## Link Aggregation vs. 10GE

- Different solutions with different objectives:
  - Link Aggregation provides parallel links for redundancy and linear increments in bandwidth without modifying MAC parameters or defining new PHYs.
  - 10GE provides exponential increase in bandwidth through new MAC parameters and the definition of a new set of PHYs.
- Economic considerations
  - It is expected that as the technologies mature the cost of a single channel 10GE will be significantly less than 10x the cost of GE.
  - Experience with Fast and Gigabit Ethernet, however, has shown that even when the cost per Mbps is approximately equal, the "sweet spot" of Link Aggregation is around 4 links, and becomes an unwieldy solution when the desired bandwidth requires more than 8 links.

## 802.3ad: Economic Feasibility

- Cost factors known, reliable data
- Reasonable cost for performance expected
- Total installation costs considered

The cost factors for the proposed standard can be extrapolated from the cost of current 802.3 technologies, and will benefit from the "economy of scale" of the very large installed base and market forecasts for 802.3 technology.

The incremental cost of aggregating multiple links is not expected to be a significant increase over the sum of the cost of the individual links. Because the performance increases in proportion to the number of links, the cost will scale linearly with the performance.

Link aggregation is a very cost effective way of adding bandwidth to a network installation, because it does not require the adoption and installation of new Data Link Layer or Physical Layer technologies.