European Conference on Parallel Computing

Topic 15: Peer-to-Peer and Web Computing

Description

Peer-to-peer (P2P) systems have become a major area of research in the past few years. Their potential was first revealed by the hugely popular P2P file sharing applications, which allow any computer (as a peer), anywhere in a large scale distributed computing environment, to share information and resources with others. The computing environments promoted by P2P systems and technology are decentralized in nature, exploring a symmetric pairwise interaction model. They are self-organized and self-coordinated, dynamically adapted to peer arrivals and departures, and highly resilient to failures. As P2P research becomes more mature, new challenges emerge to support complex and heterogeneous distributed environments for sharing and managing data, resources, and knowledge, with highly volatile and dynamic usage patterns.

This topic provides a forum for researchers to present new contributions on P2P technologies, applications, and systems, identifying key research issues and challenges.

Focus

- P2P applications and services including large-scale data and knowledge management
- Convergence between P2P and Grid computing environments/applications
- P2P systems and infrastructures
- P2P data management environments
- P2P algorithms and theory
- Security, privacy and robustness in P2P systems
- Distributed trust management and reputation in P2P systems
- Performance issues of P2P systems
- Workload characterization for P2P systems and usage patterns
- Experience with deployed P2P systems
- Middleware, programming models, environments and toolkits for P2P
- Resource and service discovery in P2P systems
- Convergence between P2P, Web computing or Web services platforms
- Internet Web-enabled P2P applications and services

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