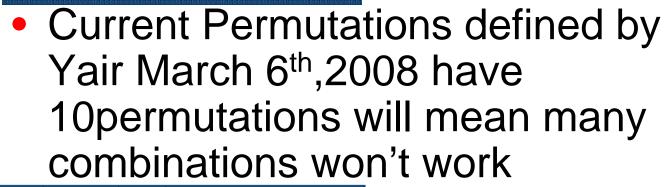


4pair Interoperability 4p adhoc IEEE 802.3at March 13th,2008 Keith Hopwood



Market Interoperability concerns



7	#	PSE Port	PD type	PD load	Cab	le	Requires Current Shari	ng						
	1	Type 1	Type 1 (O,5C)	single	2P o 4P	r								
	2	Type 2	Type 1(O,5C) Type 2	single	2P o 4P	r	NO							
		2XType 2 (Same	Type 1(O,5C)	single	2P or 4P		1							
		port, box, Ground and	Type 2		2P o 4P	#	PSE Port	PD	ype	PD load	Cable	Requires Sharing	Current	
	4	Voltage Diff <tbd= ENV A)</tbd= 	2 x Type 2	Single	4P	7	(Environment B)		ype 1 ype 2 ble	Dual independent	4P	NO		
	5			Dual independent		8	2 x Type 2 (or 2x802.3af) (Environment B)	2 x Tvne 2		Sinale	Sinale 4P NO.			
						П		#	PSE Por	rt PD type	PD I	oad	Cable	Comments
L						9		9	802.3af	Type 2	sing	le	2P or 4P	-May not work
										1				(We know)
							_						- Remedy 1: See below	
													-PD indication is issued. (O)	
										2 x Type 2	2 Sing	le or Dual	2P or 4P	-May not work
								10	Type 2	2 x Type 2	2 x Type 2 Single		4P	(We know)
	4pair Interoperability, 4pair						1						- Remedy 2: See below	
							L						-PD indication is issued. (O)	



Impact of 10 combinations

- Many combinations will not work
 - Fundamental PSE is not right type/ enough power for PD
 - How does installer ensure multiple sources have enough power from multiple PSEs with Power Management or multiple sources
 - How do manufacturers specify compatibility?



Other Interoperability issues from 10permutations

- How long does PD wait for all power sources to power up before it decides not enough power (Traps on layer 2)
- Complexity to system management when ports shut down due to power management
- 40% of Endpoints may have ALT B source(Even if true market population is less there will definitely be stuff that does not work together that meets 802.3)



Proposal for allowable 4Pair Scenario



Make the PSE definitions simple

TYPE 1 IEEE802.3af 2pair 15.4W

TYPE 2 IEEE802.3at 2pair 36W

(or as approved "at")

 TYPE 3 2 x IEEE802.3at pairs from the same source(2 times power of "at")

This should be the only 4pair scenario not forbidden in the standard