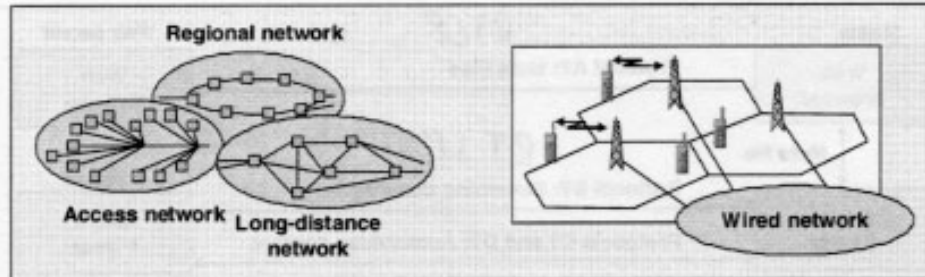
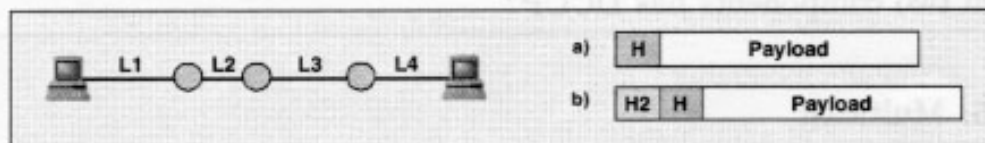


## Question 1: Network Architecture



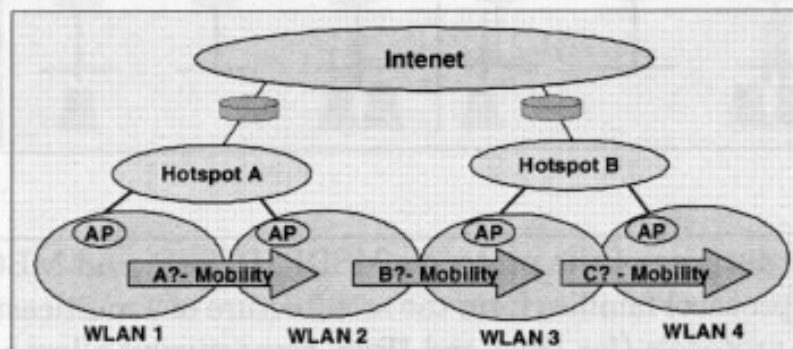
- ✓1) Characterize isochronous, synchronous, and asynchronous data transfer.
- ✓2) Why are circuit-switched highways crucial in all-packetized networks?
- ✓3) Give two advantages that mobile networks have over fixed networks.
- ✓4) Give two advantages that fixed networks have over mobile networks.
- ?5) Why satellite networks form the third component of networking?

## Question 2: Network Operation



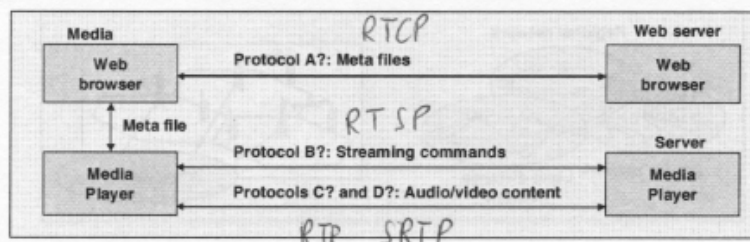
- 1) Which two addressing modes exist to transfer data units through the network? Give two examples for each mode.
- 2) What is the difference between the data unit formats (a) and (b)?
- ✓3) Why user throughput might decrease during heavy overload?
- ✓4) What is the difference between a leaky bucket and a token bucket?

## Question 3: Network mobility



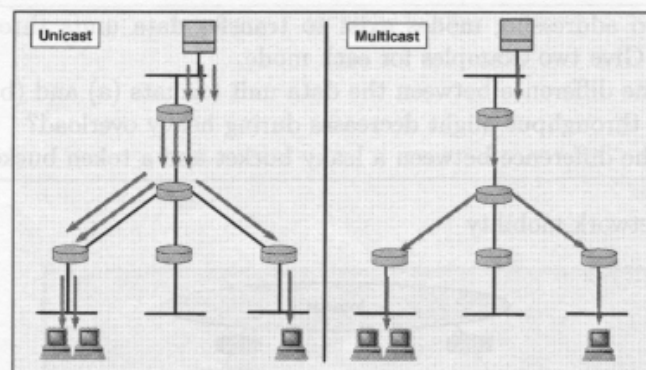
- 1) Complete the mobility mode terms: A?, B? and C?.
- 2) Which address type (plus length) is used in the WLANs?
- 3) Which address type (plus length) is used between WLAN access points?
- 4) Which address type (plus length) is used in the B?-mobility domain?

## Question 4: Real-Time Connections and Multimedia Protocols



- ✓1) Give the full names of the multimedia protocols A?, B?, C?, and D?.
- 2) Which two functions have been added for MM-security transfers?
- 3) Which protocol performs end-to-end signaling in IP networks?
- ✓4) What is its payload protocol component?
- ✓5) How we can distinguish between its requests and responses?
- ✓6) Which protocol is meant by the abbreviation SCTP?
- ✓7) Give four major properties of SCTP.
- 8) Which two components has DCCP?

## Question 5: Multicast



- ✓1) What is the purpose of the protocols MSDP, BGMP, and MBGP?
- 2) Which **two** protocol families form the architecture of a multicast network?
- 3) Which **two** protocols (for IPv4 and IPv6, respectively) allow an end system to be part of the multicast network?
- 4) Give the difference between a source-based and a core-based tree.
- ✓5) What is the main difficulty for operating reliable multicast?
- ✓6) Give three methods to cope with this difficulty.