Cl **00** *SC* **0** *P* *L* # 269

Diab, Wael Broadcom

Comment Type **TR** *Comment Status* **D** *cable*

We need to have a section that discusses PoE+ operation over cable of categories less than Class D

SuggestedRemedy

Insert a section that says something to the effect of

"Operation over cabling systems of Class D or lower is not guranteed"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Type 2 operation on cabling less than Class D is out of scope.

Cl **00** *SC* **0** *P* *L* # 169

Law, David 3Com

Comment Type **TR** *Comment Status* **D** *cable*

The objectives state that we will support ISO/IEC 11801-1995 Class D cabling. This cabling is specifies with a maximum loop resistance of 40 Ohms [http://www.ieee802.org/3/at/public/nov06/3n807.pdf] although as stated in this liaison, a high proportion of the 1995 Class D channels are expected to meet the 25 Ohms. DC loop resistance.'.

I believe we have been using a loop resistance of 25 Ohms has been used in our calculations therefore we cannot absolutely claim that we can support ISO/IEC 11801-1995 Class D cabling.

SuggestedRemedy

Options are either:

[1] Change the objectives to state that we support ISO/IEC 11801-1995 Class D with the exception of the 40 Ohm loop resistance, update the draft as appropriate.

or:

[2] Ensure that we have used a 40 Ohm loop resistance in all calculations.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Progress on option one.

This requires no change to the draft.

Cl **33** *SC* **1** *P* **23** *L* **10** # 156

Law, David 3Com

Comment Type **TR** *Comment Status* **D** *cable*

I don't believe the draft states anywhere that for Type 2 operation ISO/IEC 11801:1995 Class D cabling or better is required. In addition we need to provide place holders in the draft for the cabling ambient operating temperature derating as well as the bundle size limitation. In respect to these I propose that we choose the third option in [http://www.ieee802.org/3/at/public/may06/law_1_0506.pdf], a fixed derating value.

SuggestedRemedy

Add a new subclause 33.3a 'Cabling system characteristics for Type 2 PSE and PD operation'

Type 2 PSE and PD requires Class D cabling as specified in ISO/IEC 11801:1995. The cabling system components (cables, cords, and connectors) used to provide the link segment shall consist of Category 5e components as specified in ANSI/TIA/EIA-568-A:1995 and ISO/IEC 11801:1995. Additionally:

a) Type 2 PSE and PD operation requires the maximum ambient operating temperature of the cabling to be derated by TBD C.
b) The maximum number of cables in a bundle supporting Type 2 PSE and PD operation is limited to TBD.

Type 2 PSE and PD operation on cabling worse than Class D ISO/IEC 11801:1995 may result in intermittent operation at maximum requested power and is beyond the scope of this standard.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See 169

Cl **33** *SC* **1.1** *P* **15** *L* **45** # 157

Law, David 3Com

Comment Type **T** *Comment Status* **X** *cable*

In the case of Type 2 PSE and PD operation it is no longer correct to state that 'adds no significant requirements to the cabling.' since it will [1] require the use of ISO/IEC 11801:2002 Class D or better base on the objectives, [2] require a limit on the ambient operating temperature of the cabling below that of the cable specification and [3] a limit on the maximum bundle size based on the current liaison information.

SuggestedRemedy

Delete the text 'adds no significant requirements to the cabling.'.

Proposed Response *Response Status* **W**

see 213

Cl **33** *SC* **1.1** *P* **15** *L* **46** # 213

Thompson, Geoff — Nortel

Comment Type **TR** *Comment Status* **X** *cable*

The text:
"Compatibility—Clause 33 utilizes the existing MDIs of 10BASE-T, 100BASE-TX, and 1000BASE-T without modification and adds no significant requirements to the cabling."
...is not quite true. To get the full power delivery capabilities of 802.3at the user MUST have a 5e or better cabling system. The difference between that system (25 ohm) and a legacy Cat 5 system can result in as much as a 7% difference in the worst case power available at the PD.

SuggestedRemedy

I do not have remedial text prepared at this point but the draft must make explicit the differences in performance expected from 25 vs. 40 ohm cabling systems.
-OR-
Must do the design entirely based on the worst case cabling (40 ohm) and take the 7% hit on delivered power.

Proposed Response *Response Status* **W**

see 157

Cl **33** *SC* **3.5.2** *P* **43** *L* **24** # 258

Diab, Wael — Broadcom

Comment Type **TR** *Comment Status* **X** *cable*

Why are we discussing the resistance of the cabling here? I think we should either refer to the worst case setup using the cabling types or find a way to test the PD at its input

SuggestedRemedy

see comment

Proposed Response *Response Status* **O**

Cl **33** *SC* **4.8** *P* **54** *L* **5** # 211

Thompson, Geoff — Nortel

Comment Type **ER** *Comment Status* **D** *cable*

Comment about 2 pair Cat 5 cabling is misleadingly acceptive.

SuggestedRemedy

Add text:
"The specification of two pair midpan PSEs is beyond the scope of this document."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add text:
"The specification of two pair midspan PSEs is beyond the scope of this document."

Cl **33** *SC* **4.8.1.4** *P* **55** *L* **1** # 82

Dove, Daniel — ProCurve Networking

Comment Type **TR** *Comment Status* **D** *cable*

Category 5 is obsolete now that 1000BASE-T is supported

SuggestedRemedy

Change to Category 5E

Proposed Response *Response Status* **O**

Cl **33** *SC* **5.8** *P* **56** *L* **25** # 200

Schindler, Fred — Cisco Systems

Comment Type **TR** *Comment Status* **X** *cable*

The cable current limits selected should provide temperature margin above design limits of the broader market. Ambient values do not need to be specified but values used to calculate system interoperability parameters should reflect broad market requirements.

SuggestedRemedy

Survey the task force members to determine an acceptable ambient operating range for cables. Calculate parameters dependent on ambient temperature using the results of this survey.

Proposed Response *Response Status* **O**