

## **Web Services Concepts Architectures And Applications Author Gustavo Alonso Published On November 2003**

This book contains papers from the 2007 European Conference on Web Services and the Workshop on Emerging Web Services Technology. Coverage includes grid-based computing, mobility issues for web services, dynamic web services, and model driven engineering.

This publication deals with the feature interaction problem in telecommunication systems. In this domain, an interaction occurs when one telecommunications feature/service modifies or subverts the operation of another one. Undesired interactions can both lower this quality and delay service provisioning. Therefore, the problem of feature interactions in telecommunications is of great importance. In the past decade, a lot of attention has been devoted to the development of methods for detection and resolution of feature interactions. However, this feature interaction phenomenon is not unique to the domain of telecommunications systems. It can also occur in any large software system that is subject to continuous changes. All the submitted papers in this publication have been peer reviewed by at least two reviewers drawn from industry or academia.

"This multi-volume reference examines critical issues and emerging trends in global business, with topics ranging from managing new information technology in global business operations to ethics and communication strategies"--Provided by publisher.

In this volume, Rudi Studer and his team deliver a self-contained compendium about the exciting field of Semantic Web services, starting with the basic standards and technologies and also including advanced applications in eGovernment and eHealth. The contributions provide both the theoretical background and the practical knowledge necessary to understand the essential ideas and to design new cutting-edge applications.

Web services technologies are advancing fast and being extensively deployed in many different application environments. Web services based on the eXtensible Markup Language (XML), the Simple Object Access Protocol (SOAP), and related standards, and deployed in Service-Oriented Architectures (SOAs) are the key to Web-based interoperability for applications within and across organizations. Furthermore, they are making it possible to deploy applications that can be directly used by people, and thus making the Web a rich and powerful social interaction medium. The term Web 2.0 has been coined to embrace all those new collaborative applications and to indicate a new, "social" approach to generating and distributing Web content, characterized by open communication, decentralization of authority, and freedom to share and reuse. For Web services technologies to hold their promise, it is crucial that security of services and their interactions with users be assured. Confidentiality, integrity, availability, and digital identity management are all required. People need to be assured that their interactions with services over the Web are kept confidential and the privacy of their personal information is preserved. People need to be sure that information they use for looking up and selecting services is correct and its integrity is assured. People want services to be available when needed. They also require interactions to be convenient and personalized, in addition to being private. Addressing these

requirements, especially when dealing with open distributed applications, is a formidable challenge.

Explains fault tolerance in clear terms, with concrete examples drawn from real-world settings Highly practical focus aimed at building "mission-critical" networked applications that remain secure

The first textbook to focus on Web Services ? the wave of the future for Web-based distributed computing.

Summary Amazon Web Services in Action, Second Edition is a comprehensive introduction to computing, storing, and networking in the AWS cloud. You'll find clear, relevant coverage of all the essential AWS services you to know, emphasizing best practices for security, high availability and scalability. Foreword by Ben Whaley, AWS community hero and author. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The largest and most mature of the cloud platforms, AWS offers over 100 prebuilt services, practically limitless compute resources, bottomless secure storage, as well as top-notch automation capabilities. This book shows you how to develop, host, and manage applications on AWS. About the Book Amazon Web Services in Action, Second Edition is a comprehensive introduction to deploying web applications in the AWS cloud. You'll find clear, relevant coverage of all essential AWS services, with a focus on automation, security, high availability, and scalability. This thoroughly revised edition covers the latest additions to AWS, including serverless infrastructure with AWS Lambda, sharing data with EFS, and in-memory storage with ElastiCache. What's inside Completely revised bestseller Secure and scale distributed applications Deploy applications on AWS Design for failure to achieve high availability Automate your infrastructure About the Reader Written for mid-level developers and DevOps engineers. About the Author Andreas Wittig and Michael Wittig are software engineers and DevOps consultants focused on AWS. Together, they migrated the first bank in Germany to AWS in 2013. Table of Contents PART 1 - GETTING STARTED What is Amazon Web Services? A simple example: WordPress in five minutes PART 2 - BUILDING VIRTUAL INFRASTRUCTURE CONSISTING OF COMPUTERS AND NETWORKING Using virtual machines: EC2 Programming your infrastructure: The command-line, SDKs, and CloudFormation Automating deployment: CloudFormation, Elastic Beanstalk, and OpsWorks Securing your system: IAM, security groups, and VPC Automating operational tasks with Lambda PART 3 - STORING DATA IN THE CLOUD Storing your objects: S3 and Glacier Storing data on hard drives: EBS and instance store Sharing data volumes between machines: EFS Using a relational database service: RDS Caching data in memory: Amazon ElastiCache Programming for the NoSQL database service: DynamoDB PART 4 - ARCHITECTING ON AWS Achieving high availability: availability zones, auto-scaling, and CloudWatch Decoupling your infrastructure: Elastic Load Balancing and Simple Queue Service Designing for fault tolerance Scaling up and down: auto-scaling and CloudWatch

We have described the development of a new micro-payment system, NetPay, featuring different ways of managing electronic money, or e-coins. NetPay provides an off-line, anonymous protocol that supports high-volume, low-cost electronic transactions over the Internet. We developed three kinds of e-wallets to manage coins in a NetPay-based system: a server-side e-wallet allowing multiple computer access to coins; a client-side e-wallet allowing customer PC

management of the e-coins, and a cookie-based e-wallet cache to improve performance of the client-side e-wallet communication overhead. Experiences to date with NetPay prototypes have demonstrated it provides an effective micro-payment strategy and customers welcome the ability to manage their electronic coins in different ways. References 1. Dai, X. and Lo, B.: NetPay – An Efficient Protocol for Micropayments on the WWW. Fifth Australian World Wide Web Conference, Australia (1999) 2. Dai, X., Grundy, J. and Lo, B.: Comparing and contrasting micro-payment models for-commerce systems, International Conferences of Info-tech and Info-net (ICII), China (2001) 3. Dai, X., Grundy, J.: Architecture of a Micro-Payment System for Thin-Client Web Applications. In Proceedings of the 2002 International Conference on Internet Computing, Las Vegas, CSREA Press, June 24-27, 444--450 4. Dai, X. and Grundy J.: "Customer Perception of a Thin-client Micro-payment System Issues and Experiences", Journal of End User Computing, 15(4), pp 62-77, (2003).

The papers in this volume aim at obtaining a common understanding of the challenging research questions in web applications comprising web information systems, web services, and web interoperability; obtaining a common understanding of verification needs in web applications; achieving a common understanding of the available rigorous approaches to system development, and the cases in which they have succeeded; identifying how rigorous software engineering methods can be exploited to develop suitable web applications; and at developing a European-scale research agenda combining theory, methods and tools that would lead to suitable web applications with the potential to implement systems for computation in the public domain.

proposed for WS protocols and standards; types and logics for WS; goal-driven and semantics-based discovery and composition of WS; model-driven development, testing, and analysis of WS; security, performance and quality of services; innovative application scenarios for WS.

Enhances libraries worldwide through top research compilations from over 250 international authors in the field of e-business.

Business Information Systems: Concepts, Methodologies, Tools and Applications offers a complete view of current business information systems within organizations and the advancements that technology has provided to the business community. This four-volume reference uncovers how technological advancements have revolutionized financial transactions, management infrastructure, and knowledge workers.

"This publication covers the latest innovative research findings involved with the incorporation of technologies into everyday aspects of life"--Provided by publisher.

Provides an overview of XML and the .NET framework, covers Web services and .NET application development, and

explores how to integrate .NET and Java applications through Web services.

Welcome to the proceedings of the 2004 European Conference on Web Services (ECOWS 2004). ECOWS is one of the leading international conferences focusing on Web services.

ECOWS 2004 was a forum for researchers and practitioners from academia and industry to exchange information regarding advances in the state of the art and practice of Web services, identify emerging research topics, and define the future directions of Web services computing. ECOWS 2004 had a special interest in papers that contribute to the convergence of Web services, Grid computing, e-business and autonomic computing, and papers that apply techniques from one area to another. This conference was called the International Conference on Web Services Europe in 2003. ECOWS 2004 was a sister event of the International Conference on Web Services 2004 (ICWS 2004), which attracted more than 250 registered participants in San Diego, USA. Web services are characterized by network-based application components and a service-oriented architecture using standard interface description languages and uniform communication protocols. Industrial application domains for Web services include business-to-business integration, business process integration and management, content management, e-sourcing, composite Web services creation, design collaboration for computer engineering, multimedia communication, digital TV, and interactive Web solutions. Recently, Grid computing has also started to leverage Web services to define standard interfaces for business Grid services and generic reusable Grid resources. The program of ECOWS 2004 featured a variety of papers on topics ranging from Web services and dynamic business process composition to Web services and process management, Web services discovery, Web services security, Web services-based applications for e-commerce, Web services-based Grid computing, and Web services solutions.

The two-volume set CCIS 143 and CCIS 144 constitutes the refereed proceedings of the International Conference on Electronic Commerce, Web Application, and Communication, ECWAC 2011, held in Guangzhou, China, in April 2011. The 148 revised full papers presented in both volumes were carefully reviewed and selected from a large number of submissions. Providing a forum for engineers, scientists, researchers in electronic commerce, Web application, and communication fields, the conference will put special focus also on aspects such as e-business, e-learning, and e-security, intelligent information applications, database and system security, image and video signal processing, pattern recognition, information science, industrial automation, process control, user/machine systems, security, integrity, and protection, as well as mobile and multimedia communications.

This volume contains the papers presented at WS-FM 2007, the 4th International Workshop on Web Services and Formal Methods, held on September 28 and 29, 2007 in Brisbane, Australia. Web service technology aims at

empowering providers of services, in the broad sense, with the ability to package and deliver their services by means of software applications available on the Web. Existing infrastructures for Web services - ready enable providers to describe services in terms of structure, access policy and behaviour, to locate services, to interact with them, and to bundle simpler services into more complex ones. However, innovations are needed to seamlessly extend this technology in order to deal with challenges such as managing interactions with stateful and long-running Web services, managing large numbers of Web services each with multiple interfaces and versions, managing the quality of Web service delivery, etc. Formal methods have a fundamental role to play in shaping innovations in Web service technology. For instance, formal methods help to define and to understand the semantics of languages and protocols that underpin existing infrastructures for Web services, and to formulate features that are found to be lacking. They also provide a basis for reasoning about Web service behaviour, for example to discover individual services that can fulfil a given goal, or even to compose multiple services that can collectively fulfil a goal. Finally, formal analysis of security properties and performance are relevant in many application areas of Web services such as e-commerce and e-business.

As Web service technologies have matured in recent years, an increasing number of geospatial Web services designed to deal with spatial information over the network have emerged. *Geospatial Web Services: Advances in Information Interoperability* provides relevant theoretical frameworks and the latest empirical research findings and applications in the area. This book highlights the strategic role of geospatial Web services in a distributed heterogeneous environment and the life cycle of geospatial Web services for building interoperable geospatial applications.

Compiles top research from the world's leading experts on many topics related to electronic commerce. Covers topics including mobile commerce, virtual enterprises, business-to-business applications, Web services, and enterprise methodologies.

"This book's main objective is to present some of the key approaches, research lines, and challenges that exist in the field of security in SOA systems"--Provided by publisher.

As the Web grows and expands into ever more remote parts of the world, the availability of resources over the Internet increases exponentially. Making use of this widely prevalent tool, organizations and individuals can share and store knowledge like never before. *Cloud Technology: Concepts, Methodologies, Tools, and Applications* investigates the latest research in the ubiquitous Web, exploring the use of applications and software that make use of the Internet's anytime, anywhere availability. By bringing together research and ideas from across the globe, this publication will be of use to computer engineers, software developers, and end users in business, education, medicine, and more.

"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 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.

Current IT developments like component-based development and Web services have emerged as effective ways of building complex enterprise-scale information systems and providing enterprise application integration. To aid this process, platforms such as .NET and WebSphere have become standards in web-based systems development. However, there are still a lot of issues that need to be addressed before service-oriented software engineering (SOSE) becomes a prominent and widely accepted paradigm for enterprise information systems development and integration. This book provides a comprehensive view of SOSE through a number of different perspectives. Some of those perspectives include: service-based concepts, modeling and documentation, service discovery and composition, service-oriented architecture, model-driven development of service-oriented applications, service security and service-orientation in mobile settings. The book provides readers with an in-depth knowledge of the main challenges and practices in the exciting, new world of service-oriented software engineering. Addressing both technical and organizational aspects of this

new field, it offers a balance making it valuable to a variety of readers, including IT architects, developers, managers, and analysts.

Like many other incipient technologies, Web services are still surrounded by a substantial level of noise. This noise results from the always dangerous combination of wishful thinking on the part of research and industry and of a lack of clear understanding of how Web services came to be. On the one hand, multiple contradictory interpretations are created by the many attempts to realign existing technology and strategies with Web services. On the other hand, the emphasis on what could be done with Web services in the future often makes us lose track of what can be really done with Web services today and in the short term. These factors make it extremely difficult to get a coherent picture of what Web services are, what they contribute, and where they will be applied. Alonso and his co-authors deliberately take a step back. Based on their academic and industrial experience with middleware and enterprise application integration systems, they describe the fundamental concepts behind the notion of Web services and present them as the natural evolution of conventional middleware, necessary to meet the challenges of the Web and of B2B application integration. Rather than providing a reference guide or a "how to write your first Web service" kind of book, they discuss the main objectives of Web services, the challenges that must be faced to achieve them, and the opportunities that this novel technology provides. Established, as well as recently proposed, standards and techniques (e.g., WSDL, UDDI, SOAP, WS-Coordination, WS-Transactions, and BPEL), are then examined in the context of this discussion in order to emphasize their scope, benefits, and shortcomings. Thus, the book is ideally suited both for professionals considering the development of application integration solutions and for research and students interesting in understanding and contributing to the evolution of enterprise application technologies.

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.

This book presents papers from the lectures of leading researchers given at the Ninth International School on Formal Methods for the Design of Computer, Communication and Software Systems, SFM 2009, which was devoted to formal methods for web services.

Architecting Web Services is targeted toward developers and technical architects who have heard about, and even started to work with, Web services. The book starts with a background on the evolution of Web services and their significance to future collaborative efforts via the Internet. It then reveals the architecture for Web services and the various relationships that can be established through their consumption. Following a short technical primer on XML and related technologies, the Web services model is outlined to illustrate the decisions that have to be made in the areas of presentation, interface, and security before the design is even started. Topics ranging from content to state management to system infrastructures are discussed to help you understand the options and the pitfalls when developing robust Web services. The life cycle of implementing Web services from start to finish is illustrated, taking existing processes and exposing their functionality through Web services. Examples extend both Java and COM objects as Web services before exposing an entire hotel reservation system through a Web services workflow. These exercises are followed by three application scenarios that consume these Web services, again with both Java and Visual Basic/ASP examples. Discussions cover the design, implementation, and testing of each solution to ensure a successful result. Finally, the book takes a look ahead at the future of Web services by examining both the current strategies of the primary vendors and the standards initiatives that are presently under way. A companion website provides all the source code, and hosts the Web services and sample applications introduced in the book.

This book constitutes the refereed proceedings of the 5th International Conference on Business Process Management, BPM 2007, held in Brisbane, Australia, in September 2007. The papers are organized in topical sections on business process maturity and performance, business process modeling, case studies, compliance and change, process configuration and execution, formal foundations of BPM, business process mining, and semantic issues in BPM. Reap the benefits of increased ROI by integrating Service-Oriented Design principles and XML Web services into your IT infrastructure.

In the current technological world, Web services play an integral role in service computing and social networking services. This is also the case in the traditional FREG (foods, resources, energy, and goods) services because almost all traditional services are replaced fully or partially by Web services. Handbook of Research on Demand-Driven Web Services: Theory, Technologies, and Applications presents comprehensive and in-depth studies that reveal the cutting-

edge theories, technologies, methodologies, and applications of demand-driven Web, mobile, and e-business services. This book provides critical perspectives for researchers and practitioners, lecturers and undergraduate/graduate students, and professionals in the fields of computing, business, service, management, and government, as well as a variety of readers from all the social strata.

Web service technologies are redefining the way that large and small companies are doing business and exchanging information. Due to the critical need for furthering automation, engagement, and efficiency, systems and workflows are becoming increasingly more web-based. *Web Services: Concepts, Methodologies, Tools, and Applications* is an innovative reference source that examines relevant theoretical frameworks, current practice guidelines, industry standards and standardization, and the latest empirical research findings in web services. Highlighting a range of topics such as cloud computing, quality of service, and semantic web, this multi-volume book is designed for computer engineers, IT specialists, software designers, professionals, researchers, and upper-level students interested in web services architecture, frameworks, and security.

Business process management is usually treated from two different perspectives: business administration and computer science. While business administration professionals tend to consider information technology as a subordinate aspect in business process management for experts to handle, by contrast computer science professionals often consider business goals and organizational regulations as terms that do not deserve much thought but require the appropriate level of abstraction. Matthias Weske argues that all communities involved need to have a common understanding of the different aspects of business process management. To this end, he details the complete business process lifecycle from the modeling phase to process enactment and improvement, taking into account all different stakeholders involved. After starting with a presentation of general foundations and abstraction models, he explains concepts like process orchestrations and choreographies, as well as process properties and data dependencies. Finally, he presents both traditional and advanced business process management architectures, covering, for example, workflow management systems, service-oriented architectures, and data-driven approaches. In addition, he shows how standards like WfMC, SOAP, WSDL, and BPEL fit into the picture. This textbook is ideally suited for classes on business process management, information systems architecture, and workflow management. This 3rd edition contains a new chapter on business decision modelling, covering the Decision Model and Notation (DMN) standard; the chapter on process choreographies has been streamlined, and numerous clarifications have been fetched throughout the book. The accompanying website [www.bpm-book.com](http://www.bpm-book.com) contains further information and additional teaching material.

With recent advances in radio-frequency identification (RFID) technology, sensor networks, and enhanced Web services,

the original World Wide Web is continuing its evolution into what is being called the Web of Things and Services. Such a Web will support an ultimately interactive environment where everyday physical objects such as buildings, sidewalks, and commodities become recognizable, addressable, and even controllable via a mostly ubiquitous Web. This integration of the physical and virtual worlds will fundamentally impact the way we live and in doing so afford tremendous new business opportunities with great human benefit, such as support services to keep the elderly independent, and intelligent traffic management that will cut wasted hours from every day. More efficient supply chains, improved environmental monitoring, better access to health services ... the list is endless. Enabling Context-Aware Web Services: Methods, Architectures, and Technologies compiles the newest developments and advances driving this new age forward. With contributions from leading researchers across the world this pioneering work bridges the gap between context-awareness and Web services. A comprehensive presentation of what's already accomplished and what is possible, the chapters of this book are systematically organized into three major sections: Methods focuses on the principle of context awareness in Web services and various ways to model those services at the specification level. Architectures details the infrastructures, frameworks, and standards needed to build context-aware Web services. Technologies presents a cornucopia of techniques adapted from once isolated research areas including semantic Web, database, and artificial intelligence development, as well as formal methods being employed to improve the development of context-aware Web services. Researchers, engineers, entrepreneurs, and educators across any number of fields will find new ideas worth considering, jumping-off points for developing improved software and applications, and seeds for business ventures that efficiently deliver needed products, information, or services. The possibilities are as limitless as we dare to imagine.

Web Services Concepts, Architectures and Applications Springer Science & Business Media

Provides a comprehensive review of the most recent advances in agent and Web service technologies. Provides an integrated view of the most recent contributions that support formation, integration, collaboration, and operation in virtual enterprise. Presents examples of applications of these technologies throughout various aspects of the virtual enterprise life cycle.

Discusses application-to-application Internet communication, network standards, major architectural approaches, the role of Web services, and ebXML.

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