



# Migrating Legacy Components to SOA Environments



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Service-Oriented Architecture (SOA) has been touted as a solution to meet the challenge of rapid change in today's commercial, government, and military software environments.

Certainly, SOA has great potential. It is a way to design systems that enables cost-efficiency, agility, adaptability, and leverage of legacy investments. But before starting an SOA development effort, an organization needs to gain a realistic understanding of its potentials and pitfalls.

In a public, two-day course offered by the Integration of Software-Intensive Systems (ISIS) Initiative of the Software Engineering Institute, you will gain that understanding.

### This two-day course consists of four parts:

1. Introduction to SOA
2. Pillars of SOA-Based Systems Development
3. Issues in Migration to SOA Environments
4. SMART (Service Migration and Reuse Technique)

### Who Will Benefit

- Technical managers, managers, and software engineers who are looking for a solid overview of what the SOA approach really involves
- Technical managers, managers, and software engineers who are considering the migration of legacy assets to become services
- Individuals who make decisions about SOA strategy and implementation
- Individuals tasked with development and deployment of SOA-based systems or with migration of legacy components to SOA environments

### 2007 Course Dates

January 30–31, 2008  
(SEI Pittsburgh, PA)

April 23–24, 2008  
(SEI Pittsburgh, PA)

July 23–24, 2008  
(SEI Pittsburgh, PA)

October 15–16, 2008  
(SEI Arlington, VA)

To register, go to [www.sei.cmu.edu/products/courses/p59.html](http://www.sei.cmu.edu/products/courses/p59.html)

This course may also be offered by arrangement at customer sites. E-mail [course-info@sei.cmu.edu](mailto:course-info@sei.cmu.edu) or call +1 412-268-7622 for details.

### Course Explains SOA, Outlines Migration Approach

In the two-day Migrating Legacy Components to SOA Environments course, you will learn

- SOA basic concepts
- common misconceptions about SOA
- fundamentals for successfully implementing SOA
- potential issues in leveraging legacy investments as services
- a technique for analyzing the potential of reusing legacy assets as services

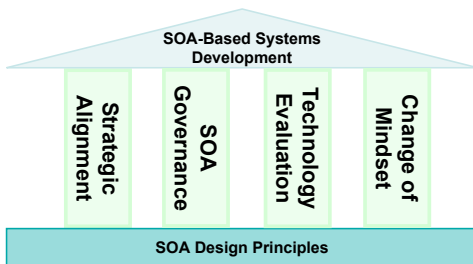
Our course begins with a “50,000-foot” view of SOA implications for your organization and introduces the three basic components of SOA-based systems: services, service consumers, and infrastructure.

We then outline the basic operations of service discovery, composition, and invocation and introduce common technologies in a “5,000-foot” view. Web Services is presented in detail as one approach for implementing SOA, with a description of its basic supporting technologies: Web Service Definition Language (WSDL), Simple Object Access Protocol (SOAP), and Universal Description, Discovery and Integration (UDDI). The Organization for the Advancement of Structured Information Standards (OASIS) SOA Reference Model is presented as a current effort to characterize SOA-based systems.

In the “1,000-foot” view, we address SOA development issues from three perspectives: the service developer, the application developer, and the infrastructure developer.

# Migrating Legacy Components to SOA Environments

As we reveal SOA concepts, you will see the potentials of cost-efficiency, agility, adaptability, and leverage of legacy investments. You will also learn a set of common misconceptions about SOA, such as the belief that it is easy to integrate any legacy system into an SOA environment.



## Four Pillars of SOA Implementation Introduced

In order to implement an SOA approach effectively, it is crucial to pay attention to four pillars that are necessary for SOA success. These are

- 1.Strategic approach, focusing on alignment with business goals
- 2.SOA governance
- 3.Realistic context-based technology evaluations
- 4.Change of mindset—a different development and implementation approach

## Technique to Analyze Legacy Assets Explained

Having set a foundation for SOA-based systems development, we identify issues that need to be addressed for migrating legacy assets to SOA environments. We then introduce the Service Migration and Reuse Technique (SMART), which can be applied in a variety of SOA migration contexts. †

## SMART addresses

- Does it make sense to migrate the legacy systems to services?
- What services make sense to develop?
- What components can be mined to derive these services?
- What changes are needed to accomplish the migration?
- What migration strategies are most appropriate?
- What are the preliminary estimates of cost and risk?

## SMART consists of three elements:

- 1.a process to gather information about the legacy assets and the target architecture
- 2.a Service Migration Interview Guide (SMIG) for the SMART activities
- 3.templates for output products, such as service, component, and migration strategy tables

## What You Will Learn

After successfully completing this course, participants will be able to

- understand the basic concepts related to SOA-based applications
- appreciate the challenges of implementing SOA-based systems, including the technical and organizational issues that need to be addressed
- recognize the implications of SOA characteristics for the migration of legacy assets to services
- see the value of a method for determining the feasibility and effort required for the migration of legacy assets as services for a specific SOA environment

† Read more about SMART in *SMART: The Service-Oriented Migration and Reuse Technique* (CMU/SEI-2005-TN-029). It is available at <http://www.sei.cmu.edu/publications/documents/05.reports/05tn029.html>.

## To Register for this Course

You can register for Migrating Legacy Components to SOA Environments through SEI Education and Training  
P: 412-268-7388  
F: 412-268-7401  
[courseregistration@sei.cmu.edu](mailto:courseregistration@sei.cmu.edu)  
<http://www.sei.cmu.edu/products/courses/p59.html>

## Related Web Sites

<http://www.sei.cmu.edu/isis/>  
<http://www.sei.cmu.edu/isis/smart.htm>

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