

TECHNOLOGY TRANSFER PRESENTS

MAX DOLGICER

SOA

**Architecture, Governance,
Standards and Technologies**

APRIL 19-21, 2010

Modeling, Designing

and Implementing SOA

Applications

APRIL 22-23, 2010

RESIDENZA DI RIPETTA - VIA DI RIPETTA, 231
ROME (ITALY)



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ABOUT THIS SEMINAR

SOA has rapidly seized the momentum and center stage because it is seen as the key for Enterprises to achieve Business agility, improved quality of service, lowered total cost of ownership and to align Business with technology. For many SOA is seen as an enabler for rapid creation of new IT capabilities, making companies more agile in an always changing market place. Over the recent years, many Fortune companies have started to embrace a SOA approach for development and integration projects. Now they are embarking on the next step – a more systematic adoption of Service-Oriented practices. However, simply buying into Middleware technologies like Enterprise Service Bus and the latest generation of development tools is not sufficient for successful implementation of an Enterprise SOA.

SOA represents a unique and rare opportunity to bring IT and Business together. However, this opportunity often necessitates organizational changes in IT and how IT and the stakeholders on the Business side work together. The current IT culture must evolve, looking beyond the scope of project centric goals. We must consider requirements that span projects, lines of Business, or the Enterprise as a whole. This evolution drives the need for a new focus on Governance that is aimed to exploit the benefits of Service Orientation on a large scale.

XML, Web Services and other standards play important roles when implementing a Service Oriented Architecture, but it should not be overlooked that core Business functionality still has to be implemented behind the interfaces of the services. This requires a development methodology that extends component development into a Service Oriented Software Development Lifecycle (SDLC), as well as a comprehensive platform for service development, runtime, and management.

This seminar starts with examples of key Business strategies that drive SOA and explains how SOA can enable them, fostering a better alignment between Business requirements and IT deliverables. The seminar then outlines the important aspects that have to be addressed when defining an architecture blueprint, which is the cornerstone of a successful SOA. This includes defining a Loosely Coupled architecture and proper separation into Service Layers (i.e. orchestration, application, and infrastructure services), as well as a comparison of traditional Web Services based and RESTful architectures. The seminar also shows how SOA enables new types of clients and discusses the key standards that one should consider when implementing services.

Next, the seminar gives you insight into the organizational challenges that IT Managers face with the adoption of SOA. It emphasizes the role of Governance for

IT organizations that need to increase their maturity level in order to evolve SOA to a large (Enterprise) scale. It shows how to master the full service lifecycle – including design, implementation, deployment, and management – through efficient Governance.

Furthermore, the seminar will help you understand how SOA can be applied to integration initiatives within your company and introduces the concept of the Enterprise Service Bus (ESB). The seminar then examines Open Source tools in terms of their support for SOA and concludes with a Case Study that highlights how the concepts taught in the seminar have been applied in a real world project.

WHAT YOU WILL LEARN

- Learn how SOA can facilitate the alignment of IT with your Business
- Identify the challenges and benefits of developing an Enterprise Architecture
- Define a roadmap for creating an application architecture that conforms to SOA Best Practices
- Learn how IT culture has to change to successfully adopt the new style of architecture
- Understand how Web Services and other standards can be used to implement a SOA
- Discover the role of Open Source tools in a Service Oriented Architecture
- Learn how Enterprise Service Buses (ESB) can enable and facilitate integration of applications within your Enterprise and across a B2B Value Chain
- Understand the key elements of a Service Oriented Software Development Life Cycle

WHO SHOULD ATTEND

- Architects who want to adopt a Service Oriented Architecture
- IT Professionals who need to see how SOA can be applied to development as well as integration projects
- IT Managers and IT Strategists selecting new standards and products for Enterprise Architecture
- IT Managers and IT Strategies evaluating feasible strategies for application development and integration
- Architects and Application Developers who want a detailed look at the different technologies that can be used to implement SOA
- Architects and Developers who want to know how these technologies can be applied to both, EAI and B2B Application Integration
- Consultants who need to recommend and use different implementation strategies for building a SOA

1. Introduction to Service Oriented Architecture

- Services defined
- SOA defined
- The Changing Notion Of “Applications”
- Next Generation SOA
 - Event & Service Oriented Architecture (e-SOA)
- SOA and standards
- SOA challenges
- Typical SOA categories
- Developing a roadmap for SOA adoption

2. The Business Perspective

- How SOA enables Business strategies
- How to align Business and IT through SOA
- SOA applicability examples
- Moving beyond SOA
 - Business Activity Monitoring (BAM)
 - Complex Event Processing (CEP)

3. Defining the Architecture

- Definition of Enterprise Architecture (EA)
 - What drives the need for EA?
 - Objectives of EA
 - Enterprise reference architectures
 - EA standards
- Logical vs physical architectures
- Sample outline for an architecture document
- Sample Business event walk-through
- The Service Layer Model
 - Orchestration Services Layer
 - Application Services Layer
 - Infrastructure Services Layer
- Loosely Coupled architectures and services
 - Architectural decoupling
 - Characteristics of Loosely Coupled services
- Typical application architectures that drive SOA
 - Multi-step Process
 - Composite Application
- SOA and the data architecture
 - How do services access data stores?
- SOA + Integration = Service Oriented Integration (SOI)
- Rich Internet Applications (RIAs) and SOA

4. Standards that Are Important for SOA

- Establishing connectivity through SOAP
- Defining service interfaces with Web Services Definition Language (WSDL)
- Representational State Transfer (REST)
- Governing services with Service Repositories and Service Registries and (UDDI)
- Using Business Process Execution Language (BPEL) and Business Process Management Notation (BPMN) for orchestration
- Extending automated Business processes with human tasks – BPEL4People
- Web Service Invocation Framework (WSIF)
- Asynchronous service interaction: Notification
- Reliable Messaging
- Security
- Transactions
- Mapping standards to SOA

5. The IT Perspective

- Governance
 - IT Governance
 - Enterprise Architecture Governance
 - SOA Governance overview
 - Service lifecycle Governance
 - SOA Governance enforcement
 - * A place for policies
 - SOA Governance lifecycle
- SOA Center Of Excellence (COE)
- Service Oriented development – a new SDLC methodology
- Migration from previous architectures
- Developing a roadmap for SOA adoption
- Return on Investment (ROI) – a client example

6. How Service-Oriented Architecture Facilitates Integration

- Increased Business velocity challenges IT
 - The IT response: Service Oriented Integration (SOI)
 - What integration functionality do we need?

- Strategies to leverage and preserve your investments
- Evolving the approach to integration
 - The need for intermediation
 - * Service virtualization
- Enterprise Service Bus (ESB)
 - Introducing the Bus
 - ESB architectures
 - How standards could enable plug-and-play integration
 - Moving beyond basic mediation
- Integration across platforms and programming languages - the WS-I standard

7. How to Use Open Source Software (OSS) for SOA

- OSS definition
- Why use OSS?
- Linux, Apache, MySQL, PHP (or Perl) = LAMP
- OSS for SOA
 - Java Application Servers
 - Spring Framework
 - Enterprise Service Buses
 - Web Services
 - Other tools
- OSS vs Java and Microsoft
- How OSS and SOA Relate
- Concerns about OSS

8. Case Study and Conclusions

- Recap of Best Practices
- Case study: Chauffeured Services Company
 - Project overview
 - Three dimensions of Business partner integration
 - Service Oriented Integration Architecture
 - Definition of Service Layering
 - Verifying SOA principles
 - Designing service interfaces
 - Designing the Schemas
 - Designing concrete service interfaces
 - “REST-like” services
- Conclusions on Case Study
- SOA Maturity Model and SOA Roadmap
- SOA outlook

ABOUT THIS SEMINAR

SOA has gained momentum because it is seen as the key for enterprises to achieve Business agility, improved quality of service and lowered total cost of ownership. Over the recent years, many Fortune companies have started to embrace a SOA for initial development and integration projects. However, just utilizing technologies like Web Services and the latest generation of development tools are not sufficient for successful implementation of an Enterprise SOA.

What is required is a consistent approach to architecture, modeling and design that takes a cross-project view on services, providing guidance to critical concepts like service layering and design for reusability. At the same time, traditional Object-Oriented development methodologies such as Rational Unified Process (RUP) need to be significantly adapted, making sure your services are more than just objects with a Web Services interface.

Following a brief introduction the seminar first discusses key architectural guidelines for Service Oriented design. It covers the important characteristics of Loosely Coupled architectures and compares today's two mainstream approaches to SOA, namely traditional Web Services based architectures and RESTful architectures. It also outlines the options for moving processing from the server to the Web Services client.

The seminar then addresses how a typical Object-Oriented application development methodology can be modified and adapted such that is suitable for implementing services. This is followed by an illustration of a Layered Services Model, which fosters the separation of services into three distinct Layers (orchestration, application, and infrastructure services layer). This separation is key to designing Loosely Coupled services and to ensure reusability of services across applications or Business processes.

A case study is used for a detailed illustration of the modeling and design of a SOA-based B2B gateway. It includes the design of service interfaces, the encapsulation of a legacy system, the definition of schemas that are broken down into reusable components, the development of Business processes, and a walk-through of the complete B2B gateway architecture.

WHAT YOU WILL LEARN

- Learn the key aspects of modeling, designing and implementing services in a SOA
- Understand how a Service Oriented software development lifecycle is different from its Object-Oriented predecessors
- Be able to define practical guidelines that can help different project teams make the best architecture, design and implementation choices for SOA
- Learn about proper service Layering and service design for reusability
- Gain insight into how Data Architecture relates to SOA
- Learn how to design XML Schema for componentization and reuse

WHO SHOULD ATTEND

- Architects who want to adopt a Service Oriented Architecture
- IT Professionals who need to see how SOA can be applied to development projects
- IT Managers who want to adopt a Service Oriented software development lifecycle
- Consultants who need to recommend and use different implementation strategies for building a SOA

PREREQUISITE

This class requires attendees to have an architectural understanding of Service Oriented Applications and core Web Services standards like XML Schema, SOAP, WSDL etc.

1. Agenda and SOA Overview

- Agenda
- ISG overview
- SOA defined
 - The changing notion of applications
- Next generation SOA
 - Moving from Client/Server SOA to Event and Service Oriented Architecture (e-SOA)

2. Architectural Guidelines for Service Design

- Overview of Loosely Coupled architectures
 - Interface style and service interaction metaphor
 - Synchronous vs asynchronous SOA
 - Degrees of Service Orientation
- Traditional Web Services based vs RESTful architectures
 - Characteristics of traditional Web Services based architectures
 - Characteristics of RESTful architectures
 - The uniform interface
 - The concept of resources
 - Architectural constraints
 - Why WSDL – and the REST alternative
 - Why SOAP – and the REST alternative
- High-level application architecture
 - Considerations for orchestration and application services
 - Stateful vs stateless services
 - Data access services
- The client tier
 - How clients relate to services in a “Web Oriented Architecture”
 - Format considerations for the data exchange between client and service
 - * JSON vs XML

3. Service Oriented Analysis and Modeling

- Overview of a Service Oriented Software Development Lifecycle
 - Component vs Service Oriented development

- Extending a Object-Oriented software development methodology for SOA
 - Business Modeling Activities
 - Requirements Activities
 - Analysis & Design Activities
 - * Mining existing systems
 - * Verifying service definitions against SOA principles
 - Implementation Activities
 - Test and Deployment Activities
 - Project Management Activities
 - New roles & responsibilities
- Top-down vs bottom-up approach
- The service Layer Model
 - Orchestration Services Layer
 - Application Services Layer
 - Infrastructure Services Layer

4. Analysis and Modeling - Customer Case Study Part I

- Customer overview
- B2B Integration Strategy
- Business Process Walk-Through
- Defining Project Scope
- Business Modeling
- Definition Of Services & Layering
- Verify SOA Principles

5. Service Oriented Design - Case Study Part II

- Guiding principles for service design
- Putting it all together: a customer Case Study – Part II
 - Designing service interfaces
 - Encapsulation of existing Business logic
 - Designing the Schemas
 - Interface consolidation
 - Determining the right degree of Service Orientation
 - Designing the components
 - Composing Business processes
 - Detailed B2B Gateway Logical Architecture
 - Conclusions

6. Conclusions

- Summary of lessons learned
 - Summary of architecture choices
 - Where to process – on the Client or the Server?

- Layers are good for decoupling and reusability
- Service development needs a methodology
- Case Study highlights
- Challenges
 - Composite applications
 - Asynchronous service interaction

<p>PARTICIPATION FEE</p> <p>SOA: Architecture, Governance, Standards and Technologies € 1500</p> <p>Modeling, Designing and Implementing SOA Applications € 1200</p> <p>Special price for the delegates who attend both seminars € 2500</p> <p>The fee includes all seminar documentation, luncheon and coffee breaks.</p> <p>VENUE</p> <p>Residenza di Ripetta Via di Ripetta, 231 Rome (Italy)</p>	<p>SEMINAR TIMETABLE</p> <p>9.30 am - 1.00 pm 2.00 pm - 5.00 pm</p> <p>HOW TO REGISTER</p> <p>You must send the registration form with the receipt of the payment to: TECHNOLOGY TRANSFER S.r.l. Piazza Cavour, 3 - 00193 Rome (Italy) Fax +39-06-6871102</p> <p>within April 6, 2010</p> <p>PAYMENT</p> <p>Wire transfer to: Technology Transfer S.r.l. Banca Intesa Sanpaolo S.p.A. Agenzia 6787 di Roma Iban Code: IT 34 Y 03069 05039 048890270110</p>	<p>GENERAL CONDITIONS</p> <p>GROUP DISCOUNT If a company registers 5 participants to the same seminar, it will pay only for 4. Those who benefit of this discount are not entitled to other discounts for the same seminar.</p> <p>EARLY REGISTRATION The participants who will register 30 days before the seminar are entitled to a 5% discount.</p> <p>CANCELLATION POLICY A full refund is given for any cancellation received more than 15 days before the seminar starts. Cancellations less than 15 days prior the event are liable for 50% of the fee. Cancellations less than one week prior to the event date will be liable for the full fee.</p> <p>CANCELLATION LIABILITY In the case of cancellation of an event for any reason, Technology Transfer's liability is limited to the return of the registration fee only.</p>
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Registration fee: € 1500

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BOTH SEMINARS

Special price for the delegates who attend both seminars: € 2500

If anyone registered is unable to attend, or in case of cancellation of the seminar, the general conditions mentioned before are applicable.

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SPEAKER

Max Dolgicer is an internationally recognized expert, Technical Director and Principal at International System Group, (ISG) Inc., a leading consulting firm that specializes in design, development and integration of large-scale distributed applications using leading edge Middleware technologies. Mr. Dolgicer is a contributing editor for Application Development Trends magazine and recognized speaker, instructor and lecturer. Mr. Dolgicer has more than 28 years of management and technical experience in development and support of Business applications, software products and systems internals. Mr. Dolgicer's academic background includes a Master in Computer Science from Technion, Israel Institute of Technology.