

The 10th LCI International Conference on High-Performance Clustered Computing



March 10 – 12, 2009
March 9, 2009 Tutorials
Computational and Information Systems Laboratory
National Center for Atmospheric Research
Boulder, Colorado, USA

CALL FOR PAPERS, TECHNICAL PRESENTATIONS AND TUTORIALS
DEADLINE FOR SUBMISSION: PAPERS – Monday, October 27, 2008
TUTORIALS – Monday, December 1, 2008
TECHNICAL PRESENTATIONS – Monday, December 1, 2008
POSTERS – Monday, January 26, 2009
TECHNICAL BRIEFS – Friday, January 16, 2009

The Computational and Information Systems Laboratory (CISL) of the National Center for Atmospheric Research (NCAR) is hosting the 10th LCI International Conference on High-Performance Clustered Computing. This year's conference examines how future large-scale system design will address the balance between inter- and intra-node parallelism and how applications will effectively harness these systems. This tension is clearly evident between the two most powerful systems in the world and is being strongly driven by power consumption and the re-examination of chip design in the wake of stalled clock frequencies. It will explore how the deep hierarchy of cores, processors, accelerators, cache, memory, interconnect, and I/O will create exciting opportunities for new algorithms that exploit the architectural hierarchy to increase scalability, efficiency, and accessible simulation sizes. Scaling applications to $O(10^6)$ cores, coupling multiphysics and multiscale applications, numerical convergence and stability, analysis and visualization, and hybrid programming models are only a few examples of the challenges and opportunities that will require the combined attention of multidisciplinary development teams.

This conference is the premier international forum to share management, administration, and scientific computing expertise and experiences on clusters at all scales. This four-day event, including the conference and tutorials, will feature a broad range of presentations and papers from HPC and large-scale cluster computing professionals in industry, academia, and government. Speakers will address efforts to integrate and develop science and engineering applications for clusters that achieve maximum performance and scalability. The technical program will include both peer-reviewed papers and discipline- and industry-specific sessions offering researchers and industry leaders the opportunity to share their experiences with applications, tools, user environments, and administration of clusters. It will feature experts discussing the state of the art in various aspects of clustered computing including developing the hardware, software environments, and applications to reach petascale with a focus on the near-term activities taking this community along that path. Vendor participation will highlight their contributions to the rapidly expanding field of clustered computing.

The conference program committee is soliciting novel papers, insightful technical presentations, and practical tutorials on a broad range of topics related to systems integration, operation and support, end user applications, tools, education, and experiences. Sessions are divided into "Introductory", "Intermediate", and "Advanced" content to cater to the breadth of experience of attendees and encourages submissions in all three areas. Educators are encouraged to submit papers detailing unique course-level and programmatic-level teaching efforts that they have instituted around growing needs for clustered computing competent graduates. Proposed papers will be selected on the basis of an extended abstract of 5 to 8 pages. Exceptional papers presented by a student and with a student lead author will be considered for best paper and travel awards. Tutorials can come from a variety of areas but should provide practical information and/or training for the cluster community. Those interested in submitting tutorials for consideration should submit a 5- to 6-page abstract. Those interested in technical presentations for consideration should submit a 2- to 3-page abstract. For detailed information on submitting papers, presentations, or tutorials, please see the conference Web site:

<http://www.linuxclustersinstitute.org/conferences>

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Topics of interest include (but are not limited to):

Multi-Core Processors	Clusters in Data Centers
Acceleration Coprocessors	New Experimental and Commercial Clusters
Advanced Interconnects	Clusters in Heterogeneous HPC Environments
High-Performance I/O Solutions	System Management and Administration
Unique Methods and Programs for Teaching	Resource Management
Clustered Computing Concepts	Tools for Building and Administering Clusters
Development and Use of Highly Parallel	Scheduling and Load Balancing
Applications	Parallel I/O, File Systems, and Storage
Porting Experiences	Networks, Interconnects, and Protocols
User Environments	Security
Performance Evaluation, Analysis, and	Linux Kernel Modifications or Extensions
Optimization	Meta- and Grid-Computing
High-Performance Applications and Libraries	Middleware for Clusters
Performance Tools	Infrastructure: Space, Power, Cooling
Compilers	Scalability
Clusters and Education	Other OS Strategies in Contrast to Linux
Production Management of HPC Linux Clusters	Visualization

KEY DATES

Papers (refereed)

Paper submission deadline:	Extended: Monday, October 27, 2008
Author notification:	Monday, December 8, 2008
Final paper submission deadline:	Monday, January 12, 2009

Tutorials (half day or full day)

Tutorial submission deadline:	Monday, December 1, 2008
Presenter notification:	Monday, January 12, 2009
Final tutorial materials deadline:	Monday, February 12, 2009

Technical Presentations (abstract only, not refereed)

Presentation submission deadline:	Monday, December 1, 2008
Presenter notification:	Monday, January 12, 2009
Final presentation materials deadline:	Monday, February 16, 2009

Posters (not refereed)

Poster submission deadline:	Extended: Monday, January 26, 2009
Poster notification:	Extended: Friday, January 30, 2009

Technical Briefs (10- to 15-minute presentations on emerging issues)

Brief submission deadline:	Friday, January 16, 2009
Brief notification:	Monday, February 9, 2008

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