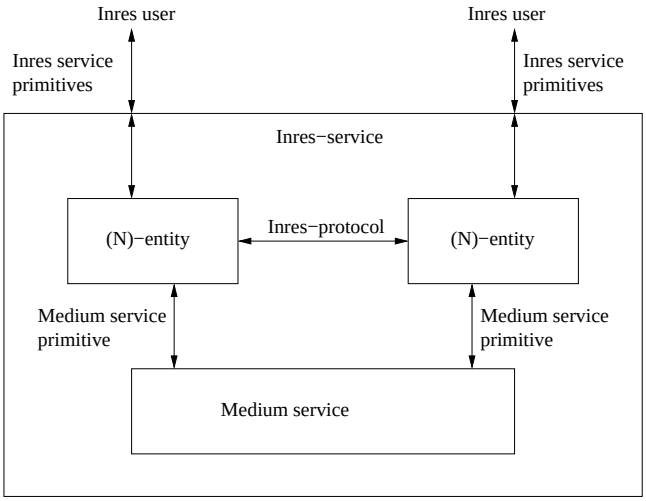
Communication Protocols

Week 5

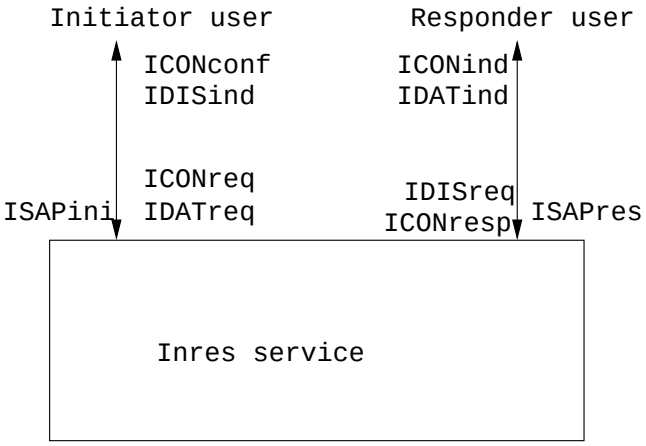
Case study – The INRES protocol

- Not a real protocol
- Contains many of the basic OSI concepts
- Services:
  - Unreliable data transmission – medium service
  - Connection-oriented INRES protocol over the medium
  - INRES protocol + Medium service = INRES service



Inres Service

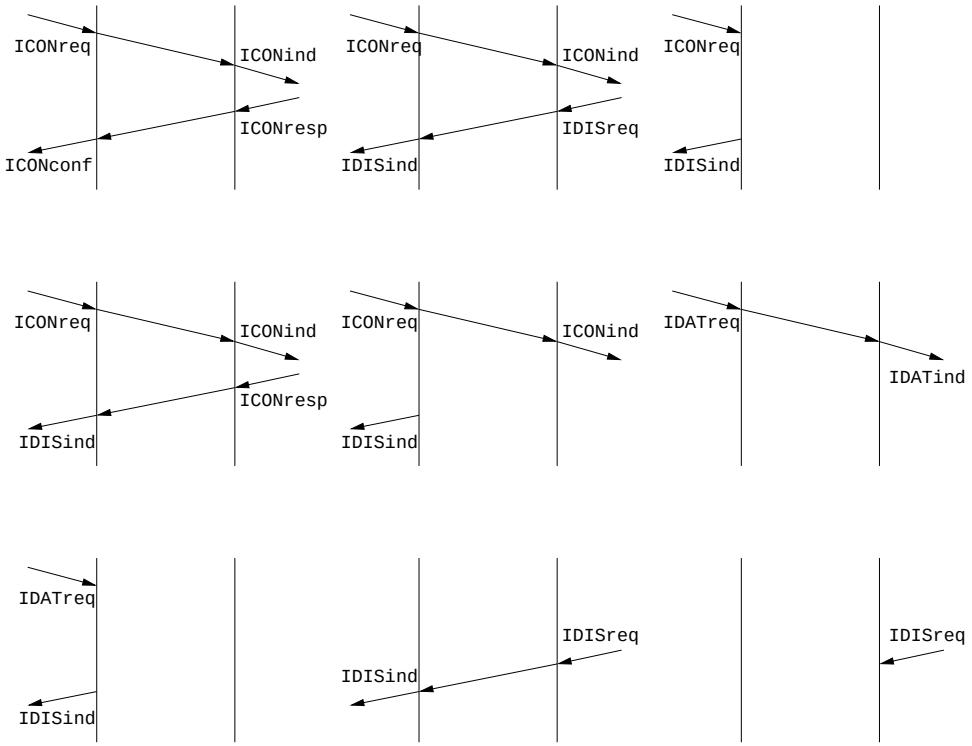
- Connection-oriented
- Asymmetric – only the initiator user can initiate a connection
- The responder user may accept or reject the request



Service Primitives

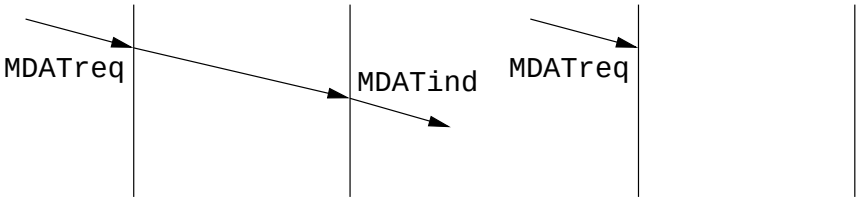
- ICONreq: connection request by the Initiator user
- ICONind: indication of connection request by the provider
- ICONresp: response to ICONreq by the Responder user
- ICONconf: confirmation of a connection by the provider
- IDATreq(ISDU): data from the Initiator user to the provider
- IDATind(ISDU): ata from the provider to the Responder user
- IDISreq: disconnection request by the Responder user
- IDISind: disconnection indication by the provider

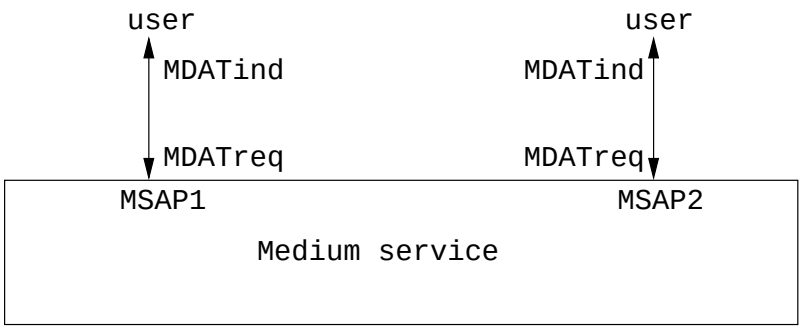
Sequence Diagrams



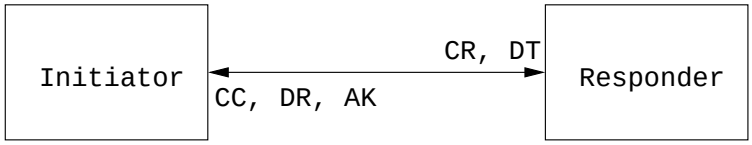
Medium Service

- Two SAPs (MSAP1, MSAP2), symmetrical, connectionless
- MDATreq(MSDU): data transmission request
- MDATind(MSDU): data transmission indication
- The transmission of MSDUs between the SAPs is unreliable





Inres Protocol



- Three phases of communication: connection establishment, data transfer, disconnection
- Primitives: CR, CC, DT, AK, DR
- CR: connection request – ICONreq, ICONind
- CC: connection confirmation – ICONresp, ICONconf
- DT(sequence number, ISDU): data transfer – IDATreq, IDATind
- AK(sequence number): acknowledgement – –
- DR: disconnection request – IDISreq, IDISind