OPENFABRICS ALLIANCE

TAC Report

Tom Stachura & Diego Crupnicoff
OFA TAC chairs

10TH ANNUAL INTERNATIONAL DEVELOPER WORKSHOP

#OFADevWorkshop

What is the TAC?

- TAC = Technical Advisory Council
- TAC Charter, the fine print:
  - Investigate technology trends
  - Review needs of end user markets/apps/technology
  - Maintain links to IBTA TWG, Spec bodies, & end users
- TAC Charter, my words:
  - *Find OFA growth vectors*
  - Could be anywhere from simple & tactical to new & green-field
- We meet twice a month
  - We = ~dozen technologists within the OFA
  - We invite outside experts as appropriate

Contact tom.l.stachura@intel.com if you are interested

So, what has the TAC done?

- Concrete Deliverables
  - Vetted new ULPs & Proposing OFA synergies
    - Recommended path to host GASPI on OFA site
    - Intent is to reduce the barrier for OFA adoption to new ULPs
  - Analyzed the I/O needs of Applications
    - This was the start of the OFI WG
    - The focus was to look at this from the application perspective
  - OFI WG spun out of TAC
    - TAC drove the creation of the OFI WG
    - *NOTE: Our hope is to replicate this "incubation model" going forward*

- Additional work "in progress"…
  - Storage at a Distance
  - Cloud & Virtualization relevance for OFED
  - Exascale scalability

Where is the TAC going?

- 3 key vectors we want to focus on
  - Improving Verbs
  - OFA in the Cloud
  - NVM & OFA
- We also still have unfinished work to complete
  - Storage at a Distance
  - Object Storage

Improving Verbs

- Scalability
  - RDMA-CM
  - QP Resources
- Scalability & Usability
  - Heavy cost for memory registration

Recommended Focus area for OFA & IBTA

- Application Impedance Match
  - Not mapping to well to MPI
  - Different h/w implementations
  - Mapping to “well-known” ports

OFI WG Focus Area

OFA in the Cloud

- We recently pulled together experts from Argonne, IBM, Mirantis, and VMware
  - 1 session on this topic was hosted by VMware this morning
- Key points we learned: **We need to:**
  1. Enable a socket-based solution for Cloud
  2. Expose high-performance networking capabilities to apps
  3. Provide support in a virtualized environment (e.g. don't impact or lose VM migration)
  4. Provide support in an SDN environment (e.g. network virtualization and/or traffic engineering)
- OFI WG is leading on #1; TAC is leading #2-4

Contact tom.l.stachura@intel.com if you want to participate

NVM & OFA

- The TAC has not started work here as of yet…
- We had a good kick-off with the 3 sessions yesterday:
  - NVM as a Disruptive Technology
  - Storage Class Memory
  - NVM programming model (SNIA)
- What I heard:
  - Low latency NVM creates a disruptive opportunity
  - We can expose NVM directly to applications; RDMA is relevant here
  - There is obvious synergy between NVM & high-perf networking
- The TAC needs to investigate THIS YEAR
  - Doug Voigt and I have already discussed starting w/ use cases

Contact tom.l.stachura@intel.com if you want to participate

Brainstorm – what else?

- What other areas should we be investigating?
- What trends are important to OFA?
- Who should we be talking to?

Send ideas to tom.l.stachura@intel.com

Picture from signature-strength.com

Thank You

OPENFABRICS ALLIANCE

10TH ANNUAL INTERNATIONAL DEVELOPER WORKSHOP