Dual FEC Option

IEEE P802.3ck Ad Hoc

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100GBASE-CR1/KR1 FEC Support

- One option is to support both RS 544 FEC mechanisms:
  - Non-Interleaved RS FEC using 4:1 bit muxing (Clause 91)
  - Interleaved RS FEC based on nicholl_3ck_01b_0519
- Operation would be as follows:
  - All implementations implement both FECs for TX and RX
  - AN is used to negotiate which FEC is used for a given link
    - The chosen FEC is used in both directions on that link
  - Default FEC is TBD
- Best of both worlds
  - Lowest latency with non-interleaved FEC for those links that don't have burst error concerns
  - More robust interleaved FEC for those links that want it
  - Minimal impact to designs

AN High Level Operation

- Technology Ability bit A22 is made into FEC request (F4) bit for 100G-CR1/KR1
  - Leaves A19,A20,A21 unused in BasePage
- F4 is then used negotiate between two operating modes
  - FEC mode default is currently TBD
  - F4 is a request to use the non-default operating mode
  - If non-Interleaved is default then (easier to make link more robust)
    - If either sides request the non-default mode, use non-default
  - If Interleaved is default then (harder to enable lower latency)
    - If both sides request the non-default mode, use non-default

Thanks!