UPSTREAM FEC OVERHEAD

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OVERVIEW

- **We have a T.B.D. on how to calculate upstream FEC overhead**
- **Challenge 1) the overhead is not a constant proportion to the upstream burst size; i.e. not a fixed rate**
  - Subclause 101.3.2.5.8 Upstream FEC encoding has a very specific algorithm for filling the three codeword sizes, deterministic
- **Challenge 2) cannot make any normative requirements against the DBA as it is outside the scope of the standard**
  - Also have heard the comment that making 101.3.2.5.8 into overhead-calculating functions for use by MPCP/DBA, some might view as a layer violation
- **So, what do to?**
- **Consider: P802.3bn can specify a default calculation that will always work, however it may not be the most efficient**
  - Vendors can implement their improvements based on 101.3.2.5.8.

PROPOSAL

- **The upstream shall specify a default FEC overhead calculation using only the US LONG codeword sizes**
  - Same: 220 * 65-bits + 40 bits CRC + 1800 parity bits
  - Adjust for burst time header overhead: +65-bits to the burst size
  - Adjust for two-idles at the start of every burst (see data detector input)
  - Adjust for start and end burst marker TQ overhead
    - See last part of upstream symbol mapper contributions for calculations on resource block TQ calculations and multiply by 4 or 8 based on *RBsize*.
  - Adjust elsewhere as needed.

- **Add several sentences to the specification.**
  - The default MPCP calculation of the upstream CNU transmitter FEC overhead provides interoperability for TDMA scheduling and sharing of the upstream channel but does not necessarily provide the most efficient utilization. CLT implementations that refine these calculations based on the deterministic codeword selection algorithm details provided in 101.3.2.5.8 will provide better utilization. Such implementation details are outside the scope of this standard.

PROPOSED MOTION

Move to:

Adopt the approach in Slide 3 for Upstream FEC encoding overhead.

Thank you