Minutes of the
DTE Power via MDI Task Force
Albuquerque, NM
7-8 March 2000
Recording Secretary - Scott Burton

The meeting was called to order by Steve Carlson, chairman of the DTE Power via MDI Study Group at 8:30 AM, 7 March 2000.

Motion
A motion to affirm Steve Carlson as chair of what is now the DTE Power via MDI Task Force.
Moved: M. McCormack   Second: A. Anderson
Motion carried unanimously.

The agenda was presented to the group. There were no additions or changes requested.
A show of hands indicated that there were several first-time attendees. Individual introductions of all attendees were then completed.

Steve gave an overview of the email reflector and its use, which included a request to not attach files to reflector submissions due to virus concerns. Other administrative issues were then discussed including working group voting requirements, the signing procedure for the attendance books, and the schedule and location of the next interim meeting. The objectives for this meeting were then presented. Finally, the presentation guidelines were reviewed. These included keeping presentations simple and small in size and submitting them to the chair, in PDF format if possible, two weeks prior to the meeting. The short term schedule for the group was then presented along with the DTE power objectives as approved in Nov 99 in York.

Steve then presented the following: the Decision List (list of questions that have been or need to be decided); the list of Action items from the last meeting; the list of conclusions from the last meeting and the list of presentations for this meeting.

The presentations followed.

Presentation 1 – Isolation Issues, Scott Burton, Mitel
Much discussion about the interpretation of 802.3 and the relationship to the '950 standards with regard to the isolation/safety requirements.
The following motion resulted.

Motion
In order to progress we accept that there are now 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.
Moved: N. Stapleton   Second: L. Miller
Technical 75%
Y: 23   N: 3   A: 9   Time 10:00
Motion passed.

Presentation 2 – Patch Panel/Outlet/Cable Current Considerations, Donald Stewart, Lucent

Presentation 3 – DTE Power Supply Options, Scott Burton, Mitel

Presentation 4 – BER Performance with Dynamic loads, Mike Nootbaar, TDK

Lunch Break at 11:55AM

Presentation 5 - Roger Karam, Cisco

Presentation 6 – Considerations of Mid-Span Power Insertion, Kevin Brown, Broadcom

Presentation 7 – DTE Power Detection Algorithm, Kevin Brown, Broadcom

Break at 2:45PM

Presentation 8 – Proposal for a discovery process, R. Gass/G. Vergnaud, Alcatel

Presentation 9 – DTE Power via MDI Detection and Signature Guideline, Robert Leonowich, Lucent

Presentation 10 – DC Power Discovery Algorithm, Phil Holland, Circa Communications

Presentation 11 – Regulatory 802.3 and IEC950, Nick Stapleton, 3COM

Adjourn at 4:30pm

Wednesday March 8, 2000
Meeting called to order by Steve at 8:35AM

Presentation 12 - Connector Update, Elwood Parsons, Tyco Electronics (AMP)

Vote held to determine group's preference for location of September interim meeting.
Result: Copenhagen 14   Boston   18
Boston preferred by majority.

Presentation 13 - System Considerations for DTE Power, Arlan Anderson, Nortel

Presentation 14 – Idle Pair Discovery Process, Robert Muir, Level One

Presentation 15 – Voltage and Current Issues, Mike McCormack, 3Com

Presentation 16 – Why would anyone want AC? Mike Nootbar, TDK

Break at 9:55AM

Presentation 17 – PDTE Detection Mechanism, Amir Lehr, PowerDsine

Presentation 18 – Simulation Results for the Diode Discovery Process, Dan Dove, HP

Presentation 19 – Why Power over the Signal Pairs? Michael Nootbar, TDK

Motion
Move that the chair of 802.3af appoint a person to create a document entitled "802.3af Requirements"
which shall include the technical decisions of the January interim and the March Plenary and present said
document to the Task Force no later than the close of March 8 2000.
Moved: M. McCormack   Second: D. Richkas
Non-technical 50%
Y: 42   N: 0   A: 0   Time 11:38
Motion Passes.
The chair appointed M. McCormack to create the document.

Motion
Move that a requirement be added which states:

For DC systems, the power supply system of DCE equipment shall be voltage regulated and current limited.
Move: M. McCormack   Second: None

Motion
Move that a requirement be added which states:
For DC systems the minimum output voltage of the source equipment power supply shall be at least 40VDC.
Moved: M. McCormack   Second: N. Stapleton
Technical 75%
Y: 36   N: 3   A: 8   Time 11:53
Motion passes.

Lunch Break at 11:55AM

Call to order at 1:10PM

Presentation 20 – Power Over Ethernet Customer Requirements, David Leon-Guerrero, 3Com

Presentation 21 – A Case for Maintaining Future Flexibility, Bob Bell, Cisco

Motion
That a requirement be added that states:
For whatever powering scheme is decided upon and whatever detection scheme is decided upon, that the ability to distinguish between classes of devices not be precluded from theses schemes.
Moved: B. Bell   Second: A. Anderson
Technical 75% required
Y: 13   N: 15   A: 14   Time: 2:10PM
Motion fails.

Motion
Move that a requirement be added which states:
For DC systems, the source device shall be capable of supplying a minimum current of at least 300mA per port.
Moved: M. McCormack   Second: P. Holland
Technical 75%
Y: 39   N: 0   A: 3   Time: 2:25PM
Motion passes.

Break at 2:25PM

Motion
Move to add a requirement that:
The solution for DTE powering shall support mid-span insertion of the power source.
Moved: A. Anderson   Second: D. Dove
Technical 75%
Y: 33   N: 0   A: 1   Time: 2:45PM
 Motion passes.

Motion
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: D. Dove   Second: A. Anderson
Technical 75%
Y: 31   N: 11   A: 7
Recount held due to closeness of vote.

Y: 32   N: 11   A: 7   Time: 3:05PM
Motion Fails

Motion
For DC systems the output voltage of the source equipment power supply system shall be 53+/-5Volts DC. Technical 75% required.
Moved P. Holland   Second: S. Burton
Y: 8   N: 6   A: 27   Time: 3:15PM
Motion Fails

Straw poll
How many would be in favor of putting a stake in the ground for a source voltage of 48V+/-6V?
Y: 33

Straw Poll
Those who would be willing to consider requiring the DTE to accept power from either pair of pairs. The source would only need to support provision of power on one of the two pairs.
Y: 11   N: 0   Don't know/care: 28

Straw Poll
How many are in favor of a differential (center-tap) discovery scheme.
Y: 15   N: 4   Don't know/care: 15

Administrative Matters
Motion
Motion to approve minutes of Dallas meeting.
Moved: B. Quackenbush   Seconded: S. Ellsworth
Passed by acclamation

Action
Group to perform extensive quantitative measurements of the parameters relevant to the two powering schemes (active pairs and spare pairs) and have the results ready for presentation at the May meeting. Use the reflector to organize the workload and report on progress as necessary to ensure that all the testing can be completed as efficiently as possible. The following link budget performance parameters need to be quantified:
- Return loss
- insertion loss
- overshoot
- duty cycle distortion
- sag
- harmonic distortion
- jitter
- common-mode crosstalk
- insertion and return loss of magnetics for mid-span
- 1802.3 conformance test for 10BASE-T
- receiver return loss and crosstalk enhancement
- 100TX conformance
- MAU conformance test suite
- Auto-negotiation
- common mode to differential mode conversion when injected onto the data pairs/unused pairs
- 100BASE-T noise budget
- EMI measurements

It was also suggested that input could be requested from TIA TR42 (Chris DeMinico is liaison).

Action
Larry Miller to post list of recommended tests to the reflector.

Action
Mike McCormack to see that 802.3af Requirements List is posted to the Task Force Website, and to ensure that each of the requirements is dated.

Vote
Need to elect an editor for the Task Force. Both Mike McCormack and Bob Bell have volunteered. Those in favor of:
Mike McCormack: 28
Bob Bell: 5
Mike McCormack is elected editor.

Next Meeting
The next meeting for the Task Force is to be held on May 24 and 25 in Ottawa, Canada. As this is an interim meeting there is no registration charge. The Task Force will be meeting in the Quebec Room of the Westin Hotel. The hotel room rate is $200CDN and reservations can be made by calling 613-560-7000 or 1-800-228-3000. The group code is Nortel Networks IEEE Group. Due to US and Canadian statutory holidays around those dates, attendees were encouraged to make flight and hotel reservations early.

Email Reflector
Steve C. encouraged all in attendance to make use of the reflector prior to the May meeting in order to make that meeting as productive as possible

Motion
Motion to adjourn meeting.
Moved: M. McCormack   Seconded: B. Quackenbush
Motion approved by acclamation.
Meeting adjourned at 4:57PM.