

**Energy Efficient High Performance Computing Working Group**  
*6/12/12 Meeting Report*

**INTRODUCTION**

The EE HPC WG held a meeting on 6/12/12. This Working Group is composed of members representing major Federal departments and independent agencies, private sector representatives, and members of the academic community. More information can be found at the working group's website, <http://eehpcwg.lbl.gov>. Documents from the group can be found at

<https://docs.google.com/leaf?id=0BzyTVVVRdMKpNwVjNTI5YTEtMTIIZi00YTA5LTikMTYtZmY3ZDlyZjJjZmMy&hl=en>.

***NEXT MEETING August 14th, 9:00-10:00AM Pacific Time***

**Introductions and Announcements:** *Dale Sartor, LBNL*

**Conferences Sub-group Update:** *Natalie Bates, LBNL*

- **Future Conferences (more details at <http://eehpcwg.lbl.gov/events-and-links> )**
  - International Supercomputing Conference. June 17-21. Hamburg, Germany
  - ASHRAE Conference. June 22-27, 2012. San Antonio, Texas.
  - GovEnergy. August 19-22. St. Louis, MO.
  - 1st International Workshop on Power Aware Systems and Architectures. Sept 10, 2012. Pittsburg, PA.
  - 3<sup>rd</sup> International Conference on Energy-Aware HPC September 12-14, Germany
  - Supercomputing Conference SC12. November 10-16. Salt Lake City, Utah

**Infrastructure Sub-Group Update:** *William Tschudi, LBNL and Dave Martinez, SNL*

- **Shifting IT Loads.** Bill Tschudi presented a few slides on Total Power Usage Effectiveness (TUE), which is a new metric that refines the Power Usage Effectiveness (PUE) metric by better accounting for power and cooling systems that are included in the IT system. There was some clarifying discussion and a few suggestions. Anyone interested in participating in the Shifting IT Loads team is encouraged to join. Send an email to Natalie Bates as a request to participate.
- **Energy Efficiency Dashboards.** The dashboard team have been working on capturing both IT and facilities recommendations for dashboard/EIS energy efficiency.
- **Commissioning.** Dave Martinez queried if anyone is interested in participating in a commissioning team. Greg Rottman answered that he was very interested.

- **ASHRAE Thermal Guidelines.** Bill Tschudi mentioned that ASHRAE has updated their thermal guidelines. The updated guidelines will be available at – or shortly after – the ASHRAE Conference in June.

**Compute System Sub-group Update: *Natalie Bates, LBNL***

- **HPC System Metrics.** There are five early adopters helping to evaluate and debug the new power measurement methodology used for submissions to the Top500 and Green500. These adopters are Leibniz Supercomputing Center, Calcul Quebec/Compute Canada, Lawrence Livermore National Laboratory, Oak Ridge National Laboratory and Argonne National Laboratory.

EE HPC WG BoF features a panel with Herbert Huber, LRZ, Kim Cupps, LLNL, Susan Coghlan, ANL, and Buddy Bland, ORNL talking about their experiences using the improved power measurement methodology for the June'12 submission to the Top500/Green500. Unfortunately, Calcul Quebec cannot participate in person, but will prepare material for presentation.

***Events of Interest:***

- *Upcoming webinars with dates to be determined are Jim Rogers, ORNL on GPU/Jaguar experience and Barcelona Supercomputer Center on Mount Blanc (exascale proto-type using ARM-type processors).*

***PARTICIPANTS***

<b>Name</b>	<b>Organization</b>
Adam Walters	FNAL
Anita Cocilova	LLNL
Ashley Stevens	ARM Corporation
Axel Auweter	Leibniz Supercomputing Center
Bill Tschudi	LBNL
Bruce Myatt	M+W U.S., Inc.
Dave Martinez	SNL

Dennis Symanski	Electric Power Research Institute
Jared Carr	PNNL
Matt Campbell	UCSD
Natalie Bates	LBNL
Rod Mahdavi	LBNL
Susan Coghlan	ANL

Susan Coghlan, Josip Loncaric, Bill Tschudi, Dave Martinez, Dale Sartor, Natalie Bates, Jim Laros, phil Hughes, marc Parizeau, parks fields, Matt Cambell, Greg Pautsch, Greg Rottman, Steven Fried, Mike Patterson, Ralph Wescott, Joy Gloss

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