

Foreword

Peer-to-Peer (P2P) systems are decentralized, self-organizing distributed systems that cooperate to exchange data. These systems have emerged as the dominant consumer of residential Internet subscribers' bandwidth, and are being increasingly used in many different application domains. In the last few years, research on P2P systems has been quite intensive, and has produced remarkable results in scalability, robustness, location, distributed storage, and system measurements. Consequently, P2P systems continue to evolve, differentiating today's state-of-the-art from earlier instantiations such as Napster, KaZaA, Gnutella, and Morpheus.

The idea of organizing this first workshop on Hot Topics in P2P systems developed during the second annual meeting of the Italian FIRB "WEB--MINDS" project (Wide scale, Broadband MiddleWare for Network Distributed Systems), held in Genova Nervi, on July 5--6 2004. In this occasion a new working group was set-up on the subject of P2P technology, and the proposal was submitted to the organizers of the MASCOTS 2004 International Conference to host the first edition of this new workshop. An international program committee was assembled in July and the call for papers was issued in August. Due to the very tight scheduling, the idea of publishing post-workshop proceedings containing improved versions of the papers presented at the meeting had to be followed.

The workshop aimed to bring together researchers and practitioners, from both industry and academia, in the fields of systems, networking, and theory, and to represent an occasion to share latest research results and ideas on P2P systems, thereby promoting research activities in this area. Topics of interest advertised in the call for papers included:

- Applications of P2P systems
- P2P systems and infrastructures
- Performance evaluation of P2P systems
- Workload characterization for P2P systems
- Trust and Security issues in P2P systems
- Network support for P2P systems
- Protocols for resource managements/discovery/scheduling and their evaluation
- Fault tolerance in P2P systems
- DHT and other scalable lookup algorithms

Despite the very tight scheduling, the number of submitted papers was higher than expected. Out of the 22 submitted papers, 15 were found of quality high enough in order to warrant publication by at least two anonymous referees. In addition to regular research papers selected on standard peer review, the program of the workshop includes also one invited position paper by Professor Gene Tsudik dealing with security aspects in P2P.

All accepted papers were presented at the meeting followed by intense and passionate discussions. At the end of the day, the audience urged the workshop chair to start organizing the second edition of this meeting for summer or fall 2005.