EEHPCWG Workshop Introduction

Torsten Wilde, Leibniz
Supercomputing Centre (LRZ)

8th Annual EE HPC WG Workshop, SC17 Denver, Colorado
https://eehpcwg.llnl.gov/pages/conf_sc17a.htm

Thanks

Thanks to all:

- Workshop organizers
- Speakers
- Booth organizers and sponsors
- Booth volunteers

Workshop Agenda

- 9:00 Opening Remarks, Introductions, Agenda
- 9:15 Keynote – Arthur S *Buddy* Bland, ORNL
  - "Lessons Learned in 40 Years of HPC"
- 10:00 Morning Break
- 10:30 State of the WG
  - Team reports –current activities, deliverables, next steps, help needed, impacts of the work
  - EEHPCWG Next Steps and Direction – Where to next?
  - SC Primer – what else to do… BoF, Panels
  - Industry Links, Activities, and Collaboration
- 11:20 Operations Lessons Learned & Energy Efficiency
  - Case Studies/Panel with: NERSC, RIKEN, Cineca, & STFC
- 12:00 Lunch - Facilitated Discussion Tables
  - 1) Liquid Cooling, 2) System Power Measurements, 3) Reliability Availability, Serviceability (RAS), and 4) SW Stack Efficiency
- 13:30 The Power Grid
  - Site Specific updates; ORNL, LRZ, LANL, LLNL, NREL
  - What you need to know about the power grid ***before*** adding a 10 MW step-function load generator – Ben Kroposki, NREL
- 15:00 Afternoon Break
- 15:30 DOE's Path Forward and getting to Exascale - Jim Ang, Sandia NL
- 16:00 Software Stack & it's implications to Energy Efficiency - Case Studies & Panel with:
  - GEOPM at LRZ
  - READEX Update and Results
  - Energy-efficient HPC: A full system story
- 17:20 Closing Remarks

EEHPCWG Booth Schedule

- **Liquid Cooling:** Tuesday and Wednesday 10:30 to Noon
- **Reliability, Availability, Serviceability and Maintainability:** Tuesday and Wednesday 2:00-3:00
- **Software and Energy Efficiency:** Wednesday 11-noon and 3:00-4:00

Keynote

Arthur S. *Buddy* Bland, ORNL

"Lessons Learned in 40 Years of HPC"

Buddy Bland is the Program Director for the Oak Ridge Leadership Computing Facility at Oak Ridge National Laboratory. In his 40 years of working in HPC, he has been responsible for systems such as the Cray 1, IBM SP, Intel Paragon, KSR-1, Cray X1, as well as Jaguar and Titan which were each number one on the Top 500 list of the world's fastest computers. He is currently the project director for the Summit supercomputer being installed at ORNL and working on the specifications for ORNL's Exascale system.