

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:



Final Agenda V3.0

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 – Ball Room Dow Jones

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, Providentia Worldwide
08:15 - 09:15	HPE Executive Updates: Business Trends, Strategy and Portfolio	Bill Mannel, Liz King, 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	Bioinformatics in the Cloud - Towards a Federated Cloud Computing Infrastructure for Bioinformatics	Alexander Goesmann, Justus-Liebig-University Giessen
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

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12:45- 14:00	Lunch
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Invited Customer and Partner Lectures - Case Studies		
14:00 - 14:20	Energy-efficient HPC with Apollo 8000 – A Status Update	Marek Magrys, Cyfronet
14:20 - 14:40	HPC at NYUAD: A New Take at Computational Support in Academia	Benoit Marchand, NYUAD
14:40 - 14:55	Combining AI and Big Data Analytics for Personalized Treatment in a Clinical Setting	Andreas Persidis, Biovista

Key Partner Technology Updates		
14:55 - 15:15	Intel’s Processors, Accelerator, Storage, Interconnect Strategy and Roadmap	Mark Seager, Intel
15:15 - 15:35	NVIDIA Technology and Roadmap Assessment – Special Focus on AI and Deep Learning	Timothy Lanfear, NVIDIA
15:35 - 15:45	Mellanox Collaboration Update	Gilad Shainer, Mellanox

15:45- 16:15	Break
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Cyber Attack Protection for HPC Systems – Special Update		
16:15 - 16:30	Preventing and Monitoring Attacks Even at Firmware Level	Craig Yamasaki et al., HPE

Keynotes – Beyond HPC, The Machine, Gen-Z & Exascale		
16:30 – 16:45	Remarks on the US Exascale Program	James Ang, Sandia National Lab
16:45 - 17:10	HPC, HPA and AI - Relationships and Potential (Note: HPA = High Performance Analytics)	Eng Lim Goh, HPE
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 at the River “Main” 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)		Room: Jones
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, 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: Oguzhan (Ozzy) Oguz, NVIDIA</p> <p>Timothy Lanfear, NVIDIA</p>
09:30 - 10:00	<p>>>> Attention: Participation restrictions may apply</p> <p>Tutorial A3: AMD Processor and GPU Technology Update</p> <p>AMD's Open Approach to Heterogeneous Compute for HPC and Deep Learning with Radeon Instinct</p>	<p>Chair: Scott Thieret, AMD</p> <p>Jean-Christophe Baratault, 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</p> <p>Implementation of an ARM Processor for HPC</p>	<p>Chair: Larry Wikelius, Cavium</p> <p>Chris Goodyer, ARM</p> <p>Giri Chukkapalli, 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>Rajesh Agny, Intel</p>
11:20 - 11:40	<p>Tutorial A6: S/W Environments, Development and Optimization Tools</p> <p>Preparing HPC Workloads for the Next Generation of Systems</p>	<p>Chair: Patrick Demichel, HPE</p> <p>Patrick Wohlschlegel, Allinea/ARM</p>
11:40 - 12:00	<p>Extending Debugging Capabilities:</p> <p>How to Debug AI Mixed Python/C++ Code</p>	<p>Nikolay Piskun, RogueWave Software</p>
12:00 - 12:20	<p>FPGA Acceleration using OpenCL</p>	<p>Craig Petrie, Nallatech</p>
12:20 - 12:30	<p>General Q&A Session – S/W for Accelerators</p>	<p>All Attendees</p>
TRACK “B”: Parallel File Systems and Object Storage for HPC (3h,50’)		Room: Dow
08:00 - 08:40	<p>Tutorial B1: Apollo 4000 & LUSTRE® for HPC</p> <p>HPE Scalable Data Management and Storage for HPC: Capabilities and Roadmap</p>	<p>Chair: Nikola Karandjulov, HPE</p> <p>Mark Seamans, HPE</p>
08:40 - 09:00	<p>The Evolving Lustre* Landscape</p>	<p>Johann Lombardi, Intel</p>
09:00 - 09:20	<p>The Open File System Community – EOFS and OpenSFS: Successes and Challenges</p>	<p>Hugo Falter, ParTec, Bret Costelow, DDN</p>
09:20 - 09:40	<p>Tutorial B2: Parallel File Systems</p> <p>The Role of Parallel File Systems in the Era of Burst Buffer and Exascale</p>	<p>Chair: Nikola Karandjulov, HPE</p> <p>Gabriele Paciucci, Andrey Kudryavtsev, Intel</p>
09:40 - 10:00	<p>BeeGFS and BeeOND – Progress and Experience</p>	<p>Franz-Josef Pfreundt, FhG/ITWM (Fraunhofer Society)</p>
10:00 - 10:30	Break	
10:30 - 10:50	<p>Tutorial B3: Object Storage and Data Management</p> <p>Use Cases for Asynchronous Replication in High Performance File Systems</p>	<p>Chair: Nikola Karandjulov, HPE</p> <p>Jan Heichler, DDN</p>
10:50 - 11:10	<p>The Seven Tenets of Good Archiving</p>	<p>Matthew T. Starr, SpectraLogic</p>
11:10 - 11:30	<p>Using Flash to Intelligently Accelerate HPC Workloads</p>	<p>Torben Kling Petersen, Seagate</p>
11:30 - 11:50	<p>Hot, Warm, Cold, File, Object, Public, Private, Hybrid: Too much Data, too many Choices</p>	<p>Brad King, Scality</p>
TRACK “V”: Visualization for HPC (40’)		Room: Dow
11:50 - 12:10	<p>Tutorial V: Visualization in HPC Environments</p> <p>Overview over Intel’s Software Defined Visualization Technologies</p>	<p>Chair: François Jeanmougin, HPE</p> <p>Ingo Wald, Intel</p>
12:10 - 12:30	<p>Ease-of-Use through Portal-Integrated Remote Visualization</p>	<p>Wil Wellington, Adaptive Computing</p>

Saturday, June 17th – Tutorial Section

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TRACK “L”: Large Scale Shared Memory Implementations and Systems (1h) Room: Wallstreet		
08:00 - 08:20	Tutorial L: Super-Dome X and Virtual Shared Memory Solutions	Chair: Jean-Marie Huguenin, HPE
08:20 - 09:00	The Future Data Center: Disaggregated and Composable Computing Architectures SuperDome X and MC 990 X Systems: Architecture and Examples of HPC Infrastructures with Large Scale SMPs	Benzi Galili, ScaleMP Michael Woodacre, HPE
TRACK “P”: Proliant Servers for HPC (1h) Room: Wallstreet		
09:00 - 10:00	Tutorial P: Proliant Server Update Portfolio, Details and Roadmap	Chair: Craig Yamasaki, HPE Jimmy Daley et al., HPE
10:00 - 10:30	Break	
TRACK “O”: Apollo Portfolio for HPC (2h) Room : Wallstreet		
10:30 - 12:30	Tutorial O: Apollo HPC Series – From Compact Servers to High-End Systems In-Detail Server Architecture and Roadmap	Chair: Craig Yamasaki, HPE Jimmy Daley, HPE
TRACK “C”: Clouds for HPC (2h) Room: Bull and Bear		
08:00 - 08:20	Tutorial C1: Clouds for HPC	Chair: François Jeanmougin, HPE
08:20 - 08:40	HPC as a Service (HPCaaS)	Jean-Luc Assor, Gallig Renaud, HPE
08:40 - 09:00	Implementation of Cloud Resources in two HPE Centers of Excellence at Advania in Iceland and Bangalore Cloud Lifestyle Challenges – Dead is not an Option	Burak Yenier, Wolfgang Gentzsch, The UberCloud Kenneth Tan, Sardina Systems
09:00 - 09:20	Tutorial C2: Clouds for HPC	Chair: Gallig Renaud, HPE
09:20 - 09:40	Cloud Bursting for Major HPC	Andrew Cusick, Dave Hanlon, HPE
09:40 - 10:00	PBSCloud.io – Put your HPC Cloud under Control Docker Containers and Singularity for HPC	Jérémie Bourdoncle, Altair Burak Yenier, UberCloud and César Gómez, RStor
10:00 - 10:30	Break	
TRACK “S”: HPE Software Environments - HPC Middleware and Solutions (2h) Room: Bull and Bear		
10:30 - 11:30	Tutorial S1: HPE Software for HPC HPE Performance Software Portfolio: System Management (Insight CMU, SGI Management Suite), MPI and More	Chair: Lacey McGee, HPE Leslie Tung, HPE
11:30 - 11:50	Tutorial S2: Complementing Software for HPC	Chair: Leslie Tung, HPE
11:50 - 12:10	Full Integration of The UberCloud Application Containers with HPE’s Cloud SW Stack Intel Parallel Studios Update – Compilers and Tools for HPC	Burak Yenier, Wolfgang Gentzsch, The UberCloud Henry Gabb, Intel
12:10 - 12:30	Accelerating Adoption of HPC – Ease-of-Use, Cross-scheduler Solutions, Free Public Licenses w/ Support	Mark Norton, Adaptive Computing
12:30 - 13:30	Lunch	
TRACK “I”: Interconnect Technologies – Current and Future Products and Standards (2h) Room: Jones		
13:30 - 13:50	Tutorial I1: Interconnect Technologies	Chair: Nic Dubé, HPE
13:50 - 14:10	Next Generation of Co-processors Emerges – In-Network Computing	Gilad Shainer, Mellanox
14:10 - 14:30	HPC Fabric Update: Intel Omni-Path Architecture	Joe Yaworski, Intel
14:30 - 14:50	EXTOLL: The HPC Network InfiniCortex: A Wide-Area Infiniband Fabric for Production	Mondrian Nüssle, Extoll Marek Michalewicz, University of Warsaw, ICM
14:50 - 15:30	Tutorial I2: The Future Standard Gen-Z Unifying System Communication with a New High Performance, Memory-Semantic Fabric Standard	Chair: Nic Dubé, HPE Paolo Faraboschi et al., HPE

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TRACK “D”: Data Analytics and Machine Learning (2h)		Room : Wallstreet
13:30 - 13:50 13:50 - 14:10 14:10 - 14:30	Tutorial D1: Data Analytics and Machine Learning - I Using Apollo 6500 in Data Analytics Intel Solutions for Artificial Intelligence Enabling the Future of Machine Learning Applications	Chair: Eng Lim Goh, HPE Jimmy Daley et al., HPE Thor Sewell, Intel Gilad Shainer, Mellanox
14:30 - 14:50 14:50 - 15:10 15:10 - 15:30	Tutorial D2: Data Analytics and Machine Learning - II 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	Chair: Eng Lim Goh, HPE Lee Carter, Bright Computing Ozzy Oguz, Tim Lanfear, NVIDIA Dmitry Spodarets, FlyElephant
15:30 - 16:00	Break	

TRACK “H”: High End HPC Liquid-cooled Product Update – 8xxx (1h)		Room : Dow
13:30 - 14:30	Tutorial H1: High End Product Family Update and HPC Experiences Liquid-Cooled Systems: Technology Details and Roadmap	Chair: Craig Yamasaki, HPE Steven Dean et al., HPE

TRACK “M”: Architecture, Cartridges, Software and Applications for Moonshot (1h)		Room: Dow
14:30 - 15:30	Tutorial M: Moonshot Technology Update Moonshot Update: New Solutions, Performance Measurements and Roadmap	Chair: Craig Yamasaki, HPE Sorin Cheran et al., HPE
15:30 - 16:00	Break	

TRACK “W”: Workflow Solutions for HPC (2h)		Room : Bull and Bear
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: Jean-Luc Assor, HPE Bill Nitzberg, Altair Anastasia Emelianova, Sardina Systems Dmitry Spodarets, FlyElephant
14:30 - 14:50 14:50 - 15:10 15:10 - 15:30	Tutorial W2: Workflow and Design for HPC Robust virtual product design made easier and more affordable via a simplified HPC appliance Enabling HPC, Large or Small Extending Available Big Compute Resources by Ultimate Compute Mobility and New Deployment Methods	Chair: Jean-Luc Assor, HPE Ralf Rehburg, Altair David Byte, SUSE César Gómez, RStor
15:30 - 16:00	Break	

Special Session: HPE Internal Meetings (special invitation required)		Room : Dow, Wallstreet, Bull + Bear
16:00 - 18:00	HPE Internal Meetings	Chair: N. N., HPE

Customer Forum / Large System SIG (LS-SIG)		Room : Jones
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	