# EPoC Draft Structure

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# Summary

- This contribution looks at the future EPoC draft, reusing the structure of 10G-EPON IEEE Std IEEE 802.3av-2011 specification

- The work on the future EPoC draft will start once the Task Force is established, Editor(s) are assigned and baseline proposals are submitted and selected

# IEEE Std 802.3av-2011 outline (I)

- 10G-EPON standard includes definitions of all 802.3 layers, covering PMD, PCS, RS and MAC Control definitions, management objects and registers, reusing also other specifications: XGMII, full duplex MAC, etc.

- The amendment includes:
  - New material, specific to 10G-EPON, limited to Clause 75 (PMD), 76 (RS and PCS) and 77 (MPCP)
  - Changes to previously existing IEEE Std 802.3 specifications, covered in Clause 1, 30, 45 and 56

- The specification was developed by two editors, working on separate clauses

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# IEEE Std 802.3av-2011 outline (II)

- The published amendment includes:
  - Clause 1: definitions, acronyms, references, etc.,
  - Clause 30: management objects
  - Clause 45: definitions of various registers
  - Clause 56: introduction to Ethernet in the First Mile (EFM)
  - Clause 75: Physical Medium Dependent (PMD) covering Tx and Rx specifications
  - Clause 76: Reconciliation and Physical Coding Sublayers (RS, PCS), covering FEC, idle insertion and deletion, line encoding / decoding, synchronization, data detector etc.,
  - Clause 77: Multipoint MAC Control (MPCP), including extensions to Clause 64 MPCP specific to 10G-EPON

# What EPoC draft needs to cover (I)

- EPoC will be part of the Ethernet in the First Mile suite of specifications and should build around the same specification model

- As amendment to the most recent version of IEEE Std 802.3, it will include new clauses (to describe EPoC specific material) as well as changes to existing clauses (to add EPoC-specific definitions to existing definitions and specifications)

# What EPoC draft needs to cover (II)

- EPoC draft should include therefore:
    - Clause 95*: PMD for EPoC (brand new specifications, but following outline of Clause 75)
    - Clause 96*: PCS + RS for EPoC (building on 10G-EPON specifications)
    - Clause 97*: MPCP for EPoC (extensions to Clause 64/77 MPCP from EPON)
    - Clause 30: new management objects + changes to existing management objects
    - Clause 45: new registers + changes to existing registers
    - Clause 56: extend the description of EFM suite of specifications, including architecture, PMD types, etc.
    - Clause 1: new acronyms, definitions, etc., as needed

*Clause numbers 95, 96, 97 are tentative at this time, subject to change depending on drafting in other TFs

# Suggestion for draft development

- EPoC draft development can be easily shared between two editors:
    - one editor covering Clause 95 PMD specifications (preferably, someone with very good knowledge of problems related with coaxial transmission, parameters etc.)
    - another editor covering changes to Clause 1, 30, 45, 56, as well as Clause 97 (preferably, someone with good knowledge of existing 802.3 specifications and 10G-EPON)
    - Clause 96 could be shared between both Editors, given that it requires knowledge of both coaxial transmission (specific line encoding) and 10G-EPON PCS design details.