

IEEE802.3at Task Force

**System Decisions-
What are the primary decisions?
a preliminary list.**

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Yair Darshan/ PowerDsine



Objectives of this presentation

- IEEE802.3at requires addressing many issues
- Most of the issues are secondary in decision priority. They can be finalized only if we agree on the technical principles of this project
- This presentation tries to list down those principles that may be considered as higher priority decisions for efficient discussion and decision making.

Decisions list for building the Standard.

■ Power Feeding Concept

- Basics agreed at September Meeting

■ Max continuous power

- Can be handle in Parallel to other decisions
 - $V_{pse_min}=?$
 - I_{max} per wire at operating temperature
 - Connector limitations
 - Cabling test results
 - Other related Standards

Decisions list for building the Standard.

■ How conceptually to look at a 4P high power system?

- As a single 4P high power port or
- As double 2P MP ports

■ Decision affects

- addressing overload and fault behavior and reports to management.
- How to handle split RJ45 outlets (two outlets coming from the same 4P cable)



Decisions list for building the Standard.

■ If $I > 350\text{mA}$ per 2wires

- Current Sharing: Where to locate in a 4P PD system. In PDs or PSEs?
- Current balancing: Where to locate in 2P/4P PD system. In PDs or PSEs?

| | Pro's | Con's |
|--------|--|---|
| In PD | <ul style="list-style-type: none">-Cost effective-Will be added to PD only if PD power needs require it- Efficient integration with PD power circuitry | ??? |
| In PSE | ??? | <ul style="list-style-type: none">-Un unnecessary added cost per port-All PDs with $I < 350\text{-}400\text{mA}$ not required this functions!-Additional power dissipation per port-Needs additional control & logics (complexity) |

Decisions list for building the Standard.

- Signature Detection function
- May be handled in parallel to other issues
 - Signature value stays as in IEEE802.3af?
 - Signature detection per 2P is a must. (5 criteria, IEEE802.3af)
 - Detection time is the same as in IEEE802.3af? or higher due too the need to perform detection to the 2nd pair as well.

Decisions list for building the Standard.

■ Enhanced Classification

- Classification function in 802.3at PSE and 802.3at PD need to be mandatory and not optional (like we did in 802.3af) if detection signature is not changed.
- Need to meet the objectives (backwards and forward compatibility to AF power levels). Obviously it is part of our objective list.
- PD indication assuming signature detection value is not to be changed?
- Do we want to know if PD is 2PMP or 4PHP or we only want to know if it 802.3at or 802.3at?
- ... More questions?



More ?

■ Discussion

