

UDP Answer

Answer for question 1: First, a host named host1 send a packet including the username and a random port number to the host2. Then host1 will open a thread to listen to the message on the port. Another host named host2 record the port number and open a thread to listen to the message on the port too. Then the two sides send packets with incremental sequence numbers and messages. For example, if host1 send a packet with sequence number 1 and the host2 receives it and acknowledgement it with a packet with sequence number 2. Then if host 1 receives the acknowledgement, it will send the one with sequence number 3, but if not, it will wait for a moment and send the packet 1 again because it thinks the other side doesn't receive the packet 1. And if both sides receive packets that they have already received, they will drop it and receive a packet with a incremental sequence number packet. This is the model.

Answer for question 2: We can use the same sequence number technical to transfer files to other hosts with udp. We divide the file in the segments of the udp's max size bytes and mark each packet with a sequence number. Then the receiver will know the order of the packet and judge whether there are lost packets and ask the server to send them again.