

P2P ReadMe

Vulnerabilities:

- The entire implementation is not thread safe although each node is able to receive the message in order based on status messages check.
- No message encryption is implemented, anyone in the UDP network can easily steal the conversation
- If one of the nodes is down, there is no way this peer can go back to re-claim its port number. It has to re-make SequenceMap and start the process again. Moreover, the used port number can never be assigned to a new peer again. It is highly inefficient.
- no authentication between peers, in other words, peers must trust each other based on this protocol. Once someone passed malicious file, entire network will be affected.
- **This one I am not sure:** I thought each node in the p2p only knows its neighbors. But in the implementation, we have to call an iterator to go through the entire map and compare the seqNo to ensure every node is up to date. I feel this implementation is weird because, technically, we do not have a huge map in p2p protocol.