Topic 8
Distributed Systems and Algorithms

Marc Shapiro, Idit Keidar, Felix Freiling geb. Gärtner, and Luís Rodrigues

Topic Chairs

Parallel computing is increasingly exposed to the challenges of distributed systems, such as asynchrony, long latencies, network partition, failures, disconnected operation, and protocol standardization. Witness the growth of peer-to-peer computing, the Grid and Web services. This topic provides a forum for research and practice, of interest to both academia and industry, about distributed computing and distributed algorithms. Submission was encouraged in all areas of distributed systems and algorithms relevant to parallel computing, with emphasis on design and practice of distributed algorithms, analysis of the behaviour of distributed systems and algorithms, distributed fault-tolerance, distributed operating systems and databases, scalability, concurrency and performance in distributed systems, resource sharing and load balancing in distributed systems, distributed algorithms in telecommunications, distributed mobile computing, resource and service discovery, security in distributed systems, and standards and middleware for the distribution of parallel computations.

Twenty-seven papers were submitted in this topic. The subjects were varied, but a common theme to many is self-organisation and fault tolerance. Other themes include mobile networks and routing, mutual exclusion and consensus algorithms, publish-subscribe networks, data replication and the dissemination of information, checkpointing, garbage collection, real time, etc. Eight papers were accepted and the paper *"Replication predicates for dependent-failure algorithms"*, by Flavio Junqueira and Keith Marzullo, was proposed as a distinguished paper.

J.C. Cunha and P.D. Medeiros (Eds.): Euro-Par 2005, LNCS 3648, p. 593, 2005.