Solaris Networking Report

INFR 3830U – Distributed Systems and Networking

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Protocol Analysis

When it comes down to our game, the 2 options we have for networking are UDP and TCP. We mainly decided between these two methods since we based the networking code for our game based on the tutorial code that was provided. The main difference between the 2 is that TCP is generally slower, requires a connection to be established for each person first before sending any data, and guarantees that the data will be received, and UDP is generally faster, uses less bandwidth, but can send data without establishing a connection beforehand.

Given how our game is designed, we want players to start up lobbies and then invite their friends to the game. Knowing this, we don’t want anyone random to join in on their games. Secondly, we want to make sure that the game state data will be received by the client since the state of players, items, enemies, etc. should be the same for all players. Knowing these 2 factors, TCP is the best networking protocol for our game since it will guarantee that the data will be sent to others, keeping a consistent game state, and establishes a connection with others beforehand.

Speed Tests

When it came to test networking in our game, for some reason we were only able to get TCP connections working in our game. Within our game using a TCP connection, the players send their position every 0.1 seconds, the gnomes send their position every 0.3 second, while most other things send every 1 second. The agents only send data if it has changed since they last sent it, an example is: if they don't move it will only send the position once.