



A destination host service using TCP usually only acknowledges data for contiguous sequence bytes. If one or more segments are missing, only the data in the first contiguous sequence of bytes is acknowledged. For example, if segments with sequence numbers 1500 to 3000 and 3400 to 3500 were received, the ACK number would be 3001. This is because there are segments with the SEQ numbers 3001 to 3399 that have not been received.

When TCP at the source host has not received an acknowledgement after a predetermined amount of time, it returns to the last ACK number received and retransmits the data from that point forward. The retransmission process is not specified by the Request for Comments (RFC), but is left up to the particular implementation of TCP.

For a typical TCP implementation, a host may transmit a segment, put a copy of the segment in a retransmission queue, and start a timer. When the data acknowledgment is received, the segment is deleted from the queue. If the acknowledgment is not received before the timer expires, the segment is retransmitted.