

11-1 FRAMING

*The data link layer needs to pack bits into **frames**, so that each frame is distinguishable from another. Our postal system practices a type of framing. The simple act of inserting a letter into an envelope separates one piece of information from another; the envelope serves as the delimiter.*

Topics discussed in this section:

Fixed-Size Framing

Variable-Size Framing



Figure 11.1 *A frame in a character-oriented protocol*

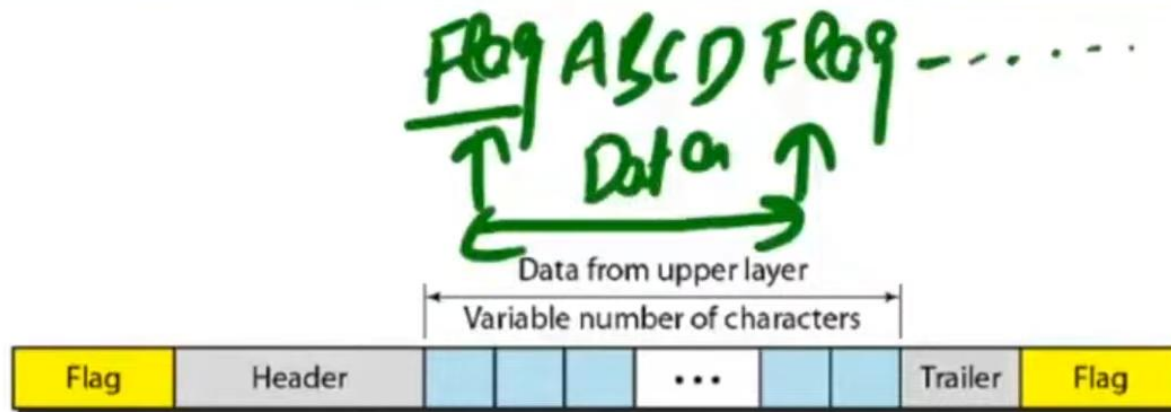
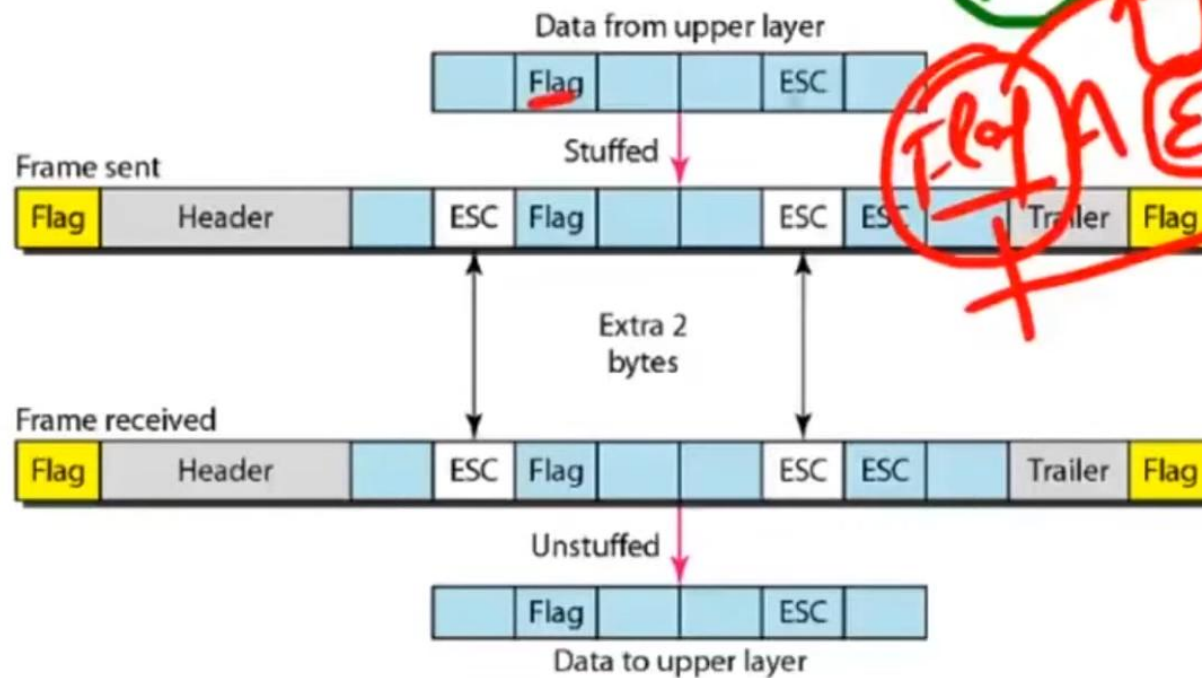


Figure 11.2 Byte stuffing and unstuffing



Handwritten notes in green and red ink:

- Green: Flag A ESC C Flag
- Red: Flag A ESC Flag C Flag

Framing in Data Link Layer | Bit Stuffing vs Byte(Character) Stuffing

0111110

Note

Byte stuffing is the process of adding 1 extra byte whenever there is a flag or escape character in the text.

11.5

6:07 / 7:24

AI

HD

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Figure 11.3

A frame in a bit-oriented protocol

01111110

Header

01111010110 ... 11011110

Trailer

01111110

Flag

Flag

6:12 / 7:24

AI

HD

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Figure 11.3

A frame in a bit-oriented protocol

01111110

Header

01111010110 ... 11011110

Trailer

01111110

Flag

Flag

6:12 / 7:24

AI

HD

Figure 11.3 A frame in a bit-oriented protocol

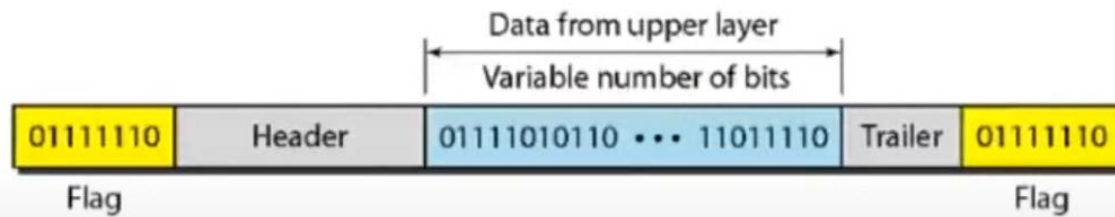


Figure 11.4 *Bit stuffing and unstuffing*

