Intel In High Performance and Grid Computing

Presenter:
Dr David S. Scott - Intel.

Background:
Intel has been deeply involved in high performance computers for more than twenty years. Intel built and delivered the first teraflop machine in 1997. The 40th anniversary of Moores law has helped Intel drive the industry to use open standards and commercial off the shelf components and now two thirds of the latest Top500 list of the fastest computers in the world are based on Intel processors. Configurations vary from small form factor Xeon blade clusters up to large Itanium based Altix systems from SGI.

Intel has worked with all of the key software vendors to make sure that their offerings are optimized for Intel architecture and take advantage of the latest technologies such as SSE3 instructions and virtualization support. In addition to hardware components, Intel makes a large number of software tools available including compilers, math libraries, threading tools, and cluster tools such as Intel MPI and Intel trace collector and analyzer. Intel has also been involved with Grid computing efforts such as the TeraGrid in the US and the China grid in PRC. Intel has helped build the Unicore grid software system and is working on the next generation Grid Programming Environment.

This talk will survey all of the hardware and software components that have made Intel and their customers successful in the HPC market.