PMEM-201-1
Persistent Memory: Remote Persistent Memory

Chairs:
Rob Peglar, Advanced Computing and Storage
Paul Grun, Cray and OpenFabrics Alliance

Sponsored by:
Agenda

- First Half - Speakers
  - Paul Grun, Cray
    - Remote Persistent Memory – The Case for Use Cases
  - Kurtis Bowman, Gen-Z Consortium
    - The Impact of Persistent Memory on Interconnects and Fabrics
- Second Half - Panel
Upcoming PM Events

Pick up your conference registration discount card at SNIA booth 820

Register at www.jedec.org

Complimentary registration now open at snia.org/pm-summit
Meet Our Panel

Paul Grun
OpenFabrics Alliance
Cray

Kurtis Bowman
Gen-Z Consortium

Alan Bumgarner
SNIA NVM Programming Technical Work Group

Idan Burstein
Mellanox

Wayne Rickard
Radian Memory
SNIA and the OpenFabrics Alliance (OFA) are working to enable and accelerate the adoption of Remote Persistent Memory…

- By providing standards and enabling software
- By providing open source APIs

… which depends on a clear elaboration of ‘use cases’ for RPM

- Some of which have been explored at past Flash Memory Summits

It also depends on understanding the relevant characteristics of the underlying technology

- Which we will be exploring today
SNIA & OFA Collaboration Objectives

1. OFA + SNIA
   • Develop a set of example use cases for RPM
   • Generate a Whitepaper outlining those use cases

2. SNIA NVMP TWG
   • Generate Whitepapers describing each use case

3. OFA OFIWG
   • Generate open source network APIs to support those use cases
The Resulting Network APIs Must

• Be open source and freely available
• “Transport neutral”
  • i.e. not specific to any particular network architecture
• Application-centric
  • i.e. responsive to the needs of applications that consume them
Started in 2017, this is a long-running Work in Progress.

The goal is to accelerate adoption of Remote Persistent Memory.
CXL & Gen-Z

Kurtis Bowman – Dell Server Office of the CTO
CXL – The New Kid On The Block

Caching Devices / Accelerators
- Protocols: CXL.io, CXL.cache

Accelerators with Memory
- Protocols: CXL.io, CXL.cache, CXL.memory

Memory Buffers
- Protocols: CXL.io, CXL.mem

Type 1 Device
- Accelerator NIC
- Cache
- Processor
- DDR
- DDR

Type 2 Device
- Accelerator
- Cache
- Processor
- DDR
- DDR
- HBM
- HBM

Type 3 Device
- Memory Buffer
- Memory
- Processor
- DDR
- DDR
- DDR
Gen-Z & CXL: In The Data Center & At The Edge

Compute Node

- CPU/SOC
- OPM
- DDR5 Memory Channels
- DRAM
- CXL
- Local PM
- GPU/FPGA
- Bridge to Gen-Z
- Gen-Z Switch
- Pooled Accelerators
- Pooled DRAM/PM
Thank You