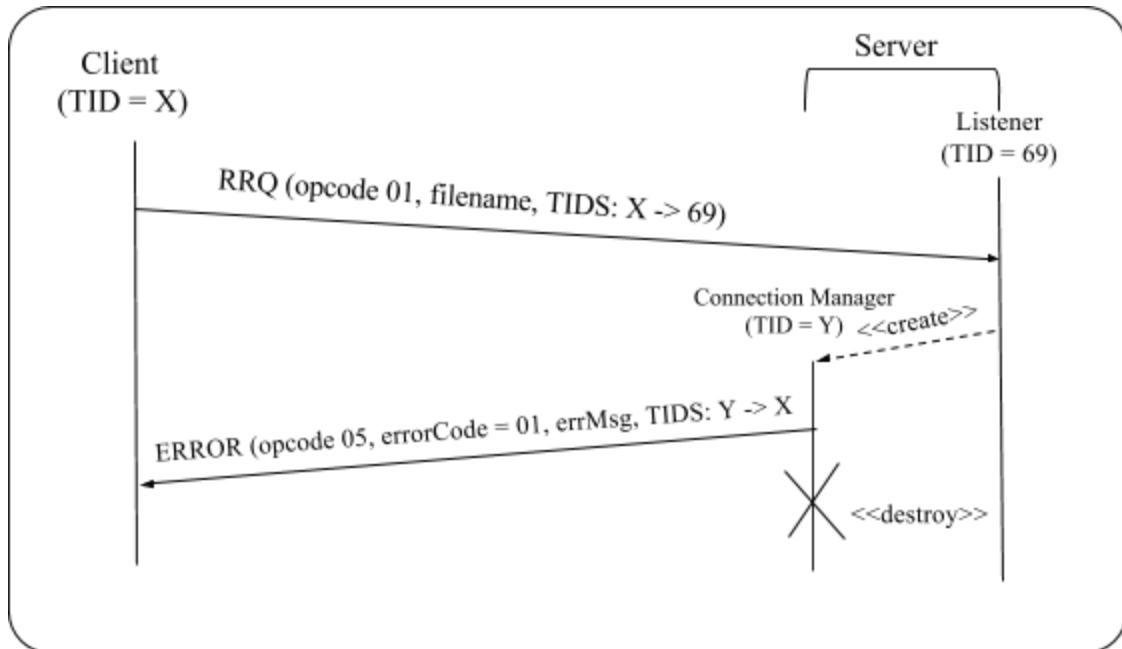
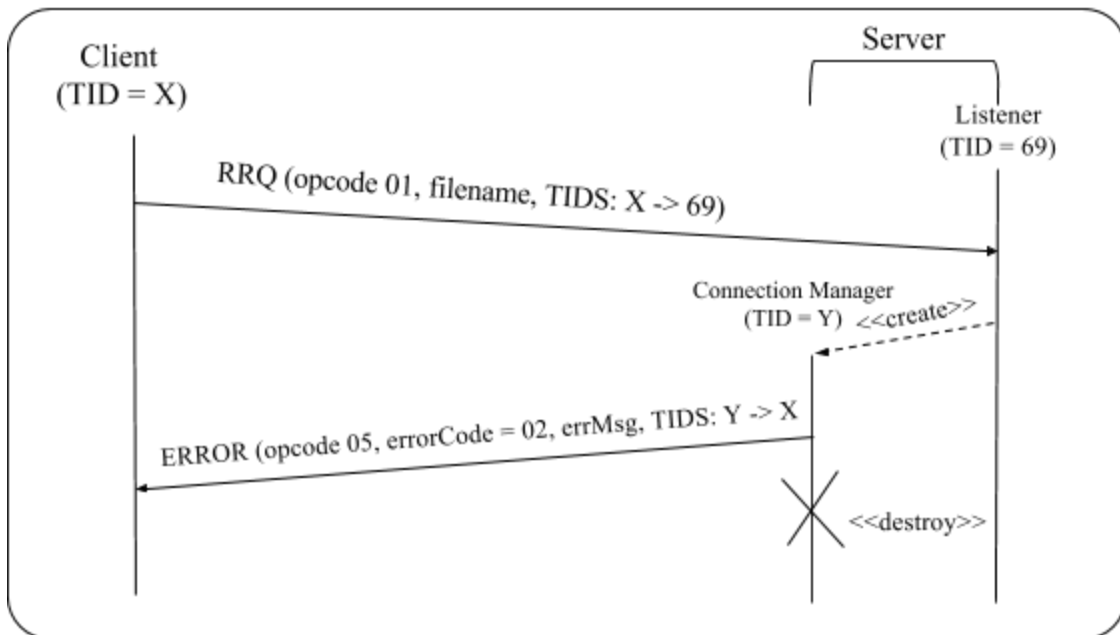


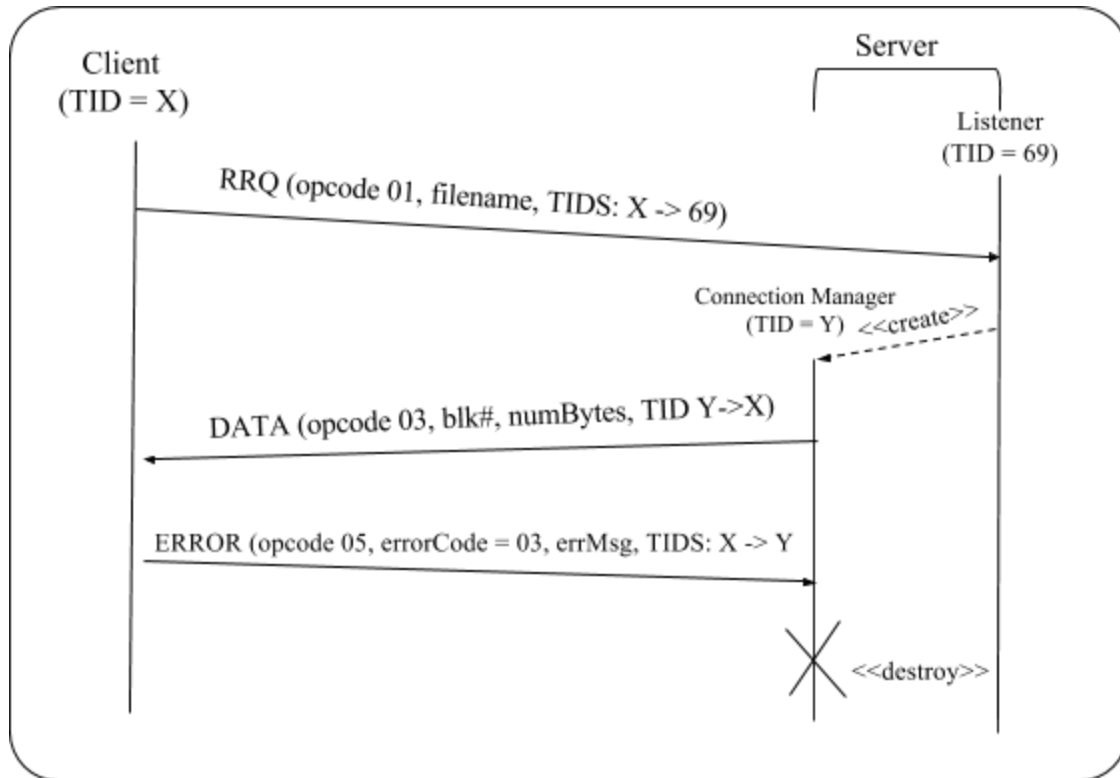
Timing Diagram, Error 1 - File Not Found



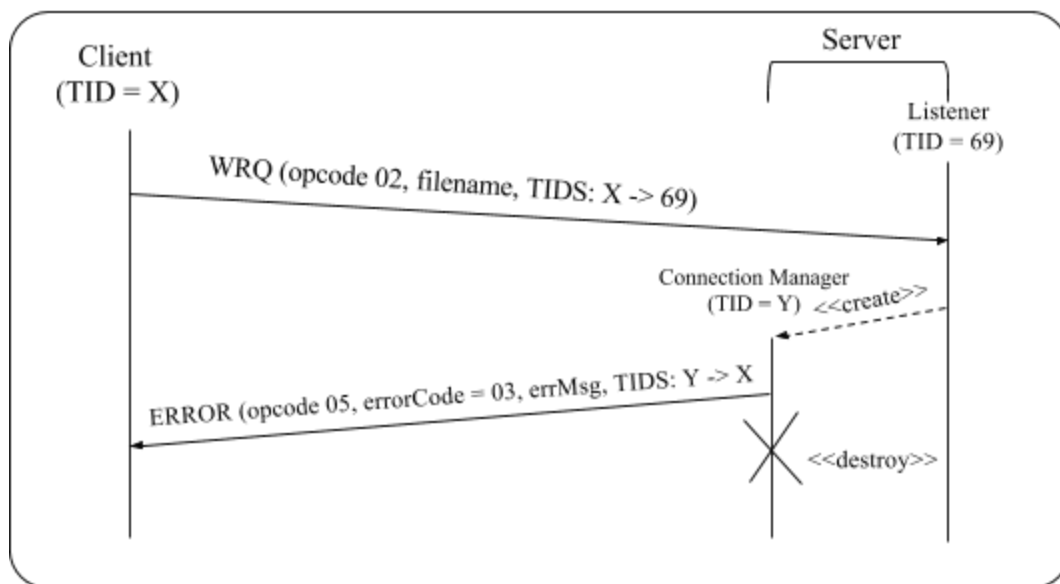
Timing Diagram, Error 2 - Access Violation



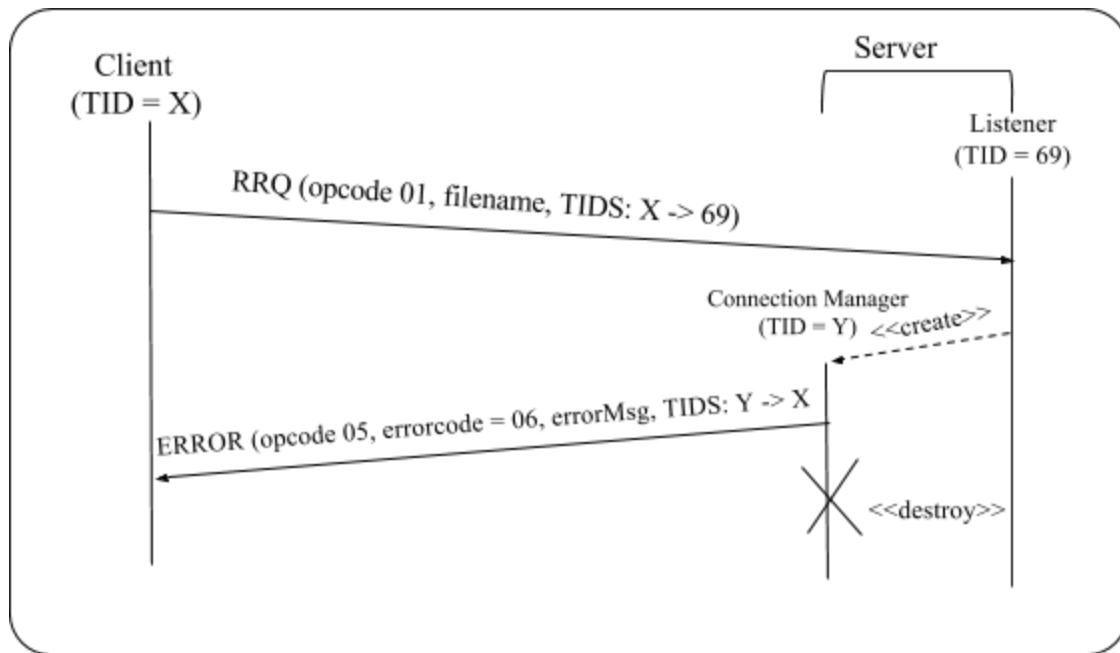
Timing Diagram, Error 3 - Disk Full, Case 1



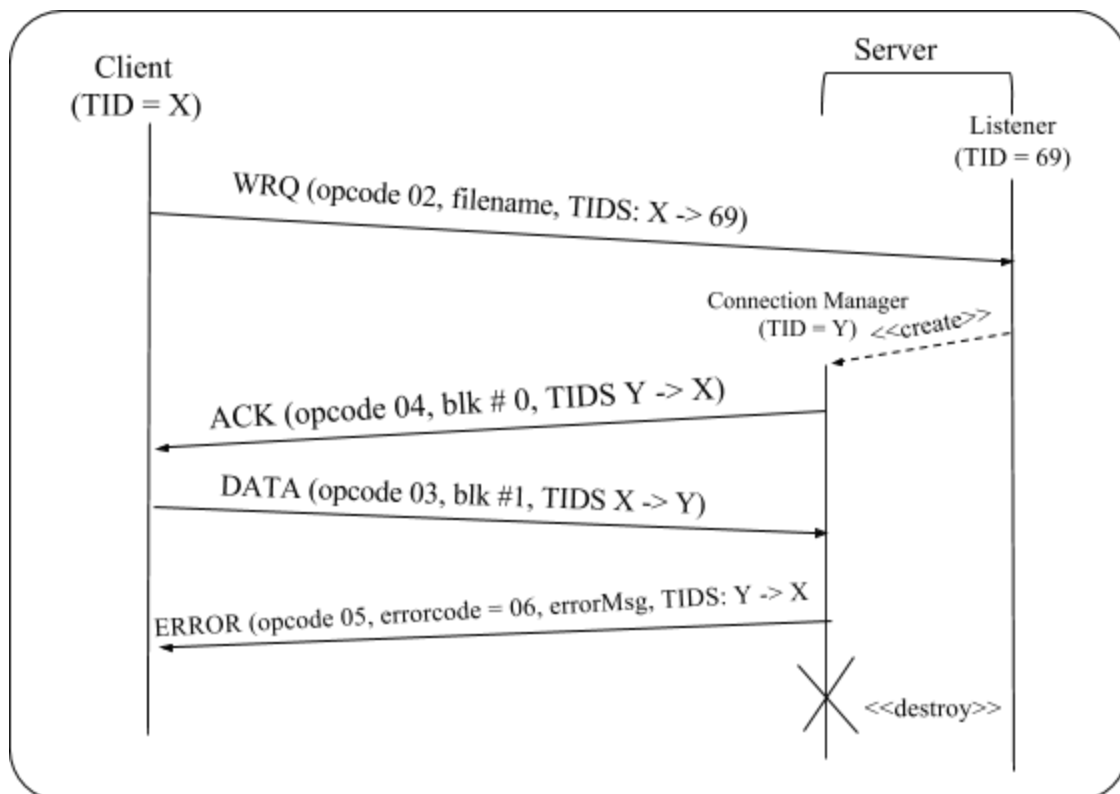
Timing Diagram, Error 3 - Disk Full, Case 2



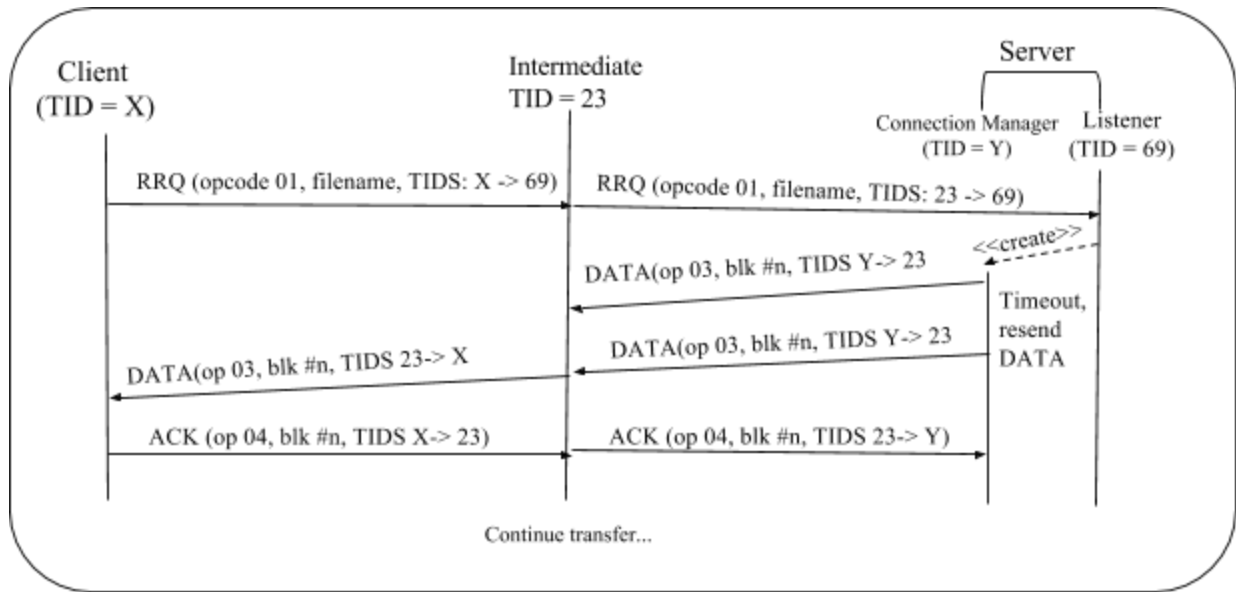
Timing Diagram, Error 6 - File Already Exists, RRQ



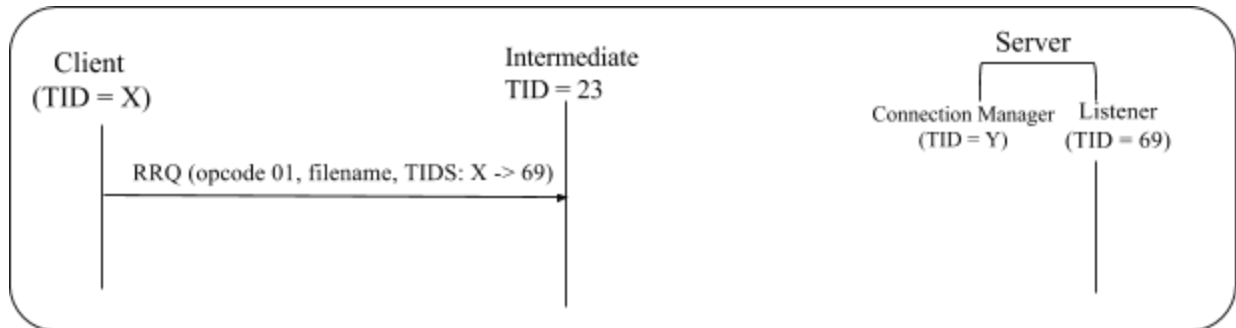
Timing Diagram, Error 6 - File Already Exists, WRQ



Timing Diagram, Lost request

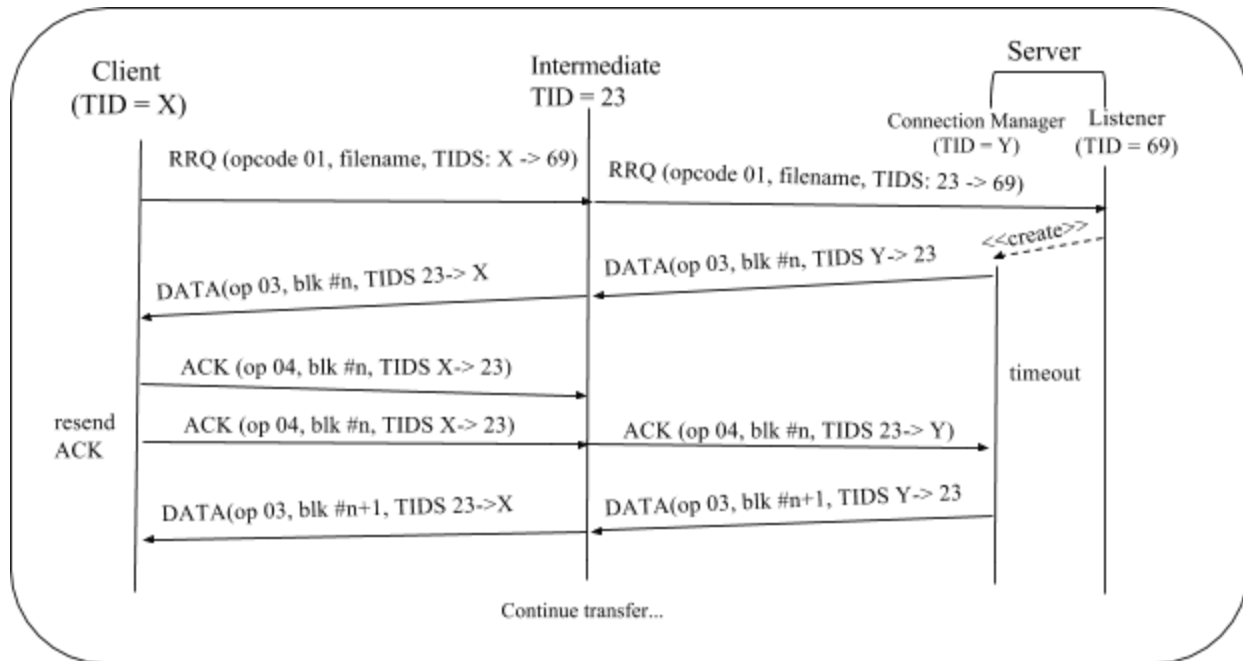


Timing Diagram, RRQ, Lose DATA Packet

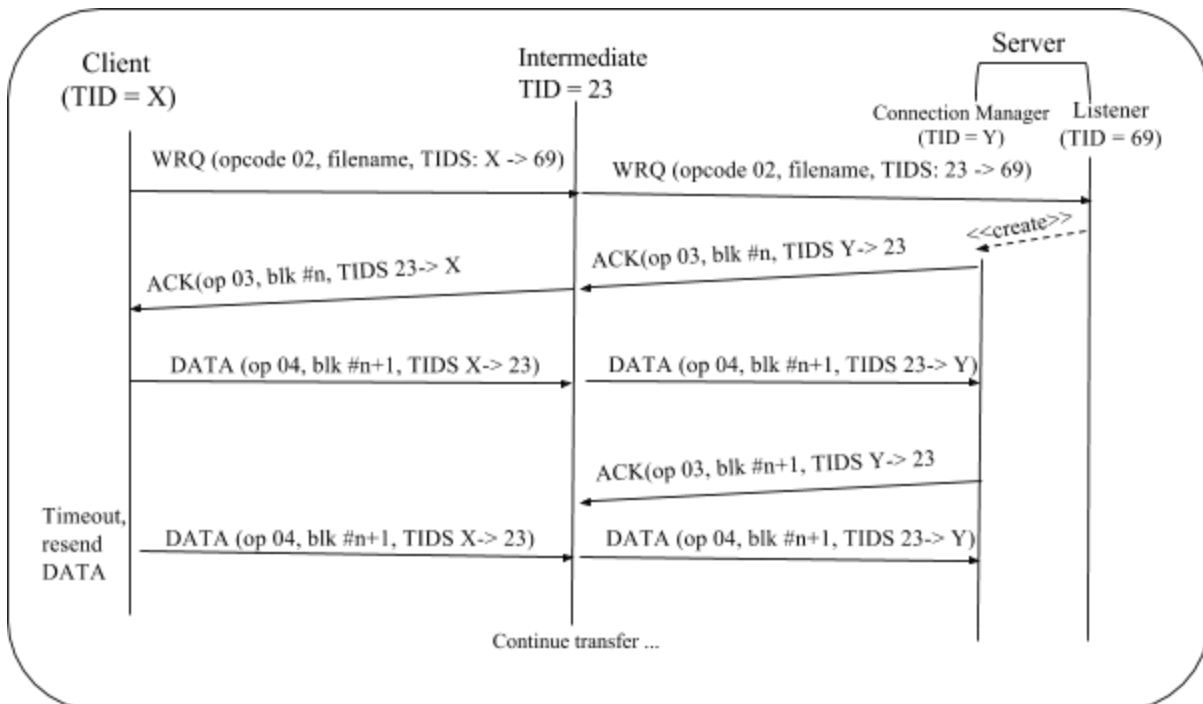


\*\* client will timeout and re prompt user for a new request (same for WRQ)

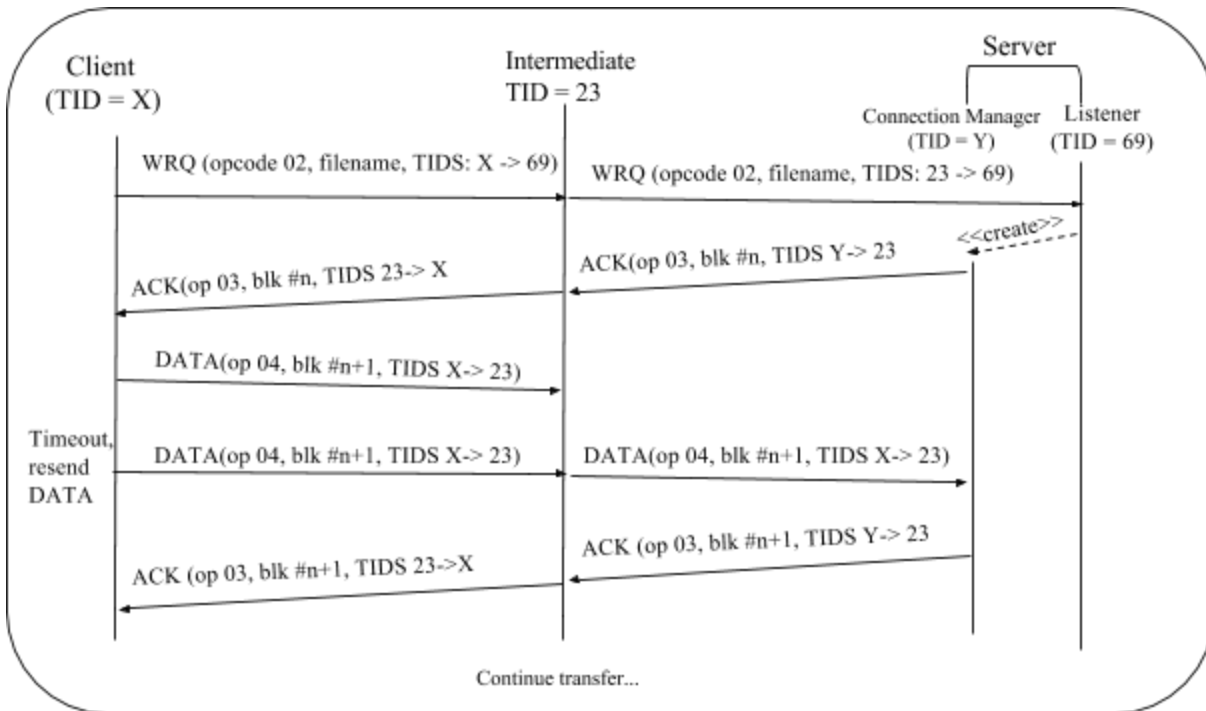
Timing Diagram, RRQ, Lose ACK Packet



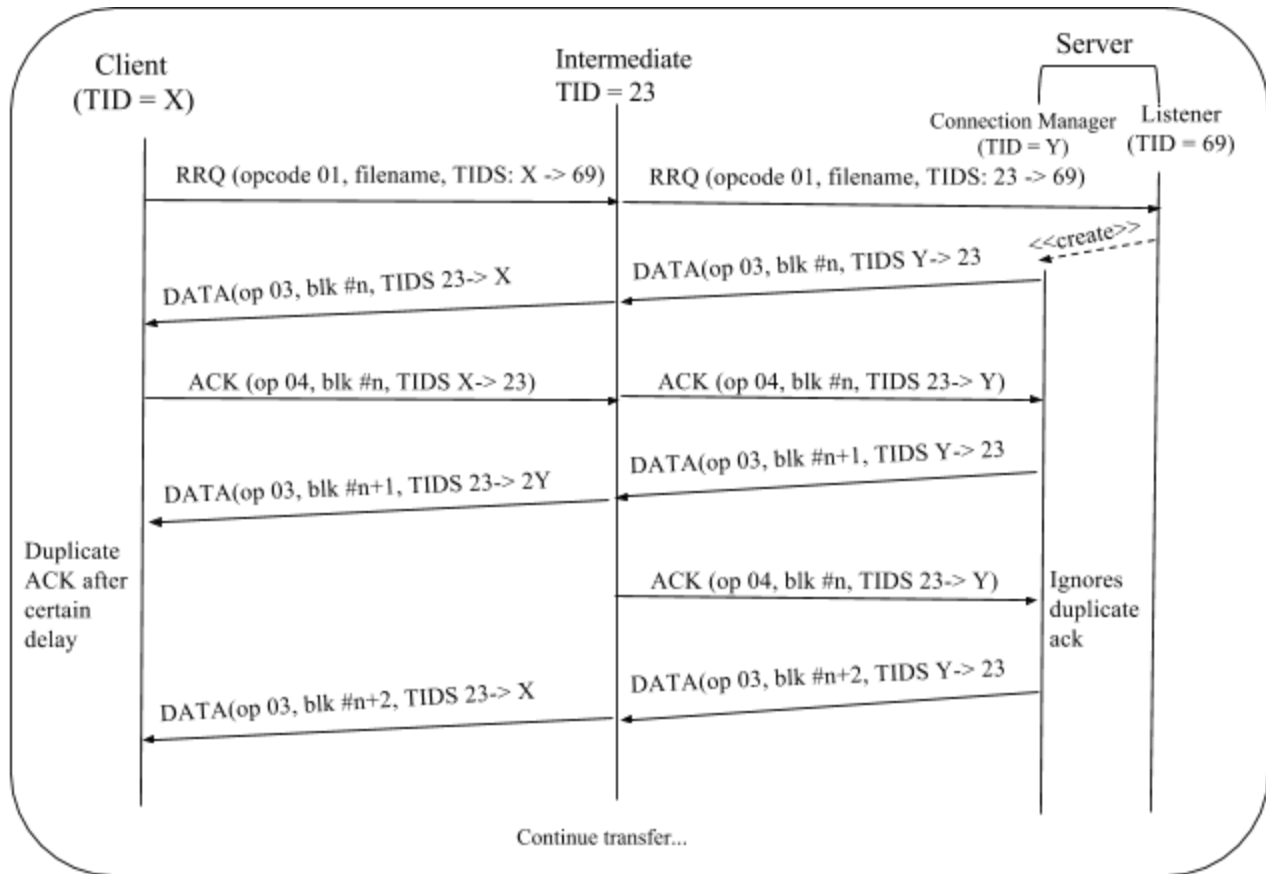
Timing Diagram, WRQ, Lose ACK Packet



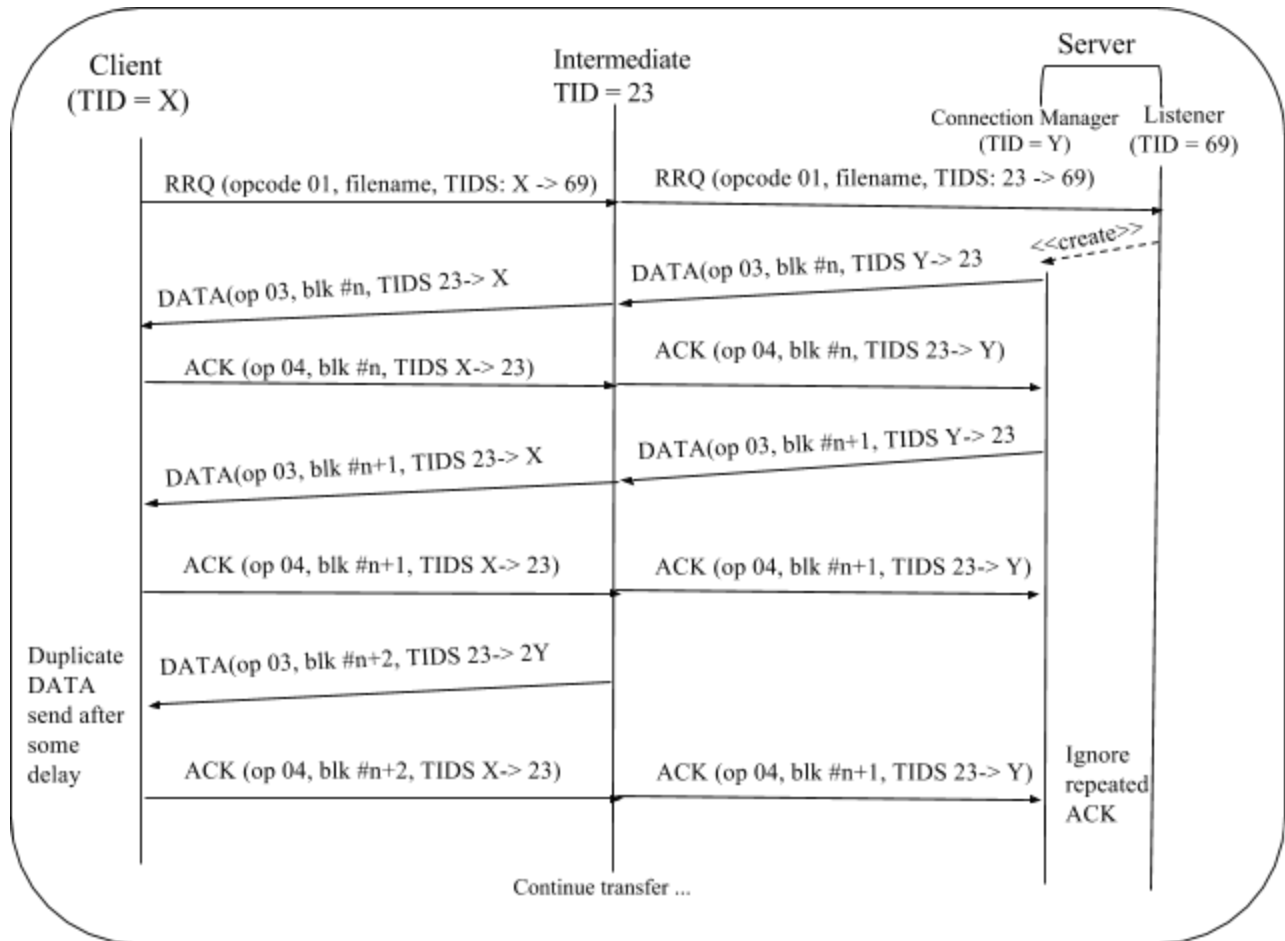
### Timing Diagram, WRQ, Lose DATA Packet



Timing Diagram, RRQ, Duplicate ACK Packet

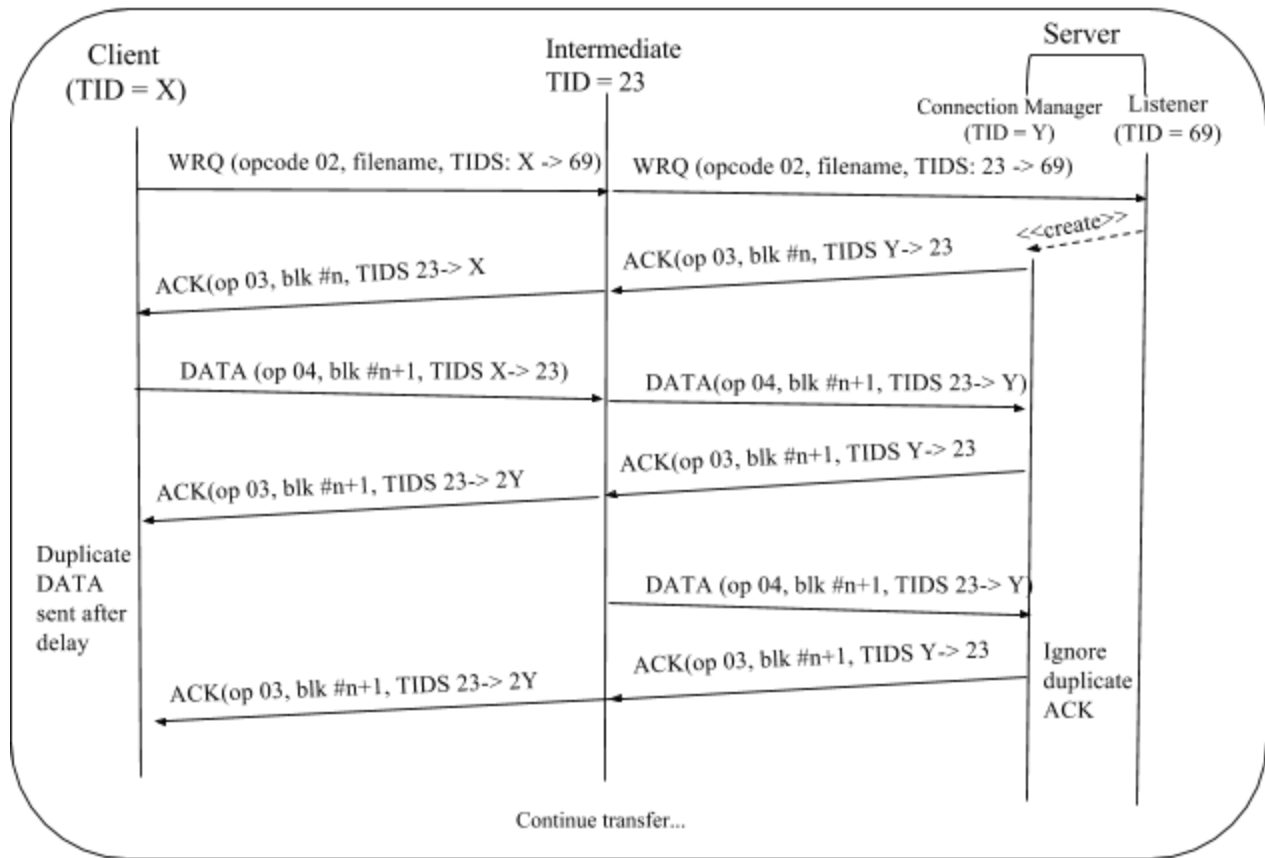


Timing Diagram, RRQ, Duplicate DATA Packet

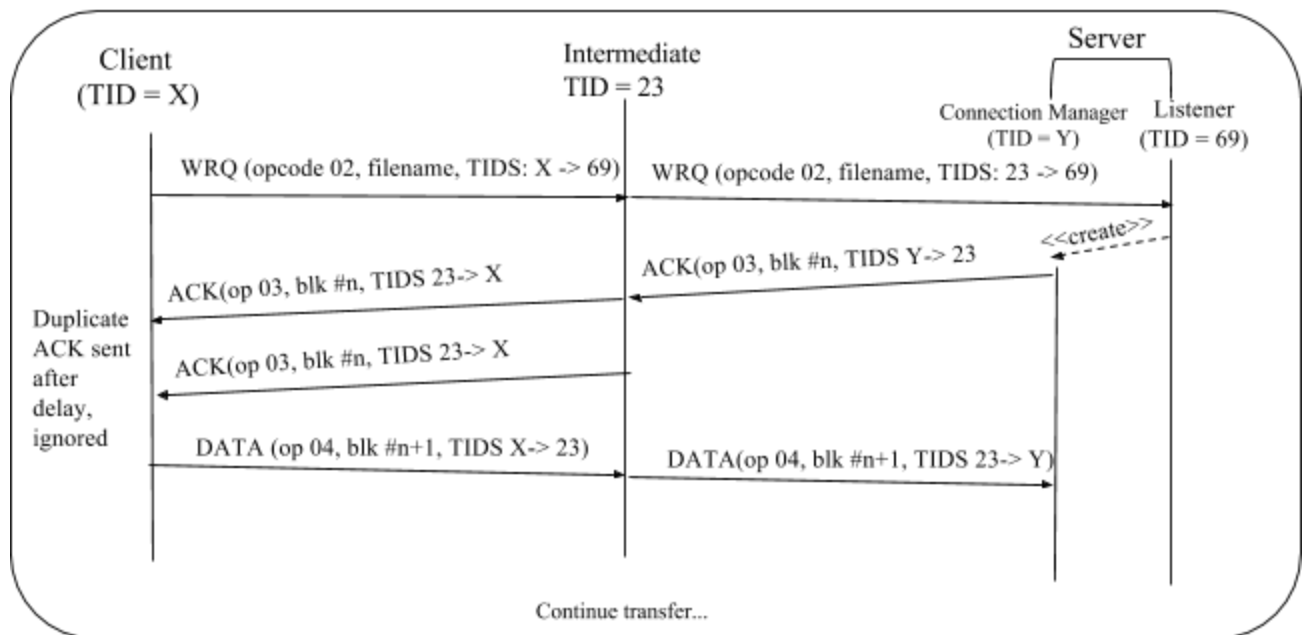




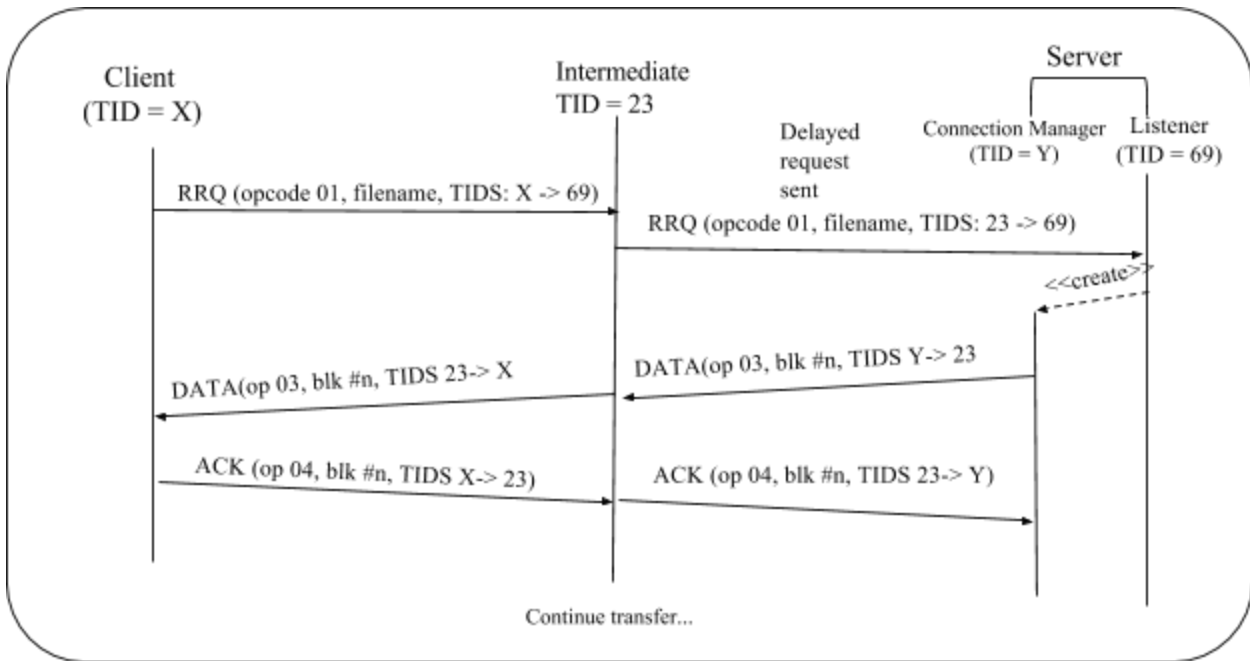
Timing Diagram, WRQ, Duplicate DATA Packet



Timing Diagram, WRQ, Duplicate ACK

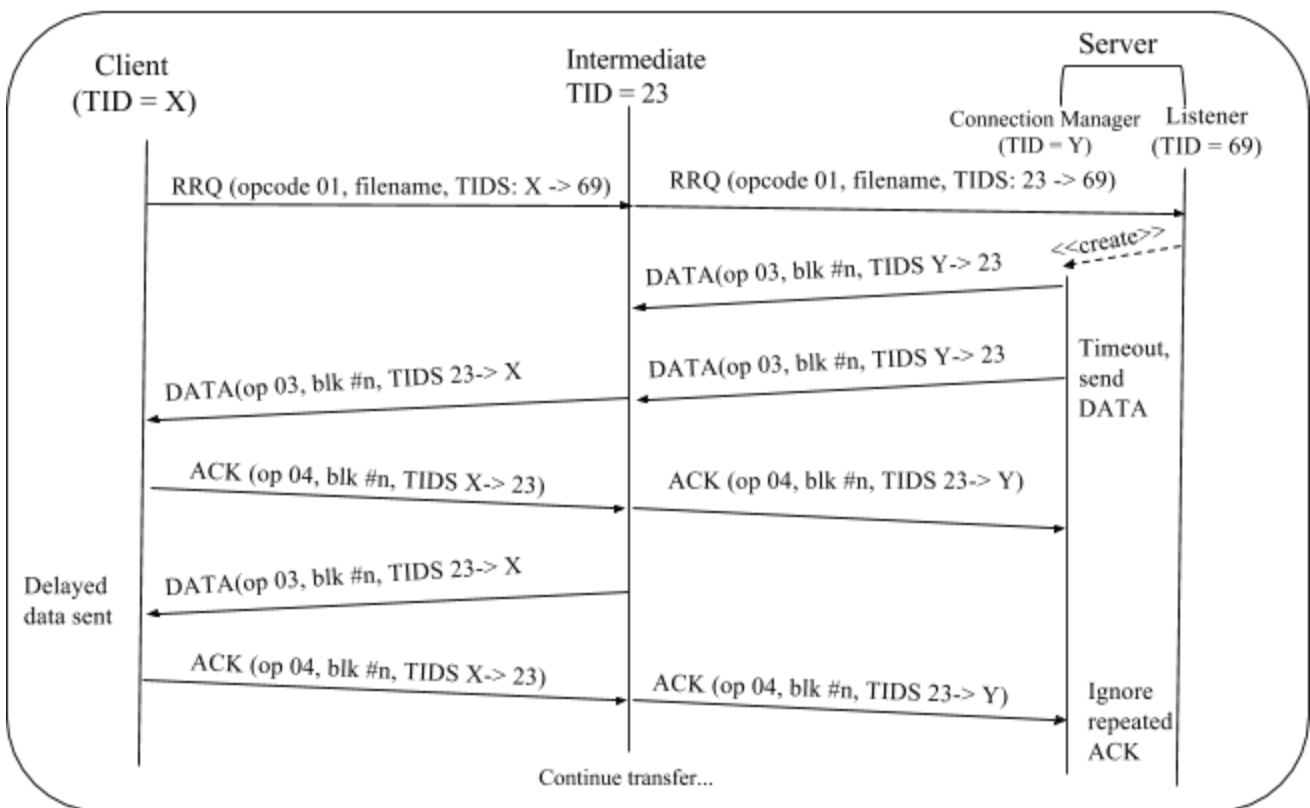


## Timing Diagram, Delay Request

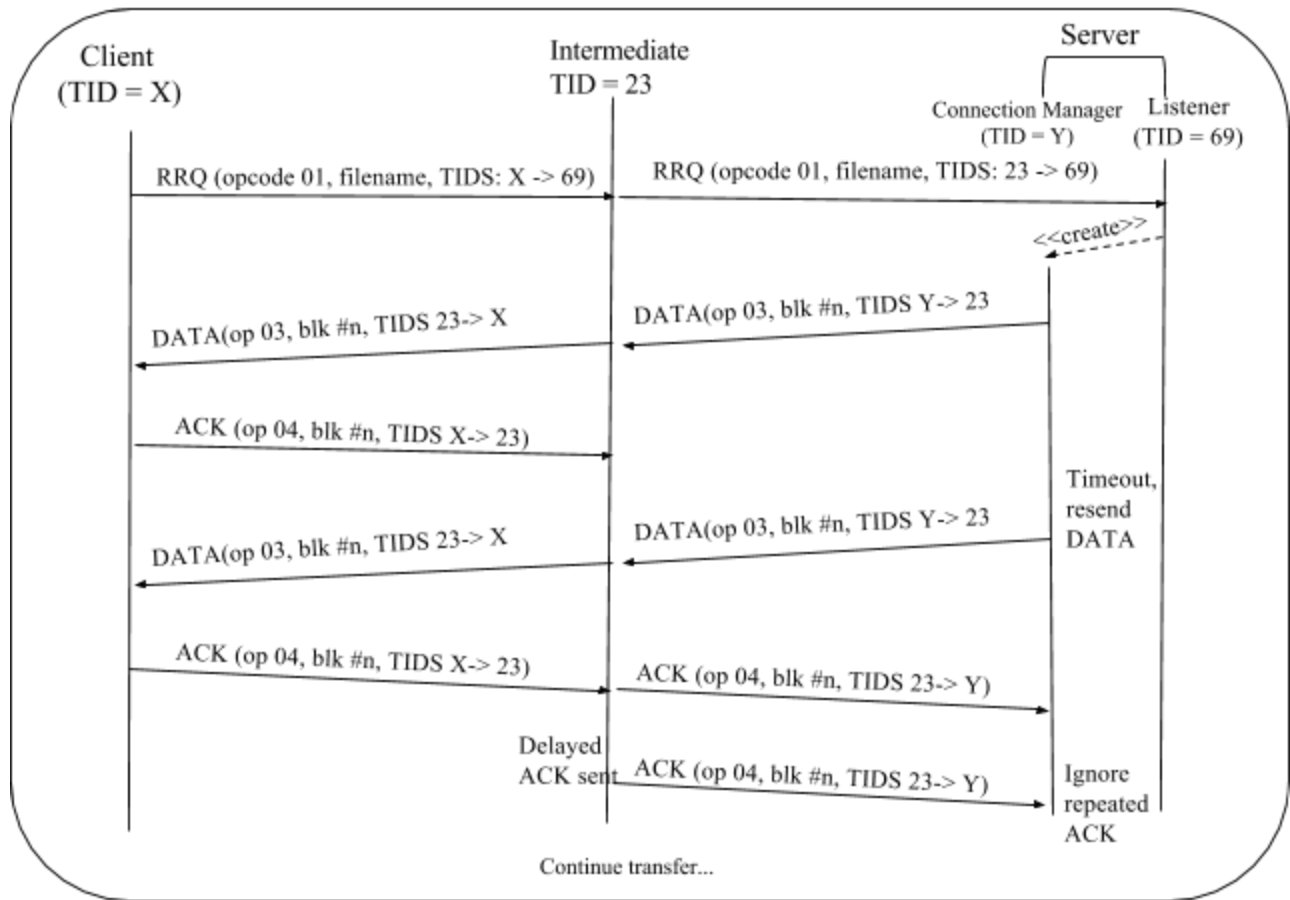


\*\* if client times out, client will reprompt the user for a new request (same for WRQ)

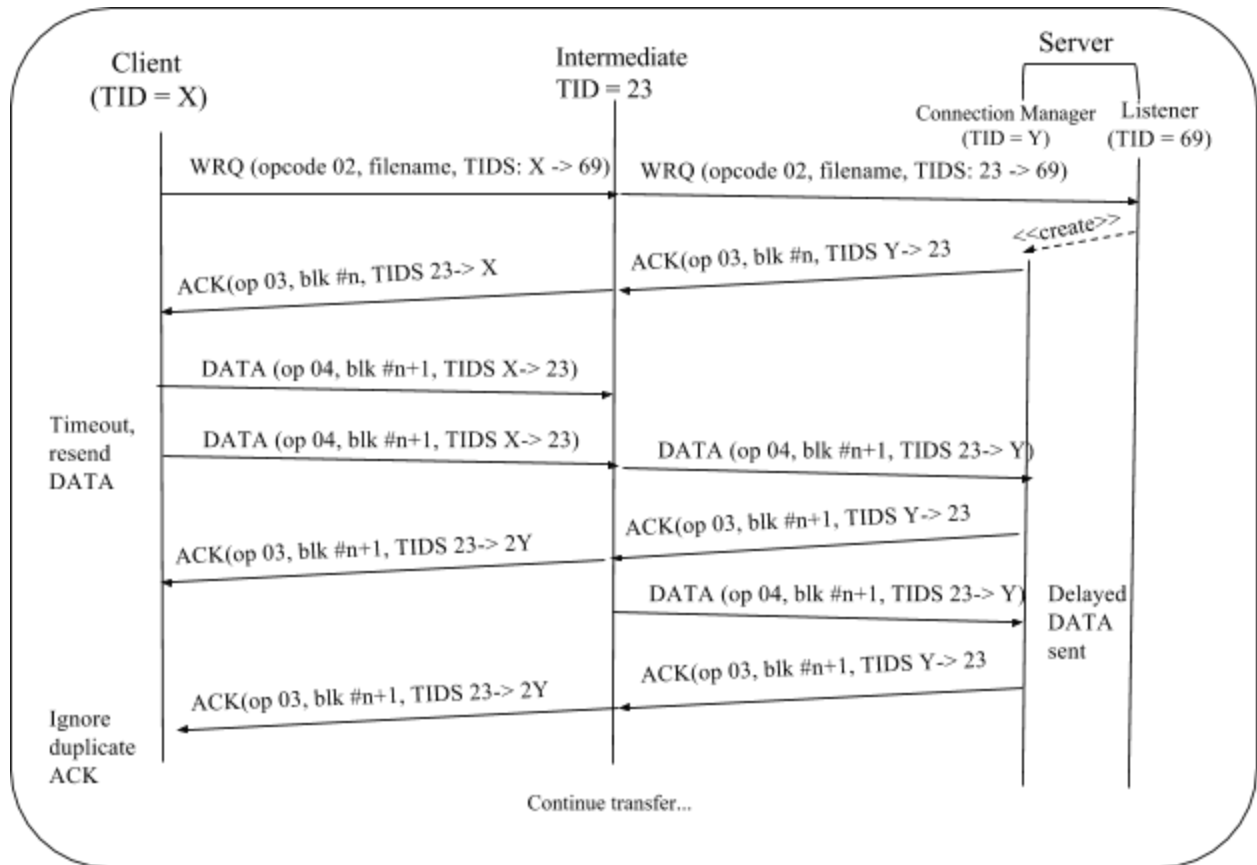
### Timing Diagram, RRQ, Delay DATA



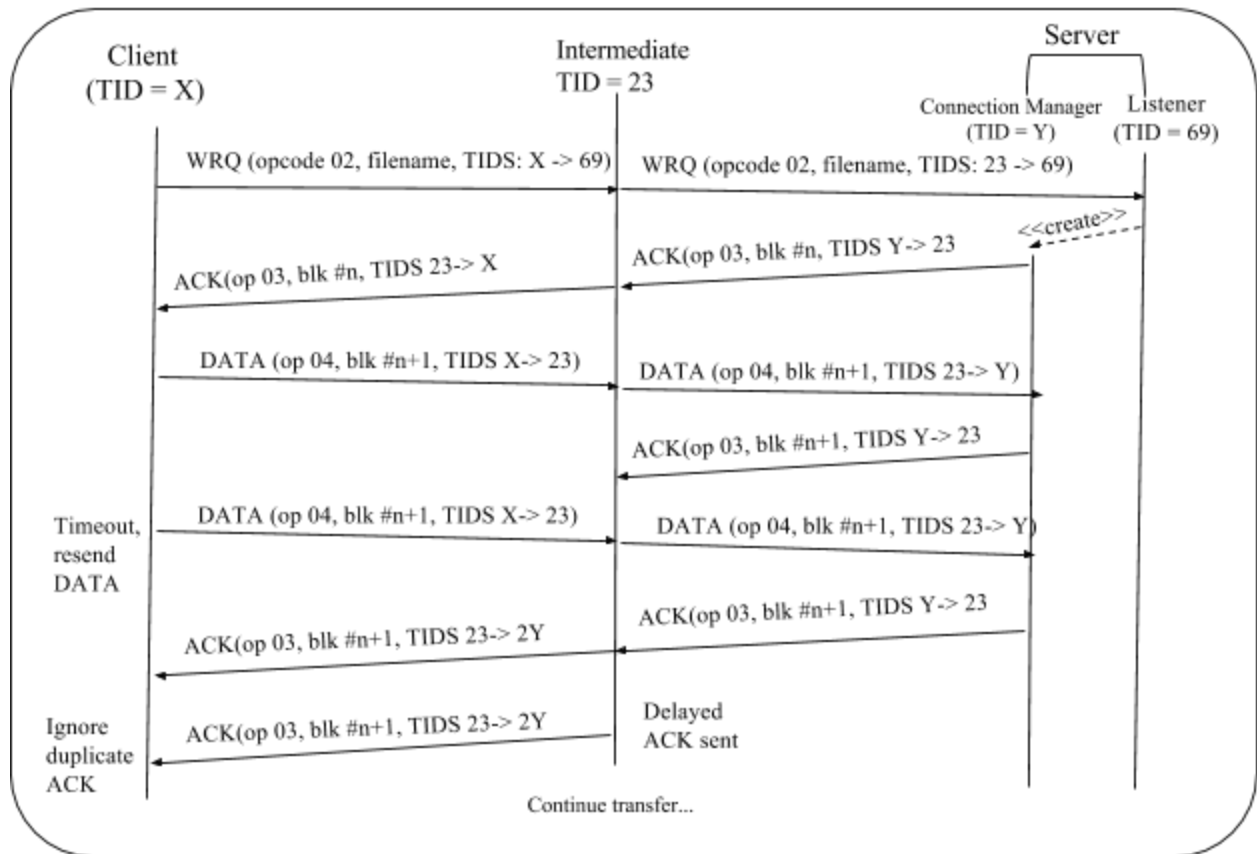
Timing Diagram, RRQ, Delay ACK



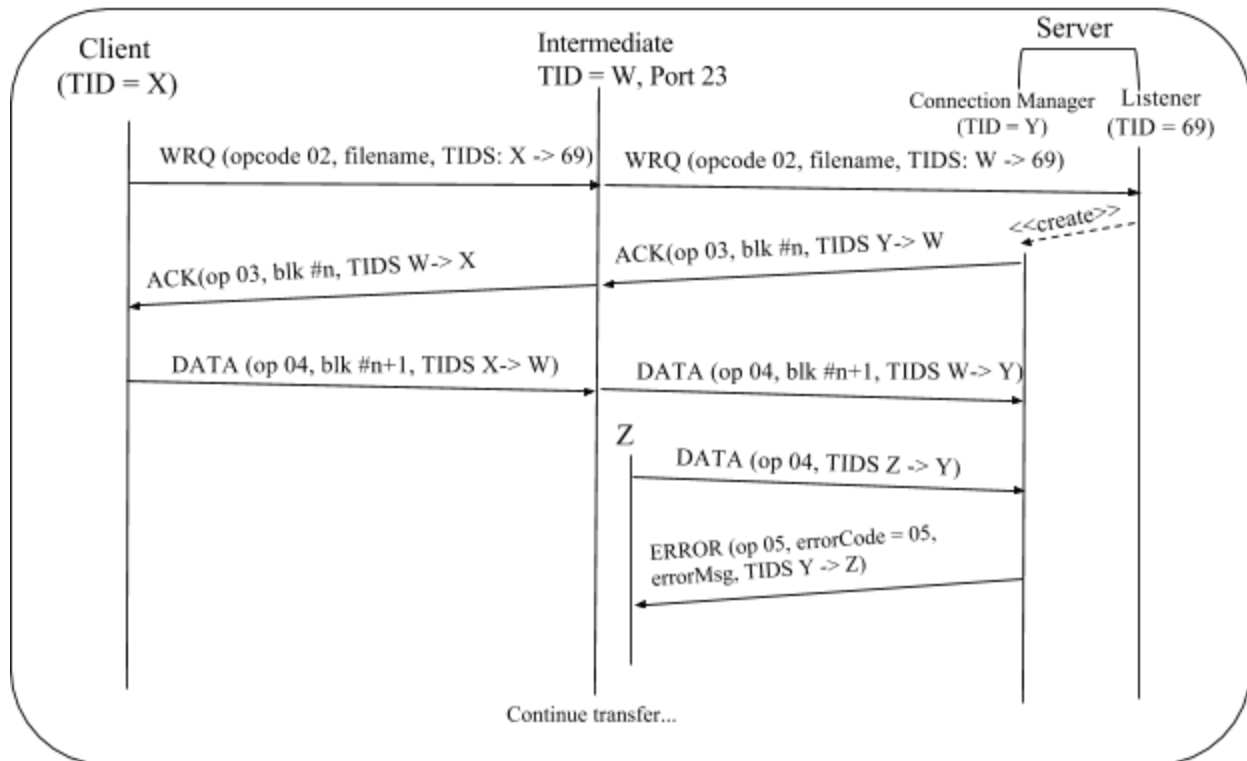
# Timing Diagram, WRQ, Delay DATA



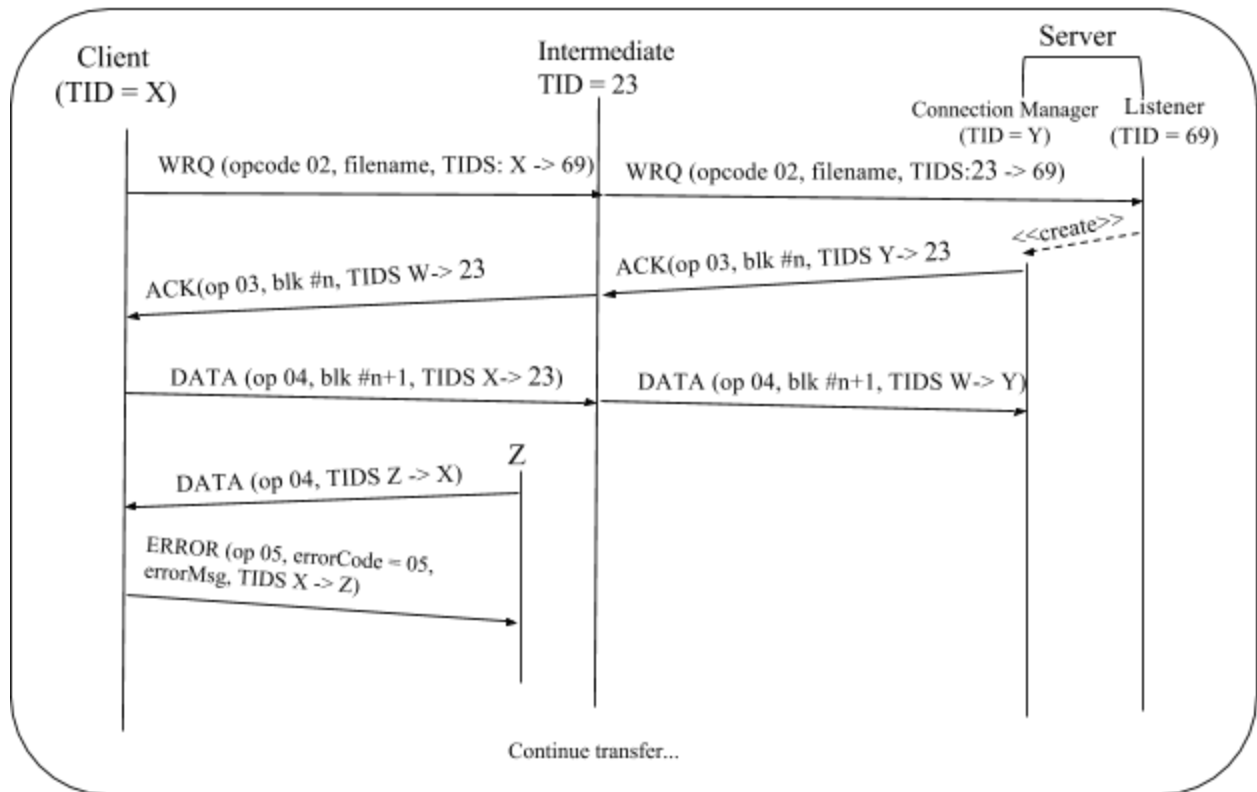
# Timing Diagram, WRQ, Delay ACK



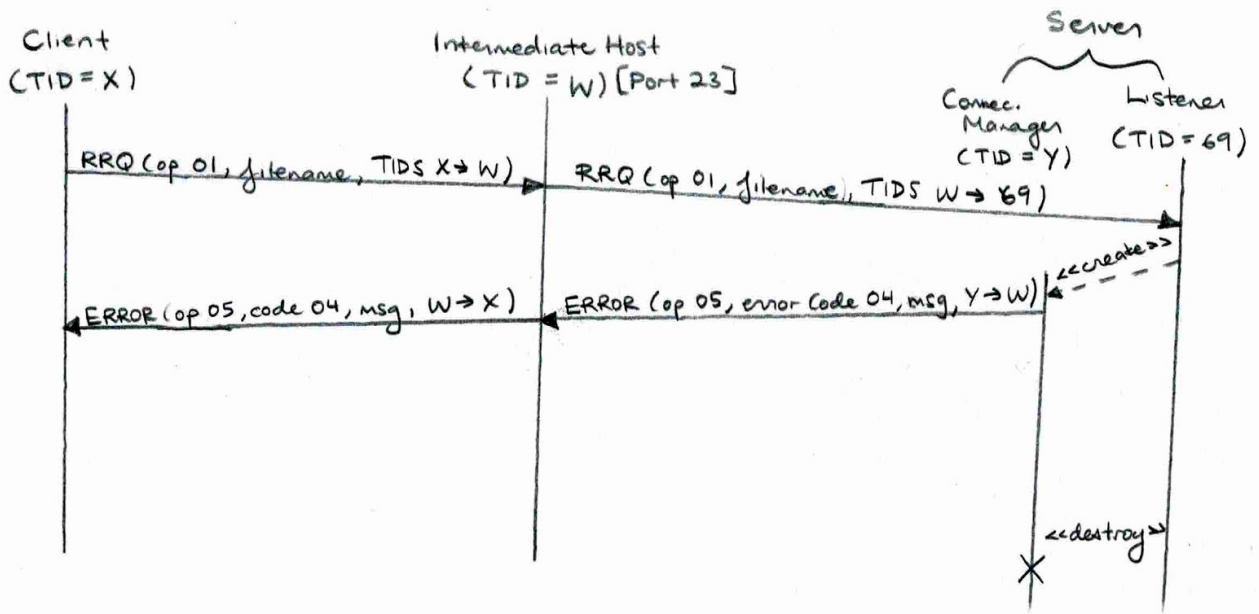
Timing Diagram, Error 5 - Invalid TID, Sent to Client



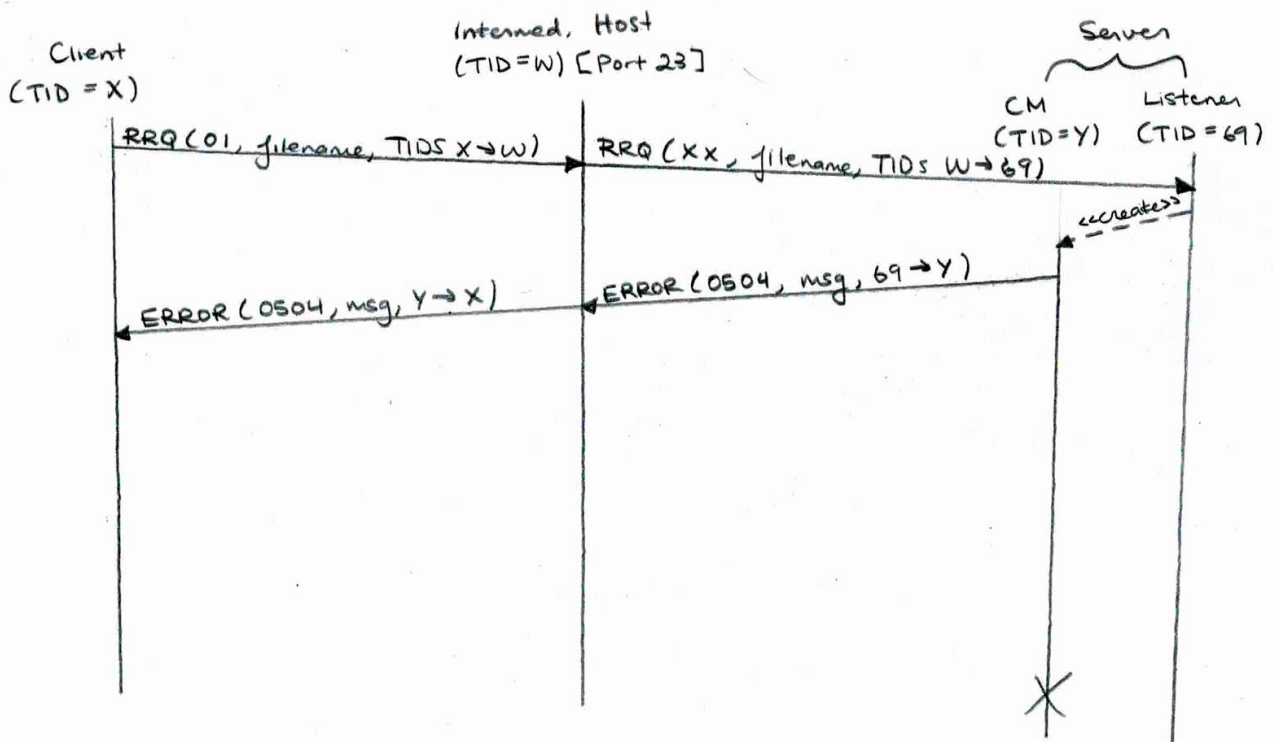
Timing Diagram, Error 5 - Invalid TID, Sent to Server



## Timing Diagram, Error 4, Invalid Request Packet

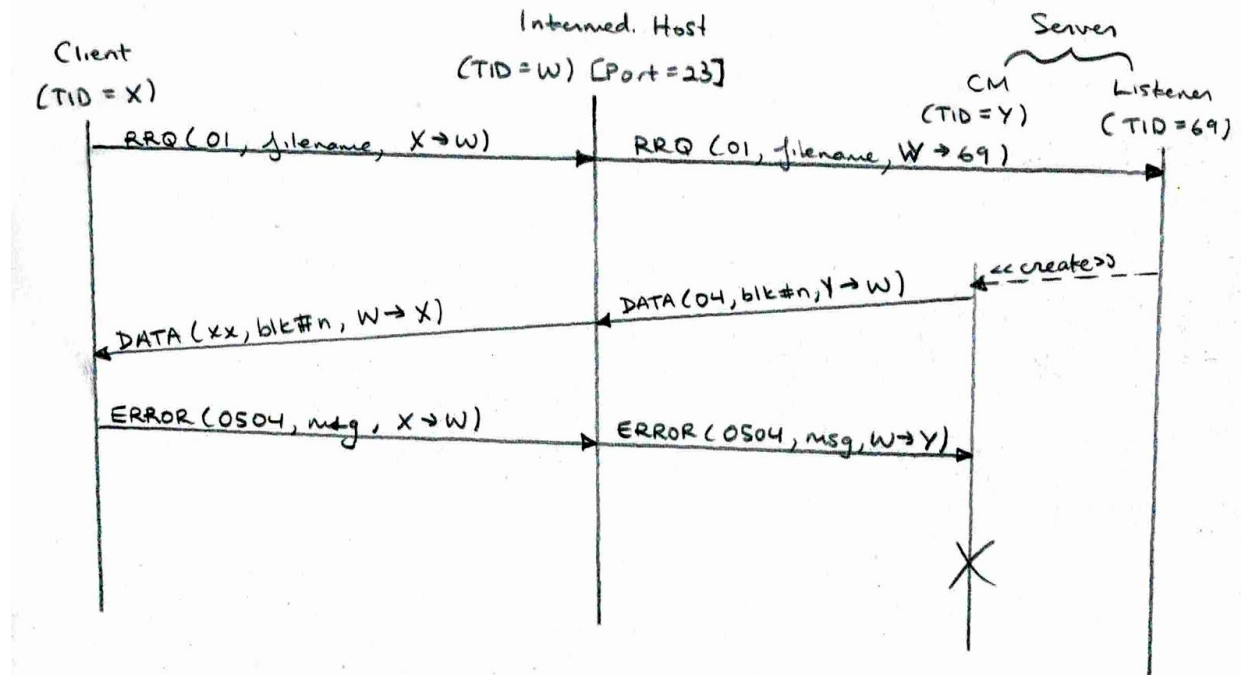


## Timing Diagram, Error 4, Invalid OPCODE to Server





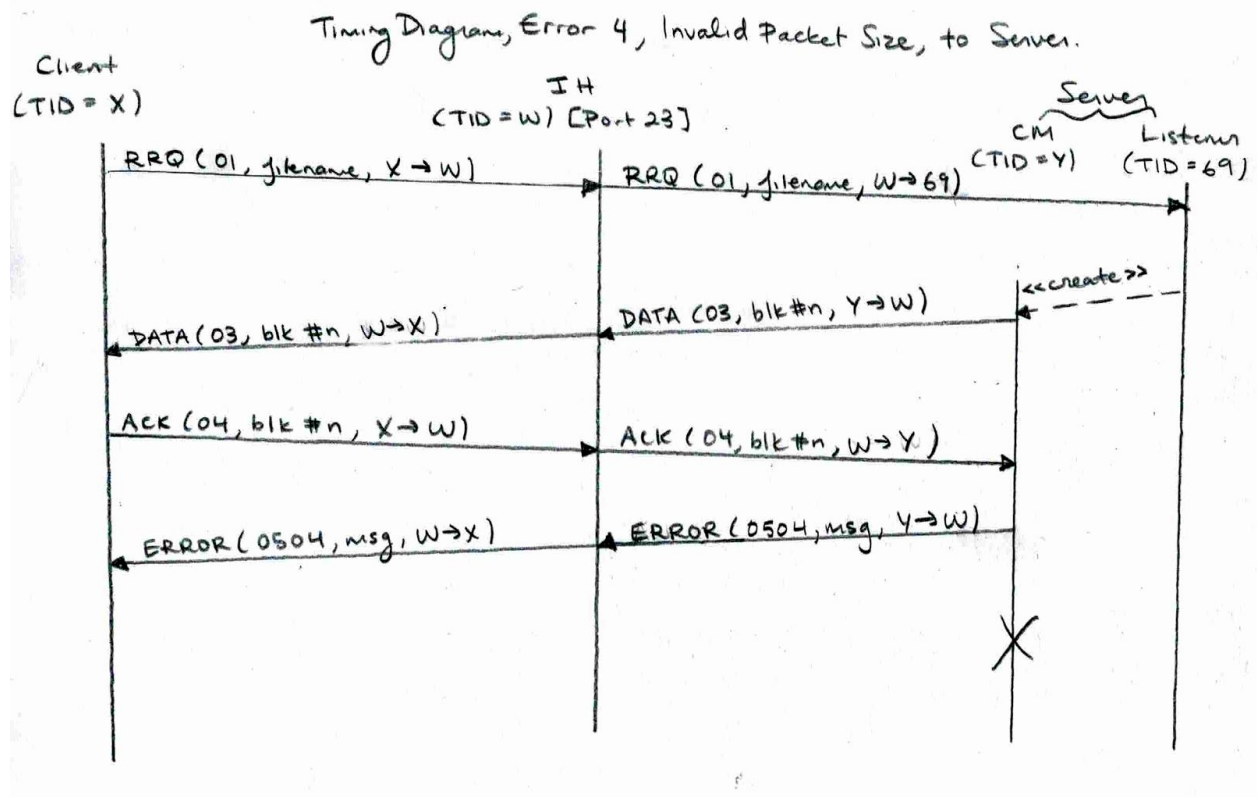
# Timing Diagram, Error 4, Invalid opcode, to Client



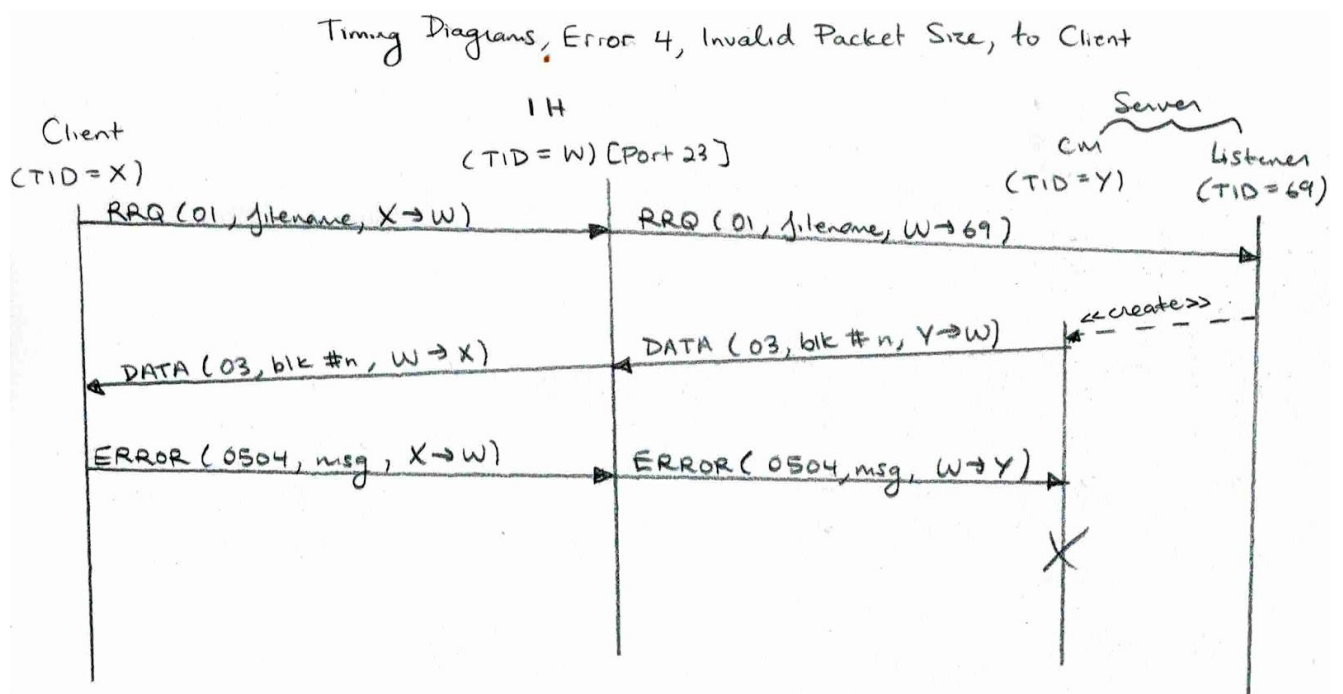
\*\* if RRQ changed to WRQ, there will be a file already exists error

\*\* WRQ to READ, file already exists error

\*\*DATA to ACK or ACK to DATA, invalid opcode error

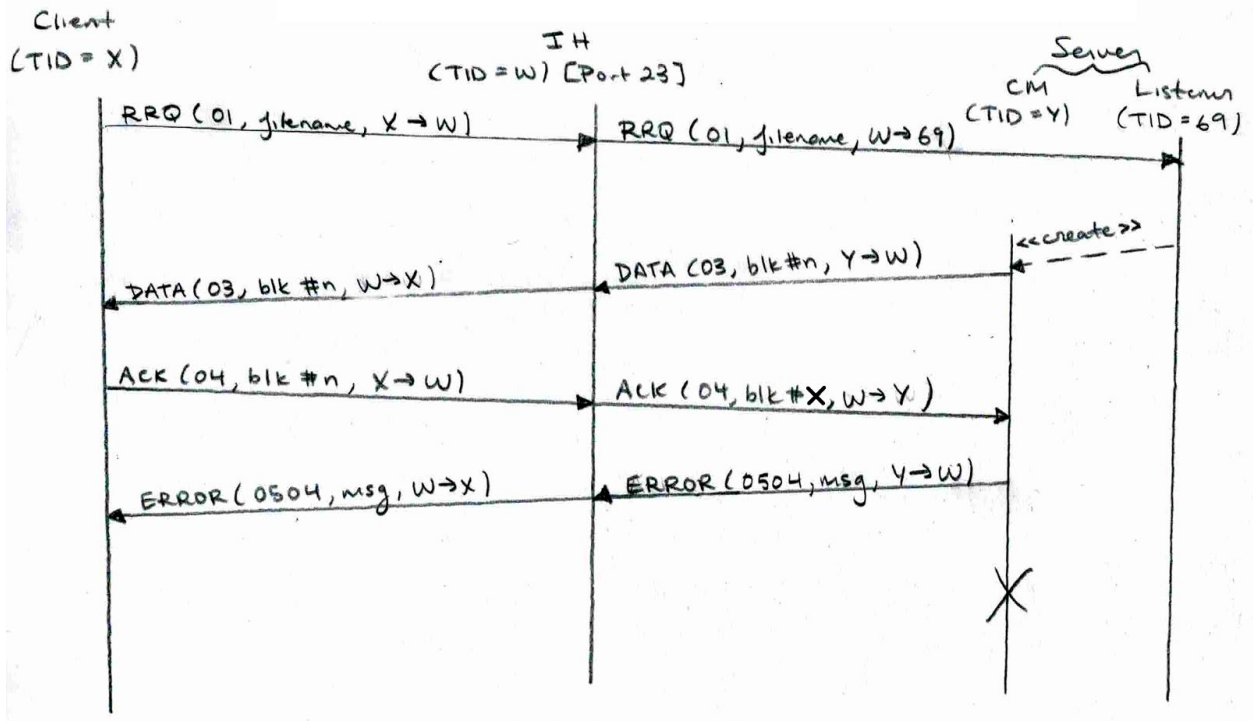


\*\* ACK made too small



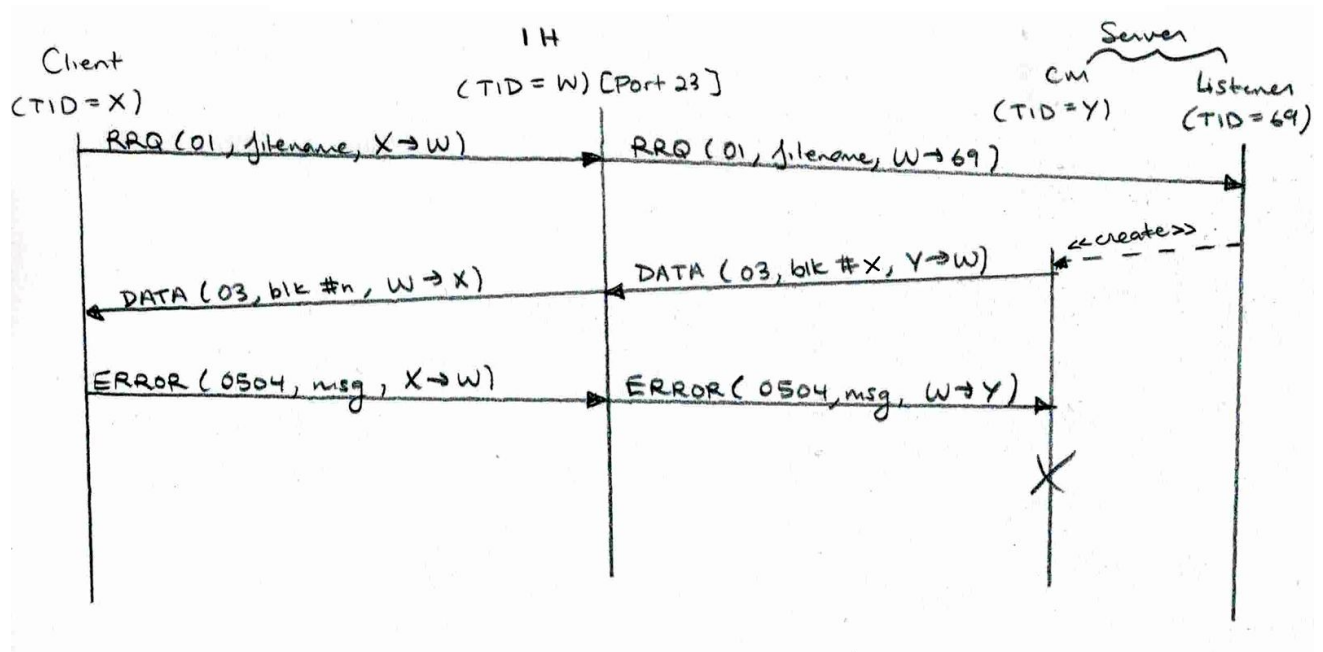
\*\* DATA packet made too large

# Timing Diagram, Error 4, Invalid Block Number, to Server



\*\* if repeated ACK, server will ignore

Timing Diagram, Error 4, Invalid Block Number, to Client



\*\* if repeated DATA, client will send ACK and server will ignore repeated ACK