# Why the EPD/LPD information in IEEE 802, IEEE 802.1AC, and 802.1Q must be fixed

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# Background

- Many thanks to Roger Marks for bringing up the problems.
- We have been working together on defining the issues and solutions.
- We are not yet in full understanding and agreement, but are approaching it.
- There are many ways in which the document could be improved. I'd like to coordinate any suggestions in this area with Roger before presenting them.
- This presentation is about what is **dead wrong**.

# What must change in IEEE 802-2014

- 9.2.1 says that Type/Length ≥ 1536 = EtherType, < 1536 = Length + LLC. This is dead wrong.
  - Type/Length ≥ 1536 is EtherType
  - Type/Length ≤ 1500 is length + LLC
  - 1500 < Type/Length < 1536 is unspecified.

# What must change in IEEE 802.1AC-2016

- Clause 12 opens by describing EPD media vs. LPD media. This is dead wrong.
  - There are Length/Type MAC Service Data Units (MSDUs) and LLC MSDUs. The MSDU is the data parameter passing across the MAC Service Access Point (MSAP).
  - Some media define only Length/Type MSDUs, some define only LLC MSDUs, and some define a parameter on the MSAP that specifies whether a given MSDU is Length/Type or LLC.

# What must change in IEEE 802.1Q-2018

- 6.22 Talks about Length/Type media vs. LLC media. This is much closer to being correct than 802 or 802.1AC, but is still wrong.
  - There are Length/Type MAC Service Data Units (MSDUs) and LLC MSDUs. The MSDU is the data parameter passing across the MAC Service Access Point (MSAP).
  - Some media define only Length/Type MSDUs, some define only LLC MSDUs, and some define a parameter on the MSAP that specifies whether a given MSDU is Length/Type or LLC.

# Thank you