

HP-CAST

High Performance - Consortium for Advanced Scientific and Technical Computing
World-Wide HPC and Big Data User Group Conference
Hewlett Packard Enterprise - Datacenter Infrastructure Group (DCIG)
Radisson Blu Hotel, Franklinstraße 65, 60486 Frankfurt, Germany

HP-CAST 28

Supported by:



Draft Agenda V2.5

Please note: All session details are subject to change without further notice

Thursday, June 15th – Registration & Get-Together

18:00 - 22:00	Registration & Welcome Reception
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Friday, June 16th – Conference Section

08:00 - 18:00	Registration	
	HP-CAST Board and Executive Updates	
08:00 - 08:15	HPE-Liaison and Board Representative HP-CAST / SGIUG Presidents	Frank Baetke, HPE Rudolf Lohner, KIT/SCC Ryan Quick, PayPal
08:15 - 09:15	HPE Executive Updates: Business Trends, Strategy and Portfolio	Bill Mannel, Stephen Wheat, Gabriel Broner, HPE
09:15 - 09:30	Executive Guest Speaker: Update on the Intel/HPE Alliance	Trish Damkroger, Intel
	Invited Keynote Lectures	
09:30 - 10:00	Tsubame 3.0 - A New 47 AI-PFLOPS System for HPC and AI Convergence	Satoshi Matsuoka, Tokyo Institute of Technology
10:00 - 10:30	A new Petascale HPC System at BASF	Stephan Schenk, BASF
10:30 - 11:00	Progress & Experience with a Peta-scale System for Aerospace and Astronomy	N. N.
11:00 - 11:30	Break	
	HPE Product Updates and Roadmaps	
	>>> Attention: Participation restrictions apply!	
11:30 - 12:15	Roadmap Updates and Positioning of HPE's HPC and Big Data-relevant Product Lines	Craig Yamasaki et al., HPE
12:15 - 12:30	Comparative Analysis of Different Machine Learning Solutions ...	Sorin Cheran, HPE
12:30 - 12:45	HPC Cloud and HPC as a Service (HPCaaS) – Concepts and Implementations	Jean-Luc Assor, Gallig Renaud, HPE

Friday, June 16th – Conference Section

12:45- 14:00	Lunch
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Invited Customer Lectures and Case Studies: Segments and Solutions		
14:00 - 14:20	Energy-efficient HPC with Apollo 8000 – A Status Update	Marek Magrys, Cyfronet
14:20 - 14:40	Experiences with a Peta-scale Water-cooled System in Production	N. N., Regional HPC Center
14:40 - 15:00	HPC Progress in Car- and Engine Design	N. N., Automotive Customer

European HPC Strategy		
15:00 - 15:15	Europe’s HPC Strategy and the Path to Exascale	N. N., European Commission

15:15- 15:45	Break
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Key Partner Technology Updates		
15:45 - 16:10	Intel’s Processors, Accelerator, Storage, Interconnect Strategy and Roadmap	Mark Seager, Intel
16:10 - 16:30	NVIDIA Technology and Roadmap Assessment – Special Focus on AI and Deep Learning	Bob Crovella et al., NVIDIA
16:30 - 16:45	Key Partner Technology Update	N.N.

Keynotes – Beyond HPC, The Machine, Gen-Z & Exascale		
16:45 - 17:10	HPC, HPA and AI - Relationships and Potential (Note: HPA = High Performance Analytics)	Eng Lim Goh, HPE (tbc)
17:10 - 17:45	Towards Exascale Computing – An in-Depth Assessment of HPE’s High-End Computing Strategy and the Open Interconnect Technology “Gen-Z”	Mike Vildibill, HPE Paolo Faraboschi, HPE Labs Nic Dubé, HPE
17:45 - 18:00	HP-CAST Elections Plenary Closing Session	Frank Baetke, HPE

19:00- 23:00	Gala Dinner for HP-CAST 28 Participants
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Saturday, June 17th – Tutorial Section

This section will be run as four parallel break-out sessions

TRACK “A”: Accelerators, Processors, Software Environments (4h)		
08:00 - 08:45	<p>>>> Attention: Participation restrictions may apply</p> <p>Tutorial A1: Intel® Processor and Technology Update</p> <p>NDA Overview of Upcoming Roadmap of Key Compute and Related Fabric Products: Xeon, Phi, OPA and AI</p>	<p>Chair: Trent Boyer, Intel</p> <p>Thor Sewell, Joe Yaworski, Brent Gorda, Intel</p>
08:45 - 09:30	<p>>>> Attention: Participation restrictions may apply</p> <p>Tutorial A2: NVIDIA GPU an Technology Update</p> <p>Strategy, Roadmap and Product Overview</p>	<p>Chair: Oguz Oguzhan, NVIDIA</p>
09:30 - 10:00	<p>>>> Attention: Participation restrictions may apply</p> <p>Tutorial A3: AMD Processor and GPU Technology Update</p> <p>Strategy, Roadmap and Product Overview</p>	<p>Chair: Jean-Christophe Baratault, AMD</p> <p>Greg Stoner, AMD</p>
10:00 - 10:30	Break	
10:30 - 11:00	<p>>>> Attention: Participation restrictions may apply</p> <p>Tutorial A4: ARM Processor Technology Update and Roadmap</p> <p>ARM, an Architecture for HPC Implementation of an ARM Processor for HPC</p>	<p>Chair: N. N., ARM</p> <p>Chris Goodyer, ARM Larry Wikelius, Cavium</p>
11:00 - 11:20	<p>Tutorial A5: Application-Specific Accelerators</p> <p>FPGA Breakthroughs for Data Center Acceleration</p>	<p>Chair: Patrick Demichel, HPE</p> <p>Mike Strickland, Intel</p>
11:20 - 11:40 11:40 - 12:00 12:00 - 12:20 12:20 - 12:30	<p>Tutorial A6: S/W Environments, Development and Optimization Tools</p> <p>Tools for Parallelism and Performance Extending Debugging Capabilities: How to Debug AI Mixed Python/C++ Code FPGA Acceleration using OpenCL General Q&A Session – S/W for Accelerators</p>	<p>Chair: Patrick Demichel, HPE</p> <p>Patrick Wohlschlegel, Allinea/ARM Nikolay Piskun, RogueWave Software Craig Petrie, Nallatech All Attendees</p>
TRACK “B”: Big Data, Parallel File Systems, Object Storage and Data Analytics (4h)		
08:00 - 08:40 08:40 - 09:00 09:00 - 09:20	<p>Tutorial B1: Apollo 4000 & LUSTRE® for HPC</p> <p>Focus on Big Data Solutions – Highlighting the Apollo 4000 Family</p> <p>NVM Burst Buffers for Luster The Evolving Lustre* Landscape</p>	<p>Chair: Craig Yamasaki, HPE</p> <p>Nikola Karandjulov, HPE</p> <p>Andrey Kudryavtsev, Intel Brent Gorda, Intel</p>
09:20 - 09:40 09:40 - 10:00	<p>Tutorial B2: Parallel File Systems and Big Data</p> <p>The Role of Parallel File Systems in the Era of Burst Buffer and Exascale BeeGFS and BeeOND – Progress and Experience</p>	<p>Chair: Nikola Karandjulov, HPE</p> <p>Gabriele Paciucci, Intel</p> <p>Franz-Josef Pfreundt, FhG/ITWM (Fraunhofer Society)</p>
10:00 - 10:30	Break	
10:30 - 10:50 10:50 - 11:10 11:10 - 11:30 11:30 - 11:50	<p>Tutorial B3: Parallel File Systems, Object Storage and Related Topics</p> <p>Use Cases for Asynchronous Replication in High Performance File Systems The Seven Tenets of Good Archiving Using Flash to Intelligently Accelerate HPC Workloads TBA</p>	<p>Chair: Nikola Karandjulov, HPE</p> <p>Jan Heichler, DDN</p> <p>Matthew T. Starr, SpectraLogic Torben Kling Petersen, Seagate Brad King, Scality</p>
TRACK “V”: Visualization for HPC (1h)		
11:50 - 12:30	<p>Tutorial V: Visualization in HPC Environments</p> <p>Overview over Intel’s Software Defined Visualization Technologies (20)</p>	<p>Chair: N. N., HPE</p> <p>Ingo Wald, Intel</p>

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TRACK “L”: Large Scale Shared Memory Implementations and Systems (1h)		
08:00 - 08:20	Tutorial L: Super-Dome X and Virtual Shared Memory Solutions The Future Data Center: Disaggregated and Composable Computing Architectures	Chair: Jean-Michel Argenville, HPE Benzi Galili, ScaleMP
08:20 - 09:00	SuperDome X and MC 990 X Systems: Architecture and Examples of HPC Infrastructures with Large Scale SMPs	Michael Woodacre, HPE

TRACK “P”: Proliant Servers for HPC (1h)

09:00 - 10:00	Tutorial P: Proliant Server Update	Chair: N. N., HPE
10:00 - 10:30	Break	

TRACK “O”: Apollo Mainstream HPC (1h)

10:30 - 11:30	Tutorial O1: Compact Apollo Servers	Chair: N. N., HPE
11:30 - 12:30	Tutorial O2: Apollo 6000 / 6500 HPC Servers	Chair: N. N., HPE

TRACK “C”: Clouds for HPC (2h)

08:00 - 08:20	Tutorial C1: Clouds for HPC HPC as a Service (HPCaaS)	Chair: N. N., HPE Jean-Luc Assor, Gallig Renaud, HPE
08:20 - 08:40	Implementation of Cloud Resources in two HPE Centers of Excellence at Advania in Iceland and Bangalore	Wolfgang Gentzsch, The UberCloud
08:40 - 09:00	Cloud Lifestyle Challenges – Dead is not an Option	Kenneth Tan, Sardina Systems
09:00 - 10:00	Tutorial C2: Clouds for HPC Cloud Bursting for Major HPC (20) PBSCloud.io – Put your HPC Cloud under Control (20)	Chair: N. N., HPE Andrew Cusick, Dave Hanlon, HPE Jérémie Bourdoncle, Altair
10:00 - 10:30	Break	

TRACK “S”: HPE Software Environments - HPC Middleware and Solutions (2h)

10:30 - 11:00	Tutorial S1: HPE Software for HPC Management Tools: Insight CMU, OneView, iLO, APM, and Others	Chair: Leslie Tung, HPE Lacey McGee et al., HPE
11:00 - 11:30	Future HPC Software Stack Discussion	Lacey McGee et al., HPE
11:30 - 12:30	Tutorial S2: HPE Software for HPC Part 2 Full Integration of The UberCloud Application Containers with HPE’s Cloud SW Stack (20) Intel Parallel Studios Update – Compilers and Tools for HPC (20)	Chair: Leslie Tung, HPE Wolfgang Gentzsch, The UberCloud Bill Magro, Intel

12:30 - 13:30	Lunch	
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TRACK “I”: Interconnect Technologies – Current and Future Products and Standards (2h)

13:30 - 13:50	Tutorial I1: Interconnect Technologies Next Generation of Co-processors Emerges – In-Network Computing	Chair: Nic Dubé, HPE Gilad Shainer, Mellanox
13:50 - 14:10	HPC Fabric Update: Intel Omni-Path Architecture	Joe Yaworski, Intel
14:10 - 14:30	<i>An Innovative European Interconnect</i>	N.N., Extoll

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14:30 - 15:30	Tutorial I2: The Future Standard Gen-Z	Chair: Nic Dubé, HPE
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TRACK “D”: Data Analytics and Machine Learning (1h)

13:30 - 13:50 13:50 - 14:10 14:10 - 14:30	Tutorial D1: Data Analytics and Machine Learning Using Apollo 6500 in Data Analytics Intel Solutions for Artificial Intelligence Enabling the Future of Machine Learning Applications	Chair: N. N., HPE N. N., HPE Thor Sewell, Intel Gilad Shainer, Mellanox
14:30 - 14:50 14:50 - 15:10 15:10 - 15:30	Bright for Deep Learning: How to Build an Enterprise-Grade Deep Learning Environment Business Transformation Utilizing AI/DL FlyElephant for Data Science and Hybrid Infrastructure	Lee Carter, Bright Computing N.N., NVIDIA Dmitry Spodarets, FlyElephant

TRACK “H”: Apollo High End HPC Product Update – Apollo 8xxx (1h)

13:30 - 14:30	Tutorial H1: High End Product Family Update and High End HPC Experience	Chair: N. N., HPE
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TRACK “M”: Architecture, Cartridges, Software and Applications for Moonshot (1h)

14:30 - 15:30	Tutorial M: Moonshot Technology Update Moonshot Update: New Solutions, Performance Measurements and Roadmap	Chair: N.N., HPE Sorin Cheran et al. , HPE
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TRACK “W”: Workflow Solutions for HPC (2h)

13:30 - 13:50 13:50 - 14:10 14:10 - 14:30	Tutorial W1: Workflow and Data Center Automation for HPC Access, Control, and Optimize HPC – Stronger, Faster, Better with PBS Pro! Time Series Challenge for Data Center Automation: Shove a Whole Load of Data in, Get stuff Out Sensibly Singularity: Containers for Science and HPC	Chair: N. N., HPE Bill Nitzberg, Altair Anastasia Emelianova, Sardina Systems Dmitry Spodarets, FlyElephant
14:30 - 15:30	Tutorial W2: Workflow and Design for HPC Robust virtual product design made easier and more affordable via a simplified HPC appliance (20) <i>SaltStack Work (20)</i>	Chair: N. N., HPE Ralf Rehbarg, Altair Joseph George, SUSE
15:30 - 16:00	Break	

Special Session: HPE Internal Meetings (special invitation required)

16:00 - 18:00	HPE Internal Meetings	Chair: N. N., HPE
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Customer Forum / Large System SIG (LS-SIG)

16:00 - 18:00	Customer Forum / Large System SIG (LS-SIG) Attention: Participation restrictions apply! Open Discussion of Progress, Suggestions, Issues and Problems	Chairs: Stephen Wheat, HPE, Gerd Buettner, Airbus HPE HPC Customers and Representatives
18:00	HP-CAST 28 Adjourn	