CALL FOR PAPERS

Networks-on-Chip
IEEE Transactions on Computers
Special Section
November 2012

Recent years have witnessed the commercialization of multi-core processor architectures in response to the power consumption challenges posed by semiconductor device scaling. On-chip interconnection networks or Networks-on-Chip (NoC) have emerged as a key technology for enabling the scalable integration of multiple cores on the same processor. NoC is an area of active research with several open problems that transcend the traditional discipline boundaries. The IEEE Transaction on Computers seeks original manuscripts for a Special Section on Networks-on-Chip scheduled to appear in the April issue of 2012.

Networks-on-Chip topics of interest for the special issue include but are not limited to:

- NoC architectures for CMP/MPSOCs (topology, routing, arbitration)
- NoC support for memory and cache access
- Workload characterization & evaluation
- Novel interconnect linksswitches/routers
- Timing, synchronous/asynchronous communication
- Signaling and circuit design for NoC links
- Physical design of interconnect and NoC
- Power, energy and thermal issues
- Quality of Service
- Network interface issues
- NoCs for FPGAs and structured ASICs
- OS support for NoCs and programming models
- Mapping of applications onto NoCs
- Design for 3D stacked logic and memory
- Optical & RF for on-chip/in-package interconnects
- NoC reliability issues
- Design methodologies and tools
- Verification, debug & test of NoCs
- Modeling, simulation, and synthesis of NoCs
- Metrics and benchmarks for NoCs
- NoC case studies, application-specific NoC design

Submitted articles must not have been previously published or currently submitted for journal publication elsewhere. Extended versions of published conference proceedings are welcome. Authors are responsible for understanding and adhering to IEEE Transactions on Computers submission guidelines (including those related to published conference proceedings).

Important dates:
October 31, 2011 Deadline for submission of papers
January 6, 2012 First decisions to authors
February 6, 2012 Revisions due (if needed)
April 7, 2012 Notification of final acceptance
April 30, 2012 Final publication materials due from authors
November 2012 Special section publication

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