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and Formal Methods

8th International Workshop, WS-FM 2011
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Revised Selected Papers

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Preface

We are pleased to present the proceedings of the 8th International Workshop on Web Services and Formal Methods (WS-FM 2011), held in Clermont-Ferrand, France during September 1–2, 2011, and co-located with the 9th International Conference on Business Process Management (BPM 2011). The aim of the WS-FM workshop series is to bring together researchers working on service-oriented computing (SOC), cloud computing and formal methods in order to catalyze fruitful collaborations. The scope of the workshop is not limited to technological aspects: In fact, the WS-FM series have a strong tradition of attracting submissions on formal approaches to enterprise systems modeling in general, and business process modeling in particular. Potentially, this could have a significant impact on the on-going standardization efforts for SOC and cloud computing technologies.

SOC provides standard mechanisms and protocols for describing, locating and invoking services over the Internet. Although there are existing SOC infrastructures supporting specification of service interfaces, access policies, behaviors and compositions, there are still many active research areas in SOC such as management of interactions with stateful and long-running services, farms of services and quality of services. Moreover, the emerging paradigm of cloud computing provides a new platform for service delivery, enabling the development of services that are configurable based on client requirements, service level guarantee mechanisms, and extended services based on virtualization. The convergence of SOC and cloud computing is accelerating the adoption of both of these technologies, making the service dependability and trustworthiness a crucial and urgent problem. In this research area, formal methods can play a fundamental role. They can help us define unambiguous semantics for the languages and protocols that underpin existing Web service infrastructures, and they provide a basis for checking the conformance and compliance of bundled services. They can also empower dynamic discovery and binding with compatibility checks against behavioral properties and quality of service requirements. Formal analysis of security properties and performance is also essential in cloud computing and in application areas including e-science, e-commerce, business process management, etc. Moreover, the challenges raised by this new area can offer opportunities for extending the state of the art in formal techniques.

In this edition of the workshop, we received 14 submissions and each of them was reviewed by at least three members of the Program Committee. We decided to accept nine papers. We wish to express our gratitude to all authors of submitted papers, the Program Committee members and the additional reviewers for their efforts in evaluating the papers. We are also very grateful to the two world-class keynote speakers (Kohei Honda, Queen Mary University of London, UK, and Hassan Aït-Kaci, IBM Canada) who gave us two wonderful talks. We also

thank the local Organizing Committee, chaired by Farouk Toumani, for making the practical arrangements for the workshop. Last but not least, we wish to thank Andrei Voronkov, who allowed us to use the free conference software system EasyChair for carrying out the reviewing process of WS-FM 2011.

January 2012   Marco Carbone
                                                               Jean-Marc Petit

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