

---

# Wrap Up & Future Directions

## IEEE 802.3

### Next Generation

### 100Gb/s Optical Ethernet Study Group

Dan Dove

Applied Micro

Atlanta Georgia – 11/10/2011

# Review Goals for the meeting

---

- ✓ Establish high level goals/schedule for the group
- ✓ Solidify the “easy” objectives
  - Define the areas where work is required
  - Define a timeframe for closing on the tough objectives
  - Lay the ground work for the next meeting

# Adopted Objectives

---

- Support full-duplex operation only
- Preserve the IEEE 802.3 / Ethernet frame format utilizing the IEEE 802.3 MAC
- Preserve minimum and maximum Frame Size of current IEEE 802.3 standard
- Support a BER better than or equal to  $10^{-12}$  at the MAC/PLS service interface
- Provide appropriate support for OTN

# Areas To Be Addressed

---

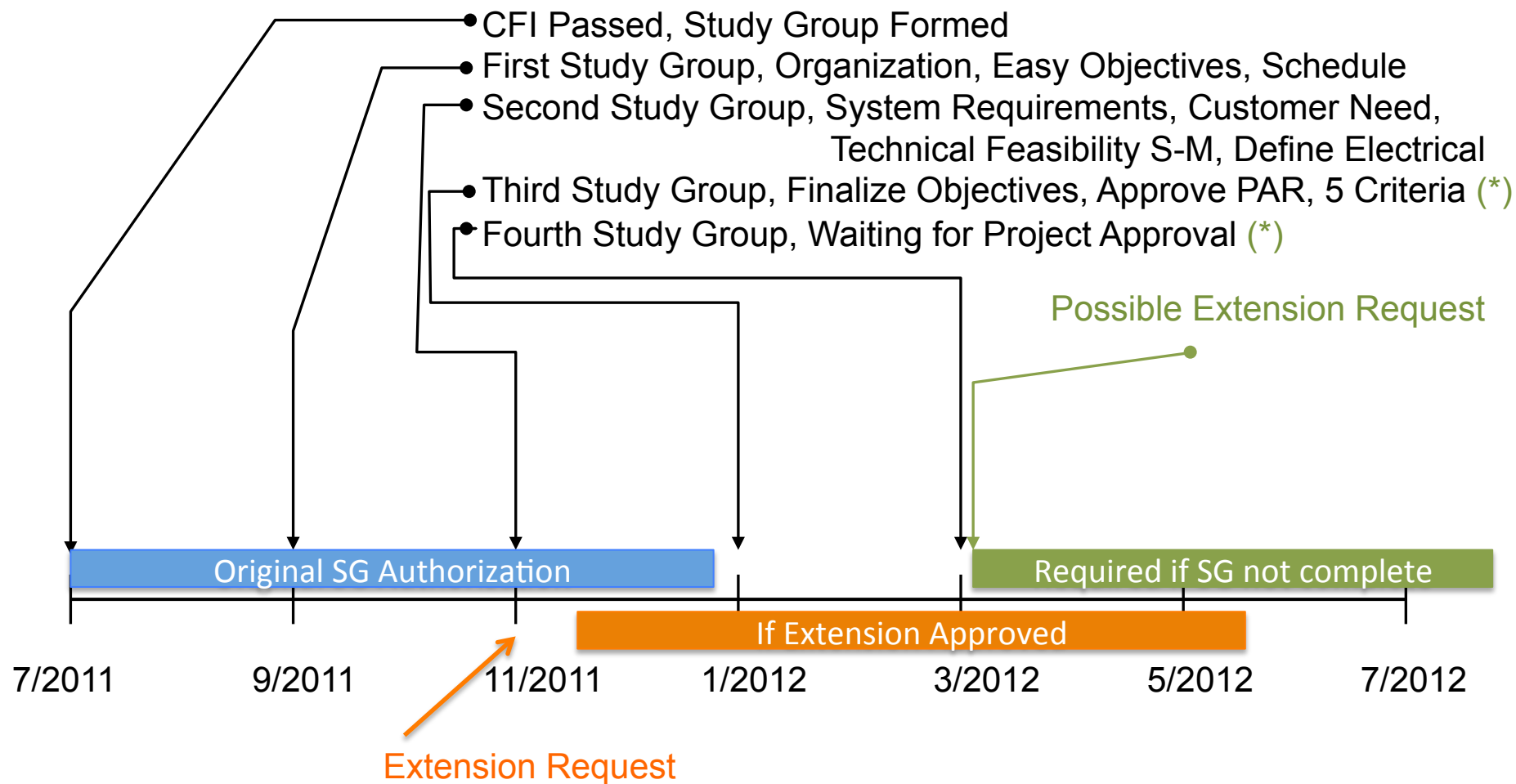
- Multi-Mode
  1. Identify all potential “tools” for implementing a 4x25G SR link
  2. Establish the relative power, cost, size, time components for various reaches
  3. Map this against market data for reach requirements
  4. Obtain the balance point for a technically feasible, economically feasible, low-cost, low-power **MMF** solution that meets sufficient customer needs.
- Single-Mode
  1. Identify all potential “tools” for implementing a lower cost longwave link
  2. Establish the relative power, cost, size, time components for various reaches
  3. Map this against market data for reach requirements
  4. Obtain the balance point for a technically feasible, economically feasible, low-cost, low-power **SMF** solution that meets sufficient customer needs.
- Relative Cost
  1. Identify the cost sensitivity for short reach MM optical links (Server/Switch)
  2. Identify the cost sensitivity for longer reach MM optical links (Switch/Switch)
  3. Identify the cost sensitivity for mid-range SM optical links (MDC/campus)
  4. Identify relative cost of termination, fiber by length, for duplex and MTP connections, SMF and MMF
  5. Identify the cost sensitivity for switches/servers to PMD cost, power, space variations

# Areas To Be Addressed (cont)

---

- **Market Need for Timed/Retimed**
  1. Identify impacts upon a 4x25G SR link
  2. Establish the relative power, cost, size, time components w/wo retimer
  3. Map this against market data for reach requirements
  4. Obtain the balance point for a technically feasible, economically feasible, low-cost, low-power SR solution that meets the optimum customer needs.
- **Time To Market**
  1. Identify technology feasibility, market adoption of 100G
  2. Establish the TTM priority for various approaches
  3. Map this against market requirements for each approach
  4. Obtain the balance point
- **Distinct Identity**
  1. Validate all objectives provide a distinct identity
- **Compatibility**
  1. Validate that all objectives can be met while maintaining compatibility with existing 802.3 standards
  2. Study compatibility with CR4 and assess priority within SG

# Timeframes (strawman)



# Future Meetings

---

- See: <http://www.ieee802.org/3/interims/index.html>
- **Monday, November 7th through Thursday, November 10th, 2011**
  - Hyatt Regency Atlanta
  - Atlanta, USA
- **Week of January 23, 2012**
  - IEEE P802.3 interim session  
All IEEE 802.3 Task Force and Study Groups will meet
  - Hosted by Ethernet Alliance
  - **Fairmont Newport Beach - Newport Beach, CA. USA**
  - **Days/Dates of NG100GOPTX meetings TBA**
- **Monday, March 12th through Thursday, March 15th, 2012**
  - Hilton Waikoloa Village
  - Big Island, Hawaii
  - USA
- Anyone interested in hosting a meeting contact me.

---

# Thank You!