# Developments since CDAUI Baseline adoption

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# Overview

- The CDAUI-8 Baselines were adopted in March
  - Since then there have been new OIF CEI-56G PAM liaison documents, and a number of 802.3bs presentations related to CDAUI-8
    - This presentation will attempt to summarize these developments
- Goals of this Ad-Hoc
  - What should the Ad-hoc be doing

# OIF CEI-56G-VSR

- Document history
  - oif.2014.230.01 was officially liaised to P802.3bs in March
  - oif.2014.230.03 was officially liaised to P802.3bs in July
- Document changes
  - CTLE changed to be self-adaptive and autonomous
  - Max symbol rate reduced from 30 to 29 Gsym/s
  - PAM eye measurement method added
    - Eye Linearity added as an electrical specification
  - Crosstalk Transition time specified (12ps)
  - Host input test signal VEC target increased to 5.5db from 5dB
  - Reference CTLE peaking centered at 15GHz versus 14GHz
- Baseline Impact
  - The changes are either not relevant to the Baseline presentation, or as in the case of the eye measurement method, included in it.

# OIF CEI-56G-MR

- Document history
  - oif.2014.245.01 was officially liaised to P802.3 in March
  - oif.2014.245.03 was officially liaised to P802.3 in July
- Document changes
  - Max symbol rate reduced from 30 to 29 Gsym/s
  - Single-ended device capacitance, Single-ended package capacitance at package to board interface, and single-ended termination resistance all made “TBD”
  - DFE length reduced to 5UI from 10UI
  - Linear fit pulse peak (min) reduced to 0.80*vf from 0.85*vf
  - Max single-ended voltage wrt ground at AC coupling cap input reduced to 1.95V from 2V
- Baseline Impact
  - The changes are either not relevant to the Baseline presentation, or as in the case of Linear fit pulse peak, included in it.

# Future OIF drafts

- The OIF PLL has just finished balloting and comment resolution on the ".03" drafts.
- The resulting ".04" drafts will not be available (and liaised) until September – at the earliest.

# Pittsburgh presentations

- C2C
  - CDAUI-8 SIMULATION RESULTS AND TRANSMITTER SPECIFICATION PROPOSAL
    - DFE-less C2C
    - See also hegde_3bs_01a_0715.pdf
- C2M & C2C
  - CDAUI-8 PAM4 Reference Receiver CDR
    - Superseded by ghiasi_3bs_01_0715.pdf

# Waikoloa presentations

- C2M
  - Considerations for Test Fixture Specifications
    - Chris DiMinico
    - Review of Compliance board methodology
    - Raises issue of connector applicability
- C2C
  - Effects of Additional FIR Taps to the CDAUI-8 Chip-to-Chip (C2C) Link Performance
    - Mike Peng Li, Altera
    - Study of effects of additional TXFIR taps on C2C performance
  - COM Parameter Refinements for CDAUI Chip to Chip 8x50Gbs PAM4
    - Rich Mellitz, Intel
  - CHANNEL OPERATING MARGIN (COM) PROPOSAL FOR CDAUI-8
    - Raj Hegde, Broadcom
    - Study of effects of additional TXFIR taps on C2C performance
- Both
  - Considerations for CRU BW and Jitter Tolerance
    - Ali Ghiasi

# What should the Ad-Hoc be working on ?

## COM

- Assuming that we have to achieve 2db COM on the whole C2C channel set – How do we do this ?
  - Refinement of COM parameters shows promise
    - But we need a change proposal, not a menu of options
  - DFE-less receiver proposal does not address this issue
    - Given it requires Com changes to catch-up with DFE, meeting 2dB on all channels will be harder. Again we need a change proposal.

## Rx/Tx PLL B/W mismatch

- Do we need to need to address this now ?

## Compliance Board connectors

- We need to ensure CDAUI-8 Compliance boards can be built
  - We need a presentation of Data on connector compliance to the adopted compliance board specifications
  - This will indicate whether we have an issue here on not