BACnet - MS/TP Working Group
Meeting Minutes
26-Apr-2005
Montgomery College, Germantown MD

Participants	**Affiliation**
David Fisher, convener	Polarsoft
Carl Strandt	Johnson Controls
Mike Newman	Cornell
Jack Neyer	Polarsoft
Sharon Dinges	Trane
Mike Danner	Automated Logic
Dave Robin	Automated Logic
Steve Karg	Lithonia Lighting
Bob Johnson	Siemens Building Technology
Jim Butler	Cimetrics
Bill Swan	Novar
Carl Neilson	Delta Controls
Chad Ziehm	Siemens
Mike Olson	ABB
Ted Humpal	Johnson Controls
Bill Jennings	NAVFAC Midlant
Ernie Bryant	NAVFAC Midlant

The meeting was called to order.
A minutes taker (Jack Neyer) and timekeeper (Mike Newman) were assigned.
Introductions were made.

Document STK013-2 authored by Steve Karg was presented.
Document Summary:
The document proposed adding two new baud rates (57600 baud and 115200 baud) to the MS/TP clause 9, with the restriction that MS/TP networks operating at 115200 baud would have their maximum operating lengths limited to 1000 m (3280 ft).
Discussion:
None.
Vote:
A vote was taken to approve the document as presented and send it to the SSPC committee for consideration (9 yes, 0 no, 2 abstentions)

The document DMF031-1 authored by David Fisher *which is based on STK-007-2 from Steve Karg, and a detailed calculations by George Thomas, Contemporary Controls* was presented and discussed.
Document Summary:
The document proposed:

1) changes to the biasing and termination requirements for MS/TP networks in clause 9 based on George Thomas' calculation to be the same as Profibus (390 ohm bias and 150 ohm termination resistors), to require dual biasing and to make all units capable of being biased end nodes.
2) to revise the references in clause 9 from 32 *units* per segment to 32 *unit loads* per segment

Advantage:
The proposed biasing/termination schemes would provide more ideal performance.
Disadvantage:
Existing networks do not conform to the proposed change.
Discussion:
Jim Butler:

1) Expressed concern about potential problems running MS/TP networks between different buildings mixing old and new units, both of which may have different electrical characteristics. It was pointed out that BACnet sets specific guidelines for inter-building MS/TP networks.
2) Expressed concern with regard to testing if all units were required to be both biased and end units.

Carl Strandt:
Expressed concern over the possibility of incurring recertification costs and efforts (e.g. UL, CE, etc.)

Carl Neilson:
1) Was concerned that there may be performance problems putting new units on old networks.
2) Stated that he knows of no problems with existing Delta installations using the current biasing/termination requirements and saw no compelling reason to make changes to the spec. in that regard.
3) If spec. changes were to be made, he'd prefer a softer "preferred" statement than the rigid "required" statement. David Fisher offered that how strongly a recommendation is stated effects how willing vendors are to implement it.

Mike Olson:
Asked if there had been any calculations mixing old and new units (Answer: No).

Dave Robin:
Took exception to end point biasing and stated that in his experience biasing anywhere in the circuit works and that he had found "mid-circuit" biasing is the best solution in some cases.

Steve Karg:
Countered that Lithonia always used end biasing with success and considered it best practice.

Carl Neilson and Dave Robin:
1) Stated concern over the fact that there's no "Hardware_Revision" property in the Device object, only a Protocol_Revision, thereby prohibiting vendors from upgrading software revisions without first upgrading their hardware.
2) Objected to the requirement that all units be capable of being end units.
3) Proposed two compromises for the 390/150 ohm proposal:
   - 510 ohm dual-bias and 140 ohm termination resistors in place of the 390/150 ohm proposal (CN)
   - a second option of a 510 ohm single bias and 140 ohm end termination and a non-biased 120 ohm termination only on the other (DR)

Conclusion:
During the scheduled break David Fisher would modify DMF031-1 to DMF031-2 for discussion following the break.. DMF031-2 would contain the following modifications:

1) Generally soften the language from *requires* to *strongly recommends*
2) Document the two biasing/termination resistor compromises.
3) Eliminated the requirement that all units be required to be biased and end units.

Following the break, the document DMF031-2 was presented and discussed.
Discussion:
A general discussion regarding the biasing/termination resistor revisions ensued along with a general discussion regarding units vs. unit loads, rehashing many of the same concerns as the previous discussion.
Conclusion:

No general consensus was reached regarding the changes proposed in DMF031-2, and no further action regarding the document DMF031-2 was proposed.

The meeting was adjourned.

Submitted by Jack Neyer.