The Abdus Salam International Centre for Theoretical Physics

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Workshop on High Performance Computing (HPC) Architecture and Applications in the ICTP

14 – 25 October 2013
(Miramare – Trieste, Italy)

The Abdus Salam International Centre for Theoretical Physics is organizing a Workshop on High Performance Computing (HPC) Architecture and Applications" to be held at the ICTP, Trieste, Italy from 14 – 25 October 2013.

A growing trend in scientific and academic research is the use of simulation, modeling and data processing on computing facilities as an alternative or enhancement to experimental work. There is also a growing complexity of problems and associated software used for scientific and academic research work as the overall scientific output is related to the computing capacity. High Performance Computing (HPC) facilities such as Linux based commodity clusters are frequently employed for scientific and academic research work because of low cost, general purpose and high flexibility. Designing, building and maintaining HPC facilities using commodity components today requires some knowledge of the intended set of applications in order to obtain optimal or better performance, while also paying attention to advancements in technology. This advanced hands-on workshop focuses on sharing the experiences made by the ICTP HPC team in building, operating and maintaining Linux based clusters for use with the scientific HPC applications like Regional Climate Model (RegCM) and Quantum Espresso (QE).

TOPICS OF THE WORKSHOP SESSIONS:

Basic Networking and cluster deployment - TCP/IP, routing, DNS, DHCP, PXE & TFTP
Advanced Networking - switch/host port aggregation.
Storage management – RAID, Network File systems, automounter and quota management
Monitoring and managing clusters – IPMI, Ganglia, UPS, torque/maui
Many-core, low power, hybrid, cloud & GRID computing
Benchmarking and profiling – synthetic and application benchmarks
Environment modules - Installing, maintaining and supporting applications and libraries

Requirements: Good knowledge of the Linux operating system, shell environment.

PARTICIPATION

This activity is aimed primarily at HPC administrators, support staff and scientists that currently operate and support high performance computing resources for research or will do so in the near future. Participants from all countries, which are members of the United Nations, UNESCO or IAEA, may attend the workshop. Due to the hands-on nature of the activity, participation is limited and preference will be given to participants that can provide supporting documentation with evidence of the size and utilization of their HPC resources and/or the budget and use of the pending deployment. As it will be conducted in English, participants should have an adequate working knowledge of this language.

As a rule, travel and subsistence expenses of the participants should be borne by their home institutions. Every effort should be made by candidates to secure support for their fare (or at least half- fare). However, limited funds are available for some participants, who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only to those attending the entire activity. There is no registration fee.

HOW TO APPLY FOR PARTICIPATION

The online application form can be accessed at the activity website: http://cdsagenda5.ictp.it/full_display.php?ida=a12216
Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit online the application. **Closing date for receipt of the applications is 31 July 2013.**
Applications without the supporting documentation will not be considered.

ACTIVITY SECRETARIAT: Telephone: +39-040-2240-355   Telefax: +39-040-2240-585

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eXact

E4 COMPUTER ENGINEERING

EUROTECH
Imagine. Build. Succeed.

DEADLINE
For requesting participation:

31 July 2013