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Preface

We are proud to present the proceedings of NET-COOP 2009, the international conference on network control and optimization, co-organized by EURANDOM/Eindhoven University of Technology and CWI. This year's conference at EURANDOM, held November 23–25, was the third in line after previous editions in Avignon (2007) and Paris (2008). NET-COOP 2009 was organized in conjunction with the Euro-NF workshop on "New Trends in Modeling, Quantitative Methods, and Measurements." While organized within the framework of Euro-NF, NET-COOP enjoys great interest beyond Euro-NF, as is attested by the geographic origins of the papers in these proceedings.

The NET-COOP conference focuses on performance analysis, control and optimization of communication networks, including wired networks, wireless networks, peer to peer networks and delay tolerant networks. In each of these domains network operators and service providers face the challenging task to efficiently provide service at their customer's standards in a highly dynamic environment. Internet traffic continues to grow tremendously in terms of volume as well as diversity. This development is fueled by the increasing availability of high-bandwidth access (both wired and wireless) to end users, opening new ground for evolving and newly emerging wide-band applications. The increase in network complexity, as well as the plurality of parties involved in network operation, calls for efficient distributed control. New models and techniques for the control and optimization of networks are needed to address the challenge of allocating communication resources efficiently and fairly, while accounting for non-cooperative behavior. The papers presented at NET-COOP 2009 addressed these issues, covering a wide range of methodologies, including queueing and congestion theory, control theory, game theory, scheduling theory and simulation.

The 25 presented papers were grouped into 8 sessions on the subjects "battery control," "cooperation and competition," "distributed control," "performance analysis methods," "queueing analysis" (two sessions) and "wireless communications" (two sessions). A subset of 18 papers is included here. The remaining presentations (all upon invitation) concerned papers either in preparation or published elsewhere.

We gladly take the opportunity to thank all those who contributed to the strong collection of papers included. Of course, we are thankful to all authors who submitted their papers for presentation at the conference and publication in these proceedings. All papers were reviewed by three or four members of the Technical Program Committee. A special word of appreciation goes to all TPC members – listed below – for their hard work, as well as to their co-workers who helped them in this task. Their reviews were of enormous help in the paper

selection, and of great use to the authors in preparing the camera-ready versions of their papers.

The smooth organization of the conference was due to Sem Borst, Onno Boxma (General Chairs) and Lucienne Coolen (Local Arrangements). Ivo Adan, Rob van der Mei and Bert Zwart put together a top-notch invited-speaker's program. We further wish to thank the conference's invited speakers: Eitan Altman, Rami Atar, Hans van den Berg, Costas Courcoubetis, Mor Harchol-Balter, Philippe Robert, Devavrat Shah and Damon Wischik. We also gratefully acknowledge the financial support of Euro-NF, the Prof. J.W. Cohen foundation and EURANDOM.

We hope that you, like us, find these proceedings a valuable contribution to research in the scope of NET-COOP.

November 2009

Sindo Núñez Queija
Jacques Resing

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