Objectives

- Develop a framework for Multi-player Online Games (MOG).
- Design algorithms for assigning users to appropriate servers satisfying real-time constraints.
- Design and evaluate network protocols for MMOG with different real-time requirements.

Background

- Online games are sensitive to latencies.
- Real-timeliness could be improved by building a server network connected by well-provisioned links!!
- The requirement on real-timeliness depends on the type of the game.
- The assignments of the clients (to the servers) should satisfy some real-time constraints while the number of servers used is small. This makes the problem difficult (NP-hard).
- Heuristic algorithms need to be developed for solving the problems above.

Preliminary Results

- Heuristic algorithms considering delay constraints are developed and evaluated for both Client-Server and Peer-to-Peer architectures.
- The algorithm for Client-Server architecture performs well.
- The algorithm for Peer-to-Peer architecture outperforms best known algorithm ZIZO.

Relevant References