PoE Ad-hoc
5/16/12 dmd
revised 6/12/12 dmd

Questions for end users (automotive/industrial/etc):

1. Is PoE as defined in Clause 33 of the current standard adequate for RTPGE?
2. Will vehicles use a mix of Clause 33 and non-clause 33 connections?
3. Will PSE ports be dedicated to a specific load or do they need to be "universal"?
4. What line voltage should be used?
5. What power levels are required?
6. Will multiple power classes be required?
7. Will the power system need to support surge loads (motor start)?
8. What are the isolation requirements?
9. What action should a PSE take if a power fault is detected?
10. Is a chassis ground always available?
11. Will we need to support adding/subtracting nodes to/from a live system (for example, a vehicle trailer or customer-installed equipment)?
12. What is the maximum length of a PoE segment?
13. Will PoE channels be treated differently (e.g., different wire gauge) than non-PoE channels?
14. Do we need to support daisy-chain configurations?
15. What is the estimated ratio of powered to unpowered ports?

A quick summary of current PoE (Clause 33) specs:

- PSE = Power Sourcing Equipment, PD = Powered Device
- Line voltage is 44-57V (50-57V for 25W ports)
- 4 power classes available (sensed during detection): 3W, 7W, 13W, 25W
- live insertion and removal of devices is supported via dedicated detection and disconnect protocols. Unconnected PSE ports are unpowered.
- Ports will tolerate limited overcurrent events for 50ms without reporting a fault
- Overcurrent faults are sensed and faulty ports are typically retried
- Ports are galvanically isolated at both PSE and PD
- Power is delivered as a common-mode signal between two pairs
- Power interface to the line is via data isolation transformer center-taps