

Introduction to Performance Tuning & Optimization Tools

Thursday, July 25, 2019 11:00 AM (1h 30m)

Improving the performance of scientific code is something that is often considered to be some combination of difficult, mysterious, and time consuming, but it doesn't have to be. Performance tuning and optimization tools can greatly aid in the evaluation and understanding of the performance of scientific code. In this talk we will discuss how to approach performance tuning and introduce some measurement tools to evaluate the performance of compiled-language (C/C++/Fortran) code. Powerful profiling tools, such as Intel VTune and Advisor, will be introduced as well as demonstrated in practical applications. A hands-on example will allow students to gain some familiarity using VTune in a simple, yet realistic setting. Some of the more advanced features of VTune, including the ability to access the performance hardware counters on modern CPUs, will be introduced.

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