Outline

- Lots of effort has been expanded to work on the next Generation Ethernet

- Several Presentations highlighted the issues the SG is facing

- This proposal try to find a middle ground

40GE

- For 40GE
  - Address finer granularity
  - Fix LAG issues
  - Align with HOST update cycle
  - Leverage cost reduction as 10G volume goes up
  - Reduce cost for Host
  - Provide a good alterative to FC & IB in the data center and storage

- Againt 40GE
  - Switches will bear the cost
  - Distinction from 4x10G LAG
  - Does not follow the 10x Bandwidth increase
  - Confusion in the Market
  - Segmentation of the Market (4x10G LAG, 40GE, 100GE)
  - Cost improvement vsus 10G does not provide enough advantage to justify the development/standard effort

40GE - another look

- 40GE is "lane bonding" for 10GE
  - Using 10G PMD "It is the essence of the proposal"
  - There is no justification or plan to have a different PMD (i.e. serial PMD, SMF are neither planned nor applicable)
- Start an Ethernet lane bonding project ?
  - Keep it simple
  - 802.3ah is precedent (see frazier_01_1106.pdf)
  - Work on ways to fix APL deficiencies (e.g. too much overhead, variable overhead, etc)
    - Such alternatives exist (I can submit a presentation if this proposal is acceptable for the group)
  - As a benefit it would be applicable to 10G and 100G (in the future) as well

Proposal

- Keep PAR A as is

- Have a PAR B "High Speed Ethernet Link Bundling":
  - Support 10G (optionally 100G)
  - Re-use existing PHYs
  - A Bundle 4x with the same PMD type
    - Optionally support x8, x12, x16 (But keep alternatives to a minimum)
  - Transparent to the PCS layer
  - Fixes all the Latency & Performance issue inherent to LAG
  - Addresses different Needs than LAG
  - Because of the Nature of Bonding (It will use up a small overhead) can accommodate OTN compatibility