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Burkhard Stiller Georg Carle
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Group Communications and Charges

Technology and Business Models

5th COST 264 International Workshop
on Networked Group Communications, NGC 2003
and 3rd International Workshop
on Internet Charging and QoS Technologies, ICQT 2003
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Volume Editors

Burkhard Stiller
University of Federal Armed Forces Munich, UniBwM
Information Systems Laboratory, IIS
Werner-Heisenberg-Weg 39, 85577 Neubiberg, Germany -and-
Computer Engineering and Networks Laboratory, TIK
Swiss Federal Institute of Technology Zürich, ETH Zürich
Gloriastr. 35, 8092 Zürich, Switzerland
E-mail: stiller@tik.ee.ethz.ch

Georg Carle
University of Tübingen, Wilhelm-Schickard-Institute for Computer Science
Auf der Morgenstelle 10 C, 72076 Tübingen, Germany -and-
Fraunhofer Institute FOKUS
Kaiserin-Augusta-Allee 31, 19589 Berlin, Germany
E-mail: carle@informatik.uni-tuebingen.de

Martin Karsten
University of Waterloo
School of Computer Science
200 University Ave W, Waterloo, ON, N2L 3G1, Canada
E-mail: kalli@bbc.uwaterloo.ca

Peter Reichl
Forschungszentrum Wien, FTW
Donau-City-Str. 1, 1220 Wien, Austria
E-mail: reichl@ftw.at

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Preface

This volume of the Lecture Notes in Computer Science series contains the set of papers accepted for the two co-located NGC/ICQT 2003 workshops, i.e., the 5th COST 264 International Workshop on Networked Group Communications (NGC) and the 3rd International Workshop on Internet Charging and QoS Technology (ICQT), both of which took place at the University of the Federal Armed Forces Munich (UniBwM), Germany and were hosted by the Information and Systems Laboratory, IIS.

NGC 2003 was the fifth workshop in a continuing series of highly successful technical meetings on group communications within the framework of the COST Action 264 "Networked Group Communications," following previous events in Pisa, Italy, 1999, Stamford, USA, 2000, London, UK, 2001, and Boston, USA, 2002. ICQT 2003 was the latest edition of a vivid workshop on Internet economics and charging technology; previous events took place in the framework of the Annual Meeting of the German Society for Computer Science (GI) and the Austrian Computer Society in 2001 in Vienna, Austria, and in Zürich, Switzerland in 2002, co-located with the QofIS 2002 workshop.

The combination of group communications and charging addresses is an interesting facet of research and business modelling. Communication by technical means forms the major interconnection for distributed electronic applications, ranging from business processes to entertainment. While networked group communications in particular raise technology and protocol challenges, charging for Internet services inter-relates and enriches those techniques with economic models. In addition, the rise of peer-to-peer systems has gained a lot of attention and many of their inherent mechanisms are based on group management-driven methods. Both workshops target the identification of solutions, investigations of their feasibility, and a consolidation of technical and economic mechanisms to enable a fast, guaranteed, and efficient provisioning of networked group communications in the Internet. The range of session topics exactly reflects this situation, covering Application Multicast Support, Anycast and Search in P2P, Peer-to-Peer Systems, Security and Multicasting, Multicast Mechanisms, Control Algorithms, Multicast Pricing and Traffic, Routing and Economics, and Pricing and Resource Management.

Since the specific motto of these two co-located workshops, "Group Communications and Charges – Technology and Business Technology," was chosen deliberately in order to reflect current developments in this research area, NGC and ICQT brought together researchers from the area of group communications technology and economy in both industry and academia to discuss key advancements and to support further progress in these fields. Due to the major success of the same format in the past, NGC 2003 and ICQT 2003 followed a single-track and three-day program, in order to stimulate interaction and active participation. In summary, the technical sessions of the NGC and ICQT workshops contained 17 and 8 full papers, respectively. NGC introduced for the first time 6 short papers in a dedicated session to open up a discussion of new and fascinating ideas, ones deemed of high importance to reviewers but which have not reached full

maturity yet. All of these full and short papers were selected after a thorough reviewing process out of 51 and 27 submissions for NGC and ICQT, respectively. Showing a truly international scope, the final program of both workshops included 12 European, 11 North American, and 2 Asian full papers.

NGC/ICQT 2003 was based upon the continued support of a number of different organizations and persons. Firstly, following the event series established during recent years, COST Action 264 – formally closed, but research-wise still active – forms the steering lead, reflected in the NGC Steering Committee. Secondly, we are very happy to see the work being performed in cooperation with ACM SIGCOMM. Finally, both workshops' technical and research success depended on all members of the two distinct technical program committees and additional reviewers, who devoted their excellent knowledge as well as many hours of their time to provide the basis of a highly qualified technical program. Furthermore, we would like to express our thanks to Jan Gerke, Danny Heerlein, Arnd Heursch, Pascal Kurtansky, Peter Racz, and Jürgen Sauerland, who performed a brilliant job in maintaining the NGC/ICQT 2003 Web servers, managing the electronic system ConfMan for paper submission and review, dealing with cameraready papers, and maintaining local networking equipment. In addition, all of them assisted us in all phases of the workshops' preparations with technical and administrative help. Thanks go also to Annette and Pietro Schicker, who ran the NGC/ICQT 2003 registration, and to Anna Meyer, Heidi Müller, and Gaby Grobauer, who operated the on-site office and provided our participants with an excellent service. Finally, we would like to address our thanks to the Springer-Verlag for a smooth cooperation on finalizing these proceedings. Last, but not least thanks go to the UniBw München and the Information Systems Laboratory (IIS) for hosting the NGC/ICQT 2003 workshop in a convenient environment.

July 2003

Burkhard Stiller
Georg Carle
Martin Karsten
Peter Reichl

NGC/ICQT 2003

München, Germany

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Serious and detailed commenting on papers submitted to NGC/ICQT 2003 was performed by reviewers. Therefore, it is of great pleasure to the Program Committee Cochairs to thank all those reviewers for their important work; they are listed below in addition to the reviewing PC members.

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