

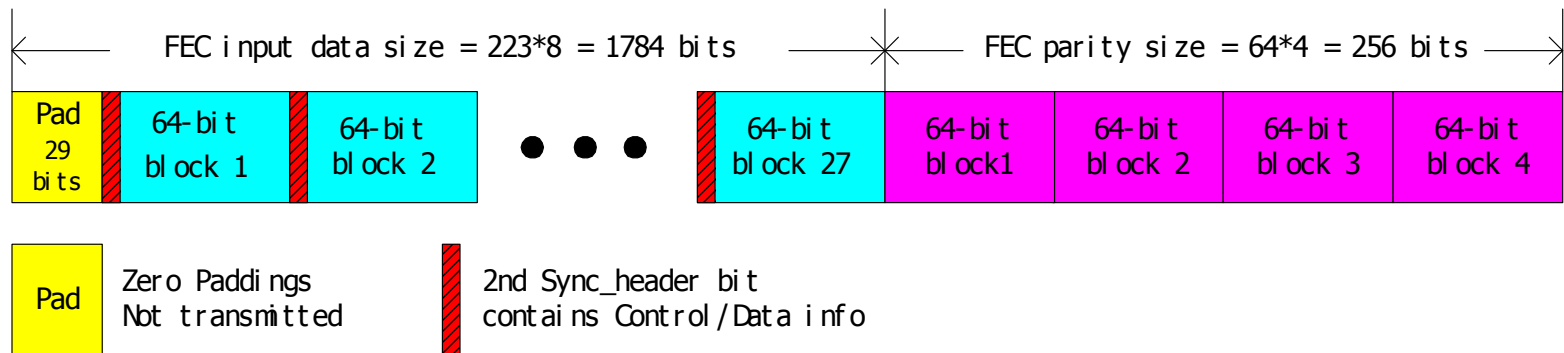
A better sync header pattern for the FEC parity blocks

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RS(255,223)

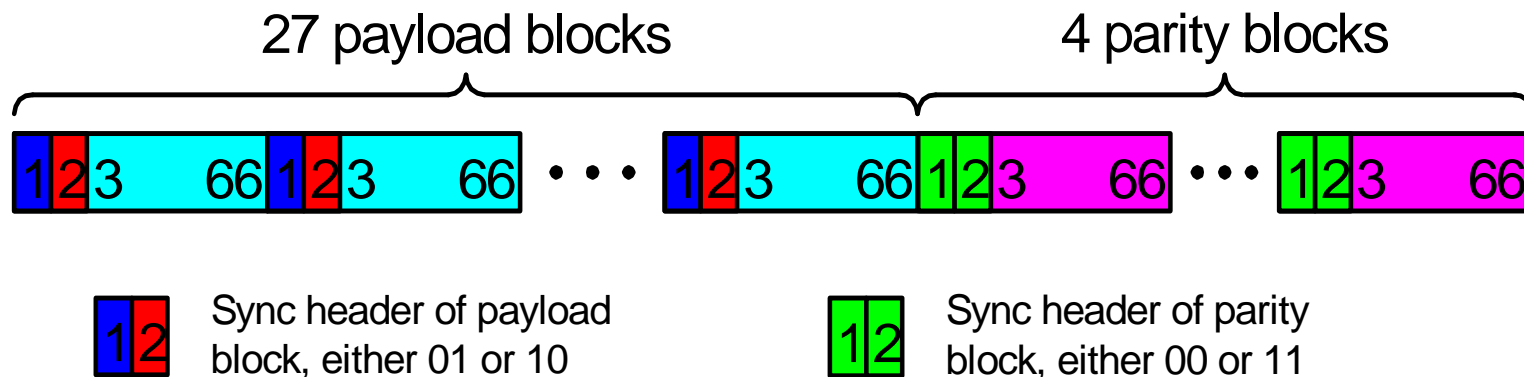
- The suggested FEC code to be implemented is a RS(255,223) code, where $K=27*65=1755$, $P=4*64=256$.



- Parity Size = 4 blocks = 32 bytes

The FEC frame structure

- The sync header has the following properties
 - “01” sync header is for Data payload
 - “10” sync header is for Control/Data payload
 - “00” or “11” is the only alternatives for Parity blocks



Downstream Synchronization (1/3)

- As in 3av_0701_effenbergger_1.pdf, the Quick Codeword Synchronization is essentially the same as that used for block synchronization in 10G today.
 - Block alignment and FEC codeword alignment can be found in one step.
 - Key idea is to give FEC parity blocks a special sync header pattern.

Downstream Synchronization (2/3)

- Two synchronization methods were proposed in 3av_0701_effenbergger_1.pdf
 - Fast Synchronization
 - Depends on the sync header pattern of both payload and parity blocks
 - Simple Synchronization
 - Depends solely on the sync header pattern of parity blocks
- Both methods depend on the sync header pattern of parity blocks

Downstream Synchronization (3/3)

- A full search had been done to find the special sync header pattern for parity blocks
 - It was found that {00, 11, 11, 00} is the best sync header pattern for either Fast or Simple synchronization method.

Thank You!