802.3at Task Force
Temperature De-rating
March 2008 Orlando Meeting

Christian Beia, ST Microelectronics
Clay Stanford, Linear
Dan Dove, HP Procurve
David Law, 3COM
Fred Schindler, Cisco Systems
Joe Berry, Bel
John Jetzt, Avaya
Keith Hopwood, Phihong
Kirk Hayden, Akros
Marius Vladan, AMIS
Mathew Landry, Silicon Labs
Mike McCormack, Texas Instruments
Raul Lozano, Juniper
Steven Carlson, Highspeed Design
Thuyen Dinh, Pulse
Wael Diab, Broadcom
Yair Darshan, Microsemi

Review

- When we started the project we did not think that having a higher current capacity would have an impact on temperature operating point
- Starting back in May of 2006, in communications with our expert cabling communities we looked at various options including temperature de-rating and settled on picking a single point with 15C de-rating as a placeholder. Refer
  - http://www.ieee802.org/3/at/public/may06/law_1_0506.pdf
  - http://www.ieee802.org/3/at/public/sep07/diab_1_0907.pdf
  - Resolution to comments in D0.9 including #247

Issues

- Systems are expected to operate within a specific operating environment.
- Broad market acceptance is impeded by complex restrictions. e.g. requalifying the cabling plant.
- These restrictions are an operational challenge for deploying PoE. How do you find the hottest spot?
- System behavior may be dependent on the operating environment it is in.

Proposed Next Steps

- Temperature de-rating has an impact on Broad Market Potential (BMP) for 802.3at
  - Marketing analysis show this is a first-order consideration.
- In discussions with experts from equipment manufacturers and experts in operating environments, a de-rating in excess of 10 degrees would not satisfy BMP for 802.3at
- Propose that we move from a 15 to a 10 degree de-rating for 802.3at

Motion

- Move that

IEEE 802.3at changes the 15C de-rating to a 10C de-rating for Type 2 Cable De-rating. Charter the Editor to update 33.1.4.2 and table 33-1 of the draft accordingly per the ISO liaison 3N864.

M: Fred Schindler S: Dan Dove

ALL Y: 35 N: 0 A: 6

.3 No .3 voter changed their vote

Technical (>=75%)