Contents

Security

On the Robustness of Some Cryptographic Protocols for Mobile Agent Protection ........................................... 1
Volker Roth
(Fraunhofer Institut für Graphische Datenverarbeitung, Germany)

Trust Relationships in a Mobile Agent System ...................... 15
Hock Kim Tan and Luc Moreau (University of Southampton, UK)

Evaluating the Security of Three Java-Based Mobile Agent Systems ...... 31
Sebastian Fischmeister, Giovanni Vigna, and Richard A. Kemmerer
(University of California Santa Barbara, USA)

Models and Architectures

Formal Specification and Verification of Mobile Agent Data Integrity Properties: A Case Study ................................. 42
Xavier Hannotin, Paolo Maggi, and Riccardo Sisto
(Politecnico di Torino, Italy)

Lime Revisited (Reverse Engineering an Agent Communication Model) .... 54
Bogdan Carbunar, Marco Tulio Valente, and Jan Vitek
(Purdue University, USA)

Dynamic Adaptation of Mobile Agents in Heterogenous Environments ..... 70
Raimund Brandt (skyguide, Switzerland) and Helmut Reiser (University of Munich, Germany)

Applications

Fast File Access for Fast Agents ............................................ 88
Eugene Gendelman, Lubomir F. Bic, and Michael B. Dillencourt
(University of California Irvine, USA)

Flying Emulator: Rapid Building and Testing of Networked Applications for Mobile Computers ............................. 103
Ichiro Satoh (National Institute of Informatics, Japan)

Crawlets: Agents for High Performance Web Search Engines .......... 119
Prasannaa Thati, Po-Hao Chang, and Gul Agha
(University of Illinois at Urbana-Champaign, USA)
Communication

An Efficient Mailbox-Based Algorithm for Message Delivery in Mobile Agent Systems .................................................... 135
Xinyu Feng (Nanjing University, China),
Jiannong Cao (Hong Kong Polytechnic University),
Jian Lu (Nanjing University, China), and
Henry Chan (Hong Kong Polytechnic University)

Using Predicates for Specifying Targets of Migration and Messages in a Peer-to-Peer Mobile Agent Environment .................................. 152
Klaus Haller and Heiko Schuldt
(Swiss Federal Institute of Technology, Switzerland)

A Scalable and Secure Global Tracking Service for Mobile Agents .......... 169
Volker Roth and Jan Peters
(Fraunhofer Institut für Graphische Datenverarbeitung, Germany)

Run-Time Support

Translating Strong Mobility into Weak Mobility .......................... 182
Lorenzo Bettini and Rocco De Nicola (Università di Firenze, Italy)

Transparent Migration of Mobile Agents Using the Java Platform Debugger Architecture................................................. 198
Torsten Illmann, Tilman Krueger, Frank Kargl, and Michael Weber
(University of Ulm, Germany)

Portable Resource Reification in Java-Based Mobile Agent Systems ...... 213
Alex Villazón (University of Geneva, Switzerland) and
Walter Binder (CoCo Software Engineering, Austria)

Quantitative Evaluation and Benchmarking

Mobile-Agent versus Client/Server Performance:
Scalability in an Information-Retrieval Task .............................. 229
Robert S. Gray, David Kotz, Ronald A. Peterson,
(Dartmouth College, USA),
Joyce Barton, Daria Chacón, Peter Gerken, Martin Hofmann
(Lockheed-Martin Advanced Technology Laboratory, USA),
Jeffrey Bradshaw, Maggie Breedy, Renia Jeffers, and Niranjan Suri
(University of West Florida, USA)
Contents XIII

Performance Evaluation of Mobile-Agent Middleware:
A Hierarchical Approach.................................................. 244
   Marios Dikaikos, Melinos Kyriakou, and George Samaras
   (University of Cyprus)

Scheduling Multi-task Agents............................................. 260
   Rong Xie, Daniela Rus (Dartmouth College, USA), and
   Cliff Stein (Columbia University, USA)

Author Index ...........................................................277
Mobile Agents
5th International Conference, MA 2001 Atlanta, GA, USA, December 2-4, 2001 Proceedings
Picco, G.P. (Ed.)
2001, XII, 284 p., Softcover
ISBN: 978-3-540-42952-4