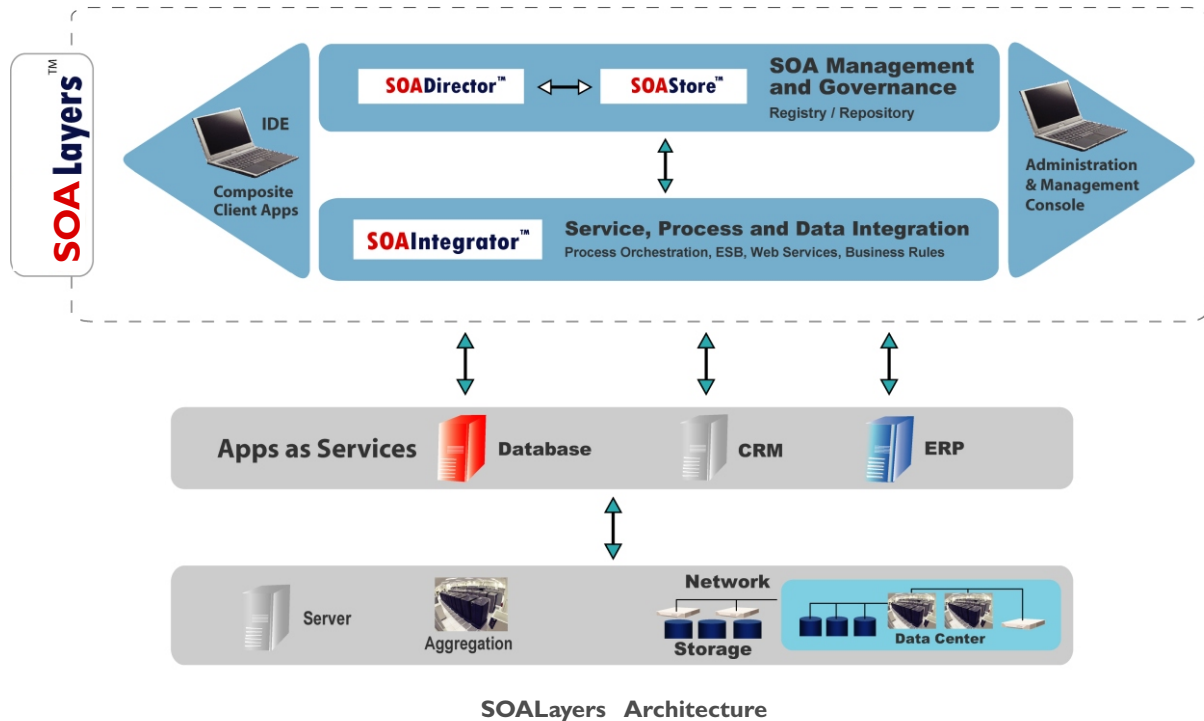
“By 2008, SOA will provide the basis for 80 percent of development projects. By 2008, more than 60 percent of the \$527 billion IT professional services market will be based on the exploitation of web services standards and technology.

- Gartner on the Five Hottest IT Topics and Trends, May, 2006

SOAMatrix offers a comprehensive SOA platform comprising all the layers of SOA stack including process, service and data integration, business rules, management and governance.

SOALayers is a comprehensive SOA platform from SOAMatrix comprising all the layers of SOA stack including process, service and data integration, business rules, management and governance. SOALayers allows users to perform the following:

- ▶ Expose applications, resources and appliances as services
- ▶ Visually build composite enterprise applications by wiring services together (Assemble)
- ▶ Monitor and control composite applications (Manage)
- ▶ Ensure enforcement of pre-configured policies (Govern)
- ▶ Unified and intuitive design time and console to ensure ease of use and quick ramp up
- ▶ Ensure that the applications possess enterprise capabilities such as scalability, reliability, security, transactions and so on



SOALayers comprises the following products:

SOAIntegrator™

SOAIntegrator is a comprehensive integration product that comprises the following components:

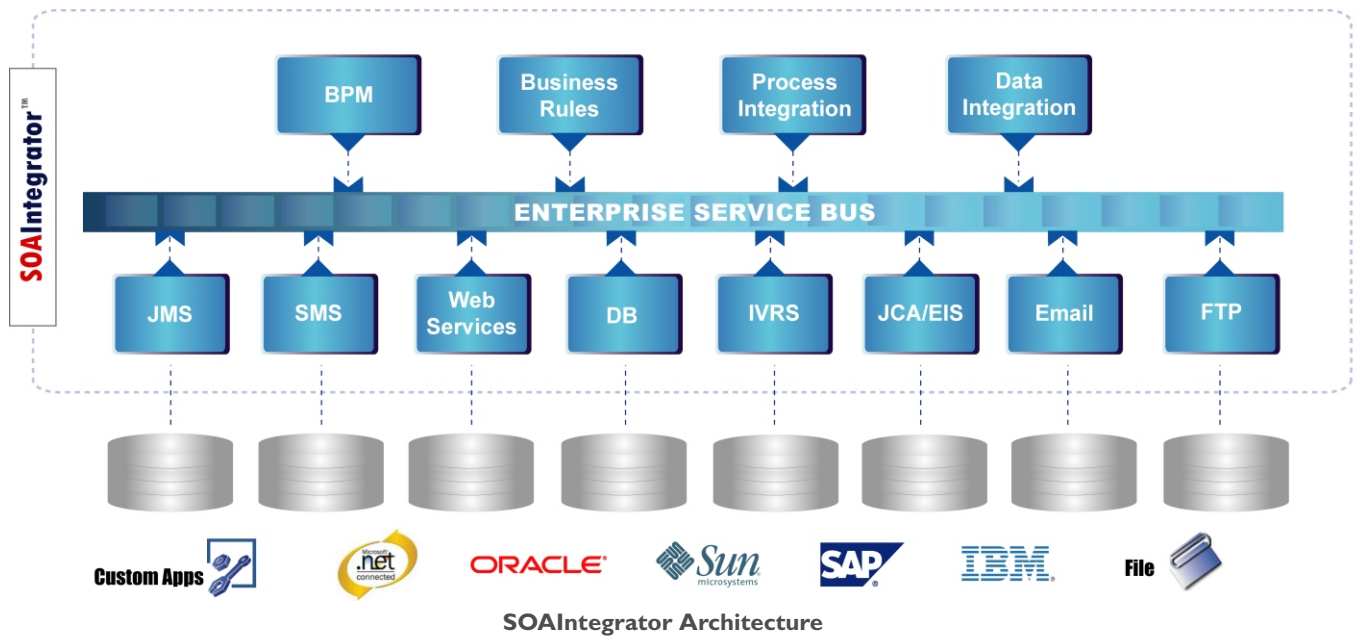
- ▶ Enterprise Service Bus (ESB) for service integration, mediation and loose coupling
- ▶ Orchestration engine for process orchestration and integration
- ▶ Rules engine for flexibility and agility
- ▶ Business process automation and management

SOADirector™

SOADirector is an enterprise-class SOA management and governance product that enables users to secure, govern and manage web services and business processes. SOADirector is positioned between the service consumer and service provider and gathers message data and enforces policy on every transaction to provide unprecedented visibility and control.

SOAStore™

SOAStore registry/repository product provides design time governance capabilities that enable organizations to define and enforce organizational policies governing the content and usage of the artifacts throughout their lifecycles.



SOAIntegrator Architecture

SOAIntegrator is an integration product from SOAMatrix, addressing various integration challenges in an enterprise.

Enterprise Service Bus (ESB)

SOAIntegrator ESB provides mediation, loose coupling, service enablement and security. Following are the key features of ESB:

▶ Service Enablement

Existing resources, processes and applications can be exposed as web services enabling easy composition and integration.

▶ Loose Coupling

Location and protocol transparency is provided allowing choice of different application and transport protocols and endpoints leading to decoupling of service consumers from service providers.

▶ Configuration Based

Configuration changes to endpoints, proxies, policies and mediators can be made at run-time using an intuitive web interface without writing any code.

▶ Multiple Transports

Support for various transport protocols such as HTTP, File, Email, FTP, JMS and application protocols and APIs such as RMI, JDBC, JCA, SMS and POX to ease integration of existing applications into the SOA infrastructure without any changes.

▶ Mediation Features

Powerful and configurable mediators are provided for load balancing, throttling, security, content based routing and transformation.

▶ Enterprise Features

Support for load balancing, failover, enterprise security, identity propagation and transactions.

▶ Standards Supported

Almost all relevant standards are supported such as JBI (for business integration) XSLT, Xpath, XQuery, WS-Security, SAML, other WS-* standards such as WS-RM, WS-Addressing, WS-Policy leading to interoperability with other products and platforms.

Process and Data Integration

Following are the key features of Process and Data Integration:

▶ Process Design

Composite applications can be built using the intuitive designer based on Eclipse.

▶ Process Orchestration and Integration

Includes native BPEL engine to enable process orchestration and integration. It has also been extended to support human workflows.

▶ Monitoring and Administration

Processes and process instances can be monitored and administered using an easy-to-use web based console.

▶ Data Integration

Access information from disparate sources such as XML, RDBMS, Web Services and EIS systems.

▶ Standards

Support for existing and emerging standards such as BPEL 1.1 & 2.0, SCA, SDO and XQuery.

Management and Governance challenges

Once composite/integrated applications have been built using SOA, the challenge is to ensure that they perform as expected. Operational control and visibility becomes more important and complex as there are multiple applications involved. Key challenges are in the areas of SLA management, security enforcement, identity propagation, audits and regulatory compliance. The complexities increase with scale as new application versions are published and additional applications are incorporated into the SOA fabric. Thus it becomes necessary to automate the management and governance of the SOA infrastructure for SOA to be effective.

Example: In composite application exhibiting slow response or throughput it is even more challenging to identify where the problem originates. SOADirector automates root cause analysis and can take corrective/preventive actions such as load balancing, service provisioning, sending alerts and/or adaptive routing based on pre-configured policies.

SOADirector is an enterprise-class SOA management and governance product that enables users to secure, govern and manage web services and business processes. SOADirector is positioned between the service consumer and service provider and gathers message data and enforces policy on every transaction to provide unprecedented visibility and control. SOADirector is a standards based product that offers platform independence and seamless interoperability with other products. It uses SOAStore (or any JAXR compliant registry/repository) as the underlying registry/repository for design time governance.

SOADirector manages the runtime delivery of new and existing services across their lifecycle. By actively managing the service runtime, it simplifies the tasks of rolling-out new services, scaling them for performance and availability and ensuring easy upgrades to new versions. Users can govern the runtime processing of messages flowing in an SOA infrastructure by enforcing management policies without writing code.

SOADirector offers a number of advantages over existing solutions for management and governance enablement, including faster implementation and deployment cycles, a flexible platform for future expansion offering a high degree of reuse, easy extensibility, seamless interoperability and an improved ROI.

Following are the key features of SOADirector:

Enterprise-Class Management

- ▶ Enable business and service level policy definition and enforcement
- ▶ Capture service interdependencies displaying underlying services, applications and infrastructure
- ▶ Manage SOA from a business process perspective
- ▶ View, manage and control across a heterogeneous environment of multiple platforms and protocols
- ▶ Define, sort and prioritize by business and IT metrics
- ▶ Manage, measure and alert service performance and availability
- ▶ Access control for services and processes
- ▶ Monitoring, auditing and alerting
- ▶ Identify interoperability issues
- ▶ Automatically act on monitored data, based on pre-configured policies

Security

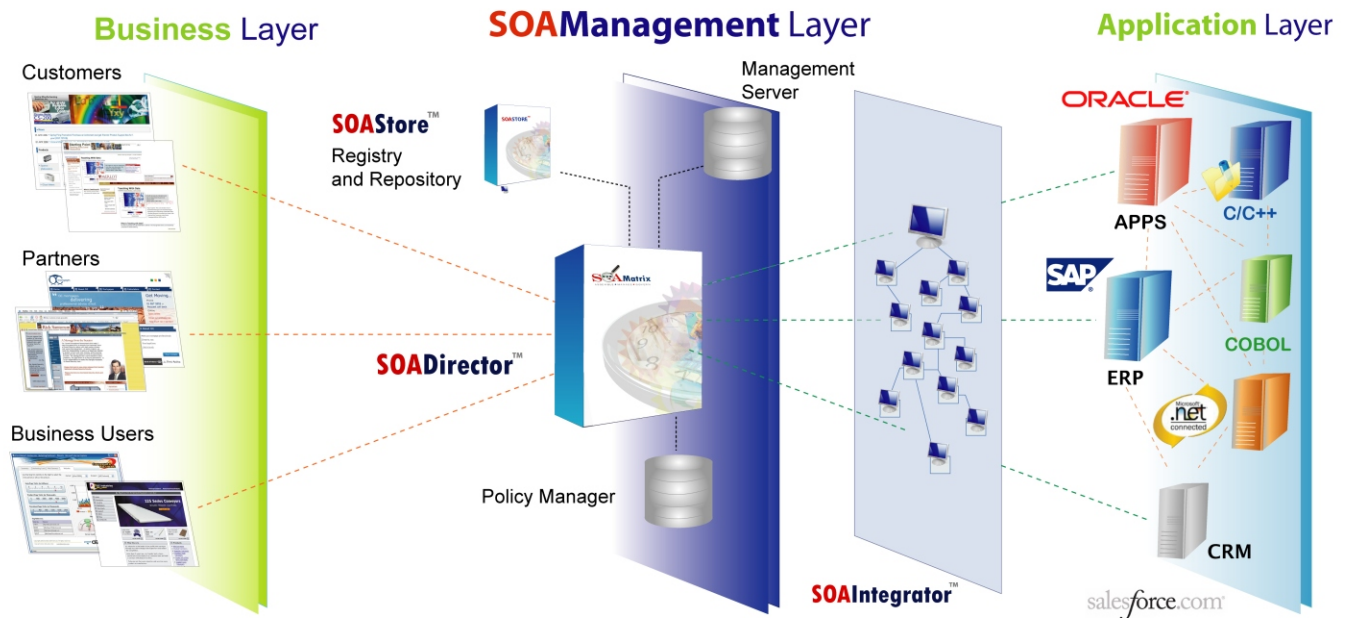
- ▶ Support for WS-Security (digital signature, XML encryption, authentication and authorization)
- ▶ Support for single sign-on and identity propagation using SAML
- ▶ Integration with LDAP and other identity providers
- ▶ Prevention of unauthorized access
- ▶ Support for WS-Trust
- ▶ Monitoring and enforcing security policies
- ▶ Complex security policies

Enterprise Functionalities

- ▶ Support for standard (SOAP) and non-standard web services on multiple transports
- ▶ Service Virtualization when used with gateway
- ▶ Load balancing and failover support when used with gateway
- ▶ Easy integration with existing ESM infrastructure
- ▶ Content based routing
- ▶ Email, SOAP, JMS and custom action alerting
- ▶ Powerful reporting functionality
- ▶ Support for clustering

Runtime Governance

- ▶ Policies for SLA Management
- ▶ Policies for service and process audits
- ▶ Automated security enforcement
- ▶ Distributed policy enforcement



SOADirector and SOAStore in action

SOAStore™

SOAStore is designed for complex, heterogeneous IT environments and enables customers to design, build, deploy and manage a network of business services and processes. This is accomplished by providing a complete system of record of artifacts in a distributed SOA environment, including the policies, contracts, implementation artifacts and dependencies that control their usage.

SOAStore registry/repository provides design time governance capabilities that enable organizations to define and enforce organizational policies governing the content and usage of the artifacts throughout their lifecycles. SOAStore offers functionalities that meet the growing requirements of today's SOA deployments.



Following are the key features of SOAStore:

Registry

- ▶ Catalog, publish, search and approve SOA artifacts
- ▶ Reuse services easily and efficiently
- ▶ Create a system of record for SOA artifacts
- ▶ Interoperate and synchronize with UDDI V2 and V3 registries
- ▶ Role based access control - support for XACML
- ▶ Content based event notification
- ▶ Registry managed version control

Repository

- ▶ Federated system of record for policies, processes, identities, attributes and schemas and their relationships
- ▶ SOA lifecycle governance
- ▶ Content validation and workflow support for SOA artifacts
- ▶ Governance rules engine and policy manager

Solutions Overview

SOAMatrix provides a complete end-to-end SOA solution which:

- ▶ Helps enterprise re-use assets, integrate their disparate applications move to latest standards and architecture
- ▶ Is best-of-breed
- ▶ Meets enterprise needs in the most optimal and cost-effective manner
- ▶ Provides the choice of open source as well as commercial options with the associated benefits
- ▶ Is standards based and hence interoperates seamlessly with other SOA vendors
- ▶ Supports multiple verticals such as BFSI, telecom, government and manufacturing

Partners

Technology Partners



Implementation Partners



Resellers

SEA BYTE TECHNOLOGIES

Advantages of SOAMatrix

- ▶ Only vendor providing ESB, Process Orchestration/Integration, Management and Governance
- ▶ Support for a large number of application and transport protocols
- ▶ Support for multiple vendors and product/technology stacks - works with multiple ESBs and BPEL engines
- ▶ Standards based - support for BPEL, JBI, SCA, WSDM, WS-Security, SAML and other WS-* standards providing maximum interoperability
- ▶ Complements the SOA infrastructure and delegates to various enforcement points (SOAP engines and ESBs)
- ▶ Support for complex business level policies
- ▶ Greater visibility, control, agility and automation
- ▶ Enterprise class, high performance, scalable, modular and highly extensible
- ▶ Support for Event Driven Architecture (EDA) and complex event processing

SOAMatrix is a fast-growing privately held company focused on SOA (Service Oriented Architecture) product development and associated solutions, with a vision to create the best enterprise products/solutions based on SOA and meet current and emerging challenges of enterprises. SOAMatrix's prominent executives and experienced developers bring impressive records of success from such leading software companies as BEA, IBM, Oracle, Sun and Fiorano. SOAMatrix offers a complete SOA Solution and the only vendor providing an ESB, Process Orchestration/Integration, Management and Governance.

Sole focus of SOAMatrix is on SOA and related technologies and it means that we are fiercely committed to the details. We are continually attuned to the evolution and benefits of SOA. As an Independent Software Vendor, we support multiple technology stacks from different vendors by being standards compliant. We actively participate in relevant standards bodies to contribute our expertise to the community to ensure that our customers benefit from emerging standards.

We are committed not only to delivering enterprise-class software to the industry, but to being the best IT partner around whether you're a business executive, an architect, a developer or an IT manager. SOAMatrix products are priced moderately, enabling productivity through extensive feature sets, supported through support centers of dedicated professionals working on leading-edge technologies. SOAMatrix is headquartered in Bangalore, India with a partner network that spans geographies.

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