Chris Blicharz

Assignment 03

IT 386

10-4-2022

1. An application running over UDP can benefit from implementing RDT. However, because of the bare bones nature of UDP, the only way this can be accomplished is if RDT is implemented in the application layer above UDP.
2. 1. The receiver uses the port numbers and destination IP addresses to send the segment to the appropriate socket
   2. The new source port will be the destination port number from the segments that were sent in. The new destination port number is the source port number from the previous message.
3. 1. Letter

      Description automatically generated with medium confidence
   2. It is not possible for a 1 bit error to go unnoticed. Binary gives the benefit of having a clear cut “right or wrong” format. The values are either correct, or they are wrong, binary being a good way to represent this model. In addition to this, overflow errors can occur if the checksum results in another digit being added to a memory that can’t contain it.
4. While the user could assume that if the constant time for a packet being sent is exceeded, it would still be beneficial to have a timer. With the RDT3 timer, the sender now has the ability to distinguish between packet loss and packet delay. These are very different issues that require different remedies. By simply declaring a timeout and then retransmitting, one half of the error cases are ignored.
5. Diagram, text, letter

   Description automatically generated
6. 1. 1. Sequence Number: 207
      2. Source Port Number: 302
      3. Destination port number: 80
   2. 1. ACK: 207
      2. Source port: 80
      3. Destination port number :302
   3. Because the next bytes the system is expecting is 127, the ACK will be 127 as well, indicating that it will not progress until those bytes are received. Diagram

      Description automatically generated