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Architectures for Quality of Service in the Internet

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Preface

Providing Quality of Service (QoS) in the Internet is currently the most challenging topic for researchers, industry and network providers. Now, the only available service in the Internet is the best effort service, which assumes traffic is processed as quickly as possible, but there is no guarantee as to timely or actual delivery. On the other hand, there is pressure to offer new applications in the Internet (like VoIP, videoconferencing, on-line games, e-commerce, etc.) but this requires some packet transfer guarantees from the network (e.g., low packet transfer delay, low packet losses). To meet these requirements, new architectures for providing IP- based QoS in the Internet are proposed: Integrated Services (*IntServ*) and Differentiated Services (*DiffServ*). However, these architectures need some enhancements to provide adequate solutions for resource management, signaling, traffic engineering, traffic handling mechanisms, etc.

In the European research community, a number of projects inside the Fifth Framework Programme were addressed solving the above issues; among these AQUILA (*Adaptive Resource Control for QoS Using an IP-Based Layered Architecture*), CADENUS (*Creation and Deployment of End-User Services in Premium IP Networks*), and TEQUILA (*Traffic Engineering for Quality of Service in the Internet at Large Scale*) are excellent examples. The main achievements from these projects are the prototypes for fixed QoS IP networks. The extension of these proposed solutions into the wireless environment is the next step.

The *Workshop on Architectures for Quality of Service in the Internet*, jointly held with the *Final AQUILA IST Seminar – Art-QoS 2003*, was organized to bring together researchers working on providing Quality of Service for IP-based networks. The intention was to discuss architectural aspects and traffic control mechanisms supporting end-to-end QoS.

The AQUILA project started in January 2000 with 12 partners from 6 European countries (Austria, Finland, Germany, Greece, Italy and Poland). The project has defined a comprehensive framework for the support of QoS in IP-based networks. The proposed solutions were implemented in the form of prototypes and tested at the AQUILA trial sites in Helsinki, Vienna and Warsaw. During the 2003 Workshop two special sessions devoted to AQUILA were held.

March 2003

Wojciech Burakowski
Berthold Koch
Andrzej Bęben

Organization

The Art-QoS 2003 Workshop, jointly held with the Final AQUILA IST Seminar, was organized by the Institute of Telecommunications, Warsaw University of Technology, Poland.

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