2005 May 18 - Power-over-Ethernet Plus meeting minutes

08:59 – Opening, introductions, etc.
- Ground rules
- Bylaws on Patents in Standards
- Inappropriate Topics read
- IEEE structure outlined
- Rules
- PAR (Project Authorization Request)
- 5 Criteria
    - Broad market potential
    - Compatibility w/ IEEE Std 802.3
    - Distinct identity
    - Technical feasibility
    - Economic feasibility
- Objectives
- Presentations
    - Robbins
    - Stanford
    - Law

Presentations

An Extended Classification Protocol for PoE Plus – Steve Robbins
- Propose extended classification protocol
- Objectives
    - Higher class resolution
    - Mutual identification
    - Backward compatibility
    - Simplicity
- Basically extends Classification period based on extra power requested
- Questions
    - Darshan – af complications by extending time of classification
    - Koonce – use class-4 and then drop to a mid voltage to start timing for detailed power classification for "plus"
    - Hank – the .af class 4 has pitfalls

Break 10:20

2-Pair vs. 4-pair – Clay Stanford
- 4-pair implementation increases cost and complexity
    - Mis-matching of cable-PD load to PSE; need to provide balancing on all 4 pairs
- Committee should adopt 4-pair since it would provide the highest power
- We should define both 2-pair and 4-pair as separate entities
- Questions

- o Steve – need to be concerned about magnetics capability

Company count – 23
People count – 40

Minutes review – Koonce motioned for approval, Darshan seconed – minutes approved

Power over Ethernet Plus Isolation Requirements – David Law
- History – 802.3 - 1985
  - o MAU must provide isolation. Breakdown shall be 250 V ac, rms
  - o 10BASE-T (802.2 2002) – 1500 V rms at 50-60 Hz; 2250 Vdc for 60 seconds; ten 2400 V impulses
  - o Post 10BASE-T all tend to refer back to the requirements of 10BASE-T. Based on level of isolation based on potential connection to a line going outside.
  - o 802.3af D4.0 comment #88 read regarding isolation requirements resulted in current text in 33.4.1 of 802.3af specification (only the ac and impulse tests are referred)
    - ▪ Meet SELV to TNV isolation – question: what type of TNV?
    - ▪ DC test eliminated
    - ▪ Test method reference changed
    - ▪ Insulation breakdown changed
- Analyses of differences in DTE Power via MDI
- Recommendation
  - o Add an objective that IEEE Std 802.3af DTE Power via MDI isolation requirements be revisited as part of PoE plus objectives

Proposed week of Sept 13 in Nashua, NH (near Manchester) – 29 willing to make it

Objective review
- Objective 7 – need to reword current version by moving "is required" clause earlier in the statement. – "PoEPlus PDs, which require a PoEPlus PSE, shall provide the user an active indication when connected to a legacy 802.3af PSE. This indication is in addition to any optional management indication that may be provided." General vote – (yea, nay, abstain) 21, 0, 2 - Passed
- Objective 8 modified – The standard shall not preclude the ability to meet FCC / CISPR Class A, Class B, Performance Criteria A and Performance Criteria B with data for all supported PHYs. General vote – (yea, nay, abstain) 28, 0, 1 - Passed
- Objective 10 modified – PoE Plus will vigorously pursue supporting the operation of midspan PSEs for 1000BASE-T
  - o Motion to modify objective by Pat Bailer; it was seconded by Wael Diab. General vote – (yea, nay, abstain) 28, 1, 2 - Passed
- Objective 12 added – That IEEE 802.3af power over the MDI isolation requirements be revisited as part of the PoE Plus work.
  - o Motion to add #12 by David Law; Hank Hinrichs seconded. General vote – (yea, nay, abstain) 29, 0, 0 - Passed

- Objective 13 added – PoE Plus PDs within the power range of 802.3af will work properly with 802.3af PSEs.
  - Motion to approve addition – Geoffrey Thompson; seconded by Derek Kroes. General vote – (yea, nay, abstain) 28, 0, 0 - Passed

Ad-hoc meeting on TIA specification review will be Wed night at 19:00.

Company representative count – 22

Need to get PAR and 5 Criteria out 35 days prior to Plenary session.

5 Criteria
- Broad Market Potential
  - 1st bullet
    - Change "PTZ" to "Pan/Tilt/Zoom"
    - Drop "802.16" to "802 wireless node and access points"
    - Move "multi-band" to "802 multiband wireless nodes and access points"
  - 2nd bullet
    - Add text at end of first sentence "and Study Group participation has been consistent with this"
- Compatibility
  - 1st bullet
    - Second sentence to start with "These enhancements will be compatible…"
    - Move 10GBASE-T reference in 2nd sentence to its own sub-bullet. Other speeds moved to a sub-bullet. First bullet now becomes as follows:
      - *Conformance with CSMA/CD MAC, PLS.*
        - *All enhancements will be backward compatible with 802.3af*
        - *These enhancements will be compatible with 10BASE-T, 100BASE-TX,1000BASE-T with no changes to the existing MAC*
        - *10GBASE-T will not be precluded.*
  - 2nd bullet
    - Updated "802.2" to "overriding documents"
- Distinct Identity
  - 1st bullet
    - "This needs work" changed to "The classification levels will increase to improve power management capability."
- Technical Feasibility
- Economic Feasibility
  - Detailed discussions on the maket / feasibility aspect

Motion to adjourn by Hank; Derek seconded - approved
Session closed @ 17:20

2005 May 19 - Power-over-Ethernet Plus meeting minutes

08:59 – Opening

Review 5 Criteria with new 802 rules implemented

Need to submit 3 major documents 30 days in advanced of the opening 802 Plenary

Plan –
- Complete Objectives, 5 Criteria and major portions of the PAR
- Pass a motion to authorize the chairman to submit documents "with edits as appropriate" prior to the deadline

Review of 13 Objectives
- Updated date and location
-

5 Criteria
- Now in document format
- Added sentence to Distinct Identity, paragraph 2
  - The resulting standard will create one definition of power via the MDI while allowing current 802.3af compliant devices to remain compliant and adding optional enhanced devices.
- Technical Feasibility
  - Minor grammar changes
  - Added sentence between 3rd and 4th in second paragraph
    - Market feedback has provided new insights into market needs and technical capabilities.
  - Moved last sentence of 2nd paragraph as new paragraph as number four.
- Economic Feasibility
  - Added beginning to first sentence of third paragraph
    - For engineered deployments of security and radio devices, …
  - Inserted sentence between 1st and 2nd sentence
    - For many applications that require enhanced power services, such as power management or UPS, PoE is demonstrably less expensive than distributed services.

Presentation by Daniel Feldman – demonstration that power management is being emphasized
- Findings are based on number of switched, not in the entire market

Presentation by David Law – Compatibility Matrix presentation for Objectives
- Motion by David Law to adopt following matrix an Objective, seconded by Tony Randall

	IEEE Std 802.3af PSE	PoEP PSE
IEEE Std 802.3af PD	Operates	Operates
PoEP PD <12.95 W	Operates	Operates (note 1)
PoEP PD >12.95 W	PD shall provide user active indication	Operates (note 1)

   Note 1: Operates with extended power classification
- vote – (yea, nay, abstain) 30, 0, 0 - Passed

Motion 1 – Move that the chairman forward the Objectives and 5 Criteria, with edits as necessary, to the IEEE 802 EC Prior to the deadline for consideration during the July plenary.
   Hank Hinrichs makes motion, Derek Kroes seconds
   vote – (yea, nay, abstain) 34, 0, 0 - Passed

PAR
- Items 1-12 are automatically completed. We need to work on items 13, 14, 15, 16.
- Scope needs to be crafted that it shown as existing enhancement to clause 33.
- 16 – Intellectual Property
  - A. Yes, the patent policy was systematically read each meeting.
  - B. No on copyrighted material
  - C. No on trademark permission
  - D. No registration activity needed
- 17 – Documents w/ Similar Scope
  - Need to revisit w/ key people
- 13 – Scope Statement
  - The scope of this project is to augment the capabilities of this (proposed) international standard with higher power levels and improved power management information. The project will augment the methodology for the provision of power via balanced cabling to connected Data Terminal Equipment with 802.3 interfaces. Optional augmented power limit will be made available for certain structured cabling systems. Compatibility with existing equipment will be maintained.
- 14 – Purpose of Proposed Project
  - The purpose of the proposed project is to include higher power applications while providing enhanced power management information to reduce total system cost.
- 15 – Reason for the Proposed Project
  - Since the publication of the IEEE 802.3af standard, significant market demand has emerged for applications (e.g. multiband wireless access points and controllable security cameras) beyond the power level defined in the standard. Evolution of the installed base of structured cabling systems since the time of commencement of the IEEE 802.3af project now enables higher attainable power. The market now demands that the total system cost of augmented power levels must be mitigated through improved power management.

Motion 2 – Move that the chairman complete a project authorization request (PAR) based primarily on the contents of the file "May 19 PAR.pdf" and forward the PAR, with edits as necessary, to the IEEE 802 EC prior to the deadline for consideration during the July plenary.

      Motion by Tom Diamond, seconded by Bil Delveaux
      vote – (yea, nay, abstain) 21, 1, 0 - Passed

Motion to adjourn at 14:40 was passed by acclimation.

July's meeting will review the three submitted documents. Technical presentations can be presented on a preliminary basis.

Submitted by Derek Koonce, recording secretary