Emerging Technologies for the Convergence of HPC and Big Data

Herbert Cornelius

Advanced Computing Center, Intel, Munich, Germany

As we see Moore's Law well alive, more and more parallelism is introduced into all computing platforms and on all levels of integration to achieve higher performance and energy efficiency.

HPC is also reaching an inflection point with the convergence of (traditional) high performance computing and the emerging world of Big Data Analytics: High-Performance Data Analytics (HPDA) - using HPC for Big Data. We will show the evolution of general purpose Multi- and Many-Core processing, and demonstrate specific workloads being accelerated dramatically using FPGAs.

In order to support the ever increasing compute performance, we will show the benefits of new emerging memory and storage technologies and paradigms like high-bandwidth memory and non-volatile memory for getting balance back into HPC solutions.