

EE HPC Working Group

Meeting Notes

Meeting Date: March 16, 2010
Facilitator: Dale Sartor and Natalie Bates
Location: Phone
Time: 10:30 AM – 12:00 PM Pacific Time
Number of Pages: 6

Action Items	Person Responsible	Due Date
<ul style="list-style-type: none"> • Create shared Google doc site for all members. Communicate link via meeting announcement and minutes 	Natalie	March 23
<ul style="list-style-type: none"> • If anyone has further ideas on more panelists for SC10 HPC Monitoring Session, please contact Anna Maria or Marriann 	All	Mid- April
<ul style="list-style-type: none"> • Write up session proposal for SC10 Energy Efficiency Awareness Training 	Bill, Dale	April 1
<ul style="list-style-type: none"> • All submissions for SC10 Sessions (including 2 short paragraphs on what you would like to talk about) must be sent to Anna Maria and Marriann, who will collect and submit proposals. 	All	April 1
<ul style="list-style-type: none"> • Write up proposal for SC10 Carbon Footprint Regulations and Assessment session 	Otto, Sam	April 1
<ul style="list-style-type: none"> • Post relevant conferences on website and calendar 	Natalie, Anna Maria, Marriann	On-going
<ul style="list-style-type: none"> • Schedule next meeting 	Natalie	March 23

Attendees:

- Bailey, Anna Maria (LLNL)
- Bates, Natalie
- Graves, Sam (Glumac)
- Hammond, Steve (NREL)
- Kasl, Ronald (Univ. of MD)
- Keville, Kurt (MIT)
- Sartor, Dale (LBNL)
- Shalf, John (LBNL)
- Silveira, Marriann (LLNL)
- Seward, John (SLAC)
- Tschudi, Bill (LBNL)
- Van Geet, Otto (NREL)
- Wescott, Ralph (PNNL)
- Jenks, Lillian (Energetics)

Agenda

Num.	Topic	Person (s) Responsible/Briefing
1.	Introductions	Dale Sartor
2.	EE HPC WG Website and LinkedIn Group	Natalie Bates
3.	Conferences Sub- Group Update	Anna Maria Bailey and Marriann Silveira
4.	Infrastructure Sub- Group Update	Bill Tschudi and Otto Van Geet
5.	Computing Sub- Group Update	John Shalf and Erich Strohmaier
6.	Questions/ Comments	Dale Sartor

Minutes

1.	Welcome & Introductions	Dale Sartor
<ul style="list-style-type: none"> • There was a large turnout and a lot of interest generated at Super Computer 09. • This year we will have improved organization (Natalie). • Labs are working with DOE to meet aggressive sustainability and carbon goals; data centers play a major role in that. • Lillian will be helping with meeting administration 		

2.	EE HPC WG Website and LinkedIn Group	Natalie Bates
<ul style="list-style-type: none"> • Natalie distributed the website link this morning: everyone was able to log in. https://sites.google.com/a/lbl.gov/eehpcwg/home • A lot of the material on the website is reused from prior documents. • The Discussions page is a response to feedback about a desire for increased social networking. The LinkedIn Group is a great tool for communications/ discussion groups, and will be helpful for working together without actually needing to meet. In order to utilize this function, you must join LinkedIn and then join the EEHPC group. • Natalie requested feedback on the best way for group members to view the documents. The options were either for everyone to create a google account so that they could see the documents, or to create a google doc site that could only be accessed by a certain link, which Natalie would distribute. The group decided that the google- doc option was better because not everyone could set up a google account. Dale suggested that the link to view the documents could be circulated regularly (even though it will not change), such as in the instruction emails for future conference calls. • The meeting calendar page will have meeting specific information that will be posted and removed before and after every WG meeting. It will also have a google calendar. It was requested that the calendar show information about the Group, Sub-group meetings as well as more general information such as conferences, webinars, etc. • Dale asked if it would be helpful to have everyone in the HPC working group’s contact info on the site? The group decided that it should be there, but in the private area. No one on the call had concerns about contact info being shared. 		

3.	Conferences Sub- Group Update	Anna Maria Bailey and Marriann Silveira
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- Provided an update on 4 sessions for the upcoming SC10 Conference this November.
- There will be a LEEDS/Energy Star Certification session with four groups (University of Illinois, Energy Star Program, ORNL and LLNL)
- The second session is an HPC monitoring session. They asked for feedback on where we want to move forward with this. As of right now, they are primarily focused on power management from the rack through the facility level. Marriann has spoken to someone from Microsoft's OSISO to see if they would be willing to present. Someone else mentioned that they have seen something about a new joint committee with IBM and Johnson Controls. This group has been contacted to see if they could send someone to be on the panel. Other possible leads for panelists are: looking into the science side of system administration in labs/ universities and contacting Microsoft about use of OSISO as a demand response tool. Bill volunteered to get in touch with a contact at IBM. If anyone has further ideas on more panelists please contact Anna Maria or Marriann. They reiterated that we are looking for people on the HPC side, not the enterprise side.
- The third session is the Energy Efficiency Awareness Training Session (workshop not panel). This will be facilitated by Bill, Dale, ASHRAE, and DOE. As of now, they are undecided on the duration of the session (half day/ whole day). They want to focus on the level of admins and not just the facilities level.
- The fourth session will be on Liquid Cooling Strategies and Power Conversion. They are currently working on getting participants, and are going to ask IBM if they would be interested. This session will be focused on how we get from just doing liquid cooling to doing it effectively.
- They requested input on any other areas that we might want to have a session on. Natalie brought up the possibility of holding an informational tutorial on how to measure your carbon footprint. We would need to figure out who we should get to do this, whether it should be a full session a segment of the efficiency awareness. Otto and Sam agreed to look into writing up a proposal and hosting a session.
- Ronald brought up the point that the incentive for lower carbon outputs at Universities doesn't trickle down to people who are actually working on it. He suggested having a representative from DOE and AASHE to talk about their goals on more of a policy level than a technical level.
- All submissions needs to be in by April 1st. You must include a couple of paragraphs on what you would like to talk about. Anna Maria and Mariann will collect and submit proposals.
- Natalie will post other conferences if people in group are presenting (Anna Maria will send info to Natalie)

4.	Infrastructure Sub- Group Update	Bill Tschudi and Otto VanGeet
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- First discussion concerned an effort to identify a metric to quantify waste heat, as the PUE metric is insufficient. Michael Patterson (Intel) is the primary contact for the waste heat utilization metric. They are also working on a white paper to explain how this metric will work. If you can use waste heat to do something useful, then there could be major implications for increased efficiency. Once the white paper is complete it will be shared with everyone (they will send it to Natalie to put on the documents list of the website).
- For more information on schools that are involved with Association for the Advancement of Sustainability in Higher Education, visit AASHE.org.
- They provided an update on the attempt to harmonize the metrics used by various groups. DOE, EPA, Green Grid, ASHRAE, USGBC and Silicon Valley Leadership Group met in January 2010 to discuss this. They decided on PUE (plan to de-emphasize DCiE). They agreed to get a task force together to determine PUE and different accuracy levels of PUE. There was a similar meeting around the same time between DOE, EPA, the European Code of Conduct, and several Japanese organizations which dealt with the same harmonization of metrics but on more global scale.
- Announced that all DOE sites should use the assessment tool DC pro. There is an April 5 webinar at 10:00AM Pacific Time for training purposes.
<https://www1.gotomeeting.com/register/176947345>
- NREL and LBNL have developed best practice guide for data centers (not specific to HPC) with FEMP's assistance. It can be found at:
<http://www1.eere.energy.gov/femp/pdfs/eedatacenterbestpractices.pdf>. Bill and Otto are happy to walk people through it on a later date. Please review the document and to distribute widely. Send any feedback to Bill or Otto.
- They are also working on a Programming Guide that will provide key points that owners would want to be identified at the upfront stage of a project. It is currently under development and should be finished in the next month or two.
- Requested input on what this group should be looking at in the future. One suggestion was the blurring of lines between facilities and it equipment/ power supplies (esp. fans, cooling). Also discussed the move to develop equipment that would withstand higher temperatures, and how the group could encourage this. Bill and Otto noted that there is a section related to this in the best practice guide.

5.	Computing System Sub- Group Update
	<ul style="list-style-type: none"> • Will discuss at next meeting.

6.	Closing Comments/ Discussion
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- Reminder that everything that needs to be posted to the website should be sent to Natalie.
- There was a request for more email discussion, in addition to the conference calls. It was noted that this is the purpose of the LinkedIn EEHPC Discussion Group.
- John Steward brought up the issue of the need to determine if we can exclude high performance computing centers from carbon counting. All current indications are that it will not be able to be excluded. Dale added that we need to work on establishing the right baseline. We need to be honest that the computational output will go up. Also raised the question of what the metric of computational output from super computer centers is?
- The next meeting will be in two months. Natalie will work on fixing a regular time and date, however it will most likely be on a Tuesday at 10:30am in two months.

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