

**Minutes of the Power via the MDI Task Force  
Interim Meeting, May 24-25  
Ottawa, Canada**

The Meeting was called to order by Steve Carlson, chairman at 8:45 am, May 24, 2000. Steve Buck, TDK was asked to be recording secretary for this meeting. The first Item was a statement of the objectives for week

- Continue to define the constraints
- Map possible solutions against the constraints
- Make decision on voltage, current levels based upon data
- Decide on powering technique and pair usage
- Decide on discovery mechanism

It was noted that there were a number of new participants (about 20 or 30%).

The agenda was presented to the group, no changes to the agenda were presented. The agenda included the following administrative items:

- Task Force Status
- Par approved by NESCOM 1/00
- Details of the E-mail reflector
- Discussion on the use of reflector (e.g. no flaming)
- Discussion of Working Group voting membership rules
- Future Meetings:
  - Plenary July 10-14 La Jolla, Ca.
  - Interim – September 11-14, Boston, Mass.
- Statement of Objectives
- Presentation guidelines
- Short Term Schedule
- Task force Objectives

The Agenda and Opening remarks are posted separately to the Website.

This was followed by a short discussion of the decision list (a list of outstanding questions to be answered by the group and a review of the requirements list.

- Maximum Voltage (Objective 5)
- Maximum and minimum current (Objective 5)
- Are classifications required, and (if so) how many (Objective 6)
- Detection to be made on same pair as power
- Which pair(s)? (Objective 7)
- What level of support for 2-pair legacy systems (Objective 7)

- Level of support for 1000BASE-T (Objectives 1 & 9)
- Determine fault behavior
- Determine type of discovery mechanism
- Single or multi-tiered discovery mechanism
- Of the known RJ-45 devices can we determine which can we live with?
- Level of support for mid-span insertion
- AC or DC
- Should we define a standard means to provide optional visual indications of the ability to supply power from a connector and/or is it currently providing power?
- Maximum voltage not to exceed SELV IEC 950

## 802.3af Requirements

- Without specifying the two and only two pairs to be utilized for DTE power, DTE power shall utilize two pair powering where each wire in the pair is at the same nominal potential and the power supply potential is between the two pairs selected. - January 2000 Interim
- Regardless of the detection scheme adopted and the power feed scheme adopted, the power detection and power feed shall operate on the same set of pairs. - January 2000 Interim
- Regardless of the final voltage selected, the DTE power max voltage shall not exceed the limits of SELV per IEC 950. - January 2000 Interim
- In order to progress we accept that there are two isolation requirements of 802.3, environment A and B per 802.3 section 27.5.3 et al, and that for the purposes of this committee we will treat as a priority for consideration environment B without precluding environment A. - March 2000 Plenary
- For DC systems the minimum output voltage of the source equipment power supply shall be at least 40VDC. - March 2000 Plenary
- For DC systems, the source device shall be capable of supplying a minimum current of at least 300mA per port. - March 2000 Plenary
- The solution for DTE Powering shall support mid-span insertion of the power source. - March 2000 Plenary

### Scheduled Presentation List

Presentations resulting from motions or other discussions are included within the minutes.

- “Basic Methods for DTE Power Delivery”, Ed Walker, TI
- “ISOLATION CONSIDERATIONS for MDI POWER SOURCES and MDI-POWERED DTE”, John Jetzt, Donald Stewart, Lucent
- “Common Mode and Differential Mode Discovery Techniques,” Rick Brooks, Nortel
- “Update on the Diode Discovery Process,” Robert Muir, Level One
- “IEEE 802.3 DTE Power via MDI Detection and Signature Protocol,” Richard Glaser, John Jetzt, Dieter Knollman, Robert Leonowich, Donald Stewart, Lucent
- “Proposal for Consensus,” Ralph Andersson, TDK
- “Cabling from the User Perspective,” Bob Love, Dave Kooistra, IBM
- “DTE Power at the Endpoint,” Karl Nakamura, Cisco
- “Phone Discovery at the Mid-Span, Karl Nakamura, Cisco
- “DTE power via MDI, An Alternative Proposal,” Hans Sitte, Aligent
- “Insertion and Return Loss with Mid-Span Insertion,” Mike Nootbar, TDK
- “Transformer Coupling at the Mid-Span,” Kevin Brown, Broadcom
- “DTE Power via MDI, G. Vergnaud, R. Gass, ALCATEL
- “Powering and Discovery Alternatives,” Arlan Anderson, Nortel

### Motion to approve agenda

Moved: Mike McCormack  
Second Bill. Quackenbush  
Approved by acclimation

**1st Presentation** - Basic Methods for DTE Power Delivery  
Ed Walker, TI Analog Field Applications.

Break  
Meeting resumed at 10:30AM

**Presentation** - Isolation Considerations -John Jetzt, Donald Stuart, Lucent

**Presentation** - Common Mode and Differential Discovery Techniques - Rick Brooks, Nortel

Lunch Break  
Meeting resumed at 1:15 PM

**Presentation** - Update on Diode Discovery Process - Robert Muir, Level One

**Presentation** - Detection and Signature Protocol - Bob Leonowich , Richard Glaser et al., Lucent

Break

Meeting resumed at 3:10PM

Geoff Thompson made a short speech on IEEE Patent Policy. The new IEEE policy now requests a letter disclosing patents a head of time, not after a standard is approved

**Presentation** - TR42.1 Liaison report - Chris Dominico  
TR42 has set up a task group to answer the questions from IEEE 802.3

**Presentation** - DTE Power over MDI - Building Consensus - Ralph Andersson, TDK Semiconductor

**Presentation** - User requirements for Cabling Support - Robert Love, LAN Connect Consultants, Dave Kooistra, IBM

**Presentation** - Power over the MDI - Karl Nakamura, Roger Karam, Cisco Systems

**Presentation** - Power over the MDI using the two signal pairs - Karl Nakamura, Roger Karam, Cisco Systems

**Motion to adjourn:** McCormack Time: 5:24PM

Second: Quakenbush

Approved by acclimation

**Thursday May 25, 2000**

The Meeting was called to order by Steve Carlson, chairman at 8:30AM, May 25, 2000

**Presentation** - DTE Power via the MDI, an Alternative Proposal - Hans Sitte, Agilent

**Presentation** - Return Loss with Mid-span - Mike Nootbaar, TDK Semiconductor

**Presentation** - Mid span Insertion using Transformer coupling - Kevin Brown, Broadcom

Break

Meeting resumed at 10:10AM

**Presentation** - DTE Power via the MDI - G. Vergnaud, R. Gass, R. Jaeger, Alcatel

**Presentation** - Consideration in selecting feeding voltage/current Amir Lehr, Yair Darshan, Avinoam, Levy - PowerDsine

**Presentation** - Powering and discovery Alternatives - Arlan Anderson, Nortel

**Presentation** - Proposal to Move forward - Chris Cullin – Cisco Systems

**Presentation** - Consensus Proposal for DTE power via the MDI - Dan Dove, HP

Lunch Break  
Meeting resumed at 1:20PM

**Motion 1:** All technical motions which are passed from this time forward, unless specifically excluded in the wording of the motion shall be incorporated into the document entitled 802.3 requirements which was created at the March Plenary. The editor is to maintain this document and update it within one week of the end of the meeting

Moved: Michael McCormack  
Second: Arlen Anderson  
Technical: Not Procedural  
Y:44 N:0 A:2 Time: 1:25PM  
Motion Passes

**Motion 2:** The standard for DTE power distribution will use pairs associated with pins 4-5, and 7-8 as the primary pairs for distributing power over the MDI.

Moved: Mike Nootbaar  
Second: Amir Lehr  
Technical: Yes 75%  
Y: 32 N: 14 A: 6 Time:2:11  
Motion Fails

**Motion** to table this motion until after Dan Dove Presentation. Yes:24 No:14 Time: 1:30  
Motion Passes

**Motion 3:** It is an objective that the DTE shall be required to accept power from both the 12,36 and the 45,78 pair-sets with the requirement that those pair-sets both use the same method of detection.

Moved: Dan Dove  
Second: Robert Love  
Technical: yes 75%  
Y: 27 N: 21 A: 6 Time:2:03PM  
Motion Fails

**Motion 4:** 802.3af systems shall distribute DC Power

Moved: Michael McCormack  
Second: Bill Quackenbush  
Technical: yes 75%  
Y: 53 N: 0 A: 2 Time: 2:15PM  
Motion Passes

**Motion 5:** Move it is an objective to come up with one and only one discovery method.

Moved: Robert Love  
Second: Robert Muir  
Technical: yes 75%  
Y: 31 N: 11 A: 7 Time: 2:32

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