CMPT431 Assignment1
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Q1: The first reason why the assumption is unrealistic is that packets between the client and server are usually routed through many routers in the network layer. Therefore, a request from client to server may take a different route compared to a response from server to client. The second reason is attributed uncertain nature in the network. Certain packets may be dropped between two routers and may trigger a TCP(used by RMI) resend. Resending may contribute to the difference in time between client to server and server to client.

Q3: If a client does not receive a response from the server, a possible explanation is that the server had disconnected from the network after the request is received, and before it can return a response to the client, causing the client to hang indefinitely. In this scenario, the connection becomes invalid since the destination server is offline. The design to cope with that is to design a error handle mechanism for “ServerNotFound” kind of error (the error type varied by different programming language), since the connection is invalid after the server is disconnected, “ServerNotFound” error is likely to be thrown. When “ServerNotFound” error is handled, the client may try to reconnect to the destination IP addresses for several times. If the maximum number attempts reaches, the server will just ask for user to enter another ip address.

Another possible issue is that the server is too busy and cannot process the request from client. At this moment the server’s buffer is full and may drop the incoming request, and client will never get the response. In this scenario, the connection is valid, but the server just cannot make a response. The design to cope with that is the client reaches the timeout when trying to receive response, the client try to resend the request.