Future Generation Computer Systems

Special issue on

Peer-to-Peer Computing and Interaction with Grids

Submission deadline: July 1, 2003.

Topics of the Special Issue

Peer-to-Peer environments are characterized by large scale (thousands to millions of participants), intermittent user and resource participation, lack of trust, and lack of centralized control. Designing mechanisms for Peer-to-Peer (P2P) environments proved to be a stimulating research problem that led to remarkable results in scalability, robustness, location, distributed storage, and system measurements. A less addressed and more challenging problem is computing in a P2P environment: computation is notoriously hard to distribute, yet the potential of harnessing millions of computers is tremendous.

Grid computing focuses on distributing computation on wide-area collections of shared resources. P2P and Grid systems share the same focus on harnessing resources across multiple administrative domains, but they differ in many respects: Grids address support for a variety of (usually, scientific) applications and hence focus on providing infrastructure to moderate-sized, homogeneous, and partially trusted communities. In contrast, P2P systems concentrate on providing support for intermittent participation in vertically integrated applications for significantly larger communities of untrusted individuals.

This special issue of Future Generation Computer Systems is dedicated to recent advances in P2P computing and the relevant lessons from Grid computing. Topics of interest include, but are not limited to:

- Management of computational resources in large, unreliable networks
- Incentives for computing in P2P environments
- Applications for P2P computing
- Infrastructure for supporting computation in P2P environments
- Trust and security in P2P computing
- Lessons from Grids (P2P) relevant to P2P (Grid) computing
- Algorithms for computing in P2P environments
- Grid Services and Peer to Peer
- Peer to Peer protocols for the Grid

Paper Submission

We invite you to submit a full paper of up to 15 pages describing new and original results or a survey on a specific topic. The submitted paper must be formatted according to the FGCS rules (Elsevier). For more information, please refer to the FGCS home page

(http://www.elsevier.nl/locate/future) and select the Author Gateway link in the left bar menu. With your submission, please include a cover page with the following:

- Name, affiliation, address, and e-mail of each author
- Contact author
- A maximum of 5 keywords

A PostScript or PDF version of your paper must be submitted electronically to one of the guest editors (see below). Hard copies should be sent only if electronic submission is absolutely not possible.

Important Dates

July 1, 2003: Full paper (in FGCS style) due
September 15, 2003: Notification of acceptance
November 1, 2003: Final version due
Expected date of publication: January 2004.

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