



HPC User Forum Agenda

54th HPC User Forum

September 15-17, 2014 – Seattle, Washington

Meeting Sponsors: Intel, HP, Altair, AMD, Bright Computing, Cray, Mellanox, Panasas, SUSE, and Terascale

Monday, September 15, 2014

5:00pm Registration Starts

6:30pm Welcome Dinner Reception and Short Vendor Technology Updates

Tuesday, September 16, 2014

7:15am Networking Breakfast

8:00am Meeting Welcome and Announcements

- Chairman's Welcome (Jim Kasdorf) and Our New Chairman (Paul Muzio)

8:15am HPC Market Update and IDC's Top Growth Areas for 2014 and Beyond, Earl Joseph, Steve Conway and Chirag Dekate

Session Chair: Steve Conway

8:30am **Focus Area: HIGH PERFORMANCE DATA ANALYSIS**

This session will showcase examples of data-intensive HPC ("big data")

- Building Scalable Technologies for Semantic Analysis, John Feo, Pacific Northwest National Laboratory
- Real-Time Geospatial Rendering Project, Amit Vij and Nima Neghaban, GIS Federal
- Update on HPC at PayPal, Arno Kolster and Ryan Quick, PayPal

10:00am to 10:30am Break

- Commercial Firms Exploiting Multi-Cluster Grids for HPC, Charlotte Crain, SAS
- Using Genomic Sequencing and HPC to Help Save The Lives of Critically Ill Children, Shane Corder, Center for Pediatric Genomic Medicine
- HPC in the Life Sciences, Jack Collins, National Cancer Institute

12:00pm HPC Vendor Technology: Update on IBM-Lenovo Deal, Brian Connors, IBM

12:15pm Networking Lunch

Session Chair: Jim Kasdorf

1:00pm **Technology Focus Area: CLOUD COMPUTING**

- New Developments in HPC Cloud Computing, Tim Carroll, Cycle Computing
- Update on HPC Use on AWS, David Pellerin, AWS
- Predictable Performance and Secured HPC Cloud Services through IBM Platform Computing, Charlie Gonzales, IBM
- Revolutionizing Innovation With On-Demand HPC, Steve Legensky, Intelligent Light
- Enterprise HPC on Microsoft Azure, Alex Sutton, Microsoft

2:45pm HPC in Poland, Marek Niezgódka, ICM/University of Warsaw

3:15pm Break

3:45pm **Emerging HPC Requirements and Major Trends Panel** -- Panelists will describe the top trends/factors that will influence the future of HPC. Moderator: Steve Conway

4:30pm **Disruptive Technologies Panel** -- Panelists will briefly present potentially disruptive technologies. Moderator: Earl Joseph

5:15pm Networking Break and Time for 1-on-1 Meetings

6:30pm Special Dinner Event at the Museum of Flight – Buses leave at 6:00pm and 6:15pm



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Wednesday, September 17, 2014

7:15am Networking Breakfast

8:00am Welcome: Jim Kasdorf, Earl Joseph and Steve Conway

Session Chair: Paul Muzio

8:05am **Focus area: ACCELERATORS/COPROCESSORS**

- Industrial achievements on Blue Waters Using CPUs and GPUs, Seid Koric, NCSA
- Development of Intel MIC Codes in NWChem, Edoardo Apra, Pacific Northwest National Laboratory
- Experiences Using Intel Phi Coprocessors, Troy Porter, Stanford University
- Experiences Using Accelerators at ORNL, John Turner, ORNL

10:00am to 10:30am Break

- Initial Experiences Programming Xilinx Virtex-6 FPGAs Inside Convey's HC01ex, Stephen Bique, Naval Research Laboratory
- Memory-Driven Near-Data Acceleration, Jan van Lunteren, IBM Research Labs, Zurich
- Advancing Science In Alternative Energy and Bioengineering With Many-Core Processors and Accelerators, Michael Brown, Intel
- Use of Many-Core Processors with the Berkeley GW Code, Jack Deslippe, Lawrence Berkeley National Laboratory

12:15pm Networking Lunch

1:15pm **Focus area: LEADERSHIP COMPUTING – TODAY AND LOOKING FORWARD**

- Cori: The NERSC-8 System, Jay Srinivasan, NERSC
- Ready for Takeoff or Preparing for a Soft Landing: HPC at HLRS and in Germany, Michael Resch, HLRS/University of Stuttgart
- Multiphase Flow Modeling and Simulation: HPC-Enabled Capabilities Today and Tomorrow, Igor Bolotnov, North Carolina State University

2:45pm to 3:15pm Break

- HPC Directions at Boeing, Mark Anderson, Boeing
- Bits, Bytes and BTUs: Warm Water Liquid Cooling at NREL, Steven Hammond, NREL
- Results of Study Comparing Liquid Cooling Methods, Jon Summers, University of Leeds
- Update on Trinity System Procurement and Plans, Manuel Vigil, Los Alamos National Laboratory

5:00pm Meeting Wrap-Up, Jim Kasdorf, Paul Muzio, Earl Joseph and Steve Conway