



TAC Report

Tom Stachura & Diego Crupnicoff OFA TAC chairs



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

Recommended Focus area for OFA & IBTA

OFI WG
Focus Area

OFA in the Cloud



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- 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:
 - 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

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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

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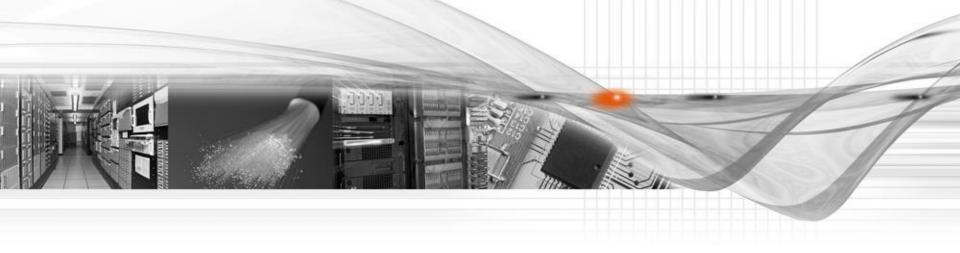
Brainstorm - what else?



- 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



Thank You



