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Important dates

Paper submission due:
15 January 2010

Acceptance notification:
31 May 2010

Final papers:
15 September 2010

Call for Papers

A Special Issue of Journal of Parallel and Distributed Computing on "Data Intensive Computing"

Data intensive computing is posing many challenges in exploiting parallelism of current and upcoming computer architectures. Data volumes of applications in the fields of sciences and engineering, finance, media, online information resources, etc. are expected to double every two years over the next decade and further. With this continuing data explosion, it is necessary to store and process data efficiently by utilizing enormous computing power that is available in the form of multi/manycore platforms. There is no doubt in the industry and research community that the importance of data intensive computing has been raising and will continue to be the foremost fields of research. This raise brings up many research issues, in forms of capturing and accessing data effectively and fast, processing it while still achieving high performance and high throughput, and storing it efficiently for future use. Programming for high performance yielding data intensive computing is an important challenging issue. Expressing data access requirements of applications and designing programming language abstractions to exploit parallelism are at immediate need. Application and domain specific optimizations are also parts of a viable solution in data intensive computing. While these are a few examples of issues, research in data intensive computing has become quite intense during the last few years yielding strong results.

This special issue of the Journal Parallel and Distributed Computing (JPDC) is seeking original unpublished research articles that describe recent advances and efforts in the design and development of data intensive computing, functionalities and capabilities that will benefit many applications.

Topics of interest include (but are not limited to):

- **Data-intensive applications and their challenges**
- **Storage and file systems**
- **High performance data access toolkits**

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- **Fault tolerance, reliability, and availability**
- **Meta-data management**
- **Remote data access**
- **Programming models, abstractions for data intensive computing**
- **Compiler and runtime support**
- **Data capturing, management, and scheduling techniques**
- **Future research challenges of data intensive computing**
- **Performance optimization techniques**
- **Replication, archiving, preservation strategies**
- **Real-time data intensive computing**
- **Network support for data intensive computing**
- **Challenges and solutions in the era of multi/many-core platforms**
- **Stream computing**
- **Green (Power efficient) data intensive computing**
- **Security and protection of sensitive data in collaborative environments**

Guide for Authors

Papers need not be solely abstract or conceptual in nature: proofs and experimental results can be included as appropriate.

Authors should follow the JPDC manuscript format as described in the “Information for Authors” at the end of each issue of JPDC or at <http://ees.elsevier.com/jpdc/>. Authors should submit their papers by January 15th, 2010. The review decision will be communicated to the authors by May 31, 2010. The journal version will be reviewed as per JPDC review process for special issues.

Submission Guideline

All manuscripts and any supplementary material should be submitted through Elsevier Editorial System (EES) at <http://ees.elsevier.com/jpdc/>. Authors must select “**Special Issue: Data Intensive Computing**” when they reach the “Article Type” step in the submission process. First time users must register themselves as Author. For the latest details of the JPDC special issue see <http://www.cs.iit.edu/~suren/jpdc>