802.1AB Revision Update

Paul Congdon
Manfred Arndt

Current Status with 802.3at (PoE Plus)

- The following motion passed unanimously with one abstention at the interim meeting in Knoxville, TN:
  - 802.3at intends to use LLDP for L2 classification
  - 802.3at to use LLDP-MED extended power management as starting point

- Current 802.1AB revision PAR covers needs:
  - New and developing 802 standards, such as 802.3at
  - New information elements
  - More rapid exchange of LLDP frames

- No comments received on 802.1AB revision PAR

Scope of L2 power classification

- Propose an efficient Layer-2 power management protocol for enhanced power allocation, that includes the following:
  - Fine-grain power negotiation (initial boot-up and ongoing operation)
  - Dynamic re-negotiation without dropping link (e.g. video call in process)
  - Power priority (e.g. must keep "red phone" alive)
  - Backup power conservation (e.g. extend UPS battery life during disasters)
- Must be practical for both cost-restrained and feature rich endpoints
  - IP Phones, video phones and other communication devices
  - WLAN Access Points, video cameras, Pan-Tilt-Zoom video cameras
  - Card access readers (e.g. door entry)
- Must be backwards compatible with existing pre-PoE Plus devices

Next Steps for PoE Plus

- Write TLV extensions as part of 802.1AB revision

- 802.3at to appoint liaison to coordinate requirements for 802.1AB revision

  - New TLV elements, for example:

    - PD requested maximum power (over and above currently required)

    - PSE available maximum power (over and above currently supplied)

  - More rapid exchange of LLDP frames for timeliness of updates

- Define behavior rules within 802.3at, that describe the management entity interactions when PoE TLVs are sent and received

Overall 802.1AB Revision Work Plan

- Updates to support extended addressing model

  - 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

- Editorial clarification of MIB, TLV usage, and other confusions discussed on email reflector

- More rapid exchange of LLDP frames for timeliness of updates

- New TLV elements for 802.3at

  - Requirements and content to be defined by 802.3at

- Any new TLV elements required for AVB and CM? Deadline?