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# Service-Oriented Computing: Agents, Semantics, and Engineering

AAMAS 2009 International Workshop, SOCASE 2009  
Budapest, Hungary, May 11, 2009  
Proceedings

 Springer

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# Preface

The areas of service-oriented computing and semantic technology offer much of interest to the multiagent system community, including similarities in system architectures and provisioning processes, and powerful tools and standardizations to enable more flexible and dynamic business process integration and automation. Similarly, techniques developed in the multiagent systems and semantic technology areas are having a strong impact on the fast-growing service-oriented computing area. Other issues, such as quality of service, security, privacy, and reliability are common problems to both multiagent systems and service-oriented computing.

Service-oriented computing has emerged as an established paradigm for distributed computing and e-business processing. It utilizes services as fundamental building blocks to enable the development of agile networks of collaborating business applications distributed within and across organizational boundaries. Services are self-contained, platform-independent software components that can be described, published, discovered, orchestrated, and deployed for the purpose of developing distributed applications across large heterogeneous networks such as the Internet.

Multiagent systems, on the other hand, also aim at the development of distributed applications, however, from a different but complementary perspective. Service-oriented paradigms are mainly focused on syntactical and declarative definitions of software components, their interfaces, communication channels, and capabilities with the aim of creating interoperable and reliable infrastructures. In contrast, multiagent systems are focused on the development of reasoning and planning capabilities of autonomous problem solvers that actively apply behavioral concepts such as interaction, collaboration, and negotiation in order to create flexible and fault-tolerant distributed systems for dynamic and uncertain environments.

Semantic technology offers a semantic foundation for interactions among agents and services, forming the basis upon which machine-understandable service descriptions can be obtained, and as a result, autonomic coordination among agents is made possible. On the other hand, ontology-related technologies, ontology matching, learning, and automatic generation, etc., not only gain in potential power when used by agents, but also are meaningful only when adopted in real applications in areas such as service-oriented computing.

This volume consists of the proceedings of the Service-Oriented Computing: Agents, Semantics, and Engineering (SOCASE 2009) workshop held at the International Joint Conferences on Autonomous Agents and Multiagent Systems (AAMAS 2009). The papers in this volume cover a range of topics at the intersection of service-oriented computing, semantic technology, and intelligent

multiagent systems, such as: service description and discovery; planning, composition and negotiation; semantic processes and service agents; and applications.

The workshop organizers would like to thank all members of the Program Committee for their excellent work, effort, and support in ensuring the high-quality program and successful outcome of the SOCASE 2009 workshop. We would also like to thank Springer for their cooperation and help in putting this volume together.

September 2009

Ryszard Kowalczyk  
Quoc Bao Vo  
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Michael Huhns

# Organization

SOCASE 2009 was held in conjunction with the 7th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009) on May 11, 2009 in Budapest, Hungary.

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# Table of Contents

## Service-Oriented Computing: Agents, Semantics, and Engineering

Contract Observation in Web Services Environments . . . . .	1
<i>Jiří Bíba, Jiří Hodík, Michal Jakob, and Michal Pěchouček</i>	
Mechanism Design for Task Procurement with Flexible Quality of Service . . . . .	12
<i>Enrico H. Gerding, Kate Larson, Alex Rogers, and Nicholas R. Jennings</i>	
An Agent-Oriented Service Model for a Personal Information Manager . . . . .	24
<i>Tarek Helmy, Ali Bahrani, and Jeffrey M. Bradshaw</i>	
Agent-Based Context Consistency Management in Smart Space Environments . . . . .	41
<i>Wan-rong Jih, Jane Yung-jen Hsu, and Han-Wen Chang</i>	
Using THOMAS for Service Oriented Open MAS . . . . .	56
<i>V. Julian, M. Rebollo, E. Argente, V. Botti, C. Carrascosa, and A. Giret</i>	
Agent-Based Support for Context-Aware Provisioning of IMS-Enabled Ubiquitous Services . . . . .	71
<i>Ana Petric, Krunoslav Trzec, Kresimir Jurasovic, Vedran Podobnik, Gordan Jezic, Mario Kusek, and Igor Ljubi</i>	
Agent-Based Framework for Personalized Service Provisioning in Converged IP Networks . . . . .	83
<i>Vedran Podobnik, Maja Matijasevic, Ignac Lovrek, Lea Skorin-Kapov, and Sasa Desic</i>	
Management Intelligence in Service-Level Reconfiguration of Distributed Network Applications . . . . .	95
<i>K. Ravindran</i>	
Business Modeling via Commitments . . . . .	111
<i>Pankaj R. Telang and Munindar P. Singh</i>	
MAMS Service Framework . . . . .	126
<i>Alexander Thiele, Silvan Kaiser, Thomas Konnerth, and Benjamin Hirsch</i>	
<b>Author Index</b> . . . . .	<b>143</b>