Preface

The Internet is subject to permanent modifications and to continuous restructuring. This is primarily due to the tremendous rise in demand for bandwidth by the ever increasing number of users. When compared to the early years of the Internet the quality of the services offered had to be significantly improved in different respects (delay, network and service availability, jitter, ...) in order to satisfy the needs of many new applications.

Within the last decade two new developments have contributed to many new opportunities, as well as to a need for intensive research and development:

– the increased mobility of users together with the desire for ubiquitous high-quality access to all offered services, at reasonable cost;
– the use of wireless communication.

Despite their relatively low capacity (when compared with fixed backbone networks) the use of radio links supports the ubiquitous availability of Internet services in a quasiperfect way.

A considerable amount of research and development activities are currently going on worldwide in order to adapt Internet services to the particular needs of mobile users and of wireless communication links. These questions were intensively discussed at the first workshop organized by the EURO-NGI Network of Excellence ('Next Generation Internet'), which has been funded by the European Union since January 2004 under their IST programme. The workshop brought together more than 20 out of the almost 60 research groups from all over Europe which co-operate in EURO-NGI towards a restructuring of the Internet, with a particular emphasis on the European situation. The workshop on 'Mobile and Wireless Systems' was held in June 2004 at the International Conference and Research Centre for Computer Science (Schloss Dagstuhl, Germany; http://www.dagstuhl.de). The absolutely great and inspiring environment, as well as the technical and non-technical facilities which are provided by this centre contributed very much to very intensive discussions, to a common understanding, and to significant progress concerning the research topics discussed.

This workshop proceedings contains a selection of 16 research contributions, which were extended to incorporate the numerous suggestions made by the international reviewers. The editors are convinced that this book provides a most relevant and highly up-to-date summary of problems of, and of suitable solutions for, the next-generation Internet in the area of wireless communication for mobile users.

Aachen and Linz, January 2005   Gabriele Kotsis
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