OCP Tech Talks: Networking
May 10-12, 2022
Barak Gafni (OCP Networking interim co-lead)
Ravindra Sunkad (OCP Networking interim co-lead)
Welcome and THANKS to our sponsors
Agenda

• Introduction to OCP Networking Project

• Key updates since the last summit in Nov 2021

• Review today’s talks
The OCP Networking Project

- **Charter:** Facilitate and enable innovative open HW and SW that enable network solutions for hyperscale, large enterprise, and large telco through collaboration with the wider OCP ecosystem.

- Supports sub-projects anchoring around particular focus areas:
  - Open Network Install Environment (ONIE)
  - OpenNetworkLinux (ONL)
  - Switch Abstract Interface (SAI)
  - Enterprise Connectivity Solutions (ECS)

- Project Wiki: [https://www.opencompute.org/wiki/Networking](https://www.opencompute.org/wiki/Networking)
Key updates to OCP Networking

- New sub-projects launched!
  - NIC Software (Mar ‘22): Focus on NIC networking SW features
  - AEC Interconnect (Apr ‘22): Focus on Active Electrical Cables
- SONiC sub-project has moved from OCP to Linux-Foundation
## Agenda of Talks: Day 1, May 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Topic</th>
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<tr>
<td>8.35 - 8.55 AM</td>
<td>Rita Hui (Microsoft) Shri Khare (Meta)</td>
<td>SAI sub-project updates</td>
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<td>9.00 - 9.10 AM</td>
<td>Steven Noble (Amazon)</td>
<td>OpenNetworkLinux sub-project updates</td>
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<td>9.10 - 9.25 AM</td>
<td>Jack Redpath (ArsiaLabs) Jeff Strange (Target)</td>
<td>Enterprise Connectivity Solutions (ECS) sub-project updates</td>
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<td>9.30 - 9.55 AM</td>
<td>Jakub Kicinski (Meta) Willem De Bruijn (Google)</td>
<td>Datacenter NIC crypto offloads - progress</td>
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<td>10.00 - 10.25 AM</td>
<td>David Iles (NVIDIA)</td>
<td>Adaptive Routing For AI Clusters and Storage Fabrics (Ethernet)</td>
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<td>10.30 - 10.55 AM</td>
<td>David Iles (NVIDIA)</td>
<td>Data Center Fabrics need to be Smart at every Tier - not just the edge</td>
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<tr>
<td>11.00 - 11.25 AM</td>
<td>Jay Vargas (Scala Computing) Dan Mihailescu (Keysight)</td>
<td>A Novel Approach For Experimentation, From Lab Testing To Large Data Center Simulations</td>
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Call for action: Day 1

- OCP Global Summit: Oct 18-20
  - Call for papers is launched
  - Submit your abstract. Closes June 19

- SAI
  - Contribute to SAI
  - ASIC Vendors: Increase SAI API Coverage

- Enterprise Connectivity Solutions
  - Join the sub-project mailing list and twice-monthly calls
Call for action: Day 1

• NIC Software: Join the effort
  - Wiki: opencompute.org/wiki/Networking/NIC_Software
  - Meetings: 2nd Monday of the month, 10am PT

• NVIDIA: Collaborate with community on standardizing “Adaptive Routing” (Data-plane and Control-plane)
## Agenda of Talks: Day 2, May 11

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<tr>
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<th>Topic</th>
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<tr>
<td>8.30 - 8.55 AM</td>
<td>Qing Wang, Thang Pham, Abhijit Chakravarty, Arun Mohan, Tom McCandlish (Meta)</td>
<td>200G/400G FR4 large-scale deployment in Meta’s data center</td>
</tr>
<tr>
<td>9.00 - 9.25 AM</td>
<td>Chris Berry, Chet Powers (Meta)</td>
<td>Automating Triaging of Network Circuit Flaps and Port Failures</td>
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<tr>
<td>10.00 - 10.25 AM</td>
<td>Xu Wang (Meta)</td>
<td>OCP driven standardization to deliver high volume NPO switch systems for the future</td>
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<tr>
<td>10.30 - 10.55 AM</td>
<td>Ivan Kong (Ragile Networks)</td>
<td>51.2Tbps NPO Switch Practice and Challenges</td>
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</tbody>
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Call for action: Day 2

• Large scale optics deployment experience takeaways
  – Supply chain flexibility
  – Continuous improvement
  – Diversification of manufacturing footprint

• Triaging link failures in large scale deployments
  – Standardize Optics (CMIS) and (X)PHY (SAI) telemetry parameters
  – Support high-speed collection of telemetry data
  – Share your triaging experiences
Call for action: Day 2

• Need to develop reliable methods to detect high values of Multi-path interference

• NPO Switch Systems
  – Looking for feedback on physical / mechanical aspects of the card
  – Feedback on standardizing and addressing challenges
    • power envelope
    • mezzanine connector
    • mid-board / optical connector
    • cooling challenges for 1RU NPO Switches
    • power distribution challenges
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<tr>
<td>8.30 - 8.55 AM</td>
<td>Don Barnetson (Credo Semiconductor) Run Almog (DriveNets)</td>
<td>The HiWire Consortium Joins Forces with OCP to Standardize Active Electrical Cables (AECs)</td>
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<tr>
<td>9.30 - 9.55 AM</td>
<td>Mingxuan Li (China Unicom) Tina Tsou (ARM/LF)</td>
<td>EdgeFaaS Collaborative R&amp;D for Open Edge Scenarios</td>
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<tr>
<td>10.00 - 10.25 AM</td>
<td>Venkat Pullela, Manodipto Ghose, Parth Parikh, Nitesh Jha (Keysight)</td>
<td>Testbed in a Box - SONiC case study</td>
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<tr>
<td>10.30 - 10.55 AM</td>
<td>Cliff Grossner (OCP Foundation)</td>
<td>OCP HW-SW co-design strategy. OCP and L/F working together</td>
</tr>
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Call for action: Day 3

• Join the OCP sub-project on AEC Interconnect and help develop the ecosystem

• Enterprise Gigabit Switch specifications
  – Join ECS bi-monthly calls
    https://www.opencompute.org/wiki/Networking/Enterprise_Connectivity_Solutions_(ECS)
  – Contribute to the specifications
Call for action: Day 3

• Engage on EdgeFaaS / Open Edge use cases

• SONiC testbed in a box
  - Join and collaborate in the SONiC test workgroup @ https://groups.google.com/g/sonic-test-workgroup
  - Share your testing requirements and strategies at OCP

• SIOV Contribution: Contribute to revision 2 specification when the call is out

• SONiC community will continue to collaborate with OCP on SAI, OCP recognized hardware, and Enterprise features