

**Cable Television Laboratories, Inc. Liaison To:**

David Law, Chair, IEEE 802.3 Ethernet Working Group [dlaw@hp.com](mailto:dlaw@hp.com)

**From:**

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**Date:** January 27, 2011

**Subject:** Multicast LLIDs in IEEE Std 802.3 EPON systems.

Dear Mr. Law,

Founded in 1988 by cable operating companies, CableLabs is a non-profit research and development consortium that is dedicated to pursuing new cable telecommunications technologies and to helping its member companies integrate those technical advancements into their business objectives. One of its principal missions is the development and publication of open, technical specifications for broadband access equipment ([www.cablelabs.org/cablemodem/specifications/index.html](http://www.cablelabs.org/cablemodem/specifications/index.html)). To date, CableLabs has published more than 100 technical specifications and equipment built to these specifications now serves more than 100 million homes worldwide.

The cable television industry has been involved in IEEE EPON and 10G-EPON activities for the past few years and in particular has been an active supporter of the 10G-EPON and IEEE P1904.1 SIEPON projects. EPON technology has already been deployed by some of our members while others are considering EPON or 10G-EPON for future deployments.

CableLabs now is engaged in the development of specifications to facilitate the provisioning of EPON technology using DOCSIS™-compliant Operational Support Systems. The primary goal of the DOCSIS Provisioning of EPON (DPoE™) specifications is to extend the DOCSIS provisioning and service definition concepts to EPON systems. Paramount to the preservation of the service concepts is the alignment of the DOCSIS Service Flow Identifier (SFID) with the EPON Logical Link Identifier (LLID).

Similarly, for multicast traffic we require alignment of the DOCSIS Downstream Service Identifier (DSID) with an EPON multicast LLID. In DOCSIS, the Cable Modem Termination System (CMTS) labels all packets of a multicast stream with a DSID and communicates that DSID to the set of Cable Modems (CMs) that are intended to forward that stream. DOCSIS 3.0 CMs will only forward multicast traffic that is labeled with a known DSID, just as DPoE ONUs will only forward multicast traffic that is labeled with a known multicast LLID. With the alignment of DSID and multicast LLID we are able to

extend DOCSIS provisioning and service concepts to EPON networks, thereby achieving the full integration targeted within the DPoE project.

I am writing to you to communicate CableLabs' support for the proposal included in the Liaison letter from IEEE 1904.1 to IEEE 802.3 dated October 17, 2010, with the subject heading *Single-Copy Multicast Support in EPON*. The proposed extensions to the EPON ONU filtering rules to support the multicast LLID operation will help the cable industry achieve the aforementioned goal of aligning provisioning and service concepts for both DOCSIS and EPON networks.

We at CableLabs have been very pleased with our interactions with the IEEE and SIEPON to date, and we look forward to a productive and successful collaboration. Please let me know if you have any questions and I look forward to our next correspondence.

Very truly yours,



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