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: intel Hewlett Packard Enterprise NVIDIA

Draft Agenda V2.8
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

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, Providentia Worldwide
08:15 - 09:15	HPE Executive Updates: Business Trends, Strategy and Portfolio	Bill Mannel, Stephen Wheat et al., 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

	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	HPC@KAUST: Focus, Experiences and Future Trends	Jysoo Lee, King Abdullah University of Science and Technology (KAUST)
14:40 - 15:00	HPC at NYUAD: A New Take at Computational Support in Academia	Benoit Marchand, NYUAD

	European HPC Strategy	
15:00 - 15:15	Europe's HPC Strategy and the Path to Exascale (tbc)	N. N., European Commission

15:15- 15:45	Break

	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
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

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	>>> Attention: Participation restrictions may apply Tutorial A1: Intel® Processor and Technology Update NDA Overview of Upcoming Roadmap of Key Compute and Related Fabric Products: Xeon, Phi, OPA and AI	Chair: Trent Boyer, Intel Thor Sewell, Joe Yaworski, Intel
08:45 - 09:30	>>> Attention: Participation restrictions may apply Tutorial A2: NVIDIA GPU an Technology Update Strategy, Roadmap and Product Overview	Chair: Oguz Oguzhan (Ozzy), NVIDIA Timothy Lanfear, NVIDIA
09:30 - 10:00	>>> Attention: Participation restrictions may apply Tutorial A3: AMD Processor and GPU Technology Update Strategy, Roadmap and Product Overview	Chair: Jean-Christophe Baratault, AMD Greg Stoner, AMD
10:00 - 10:30	Break	
10:30 - 11:00	>>> Attention: Participation restrictions may apply Tutorial A4: ARM Processor Technology Update and Roadmap ARM, an Architecture for HPC Implementation of an ARM Processor for HPC	Chair: Larry Wikelius, Cavium Chris Goodyer, ARM N.N., Cavium
11:00 - 11:20	Tutorial A5: Application-Specific Accelerators FPGA Breakthroughs for Data Center Acceleration	Chair: Patrick Demichel, HPE Mike Strickland, Intel
11:20 - 11:40 11:40 - 12:00 12:00 - 12:20 12:20 - 12:30	Tutorial A6: S/W Environments, Development and Optimization Tools Preparing HPC Workloads for the Next Generation of Systems Extending Debugging Capabilities: How to Debug AI Mixed Python/C++ Code FPGA Acceleration using OpenCL General Q&A Session – S/W for Accelerators	Chair: Patrick Demichel, HPE Patrick Wohlschlegel, Allinea/ARM Nikolay Piskun, RogueWave Software Craig Petrie, Nallatech All Attendees

TRACK "B": Parallel File Systems and Object Storage for HPC (3h,20')		
08:00 - 08:40 08:40 - 09:00 09:00 - 09:20	Tutorial B1: Apollo 4000 & LUSTRE® for HPC Focus on Big Data Solutions – Highlighting the Apollo 4000 Family The Evolving Lustre* Landscape The Open File System Community – EOFS and OpenSFS: Successes and Challenges	Chair: Nikola Karandjulov, HPE Mark Seamans, HPE Bryon Neitzel, Intel Hugo Falter, ParTec et al.
09:20 - 09:40 09:40 - 10:00	Tutorial B2: Parallel File Systems The Role of Parallel File Systems in the Era of Burst Buffer and Exascale BeeGFS and BeeOND – Progress and Experience	Chair: Nikola Karandjulov, HPE Gabriele Paciucci, Andrey Kudryavtsev, Intel Franz-Josef Pfreundt, FhG/ITWM (Fraunhofer Society)
10:00 - 10:30	Break	
10:30 - 10:50 10:50 - 11:10 11:10 - 11:30 11:30 - 11:50	Tutorial B3: Object Storage and Data Management Use Cases for Asynchronous Replication in High Performance File Systems The Seven Tenets of Good Archiving Using Flash to Intelligently Accelerate HPC Workloads Hot, Warm, Cold, File, Object, Public, Private, Hybrid: Too much Data, too many Choices	Chair: Nikola Karandjulov, HPE Jan Heichler, DDN Matthew T. Starr, SpectraLogic Torben Kling Petersen, Seagate Brad King, Scality
TRACK "V": Visualization for HPC (40')		
11:50 - 12:10 12:10 - 12:30	Tutorial V: Visualization in HPC Environments Overview over Intel's Software Defined Visualization Technologies Ease-of-Use through Portal-Integrated Remote Visualization	Chair: N. N., HPE Ingo Wald, Intel Wil Wellington, Adaptive Computing

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TRACK "L": Large Scale Shared Memory Implementations and Systems (1h)		
	Tutorial L: Super-Dome X and Virtual Shared Memory Solutions	**Chair: Jean-Michel Argenville, HPE**
08:00 - 08:20	**The Future Data Center: Disaggregated and Composable Computing Architectures**	**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: Craig Yamasaki, HPE**
10:00 - 10:30	**Break**	
TRACK "O": Apollo Mainstream HPC (2h)		
10:30 - 11:30	**Tutorial O1: Compact Apollo Servers** **In-Detail Server Architecture and Roadmap**	**Chair: Craig Yamasaki, HPE** **Jimmy Daley, HPE**
11:30 - 12:30	**Tutorial O2: Apollo 6000 / 6500 HPC Servers** **Apollo 6000/ 6500 Architectural Details and Roadmap**	**Chair: Craig Yamasaki, HPE** **Jimmy Daley, HPE**

TRACK "C": Clouds for HPC (2h)		
	Tutorial C1: Clouds for HPC	**Chair: N.N., HPE**
08:00 - 08:20	**HPC as a Service (HPCaaS)**	**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**	**Burak Yenier, Wolfgang Gentzsch, The UberCloud**
08:40 - 09:00	**Cloud Lifestyle Challenges – Dead is not an Option**	**Kenneth Tan, Sardina Systems**
	Tutorial C2: Clouds for HPC	**Chair: Gallig Renaud, HPE**
09:00 – 10:00	**Cloud Bursting for Major HPC (20)** **PBSCloud.io – Put your HPC Cloud under Control (20)** ***Ellexus Product and Service Update (20)***	**Andrew Cusick, Dave Hanlon, HPE** **Jérémie Bourdoncle, Altair** ***Rosemary Francis, Ellexus (tbc)***
10:00 - 10:30	**Break**	
TRACK "S": HPE Software Environments - HPC Middleware and Solutions (2h)		
10:30 - 11:30	**Tutorial S1: HPE Software for HPC** **HPE Performance Software Portfolio:** **System Management (Insight CMU, SGI Management Suite), MPI and More, Exascale Scalability**	**Chair: Lacee McGee, HPE** **Leslie Tung et al., HPE**
	Tutorial S2: Complementing Software for HPC	**Chair: Leslie Tung, HPE**
11:30 – 11:50	**Full Integration of The UberCloud Application Containers with HPE's Cloud SW Stack**	**Burak Yenier, Wolfgang Gentzsch, The UberCloud**
11:50 – 12:10	**Intel Parallel Studios Update – Compilers and Tools for HPC**	**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)		
	Tutorial I1: Interconnect Technologies	**Chair: Nic Dubé, HPE**
13:30 - 13:50	**Next Generation of Co-processors Emerges – In-Network Computing**	**Gilad Shainer, Mellanox**
13:50 - 14:10	**HPC Fabric Update: Intel Omni-Path Architecture**	**Joe Yaworski, Intel**
14:10 - 14:30	**EXTOLL: The HPC Network**	**Ulrich Brüning, Mondrian Nüssle, Extoll**
14:30 - 14:50	**InfiniCortex: A Wide-Area Infiniband Fabric for Production**	**Marek Michalewicz, University of Warsaw, ICM**

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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**

TRACK "D": Data Analytics and Machine Learning (2h)		
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** **Timothy Lanfear, 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** **High End Apollo Ice/XA Family: Technology Details and Roadmap**	**Chair: Craig Yamasaki, HPE** **Steven Dean et al., HPE**

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: Craig Yamasaki, HPE** **Sorin Cheran et al., HPE**

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: Jean-Luc Assor, 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)** ***SaltStack Work* (20)**	**Chair: Jean-Luc Assor, HPE** **Ralf Rehburg, 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**

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**	