

BOOK REVIEW

Handbook of Research on E-Business Standards and Protocols: Documents, Data and Advanced Web Technologies (2 Volumes)

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Handbook of Research on E-Business Standards and Protocols:

Documents, Data and Advanced Web Technologies (2 Volumes)

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Research on electronic business (e-business) gained a huge momentum at the beginning of the new millennium. After the dot.com crash, the world of e-business is undergoing a radical change and advancement driven by the marketplace competition on one hand and the advent of information and communication

technologies, especially Internet and the Web on the other. More than ever, e-business researchers and practitioners need deep insights into research issues, standards, protocols and solutions to achieve successful implementations and management of e-business applications in various domains. This book, as a handbook of research on e-business standards and protocols represents a big step in that direction.

The major challenge that worldwide industries as well as the public sector are facing in applying e-business is the transformation towards globally networked enterprises and virtual marketplaces. A key requirement of a successful e-business solution is interoperability, i.e. the ability of an enterprise to efficiently establish, conduct and develop e-business relationships with other organizations and individuals. The major requirement is to develop e-business

enterprise applications and software system according to standards and protocols for representation and exchange data and documents needed to achieve seamless business across organizational boundaries.

While an increasing number of e-business standards and protocols, such as ebXML and Business Process Execution Language (BPEL), is being created, adopted and is ready for full scale deployment, it is still cumbersome to achieve full interoperability of business process spanning different enterprises and organizations. This book intends as a reference and a handbook for researchers, practitioners and standards development organizations to provide appropriate tools, methods and new or adapted standard initiatives based on advanced Web technologies to achieve effective e-business interoperability.

This book *Handbook of Research on E-Business Standards and Protocols* presents all important issues regarding standards, specifications and protocols needed and implemented to achieve full interoperability of e-business applications and systems. The handbook presents e-business standards and protocols from very specific, technology oriented aspects based on advanced Web technologies, over recent findings in research and development, to broad, application and industry oriented concepts, solutions and visions about future achievements.

The thirty-eight chapters of the book are grouped into eight sections for comprehensive addressing of a large number of e-business standards and interoperability topics. The book starts two sections that review general approaches to interoperability issues in e-business focusing on data and document exchange standards and protocols. The strength of this part of the handbook is achieved through description of multidisciplinary aspects and application-oriented concepts and solutions of e-business interoperability in subsequent chapters. The early focus on technological issues, such as Web services, agents, metadata standards, and ontologies, provides the solid foundation for the rest of the book. The applicability of cur-

rent standards and technologies in achieving e-business interoperability is properly illustrated.

A part of the handbook is dedicated to standards and protocols for providing security and trust in e-business collaborations and identity management. Chapters in this section present approaches and solutions needed to solve such important issues in globally connected enterprises. The importance of the security in e-business interoperability solutions and relevant Web technologies is documented by running examples and solutions presented.

The handbook addresses all aspects of standards, protocols and technologies that need to be implemented to achieve full e-business interoperability. The first step in that direction that would be faced by researchers and practitioners is standardization of data and their exchange, and the handbook offers contemporary insights in that domain. The large fraction of the handbook is devoted to semantic technologies in e-business, which argues the usage of ontologies and ontology engineering tools in e-business data modeling and interoperability. Ontologies and semantic Web technologies are seen as important concepts for achieving semantic interoperability of e-business solutions and applications to different aspects of e-business data modeling and management, such as, data mash-up, schema mapping, data classification and exchange. Through several real use cases, the importance of semantically-driven e-business modeling and architectures and semantically enriched standards to support e-business interoperability and collaboration is shown.

Enterprise application integration is an important issue in contemporary e-business solutions and systems and is achieved through appropriate business processes modeling and monitoring, as well as service-oriented architectures. A large part of the book is devoted to standards and technologies that apply semantic technologies to business process modeling and verification. The book thoroughly explains theoretical, implementation and research aspects of business process modeling, service quality and service-oriented e-business architectures that

represent the foundation for achieving interoperability between intra- and inter-enterprise business processes. Several approaches that use up-to-date Web service technologies, SOA and EDA paradigms to provide support for service quality, management, composition and interoperability between distributed business processes, are described. The handbook strongly argues the usage of ontologies and Semantic Web technologies in e-business modeling and interoperability. Ontologies and ontology engineering are seen as a first class concept for business process modelling and achieving semantic interoperability of e-business systems. Ontology-driven business process modelling provides semantically enabled e-business solutions and applications and supports e-business interoperability and collaboration.

The main strength of the handbook is that it presents research and implementation of latest standards and protocols in a variety of e-business application domains and discusses the latest efforts to improve existing standards and

semantic Web technologies. The application of standards, protocols and technologies in public administration, healthcare, governance, SMEs, and urban facility management, will be of great help to both researchers and practitioners in these and related fields.

Altogether, this book gives an interesting and comprehensive overview of recent research and developments in standardization of e-business system modeling, interoperability and integration. Considering the range and depth of the chapters, written by experts yet highly readable to non-experts, this book is an important and much needed contribution for a wider audience ranging from researchers and professionals to university teachers and students who are involved in design and development of standardized and interoperable e-business applications and solutions. Moreover, it can inspire the whole e-business community to come up with entirely new ideas in this fascinating research and development area.

Dragan Stojanovic is an Associate Professor at the Computer Science Department, Faculty of Electronic Engineering, University of Nis, Serbia. He received his Ph.D., M.Sc., and B.Sc. degrees in Computer Science and Engineering from the University of Nis, in 2004, 1998 and 1993, respectively. His research and development interests include context-aware and location-based mobile services, Web information systems, enterprise application integration, service-oriented architectures and e-business. He has published widely in those and related topics. He successfully participates in several international and national R&D projects in cooperation with academic partners and industry.