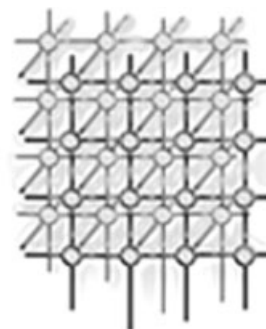

Special Issue: Progress of the Knowledge Grid



This special issue contains five papers [1–5] reflecting the progress of the Knowledge Grid [6]. Most of them were selected from the First International Conference on Semantics, Knowledge and Grid (SKG2005; <http://www.knowledgegrid.net>), which is currently the unique forum crossing the areas of knowledge sharing, semantic networking and Grid computing.

The first paper [1] proposes a distributed end-host multicast algorithm for efficient multicast query within the decentralized Knowledge Grid. In [2], a solution is proposed to top- K join queries in P2P networks based on semantic links. It can be used to construct a semantic overlay over the Knowledge Grid to support advanced intelligent applications. It provides a significant method for realizing a decentralized Knowledge Grid by semantic P2P data management. In [3], a Grid-based software platform, MS-Analyzer, is presented for the integrated management and analysis of spectra data. In [5], a user reputation model for a user-interactive question answering system is presented.

Knowledge flow is the distinguished characteristic of the Knowledge Grid [6]. A knowledge flow is invisible, but it plays an important role in ordering knowledge exchange in teamwork. It can help achieve effective team knowledge management by modeling, optimizing, monitoring and controlling the operation of knowledge flow processes. In [4], the notion of potential knowledge energy is proposed as the driving force of forming an autonomous knowledge flow network, and the underlying principles are explored. Knowing these principles helps teams and the support systems improve cooperation by monitoring the knowledge energy of nodes, by evaluating and adjusting knowledge flows, and by adopting appropriate strategies. An effective knowledge flow network management mechanism can help improve the efficiency of knowledge-intensive distributed teamwork. The research on knowledge flow will form a significant contribution to the decentralized Knowledge Grid.

We hope this special issue can make a significant contribution to push the development of the Knowledge Grid area.

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GEOFFREY C. FOX

*Community Grids Laboratory and School of Informatics,
Indiana University,
Bloomington, IN 47404, U.S.A.
E-mail: gcf@indiana.edu*

XIAOPING SUN

*Institute of Computing Technology,
Chinese Academy of Science,
Beijing 100080,
People's Republic of China
E-mail: sunxp@kg.ict.ac.cn*