Cluster Computing

Special Issue on Unconventional Cluster Architectures and Applications

http://www.hucaa-workshop.org

This CLUSTER COMPUTING JOURNAL special issue gears to gather recent work on unconventional cluster architectures and applications, which potentially have a big impact on defining future cluster architectures. This includes any cluster architecture that is not based on the usual commodity components and therefore makes use of some special hard- or software elements, or that is used for very special and unconventional applications. Examples include GPUs, MICs (Many Integrated Core), FLASH and FPGAs on the hardware side, and run-time management, virtualization, in-memory storage and device-to-device communication on the software side. We are in particular encouraging work on disruptive approaches, which may show inferior performance today but can already point out their full performance potential. The broad scope of the special issue facilitates submissions on unconventional uses of hardware or software, gearing to gather ideas that are coming to life now and not limiting them except for their context: clusters.

We are seeking new proposals presented from a holistic perspective. In this regard, one of the aims of the special issue is anticipating the evolution of clusters, instead of just presenting new work carried out in the traditional cluster areas usually addressed in other journals and conferences.

TOPICS OF INTEREST

Topics of interest include any unconventional cluster architecture or application. Examples include, but are not limited to:

- High-performance, data-intensive, and power-aware computing
- Application-specific clusters, datacenters, and high performance cloud architectures
- Software cluster-level virtualization for consolidation purposes
- Principles from organic computing applied to cluster architectures
- Hardware techniques for disaggregation of resources
- Management techniques for large-scale systems
- New uses of GPUs, FPGAs, and other specialized hardware
- Dedicated support for novel parallel programming paradigms like PGAS or MapReduce
- New industry and technology trends and their potential impact on one of the above

IMPORTANT DATES

Paper submission: February 17th, 2013   Notification of acceptance: May 1st, 2013
Final Manuscript Due: June 3rd, 2013   Publication of Special Issue: 4th Quarter 2013

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SUBMISSION

For further information about formatting instructions and submissions, please check the journal web site:

- http://www.springer.com/journal/10586

Further information including the review board and Latex templates can be found at the website of the corresponding workshop under the 2013 Journal section:

- http://www.hucaa-workshop.org/clustersi2013