Keynote Talk by Dr. Derek Chiou:

Accelerating Data Centers with Reconfigurable Logic

Data centers are a highly competitive environment that demands high performance and energy efficiency and, in many cases, low latency. Custom hardware can provide significant improvements over conventional microprocessors on those metrics. Microsoft has been investigating the use of reconfigurable logic, in the form of field programmable gate arrays, to accelerate its data centers. In this talk, I will describe some of our efforts in this area.

Derek Chiou is a Principal Architect at Microsoft where he co-leads a team working on FPGAs for data center applications and an associate professor at The University of Texas at Austin. His research areas are FPGA acceleration, high performance computer simulation, rapid system design, computer architecture, parallel computing, Internet router architecture, and network processors. Before going to UT, Dr. Chiou was a system architect and led the performance modeling team at Avici Systems, a manufacturer of terabit core routers. Dr. Chiou received his Ph.D., S.M. and S.B. degrees in Electrical Engineering and Computer Science from MIT.