HP-CAST

HP Consortium for Advanced Scientific and Technical Computing
World-Wide User Group Meeting
ISS Hyperscale and HPC Organization
The Westin Hotel Leipzig

HP-CAST 22

Draft Agenda V1.8
(Session details, speakers and chairs are subject to change without notice)

Thursday, June 19th – Registration & Get-Together

17:00 – 22:00	***Registration***
17:00 – 22:00	***Welcome Reception for All Attendees***

Friday, June 20th – Conference Section

08:00 – 18:00	***Registration***

	HP-CAST Board and HP Executive Updates	
08:15 – 09:45	**HP-Liaison and Board Representative** **HP-CAST President** **HP Executive Updates:** **Worldwide HPC-Business Review and Outlook and HP's Strategy**	**Frank Baetke, HP** **Rudolf Lohner, KIT/SCC** **Alain Andreoli, VP and GM, HP** **Scott Misage, GM, HP**
09:45 – 10:15	***Break***	
	HP Platforms, Products and Roadmap for HPC and Scalable Computing	
10:15 – 10:40	**Next Generation Liquid-cooled Scalable Systems – Architecture Details and Roadmap**	**Craig Yamasaki, Rajiv Thakkar, HP**
10:40 – 11:05	**Next Generation Air-cooled Scalable Systems – Architecture Details and Roadmap**	**Mai Nguy, HP**
11:05 – 11:30	**Moonshot – Architecture, Solutions and Future**	**Gerald Kleyn, HP**
11:30 – 11:50	**Additional HPC-relevant Products and Server Families Wrap-up**	**Ed Turkel, HP**
11:50 – 12:15	**Q&A Session with all Participants**	**Ed Turkel et al., HP**

12:15 – 13:30	***Lunch***

Friday, June 20th – Conference Section cont.

	Invited Customers Lectures & Key Customer Site Updates	
13:30 – 14:00	**HPC in the Arctic – An Update from HP's Most Northern University HPC-Site**	**Roy Dragseth, Svenn Hanssen, University of Tromsø**
14:00 – 14:30	***Experiences with the 5.6 PFlop/s System Tsubame 2.5 at the Tokyo Inst. of Technology***	**Toshio Endo, GSIC Center, Tokyo Institute of Technology**
14:30 – 14:50	**Accelerator-Supported Parallel Computing in Modern Radiation Oncology**	**Peter Ziegenhein, Institute of Cancer Research (ICR)**
14:50 – 15:00	**Short New Site Updates**	**N. N.**
	Focus on HPC Clouds	
15:00 – 15:15	***Converged Clouds – A New Approach towards HPC***	**Thomas Goepel, Deborah Martin, HP**
15:15 – 15:30	**The UberCloud - The Fourth Dimension of HPC**	**Wolfgang Gentzsch, The UberCloud**
15:30 – 16:00	***Break***	
	Technology Keynotes – Focus on Exascale Computing	
16:00 – 16:35	**Towards Exascale Computing – Opportunities and Challenges**	**Mark Seager, Intel**
16:35 – 17:10	***The Role of GPUs on the Road to Exascale Computing***	**Steve Oberlin, NVIDIA**
17:10 – 17:45	**Photonics, Memristors and Other Building Blocks on the Road to Exascale Computing**	**Dwight Barron, HP**
17:45 – 18:00	**Conference Closing Session: Evaluation of Questionnaires & General Q&A.**	**Rudolf Lohner, KIT Frank Baetke, HP**

19:30 - 23:00	***Gala Dinner for HP-CAST Attendees "Gondwanaland"***

Saturday, June 21st – Tutorial and SIG Section

08:00 – 09:00	**Tutorial A1: Intel and the Future of HPC** ***Attention: ATTENDANCE RESTRICTIONS MAY APPLY*** ***On Intel's Future HPC Strategy: Processors, Coprocessors, Fabrics, Tools and Much More ...***	**Chair: Stephan Gillich, Intel** **Thor Sewell, Joe Yaworski, Intel**
09:00 – 10:00	**Tutorial A2: GPU Technology Tutorial** ***Attention: ATTENDANCE RESTRICTIONS MAY APPLY*** ***GPU Hardware and Software Trends***	**Chair: Olivier Blondel, NVIDIA** **Timothy Lanfear, Steve Oberlin, NVIDIA**
08:00 – 08:45	**Tutorial B1: HPC Storage System Components** ***HP Storage Portfolio: System Components and Subsystems for High Performance and Reliability***	**Chair: Dick Bland, HP** **Dale Degen, Dick Bland, HP**
08:45 – 10:00	**Tutorial B2: Focus on Future Development, Deployment and Support of LUSTRE®** ***Seagate's Future HPC and Lustre® Strategy*** ***Future Development, Deployment and Support of Lustre® / Hadoop (30)*** ***EOFS (European Open File-System Society) - Objectives and Planned Activities*** ***Open Scalable File Systems - A Lustre® Community Update***	**Chair: Dick Bland, HP** **Michael K. Connolly, Seagate (tbc)** **Brent Gorda, Intel** **Hugo Falter, ParTec** **N.N., OpenSFS**
08:00 – 10:00	**Tutorial C1/2: Workflow Management & Clouds** **New Allocation Management Capabilities with PBS Professional** **Workload Management in the Largest Scale, Commercial HP HPC Environments** ***Running CAD, CAE and Other 3D Applications in Your Technical Cloud*** **Efficient managing of a heterogeneous HPC cluster** ***Leverage HP Cloud Platforms with Moab Cloud Optimizer for Technical Computing*** ***Cloud infrastructure for education***	**Chair: Jean-Luc Assor, HP** **Graham Russell, Altair Engineering** **Fritz Ferstl, Univa** **Nicola Venuti, NICE Software** **Mark Vilensky, Weizmann Institute** **N.N., Adaptive Computing** **Imre Szeberenyi, Budapest University of Technology and Economic**
08:00 – 10:00	**Tutorial D1/D2: Interconnects Technologies, Shared Memory Environments and Related Tools** ***On-Demand Shared-memory Infrastructure*** ***Mellanox InfiniBand roadmap to 100Gb/s*** ***Intel® High Performance Fabrics – Today and Tomorrow*** ***EXTOLL – Extreme low latency Interconnect Fabric*** ***Mellanox-HP solutions for Scalable HPC*** ***Development Tools Considering that Target is Moving***	**Chair: Patrick Demichel, HP** **Benzi Galili, ScaleMP & N.N., Computing Center Croatia** **Gilad Shainer, Mellanox** **Joe Yaworski, Intel** **Ulrich Brüning, University of Heidelberg** **Gilad Shainer, Mellanox** **Jacques Philouze, Allinea**

10:00 – 10:30	***Break***

Saturday, June 21st – Tutorial and SIG Section cont.

10:30 – 11:30	**Tutorial A3: Experiences with Applications Tuned for Intel Coprocessors and NVIDIA GPUs** ***Tutorial on Profiling Accelerated Code with Allinea MAP on Intel Xeon Phi: Learn how to Quickly Discover the Bottlenecks without Pain*** ***Experience with Applications Tuned for Xeon Phi*** ***Outstanding Performance Using the Latest NVIDIA GPUs in HP Z820 Workstations and SL Servers***	**Chair: N.N., HP** ***N.N., Allinea*** ***N. N.*** **Ron Young, Multipath**
11:30 – 12:30	**Tutorial A4: Accelerators & Coprocessors: Software Development Environments** **OpenCL Acceleration Success Stories and Direction** **Investigations on Open CL Performance on Altera Architectures** **FPGA Acceleration using OpenCL Acceleration** ***Software Libraries*** ***Debugging Code Developed for Heterogeneous and Many-core Architectures with TotalView***	**Chair: N.N., HP** **Mike Strickland, Altera** **André Brahmann, Helmut Schmidt University** **Craig Petrie, Nallatech** **John Melonakos, AccelerEyes** **N.N., Rogue Wave *(tbc)***
10:30 – 12:30	**Tutorial B3/4: HPC and Big Data Storage- and Parallel File-systems** ***The Fraunhofer Parallel Filesystem*** ***Fully Distributed Object-Based Storage for Exascale*** ***Advanced Storage Infrastructure Management and Monitoring*** ***Next Generation File and Cloud Storage*** **ActiveStor: Hybrid Scale-Out NAS Designed for HPC & Big Data** ***Parallel File Systems – A Critical Review (15)***	**Chair: Dick Bland, HP** **Franz-Josef Pfreundt, FhG/ITWM (Fraunhofer Society)** **N.N., Scality *(tbc)*** **N.N., Seagate *(tbc)*** **N.N., DDN** **Geoffrey Noer, Panasas** **Brent Gorda, Intel**
10:30 – 12:30	**Tutorial C3/4: Insight CMU: Cluster Management Utility** ***What is New in 7.1, What is Cooking in 7.2 and What Comes Beyond?*** **Enhancing Cluster Management with the PBS Works Suite** ***Optimize HPC Performance with Adaptive Workload Optimization Pack***	**Chairs: N.N., HP** **N.N., HP** **Scott Suchyta, Altair Engineering** **N.N., Adaptive Computing**
10:30 – 12:30	**Tutorial D3/4: Architecture, Cartridges and Development Environments for Moonshot** ***Moonshot Server Architectures and Software Environments*** **Kalray MPPA-256 scalable compute cartridge: An efficient architecture applied to MoonShot** ***AMD's Dense Computing Solutions for HPC*** ***The benefits of an ARM server with DSP for acceleration***	**Chairs: Patrick Demichel, HP** **Gerald Kleyn, HP** **Christian Chabrerie & Benoît Ganne, Kalray** **N.N., AMD *(tbc)*** **N.N., Texas Instruments *(tbc)***

12:30 – 13:30	***Lunch***

Saturday, June 21st – Tutorial and SIG Section cont.

13:30 – 14:30	**Visualization SIG** NICE DCV: Versatile Remote 3D Solution enabling the Private Cloud *Enhance Data Results with Moab's Remote Visualization*	**Chair: Glenn Lupton, HP** Karsten Gaier, Nice Software N.N., Adaptive Computing
13:30 – 14:30	**Energy, Cooling & Infrastructure SIG** *The Future Data Center - More Efficient with Power Management Patents*	**Chair: Nic Dube, HP** N.N., Adaptive Computing
13:30 – 14:30	**Cloud & Grid SIG** Addressing Mission-Critical Requirements in a Large Scale Supercomputing Environment	**Chairs: Ed Benson, HP** Graham Russell, Altair Engineering
13:30 – 14:30	**CMU (Cluster Management Utility) SIG** Addressing Workload and Cluster Management Challenges with the HP Insight CMU PBS Connector *Adaptive Workload Optimization Pack*	**Chair: Bill Celmaster, HP** Scott Suchyta, Altair Engineering N.N., Adaptive Computing
13:30 – 14:30	**Language & Programming SIG**	**Chair: Ed Benson, HP**

14:30 – 15:00	*Break*

15:00 – 17:00	**Large System SIG Session** Open Discussion of Progress, Suggestions, Issues and Problems	**Chairs: Gary Skouson, PNNL & Scott Misage, HP** Large Site Customers and Representatives (Restricted Attendance)

17:00	*HP-CAST 22 Adjourn*

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