

Service Oriented Architecture is a hot, but often misunderstood topic in IT today. Thomas articulately describes the concepts, specifications, and standards behind service orientation and Web Services. For enterprises adopting SOA, there is detailed advice for service-oriented analysis, planning, and design. This book is a must read!"

—Alex Lynch, Principal Consultant, Microsoft Enterprise Services

Service-Oriented Architecture

Concepts, Technology, and Design

Thomas Erl

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Service-Oriented Architecture

Concepts, Technology, and Design

Thomas S. Ertl



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Praise for Thomas Erl's Books

"Service Oriented Architecture is a hot, but often misunderstood topic in IT today. Thomas articulately describes the concepts, specifications, and standards behind service orientation and Web Services. For enterprises adopting SOA, there is detailed advice for service-oriented analysis, planning, and design. This book is a must read!"

—Alex Lynch, Principal Consultant, Microsoft Enterprise Services

"One primary objective of applying SOA in design is to provide business value to the solutions we build. Understanding the right approach to analyzing, designing, and developing service-oriented solutions is critical. Thomas has done a great job of demystifying SOA in practical terms with his book."

—Rick Weaver, IBM Senior Consulting Certified SW I/T Specialist

"A pragmatic guide to SOA principles, strategy, and best practices that distills the hype into a general framework for approaching SOA adoption in complex enterprise environments."

—Sameer Tyagi, Senior Staff Engineer, Sun Microsystems

"A very timely and much needed contribution to a rapidly emerging field. Through clarifying the principles and nuances of this space, the author provides a comprehensive treatment of critical key aspects of SOA from analysis and planning to standards ranging from WS-specifications to BPEL. I'll be recommending this book to both clients and peers who are planning on embracing SOA principles."

—Ravi Palepu, Senior Field Architect, Rogue Wave Software

"Finally, an SOA book based on real implementation experience in production environments. Too many SOA books get lost in the technical details of Web Services standards, or simply repeat vendor hype. This book covers the really hard parts: the complex process of planning, designing and implementing service-oriented architectures that meet organizational goals. It is an essential companion to any software developer, architect, or project manager implementing—or thinking about implementing—a service-oriented architecture."

—Priscilla Walmsley, Managing Director of Datypic

Service-Oriented Architecture

To Zuzana

Preface

Authoring this book involved nearly a year of writing, research, and staying on top of a subject matter that is constantly expanding its reach and importance. Although the majority of the chapters focus on service-oriented architecture from a vendor-neutral perspective, achieving an accurate representation of this perspective required that I spend a great deal of time evaluating SOA support in all primary vendor platforms. As part of this research stage I spoke with more than a hundred senior IT professionals, either through interviews or through my work as an awards judge evaluating platform submissions.

One of the most interesting facets of this project has been in defining service-orientation within the context of Web services. While studying the individual parts of what constitutes service-orientation as a paradigm, I came to realize just how many of its roots lie in past innovations. Yet at the same time, it is distinct, blending traditional and new concepts in support of a unique architectural model.

Despite its apparent “newness,” SOA, on a fundamental level, is based on a very old and established school of thought. Service-orientation, as a means of separating things into independent and logical units, is a very common concept. As I progressed through these chapters, I began to notice this more often in everyday life. Items, people, organizations we come into contact with either offer some form of service or participate in performing a service. Once applied to technology architecture, though, service-orientation is concerned with a specific part of our service-oriented world: business automation.

Competitive business climates demand that corporations minimize redundant effort and maximize the expediency with which strategic goals can be achieved. Inefficient organizations that consistently waste resources are bound to fall behind. The manner in

which an organization automates its business is a critical factor in determining the level of efficiency at which it operates and, ultimately, the extent of success it attains in its ventures.

This is what makes SOA so valuable. By shaping automation logic through service-orientation, existing investments can be leveraged, business intelligence can be accurately expressed, and inherent automation agility can be achieved. When coupled with the Web services technology platform, SOA offers a significant and real benefit potential that can transform the technology and outlook of an organization. My goal for this book is to help you explore, understand, and realize this potential.

Acknowledgments

While writing this book I was blessed with a strong team of technical reviewers and superior editorial, production, and marketing professionals. My thanks to all of you for your tireless efforts. A special thanks to my family for their patience and unwavering support.

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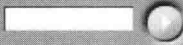
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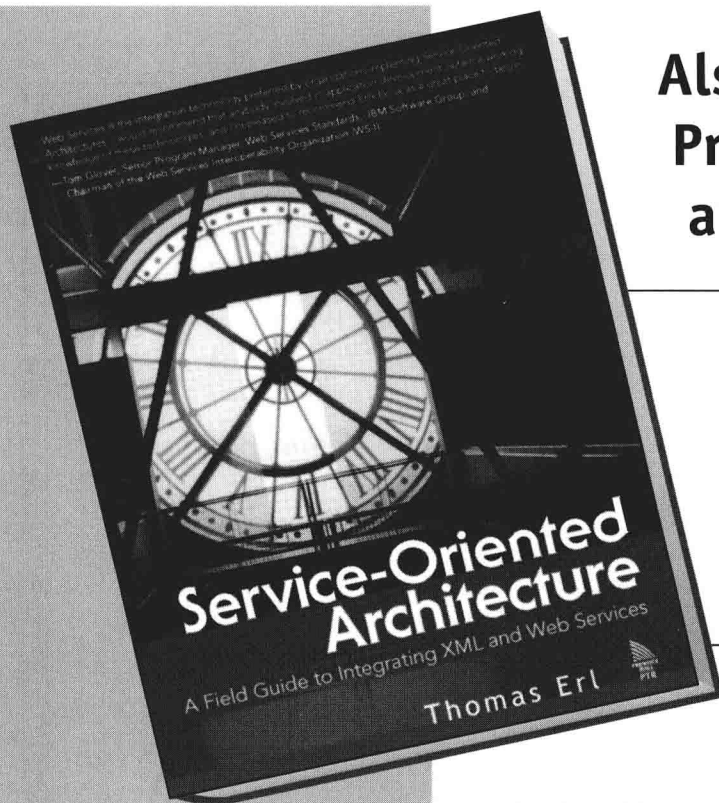
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"Web Services is the integration technology preferred by organizations implementing service-oriented architectures. I would recommend that anybody involved in application development obtain a working knowledge of these technologies, and I'm pleased to recommend Erl's book as a great place to begin."

TOM GLOVER

Senior Program Manager, Web Services Standards,
IBM Software Group, and Chairman of the Web
Services Interoperability Organization (WS-I)

"An excellent guide to building and integrating XML and Web services, providing pragmatic recommendations for applying these technologies effectively. The author tackles numerous integration challenges, identifying common mistakes and providing guidance needed to get it right the first time. A valuable resource for understanding and realizing the benefits of service-oriented architecture in the enterprise."

DAVID KEOGH

Program Manager, Visual Studio Enterprise Tools,
Microsoft

Writing for architects, analysts, managers, and developers, Thomas Erl offers expert advice for making strategic decisions about both immediate and long-term integration issues. Erl addresses a broad spectrum of integration challenges, covering technical and design issues, as well as strategic planning.

- Covers crucial second-generation (WS-*) Web services specifications: BPES4WS, WS-Security, WS-Coordination, WS-Transaction, WS-Policy, WS-ReliableMessaging, and WS-Attachments
- Includes hundreds of individual integration strategies and more than 60 best practices for both XML and Web services technologies
- Includes an introduction to basic concepts related to Web services and service-oriented architecture
- Explores design issues related to a wide variety of service-oriented integration architectures that integrate XML and Web services into legacy and EAI environments
- Provides a clear roadmap for planning a long-term migration toward a standardized service-oriented enterprise

SOA provides a powerful medium for integration, but brings with it new complexities and challenges. This book will assist you with the planning, architecture, and implementation of service-oriented environments—efficiently and cost-effectively.



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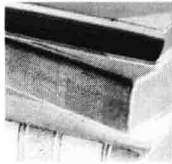
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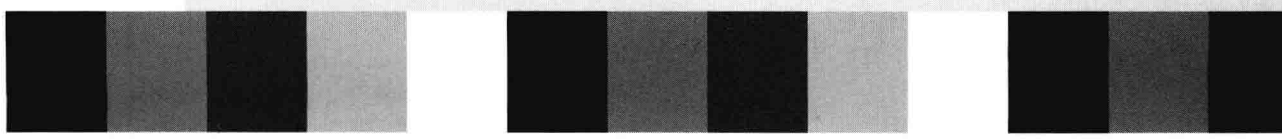
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