

# LLDP Extensions II

V1.00

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# Recap of status with LLDP for new Types 3 and 4

- **Fred's additions**

- [//grouper.ieee.org/groups/802/3/bt/public/mar15/Schindler\\_3bt\\_02\\_03\\_15r2.pdf](http://grouper.ieee.org/groups/802/3/bt/public/mar15/Schindler_3bt_02_03_15r2.pdf)
- Some value definitions extended and two more octets were added:  
<PSE Power Status> and <System Setup>

- **Additions of Yan**

- [//grouper.ieee.org/groups/802/3/bt/public/jul15/PD%20Measurement%20Baseline%20v2.pdf](http://grouper.ieee.org/groups/802/3/bt/public/jul15/PD%20Measurement%20Baseline%20v2.pdf)
- Voltage and current measurements for PD and PSE side added

- **Additions of Lennart and Matthias**

- [//grouper.ieee.org/groups/802/3/bt/public/sep15/yseboodt\\_3\\_0915\\_v120.pdf](http://grouper.ieee.org/groups/802/3/bt/public/sep15/yseboodt_3_0915_v120.pdf)
- Verbose measurements, Autoclass and Power-down support added

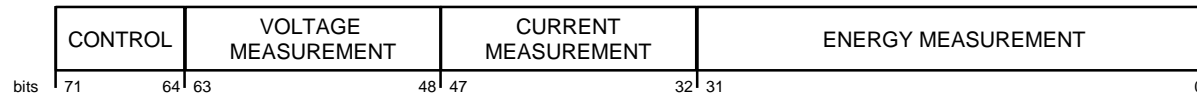
- **Discussion in Catania, October 2015**

- General structure of Baseline agreed
- [//grouper.ieee.org/groups/802/3/bt/public/oct15/wendt\\_1\\_1015\\_LLDP\\_Baseline\\_v104.pdf](http://grouper.ieee.org/groups/802/3/bt/public/oct15/wendt_1_1015_LLDP_Baseline_v104.pdf)
- Optional fields should go into a new subtype TLV
- Means to signal measurement accuracy should be added
- Energy pricing index (Bruce Nordman, LBNL) should be included
- [//grouper.ieee.org/groups/802/3/bt/public/oct15/802.3\\_4PPOE%20LLDP%20Price%201.pdf](http://grouper.ieee.org/groups/802/3/bt/public/oct15/802.3_4PPOE%20LLDP%20Price%201.pdf)

# Measurement TLV

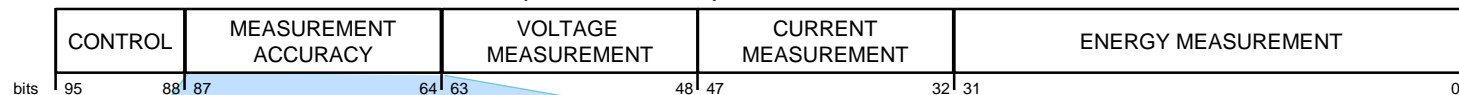
- **Add a field for measurement accuracy**
  - Verbose measurement proposal was from Lennart an me:
  - [//grouper.ieee.org/groups/802/3/bt/public/sep15/yseboodt\\_3\\_0915\\_v120.pdf](http://grouper.ieee.org/groups/802/3/bt/public/sep15/yseboodt_3_0915_v120.pdf)

## PSE/PD Measurements (9 Octets)



- Add another field with one octet per measurement field to inform about the number of useful bits in the measurement data.

## PSE/PD Measurements (12 Octets)



87:80	Voltage-accuracy	Number of useful significant bits in Voltage measurement data field (decimal value of bits). Valid values for these bits are decimal 1 through 16
79:72	Current-accuracy	Number of useful significant bits in Current measurement data field (decimal value of bits). Valid values for these bits are decimal 1 through 16
71:64	Energy-accuracy	Number of useful significant bits in Energy measurement data field (decimal value of bits). Valid values for these bits are decimal 1 through 32

# Which changes and where?

## Touch the following subsections:

- 79.3 IEEE 802.3 Organizationally Specific TLVs
  - addition to Table 79–1—IEEE 802.3 Organizationally Specific TLVs
- 79.3.2 Power Via MDI TLV
- 79.3.6 Power Via MDI Measurements TLV (*new*)

## Include the changes to object class cross references

- 79.4.2 IEEE 802.3 Organizationally Specific TLV/LLDP Local and Remote System group managed object class cross references
- Table 79–9 and Table 79–10

## Exclude related changes to Clause 30

- 30.12.2.1.x and 30.12.3.1.x
- keeping out as long TLV field structure under discussion

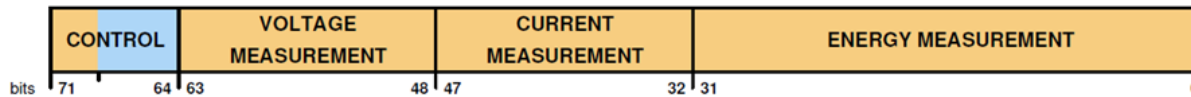


# Measurement TLV

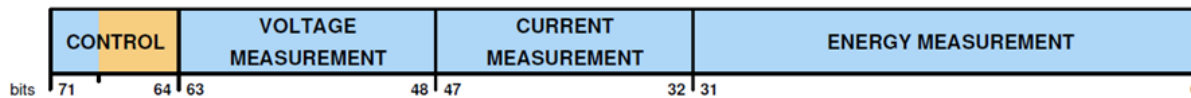
- **Old state**

- Verbose measurement proposal was from Lennart an me:
- [//grouper.ieee.org/groups/802/3/bt/public/sep15/yseboodt\\_3\\_0915\\_v120.pdf](http://grouper.ieee.org/groups/802/3/bt/public/sep15/yseboodt_3_0915_v120.pdf)

## PSE Measurements



## PD Measurements



Written by PSE
  Written by PD

Bit	Function	Value/meaning
71	Voltage support	1 = PD supports voltage measurement 0 = PD does not support voltage measurement
70	Current support	1 = PD supports current measurement 0 = PD does not support current measurement
69	Energy support	1 = PD supports energy measurement 0 = PD does not support energy measurement
68:67	Measurement source	Determine to have the measurement to be taken. 00 = No request 01 = Request Alternative A 10 = Request Alternative B 11 = Reserved
66	Voltage request	Request voltage measurement Where power type = PSE 1 = PSE requests for voltage measurement 0 = No request for voltage measurement Where power type = PD 1 = Voltage measurement contains valid data 0 = Voltage measurement disabled
65	Current request	Request current measurement Where power type = PSE 1 = PSE requests for current measurement 0 = No request for current measurement Where power type = PD 1 = Current measurement contains valid data 0 = Current measurement disabled
64	Energy request	Request energy measurement Where power type = PSE 1 = PSE requests for energy measurement 0 = No request for energy measurement Where power type = PD 1 = Energy measurement contains valid data 0 = Energy measurement disabled
63:48	Voltage measurement	Value = (decimal value of bits) mV Valid values for these bits are decimal 1 through 65000
47:32	Current measurement	Value = 0.1 x (decimal value of bits) mA Valid values for these bits are decimal 0 through 20000
31:0	Energy measurement	Total energy consumed at the port or parent value = 0.1 x (decimal value of bits) in kJ - since power on.