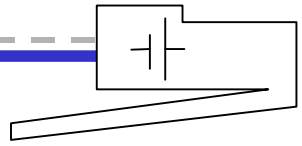
Welcome

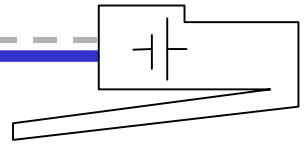
to the
May 2000
Interim Meeting
of the
802.3af DTE Power
via
MDI Task Force
Ottawa, CA

Steve Carlson, Chair



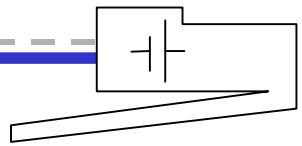
Agenda

- Welcome and Introductions
- Select Recording Secretary
- Review / Approve Agenda
- Document Distribution
- E-mail Reflector, Web Site, and Miscellaneous Information
- Objectives for This Week
  - Last new proposals accepted
  - Consensus!
- Call for Patents



Agenda

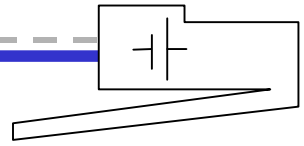
- Presentations related to Objectives
- Motions related to Objectives
- Other Presentations
  - TIA - IEEE Liaison Report
  - TR42.1 Report
  - TR41.4 Report
- Long Term Timeline
- New Business
- Plans for July Plenary Meeting and Tutorial
- Approve Minutes of Albuquerque Meeting
- Review New Action Items
- Adjourn



Task Force Status

- PAR approved by NesCom (1/30/2000)

P802.3af (C/LM) Standard for Information Technology - Telecommunications and Information Exchange Between Systems - Local & Metropolitan Area Networks - Specific Requirements - Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications - Data Terminal Equipment (DTE) Power via Media Dependent Interface (MDI)



E-mail Reflector

The IEEE has set up a reflector for this study group:

stds-802-3-pwrviamdi@mail.ieee.org

The reflector can be used for announcements, comments, discussions, or dissemination of information related to the work of this study group

The reflector should not be used for recruiting, advertising, soliciting, flaming, whining, subscribing, or unsubscribing

To be added to the reflector, send an E- mail containing the following line:

subscribe stds-802-3-pwrviamdi <your email address>

to

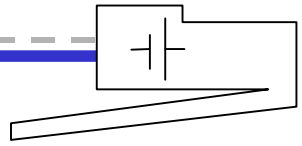
majordomo@ mail.ieee.org

To send a message to the DTE Power reflector use the email address:

stds-802-3-pwrviamdi @ieee.org

Subscriptions are on an individual basis only

No proxy requests or reflectors will be subscribed



IEEE Web Site

Typical Plenary Meeting Plan (DTE Power via MDI will meet during “Task Force”slots):

http://grouper.ieee.org/groups/802/3/plenary.html

802.3af 5 Criteria:

http://grouper.ieee.org/groups/802/3/power_study/public/nov99/802.3af_5criteria.pdf

802.3af PAR:

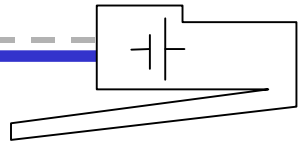
http://grouper.ieee.org/groups/802/3/power_study /public/nov99/802.3af_PAR.pdf

802.3 Voting Rules

http://grouper.ieee.org/groups/802/3/rules/member.html

802.3 Patent Policy

http://grouper.ieee.org/groups/802/3/patent.html



IEEE 802.3 Requirements for Working Group Voting Membership

If you wish to vote on 802.3 standards at the Working Group Ballot stage you need to become a Voting Member of Working Group 802.3.
Membership is by individual, not company.

To become a voter:

Attend and sign the attendance book at least 75% of the sessions of two Working Group 802.3 Plenary meetings (within the last four).

Full attendance at a two day or more duly constituted Working Group 802.3 Interim Meeting can be substituted for attendance at one plenary.

Have complete and current contact information recorded in the Working Group 802.3 database.

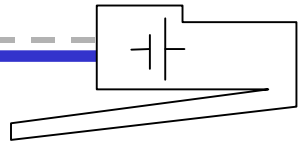
Request to become a voter during a Working Group 802.3 Opening or Closing plenary meeting when additions to the voter list are solicited by the Chair from the "Potential Voter" list.

To remain a voter you must:

Maintain current contact information in the Working Group 802.3 database.

Have 75% attendance during at least two of the last four plenaries (Attendance at an interim can substitute for attendance at no more than 1 plenary).

Participate in Working Group ballots. You can be dropped for not returning or abstaining in two of the last three ballots.



The Attendance Books

SIGN “THE BOOK” EVERY DAY

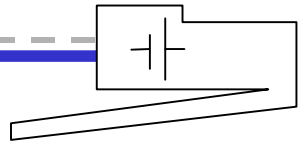
KEEP IT MOVING

IF YOU ARE NEW, SIGN THE NEW-BEES BOOK

- **Put business card in back or fill out address...**
- **Sign this book every day; no forward signing**

DO NOT REMOVE THE BOOK FROM THE ROOM;

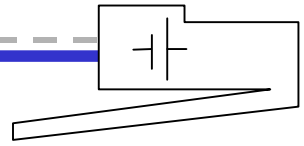
DO NOT COPY THE BOOK



Future Meetings

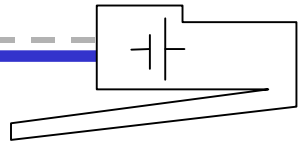
Plenary Meeting - July 10 -14 - Hyatt Regency, La Jolla, CA
Interim Meeting - September 2000 - Boston, MA

Other plenary meetings can be found in:
http://grouper.ieee.org/groups/802/meeting/future.pdf



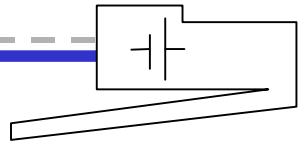
Objectives for this Meeting

- Priority One
  - 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



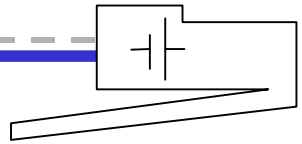
Presentation Guidelines

- Requests for presentation time should be scheduled with the chair two weeks prior to the meeting
- Presentations should be supplied via e-mail as a PDF file on week before the meeting
- Avoid fussy backgrounds or other decorative graphics
- No animations, video clips, etc.
- Goal: to keep the PDF small enough to fit on a single floppy disk



Short-Term Schedule

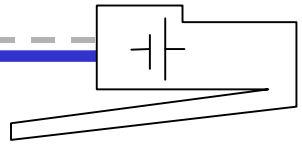
- March Plenary, Albuquerque
  - First official meeting of the Task Force
- May Interim, Ottawa
  - Last new proposal accepted
- July Plenary
  - 1st. Draft
- September Interim
  - Last new feature



DTE Power Objectives

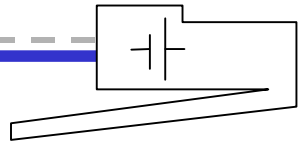
November 10, 1999 as approved by DTE Power via MDI SG.

(1) Economically provide power over a twisted- pair link segment to a single Ethernet device. To be included:
10BASE- T,
100BASE- TX.
To be considered:
1000BASE- T.
(2) Select one power distribution technique for world- wide use
(3) Not cause damage and interoperate with compliant RJ- 45 MDI Ethernet devices including:
a. Switch- to- switch connections (both supplying power)
b. Cross- over cables
c. Common mode termination implementations
d. Shorted conductors, pairs or loop- back plug
(4) Define a capability detection function that works with a powered and an unpowered device



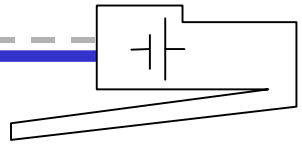
DTE Power Objectives

(5) Select the voltage, minimum and maximum current and wattage to be supplied
(6) Add appropriate management objects for power capability and status
(7) Support current standard, 4- pair, horizontal cabling infrastructure for installed Cat 3 and Cat 5 cabling
(8) Preserve the signal transmission and isolation characteristics of existing equipment and cabling
(9) Maintain normal functionality of Link Integrity Test function in legacy and new devices
(10) Consider mid- span power insertion, powering over the signal pairs, and interaction with other RJ- 45 interfaces: Token Ring, ATM, FDDI TP- PMD, 1000BASE- T, ISDN, networking test equipment, PBX, IEEE 1394, devices listed in ISO/ IEC 11801 : 1995 Annex G



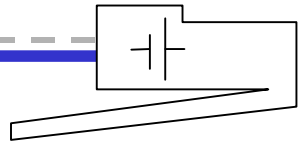
Decision List

- 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



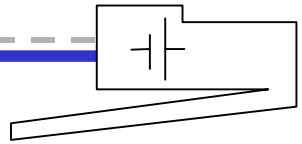
Decision List

- 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



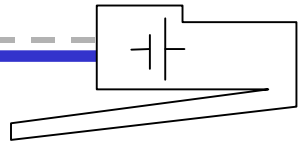
802.3af Requirements

- 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



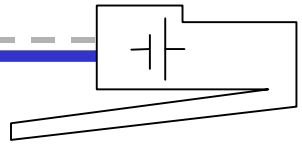
802.3af Requirements

- 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



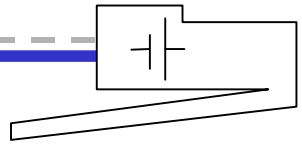
802.3af Requirements

- 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



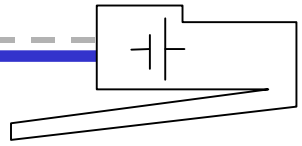
Presentations

- “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



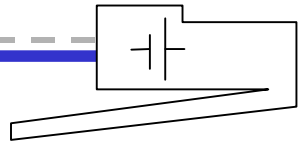
Presentations

- “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

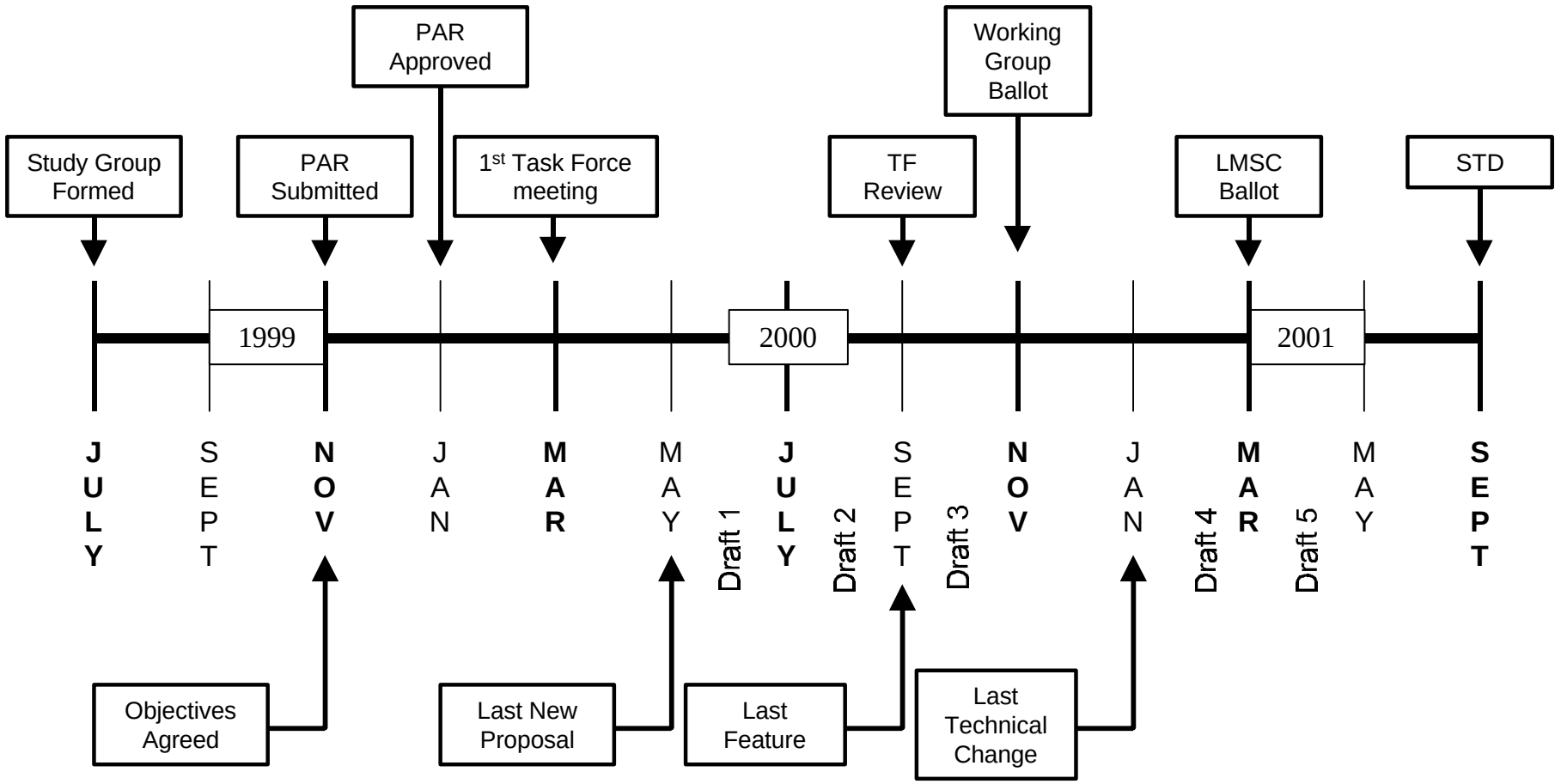


Presentations

- “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



Long Term Schedule



Other Business

- New Business
- Plans for July Meeting and Tutorial
- Approve Minutes of Albuquerque Meeting
- Review New Action Items
- Adjourn