Keynote II

Petascale Computing Research Challenges –
A Manycore Perspective

Steve Pawlowski
Senior Fellow and Chief Technology Officer of the Digital Enterprise Group
Intel Corporation

Abstract

Future High Performance Computing will undoubtedly reach Petascale and beyond. Today's HPC is tomorrow's Personal Computing. What are the evolving processor architectures towards Multi-core and Many-core for the best performance per watt; memory bandwidth solutions to feed the ever more powerful processors; intra-chip interconnect options for optimal bandwidth vs. power? With Moore's Law continuing to prove its viability and shrinking transistors' geometry, improving reliability is even more challenging. Intel Senior Fellow and Chief Technology Officer of Intel's Digital Enterprise Group, Steve Pawlowski, will provide his technology vision, insight and research challenges to achieve the vision of Petascale computing and beyond.

About the Speaker

Stephen S. Pawlowski is an Intel Senior Fellow. He is the Digital Enterprise Group chief technology officer and general manager for Architecture and Planning for Intel Corporation. Pawlowski joined Intel in 1982. He led the design of the first Multibus I Single Board Computer based on the 386 processor. He was a lead architect and designer for Intel's early desktop PC and high performance server products and was the co-architect for Intel's first P6-based server chipsets. He helped define the system bus interfaces for Intel's P6 family processors, the Pentium(r) 4 processor and Itanium(tm) processor. He also created and led the research for Intel's agile radio architecture for a future generation of wireless products and prior to his current assignment was the director of Corporate Technology Group's Microprocessor Technology Lab.

Pawlowski graduated from the Oregon Institute of Technology in 1982 with bachelor's degrees in electrical engineering technology and computer systems engineering technology, and received a master's degree in computer science and engineering from the Oregon Graduate Institute in 1993.

Pawlowski holds 56 patents in the area of systems, and microprocessor technologies. He has received three Intel Achievement Awards.