

Service Oriented Architecture Concepts Technology And Design 2nd Edition The Prentice Hall Service Technology Series From Thomas Erl

Endorsed by all major vendors (Microsoft, Oracle, IBM, and SAP), SOA has quickly become the industry standard for building next-generation software; this practical guide shows readers how to achieve the many benefits of SOA Begins with a look at the architectural principles needed to create successful applications and then goes on to examine the process for designing services and SOA implementations Each stage of the design process has an accompanying chapter that walks readers through the details and provides helpful tips, techniques, and examples The author team of SOA practitioners also provides two unique, comprehensive, end-to-end case studies illustrating the architectural and design techniques presented in the book

"Every developer working with the Web needs to read this book." -- David Heinemeier Hansson, creator of the Rails framework "RESTful Web Services finally provides a practical roadmap for constructing services that embrace the Web, instead of trying to route around it." -- Adam Trachtenberg, PHP author and EBay Web Services Evangelist You've built web sites that can be used by humans. But can you also build web sites that are usable by machines? That's where the future lies, and that's what RESTful Web Services shows you how to do. The World Wide Web is the most popular distributed application in history, and Web services and mashups have turned it into a powerful distributed computing platform. But today's web service technologies have lost sight of the simplicity that made the Web successful. They don't

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work like the Web, and they're missing out on its advantages.

This book puts the "Web" back into web services. It shows how you can connect to the programmable web with the technologies you already use every day. The key is REST, the architectural style that drives the Web. This book:

- Emphasizes the power of basic Web technologies -- the HTTP application protocol, the URI naming standard, and the XML markup language
- Introduces the Resource-Oriented Architecture (ROA), a common-sense set of rules for designing RESTful web services
- Shows how a RESTful design is simpler, more versatile, and more scalable than a design based on Remote Procedure Calls (RPC)
- Includes real-world examples of RESTful web services, like Amazon's Simple Storage Service and the Atom Publishing Protocol
- Discusses web service clients for popular programming languages
- Shows how to implement RESTful services in three popular frameworks -- Ruby on Rails, Restlet (for Java), and Django (for Python)
- Focuses on practical issues: how to design and implement RESTful web services and clients

This is the first book that applies the REST design philosophy to real web services. It sets down the best practices you need to make your design a success, and the techniques you need to turn your design into working code. You can harness the power of the Web for programmable applications: you just have to work with the Web instead of against it. This book shows you how.

Expert Solutions and State-of-the-Art Code Examples SOA Using Java™ Web Services is a hands-on guide to implementing Web services and Service Oriented Architecture (SOA) with today's Java EE 5 and Java SE 6 platforms. Author Mark Hansen presents in explicit detail the information that enterprise developers and architects need to succeed, from best-practice design techniques to state-of-the-art code samples. Hansen covers creating, deploying, and

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invoking Web services that can be composed into loosely coupled SOA applications. He begins by reviewing the “big picture,” including the challenges of Java-based SOA development and the limitations of traditional approaches. Next, he systematically introduces the latest Java Web Services (JWS) APIs and walks through creating Web services that integrate into a comprehensive SOA solution. Finally, he shows how application frameworks based on JWS can streamline the entire SOA development process and introduces one such framework: SOA-J. The book Introduces practical techniques for managing the complexity of Web services and SOA, including best-practice design examples Offers hard-won insights into building effective SOA applications with Java Web Services Illuminates recent major JWS improvements—including two full chapters on JAX-WS 2.0 Thoroughly explains SOA integration using WSDL, SOAP, Java/XML mapping, and JAXB 2.0 data binding Walks step by step through packaging and deploying Web services components on Java EE 5 with JSR-181 (WS-Metadata 2.0) and JSR-109 Includes specific code solutions for many development issues, from publishing REST endpoints to consuming SOAP services with WSDL Presents a complete case study using the JWS APIs, together with an Ajax front end, to build a SOA application integrating Amazon, Yahoo Shopping, and eBay Contains hundreds of code samples—all tested with the GlassFish Java EE 5 reference implementation—that are downloadable from the companion Web site, <http://soabook.com>. Foreword Preface Acknowledgments About the Author Chapter 1: Service-Oriented Architecture with Java Web Services Chapter 2: An Overview of Java Web Services Chapter 3: Basic SOA Using REST Chapter 4: The Role of WSDL, SOAP, and Java/XML Mapping in SOA Chapter 5: The JAXB 2.0 Data Binding Chapter 6: JAX-WS—Client-Side Development Chapter 7: JAX-

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WS 2.0—Server-Side Development Chapter 8: Packaging and Deployment of SOA Components (JSR-181 and JSR-109)

Chapter 9: SOAShopper: Integrating eBay, Amazon, and Yahoo! Shopping Chapter 10: Ajax and Java Web Services

Chapter 11: WSDL-Centric Java Web Services with SOA-J Appendix A: Java, XML, and Web Services Standards Used

in This Book Appendix B: Software Configuration Guide

Appendix C: Namespace Prefixes Glossary References Index

"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

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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 "Thomas Erl's Service-Oriented Architecture: Concepts, Technology, and Design is as good an introduction to service-oriented architectures as one could wish for. In a single volume, it covers the entire topic, from theory to real-world use to technical details. The examples are superb and the writing is wonderfully clear." --Ronald Bourret, Author, "XML and Databases" "Finally an SOA book which gets to the point with real world answers and examples. Erl guides you on a real world SOA journey. From architecture design to industry standards, this book is well written and can be easily referenced for everyday use. When embarking on your own service orientated adventures, this is the book you want in your bag." --Clark Sell, Vice President, CSell Incorporated "Organizations struggling to evolve existing service-oriented solutions beyond simple Web Services now have an expert resource available. Leading the way to the true service-oriented enterprise, Thomas Erl demystifies the complexities of the open WS-I standards with detailed practical discussions and case studies. Erl's depth and clarity makes this work a superb complement to his Field Guide." --Kevin P. Davis, PhD., Software Architect "This book is an excellent guide for architects, developers, and managers who are already working with or are considering developing Web Services or Service-Oriented Architecture solutions. The book is divided into four sections. In the first

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section the fundamental technologies of XML, Web Services and Service-Oriented Architectures are described in detail with attention given to emerging standards. The book is well written and very thorough in its coverage of the subject. I recommend this book highly to anyone interested in enterprise level service architectures." --Adam Hocek, President and CTO, Broadstrokes, Inc. Additional praise quotes are published at: www.soabooks.com/reviews.asp The foremost "how-to" guide to SOA Service-Oriented Architecture (SOA) is at the heart of a revolutionary computing platform that is being adopted world-wide and has earned the support of every major software provider. In Service-Oriented Architecture: Concepts, Technology, and Design, Thomas Erl presents the first end-to-end tutorial that provides step-by-step instructions for modeling and designing service-oriented solutions from the ground up. Erl uses more than 125 case study examples and over 300 diagrams to illuminate the most important facets of building SOA platforms: goals, obstacles, concepts, technologies, standards, delivery strategies, and processes for analysis and design. His book's broad coverage includes Detailed step-by-step processes for service-oriented analysis and service-oriented design An in-depth exploration of service-orientation as a distinct design paradigm, including a comparison to object-orientation A comprehensive study of SOA support in .NET and J2EE development and runtime platforms Descriptions of over a dozen key Web services technologies and WS-* specifications, including explanations of how they interrelate and how they are positioned within SOA The use of "In Plain English" sections, which describe complex concepts through non-technical analogies Guidelines for service-oriented business modeling and the creation of specialized service abstraction layers A study contrasting past architectures with SOA and reviewing current industry

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influences Project planning and the comparison of different SOA delivery strategies The goal of this book is to help you attain a solid understanding of what constitutes contemporary SOA along with step-by-step guidance for realizing its successful implementation. About the Web Sites Erl's Service-Oriented Architecture books are supported by two Web sites. [http:// www.soabooks.com](http://www.soabooks.com) provides a variety of content resources and [http:// www.soaspecs.com](http://www.soaspecs.com) supplies a descriptive portal to referenced specifications. Copyright Pearson Education. All rights reserved.

"This book offers a selection of chapters that cover three important aspects related to the use of non-functional properties in SOA: requirements specification with respect to non-functional properties, modeling non-functional properties and implementation of non-functional properties"--Provided by publisher.

The Top-Selling, De Facto Guide to SOA--Now Updated with New Content and Coverage of Microservices! For more than a decade, Thomas Erl's best-selling Service-Oriented Architecture: Concepts, Technology, and Design has been the definitive end-to-end tutorial on SOA, service-orientation, and service technologies. Now, Erl has thoroughly updated the industry's de facto guide to SOA to reflect new practices, technologies, and strategies that have emerged through hard-won experience and creative innovation. This Second Edition officially introduces microservices and micro task abstraction as part of service-oriented architecture and its associated service layers. Updated case study examples and illustrations further explain and position the microservice model alongside and in relation to more traditional types of services. Coverage includes:

- Easy-to-understand, plain English explanations of SOA and service-orientation fundamentals (as compiled from series titles)
- Microservices, micro task abstraction, and containerization
- Service delivery lifecycle and associated

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phases • Analysis and conceptualization of services and microservices • Service API design with REST services, web services, and microservices • Modern service API and contract versioning techniques for web services and REST services • Up-to-date appendices with service-orientation principles, REST constraints, and SOA patterns (including three new patterns) Service-Oriented Architecture: Analysis and Design for Services and Microservices, Second Edition, will be indispensable to application architects, enterprise architects, software developers, and any IT professionals interested in learning about or responsible for designing or implementing modern-day, service-oriented solutions.

Chapter 1: Introduction Chapter 2: Case Study Backgrounds

Part I: Fundamentals Chapter 3: Understanding Service-

Orientation Chapter 4: Understanding SOA Chapter 5:

Understanding Layers with Services and Microservices Part

II: Service-Oriented Analysis and Design Chapter 6: Analysis

and Modeling with Web Services and Microservices Chapter

7: Analysis and Modeling with REST Services and

Microservices Chapter 8: Service API and Contract Design

with Web Services Chapter 9: Service API and Contract

Design with REST Services and Microservices Chapter 10:

Service API and Contract Versioning with Web Services and

REST Services Part III: Appendices Appendix A: Service-

Orientation Principles Reference Appendix B: REST

Constraints Reference Appendix C: SOA Design Patterns

Reference Appendix D: The Annotated SOA Manifesto

Market_Desc: • Students, Software Engineers, Designers, Architects, Business Analysts and Consultants-
Project/Program Managers and IT Consultants, CXOs Special

Features: • First book that focuses on architecture, design and development of Enterprise applications based on Service Oriented Architecture-
Caters to the needs of students who need to understand the concepts of SOA, architects,

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designers and developers who build SOA based enterprise applications and CXOs and Project managers who make decisions on undertaking SOA projects. Includes detailed description (and code) to enable architects, designers and developers to build SOA applications on Java and .NET platforms. SOA is one of key areas on which IT services; product and end-user companies will be building substantial capability atleast until 2011. This book enables project teams in these companies to use it as a text book for their training programs on SOA About The Book: Service-Oriented Architecture is a book that emphasizes on architecture, design and development of enterprise applications based on SOA. The book provides detailed information on many dimensions of SOA-reuse, agility and integration-that can be put to immediate use for creating transformational impact. It also offers a comprehensive and structured set of techniques for custom-built service-oriented enterprise applications that can be readily applied by system integration companies and end-user organizations to address customer needs. The book equips you with both concepts and technology detail in addressing the IT challenges faced by organizations on their business transformation journey with SOA. This is the most sought after book by students who need to have an understanding of the concepts of SOA; architects, designers and developers who build SOA based enterprise applications and CXOs and Project managers who make decisions on undertaking SOA projects.

Aggressively being adopted by organizations in all markets, service-oriented architecture (SOA) is a framework enabling business process improvement for gaining competitive advantage. Service-Oriented Architecture: SOA Strategy, Methodology, and Technology guides you through the challenges of deploying SOA. It demonstrates conclusively that strategy and methodology are the keys to implementing

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SOA and provides the methodology needed for SOA success. The book examines the role of both non-agile and agile project management techniques for deploying SOA. Its methodology applies frameworks of governance, communications, product realization, project management, architecture, data management, service management, human resource management and post implementation processes. Filled with case studies, the book shows the methodology in action. This reference benefits business managers, business analysts, and technology project managers who are serious about adopting SOA as a long-term strategy. It is also benefits those new to business process management, enterprise architecture, and information systems and need to understand SOA, its business drivers, and its methodology. SOA is the most important initiative facing IT today and is difficult to grasp; this book demystifies the complex topic of SOA and makes it accessible to all those people who hear the term but aren't really sure what it means This team of well-respected authors explains that SOA is a collection of applications that enables resources to be available to other participants in a network using any service-based technology Examines how SOA enables faster and cheaper application development and how it offers reusable code that can be used across various applications Covers what SOA is, why it matters, how it can impact businesses, and how to take steps to implement SOA in a corporate environment

Web browsing would not be what it is today without the use of Service-Oriented Architecture (SOA). Although much has been written about SOA methodology, this emerging platform is continuously under development. Exploring Enterprise Service Bus in the Service-Oriented Architecture Paradigm is a detailed reference source that examines current aspects and research methodologies that enable enterprise service bus to unify and connect services efficiently on a common

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platform. Featuring relevant topics such as SOA reference architecture, grid computing applications, complex event computing, and java business integration, this is an ideal resource for all practitioners, academicians, graduate students, and researchers interested in the discoveries on the relationship that Service-Oriented architecture and enterprise service bus share.

Software services are established as a programming concept, but their impact on the overall architecture of enterprise IT and business operations is not well-understood. This has led to problems in deploying SOA, and some disillusionment. The SOA Source Book adds to this a collection of reference material for SOA. It is an invaluable resource for enterprise architects working with SOA. The SOA Source Book will help enterprise architects to use SOA effectively. It explains: What SOA is How to evaluate SOA features in business terms How to model SOA How to use The Open Group Architecture Framework (TOGAF™) for SOA SOA governance This book explains how TOGAF can help to make an Enterprise Architecture. Enterprise Architecture is an approach that can help management to understand this growing complexity.

In this comprehensive introduction to software measurement, Ebert and Dumke detail knowledge and experiences about the subject in an easily understood, hands-on presentation. The book describes software measurement in theory and practice as well as provides guidance to all relevant measurement tools and online references. In addition, it presents hands-on experience from industry leaders and provides many examples and case studies from Global 100 companies. Besides the many practical hints and checklists, readers will also appreciate the large reference list, which includes links to metrics communities where project experiences are shared.

Reap the benefits of increased ROI by integrating Service-

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The Prentice Hall Service Technology Series
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Oriented Design principles and XML Web services into your
IT infrastructure.

The Definitive Guide to Service Engineering The key to succeeding with service-oriented architecture (SOA) is in comprehending the meaning and significance of its most fundamental building block: the service. It is through an understanding of service design that truly “service-oriented” solution logic can be created in support of achieving the strategic goals associated with SOA and service-oriented computing. Bestselling SOA author Thomas Erl guides you through a comprehensive, insightful, and visually rich exploration of the service-orientation design paradigm, revealing exactly how services should and should not be designed for real-world SOA.

Special Features:

- SOA is an upcoming and hot topic nowadays. Besides the corporate work, SOA is being introduced as an elective paper in major universities.
- First book that focuses on architecture, design and development of enterprise and cloud applications based on SOA.
- Caters to the needs of students who need to understand the concepts of SOA and cloud computing; architects, designers and developers who build SOA-based enterprise and cloud applications and CXOs and Project managers who make decisions on undertaking SOA projects involving enterprise and cloud applications.
- Provides insights on concepts of SOA and cloud computing that can be put to immediate use for creating transformational impact.
- Includes detailed description (and code) to enable architects, designers and developers to build SOA applications on Java and .NET platforms.
- Offers a comprehensive and structured set of reference models and techniques for custom-built enterprise and cloud applications that can be readily applied by system integration companies and end-user organizations to address customer needs.
- Presents both concepts and technology

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detail in addressing the IT challenges faced by organizations on their business transformation journey with SOA and cloud computing. About The Book: This book is targeted at practitioners who wish to get insights into developing SOA solutions. Software architects, designers, developers, project managers and consultants can benefit significantly from this book. At the same time, beginners can also get an understanding of the concepts and how SOA based solutions are developed in practice today. Strawman architecture for Enterprise-wide SOA and reference architectures for SOA based applications can serve to be very convenient starting points for anyone wanting to recommend or develop SOA solution. Designers can follow the methodologies outlined for service design in this book and come up with services model for their applications. The best practices identified through executing a number of SOA projects, provide the much needed guidance to project teams. New to the second edition: Keeping in mind the feedback received and the changes taking place in technology and in IT industry, the following enhancements are included. 1) Introduce Software Engineering as Chapter 1 - One of the points given as feedback for the first edition is that there are several practicing developers, testers and project/program managers who are interested in SOA but do not have the necessary background or experience in Software Engineering. Accordingly, Software Engineering Principles has been added as the first chapter. 2) Cloud Computing - Since the launch of the book, Cloud computing and services based on the Cloud (internet cloud) have emerged as major trends related to deploying and leveraging of services. Therefore, separate chapters on Cloud Computing Concepts, Cloud Computing Platforms and SOA with Cloud Services have been included. In cooperation with experts and practitioners throughout the SOA community, best-selling author Thomas Erl brings

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together the de facto catalog of design patterns for SOA and service-orientation. More than three years in development and subjected to numerous industry reviews, the 85 patterns in this full-color book provide the most successful and proven design techniques to overcoming the most common and critical problems to achieving modern-day SOA. Through numerous examples, individually documented pattern profiles, and over 400 color illustrations, this book provides in-depth coverage of:

- Patterns for the design, implementation, and governance of service inventories—collections of services representing individual service portfolios that can be independently modeled, designed, and evolved.
- Patterns specific to service-level architecture which pertain to a wide range of design areas, including contract design, security, legacy encapsulation, reliability, scalability, and a variety of implementation and governance issues.
- Service composition patterns that address the many aspects associated with combining services into aggregate distributed solutions, including topics such as runtime messaging and message design, inter-service security controls, and transformation.
- Compound patterns (such as Enterprise Service Bus and Orchestration) and recommended pattern application sequences that establish foundational processes.

The book begins by establishing SOA types that are referenced throughout the patterns and then form the basis of a final chapter that discusses the architectural impact of service-oriented computing in general. These chapters bookend the pattern catalog to provide a clear link between SOA design patterns, the strategic goals of service-oriented computing, different SOA types, and the service-orientation design paradigm. This book series is further supported by a series of resources sites, including soabooks.com, soaspecs.com, soapatterns.org, soamag.com, and soaposters.com.

The Definitive Guide to Building Web-Centric SOA with REST The World Wide Web is based on the most successful technology architecture in history. It has changed how we view, access, and exchange information and, with the advent of REST, it has also provided us with compelling ways to build and improve automation solutions. REST provides a great deal of guidance to ensure that an architecture and its automation logic are technically sound, though it is still your responsibility to build services that actually add value to your business. SOA with REST is the first comprehensive tutorial and reference for designing and building RESTful services as part of service-oriented solutions and in conjunction with service-oriented architecture (SOA). This book demonstrates that REST is not only a suitable medium for building truly service-oriented solutions, but also that the service-oriented architectural model is a necessary foundation for REST technology architectures to realize their full business potential. The authors provide thorough mapping of REST constraints and architectural goals with service-orientation principles and SOA characteristics. Using real-world examples, they show how to leverage REST's simplicity, flexibility, and low overhead without compromising the power or manageability of service-oriented solutions and architectures. This ebook will be valuable to IT architects, developers, and any practitioner seeking

to use SOA and REST together.

Successfully implement your own enterprise integration architecture using the Trivadis Integration Architecture Blueprint with this book and eBook.

Provides information and examples on using Windows Communication Foundation to build service-oriented applications.

This book explains the concept of wearable computing, need for wearable technology, its advantages, application areas, state of art developments in this area, required material and technology, possible future applications including cyborg developments and the need for this sphere of influence in the future. The scope encompasses three major components, wearable computing (next generation of conventional computing, ergonomics), wearable technology (medical support, rehabilitation engineering, assistive technology support devices, army/combat usage) and allied technologies (miniature components, reliability, high performance integration, cyber physical systems, robotics). Aids reader to recognize the need and functional operations of a wearable computing device Includes diversified examples and case studies from different domains Presents a hybrid concept relating medical care and augmented reality Illustrates product level description examples and research ideas for future development Introduces various wearable technologies and other related technologies for

enabling wearable computing This book is aimed at senior undergraduate, graduate students and researchers in computer and biomedical engineering, bioinstrumentation, biosensors, and assistive technology.

Conventional wisdom of the "software stack" approach to building applications may no longer be relevant. Enterprises are pursuing new ways of organizing systems and processes to become service oriented and event-driven. Leveraging existing infrastructural investments is a critical aspect to the success of companies both large and small. Enterprises have to adapt their systems to support frequent technological changes, mergers and acquisitions. Furthermore, in a growing global market, these systems are being called upon to be used by external business partners. Technology is often difficult, costly and complex and without modern approaches can prevent the enterprise from becoming agile. Enterprise Service Oriented Architectures helps readers solve this challenge in making different applications communicate in a loosely coupled manner. This classic handbook leverages the experiences of thought leaders functioning in multiple industry verticals and provides a wealth of knowledge for creating the agile enterprise. In this book, you will learn:

- How to balance the delivery of immediate business value while creating long-term strategic capability •

Fundamental principles of a service-oriented architecture (find, bind and execute) • The four aspects of SOA (Production, Consumption, Management and Provisioning) • How to recognize critical success factors to implementing enterprise SOAs • Architectural importance of service registries, interfaces and contracts • Why improper service decomposition can hurt you later rather than sooner • How application design and integration practices change as architects seek to implement the "agile" enterprise About the Authors James McGovern is an enterprise architect for The Hartford. He is an industry thought leader and co-author of the bestselling book: A Practical Guide to Enterprise Architecture. Oliver Sims is a recognized leader in the architecture, design and implementation of service-oriented and component-based enterprise systems. He was a founding member of the OMG Architecture Board. He was co-author of the groundbreaking book: Business Component Factory. Ashish Jain is a Principal Architect with Ping Identity Corporation, a leading provider of solutions for identity federation. Prior to joining Ping Identity, he worked with BEA Systems where his role was to assist BEA customers in designing and implementing their e-business strategies using solutions based on J2EE. He holds several industry certifications from SUN and BEA and is also a board member for the Denver BEA User group. Mark Little

is Director of Standards and SOA Manager for JBoss Inc. Prior to this, he was Chief Architect for Arjuna Technologies Ltd and a Distinguished Engineer at Hewlett-Packard. As well as being an active member of the OMG, JCP, OASIS and W3C, he is an author on many SOA and Web Services standards. He also led the development of the world's first standards-compliant Web Services Transaction product. Business rules management system (BRMS) is a software tools that work alongside enterprise IT applications. It enables enterprises to automate decision-making processes typically consisting of separate business rules authoring and rules execution applications. This proposed title brings together the following key ideas in modern enterprise system development best practice. The need for service-oriented architecture (SOA). How the former depends on component-based development (CBD). Database-centred approaches to business rules (inc. GUIDES). Knowledge-based approaches to business rules. Using patterns to design and develop business rules management systems Ian Graham is an industry consultant with over 20 years. He is recognized internationally as an authority on business modelling, object-oriented software development methods and expert systems. He has a significant public presence, being associated with both UK and international professional organizations, and is frequently quoted in the IT and financial press.

"An enterprise architecture is an instrument that focuses on coherence between business processes, information distribution, and technology infrastructure of an organization. In this compilation, the authors begin by creating and subsequently discussing an artifact that provides architects with the capability of monitoring validity within ArchiMate enterprise architecture models. Next, it is suggested that business specialists and enterprise architects can benefit from collocated training, and that training activities in enterprise architecture are both one-off training and recurring training, where the latter is providing a community of practice. The authors consider ideas that may make it easier for organizations to realize the potential benefits of service-oriented architectures and cloud computing, as one of the challenges for software engineers today is keeping up with the rapid changes in technology. The major features underlying microservice architecture are examined, particularly the advantages and the disadvantages of their technologies and implementation. This analysis also highlights the major capabilities of microservices in driving future advances in the software and hardware industries"--

This book constitutes the refereeds proceedings of the International Conference on High Performance Architecture and Grid Computing, HPAGC 2011, held in Chandigarh, India, in July 2011. The 87

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revised full papers presented were carefully reviewed and selected from 240 submissions. The papers are organized in topical sections on grid and cloud computing; high performance architecture; information management and network security.

Praise for Service-Oriented Architecture "This book provides a superb overview of the SOA topic. Marks and Bell provide practical guidance across the entire SOA life cycle—from business imperatives and motivations to the post-deployment business and technical metrics to consider. With this book, Marks and Bell demonstrate a unique ability to take the complex dynamics of SOA, and through an eloquent set of metaphors, models, and principles, provide an understandable and insightful how-to manual for both technical and business executives. This will become a required handbook for any organization implementing SOA." —Dan Bertrand, Enterprise Technology Officer & EDS Fellow, EDS Corporation "A fundamental breakthrough in the business and technology perspectives of SOA—this book belongs in every software developer, architect, and IT executive library. Marks and Bell demonstrate a creative and practical approach to building complex, service-oriented systems. I especially liked the hands-on perspective brought to multiple aspects of SOA. A must-have guide in the technology turbulence of the future." —Ariel Aloni, Chief Technology Officer, SunGard Data Management Solutions "This outstanding text gets straight to the heart of the matter, cutting through the hyperbole and discussing how to drive real business value through SOA. It will certainly impact my behavior,

our governance models, and, subsequently, the successful business outcomes we derive as we continue to embrace SOA. A must-read for battle-scarred SOA veterans and fledgling architects alike." —Christopher Crowhurst, Vice President and Chief Architect, Thomson Learning "Too often, SOA has been perceived as 'all about the technology'-standards, technology stacks, operational monitoring, and the like. In this book, Marks and Bell expand beyond the technology to provide a refreshing business-driven perspective to SOA, connecting the dots between business requirements, architecture, and development and operations, and overlaying these perspectives with tried-and-true governance techniques to keep SOA initiatives on track. A must-read for those leading the charge to adopt SOA within their enterprise." —Brent Carlson, Chief Technology Officer, LogicLibrary and coauthor of San Francisco Design Patterns: Blueprints for Business Software "Marks and Bell have captured a wealth of practical experience and lessons learned in what has become the hottest topic in software development. In this book, they explain in detail what works and what does not, from procedural issues to technical challenges. This book is an invaluable reference for organizations seeking the benefits of SOAs." —Dr. Jeffrey S. Poulin, System Architect, Lockheed Martin and author of Measuring Software Reuse: Principles, Practices, and Economic Models "One of the last things companies often consider when implementing a business solution such as SOA is the impact on people. Marks and Bell provide an in-depth look at 'what has to change' from a process standpoint to

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make any SOA implementation a success. A great read for those considering to embark on an enterprise SOA and looking for the right mix of people, process, and products." —Alan Himler, Vice President of Product Management and Marketing, LogicLibrary SOA is a complex topic and a complex organizational goal Service-Oriented Architecture: A Planning and Implementation Guide for Business and Technology shows you how to plan, implement, and achieve SOA value through its prescriptive approach, joining the business and strategic perspective to the technical and architectural perspective. Applicable to all industries, technology platforms, and operating environments, this innovative book provides you with the essential strateg Learn to apply the significant promise of SOA to overcome the formidable challenges of distributed enterprise development.

Service Oriented Architecture is a comprehensive textbook for teaching and learning SOA concepts. Assuming no prior knowledge of programming languages on the part of the reader, this book contains a rich collection of step- by- step procedures to help one, master the services.Features:*Student friendly -written in a clear, concise and lucid manner.*A sincere attempt has been made to introduce the basic concepts of services.*Each chapter is organized into small sections that address key topics*Emphasis on in-depth coverage and good style in programming*Aims to motivate the unmotivated.*Abundance of programming examples with sample output.*Explains the philosophy behind the creation of the concepts and its various features.*Covers

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both elementary as well as advanced concepts.*Helps to understand concepts by providing diagrams and program listings wherever necessary.*Logical flow of concepts starting from preliminary topics to the advanced topics.*Programs for each concept to illustrate its significance and scope.*Complete explanation of each program with emphasis on the core segment.

This book will draw you into the service-oriented architecture (SOA) mindset and immerse you in updated code and reference material specifically architected for Visual Studio 2005 and Web Services Enhancements (WSE) 3.0. The book provides a head start on building SOA applications using the author's clear conceptual discussions, practical examples, and accurate treatment of difficult material that doesn't simply "gloss over" the hard stuff. This book will show you how to shift your development paradigm to create Web services that process sophisticated XML messages within a secure, service-oriented, loosely-coupled architecture.

Many software developers often confuse requirements engineering with software specification and, as a result, build unusable systems, despite meeting specifications. Bringing together all the techniques needed by the modern software developer, here is a practical handbook to requirements engineering and systems specification for developers building systems within a service oriented architecture. It introduces the concepts of SOA and relevant standards and technology, such as Web services and ESBs, and then presents a range of modern requirements engineering techniques.

"This book presents a closer look at the partnership

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between service oriented architecture and cloud computing environments while analyzing potential solutions to challenges related to the migration of legacy applications"--Provided by publisher.

A look at how new technologies can be put to use in the creation of a more just society. Artificial Intelligence (AI) is not likely to make humans redundant. Nor will it create superintelligence anytime soon. But it will make huge advances in the next two decades, revolutionize medicine, entertainment, and transport, transform jobs and markets, and vastly increase the amount of information that governments and companies have about individuals. AI for Good leads off with economist and best-selling author Daron Acemoglu, who argues that there are reasons to be concerned about these developments. AI research today pays too much attention to the technological hurdles ahead without enough attention to its disruptive effects on the fabric of society: displacing workers while failing to create new opportunities for them and threatening to undermine democratic governance itself. But the direction of AI development is not preordained. Acemoglu argues for its potential to create shared prosperity and bolster democratic freedoms. But directing it to that task will take great effort: It will require new funding and regulation, new norms and priorities for developers themselves, and regulations over new technologies and their applications. At the intersection of technology and economic justice, this book will bring together experts--economists, legal scholars, policy makers, and developers--to debate these challenges and consider what steps tech

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companies can do take to ensure the advancement of AI does not further diminish economic prospects of the most vulnerable groups of population.

Web services are leading to the use of more packaged software either as an internal service or an external service available over the Internet. These services, which will be connected together to create the information technology systems of the future, will require less custom software in our organizations and more creativity in the connections between the services. This book begins with a high-level example of how an average person in an organization might interact with a service-oriented architecture. As the book progresses, more technical detail is added in a "peeling of the onion" approach. The leadership opportunities within these developing service-oriented architectures are also explained. At the end of the book there is a compendium or "pocket library" for software technology related to service-oriented architectures. · Only web services book to cover both data management and software engineering perspectives, excellent resource for ALL members of IT teams · Jargon free, highly illustrated, with introduction that anyone can read that then leads into increasing technical detail · Provides a set of leadership principles and suggested application for using this technology.

Getting a Desired Business Return on Your Service-Oriented Architecture (SOA) Investment Today, business processes and information systems are so tightly intertwined that they must be designed together, as parts of a total architecture, to realize enterprise goals. In

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Succeeding with SOA , Paul Brown shows how service-oriented architectures (SOAs) provide the best structure for such integration: clean, well-defined interfaces between collaborating entities. But even SOAs need to be correctly understood and implemented to avoid common failures. Drawing on decades of experience, Dr. Brown explains what business managers and IT architects absolutely need to know--including critical success factors--to undertake this essential work. Coverage includes Setting clear and reasonable expectations for SOA's benefits Understanding why conventional project management techniques don't scale to today's enterprise-wide projects Defining a living roadmap for developing services based on business priorities Establishing coherent leadership that brings together business executives, IT leaders, and the SOA architecture group Using Total Architecture Synthesis (TAS) to rapidly develop business processes and information systems together Understanding the central role of architecture--and making sure the right architectural decisions get made Whether you're a business or technical leader, this book will help you plan, organize, and execute SOA initiatives that meet or exceed their goals--now, and for years to come. & Includes a detailed case study - with complete source code - of building Web Services with Java AND .Net. & & Covers key emerging standards in transactioning, conversations, workflow, security and authentication, mobile and wireless, QoS, portlets, and management. & & Presents best practices based on authors' experiences building real world Web Services-based applications.

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This book will provide answers to the most common questions that face enterprise leaders concerning service oriented architecture development lifecycle initiatives. It is a guide for service-oriented projects. The tentative chapters are: (1) Introduction to Service Modeling; (2) Service Polymorphism; (3) Service Typing and Service Structure Model; (4) Service Development Lifecycle Model; (5) Service Conceptualization; (6) Service Discovery and Analysis; (7) Business Service Architecture; (8) Service Design and Realization; (9) Service Architecture Conceptualization; (10) Service Architecture Modeling.

Describes ways to incorporate domain modeling into software development.

Explores cloud computing, breaking down the concepts, models, mechanisms, and architectures of this technology while allowing for the financial assessment of resources and how they compare to traditional storage systems.

Praise for Service-Oriented Architecture Compass "A comprehensive roadmap to Service-Oriented Architecture (SOA). SOA is, in reality, a business architecture to be used by those enterprises intending to prosper in the 21st century. Decision makers who desire that their business become flexible can jumpstart that process by adopting the best practices and rules of thumb described in SOA Compass." -Bob Laird, MCI IT Chief Architect "The book Service-Oriented Architecture Compass shows very clearly by means of real projects how agile business processes can be implemented using Service-Oriented Architectures. The entire development

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cycle from planning through implementation is presented very close to practice and the critical success factors are presented very convincingly." -Professor Dr. Thomas

Obermeier, Vice Dean of FHDW Bergisch Gladbach, Germany "This book is a major improvement in the field. It gives a clear view and all the key points on how to really face a SOA deployment in today's organizations."

-Mario Moreno, IT Architect Leader, Generali France

"Service-Oriented Architecture enables organizations to be agile and flexible enough to adopt new business strategies and produce new services to overcome the challenges created by business dynamism today. CIOs have to consider SOA as a foundation of their Enterprise Applications Architecture primarily because it

demonstrates that IT aligns to business processes and also because it positions IT as a service enabler and maximizes previous investments on business

applications. To understand and profit from SOA, this book provides CIOs with the necessary concepts and knowledge needed to understand and adapt it into their IT organizations." -Sabri Hamed Al-Azazi, CIO of Dubai

Holding, Sabri "I am extremely impressed by the depth and scale of this book! The title is perfect-when you

know where you want to go, you need a compass to guide you there! After good IT strategy leads you to

SOA, this book is the perfect vehicle that will drive you from dream to reality. We in DSK Bank will use it as our SOA bible in the ongoing project." -Miro Vichev, CIO,

DSK Bank, Bulgaria, member of OTP Group "Service-Oriented Architecture offers a pathway to networking of intra- and inter-corporate business systems. The

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standards have the potential to create far more flexible and resilient business information systems than have been possible in the past. This book is a must-read for those who care about the future of business IT."

-Elizabeth Hackenson, CIO, MCI "Service-Oriented Architecture is key to help customers become on demand businesses-a business that can quickly respond to competitive threats and be first to take advantage of marketplace opportunities. SOA Compass is a must-read for those individuals looking to bridge the gap between IT and business in order to help their enterprises become more flexible and responsive." -Michael Liebow, Vice

President, Web Services and Service-Oriented Architecture, IBM Business Consulting Services "This book is a welcome addition to SOA literature. It articulates the business case and provides practical proven real-world advice, guidance, tips, and techniques for organizations to make the evolution from simple point-to-point web services to true SOA by addressing such topics as planning, organization, analysis and design, security, and systems management." -Denis O'Sullivan, Fireman's Fund Enterprise Architect Maximize the

business value and flexibility of your SOA deployment In this book, IBM Enterprise Integration Team experts present a start-to-finish guide to planning, implementing, and managing Service-Oriented Architecture. Drawing on their extensive experience helping enterprise customers migrate to SOA, the authors share hard-earned lessons and best practices for architects, project managers, and software development leaders alike. Well-written and practical, Service-Oriented Architecture

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Compass offers the perfect blend of principles and "how-to" guidance for transitioning your infrastructure to SOA. The authors clearly explain what SOA is, the opportunities it offers, and how it differs from earlier approaches. Using detailed examples from IBM consulting engagements, they show how to deploy SOA solutions that tightly integrate with your processes and operations, delivering maximum flexibility and value. With detailed coverage of topics ranging from policy-based management to workflow implementation, no other SOA book offers comparable value to workingIT professionals. Coverage includes SOA from both a business and technical standpoint-and how to make the business case Planning your SOA project: best practices and pitfalls to avoid SOA analysis and design for superior flexibility and value Securing and managing your SOA environment Using SOA to simplify enterprise application integration Implementing business processes and workflow in SOA environments Case studies in SOA deployment After you've deployed: delivering better collaboration, greater scalability, and more sophisticated applications The IBM Press developerWorks® Series is a unique undertaking in which print books and the Web are mutually supportive. The publications in this series are complemented by resources on the developerWorks Web site on ibm.com. Icons throughout the book alert the reader to these valuable resources.

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