Lecture Notes in Computer Science Edited by G. Goos, J. Hartmanis, and J. van Leeuwen 2444

Springer
Berlin
Heidelberg New York
Barcelona
Hong Kong
London
Milan Paris Tokyo

Alejandro Buchmann Fabio Casati Ludger Fiege Mei-Chun Hsu Ming-Chien Shan (Eds.)

Technologies for E-Services

Third International Workshop, TES 2002 Hong Kong, China, August 23-24, 2002 Proceedings



Volume Editors

Alejandro Buchmann Ludger Fiege TU Darmstadt

Wilhelminenstr. 7, 64283 Darmstadt, Germany

E-mail: buchmann@informatik.tu-darmstadt.de, fiege@gkec.tu-darmstadt.de

Fabio Casati Hewlett Packard 1501 Page Mill road, MS 1142 Palo Alto, CA, 94304, USA E-mail: fabio_casati@hp.com

Mei-Chun Hsu Commerce One 19191 Vallco Parkway, Cupertino, CA 95014, USA E-mail: meichun.hsu@commerceone.com

Ming-Chien Shan Hewlett Packard 13264 Glasgow court, Saratoga, CA 95070, USA E-mail: shan@hpl.hp.com

Cataloging-in-Publication Data applied for

Die Deutsche Bibliothek - CIP-Einheitsaufnahme

Technologies for E-services: third international workshop; proceedings / TES 2002, Hong Kong, China, August 23 - 24, 2002. Alejandro Buchmann ... (ed.). - Berlin; Heidelberg; New York; Barcelona; Hong Kong; London; Milan; Paris; Tokyo: Springer, 2002

(Lecture notes in computer science; Vol. 2444)

ISBN 3-540-44110-7

CR Subject Classification (1998): H.2, H.4, C.2, H.3, J.1, K.4.4, I.2.11

ISSN 0302-9743 ISBN 3-540-44110-7 Springer-Verlag Berlin Heidelberg New York

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer-Verlag. Violations are liable for prosecution under the German Copyright Law.

Springer-Verlag Berlin Heidelberg New York, a member of BertelsmannSpringer Science+Business Media GmbH

http://www.springer.de

© Springer-Verlag Berlin Heidelberg 2002 Printed in Germany

Typesetting: Camera-ready by author, data conversion by PTP-Berlin, Stefan Sossna e.K. Printed on acid-free paper SPIN: 10871039 06/3142 5 4 3 2 1 0

Preface

The 2002 VLDB workshop on Technologies for E-Services (VLDB-TES 02) is the third workshop in a series of annual workshops endorsed by the VLDB Conference. It serves as a forum for the exchange of ideas, results and experience in the area of e-commerce and e-business.

VLDB-TES 02 took place in Hong Kong, China. It featured the presentation of 14 regular papers, focused on major aspects of e-business solutions. In addition, the workshop invited five industrial speakers to share their vision, insight, and experience with the audience.

The workshop would not have been a success without help from many people. Special thanks go to Fabio Casati, who recruited the world-class speakers from various e-business fields, Ludger Fiege who served as the publicity and publication chair, and Eleana Kafeza, who organized and planned the local arrangements. We also thank the authors for submitting their papers and the members of the program committee and external reviewers for their thorough work, which greatly contributed to the quality of the final program.

We hope that the participants found the workshop interesting and stimulating, and we thank them for attending and for contributing to the discussions.

Juli 2002

Ming-Chien Shan Mei-Chun Hsu Alejandro Buchmann

Organization

Workshop Officers

General Chair

Ming-Chien Shan, Hewlett-Packard shan@hpl.hp.com

Program Chairs

Mei-Chun Hsu, Commerce One Meichun. Hsu@commerceone.com

 $\label{lem:alpha} Alejandro\ Buchmann,\ Darmstadt\ University\ of\ Technology\ \verb+buchmann@informatik.tu-darmstadt.de+$

Industrial Track Chair

Fabio Casati, Hewlett-Packard casati@hpl.hp.com

Local Arrangements Chair

Eleana Kafeza, Hong Kong University of Science and Technology kafeza@cs.ust.hk

Publicity Chair

 ${\tt Ludger\ Fiege,\ Darmstadt\ University\ of\ Technology} \\ {\tt fiege@gkec.tu-darmstadt.de}$

Program Committee

Gustavo Alonso, ETH Zürich, Switzerland Jean Bacon, Cambridge University, UK

Martin Bichler, IBM, USA

Christof Bornhoevd, IBM, USA

Paul Brebner, CSIRO, Australia

Christoph Bussler, Oracle Corp., USA

Arvola Chan, TIBCO, USA

Jen-Yao Chung, IBM, USA

Umesh Dayal, Hewlett-Packard, USA

Oscar Diaz, U. del Pais Vasco, Spain

Asuman Dogac, Middle East Technical University, Turkey

Peter Fankhauser, Fraunhofer IPSI, Germany

Dan Fishman, Avaya Labs., USA

Matthew Fuchs, Stele Corp., USA

Dimitrios Georgakopoulos, Telcordia, USA

Bob Glushko, Commerce One, USA

Eleana Kafeza, Hong Kong University of Science and Technology, China

Roger Kilian-Kehr, T-Systems Nova, Germany

Johannes Klein, Microsoft, USA

Winfried Lamersdorf, Hamburg University, Germany

Frank Leymann, IBM, Germany

Christoph Liebig, SAP, Germany

Oded Shmueli, Technion, Israel

Joe Sventek, Agilent, UK

Stefan Tai, IBM, USA

Aphroditi Tsalgatidou, U. of Athens, Greece

Dick Tsur, Real-Time Enterprise Group, USA

Steve Vinoski, IONA, USA

Hartmut Vogler, SAP Research Lab, USA

Claus von Rieger, SAP, Germany

Gerhard Weikum, U. of the Saarland, Germany

Additional Referees

George Athanassopoulos Yildiray Kabak Nuri Gokhan Kurt Gokce Banu Laleci Thomi Pilioura Uwe Wilhelm

Table of Contents

Dynamic E-business: Trends in Web Services	1
Telecom Databases for the E-services Industry	6
Improving the Functionality of UDDI Registries through Web Service Semantics	9
Public Process Inheritance for Business-to-Business Integration	19
A Model-Transformers Architecture for Web Applications	29
Modeling E-service Orchestration through Petri Nets	38
Composite Applications: Process Based Application Development	48
Design Methodology for Web Services and Business Processes	54
E-service Based Information Fusion: A User-Level Information Integration Framework	65
A Request Language for Web-Services Based on Planning and Constraint Satisfaction	76
Communication Flow Expressions in a Notification and Response System . ${\it Joann~J.~Ordille,~Thomas~Petsche}$	86
A Coverage-Determination Mechanism for Checking Business Contracts against Organizational Policies	97
Managing Business Relationships in E-services Using Business Commitments	107

X Table of Contents

Ad-Hoc Transactions for Mobile Services
Advanced Web Session Provider for Suspensible E-services
PLM_{flow} -Dynamic Business Process Composition and Execution by Rule Inference
Trust-Based Security Model and Enforcement Mechanism for Web Service Technology
Fair Exchange under Limited Trust
Author Index