SPECIAL ISSUE ON:
Reconfigurable Computing

Editor-in-Chief: Prof. Andy Tyrrell, University of York, UK

Reconfigurable computing provides the flexibility of software with the high performance and efficiency of hardware. It can serve as an accommodation platform providing the necessary circuit resources for high performance implementations while keeping the power consumption at low levels. With the advance of technology and the shrinkage of transistor size, complex embedded systems can now be implemented on reconfigurable devices obeying hard time constraints. Moreover, the recent adoption of this technology by big players in the field like the acquisition of Altera by Intel, and the recent addition of Field-Programmable Gate Arrays devices by Microsoft in their servers, opens new opportunities for the wide adoption of this technology as well as imposing new challenges to the research community on the easy programmability of the systems, their architecture and communication infrastructure.

Topics covered include:

- Compilation, Programming Languages, and Domain-Specific Languages
- Tools, Frameworks, Design-flows for Developing HPRC Systems
- Virtual Machines, Middleware, and Operating Systems
- Reconfigurable Architectures
- Communication Infrastructures
- Applications, including Big Data Applications
- Runtime Adaptability
- Resilience and Reliability
- Performance Comparisons with other High-Performance Computing (HPC) Systems
- Reconfigurable Applications and Algorithms
- Teaching HPRC

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