

Background: SOA Research Agenda

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Hard Problems in SOA Workshop
January 30, 2008



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Current and Future Reality

- Service-Oriented Architecture (SOA) paradigm is having a significant impact on software development
- Standardization efforts are progressing
- Variety of tools are becoming available to support SOA-based development
- Academic and industrial researchers are working on a range of relevant problems to increase and ease adoption



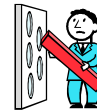
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Problem

- Current efforts evolve in many directions, without a central compass
- Vendors often frame the SOA discourse—with their own agendas
- No clear, commonly agreed upon, overarching themes to focus research activity
- Danger that important research needs will be overlooked, while other efforts will focus on issues of peripheral long-term significance in practice



SEI Independent Research and Development Project

Goals

- Assemble an international research group to analyze the current state of the practice and current research initiatives in SOA
- Propose a long-term consensus research agenda



Approach

- Broadened the scope of the research agenda to show that we are interested in more than just SOA as an architectural style
- Performed an extensive literature review and looked at case studies of successful SOA adoption
- Created a service-oriented system development lifecycle that supports the strategic approach to SOA adoption shown in case studies
- Identified areas of SOA research necessary to fill in the gaps
- Validated end evolved finding through multiple workshops and interviews



Context for Workshop

Previous work

- Reviewed several hundred research papers
- Organized 7 workshops with research community
- Validated taxonomy of research issues



Today's workshop:

- Co-sponsored by IBM, CMU School of Computer Science, SEI
- Unique mix of practitioner and research community
- Identify hard problems from user perspective
- Identify needed research



Research Challenges Report Outline

Executive Summary

Introduction

SOC Basics

SOC Research Framework

Research Topics

Next Steps

Conclusions

Glossary

Workshops

Extended Bibliography



Next Steps

Next Steps

- Make presentations and working session outputs available
- Technical Report of workshop summary
- Present summary findings to ICSE 2008 workshop (May, 2008)
- Use as impetus for potential SOA research consortium

