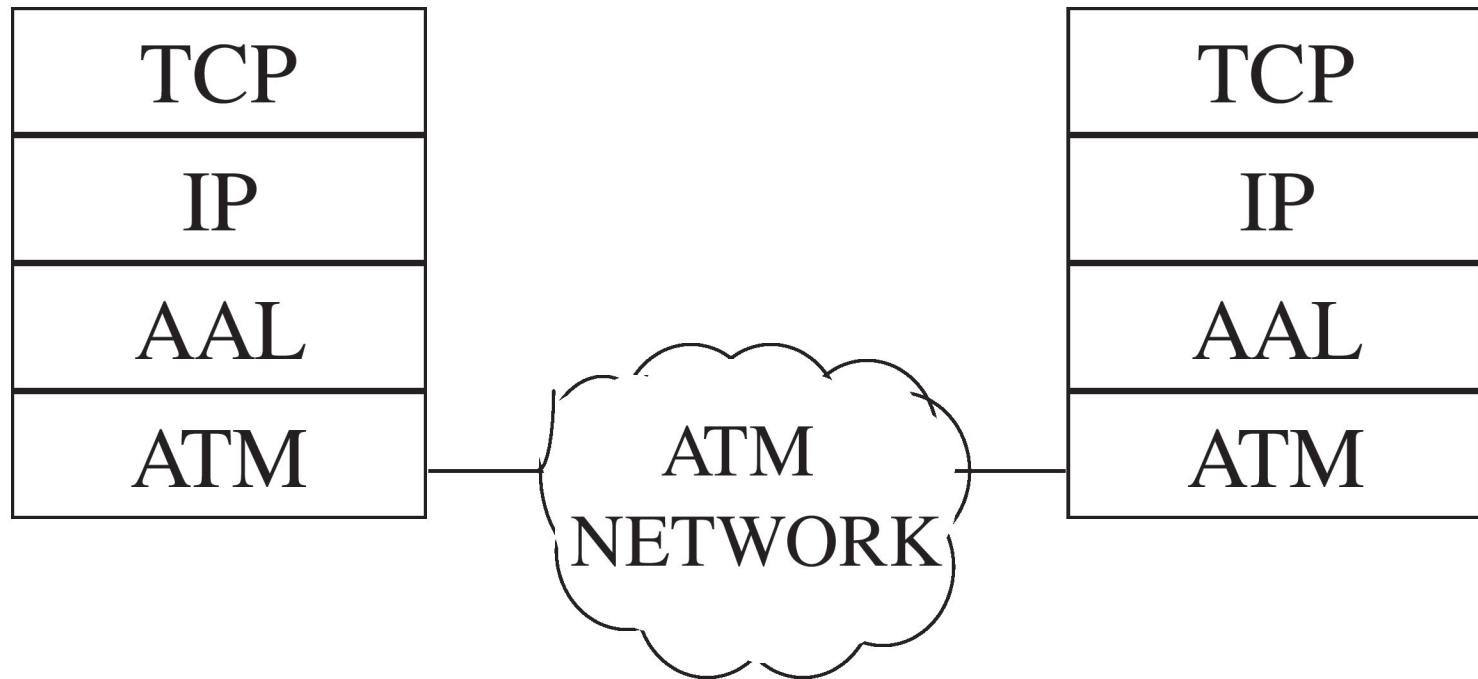


ATM Adaptation Layer

- The ATM Adaptation Layer (AAL) defines the rules for breaking up a higher level protocol data unit (PDU) into ATM cells for transmission on the network, and for reassembling the PDU at the other end
- Segmentation and reassembly (SAR)
- Convergence sublayer: adds sequencing and control information to aid SAR process

Example: ATM Adaptation Layer



AAL Protocols

- There are several different proposed AAL protocols for different traffic types
- Example: AAL 1
 - for real time or continuous bit rate services, such as video traffic
 - requires 1 byte of overhead per ATM cell (i.e., within the 48 byte payload)
 - 1 bit CSI, 3 bit sequence count, 3 bit CRC, and 1 bit parity

AAL Protocols (Cont'd)

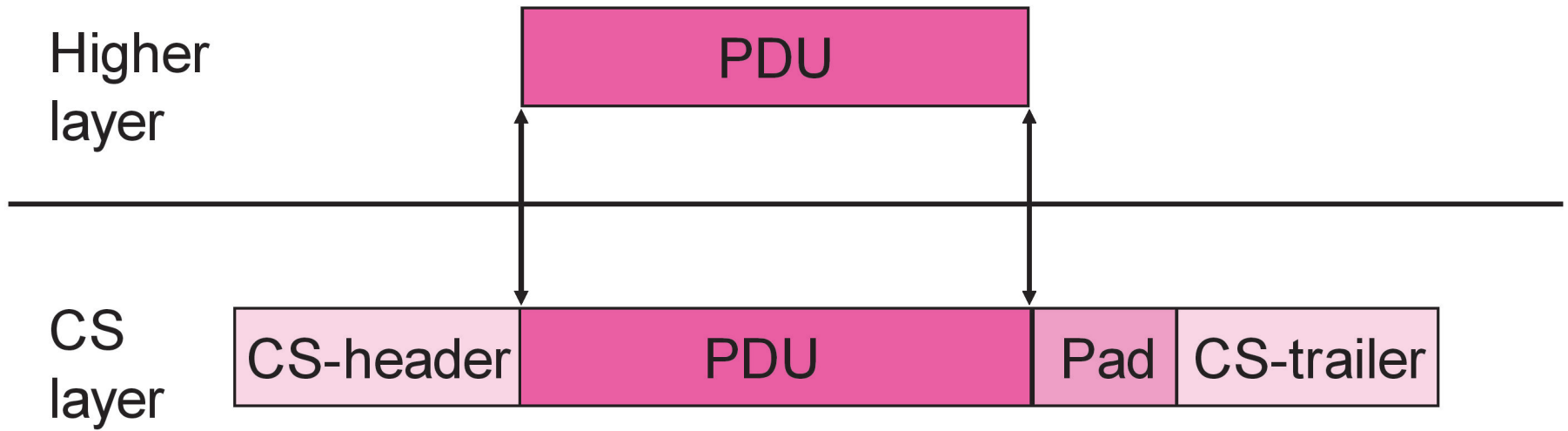
- Example: AAL 3/4
 - an adaptation layer for connectionless or connection-oriented data traffic
 - 4 bytes overhead per ATM cell
 - 16 bit header (2 bit type, 4 bit seq, 10 bit MID)
 - 16 bit trailer (6 bit length, 10 bit CRC)
 - very high overhead!!!

Adaptation Layer : A detailed view

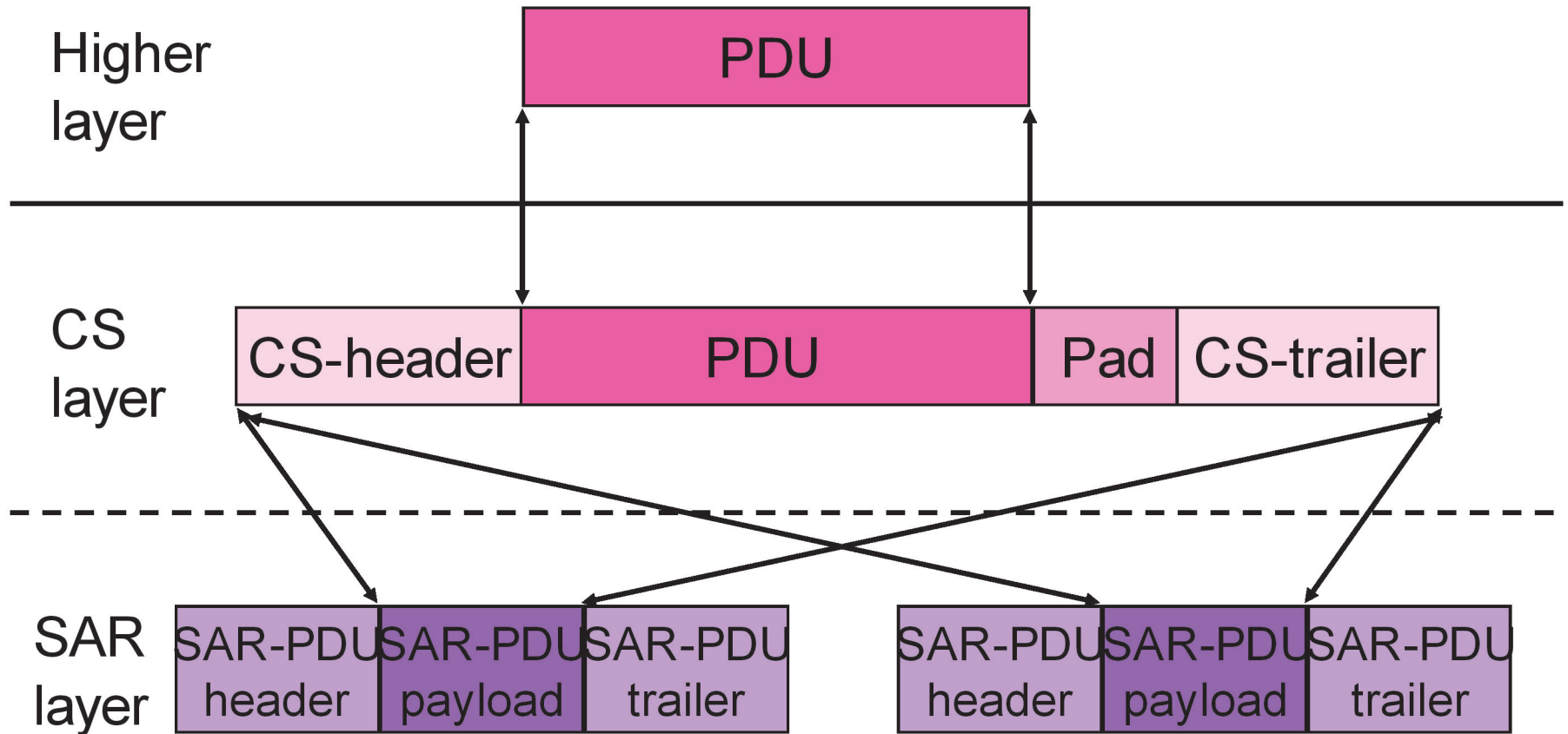
Higher
layer



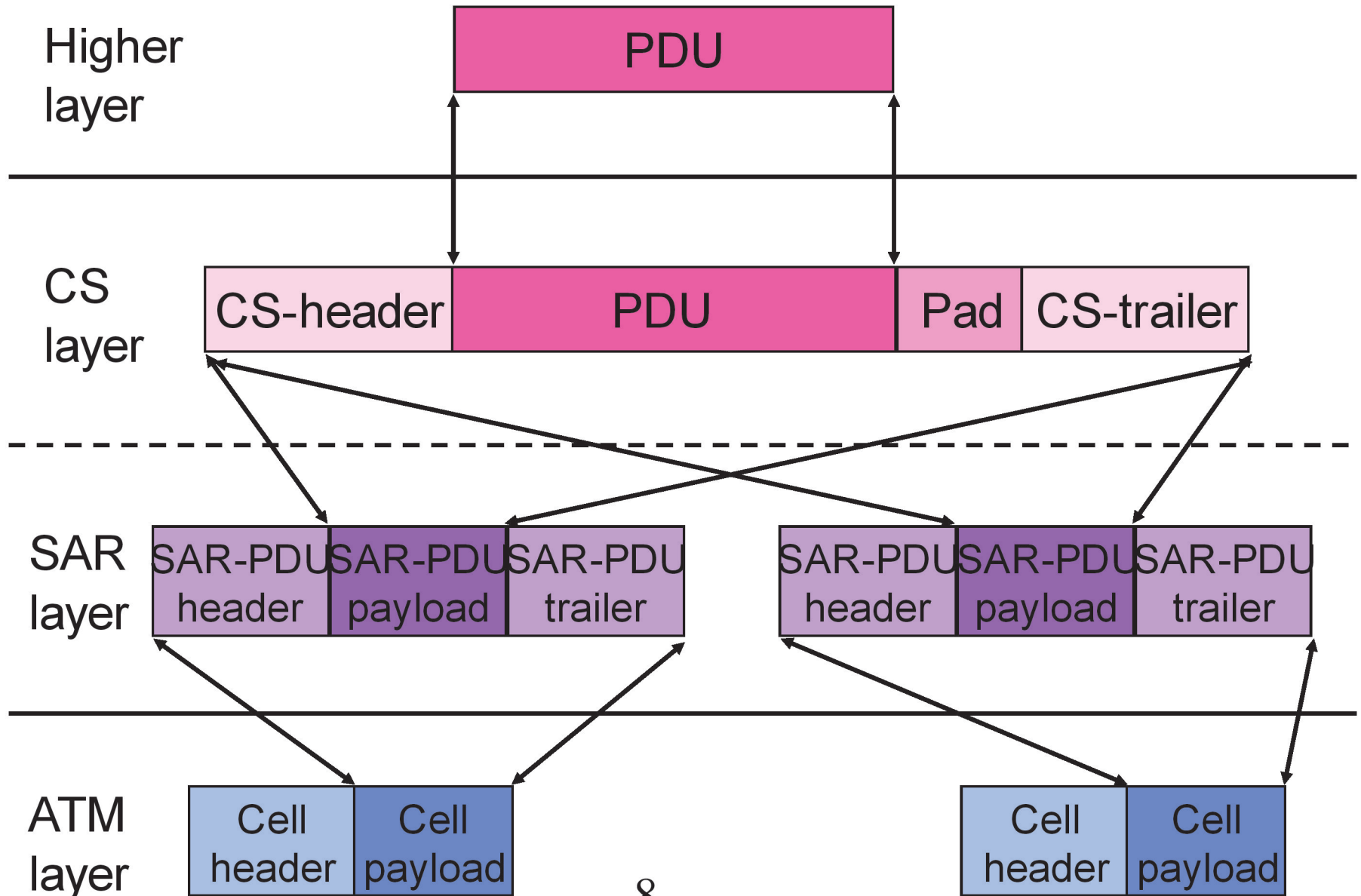
Adaptation Layer : A detailed view



Adaptation Layer : A detailed view



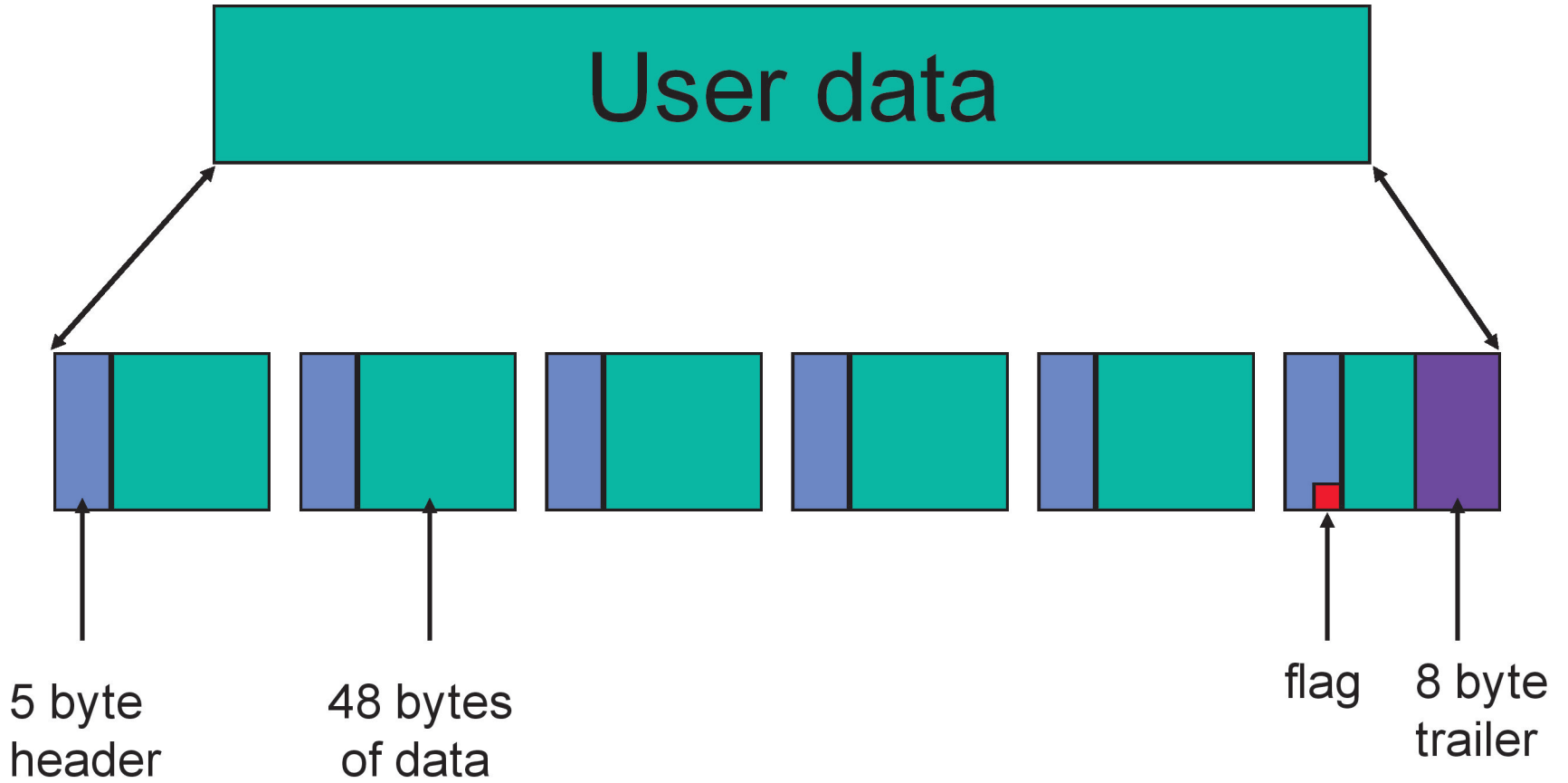
Adaptation Layer : A detailed view



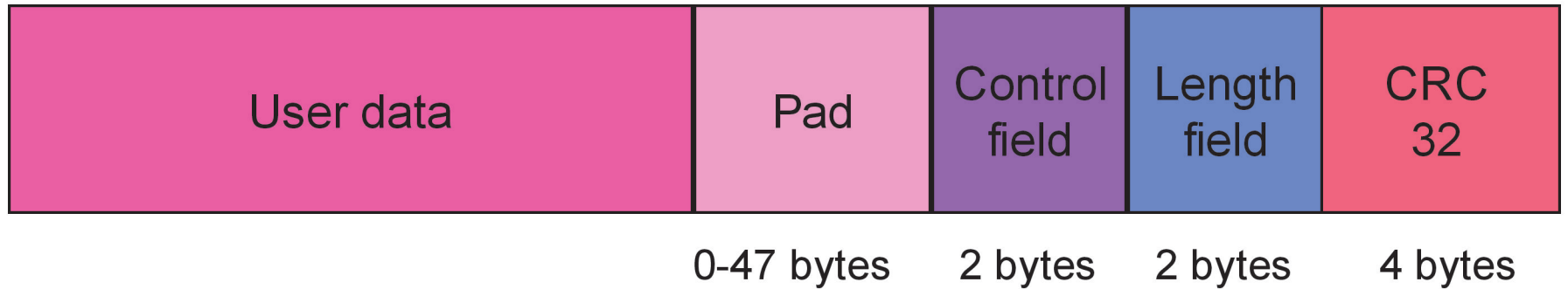
AAL Protocols (Cont'd)

- Example: AAL 5
 - an adaptation layer for data traffic designed by data networking researchers
 - Simple and Efficient Adaptation Layer (SEAL)
 - much lower overhead
 - 8 byte trailer per PDU (i.e., last cell of a PDU)
 - 1 bit of header in last cell of a PDU
 - 48 bytes of data in each ATM cell

AAL 5



AAL 5



Summary

- The ATM Adaptation Layer (AAL) defines the rules for breaking up a higher level protocol data unit (PDU) into ATM cells for transmission on the network, and for reassembling the PDU at the other end
- Several AAL's to choose from
- AAL5 is the best for data traffic