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Line 21: There are other categories of cables that are more common (e.g. CAT5e is more common than Category 6) or more useful (Category 6 serves no specific DATA application, but Category 6A is fit for 10GBaseT applications). It is important to add the following additional definitions:

- CAT 5/5e/6/6a/7 CHANNEL: comprises of all the cables and connectors between the Ethernet Switch and a VOIP phone. The power losses on cabling infrastructure are directly proportional to the overall resistance of the channel, that included up to 2 patch panels, 3 patch cables, one in room RJ45 connector and one horizontal cable. The overall maximum allowed DC loop resistance for CAT5/5e/6/6a/7 is 12.5ohm for a length of 100m. This is based on cables of AWG24.
- AWG (American Wire Gauge): It is a standardized wire gauge system used since 1857 predominantly in the United States and Canada for the diameters of round, solid, nonferrous, electrically conducting wire. Typically cables used for Ethernet communications will have AWG24, AWG23 or AWG22. The lower the gauge, the lower the DC loop resistance.
- PD (Powered Device): device powered over Ethernet, such as a PoE-powered IP Phone.

Line 132: Change current PSE definition with "Power Sourcing Equipment (PSE): An electronic device, such as a switch or a Midspan, that sources (supplies) the power on the Ethernet cable for PoE devices. PoE Switches supply power and terminate the data link. PoE Midspans inject power and are placed between a non-PoE switch and the device being powered."

Table 1: the nominal AC voltage in the US is NOT 110V, but rather 120V, per CENELEC Harmonization Document HD 472 S1:1988.

Line 180: it is not clear what a POE power meter is, and why there isn't a requirement to test the PoE-powered IP phone using a PoE 1-port Midspan (e.g. http://www2.microsemi.com/PowerDsine/Products/Midspan/PD_3001.asp), that would fully represent the actual load from AC mains of the PoE, which is what is trying to be measure in this test. Forcing the test to include a complete POE power supply would also create the demand for these very common 1-port Midspans to be energy efficient. Another extremely important factor is the determination of the length and type of the CHANNEL being used for the test. The safest bet for measuring real-world energy efficiency would be to have a complete channel, including 2 patch panels (one of them the 1-port Midspan itself), and all the cables and connectors, to reach 100M. This is the typical installation at enterprises where PoE-powered IP phones are normally deployed.

Note that given that 1-port PoE Midspans can deliver power over either 2-pairs or 4-pairs, there can be DRAMATIC power savings (8% system wide), when 4-pairs Midspans (or switches) are employed to power IP phones. By measuring the real overall efficiency from AC to the phone via the 1-port Midspan and a long channel, one would encourage the adoption of more efficient 1-port Midspans.

Line 193: "Power injector" is not a standard nomenclature, please use 1-port POE Midspan.

Line 219: The type and length of the cables need to be defined, as well as the presence of a full channel. The presence of the 1-port Midspan should be defined as well.

Section 6.1 needs to be changed to reflect the previous comments, adding a 1-port PoE Midspan and a defined channel

For your reference, see attached our proposed testing methodology to test the efficiency of PoE systems (for a given PD load), as well as the differences in efficiency between 2-pairs and 4-pairs POE.

Regards,
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