

# Conclusion of Vport static discussion

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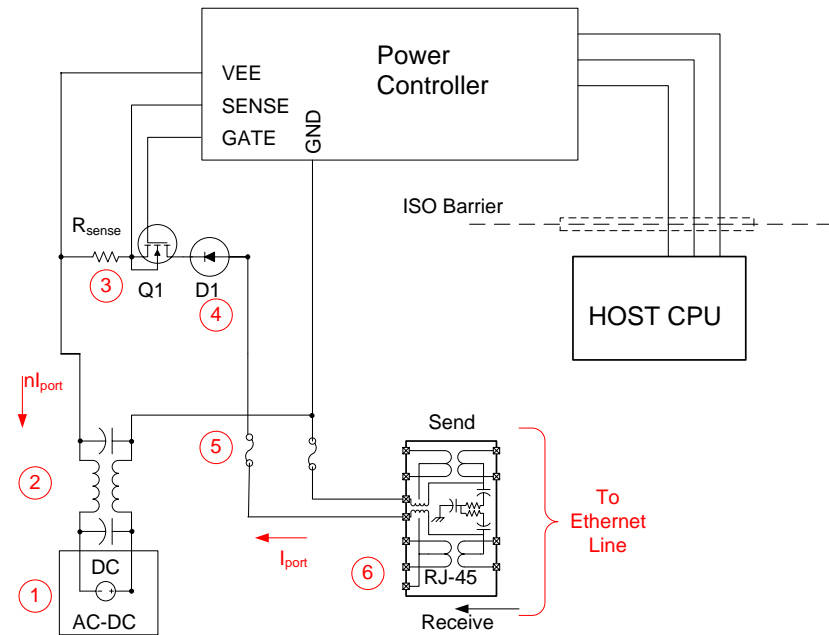
Cisco Systems

# Agenda

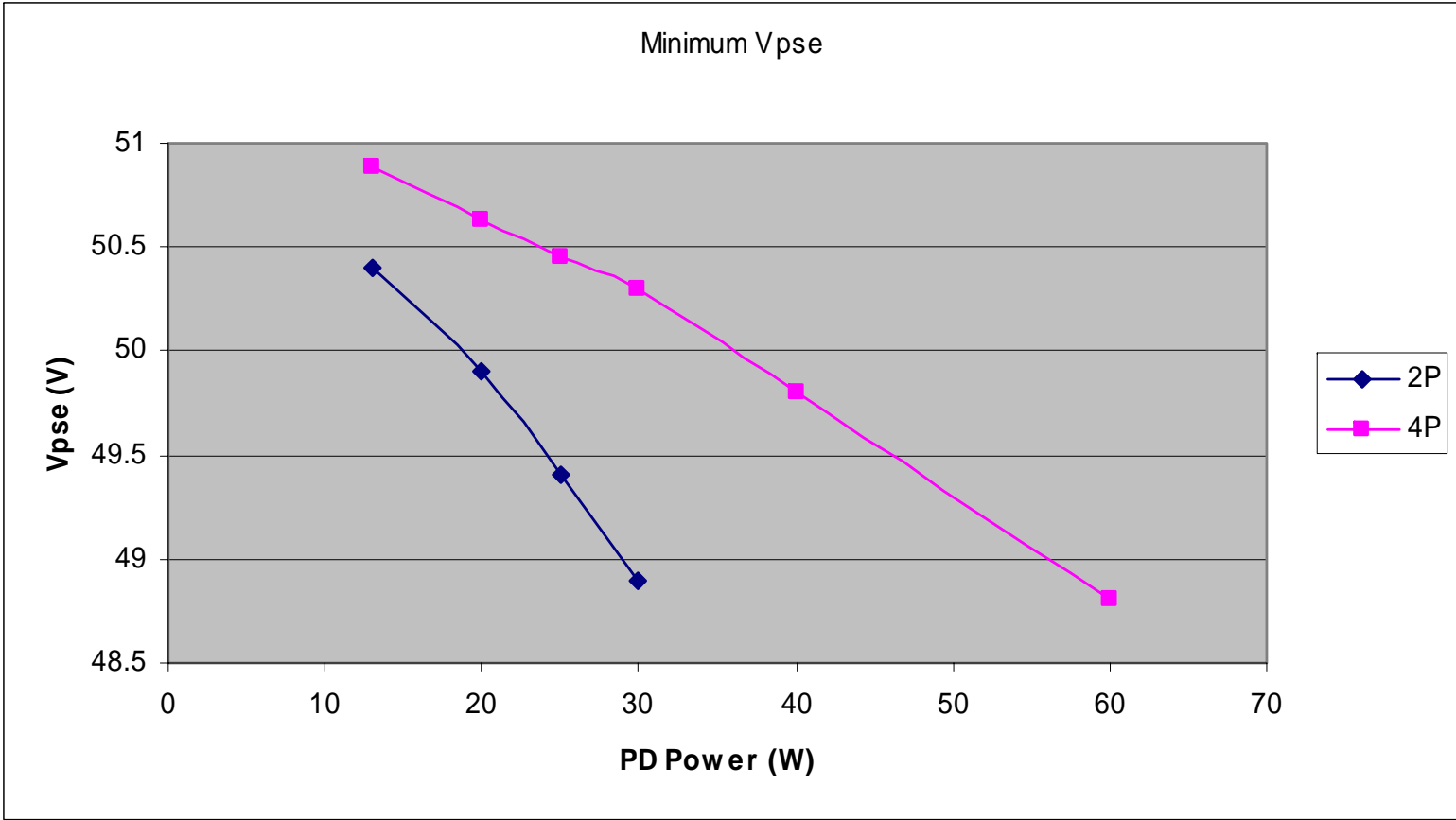
- **Address Task Force feedback.**
- **Motion for a static MDI voltage.**

# Main Parameters

- **AC-DC**
  - ±3.7% tolerance
  - 50 mohm output resistance
  - CM choke + PCB, 30 mohm
- **Port**
  - R<sub>sense</sub> + MOSFET 0.53 to 1.5-ohm
  - Diode 0 to 0.7-V
  - Fuse 0 to 2x0.5-ohm
  - Transformer and choke 0.5 ohm
  - 48 ports
- **Cable**
  - CAT-5



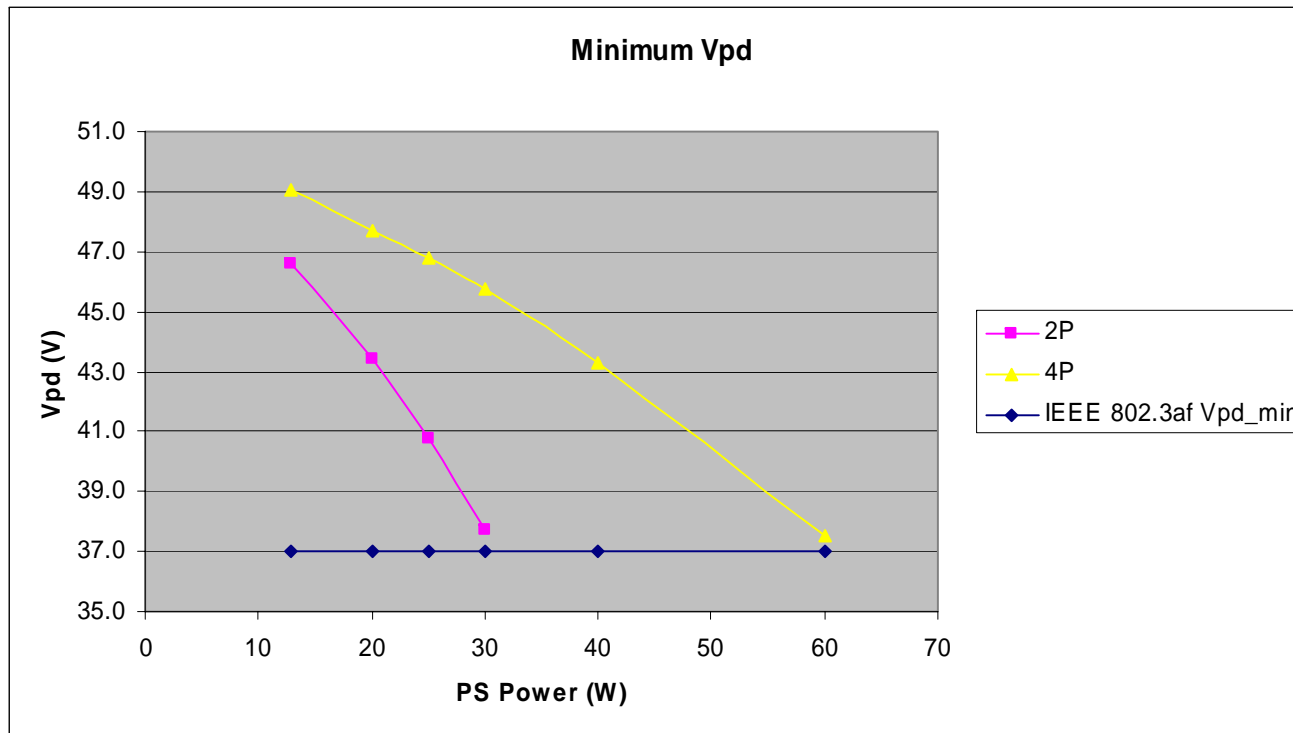
# Minimum Static PSE Port Voltage



**2-pair 48.9 V, 4-pair 48.8 V**

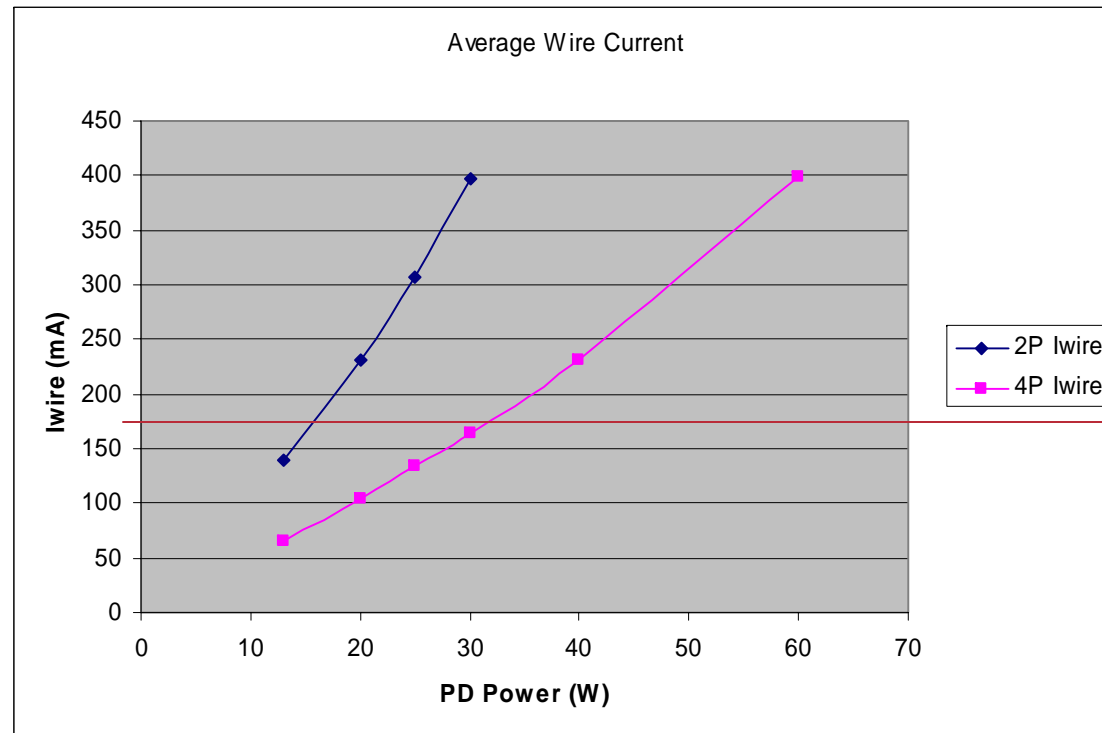
Based on v9 of the IEEE 802.3at Vport Ad Hoc v9.xls.

# Minimum Static PD Port Voltage



**IEEE 802.3af @ Iport\_max: 37 V, @ Icut: 36 V**  
**Available @ Iport\_max: 37.7 V, @ Icut: 36.1 V**  
**Scaled using the same ratios as IEEE 802.3af**

# Nominal Wire current



IEEE 802.3af level

# Can a 2 ohm sense resistor be used?

- **The PSE MDI minimum is 50.1 V when:**
  - AC-DC tolerance is  $\pm 1.5\%$ .**
  - $R_{\text{sense}} = 2$  ohms.**
- **The minimum voltage can be increased by:**
  - Moving to DC-disconnect.**
  - Moving to wire fuses or reducing the fuse count.**



# Conclusion

- **Met objective-1.**  
The PD minimum port voltage ensures compatibility with IEEE 802.3af.
- **Met objective-6.**  
The 30 W 2 pair IEEE 802.3at requirement has been met.
- **A PSE MDI voltage within the range of 49 to 53-V is achievable.**

# Motion

- **Move that the IEEE 802.3at Task Force adopts 50V as the minimum  $V_{\text{Port}}$  (See IEEE 802.3af-2003 Table 33-5 item 1) for PoE Plus.**

**M: Schindler**

**S: Diab**

**Y:**

**N:**

**A:**