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Ralf-Detlef Kutsche Nikola Milanovic (Eds.)

Model-Based Software and Data Integration

First International Workshop, MBSDI 2008
Berlin, Germany, April 1-3, 2008
Proceedings

Volume Editors

Ralf-Detlef Kutsche
Nikola Milanovic
Technische Universität Berlin
Fakultät IV - Elektrotechnik und Informatik
Computergestützte Informationssysteme CIS
Einsteinufer 17, 10587 Berlin, Germany
E-mail: {rkutsche, nmilanov}@cs.tu-berlin.de

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Preface

The First International Workshop on Model-Based Software and Data Integration (MBSDI 2008), was our first event of this kind in a forthcoming series of activities at TU Berlin, where a scientific discussion and exchange forum was provided for both academic and industrial researchers. We aimed at researchers, engineers and practitioners who focus on advanced, model-based solutions in the area of software and information integration and interoperability.

As with every beginning, the resonance on our calls in today's overflowing of workshops was somewhat unpredictable, and we did not really know how many paper submissions to expect. We were nicely surprised, considering the rather short lead time to organize the meeting and the very specialized and focused topic. After the rigorous review process, where each paper received at least four reviews, we were able to accept nine regular papers and, additionally, we asked for extended abstracts from our invited speakers. The selected papers mirror the main aspect and the mission of the workshop: to promote research in the field of model-based software engineering, essentially focusing on methodologies for data and software (component) integration.

Integration of data from heterogeneous distributed sources, and at the same time integration of software components and systems, in order to achieve full interoperability is one of the major challenges and research areas in the software industry today. It is also the major IT cost-driving factor. During the past few years, the relevance of "model based" approaches to these extremely time- and money-consuming integration tasks has come into the special focus of software engineering methods. OMG's keyword model-driven architecture (MDA) has brought model-based approaches into the wide observation of the software industry and science. On the other hand, a strong community centered around the service-oriented architecture (SOA) paradigm and service science in general has covered significant grounds in defining interoperability standards in the area of communication, discovery, description and binding, as well as business process modeling and processing.

The two communities have remained largely isolated, resulting in MDA concepts not being broadly applied to system integration. Our workshop addressed this issue. The selection of papers tried to introduce a strict model-based design, verification, development and evolution methodologies to system integration concepts, such as SOA. Through our three thematic paper sessions – Data Integration; Software Architectures, Services and Migration; and Model-Based and Semantic Approaches – we tried to offer a roadmap and the vision of a new methodology.

We had a distinguished keynote speaker, Bran Selic from IBM Rational, whose work has extensively contributed to the very definition of model-driven development methods and tools, as well as to the definition of unified modeling

language (UML). He presented a talk “Key Technical and Cultural Challenges for Model-Based Software Engineering,” in which he identified short- and long-term research problems that have to be resolved to facilitate faster adoption of model-based software engineering methods.

We also had three prominent invited speakers, Miroslaw Malek (Humboldt University Berlin), who shared his views on the art of creating and integrating models, Stefan Tai (University of Karlsruhe), who proposed service science as an interdisciplinary approach for service modeling and Volker Markl (IBM Almaden Research Center), who presented the data mashup project.

The workshop, in the context of a German regional initiative of collaborative development of methodologies and tools for “Model-Based Software and Data Integration,” a joint effort of software SMEs and science under the acronym BIZYCLE, was a part of the Berlin Software Integration Week 2008. Besides MBSDI 2008, it featured a one-day industrial forum, where problems were discussed and solutions proposed and demonstrated in the area of software interoperability and integration. This forum addressed several industrial sectors, such as production and logistics, health, facility management and publishing. The Berlin Software Integration Week 2008 presented a unique opportunity for knowledge and technology transfer between industrial practitioners and academic researchers.

We would wholeheartedly like to thank to all the people that made MBSDI 2008 possible, first of all, our Program Committee members, for their guidance and diligent review process which enabled us to select an exciting program. We would also like to thank our industrial partners from the BIZYCLE consortium, for their support in understanding integration problems in different industrial contexts. The event would not have been possible without the support and the grant given by the Federal Ministry of Education and Research (BMBF), and its subordinated project management agency PTJ. Finally, our thanks go to the local organizers, members of the CIS group at the Technical University of Berlin (especially Mario Carlsburg and Timo Baum) and Katja Baumheier of Baumheier Eventmanagement GbR.

We hope that the attendees enjoyed the final scientific program and the industry symposium, got interesting insights from the presentations, got involved in the discussions, struck up new friendships and got inspired to contribute to MBSDI 2009!

April 2008

Ralf-Detlef Kutsche
Nikola Milanovic

Organization

MBSDI 2008 was organized by the Berlin University of Technology, Institute for Software Engineering and Theoretical Computer Science, research group Computation and Information Structures (CIS), in cooperation with the BIZYCLE consortium industrial partners and German Federal Ministry of Education and Research. Our Program Committee was formed by 26 members, many of them from Germany, but many of them from universities and research institutions all over the world. Thanks to all of them for their engagement and their critical reviewing work.

Program Committee

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BIZYCLE “Entrepreneurial Regions” Context of MBSDI 2008

The workshop series MBSDI in its first edition in 2008 was born out of the project context of the Innovation Initiative “Entrepreneurial Regions” set up by the German Federal Ministry of Education and Research (BMBF).

This initiative, particularly its part program “Innovative Regional Growth Cores,” stands for innovation-oriented regional alliances which develop the region’s identified core competencies to clusters on a high level and with strict market orientation. BMBF has systematically developed a series of such programs for the New German Länder since 1999.

BIZYCLE, the “Evolution-Oriented Technology Platform for the Integration of Enterprise Management Software” is one of the “Innovative Regional Growth Cores,” which was started in February 2007 as a joint activity of six industrial partners, SMEs in Berlin, and CIS/ TU Berlin as the academic partner of this consortium.

After the first project year, it seemed appropriate to establish a long-term academic and industrial collaboration initiative in the form of a scientific conference combined with an industrial forum in the context of our focus area: Model-Based Software and Data Integration.

We created the “Berlin Software Integration Week 2008” as our cover for “Model-Based Software and Data Integration 2008” and “BIZYCLE Industrial Forum 2008.”

Looking forward to establishing a long-term perspective in this challenging area of research and industrial engineering, we had – besides the regularly reviewed program of MBSDI 2008 – prominently invited international speakers from academia for this part of the software integration week, as well as engaged and active entrepreneurs from our region Berlin-Brandenburg and from outside, for the BIZYCLE Industrial Forum 2008.

Sponsoring Institutions

MBSDI 2008 and the BIZYCLE Industrial Forum were partially supported under grant number 03WKBB1B by the German Federal Ministry of Education and Research (BMBF).

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