Running a Lean and Productive HPC Data Center: SC10 Workshop

November 14, 2010

Michael K. Patterson, Intel
William Tschudi, LBNL
Anna Maria Bailey, LLNL
Marriann Silveira, LLNL
Paul Coteus, IBM
Paul Brenner, Notre Dame
Natalie Bates, Energy Efficient HPC Working Group

Agenda

09:00- 09:05	Introduction/Agenda, Michael K. Patterson, Intel
09:05-09:25	Environmentally-driven Energy Efficient Data Centers, Michael K. Patterson, Intel
09:25- 09:45	LLNL's experiences with power management, Anna Maria Bailey, LLNL
09:45- 10:25	Free cooling at LLNL, NREL and LBNL, Marriann Silveira, LLNL, Michael Patterson, Intel, William Tschudi, LBNL
10:25- 10:45	DC Power Demonstration for HPC, William Tschudi, LBNL
10:45- 11:05	A Computer System vendor’s perspective on Liquid Cooling, Paul Coteus, IBM
11:05- 11:25	ITC/HPC Heat re-use; a case study and perspectives, Paul Brenner, Notre Dame
11:25- 11:35	Energy Efficiency Metrics, Natalie Bates, Energy Efficient HPC Working Group
11:35- 11:55	Looking Ahead Towards Sustainability, Anna Maria Bailey, LLNL
11:55- 12:05	DC Pro Assessment Tools, William Tschudi, LBNL
12:05- 12:15	Closing remarks, Natalie Bates, EE HPC WG
12:15- 12:30	Break (placeholder; will adjust agenda to reflect real break time)

Energy Efficient HPC Working Group

EE HPC WG

- Driving energy conservation measures and energy efficient design in high performance computing.
- Demonstrate leadership in energy efficiency as in computing performance.
- Forum for sharing of information (peer-to-peer exchange) and collective action.

http://eehpcwg.lbl.gov

Sponsored by FEMP

Energy Efficient HPC Working Group

Membership: The Energy Efficient High Performance Computing Working Group is open to all interested parties. Please contact us if you would like to join.

http://eehpcwg.lbl.gov
energyefficientHPCWG@gmail.com
Energy Efficient HPC Linked-in Group

Hope to hear from you soon!
Dale Sartor & Natalie Bates, Co-leads, EE HPC WG

EE HPC WG BoF

Tuesday, 12:15PM - 1:15PM

Birds of a Feather
Energy Efficient HPC Working Group

Room 390

Back-up

Abstract

- Attendees will learn about ways to improve the procurement, operation, and energy efficiency of high performance computing equipment and the facilities that support it. This workshop will draw upon material developed by DOE's Industrial Technology Program and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) and other materials developed by HPC and energy efficiency experts. The ASHRAE-DOE training is intended to provide energy efficiency awareness training to a large number of data center professionals in the US, however, much of the material is relevant to HPC computing and will be tailored to the HPC audience.
- This workshop will provide useful technical information, an introduction to assessment tools, environmental recommendations, best practices, and ideas for future procurements and future efficiency improvements in HPC power and cooling systems. The workshop will look holistically at efficiency opportunities by considering computing equipment and the facility as an integrated computing platform. It will provide an introduction to the use DOE's free DC Pro Tool Suite which can be useful in performing energy assessments on existing HPC facilities, identifying efficiency opportunities, and tracking improvements. The workshop is geared toward HPC professionals including both computer system operators and facility operators