Preface

Recent years have witnessed the appearance of new paradigms for designing distributed applications where the application components can be relocated dynamically across the hosts of the network. This form of *code mobility* lays the foundation for a new generation of technologies, architectures, models, and applications in which the location at which the code is executed comes under the control of the designer, rather than simply being a configuration accident.

Among the various flavors of mobile code, the *mobile agent* paradigm has become particularly popular. Mobile agents are programs able to determine autonomously their own migration to a different host, and still retain their code and state (or at least a portion thereof). Thus, distributed computations do not necessarily unfold as a sequence of requests and replies between clients and remote servers, rather they encompass one or more visits of one or more mobile agents to the nodes involved.

Mobile code and mobile agents hold the potential to shape the next generation of technologies and models for distributed computation. The first steps of this process are already evident today: Web applets provide a case for the least sophisticated form of mobile code, Java-based distributed middleware makes increasing use of mobile code, and the first commercial applications using mobile agents are starting to appear.

This volume contains the proceedings of the Fifth International Conference on Mobile Agents (MA 2001). MA 2001 took place in Atlanta, Georgia, USA, at the Georgia Center for Advanced Telecommunications Technology (GCATT), on December 2–4, 2001. The ambitious goal of MA 2001 was to gather researchers and practitioners from all over the world and shed some light on the open issues related to the exciting research topic of code mobility.

The first conference in this series was held in 1997 in Berlin, and since then it has been, by number of attendees and by quality and breadth of the research disseminated, among the top events for the community of researchers and practitioners interested in mobile code and mobile agents. The previous two conferences were held together with the International Symposium on Agent Systems and Applications (ASA) as joint ASA/MA events that aimed at gathering researchers interested in all the flavors of agent systems, e.g., including also intelligent and non-mobile agents. Although these joint events were very successful, MA 2001 was presented as a stand-alone event, entirely focused on the original target of mobile code and mobile agents. Our goal with this and future events is to strengthen the MA conference as the international venue at which the best and latest results in the topics of mobile code and mobile agents are disseminated and discussed.

The conference received 75 submissions from authors all over the world. The CyberChair system (`www.cyberchair.org`) greatly simplified the submission and review process. The Program Committee, composed of 20 of the most distinguished researchers in code mobility, reviewed all of the papers carefully. Each paper was assigned to at least three reviewers – four in the case of papers authored by Program Committee members. Reviewers were asked to declare in

advance potential conflicts of interest, to allow a proper assignment of papers and ensure fair reviews. Moreover, this information was used at the Program Committee meeting, that took place in Milan at the end of May, where reviewers with a conflict of interest on a paper were asked to leave the room during the related discussion. After a full-day meeting, the Program Committee selected the 18 papers included in the technical program.

In addition to these papers, we were honored that two distinguished experts accepted our invitation to give keynote presentations. Fred Schneider (Cornell University, USA) shared his views about the past, present, and future of mobile agent research, while Aleta Ricciardi (Valaran Corporation, USA) reported on her first-hand experience in applying code mobility within a real-world industrial context. The program was completed by a "Posters and Research Demos" session, and by four tutorials by leading experts in the field.

Conferences are the result of the concerted efforts of several people. First of all, I would like to express, personally and on behalf of the rest of the Organizing Committee, my appreciation to the authors of the submitted papers, and sincerely thank the members of the Program Committee and the external reviewers for their fundamental contribution to ensuring the quality of this conference. I would also like to thank the General Chair of MA 2001, David Kotz, and the rest of the Organizing Committee for their work in making this event a success. Finally, I would like to acknowledge and thank the IEEE Technical Committee on the Internet and the IEEE Computer Society for sponsoring the event, and Nokia and Georgia Tech College of Engineering for supporting it.

September 2001 Gian Pietro Picco

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The Fifth International Conference on Mobile Agents (MA 2001) took place at the Georgia Center for Advanced Telecommunications Technology (GCATT) in Atlanta, Georgia, USA, on December 2–4, 2001.

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