August 8, 2014

To: John D'Ambrosia and members of the IEEE P802.3bs 400 Gb/s Ethernet Task Force
CC: David Law (IEEE 802.3 WG Chair), Pete Anslow (IEEE 802.3 WG Secretary) and members of IEEE 802.3

Subject: Progress on OIF CEI-56G projects

From: Nathan Tracy, OIF Technical Committee Chair (ntracy@te.com)

Dear Mr. D'Ambrosia and members of the IEEE P802.3bs Task Force,
We are pleased to inform you that at our 3Q2014 meeting in Boston, we adopted baseline proposals for the following CEI-56G projects:

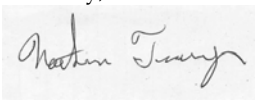
- A baseline for CEI-56G-USR: A low power, Ultra Short Reach (<= 1cm) electrical, chip-to-optical engine interface operating @ 39-56 Gb/s signalling for MCM use cases (within a single package). This project will facilitate optical engine integration within ASIC packaging. The baseline text is available in oif2014.267.00 (attached), and is based on NRZ signalling.
- Two baselines for CEI-56G-XSR: A low power, Extra Short Reach (<= 50mm) electrical, chip-to-discrete optical engine interface supporting data rates from 39-56 Gb/s for PCB use cases. This project will facilitate an efficient interface to a board mounted optical engine. The two draft baseline clauses define NRZ modulation (oif2014.268.00, attached), and PAM4 modulation (oif2014.286.03, attached) as the most appropriate modulation may depend on the channel and the application
- Two baselines for CEI-56G-VSR: The IA shall define electrical I/O lane(s) that support data rates from 39 to 56 Gb/s for chip-to-module interfaces. Reach 0 to ~100mm (exact max reach TBD). The two draft baseline clauses define NRZ modulation (oif2014.277.01, attached) and PAM4 modulation (oif2014.230.00, attached) as the most appropriate modulation may depend on the channel and the application.
- A baseline for CEI-56G-MR: The IA shall define electrical I/O lane(s) that support data rates from 39 to 56 Gb/s for reach of ~500mm for a chip-to-chip application with max loss in the range of 15 to 25dB (possibly higher) at 14GHz, which is in the range of 20 to 50dB at 28GHz (dependent on material). The baseline text is available in oif2014.245.00 (attached) and is based on PAM4 modulation.

Note that these drafts reflect efforts that are at an early stage, with significantly more work remaining to be done. As you review the baseline drafts, please consider that the solutions have begun the process of iterative review, but as is always the case with a baseline draft, there are known issues that will be addressed. One way that the IEEE can enhance this process is with any contributions addressing channel requirements.

In addition, we have initiated a new project for CEI-56G-LR for backplane applications. The project start proposal is contained in oif2014.235.01 (attached).

We request that you acknowledge the OIF in any derivative work.

Sincerely,



Nathan Tracy,
OIF Technical Committee Chair (ntracy@te.com)

Attach:

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|---|---|---|
| oif2014.267.00 | oif2014.277.01 | oif2014.235.01 |
| oif2014.268.00 | oif2014.230.00 | |
| oif2014.286.03 | oif2014.245.00 | |