

FPGAs Everywhere – The Cloud and Mobile

February 14, 2014

The 22nd annual 2014 ACM International Symposium on Field-Programmable Gate Arrays will kick off on February 26 in Monterey, California with an emphasis on the future role of FPGAs at two ends of the computing spectrum: data centers and mobile platforms.

The conference will launch with an afternoon workshop where distinguished speakers from Microsoft, Google, IBM, Oracle, and Intel, will debate the merits and weaknesses of pervasive FPGA deployment in the cloud. Numerous recent studies have demonstrated the use of FPGAs to implement accelerators, working alongside standard processors to raise computational throughput and energy efficiency, potentially by orders of magnitude. Will the future see hundreds of thousands of FPGAs deployed in datacenters to reduce overall energy costs and allow our search and Siri queries to be served more rapidly? Or will the usability of FPGAs, traditionally accessible only to hardware engineers, hamper their uptake in this important area?

FPGAs have long been excluded from mobile platforms by their high power consumption, but recently devices as demanding and high-volume as the Samsung Galaxy mobile phones have incorporated FPGAs. This year's banquet panel will consider whether we might one day all have an FPGA in our pocket. Panelists from industry and academia will debate "mobile FPGAs" from both the technology and business perspectives. What will mobile FPGAs look like? With mobile power budgets limiting standby current to μA 's, how much FPGA flexibility can be sacrificed to lower their power consumption? And, will FPGA vendors be willing to jump into the low-margin mobile space? The panel is certain to be a highly charged discussion.

In addition to the panel and workshop, the three-day symposium, running from February 26-28, will include eight technical sessions featuring 30 papers describing state-of-the-art work on architectures, tools, circuits and applications of FPGAs.

About ACM FPGA: The ACM International Symposium on Field-Programmable Gate Arrays, held annually in Monterey, is the premiere forum for the presentation of advances in all areas of FPGA technology. <http://www.eecg.utoronto.ca/FPGA2014/>

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