Dagstuhl Rack-Scale Computing Workshop -- 15421

Mon	AM	9am -- **Organizers overview: Rack-scale computing -- what & why**
		Tim Harris, Babak Falsafi, Dushyanth Narayanan

9.30am -- **Introductions**
46 participants * 3 minutes each

(Break for coffee 10.15-10.30am)

	Lunch	12.15pm

	PM	2pm -- **Overview / tutorial talks**

Talks about workloads and technology:
      Steve Furber
      Gustavo Alonso
      Leendert van Doorn
      Boris Grot

(Break for coffee & cake, 3.30-4pm)

	Dinner	6pm

Tue	AM	9am -- **Overview / tutorial talks (continued)**
		Paolo Faraboschi

9.45am -- **Emerging platforms & case studies**

Short talks about different systems:
      Kimberly Keeton
      Martin Maas
      Paolo Costa

Break-out groups:
      What are the technical challenges?
      What applications will drive this?
      Disaggregated memory vs intelligence in memory

(Break for coffee 10.15-10.30am)

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	Lunch	12.15pm

1.30pm -- Break-out groups (report back)

2.15pm -- **Poster session (1 of 4)**
Christof Fetzer -- HAFT: Hardware Assisted Fault Tolerance
Steve Furber -- Improving the Interconnection
Network of a Brain Simulator (+ demo)
Matt Grosvenor -- Exo
Maurice Herlihy
John Kim -- Rack-Scale Interconnect
Sergey Legtchenko -- XFabric, dynamically reconfigurable in-rack network
Jörg Nolte et al -- Sharing and Synchronisation in Rackscale Computing Systems
Mark Oskin -- Grappa
Bernhard Schräder

3.30pm -- Break for coffee & cake

4pm -- **Overview / tutorial talks (continued)**
    Ant Rowstron

4.45pm -- **Poster session (2 of 4)**
Yungang Bao -- The computer as a Network
Kostas Katrinis -- Memory disaggregation
Christoph Kirsch -- Concurrent allocators and concurrent data structures
Sue Moon -- Commodity-hardware-based tera-bps routers
Simon Peter -- Either Arrakis or new NIC design work.
Andreas Polze -- NUMA behavior and tooling
Ant Rowstron -- Tools for building rack-scale systems
Stefan Schmid -- Kraken: Elastic Performance Guarantees in Multi-tenant Data Centers
Noa Zilberman -- CAN-D (server-level system arch)
Ferad Zyulkyarov -- Memory reliability characterization of the Mont-Blanc prototype

Dinner   6pm

7.30pm -- **Outrageous opinions**

Wed   AM   9am -- **OS & scheduling**
Short talks about different problems:
    Christina Delimitrou
    Danica Porobic
    Jana Giceva

Group photo

(Break for coffee 10.15-10.30am)

Breakout sessions:
    What is a "rack scale OS"?
    What is the right scale?

Lunch   12.15pm

PM   2.40pm -- Excursion
    Boat trip on the River Saar
    Wine tasting at Bonsai und Wein & Winery Ziliken

Dinner   7pm (Dagstuhl)

Thur   AM   9am -- **Poster session (3 of 4)**
Peter Corbett + Lars Eggert -- Scaled and Tiered Storage Stack for Rack-Scale Systems
Christina Delimitrou -- Cluster scheduling (+demo)
Matt Grosvenor -- CamIO
Danica Porobic -- Scheduling issues with database software on non-uniform platforms
Zoran Radovic -- Security-Performance Tradeoffs with Ultra Low-Latency Clustering
Gael Thomas -- Performances of virtual machines (Xen) on NUMA machines.
Jana Traue -- Lightweight Transactions for Systems with NVRAM
Haris Volos -- Software / programming models for rack-scale persistent memory
Bernard Wong -- Software support for reconfigurable networks.

10.15am -- Break for coffee

10.30 -- **Poster session (4 of 4)**
Angelos Bilas -- Storage I/O path isolation for data-intensive workloads
Paolo Costa -- Rack-scale n/w stack
Leendert van Doorn
Jana Giceva -- Scheduling and resource management
Boris Grot -- Rack-scale low-latency memory
Martin Maas
Malte Schwarzkopf -- DIOS + Firmament (+demo).
Jens Teubner -- Algorithms that are aware of the topology of the system.
Noa Zilberman -- SUME (substrates for prototyping)

Lunch   12.15pm

PM   2pm -- **Programming models**

               Perspectives on rack-scale programming models:
                       Maurice Herlihy
                       Mark Oskin

               Breakout sessions:
                       What would we like from hardware?
                       Tools, workloads, and research infrastructure

               (Break for coffee & cake, 3.30-4pm)

Dinner   6pm

Fri   AM   9.30am -- Breakout sessions
                       Is it a multicore, a distributed system, or the worst of both worlds?
                       What are the differences and similarities with HPC?

               (Break for coffee 10.15-10.30am)

               10.45am -- Wrap up

Lunch   12.15pm
Depart