45. Vertical Redundancy Check (VRC)

Outcomes of the lecture are -

1. Under VRC and its performance.

VRC –

* It is also known as Parity Check.

Example –

1100001 ----------------------

v

Even parity generator 1 1100001 -------🡪 1 100001

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1 --------------------

The working of the VRC -

* When a frame is being transmitted, the data bits goes through an even parity Generator, where the number of errors are counted.
* If there are odd numbers of errors, the parity generator will generate 1.
* Then the added parity and the frame is given to receiver, where the receiver keeps the first added parity bit aside, and counts the number of odd errors.
* If the count of errors are odd without parity bit, the data is received. Whereas, if the errors are even without parity bit, the data is rejected.

The Performance of VRC –

1. It can detect single bit error.
2. It can detect burst errors if the number of Errors are odd.

Sender 11100001 🡪 transmission error 10100001 🡪 Receiver rejects the data (since the number of 1 is not odd and same with Senders data via redundant packets in the frame.)

WRONG APPROACH with even number of errors.

Sender 11100001 🡪 transmission error 10101001 🡪 Receiver accepts the data (since the number of 1 is not odd and same with Senders data via redundant packets in the frame, but misunderstands there can be error.)