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Project course 89-350 Introduction to Networking

Diplomatic cables from Homeland to Embassy

Description of the protocol:

My protocol creates connection between the Homeland and the Embassy to the Relay using UDP connection.

The Homeland and the Embassy sends packets to each other through the Relay.

Each packet from the Homeland to the Embassy contains:

- Check-sum- a short number (2 Bytes) to recognize if the packet was disrupt
- Serial-number –the number of the packet we want to send (1 Byte)
- Data- the data we want to send (497 Bytes)

Homeland side:

The homeland reads all the data from the input file and cutting it into pieces of 497 bytes (at most). And create the packets (as we describe above)

The Homeland first sends all the packets to the Embassy and after that start timeout of 0.2 seconds to receive the Ack for the packets which the Embassy gets.

If the Ack wasn't arrived to the Homeland at all, it sends again all the packets the Embassy wasn't get yet. If the Homeland receive Ack which is disrupt we send again the packet that the Ack for it was disrupt .

If the Ack for the packet arrived correctly the homeland updates itself for that and won't send again this packet any more.

After the Homeland receive Ack for all the packets he sent to the Embassy it send finish packet to the Embassy to let it know that it can write the data to the output file.

after the Embassy finish to write the data to the output file it send again to the Homeland "finish packet" to let it know that the write was done and that it can close the connection with the relay .

Embassy side:

The Embassy receives packet which contains data from the Homeland and write the data to a file.

Each packet from the Embassy to the Homeland contains:

- Check-sum- a short number (2 Bytes) to recognize if the packet was disrupt
- "Ack char" – a char that marks the packet we send is for "Ack" (1 Byte)
- "Binary string "-a binary string which represent the "ack" for the packets,"1" for all the packets we get so far,"0" for all the packets we won't receive yet.

The embassy starts timeout of 3 second to receive packets from the Embassy.

If after 3 second it wasn't receive new packet, it send to the homeland Ack of the packets it receive so far.

If the embassy receive packet, it check if the packet wasn't arrived disrupt, if it's not

The embassy sends Ack about all the packets which arrived correctly so far.

When the embassy receive from the Homeland all the packets, the embassy write that packet's data to the output file and send packet to the Homeland to let it know he finish to write down the data.