

# 802.1AB Revision Proposal

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# Current Situation

- We approved a motion in July to develop the text of PAR for the revision of AB and forward to the EC as per the 30-day rule.
- Background on the need for a revision has been discussed:
  - <http://www.ieee802.org/1/files/public/docs2006/ab-congdon-maint-0706.pdf>
  - <http://www.ieee802.org/1/files/public/docs2006/ab-congdon-transparent-devices-0706.pdf>
- Additional considerations include:
  - Fix issues in MIB and TLV usage discussed on mail reflector
  - Supporting the needs of 802.3at (DTE Power Enhancements)
  - Supporting the needs of AVB?
  - Supporting the needs of CM?

# Address Selection Direction

- Objective
  - Define addresses to be used for LLDP frames such that expected propagation of TLVs can be achieved (physical link boundary, customer bridge boundary, provider bridge boundary)
- Current Proposed Direction
  - Current address (01-80-C2-00-00-0E) terminates at physical link boundaries (i.e. all devices, no forwarding by transparent devices)
  - New address (01-80-C2-00-00-XX) terminates only at provider bridge boundaries
  - New address (01-80-C2-00-00-XX) terminates only at customer bridge boundaries, but forwarded by transparent devices (TPMRs, Provider Bridges)
- Necessary Changes
  - Define new addresses and indicate which TLVs are sensitive to propagation
  - Modify transmit and receive portions of document
  - Update MIB to support multiple instances in an optimal way

# Support for 802.3at (DTE Power Enhancements)

- At the 802.3at interim last week a motion was passed to use LLDP as a starting point for communicating power needs
- Presentation made at 802.3at is available at:  
<http://www.ieee802.org/1/files/public/docs2006/a-b-congdon-lldp-med-8023at-0906.pdf>
- Expected changes required
  - A 'fast' start mechanism
  - New TLVs or enhancement to existing LLDP-MED TLVs

# Support for AVB and CM

- Objective
  - Provide a mechanism to quickly discover AVB and CM capable devices and discovery the boundary of their interconnectivity
- Anticipated changes required
  - A ‘fast’ start mechanism
  - New TLVs or enhancements to existing 802.1 and 802.3 TLVs

# PAR Development

- Since we are proposing a ‘revision’ to .1AB, we can optionally expand the scope and purpose, but do not need to.
- The entire document will be open to balloting for a revision
- Actions:
  - Review current scope and purpose
  - Develop text for ‘needs’ section

# Current Scope

- To define a protocol and management elements, suitable for advertising information to stations attached to the same LAN/MAN, for the purpose of populating physical topology and device discovery management information databases. The protocol will facilitate the identification of stations connected by IEEE 802 LANs/MANs, their points of interconnection and their access points for management protocols.

# 5.3 Contingency Statement?

- **5.3 Is the completion of this standard contingent upon the completion of another standard?**  
Your explanation should include how the standard is dependent upon the completion of another standard. Also, if applicable, why a PAR request is being submitted if the standard currently under development is not yet complete.
- Likely due to new TLV data for AVB, CM and 802.3at. However, the completion of those standards may not be required if the data is well understood.



# Current Purpose

- An IETF standard MIB (RFC 2922) as well as a number of vendor specific MIBs have been created to describe a network's physical topology and associated devices connected to that topology, however, there is no standard protocol for populating this MIB or communicating this information among stations on the LAN/MAN. This standard will specify the necessary protocol and management elements.

# Scope of revision changes

- This standard is a revision to Std IEEE 802.1AB-2005 to define new discovery information, provide support for rapid exchange and to support visible the propagation of LLDP frames across transparent forward devices

# 5.5 Need for the Project

- New and developing 802.1 standards, such as 802.1ad and 802.1aj, define relay devices that transparently forward existing LLDP frames. The information elements in LLDP frames represent the transmitters view of local parameters. The propagation of these elements is dependent upon the address used LLDP frames and the forwarding rules of devices attached to the physical media. In order to obtain an accurate view of the topology, a receiver of LLDP frames needs to understand the reference from which the frames were sent. New destination addresses and explicit forward rules for LLDP frames are needed for a receiver to accurately obtain the senders reference.
- Additionally, new and developing 802 standards, such as 802.3at, 802.1at and 802.1au, have the need to rapidly discover the boundary in the topology for which particular capabilities are operating. New information elements and a more rapid exchange of LLDP frames is necessary to support the timely discovery of this boundary.
- Users of this standard will be able to accurately exchange information on a greater set of 802.1 topologies and will experience a more rapid convergence of information.