

# *Soa Principles Of Service Design*

*Thomas Erl*

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

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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

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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

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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.

This book contains the refereed proceedings of the 7th

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International Conference on Exploring Service Science (IESS), held in Bucharest, Romania, in May 2016. Service science constitutes an interdisciplinary approach to systematic innovation in service systems, integrating managerial, social, legal, and engineering aspects to address the theoretical and practical challenges of the service industry and its economy. The 45 full papers and 13 short papers accepted for IESS were selected from 119 submissions. The papers consider the topics service exploration theories and processes; modeling service requirements and management of business processes; value co-creation through knowledge management and user-centric services; service design methodologies and patterns; service innovation and strategy; IT-based service engineering; servitization in sustainable

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manufacturing; product-service systems; business software services and data-driven service design; web service design and service-oriented agents; IoT and mobile apps for public transport service management; e-health services and medical data interoperability; and service and IT-oriented learning and education systems.

"This book continues the very high standard we have come to expect from ServiceTech Press. The book provides well-explained vendor-agnostic patterns to the challenges of providing or using cloud solutions from PaaS to SaaS. The book is not only a great patterns reference, but also worth reading from cover to cover as the patterns are thought-provoking, drawing out points that you should consider and ask of a potential vendor if you're adopting a cloud solution."

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--Phil Wilkins, Enterprise Integration Architect, Specsavers  
"Thomas Erl's text provides a unique and comprehensive perspective on cloud design patterns that is clearly and concisely explained for the technical professional and layman alike. It is an informative, knowledgeable, and powerful insight that may guide cloud experts in achieving extraordinary results based on extraordinary expertise identified in this text. I will use this text as a resource in future cloud designs and architectural considerations." --Dr. Nancy M. Landreville, CEO/CISO, NML Computer Consulting  
The Definitive Guide to Cloud Architecture and Design Best-selling service technology author Thomas Erl has brought together the de facto catalog of design patterns for modern cloud-based architecture and solution design. More than two years in

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development, this book's 100+ patterns illustrate proven solutions to common cloud challenges and requirements. Its patterns are supported by rich, visual documentation, including 300+ diagrams. The authors address topics covering scalability, elasticity, reliability, resiliency, recovery, data management, storage, virtualization, monitoring, provisioning, administration, and much more. Readers will further find detailed coverage of cloud security, from networking and storage safeguards to identity systems, trust assurance, and auditing. This book's unprecedented technical depth makes it a must-have resource for every cloud technology architect, solution designer, developer, administrator, and manager. Topic Areas Enabling ubiquitous, on-demand, scalable network access to shared pools of



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configurable IT resources Optimizing multitenant environments to efficiently serve multiple unpredictable consumers Using elasticity best practices to scale IT resources transparently and automatically Ensuring runtime reliability, operational resiliency, and automated recovery from any failure Establishing resilient cloud architectures that act as pillars for enterprise cloud solutions Rapidly provisioning cloud storage devices, resources, and data with minimal management effort Enabling customers to configure and operate custom virtual networks in SaaS, PaaS, or IaaS environments Efficiently provisioning resources, monitoring runtimes, and handling day-to-day administration Implementing best-practice security controls for cloud service architectures and cloud storage Securing on-premise Internet

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access, external cloud connections, and scaled VMs

Protecting cloud services against denial-of-service attacks

and traffic hijacking Establishing cloud authentication

gateways, federated cloud authentication, and cloud key

management Providing trust attestation services to customers

Monitoring and independently auditing cloud security Solving

complex cloud design problems with compound super-

patterns

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.

Service-oriented Architecture Best Practices

SOA with .NET and Windows Azure

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A Hands-on Guide

Cloud Computing

Learning WCF

Concepts, Technology & Architecture

Principles and Technology

"This book presents a closer look at the partnership between service oriented architecture and cloud computing environments while analyzing potential solutions to challenges related to the migration of legacy applications"--Provided by publisher.

"An outstanding depth-and-breadth resource

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for IT architects and Java professionals to understand and apply the marriage of SOA and modern Java." --Antonio Bruno, Enterprise Architecture and Strategy, digitalStrom "A great self-contained book on SOA using flexible Java implementations..." --Roger Stoffers, Hewlett Packard "Provides clarity on abstract concepts and is filled with concrete examples of implementing SOA principles in Java environments." --Sanjay Singh, Certified SOA Architect  
"...provides a holistic, comprehensive

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view on leveraging SOA principles and architecture for building and deploying performant Java services." --Suzanne D'Souza, KBACE Technologies "Thomas Erl's series of books on services technology have shaped, influenced, and strengthened a whole community of enterprise and solution architects' thinking and solution development, and the much awaited SOA with Java book is an excellent addition to the series. It is a must-read." --Lalatendu Rath, Wipro Technologies The Definitive Guide to Building Service-Oriented

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Solutions with Lightweight and Mainstream Java Technologies Java has evolved into an exceptional platform for building Web-based enterprise services. In SOA with Java, Thomas Erl and several world-class experts guide you in mastering the principles, best practices, and Java technologies you need to design and deliver high-value services and service-oriented solutions. You'll learn how to implement SOA with lightweight frameworks, mainstream Java services technologies, and contemporary specifications and standards.

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To demonstrate real-world examples, the authors present multiple case study scenarios. They further demystify complex concepts with a plain-English writing style. This book will be valuable to all developers, analysts, architects, and other IT professionals who want to design and implement Web-based service-oriented architectures and enterprise solutions with Java technologies. Topic Areas

Applying modern service-orientation principles to modern Java technology platforms Leveraging Java infrastructure

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extensions relevant to service-oriented solutions Exploring key concepts associated with SOA and service-orientation within the context of Java Reviewing relevant Java platforms, technologies, and APIs Understanding the standards and conventions that REST and SOAP services are built upon in relation to Java implementations Building Java Web-based services with JAX-WS and JAX-RS Applying the eight key principles of service-orientation design using Java tools and technologies Creating Java



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utility services: architectural, design, and implementation issues Constructing effective entity services: service contracts, messages, data access, and processing Constructing task services, including detailed guidance on service composition Using ESBs to support infrastructure requirements in complex services ecosystems

"This book could be described as an encyclopedia of service design-Erl leaves nothing to chance. Indispensable." -Steve Birkel, Chief IT Technical Architect,

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Intel Corp. "An absolute pleasure to read...the best SOA book I've read. A book I would recommend to all of my colleagues; it provides much insight to the topics often overlooked by most books in this genre...the visuals were fantastic."

-Brandon Bohling, SOA Architecture and Strategy, Intel Corporation "This book is a milestone in SOA literature. For the first time we are provided with a practical guide on defining service characteristics and service design principles for SOA from a vendor-agnostic

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viewpoint. It's a great reference for SOA discovery, adoptions, and implementation projects." -Canyang Kevin Liu, Principal Enterprise Architect, SAP Americas, Inc.

"I liked this book. It contains extremely important material for those who need to design services." -Farzin Yashar, IBM SOA Advanced Technologies

"This book does a great job laying out benefits, key ideas and design principles behind successfully adopting service-oriented computing. At the same time, the book openly addresses challenges, risks and trade-offs that are

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in the way of adopting SOA in the real-world today. It moves away from ivory-tower views of service orientation, but still lays out a strong vision for SOA and outlines the changes necessary to realize the full potential." -Christoph Schittko, Senior Architect, Microsoft "I recommend this book to any SOA practitioner who wishes to empower themselves in making service design real...gives readers the 360° view into service design [and] gives SOA practitioners the depth and understanding needed into the principles

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of SOA to assist in the design of a mature and successful SOA program." -Stephen G. Bennett, Americas SOA Practice Lead, BEA Systems "SOA projects are most successful when they are based on a solid technical foundation. Well accepted and established design principles are part of this foundation. This book takes a very structured approach at defining the core design principles for SOA, thus allowing the reader to immediately applying them to a project. Each principle is formally introduced and explained, and examples are

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given for how to apply it to a real design problem. A 'must read' for any architect, designer or developer of service oriented solutions." -Andre Tost, Senior Technical Staff Member, IBM Software Group "There are few references for SOA that give you the nuts and bolts and this one is at the top of the list. Well written and valuable as a reference book to any SOA practitioner." -Dr. Mohamad Afshar, Director of Product Management, Oracle Fusion Middleware, Oracle Corporation "A thorough examination of the considerations

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of service design. Both seasoned SOA practitioners and those endeavoring to realize services can benefit from reading this book." -Bill Draven, Enterprise Architect, Intel Corporation "There are very few who understand SOA like Thomas Erl does! The principle centric description of service orientation from Thomas canonizes the underpinnings of this important paradigm shift in creating agile and reusable software capabilities. The principles, so eloquently explained, leave little room for any ambiguity attached to

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the greater purpose of SOA. Most organizations today are creating services in a bottoms-up approach, realizing composition and reuse organically. The time is ripe for a book like this that prepares architects for a principle centric approach to SOA." -Hanu Kommalapati, Architect, Microsoft Corporation "Outstanding SOA literature uniquely focused on the fundamental services design with thorough and in-depth study on all practical aspects from design principles to methodologies. This book



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provides a systematic approach for SOA adoption essential for both IT management and professionals." -Robin Chen, PhD, Google, Inc. "Thomas Erl's books are always densely filled with information that's well structured. This book is especially insightful for Enterprise Architects because it provides great context and practical examples. Part 1 of the book alone is worth getting the book for." -Markus Zirn, Senior Director, Product Management, Oracle Fusion Middleware, Oracle Corporation "A very

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clear discussion of the subject matter. Provides a good structure that facilitates understanding and readily highlights key points." -Kareem Yusuf, Director of SOA Strategy and Planning, IBM Software Group

"I am very impressed. Comprehensive. Educative. This book helped me to step back and look at the SOA principles from broader perspective. I'd say this is a must-read book for SOA stakeholders."

-Radovan Janecek, Director R&D, SOA Center, Hewlett-Packard "Very valuable guidance for understanding and applying

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SOA service design principles with concrete examples. A must read for the practitioner of SOA service design." -Umit Yalcinalp, PhD, Standards Architect, SAP

"This book really does an excellent job of explaining the principles underpinning the value of SOA...Erl goes to great length to explain and give examples of each of the 8 principles that will significantly increase the readers ability to drive an SOA service design that benefits both business and IT." -Robert Laird, IT Architect, IBM EAI/SOA Advanced

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Technologies Group "This book strikes a healthy balance between theory and practice. It is a perfect complement to the SOA series by the author." -Prakash Narayan, Sun Microsystems "If you are going to be designing, developing, or implementing SOA, this is a must have book." -Jason "AJ" Comfort Sr., Booz Allen Hamilton "An excellent book for anyone who wants to understand service-orientation and the principles involved in designing services...a clear, concise and articulate exploration of the eight design principles

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involved in analyzing, designing, implementing, and maintaining services..."

-Anish Karmarkar, Oracle Corporation "Very well written, succinct, and easy to understand." -Raj Balasubramanian, IBM Software Group "Acomprehensive exploration of the issues of service design which has the potential to become the definitive work in this area." -James Pasley, Chief Technology Officer, Cape Clear Software "An excellent addition to any SOA library; it covers a wide range of issues in enough detail to be a valuable asset to anyone

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considering designing or using SOA based technologies." -Mark Little, Director of Standards, Red Hat "This book communicates complex concepts in a clear and concise manner. Examples and illustrations are used very effectively." -Darryl Hogan, Senior Architect, Microsoft "A work of genius...Offers the most comprehensive and thorough explanation on the principles of service design and what it means to be 'service oriented.' "Erl's treatment of the complex world of service oriented architecture is pragmatic, inclusive of

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real world situations and offers readers ways to communicate these ideas through illustrations and well formulated processes." -David Michalowicz, MITRE Corporation "This is the book for the large organization trying to rationalize its IT assets and establish an agile platform for the future. By highlighting risk and rewards, Thomas Erl brings clarity to how Service Orientation can be applied to ensure a responsive IT organization. This book finally brings software engineering principles to address

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the real world development challenges being faced. To effectively serve the business, let alone embrace SOA, everyone involved should be familiar with the concepts investigated here. Thomas Erl thoroughly clarifies the nuances and defines the practice of service design. We expect that this will become a classic text in software engineering, corporate training and colleges." -Cory Isaacson, President, Rogue Wave Software and Ravi Palepu, SOA Author and Speaker "Thomas Erl does a great job...an easy read." -Michael



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H. Sor, Booz Allen Hamilton ..".a must read for SOA Architects to develop a firm foundation and understanding of the principles (and trade-offs) that make up a good SOA service. After reading this book, it finally 'clicked' as to why a properly designed SOA system is different (and better) than a system based on previous enterprise architectures." -Fred Ingham, Platinum Solutions Inc. "Lays a tremendous foundation for business and technical workers to come to common terms and expectations...incredibly enlightening to

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see the details associated with achieving the SOA vision." -Wayne P. Ariola, Vice President of Strategy, Parasoft "[Erl does] and excellent job of addressing the breadth of [his] audience to present to those new to SOA and weaved in enough detail to assist those who are already actively involved in SOA development." -R. Perry Smith, Application Program Manager, EDS/OnStar "It is easy to miss the big picture of what SOA means for the design of larger scale systems amidst the details of WS technologies. Erl helps provide a

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broader perspective, surveying the landscape from a design standpoint." -Jim Clune, Chief Architect, Parasoft "Lays a firm foundation for the underlying principles of good service design. Cuts through the hype and provides a cogent resource for improving architectural judgment on SOA projects." -Jim Murphy, Vice President of Product Management, Mindreef, Inc. "The first book to concisely, gradually and comprehensively explain how to apply SOA principles into enterprise-level software design. It is an

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excellent book." -Robin G. Qiu, Ph.D.,  
Division of Engineering and Information  
Science, Pennsylvania State University "I  
really think that this is a very useful  
book that a lot of people really need out  
there in the industry." -Dr. Arnaud Simon,  
Principal Software Engineer, Red Hat  
..".indispensable companion to designing  
and implementing a service-oriented  
architecture. It condenses all information  
necessary to design services and is the  
most relevant source I know if in the  
field." "[This book is] not only helpful,

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but fundamental to successfully designing an SOA." -Phillipp Offermann, Research Analyst, University of Berlin "Service-Oriented Architecture is an important topic in IT today. Its vast scope could span an organization's enterprise.

Designing it properly is a major undertaking. This book provides timely, expert and comprehensive discussions on the principles of service design. Thomas has a keen sense in identifying the subtle points of various subjects and explains them in an easy-to-understand way. The

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book is a valuable resource for IT professionals working in SOA." -Peter H. Chang, PhD, Associate Professor of Information Systems, Lawrence Technological University

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

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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. This book's in-depth coverage includes Over 240 full-color illustrations. A concise introduction to SOA and service-oriented computing concepts and benefits. A thorough

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exploration of the service-orientation design paradigm as represented by eight specific design principles. A comparison of service-oriented and object-oriented concepts and principles and a clear definition of what qualifies as "service-oriented" logic. Detailed coverage of four different forms of service-related design granularity. An exhaustive examination of service contracts, with an emphasis on standardization, abstraction, and the utilization of WS-Policy, XML Schema, and WSDL definitions. A comprehensive study of



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positive and negative service-related coupling types with an emphasis on the requirements to attaining a suitable level of loose coupling. An inside look into how commercial design approaches are incorporated to achieve truly agnostic and reusable service logic. Techniques for maximizing service reliability, scalability, and performance by instilling high levels of autonomy and emphasizing stateless design. Approaches for positioning services as highly discoverable and interpretable enterprise

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resources. Unprecedented coverage of how to design services for participation in complex compositions. The definition of concrete links between each design principle and the strategic goals and benefits of SOA and service-oriented computing. Numerous cross-references to key design patterns documented separately in SOA: Design Patterns.

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[www.soabooks.com](http://www.soabooks.com) [www.soasystems.com](http://www.soasystems.com)

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Provides information on how to model and  
design service-oriented SOA platforms.  
Service-Oriented Computing  
Challenges in Service Oriented  
Architecture and Cloud Computing  
Environments  
Service-oriented Architecture for

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Enterprise Applications

Service-Oriented Architecture (paperback)

Web Service Contract Design and Versioning  
for SOA

Realizing Service-Orientation with the  
Microsoft Platform

Process-Driven SOA

**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

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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

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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



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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,

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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

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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,

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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 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

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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  
The Definitive Guide to Governing Shared

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Services and SOA Projects SOA Governance: Governing Shared Services On-Premise and in the Cloud is the result of a multi-year project to collect proven industry practices for establishing IT governance controls specific to the adoption of SOA and service-orientation. Authored by world-renowned experts in the fields of SOA, IT governance, and cloud computing, this comprehensive book provides clear direction as to what does and does not constitute SOA governance and then steps the reader through the most important industry

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governance practices, as they pertain to individual SOA project lifecycle stages. With a consistent, vendor-neutral focus, and with the help of case study examples, the authors demonstrate how to define and position precepts, organizational roles, processes, standards, and metrics. Readers benefit from thorough and visually depicted cross-references and mapping between roles, processes, precepts, and project stages, enabling them to fully explore dynamics and dependencies and thereby learn how to use

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these governance controls to create their own custom SOA governance systems. This important title will be valuable to every practitioner concerned with making SOA work, including senior IT managers, project managers, architects, analysts, developers, administrators, QA professionals, security specialists, and cloud computing professionals. Topic Areas Defining SOA governance Establishing an SOA governance office and program Working with proven SOA governance precepts and processes



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Identifying organizational roles and relating them to SOA governance Associating design-time and runtime SOA project stages with SOA governance controls Governance considerations specific to shared services Roles, precepts, and factors specific to cloud-based services Understanding and categorizing SOA governance products and technologies Applying governance controls as early as the planning stages and measuring their success in subsequent stages Using vitality triggers to govern shared services on

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an on-going basis SOA governance controls that pertain to business information documents and policies

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

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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 This book demonstrates service-oriented architecture (SOA) as a concrete discipline rather than a hopeful collection of cloud

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charts. Built upon the author's firsthand experience rolling out a SOA at a major corporation, SOA in Practice explains how SOA can simplify the creation and maintenance of large-scale applications. Whether your project involves a large set of Web Services-based components, or connects legacy applications to modern business processes, this book clarifies how -- and whether -- SOA fits your needs. SOA has been a vision for years. This book brings it down to earth by describing the real-world problems of implementing and

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running a SOA in practice. After defining SOA's many facets, examining typical use patterns, and exploring how loose coupling helps build stronger applications, SOA in Practice presents a framework to help you determine when to take advantage of SOA. In this book you will: Focus squarely on real deployment and technology, not just standards maps Examine business problems to determine which ones fit a SOA approach before plastering a SOA solution on top of them Find clear paths for building solutions

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without getting trapped in the mire of changing web services details Gain the experience of a systems analyst intimately involved with SOA "The principles and experiences described in this book played an important role in making SOA at T-Mobile a success story, with more than 10 million service calls per day." --Dr. Steffen Roehn, Member of the Executive Committee T-Mobile International (CIO) "Nicolai Josuttis has produced something that is rare in the over-hyped world of SOA; a thoughtful work with

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deep insights based on hands-on experiences. This book is a significant milestone in promoting practical disciplines for all SOA practitioners." --John Schmidt, Chairman, Integration Consortium "The book belongs in the hands of every CIO, IT Director and IT planning manager." --Dr. Richard Mark Soley, Chairman and CEO, Object Management Group; Executive Director, SOA Consortium

Service-Oriented Architecture Governance for the Services Driven Enterprise  
SOA Design Patterns

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Service-oriented Architecture

Semantics, Processes, Agents

7th International Conference, IESS 2016,

Bucharest, Romania, May 25-27, 2016,

Proceedings

Service-Oriented Architecture and Design

Strategies

Web Services and SOA

**800x600 The Concise Introduction to Modern**

**SOA: High-Value Approaches, Innovative**

**Technologies, Proven Use Cases After a decade**

**of innovation in technology and practice, SOA is**



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**now a mainstream computing discipline, capable of transforming IT enterprises and optimizing business automation. In Next Generation SOA, top-selling SOA author Thomas Erl and a team of experts present a plain-English tour of SOA, service-orientation, and the key service technologies being used to build sophisticated contemporary service-oriented solutions. The starting point for today's IT professionals, this concise guide distills the increasingly growing and diverse field of service-oriented architecture and the real-world practice of building powerful service-driven systems. Accessible and jargon-**

**free, this book intentionally avoids technical details to provide easy-to-understand, introductory coverage of the following topics: Services, service-orientation, and service-oriented computing: what they are and how they have evolved How SOA and service-orientation change businesses and transform IT culture, priorities, and technology decisions How services are defined and composed to solve a wide spectrum of business problems Deep implications of the service-orientation paradigm--illuminated through an annotation of the classic SOA Manifesto Traditional and**

**contemporary service technologies and architectures How clouds and virtualization support the scalability and reliability of services-based solutions SOA-based industry models, from enterprise service to global trader A detailed case study: how real enterprises bring together contemporary SOA practices, models, and technologies Next Generation SOA will be indispensable to wide audiences of business decision makers and technologists--including architects, developers, managers, executives, strategists, consultants, and researchers. Normal 0 false false false EN-US X-NONE X-NONE**

## **MicrosoftInternetExplorer4**

**Process-Driven SOA: Patterns for Aligning Business and IT** supplies detailed guidance on how to design and build software architectures that follow the principles of business-IT alignment. It illustrates the design process using proven patterns that address complex business/technical scenarios, where integrated concepts of service-oriented architecture (SOA), Business Process Management (BPM), and Event-Driven Architecture (EDA) are required. The book demonstrates that SOA is not limited to technical issues but instead, is a holistic challenge where

**aspects of SOA, EDA, and BPM must be addressed together. An ideal guide for SOA solution architects, designers, developers, managers, and students about to enter the field, the book: Provides an accessible introduction to basic and more advanced concepts in process-driven SOA Illustrates how to manage the complexities of business aligned IT architectures with detailed examples and industry cases Outlines a step-by-step design process using proven patterns to address complex business/technical scenarios Integrates SOA, BPM, and EDA into practical patterns promoting SOA 2.0**

**Describing how to synchronize parallel enterprise processes, the authors explain how to cope with the architectural and design decisions you are likely to encounter when designing and implementing process-driven SOA systems. The decisions are described in the form of software patterns to provide you with a practical guideline for addressing key problems using time-tested solutions.**

**Web services have been used for many years. In this time, developers and architects have encountered a number of recurring design challenges related to their usage, and have**

**learned that certain service design approaches work better than others to solve certain problems. In Service Design Patterns, Rob Daigneau codifies proven design solutions for web services that follow the REST architectural style or leverage the SOAP/WSDL specifications. This catalogue identifies the fundamental topics in web service design and lists the common design patterns for each topic. All patterns identify the context in which they may be used, explain the constituent design elements, and explore the relative strengths and trade-offs. Code examples are provided to help you better**

**understand how the patterns work but are kept general so that you can see how the solutions may be applied to disparate technologies that will inevitably change in the years to come. This book will help readers answer the following questions: How do you create a web service API, what are the common API styles, and when should a particular style be used? How can clients and web services communicate, and what are the foundations for creating complex conversations in which multiple parties exchange data over extended periods of time? What are the options for implementing web service logic,**



**and when should a particular approach be used? How can clients become less coupled to the underlying systems used by a service? How can information about a web service be discovered? How can generic functions like authentication, validation, caching, and logging be supported on the client or service? What changes to a service cause clients to break? What are the common ways to version a service? How can web services be designed to support the continuing evolution of business logic without forcing clients to constantly upgrade? This book is an invaluable resource for enterprise architects, solution**

**architects, and developers who use web services to create enterprise IT applications, commercial or open source products, and Software as a Service (SaaS) products that leverage emerging Cloud platforms.**

**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**

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**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.**

**Concepts, Technology, and Design**

**Implementing SOA**

**SOA Governance**

**Analysis and Design for Services and**

**Microservices**

**Service Design Patterns**

**Patterns for Aligning Business and IT  
SOA Principles of Service Design  
Reap the benefits of increased ROI by  
integrating Service-Oriented Design  
principles and XML Web services into  
your IT infrastructure.**

**"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 "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 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](http://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 worldwide 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 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. Putting Service-Oriented Architecture (SOA) into Practice “This book is a must-have for enterprise architects implementing SOA. Through practical**

**examples, it explains the relationship between business requirements, business process design, and service architecture. By tying the SOA implementation directly to business value, it reveals the key to ongoing success and funding.” —Maja Tibbling, Lead Enterprise Architect, Conway, Inc. “While there are other books on architecture and the implementation of ESB, SOA, and related technologies, this new book uniquely captures the knowledge and experience of the real**

**world. It shows how you can transform requirements and vision into solid, repeatable, and value-added architectures. I heartily recommend it.”**  
**—Mark Wencek, SVP, Consulting Services & Alliances, Ultimo Software Solutions, Inc. In his first book, Succeeding with SOA, Paul Brown explained that if enterprise goals are to be met, business processes and information systems must be designed together as parts of a total architecture.**

**In this second book, Implementing SOA , he guides you through the entire process of designing and developing a successful total architecture at both project and enterprise levels. Drawing on his own extensive experience, he provides best practices for creating services and leveraging them to create robust and flexible SOA solutions. Coverage includes Evolving the enterprise architecture towards an SOA while continuing to deliver business value on a project-by-**

**project basis Understanding the fundamentals of SOA and distributed systems, the dominant architectural issues, and the design patterns for addressing them Understanding the distinct roles of project and enterprise architects and how they must collaborate to create an SOA Understanding the need for a comprehensive total architecture approach that encompasses business processes, people, systems, data, and infrastructure Understanding the**

**strategies and tradeoffs for implementing robust, secure, high-performance, and high-availability solutions Understanding how to incorporate business process management (BPM) and business process monitoring into the enterprise architecture Whether you're defining an enterprise architecture or delivering individual SOA projects, this book will give you the practical advice you need to get the job done.**

**This book is a design handbook and provides skills to successfully design, implement, and optimize business processes on top of SOA. Starting with business process modeling, it shows design principles to architect sound process architectures. It presents best practices for modeling business processes using BPMN, together with design principles for services and composite applications. It provides detailed coverage of how to prepare**

**business processes for execution. An in-depth explanation of human interactions is given and also principles and best practices for using rules. Moving on, Adaptive Case Management principles are explained, along with the reach of business processes to mobile devices and ensuring multichannel interactions. Business activity monitoring, event-driven architectures, complex event processing in relation to business processes, and enabling integration with**



**events and IoT devices are explained. The design principles and best practices are demonstrated in a practical way on a rental car use case.**

**Exploring Services Science**

**Non-Functional Properties in Service Oriented Architecture: Requirements, Models and Methods**

**SOA in Practice**

**Enterprise SOA**

**Next Generation SOA**

**Fundamental Design Solutions for**

## **SOAP/WSDL and RESTful Web Services Soa with Java**

*In cooperation with experts and practitioners throughout the SOA community, best-selling author Thomas Erl brings 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*

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## Thomas Erl

*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*

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*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.*

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*This book series is further supported by a series of resources sites, including [soabooks.com](http://soabooks.com), [soaspecs.com](http://soaspecs.com), [soapatterns.org](http://soapatterns.org), [soamag.com](http://soamag.com), and [soaposters.com](http://soaposters.com).*

*Where most SOA books focus on integration and architecture basics, Lomow and Newcomer fearlessly dive into these more advanced, yet critical, topics, and provide a depth of treatment unavailable anywhere else."--Jason Bloomberg, Senior Analyst, ZapThink LLC*

*This book provides a wealth of content on Web Services and SOA not found elsewhere. Although the book is technical in nature, it is surprisingly easy to read and digest.*

*Managers who would like to keep up with the most*

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*effective technical strategies will find this book required reading."--Hari Mailvaganam, University of British Columbia, Vancouver*"I have been teaching companies and lecturing on SOA and XML Web Services for years and sort of felt at home with these technologies. I didn't think anyone else could teach me anything more significant about either of them. This book surprised me. If a person teaching SOA and Web Services can learn something from this book, you can too. This book is a must-read for all architects, senior developers, and concerned CTOs."--Sayed Y.

*This easy-to-use introduction to Microsoft Windows*

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*Communication Foundation (WCF) is ideal for developers who want to learn to build services on a company network or as part of an enterprise system. Built into Windows Vista and Longhorn, and available for Windows XP and Windows 2003, WCF provides a platform for service-oriented architecture (SOA) that enables secure and reliable communication among systems within an organization or across the Internet. With WCF, software developers can focus on their business applications and not the plumbing required to connect them. Furthermore, with WCF developers can learn a single programming API to achieve results*

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*previously provided by ASMX, Enterprise Services and .NET Remoting. Learning WCF removes the complexity of using this platform by providing detailed answers, explanations and code samples for the most common questions asked by software developers. Windows Communication Foundation (or WCF, formerly code name "Indigo") provides a set of programming APIs that make it easy to build and consume secure, reliable, and transacted services. This platform removes the need for developers to learn different technologies such as ASMX, Enterprise Services and .NET Remoting, to distribute system functionality on a corporate network or over the*



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*Internet. The first truly service-oriented platform, WCF provides innovations that decouple service design and development from deployment and distribution - creating a more flexible and agile environment. WCF also encapsulates all of the latest web service standards for addressing, security, reliability and more.*

*A must-have guide for all companies undertaking service-oriented architecture (SOA) and IT governance Service-Oriented Architecture Governance for the Services Driven Enterprise expertly covers the business, organizational, process, compliance, security, and technology facets of SOA and IT governance. This book provides a*

# Online Library Soa Principles Of Service Design Thomas Erl

*comprehensive enterprise view of governance from a strategic and tactical perspective, as well as modeling and planning tools to help evolve a company's ongoing governance requirements. Written by Eric Marks and the industry's leading SOA authorities, this essential book provides a refreshing business-driven perspective to SOA and IT governance.*

*Service-Oriented Modeling*

*Migrating Legacy Applications: Challenges in Service Oriented Architecture and Cloud Computing*

*Environments*

*Principles, Techniques, and Standards*

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Thomas Erl

*Realizing Service-Oriented Architecture with Java Technologies*

*SOA Source Book*

*A Concise Introduction to Service Technology & Service-orientation*

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

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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

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titles) • Microservices, micro task abstraction, and containerization • Service delivery lifecycle and associated 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

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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-Oriented Architecture 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

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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

"This book offers a selection of chapters that cover

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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.

Web services allow new and improved ways for enterprise applications to communicate and integrate with each other over the Web and, as such, are having a profound effect on both the worlds of business and of software development. The new edition of this bestselling book offers a



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comprehensive and up to date treatment of web services and Service Oriented Architecture (SOA), giving you all you need to know to gain a solid foundation in this area. Building upon the clear, accessible approach of the first edition, it provides a complete introduction to the concepts, principles, technology and standards of web services. The book also provides an in depth examination of good design and development practises for SOA applications in organisations. Key features A spiral approach to instruction helps readers build on and reinforce basic knowledge as the topics become

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more advanced. Numerous examples which demonstrate the practical application of the theory are included. Self-test questions, hints, tips and discussion topics feature throughout the book to support self-directed learning. New to this edition Two new chapters have been added on SOA modelling and Cloud Computing technology. A comprehensive real-life case study containing numerous practical examples has been integrated and referenced throughout the entire book to give readers ' hands-on ' insight into applying theory to practice, and enhance understanding of the key

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concepts. Business Process Modelling Notation (BPMN), which is rapidly becoming an industry standard, is used throughout the book. Discussion of software engineering issues related to implementing sound SOA applications is included. Description of new standards, such as BPEL v2.0 is discussed. A

Companion Website

([www.pearsoned.co.uk/papazoglou](http://www.pearsoned.co.uk/papazoglou)) offers detailed coding solutions available to download.

SOA Principles of Service Design Prentice Hall

Soa Made Simple

SOA and Web Services Interface Design

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The Art of Distributed System Design

Total Architecture in Practice

Understanding SOA with Web Services

A Planning and Implementation Guide for Business  
and Technology

Cloud Computing Design Patterns

*This comprehensive text explains the principles and practice of Web services and relates all concepts to practical examples and emerging standards. Its discussions include: Ontologies  
Semantic web technologies Peer-to-peer*

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*service discovery Service selection Web structure and link analysis Distributed transactions Process modelling Consistency management. The application of these technologies is clearly explained within the context of planning, negotiation, contracts, compliance, privacy, and network policies. The presentation of the intellectual underpinnings of Web services draws from several key disciplines such as databases,*

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*distributed computing, artificial intelligence, and multi-agent systems for techniques and formalisms. Ideas from these disciplines are united in the context of Web services and service-based applications. Featuring an accompanying website and teacher's manual that includes a complete set of transparencies for lectures, copies of open-source software for exercises and working implementations, and resources to conduct course projects, this book*

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*makes an excellent graduate textbook. It will also prove an invaluable reference and training tool for practitioners.*

*The Definitive Guide to Service Design for SOA 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"*

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*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 ser.*

*"SOA Made Simple" is a concise and indispensable handbook for finally understanding exactly what Service*



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*Oriented Architecture is. Split into three clear sections, in this book you'll learn from both theory as well as step-by-step implementation examples to aid in your understanding of this often poorly- articulated industry term. If you are an architect who wants to be completely clear in your understanding of what SOA is, then this book is essential. In fact, anyone (designer, developer, administrator or team lead) who is implementing or about*

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*to implement an architecture in an IT environment should not miss out on "SOA Made Simple." Some previous experience with general software architecture is required, but this guide will tell you everything you need to know about SOA in a clear and easy fashion.*

*Market\_Desc: · Students, Software Engineers, Designers, Architects, Business Analysts and Consultants· Project/Program Managers and IT Consultants, CXOs Special Features: ·*

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*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, 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*

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*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*

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*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*

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*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*

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*undertaking SOA projects.*

*Service-Oriented Architecture*

*Requirements, Models and Methods*

*Principles, Patterns & Constraints for  
Building Enterprise Solutions with REST*

*Design Principles for Process-driven*

*Architectures Using Oracle BPM and SOA  
Suite 12c*

*A Field Guide to Integrating XML and  
Web Services*

*Designing IT for Business Innovation*

*SOA Principles of Service Design*

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*(paperback)*

*Information Technology professionals can use this book to move beyond the excitement of web services and service oriented architecture (SOA) and begin the process of finding actionable ideas to innovate and create business value. In Enterprise SOA: Designing IT for Business Innovation, SAP's blueprint for putting SOA to work is analyzed from top to bottom. In addition to design, development, and architecture, vital contextual issues such as governance, security, change management, and culture are also explored. This comprehensive perspective reduces risk as IT departments implement ESA, a sound, flexible architecture for adapting business processes in response to changing market conditions. This book answers the following questions: What*



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*forces created the need for Enterprise Services Architecture? How does ESA enable business process innovation? How is model-driven development used at all levels of design, configuration, and deployment? How do all the layers of technology that support ESA work together? How will composite applications extend business process automation? How does ESA create new models for IT governance? How can companies manage disruptive change? How can enterprise services be discovered and designed? How will the process of adapting applications be simplified? Based on extensive research with experts from the German software company SAP, this definitive book is ideal for architects, developers, and other IT professionals who want to understand the technology and business relevance of ESA in*

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*a detailed way--especially those who want to move on the technology now, rather than in the next year or two.*

*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.*

*The Definitive Guide to Building Web-Centric SOA with REST*

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*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*

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*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.*

*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*

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*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.*

*SOA with REST*

*Concepts, Challenges, Recommendations  
Service Analysis, Design, and Architecture  
Enterprise Service Oriented Architectures*

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### *Applied SOA*

*Learn to apply the significant promise of SOA to overcome the formidable challenges of distributed enterprise development.*

*The Ultimate Guide for Designing and Governing Web Service Contracts For Web services to succeed as part of SOA, they require balanced, effective technical contracts that enable services to be evolved and repeatedly reused for years to come. Now, a team of industry experts presents the first end-to-end guide to designing and governing Web service contracts. Writing for developers, architects, governance specialists, and other IT professionals, the authors cover the following areas:*

*Understanding Web Service Contract Technologies*

# Online Library Soa Principles Of Service Design

## Thomas Erl

*Fundamental and Advanced WSDL Fundamental and Advanced XML Schema Fundamental and Advanced WS-Policy Fundamental Message Design with SOAP Advanced Message Design with WS-Addressing Advanced Message Design with MTOM, and SwA Versioning Techniques and Strategies Web Service Contracts and SOA In SOA and Web Services Interface Design, data architecture guru James Bean teaches you how to design web service interfaces that are capable of being extended to accommodate ever changing business needs and promote incorporation simplicity. The book first provides an overview of critical SOA principles, thereby offering a basic conceptual summary. It then provides explicit, tactical, and real-world techniques for ensuring compliance*

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*with these principles. Using a focused, tutorial-based approach the book provides working syntactical examples - described by Web services standards such as XML, XML Schemas, WSDL and SOAP - that can be used to directly implement interface design procedures, thus allowing you immediately generate value from your efforts. In summary, SOA and Web Services Interface Design provides the basic theory, but also design techniques and very specific implementable encoded interface examples that can be immediately employed in your work, making it an invaluable practical guide to any practitioner in today's exploding Web-based service market. Provides chapters on topics of introductory WSDL syntax and XML Schema syntax, taking take the reader through fundamental*



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*concepts and into deeper techniques and allowing them to quickly climb the learning curve. Provides working syntactical examples - described by Web services standards such as XML, XML Schemas, WSDL and SOAP - that can be used to directly implement interface design procedures. Real-world examples generated using the Altova XML Spy tooling reinforce applicability, allowing you to immediately generate value from their efforts.*

*The Authoritative Guide to Building Service-Oriented Solutions with Microsoft .NET Technologies and the Windows Azure Cloud Computing Platform In SOA with .NET and Windows Azure, top Microsoft technology experts team up with Thomas Erl to explore service-oriented computing with Microsoft's latest .NET service*

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*technologies and Windows Azure innovations. The authors provide comprehensive documentation of on-premise and cloud-based modern service technology advancements within the Microsoft platform and further show how these technologies have increased the potential for applying and realizing service-orientation practices and goals.*

*Specifically, the book delves into Microsoft enterprise technologies, such as: Windows Communication Foundation (WCF) Windows Azure Windows Workflow Foundation (WF) Windows Azure AppFabric BizTalk Server Windows Presentation Foundation (WPF) ...as well as industry service mediums, including WS-\* and REST, and many related service industry standards and technologies. The book steps through common SOA design patterns and*

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*service-orientation principles, along with numerous code-level examples that further detail various technology architectures and implementations. Topic Areas This book covers the following primary topics: Microsoft Service Technologies Microsoft Enterprise Technologies On-Premise & Cloud-Based Service Topics Industry Service Technologies & Mediums Service-Oriented Technology Architectural Models Service-Orientation Design Paradigm Service-Orientation Design Principles SOA Design Patterns About the Web Sites This book series is further supported by a series of resources sites, including:*

*[www.soabooks.com](http://www.soabooks.com) [www.soaspecs.com](http://www.soaspecs.com) [www.soamag.com](http://www.soamag.com)  
[www.serviceorientation.com](http://www.serviceorientation.com) [www.soapatterns.org](http://www.soapatterns.org)  
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