# OmpSs tutorial and TAREADOR HPC Educator Session at Supercomputing 2012

Don’t miss the upcomping OmpSs tutorial at SC12. Also related to the previous tutorial, you can learn more about how TAREADOR can help you developing OmpSs applications.


Interested in finding out about OmpSs?
Don’t miss the upcomping OmpSs tutorial #142 at SuperComputing 2012 in Salt Lake City, Utah (Monday November 12)

Due to its asynchronous nature and look-ahead capabilities, MPI/OmpSs is a promising programming model approach for future exascale systems, with the potential to exploit unprecedented amounts of parallelism, while coping with memory latency, network latency and load imbalance. Many large-scale applications are already seeing very positive results from their ports to MPI/OmpSs . The tutorial will first cover the basic concepts of the programming model. OmpSs can be seen as an extension of the OpenMP model. Unlike OpenMP, however, task dependencies are determined at runtime thanks to the directionality of data arguments. The OmpSs runtime supports asynchronous execution of tasks on heterogeneous systems such as SMPs, GPUs and clusters thereof. The integration of OmpSs with MPI facilitates the migration of current MPI applications and improves, automatically, the performance of these applications by overlapping computation with communication between tasks on remote nodes. The tutorial will also cover the constellation of development and performance tools available for the MPI/OmpSs programming model: the methodology to determine OmpSs tasks, the Ayudame/Temanejo debugging toolset, and the Paraver performance analysis tools. Experiences on the parallelization of real applications using MPI/OmpSs will also be presented. The tutorial will also include a demo.

URL: http://sc12.supercomputing.org/schedule/event_detail.php?evid=tut142

**TAREADOR HPC Educator Session at SC12**

Also related to the previous tutorial, you can learn more about how TAREADOR can help you developing OmpSs applications.

We are living the "real" parallel computing revolution. Something that was the concern of a "few" forefront

scientists has become mainstream and of concern to every single programmer. This HPC Educator Session proposes an infrastructure to be used at undergraduate level to discover parallelization strategies and their potential benefit. Tareador provides a very intuitive approach to visualize different parallelization strategies and understand their implications. The programmer needs to use simple code annotations to identify tasks and Tareador will dynamically build the computation task graph, identifying all data-dependencies among the annotated tasks. Tareador also feeds Dimemas, a simulator to predict the potential of the proposed strategy and visualize an execution timeline (Paraver). Using the environment, we show a top-down approach that leads to appropriate parallelization strategies (task decomposition and granularity) and helps to identify tasks interactions that need to be guaranteed when coding the application in parallel.

URL: http://sc12.supercomputing.org/schedule/event_detail.php?evid=eps110

You can find all the information about SC12 here: http://sc12.supercomputing.org/

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

---