Energy Efficient High Performance Computing Working Group
July 20, 2010 Meeting Report

INTRODUCTION

The EE HPC WG held a meeting on July 20, 2010. This WG 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=0BzyTVVVRdMKpNWVjNTI5YTEtMTllZi00YTA5LTlkMTYtZmY3ZDIyZjJjZmMy&hl=en.

NEXT MEETING: September 21, 8:00-9:00 a.m. Pacific Time

Agenda

- Introductions, Outreach and Communication
- Infrastructure Sub-Group Update
- Conferences Sub-Group Update
- Computing Sub-Group Update
- Closure

Name	Due Date	Action Required
All	August 17	Let Bill Tschudi know of vendors/contacts for roadmap projections of power and cooling requirements
Bates	August 17	Post link to "Recommendations for Measuring and Reporting Overall Data Center Efficiency - Version 1 - Measuring PUE at Dedicated Data Centers"
Tschudi/ Bates	August 17	Post link to paper on waste heat as soon as it is published.

EE HPC WG MEETING REPORT

Communications & Outreach Update
Dale Sartor, LBNL

At the ISC conference we got 9 or 10 new members, bringing total membership to approximately 95. A promotional postcard for the WG is available on http://eehpcwg.lbl.gov/documents. Feel free to download it and use it to promote the group.   The WG now has a shorter URL. It is http://eehpcwg.lbl.gov and it now comes up on the top of the page with a Google search.

A group is meeting on Thursday to brainstorm creating a speakers forum. Anyone is welcome to join the brainstorming meeting. Two webinars were held since the last working group meeting. Bill Tschudi and Otto VanGeet spoke on the "FEMP Best Practices Guide for Energy Efficient Data Center Design" and a review session was held with Daniel Ahlin on "Exploring HPC power efficiency on commodity hardware."

Infrastructure Sub-Group Update
Bill Tschudi, LBNL

The Infrastructure Sub-group is in the process of planning a vendor road-mapping session. All major suppliers of equipment will join a webinar and be asked to share their roadmaps on projections of power and cooling requirements in the future. Will they move to liquid cooling? What temperatures will they design to for air or water cooling? If air cooling what delta T will they design in? Will there be variability in the load? Do they see integrating building and IT?   What humidity conditions will they design to? What contamination concerns do they have? If you have a vendor/contact to suggest, please inform Bill Tschudi.

Recently a committee comprised of the Green Grid, 7x24 Exchange, ASHRAE, Silicon Valley Leadership Group, U.S. Department of Energy Save Energy Now Program, U.S. Environmental Protection Agency's ENERGY STAR Program, United States Green Building Council, and the Uptime Institute published a report entitled "*Recommendations for Measuring and Reporting Overall Data Center Efficiency - Version 1 - Measuring PUE at Dedicated Data Centers* ." This report helps to clarify reporting of PUE by providing various reporting categories.   We will post a link to the document on the web site.

The Infrastructure Sub-Group is also looking at ways to get the DCPro tool suite more widely implemented. One idea is to reach out more to data center owners and operators, as well as the design community. Another idea is to build a case for why the tool should be used with a one page flyer describing the benefits of DCPro. Other ideas for carrots and sticks were discussed. The group feels that there needs to be a focus on making the tool work with its current features, and deploying it.

The GreenGrid has a draft paper on the reuse of waste heat. The draft will be released some time shortly. <u>When it is released, we will post it to the website</u>.

Conferences Sub-Group Update
Anna Maria Bailey/Marriann Silveira

SC10 will be November 13-18 in New Orleans. The Conferences Sub-group made a submission that was accepted by the SC'10 Committee to do a Workshop on best practices, environmental requirements, ideas for procurement, etc. Submissions for a tutorial and two panel proposals were rejected. The Conferences Sub-group also submitted proposals for birds-of-a-feather session on EE HPC WG membership outreach and another one on Computing System metrics. We will know if they are approved by August 12.

The tutorial rejected by SC'10, "Measuring your Carbon Footprint," will be presented at the International Green Computing Conference in August.

GovEnergy will be August 15 through 18 in Dallas. This conference's target audience is Federal energy managers and industry that supports them. There will be a DOE/ASHRAE workshop and a session on data centers.

Labs21 is a conference focused on energy efficiency in laboratories. It will be September 28 Albuquerque. This conference will have a data centers workshop and track.

Bill Tschudi notes that DOE/ASHRAE workshops can be hosted by anyone, so if you have a venue in mind and a large enough audience, consider hosting a workshop.

Computing System Sub-Group Update
Natalie Bates for John Schalf/Erich Strohmaier

At the International Supercomputing Conference, there was a birds of a feather session on Computing System metrics. The purpose of the session was to foster a collaboration between the Green Grid, the Top500, the Green500 and the EE HPC WG in developing energy efficiency computing system metrics that will be widely adopted and deployed. Well over 100 people attended.

PARTICIPANTS

Name	Organization
Steve Fried	Microway
Kurt Keville	MIT
Bill Tschudi	LBNL
Natalie Bates	EE HPC WG
Ralph Wescott	PNNL
Paul Brenner	Notre Dame
Greg Hidley	UCSD
Adam Walters	Fermi
Dale Sartor	LBNL
Richard Libby	Intel
Marijke Unger	NCAR
Allison Young	Energetics