

UDPとCBR

Practice 1

**Information and Communications Technology
Internet Engineering**

Contents Delivery

- Encode
 - Music • movie is change to data (compress)
- CBR (Constant Bit Rate)
 - Bit rate is fixed
 - Constant bit amount Assignment Method (MPEG2)
- VBR (Variable Bit Rate)
 - Bit rate is changeable
 - High bit amount for strong change (moving, color) Assignment Method (MPEG2)

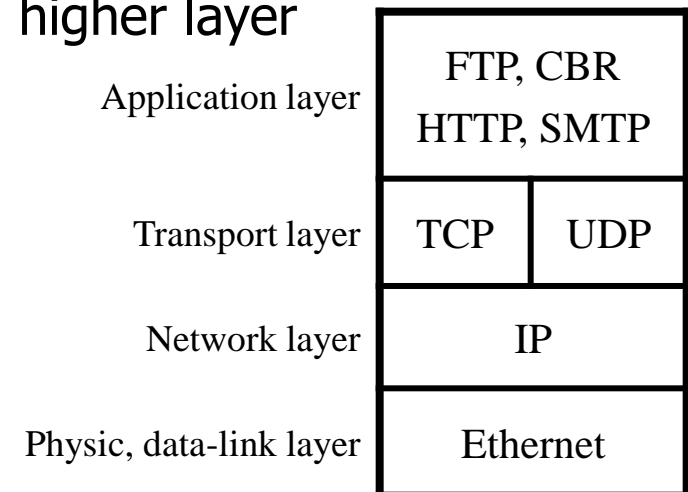
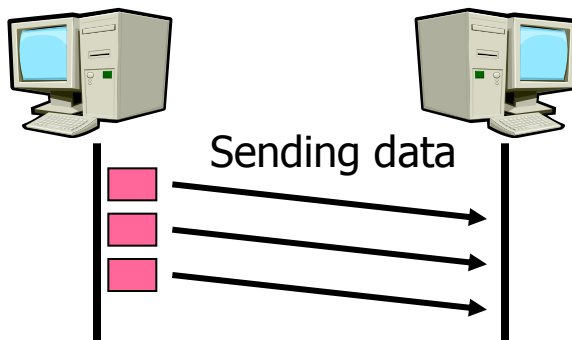
Bit rate: Number of bits are sent every second [bps (bit per second)].

higher bit rate will give more information and better quality of picture, music

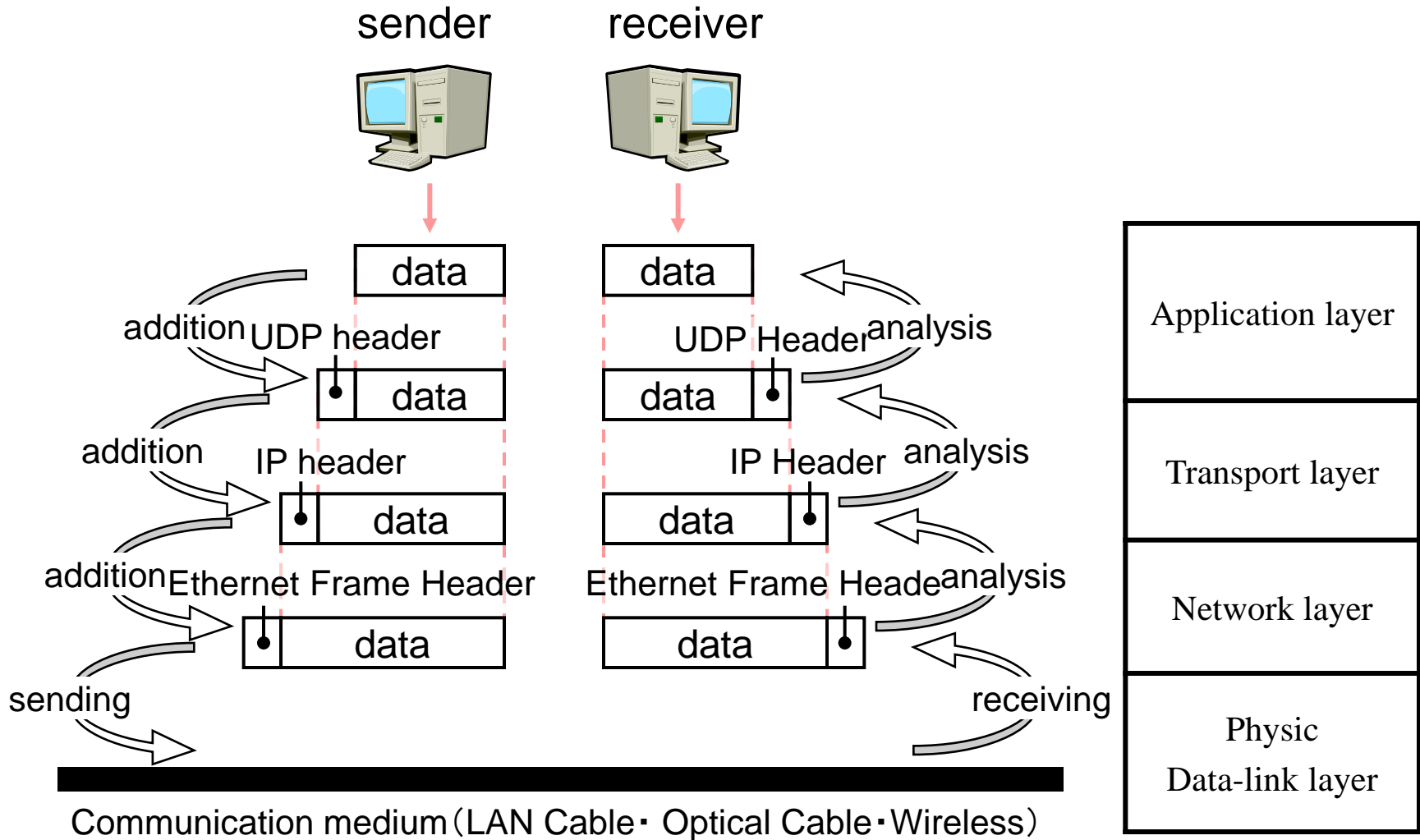
UDP (User Datagram Protocol)

- Protocol of transport layer
- Low reliability (no guarantee if packet arrived or not)
- Suit for delivery music, movie

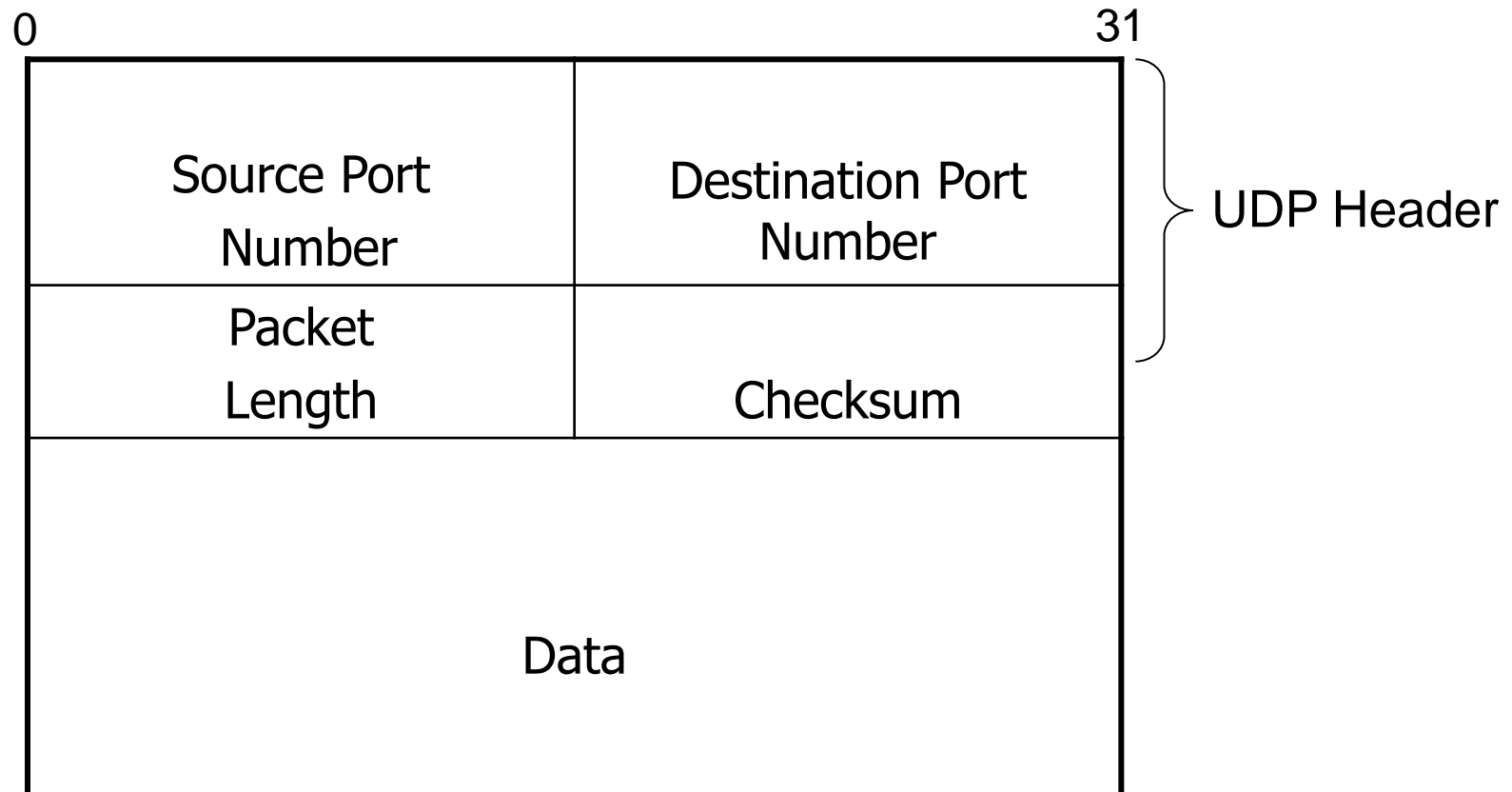
No considering about network state,
Sending data following to the request from higher layer



Hierarchy Architecture

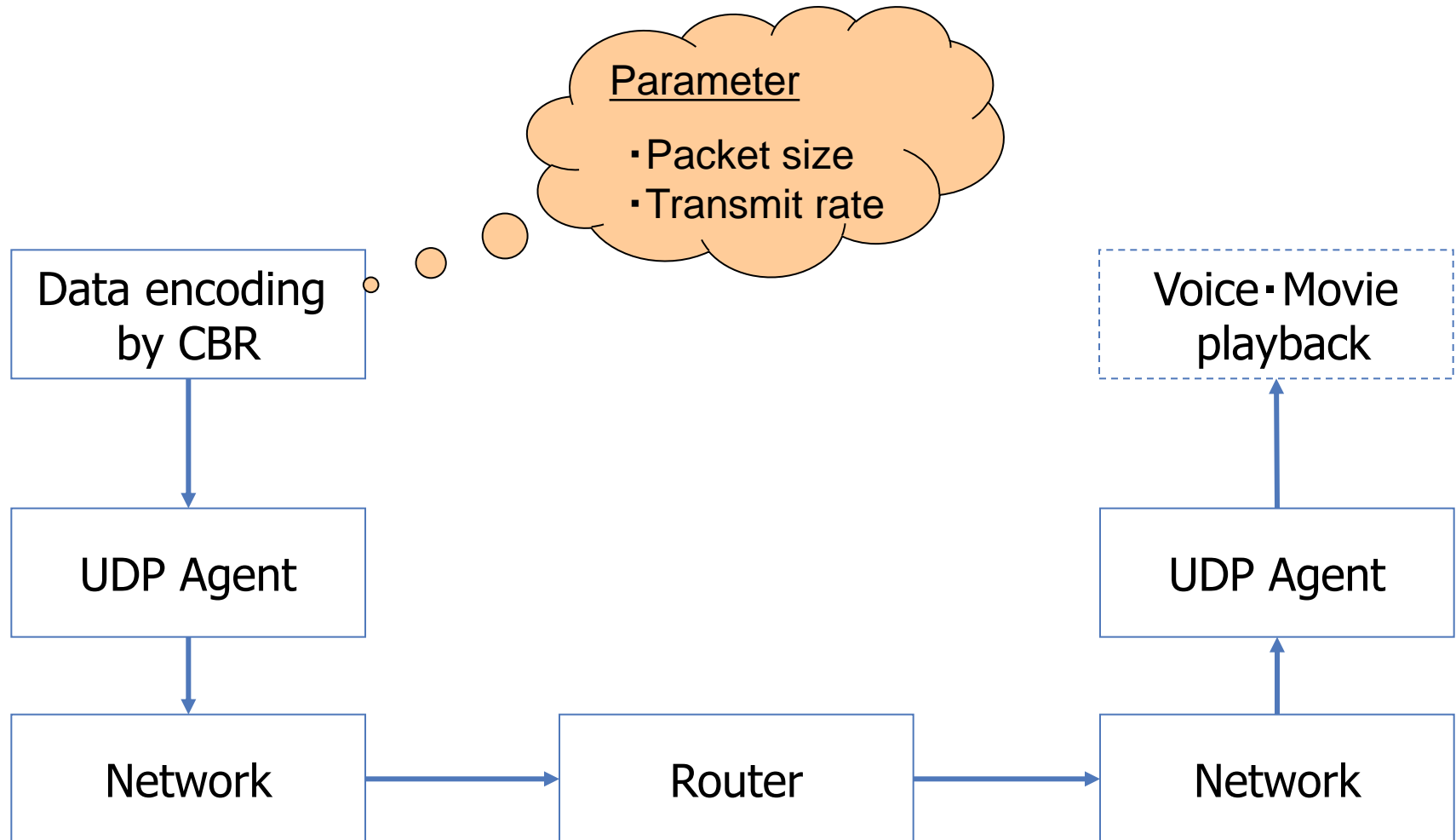


UDP Packet Configuration

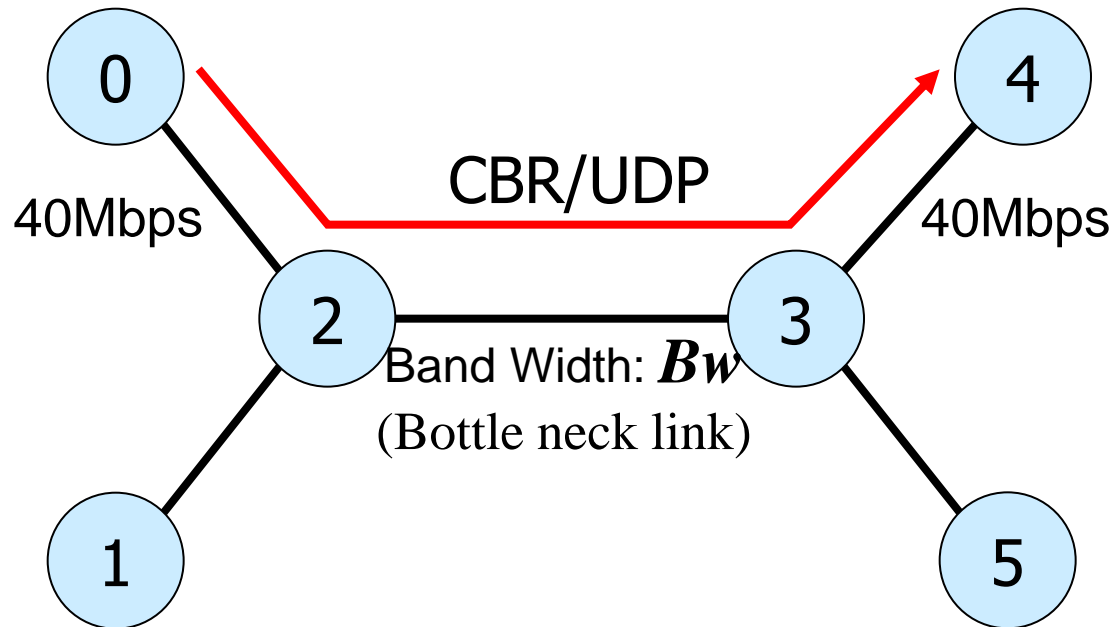


(Notice) Since UDP header is small, In NS header size is considered as 0

CBR/UDP Simulation



Experiment 1-1



- Through Put [Mbps] =
$$\frac{(\text{Total of receiving packet}) \times (\text{Packet size(include header)})[\text{bytes}]}{(\text{transmission time})[\text{s}]}$$
- Packet drop rate [%] =
$$\frac{(\text{total of drop packet})}{(\text{total packet})} \times 100$$