Minutes of the IEEE 802.3af task force meeting January 8-9, 2001 in Irvine, CA

### Monday, January 8, 2001

Morning session

- Steve Carlson opened the meeting at 8:30AM
- Lisa Leo volunteered to be Recording Secretary for this meeting
- Steve Carlson presented the Introductory Slides and Agenda for the meeting (slides available on the 802.3af website). Highlights:
  - o Objectives for the week
    - Consensus on resistive tolerance
    - Review draft status
    - Charter next draft
    - Presentations for 1000BASE-T
  - Next Plenary meeting will be March 12-15 at the Hyatt Regency, Hilton Head, SC. Note: This hotel will become a Marriott as of Wednesday, January 11, 2001.
  - Next Interim meeting (tentative) will be May 21-25, 2001 in St. Louis, MO. Watch websites for details.
  - 802.3af schedule: July Plenary first draft, September Interim last new feature, November Plenary – last chance, January Interim – Task force ballot
- Presentations
  - o "Tolerance Analysis of Resistive Discovery", Rick Brooks, Nortel Networks
    - Several suggestions were made for ways to reduce the tolerance requirements on the resistive discovery scheme.
  - "Proposal for Specifying PSE Detection", Dieter Knollman, AVAYA communication
    - Suggested the possibility of increasing the tolerances to 2% or more by widening the detection window.
  - "Technical Study: Resistive Discovery for Power over MDI", Roger Karam, Cisco Systems
    - Further support for Rick Brooks' analysis on tolerances.
    - Commented on analog vendors recommendation to increase detection current to at least 1mA.
    - Posed the question as to whether the group should explore several subclasses of devices.
- Steve Carlson solicited comments from the IC vendors.

#### Morning Break

- The group went around the room and individuals introduced themselves.
- Steve Carlson asked for comments from the group as to how to move forward to get tolerance and noise requirements implemented in the draft specification.
- Group discussed:
  - o whether the diodes for polarity are required or optional.
  - whether support for auto-MDIX is required or optional.
  - whether the placement of resistors would have to be before or after polarity diodes.
  - o voltage drop and power loss implications of requiring polarity guard.
  - possible requirement of auto-MDIX support on the PSE end, but optional support at the PD end to allow for low-cost PD implementations
- Motion #1: The auto-polarity diode bridge in the PD is optional on either pair set.

- By: Roger Karam Second: Rick Brooks
- o All voters ■ Yes 37 No 1
- Yes
  802.3 voters
  - Yes 18 No 1 Abstain
- Technical motion 75% required
- Motion carries.
- Motion #2: The signature resistor(s) shall be placed on the PSE side of any polarity guard(s) present. A signature resistor may optionally be switched out of circuit after detection is complete.
  - o By: Peter Schwartz Second: Yair Darshan
  - Motion withdrawn.

#### Lunch Break

Afternoon session

- Steve Carlson polled to determine numbers planning to attend upcoming meetings
  42 YES, 5 MAYBE for March Plenary in Hilton Head.
  - 42 YES, 5 WAYBE for March Plenary In Hill
    22 YES, 16 MAYBE for May Interim
  - $\circ$   $\,$  32 YES, 16 MAYBE for May Interim.
- Presentations
  - o "802.3af Management Objects", Dan Romascanu, AVAYA.
    - Presented SNMP view of management requirements
      - Geoff Thompson commented that 802.3af should extract the hardware requirements from this proposal. Proposed defining a management object for the PSE and the PD to reflect the registers.

Abstain

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- Nick Stapleton to follow-up with ad hoc meeting to review management objects and determine hardware requirements.
- o "Technical Feasibility of DTE Power and 1000BASE-T", Kevin Brown, Broadcom
  - Applied clean DC power to test matrix: saw no effect of DTE power on BER. Reviewed transmit signal integrity tests; all remained within specification.
  - Recommend 802.3af include support for 1000BASE-T.
- o "Technical Feasibility of Power over 1000BT", Roger Karam, Cisco Systems
  - Reviewed transmit template measurements, jitter, return loss, crosstalk,
    - common mode noise, impedance balance and since wave injection data.
  - Concludes power over 1000BT is feasible.
- Motion #3 802.3af shall include support for 1000BASE-T, excluding midspan power insertion.
  - o By: Kevin Brown
- Second: Henry Hinrichs
- Motion tabled.
- Presentation
  - "DTE Power via MDI: PD-Power Switch & DC/DC Converter, PSE-Integrated Detection, Power Switch & Power Control", Steve Hemmah, Texas Instruments
    - Presented considerations for PD power switch & DC/DC converter and PSE power detection, switch & control.
- Terry Cobb distributed proposed text for Electrical specification. He will present this information tomorrow and answer questions.

- Draft 1.1 of the specification was distributed. The group was asked to review the draft so that comment resolution may begin tomorrow.
- Geoff Thompson presented for the Management ad hoc. Reviewed the "802.3af Management Objects", Dan Romascanu, AVAYA presentation. Ad hoc discussed the hardware required to support the portPseTable and portPdTable management objects. Total of 11 PSE bits and 3 PD bits for control. *Dan Romascanu will update his presentation slides to reflect the changes proposed by the ad hoc.*
- Meeting was adjourned at 5 PM.

### January 9, 2001

#### Morning session

- Steve Carlson opened the meeting at 8:30AM
- Presentations
  - o "DTE Power Device Electrical and Environmental Specification", Terry Cobb,
    - AVAYA Communications
      - Contribution for wording of PSE electrical specs. Note: References to the "DTE power device" in this contribution apply to the PSE.
      - To be submitted as a comment to the document.
  - "DTE Power via MDI Minimum current necessary to keep power via MDI", G. Vergnaud, Alcatel
    - Suggests a 1.76 mA minimum current may be better than 10 mA in order to accommodate devices which may have the ability to be powered by MDI or by local power source.
    - Discussion of minimum current.
- Gigabit motion that has been tabled for procedural issues and will be revisited this afternoon. Until that time, Gigabit is not within the group's charter and the editor will not include it.
- Mike McCormack presented Draft 1.1 and the group began comment resolution.
  - Mike will update draft with changes.
  - Specific numerical changes were referred to the ad hocs for comments and changes.
- Update for March Plenary: Hilton Head Marriott Beach & Golf Resort 1-800-228-9290. After January 11, 1 (843) 785 1234. The hotel officially changes to a Marriott on Thursday, January 11, 2001. Most current information will be posted on the website or the reflector.

#### Lunch Break

#### Afternoon session

- For development of pieces of the draft standard, several ad hocs have been formed, including:
  - *Power supply* ad hoc led by Arlan Anderson.
  - *Management* ad hoc led by Nick Stapleton.
  - o Discovery ad hoc led by Don Stewart.
  - *High level state machine* ad hoc currently led by Mike McCormack, but looking for a new lead.
- Comments/inputs for these groups should be sent to the ad hoc leaders. Reflector to be set up for the discovery ad hoc.
- The latest draft (D1.1) will be on the password-protected portion of the 802.3af website.

- Discussion of classification falls outside the current objectives and will not be discussed at this time.
- Mike McCormack continued discussion of draft outline.
- Steve Carlson reviewed the functionality and use of the comment tool. Comment software will be provided on the web/reflector for submission of formal comments to the editor. Please use the software to submit your comments.
- Motion #4 Each MDI port that contains a valid PD signature must be isolated by at least 500VDC to any user-accessible conductor.
  - By: Rick Brooks Second: Dan Dove
  - Motion tabled.
- Motion #5 The existing isolation requirements of Environment A and Environment B apply whether or not the DTE power is energized and whether or not discovery is running.
  - By: Rick Brooks Second: Robert Muir
  - Motion tabled.
  - Rick to supply editor with text regarding testing methods for hi pot with power on
- Motion #3 was brought off table & amended.
- Motion #3 802.3af shall include support for 1000BASE-T for power delivered from the MDI to the PD and 802.3af shall include support for 1000BASE-T for power delivered from the midspan pending the demonstration of technical feasibility of midspan solution by the working group ballot.
  - By: Kevin Brown Second: Henry Hinrichs
  - o All voters
  - Yes 18
    No 9
    Abstain 16
  - 802.3 voters
    - Yes 12 No 5 Abstain 8
  - Technical 75% required.
  - $\circ$   $\,$  Motion fails.
- Motion #6 802.3af support 1000BASE-T in the standard pending demonstration of technical feasibility for midspan power insertion
  - By: Dan Dove Second: Henry Hinrichs
  - All voters
    - Yes 13 No 14 Abstain 13
  - o 802.3 voters
    - Yes 8 No 10 Abstain 6
    - Technical 75% required.
  - Motion fails.

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- Motion #7: Motion to adjourn.
  - By: Terry Cobb Second: Dan Dove
  - Procedural motion 50% required
  - Motion fails.

#### Break

- Motion #8: Motion to approve minutes from Tampa.
  - o By: Karl Nakamura Second: Scott Burton
  - Procedural motion 50% required
  - Motion passes.
- Motion #9: To charter the editor to create draft D1.2
  - o By: Robert Muir Second: Roger Karam
    - $\circ$  Procedural motion 50% required.
    - Motion passes.

- Motion #10: 802.3af shall include support for 1000BASE-T over pairs 1-2, 3-6..
  - By: Karl Nakamura Second: Jim Polk
  - Motion tabled.
- Motion #11: 802.3af shall allow a 1000BASE-T PSE DTE/repeater to provide power to a 1000BASE-T PD.
  - By: Chris Cullin Second: Amir Lehr
  - After some discussion, the question was called.
  - o Dan Dove opposed the question being called.
  - o A vote was taken as to whether to call the question.
    - Yes 28 No 2 Abstain 1
  - Procedural 50% required. The question stands called and the vote proceeded.
  - o All voters
    - Yes 26
      No 5
      Abstain 3
  - o 802.3 voters
    - Yes 16 No 3 Abstain 3
  - Technical 75% required.
  - Motion passes.
  - Terry Cobb requested the chair to consider a company vote. His request was denied.
- Motion #12: Motion to adjourn.
  - o By: Wael Diab Second: Mike McCormack
  - Procedural motion 50% required
  - Motion passes.