

# *Baseline Proposals* for EPoC TF

## the WHAT and the WHY

Marek Hajduczenia, ZTE Corporation

# Motivation

- To kick-start draft development, a Task Force must have a set of concrete technical proposals for individual features, e.g., FEC, line coding, PCS structure, MPCP operation.
- The purpose of this slide deck is to first introduce the concept of *baseline proposals*, the need for them and then show a few easy examples from previous projects.
- Follow-up with more detailed baseline proposals is expected, once individual work teams complete their tasks and are ready to bring in specific technical proposals to TF
- A more comprehensive overview of the project path towards WG ballot can be found in [frazier 02 0712.pdf](#)

# Baseline Proposals (1)

- At the beginning of the TF life cycle, specific technical proposals (in 802.3 are referred to as *baseline proposals*) are made through technical contributions discussed, voted on and approved by TF.
- Baseline proposals are then used by the appointed TF Editor(s) to create the first version(s) of the draft (D0.1 onwards).
  - These drafts are not subject to ballot, review or public consumption.
- Draft becomes official (D1.0) only when TF decides that sufficient number of baseline proposals have been collected and main technical features have been already covered.
  - At this time, draft D1.0 is open for Task Force review and commenting.
- The number of baseline proposals required to get to D1.0 varies, depending on the project.
  - Some projects (e.g., P802.3bf) needed only one baseline, others (e.g., P802.3av) needed a few dozen or so (the record of all proposed and approved baselines is located at: <http://www.ieee802.org/3/av/public/baseline.html>)

# Baseline Proposals (examples)

- P802.3av:
  - “802.3av shall not support a physical XAUI interface between PHY and MAC in the ONU.”
  - “There shall be a Broadcast MAC instance for 10G distinct from the 1G Broadcast MAC instance”
  - “10GEAPON shall accommodate FEC’s parity bandwidth by reducing the MAC’s effective data rate (sub-rating).”
  - Adopt modifications to Discovery GATE and REGISTER\_REQ as defined in [3av 0709 lynoskey 3.pdf](#).
- P802.3bf:
  - “Adopt slide 7 from [law 1 0110.pdf](#) as the baseline architecture”
- P802.3bj:
  - “Move that the following be adopted as baseline proposals:
    - [dudek 03 0312.pdf](#) for the 12.9GHz-related objective
    - [brown 01a 0312.pdf](#) (excluding slides 4 and 26) and [brown 02 0312.pdf](#) for the 7.0GHz related objective”

# Baseline Proposals (2)

- What should baseline proposals cover?
  - Anything that brings value to the Task Force and moves development of the draft forward
  - Try to address a complete or part of any objective
  - Can be as simple as agreeing that FEC will be used in the target system or as complex as agreeing on specific FEC code word length, code type, whether upstream and downstream use the same FEC or not etc.
    - Individual baseline proposals can be as complex and comprehensive as needed for TF to reach agreement on the given proposal
    - Do not be afraid to add extra explanatory materials, especially if the topic covered by the proposal is complex

# Baseline Proposal format

- Technical proposals are usually presented in the form of a slide deck
- They may be accompanied by a white paper, additional presentations, draft proposals etc., as needed to reach consensus for the given proposal
- It is not uncommon for the baseline proposal to be refined over the course of the meeting, or several meetings based on feedback from the TF
  - Expect that, especially for more complex proposals
  - This is the reason why building consensus is critical ahead of the meeting

# Baseline Proposals (3)

- What does a successful proposal need?
  - Remember to build consensus on the given baseline proposal **before** the vote on this proposal takes place.
    - Trying to push a controversial proposal through without already existing consensus is a waste of everybody's time
  - TF membership needs to understand and evaluate your proposal to take a learned decision on it.
    - If something is not well understood, you can expect the proposal to be voted down
  - Do not use surprise tactics – such proposals are typically voted down due to lack of understanding
    - Distribute the proposal to TF membership ahead of the meeting, hold calls (if needed) and discuss with people 1-on-1 if and when needed

# Proposed way forward

- During September and November TF meetings, focus on adopting baseline proposals to lock some of decisions down and allow individuals to go progress development of specific technical details.
- Primary areas of interest for baseline proposals:
  - PCS structure (line coding, FEC, upstream and downstream operation, etc.)
  - PMD definitions (channel model, modulation format, definition of transmission channel(s), spectrum allocation, Tx and Rx parameters etc.)
  - Changes to EPON MPCP (if any)
  - Changes to EPON RS (if any)
  - Draft structure



# Work separation (I)

- In EPoC TF, work can progress most efficiently if we separate it into 3-4 specific areas and everyone decides which areas they want to / can contribute to.
  - Contributing to all areas is welcome, but probably not realistic.
  - Focus on your area of expertise, where you can contribute most
- To facilitate this process, it is suggested to divide work into the following areas:
  - PCS
  - PMD
  - Management
  - Optionally, changes to MPCP (if needed)
- Management and MPCP (if any) changes will have to closely track development of PCS and PMD. This will allow to address any control issues that might arise from changes to these layers respective to EPON or new characteristics related to coaxial media transmission.

# Work separation (II)

- The most critical aspect of work separation is division between PCS and PMD, to allow parallel work on these two sublayers.
  - As long as the digital (serial) interface between them (PMA) is agreed upon, work can progress in parallel
- It is best to divide PCS and PMD development along the PMA interface (bottom of PCS, top of PMD) as long as agreement is reached on:
  - on the character of digital signal (continuous or bursty, at what clock rate) across PMA
  - on the digital processing required to take place in PCS and PMD to condition data stream for transmission over coax.
- Management work can be deferred until such time when majority of PCS, PMD and RS specifications are relatively solid and well understood.
- MPCP work (if any) can progress independently, but needs to track decisions taken at PCS and PMD layers

**THANK YOU**