Proceedings

14th International Workshop on Research Issues on Data Engineering: Web Services for E-Commerce and E-Government Applications

(RIDE-WS-ECEG)

28-29 March 2004
Boston, Massachusetts

Sponsored by
IEEE Computer Society Technical Committee on Data Engineering (TCDE)

Edited by
Athman Bouguettaya
Boualem Benatallah

Los Alamitos, California
Washington • Brussels • Tokyo
# Table of Contents

14th International Workshop on Research Issues on Data Engineering: Web Services for E-Commerce and E-Government Applications (RIDE-WS-ECEG 2004)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message from the General Chairs</td>
<td>vii</td>
</tr>
<tr>
<td>Message from the Program Chairs</td>
<td>viii</td>
</tr>
<tr>
<td>Committees</td>
<td>ix</td>
</tr>
<tr>
<td>Additional Reviewers</td>
<td>xi</td>
</tr>
</tbody>
</table>

## Keynote

Leveraging of Social Science and Applied Science for E-government Applications ........................................ 3

*Andrew Reddick, National Research Council, Canada*

## Service Description and Matchmaking

A Constraint Language Approach to Matchmaking ........................................... 7

*C. Liu and I. Foster*

PYRAMID-S: A Scalable Infrastructure for Semantic Web Service Publication and Discovery ........................................... 15

*T. Pilioura, G.-D. Kapos, and A. Tsalgatidou*

Resolution and Constraint Propagation for Semantic Web Services Discovery ........................................... 23

*S. Benbernou, E. Canaud, M.-S. Hacid, and F. Toumani*

## Security

An Access Control System for a Web Map Management Service ......................... 33

*E. Bertino, M. Damiani, and D. Momini*

A Security-Enhanced One-Time Payment Scheme for Credit Card ...................... 40

*Y. Li and X. Zhang*

A MPEG-4 XMT Scene Structure Algorithm for Authentication and Copyright Protection ........................................... 48

*Z. Sakr and N. Georganas*

Exploring a Multi-faceted Framework for SoC: How to Develop Secure Web-Service Interactions? ......................... 56

*K. Leune, W.-J. van den Heuvel, and M. Papazoglou*

## Keynote

The Challenges of Delivering Content and Applications on the Internet ............. 65

*Tom Leighton, Akamai*
Service Discovery and Composition

Enriching ebXML Registries with OWL Ontologies for Efficient Service Discovery........................................69
A. Dogac, Y. Kabak, and G. Laleci

From DAML-S Processes to BPEL4WS.................................................................77
S. Liu, R. Khalaf, and F. Curbera

Policy-Based Web Service Composition............................................................85
S. Chun, V. Atluri, and N. Adam

Secure Interoperability, Availability and Dependability

A Layered IT Infrastructure for Secure Interoperability in Personal Data Registry
Digital Government Services.................................................................95
F. Arcieri, F. Fioravanti, E. Nardelli, and M. Talamo

THROWS: An Architecture for Highly Available Distributed Execution of Web Services Compositions..................103
N. Lakhal, T. Kobayashi, and H. Yokota

DeW: A Dependable Web Services Framework...............................111
E. Alwagait and S. Ghandeharizadeh

Document Publishing, Caching, and Versioning

Smart Mirrors: Peer-to-Peer Web Services for Publishing Electronic Documents........................................121
M. Rodríguez-Martínez, E. Pagan, P. Rivera-Vega, O. Rodríguez-Martínez,
M. Martínez-Montes, J. Arzuaga, and M. Rodríguez

Enabling Dynamic Content Caching in Web Portals........................................129
M. Mahdavi and J. Shepherd

Supporting Branched Versions on XML Documents ................................137
Z. Vagena, M. Moro, and V. Tsotras

Author Index.......................................................................................................145