

# Performance Report

To measure the performance of our bomberman game under light load and heavy load, we have written up a variety of test cases.

**Light Load:** These test cases are mostly our test cases from milestone 2. These test cases include delays within them in order to show some form of timing, this way, we can see the actions happen with the spectator view and we can also make the test players wait for specific events to happen such as a bomb exploding.

**Heavy Load:** These test cases are similar to the light load testcases, however, each test player will perform a lot more events without any timing delay between them. This will simulate the fact that a lot is going on, so much that not everything gets displayed. We are doing this to see if the final location of the player is associated with the sequence of events the player sent out. If the player does not end up where the series of actions should have taken him, that means something went wrong. Either a packet was lost or there was another error.

During each test, the latency and average latency for each player in the current test is printed to the console.

At the end of each test, the average latency, highest latency and lowest latency are printed to the console.

When all the tests are complete, the average, highest, and lowest latencies are again printed, but this time, for the entirety of the test cases.

The way we measure latency in our system is by looking at the time from which a player sent a `gameKeyEvent`, to the time that the same player receives a `gameKeyEventAck`. So, the time it takes for a player to receive the acknowledgement for an event that was sent to the server.

Sample results run by the test Framework:

Number of tests: 17  
testing playerWin...

Player: 1 - Latency: 194 - Average Latency: 194  
Player: 1 - Latency: 100 - Average Latency: 147  
Player: 1 - Latency: 99 - Average Latency: 131  
Player: 1 - Latency: 99 - Average Latency: 123  
Player: 1 - Latency: 102 - Average Latency: 118

TestCase Performance:  
Average Latency: 118  
Highest Latency: 194  
Lowest Latency: 99

Done  
testing twoPlayerWin...

Player: 1 - Latency: 202 - Average Latency: 202  
Player: 2 - Latency: 96 - Average Latency: 96  
Player: 1 - Latency: 96 - Average Latency: 149  
Player: 2 - Latency: 100 - Average Latency: 98  
Player: 1 - Latency: 100 - Average Latency: 132  
Player: 1 - Latency: 99 - Average Latency: 124  
Player: 2 - Latency: 99 - Average Latency: 98  
Player: 2 - Latency: 99 - Average Latency: 98  
Player: 1 - Latency: 99 - Average Latency: 119  
Player: 2 - Latency: 99 - Average Latency: 98  
Player: 1 - Latency: 99 - Average Latency: 115  
Player: 2 - Latency: 99 - Average Latency: 98  
Player: 1 - Latency: 99 - Average Latency: 113  
Player: 1 - Latency: 101 - Average Latency: 111  
Player: 2 - Latency: 102 - Average Latency: 99

TestCase Performance:  
Average Latency: 105  
Highest Latency: 202  
Lowest Latency: 96

Done  
testing playerCollision...

Player: 1 - Latency: 200 - Average Latency: 200

Player: 1 - Latency: 98 - Average Latency: 149  
Player: 1 - Latency: 99 - Average Latency: 132  
Player: 2 - Latency: 101 - Average Latency: 101  
Player: 1 - Latency: 98 - Average Latency: 123

TestCase Performance:  
Average Latency: 119  
Highest Latency: 200  
Lowest Latency: 98

Done  
testing testPlayerEnemyCollision...

Player: 1 - Latency: 201 - Average Latency: 201  
Player: 1 - Latency: 99 - Average Latency: 150  
Player: 1 - Latency: 99 - Average Latency: 133  
Player: 1 - Latency: 102 - Average Latency: 125

TestCase Performance:  
Average Latency: 125  
Highest Latency: 201  
Lowest Latency: 99

Done  
testing breakWallWithBomb...

Player: 1 - Latency: 201 - Average Latency: 201  
Player: 1 - Latency: 99 - Average Latency: 150  
Player: 1 - Latency: 99 - Average Latency: 133  
Player: 1 - Latency: 99 - Average Latency: 124  
Player: 1 - Latency: 99 - Average Latency: 119  
Player: 1 - Latency: 99 - Average Latency: 116  
Player: 1 - Latency: 98 - Average Latency: 113  
Player: 1 - Latency: 100 - Average Latency: 111  
Player: 1 - Latency: 99 - Average Latency: 110  
Player: 1 - Latency: 100 - Average Latency: 109

TestCase Performance:  
Average Latency: 109

Highest Latency: 201

Lowest Latency: 98

Done

testing killPlayerWithBomb...

Player: 1 - Latency: 201 - Average Latency: 201

Player: 1 - Latency: 97 - Average Latency: 149

Player: 1 - Latency: 98 - Average Latency: 132

Player: 2 - Latency: 98 - Average Latency: 98

TestCase Performance:

Average Latency: 123

Highest Latency: 201

Lowest Latency: 97

Done

testing testHiddenDoor...

Player: 1 - Latency: 202 - Average Latency: 202

Player: 1 - Latency: 99 - Average Latency: 150

Player: 1 - Latency: 98 - Average Latency: 133

Player: 1 - Latency: 98 - Average Latency: 124

Player: 1 - Latency: 99 - Average Latency: 119

Player: 1 - Latency: 99 - Average Latency: 115

Player: 1 - Latency: 100 - Average Latency: 113

Player: 1 - Latency: 100 - Average Latency: 111

Player: 1 - Latency: 98 - Average Latency: 110

Player: 1 - Latency: 101 - Average Latency: 109

Player: 1 - Latency: 99 - Average Latency: 108

Player: 1 - Latency: 100 - Average Latency: 107

TestCase Performance:

Average Latency: 107

Highest Latency: 202

Lowest Latency: 98

Done

testing tryAndPlaceMultipleBombs...

Player: 1 - Latency: 202 - Average Latency: 202  
Player: 1 - Latency: 98 - Average Latency: 150  
Player: 1 - Latency: 99 - Average Latency: 133  
Player: 1 - Latency: 98 - Average Latency: 124  
Player: 1 - Latency: 99 - Average Latency: 119  
Player: 1 - Latency: 100 - Average Latency: 116  
Player: 1 - Latency: 100 - Average Latency: 113  
Player: 1 - Latency: 101 - Average Latency: 112

TestCase Performance:

Average Latency: 112

Highest Latency: 202

Lowest Latency: 98

Done

testing place2BombsWithPowerUp...

Player: 1 - Latency: 200 - Average Latency: 200  
Player: 1 - Latency: 101 - Average Latency: 150  
Player: 1 - Latency: 97 - Average Latency: 132  
Player: 1 - Latency: 99 - Average Latency: 124  
Player: 1 - Latency: 99 - Average Latency: 119  
Player: 1 - Latency: 101 - Average Latency: 116  
Player: 1 - Latency: 100 - Average Latency: 113

TestCase Performance:

Average Latency: 113

Highest Latency: 200

Lowest Latency: 97

Done

testing testBombRangePlusOne...

Player: 1 - Latency: 200 - Average Latency: 200  
Player: 1 - Latency: 101 - Average Latency: 150  
Player: 1 - Latency: 98 - Average Latency: 133  
Player: 1 - Latency: 100 - Average Latency: 124  
Player: 1 - Latency: 100 - Average Latency: 119

TestCase Performance:

Average Latency: 119

Highest Latency: 200

Lowest Latency: 98

Done

testing testFlamePass...

Player: 1 - Latency: 201 - Average Latency: 201

Player: 1 - Latency: 96 - Average Latency: 148

Player: 1 - Latency: 99 - Average Latency: 132

Player: 1 - Latency: 97 - Average Latency: 123

Player: 1 - Latency: 100 - Average Latency: 118

Player: 1 - Latency: 100 - Average Latency: 115

Player: 1 - Latency: 99 - Average Latency: 113

Player: 1 - Latency: 99 - Average Latency: 111

TestCase Performance:

Average Latency: 111

Highest Latency: 201

Lowest Latency: 96

Done

testing testInvulnerability...

Player: 1 - Latency: 201 - Average Latency: 201

Player: 1 - Latency: 100 - Average Latency: 150

Player: 1 - Latency: 98 - Average Latency: 133

Player: 1 - Latency: 98 - Average Latency: 124

Player: 1 - Latency: 100 - Average Latency: 119

Player: 1 - Latency: 98 - Average Latency: 115

Player: 1 - Latency: 100 - Average Latency: 113

Player: 2 - Latency: 150 - Average Latency: 150

TestCase Performance:

Average Latency: 118

Highest Latency: 201

Lowest Latency: 98

Done

testing testUpgradedBombsChainReaction...

Player: 1 - Latency: 200 - Average Latency: 200

Player: 1 - Latency: 99 - Average Latency: 149

Player: 1 - Latency: 99 - Average Latency: 132

Player: 1 - Latency: 98 - Average Latency: 124

Player: 1 - Latency: 101 - Average Latency: 119

Player: 1 - Latency: 99 - Average Latency: 116

Player: 1 - Latency: 100 - Average Latency: 113

Player: 1 - Latency: 100 - Average Latency: 112

Player: 1 - Latency: 99 - Average Latency: 110

Player: 1 - Latency: 98 - Average Latency: 109

Player: 1 - Latency: 100 - Average Latency: 108

Player: 1 - Latency: 101 - Average Latency: 107

Player: 1 - Latency: 98 - Average Latency: 107

TestCase Performance:

Average Latency: 107

Highest Latency: 200

Lowest Latency: 98

Done

testing OnePlayerHeavyLoad...

Player: 1 - Latency: 201 - Average Latency: 201

Player: 1 - Latency: 99 - Average Latency: 150

Player: 1 - Latency: 100 - Average Latency: 133

Player: 1 - Latency: 100 - Average Latency: 125

Player: 1 - Latency: 100 - Average Latency: 120

Player: 1 - Latency: 99 - Average Latency: 116

Player: 1 - Latency: 100 - Average Latency: 114

Player: 1 - Latency: 99 - Average Latency: 112

Player: 1 - Latency: 101 - Average Latency: 111

Player: 1 - Latency: 100 - Average Latency: 109

Player: 1 - Latency: 100 - Average Latency: 109

Player: 1 - Latency: 100 - Average Latency: 108

Player: 1 - Latency: 100 - Average Latency: 107

Player: 1 - Latency: 100 - Average Latency: 107  
Player: 1 - Latency: 100 - Average Latency: 106  
Player: 1 - Latency: 100 - Average Latency: 106  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 1 - Latency: 99 - Average Latency: 105  
Player: 1 - Latency: 100 - Average Latency: 104  
Player: 1 - Latency: 100 - Average Latency: 104  
Player: 1 - Latency: 99 - Average Latency: 104  
Player: 1 - Latency: 101 - Average Latency: 104  
Player: 1 - Latency: 198 - Average Latency: 108  
Player: 1 - Latency: 101 - Average Latency: 107  
Player: 1 - Latency: 100 - Average Latency: 107  
Player: 1 - Latency: 100 - Average Latency: 107  
Player: 1 - Latency: 100 - Average Latency: 107  
Player: 1 - Latency: 100 - Average Latency: 106  
Player: 1 - Latency: 100 - Average Latency: 106  
Player: 1 - Latency: 99 - Average Latency: 106  
Player: 1 - Latency: 100 - Average Latency: 106  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 1 - Latency: 99 - Average Latency: 105  
Player: 1 - Latency: 101 - Average Latency: 105  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 1 - Latency: 99 - Average Latency: 105  
Player: 1 - Latency: 101 - Average Latency: 105  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 1 - Latency: 99 - Average Latency: 104  
Player: 1 - Latency: 101 - Average Latency: 104  
Player: 1 - Latency: 100 - Average Latency: 104  
Player: 1 - Latency: 100 - Average Latency: 104  
Player: 1 - Latency: 100 - Average Latency: 104  
Player: 1 - Latency: 100 - Average Latency: 104

TestCase Performance:

Average Latency: 104

Highest Latency: 201

Lowest Latency: 99

Done



testing twoPlayerHeavyLoad...

Player: 1 - Latency: 200 - Average Latency: 200  
Player: 1 - Latency: 98 - Average Latency: 149  
Player: 2 - Latency: 98 - Average Latency: 98  
Player: 1 - Latency: 99 - Average Latency: 132  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 124  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 119  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 116  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 113  
Player: 1 - Latency: 99 - Average Latency: 112  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 110  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 97 - Average Latency: 109  
Player: 2 - Latency: 98 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 108  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 107  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 107  
Player: 1 - Latency: 99 - Average Latency: 106  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 106  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 105  
Player: 1 - Latency: 99 - Average Latency: 104  
Player: 2 - Latency: 101 - Average Latency: 99

Player: 1 - Latency: 100 - Average Latency: 104  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 104  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 104  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 103  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 103  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 103  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 103  
Player: 2 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 103  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 2 - Latency: 98 - Average Latency: 99  
Player: 1 - Latency: 102 - Average Latency: 103  
Player: 1 - Latency: 99 - Average Latency: 103  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 102  
Player: 1 - Latency: 99 - Average Latency: 102  
Player: 1 - Latency: 101 - Average Latency: 102  
Player: 1 - Latency: 99 - Average Latency: 102  
Player: 1 - Latency: 101 - Average Latency: 102  
Player: 1 - Latency: 100 - Average Latency: 102  
Player: 1 - Latency: 100 - Average Latency: 102  
Player: 1 - Latency: 100 - Average Latency: 102  
Player: 1 - Latency: 99 - Average Latency: 102  
Player: 1 - Latency: 101 - Average Latency: 102

TestCase Performance:

Average Latency: 101

Highest Latency: 200

Lowest Latency: 97

Done

testing threePlayerHeavyLoad...

Player: 1 - Latency: 301 - Average Latency: 301  
Player: 1 - Latency: 98 - Average Latency: 199  
Player: 2 - Latency: 98 - Average Latency: 98  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 166  
Player: 2 - Latency: 98 - Average Latency: 98  
Player: 3 - Latency: 98 - Average Latency: 98  
Player: 1 - Latency: 101 - Average Latency: 149  
Player: 2 - Latency: 100 - Average Latency: 98  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 98 - Average Latency: 139  
Player: 2 - Latency: 99 - Average Latency: 98  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 132  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 128  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 124  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 121  
Player: 2 - Latency: 101 - Average Latency: 99  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 119  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 117  
Player: 2 - Latency: 101 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 116  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 115  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 113  
Player: 2 - Latency: 101 - Average Latency: 99

Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 113  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 102 - Average Latency: 112  
Player: 3 - Latency: 98 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 111  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 110  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 110  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 109  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 109  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 108  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 108  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 2 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 107 - Average Latency: 108  
Player: 3 - Latency: 106 - Average Latency: 100  
Player: 1 - Latency: 92 - Average Latency: 107  
Player: 2 - Latency: 200 - Average Latency: 103  
Player: 3 - Latency: 95 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 107  
Player: 2 - Latency: 99 - Average Latency: 103  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 107  
Player: 2 - Latency: 100 - Average Latency: 103  
Player: 3 - Latency: 99 - Average Latency: 99

Player: 1 - Latency: 99 - Average Latency: 106  
Player: 2 - Latency: 100 - Average Latency: 103  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 106  
Player: 2 - Latency: 101 - Average Latency: 103  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 106  
Player: 2 - Latency: 99 - Average Latency: 103  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 106  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 105  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 105  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 105  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 104  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 97 - Average Latency: 104  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99

TestCase Performance:

Average Latency: 102

Highest Latency: 301

Lowest Latency: 92

Done

testing fourPlayerHeavyLoad...

Player: 1 - Latency: 203 - Average Latency: 203

Player: 2 - Latency: 95 - Average Latency: 95

Player: 1 - Latency: 95 - Average Latency: 149

Player: 3 - Latency: 96 - Average Latency: 96

Player: 4 - Latency: 98 - Average Latency: 98

Player: 1 - Latency: 99 - Average Latency: 132

Player: 2 - Latency: 99 - Average Latency: 97

Player: 4 - Latency: 100 - Average Latency: 99

Player: 3 - Latency: 102 - Average Latency: 99

Player: 2 - Latency: 100 - Average Latency: 98

Player: 1 - Latency: 101 - Average Latency: 124

Player: 3 - Latency: 99 - Average Latency: 99

Player: 4 - Latency: 100 - Average Latency: 99

Player: 1 - Latency: 99 - Average Latency: 119

Player: 2 - Latency: 99 - Average Latency: 98

Player: 3 - Latency: 100 - Average Latency: 99

Player: 4 - Latency: 99 - Average Latency: 99

Player: 2 - Latency: 100 - Average Latency: 98

Player: 1 - Latency: 101 - Average Latency: 116

Player: 3 - Latency: 99 - Average Latency: 99

Player: 4 - Latency: 99 - Average Latency: 99

Player: 1 - Latency: 99 - Average Latency: 113

Player: 2 - Latency: 100 - Average Latency: 98

Player: 3 - Latency: 100 - Average Latency: 99

Player: 4 - Latency: 100 - Average Latency: 99

Player: 1 - Latency: 100 - Average Latency: 112

Player: 2 - Latency: 100 - Average Latency: 99

Player: 4 - Latency: 100 - Average Latency: 99

Player: 3 - Latency: 100 - Average Latency: 99

Player: 1 - Latency: 99 - Average Latency: 110

Player: 2 - Latency: 100 - Average Latency: 99

Player: 3 - Latency: 98 - Average Latency: 99

Player: 4 - Latency: 100 - Average Latency: 99

Player: 1 - Latency: 101 - Average Latency: 109

Player: 2 - Latency: 99 - Average Latency: 99

Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 99 - Average Latency: 99  
Player: 2 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 108  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 4 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 98 - Average Latency: 108  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 4 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 107  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 2 - Latency: 102 - Average Latency: 99  
Player: 4 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 106  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 106  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 106  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 105  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 4 - Latency: 101 - Average Latency: 99  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 105  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 103 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 105  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 4 - Latency: 95 - Average Latency: 99  
Player: 1 - Latency: 98 - Average Latency: 104

Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 104  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 2 - Latency: 98 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 104  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 104  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 104  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 103  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 103  
Player: 2 - Latency: 101 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 103  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 4 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 103  
Player: 2 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 2 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 103  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 4 - Latency: 99 - Average Latency: 99



Player: 1 - Latency: 100 - Average Latency: 103  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 103  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 98 - Average Latency: 102  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 102 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 102  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 102  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 4 - Latency: 101 - Average Latency: 99  
Player: 1 - Latency: 101 - Average Latency: 102  
Player: 3 - Latency: 102 - Average Latency: 99  
Player: 4 - Latency: 99 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 102  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 102  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 4 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 99 - Average Latency: 102  
Player: 3 - Latency: 98 - Average Latency: 99  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 3 - Latency: 99 - Average Latency: 99  
Player: 3 - Latency: 101 - Average Latency: 99  
Player: 3 - Latency: 100 - Average Latency: 99  
Player: 1 - Latency: 100 - Average Latency: 102  
Player: 3 - Latency: 100 - Average Latency: 99

TestCase Performance:

Average Latency: 100

Highest Latency: 203

Lowest Latency: 95

Done

Average Latency per action: 103  
Highest Latency Overall: 301  
Lowest Latency Overall: 92  
Stopping the server

As for testing the latency of a client that is run on a separate machine than the server, we needed to run the client and server manually and capture some sample results.

Here are some sample results for the Home Client having done 100 separate actions

Player: 2 - Latency: 133 - Average Latency: 133  
Player: 2 - Latency: 103 - Average Latency: 118  
Player: 2 - Latency: 57 - Average Latency: 97  
Player: 2 - Latency: 107 - Average Latency: 100  
Player: 2 - Latency: 74 - Average Latency: 94  
Player: 2 - Latency: 135 - Average Latency: 101  
Player: 2 - Latency: 110 - Average Latency: 102  
Player: 2 - Latency: 103 - Average Latency: 102  
Player: 2 - Latency: 140 - Average Latency: 106  
Player: 2 - Latency: 77 - Average Latency: 103  
Player: 2 - Latency: 88 - Average Latency: 102  
Player: 2 - Latency: 116 - Average Latency: 103  
Player: 2 - Latency: 83 - Average Latency: 102  
Player: 2 - Latency: 58 - Average Latency: 98  
Player: 2 - Latency: 67 - Average Latency: 96  
Player: 2 - Latency: 141 - Average Latency: 99  
Player: 2 - Latency: 96 - Average Latency: 99  
Player: 2 - Latency: 65 - Average Latency: 97  
Player: 2 - Latency: 56 - Average Latency: 95  
Player: 2 - Latency: 90 - Average Latency: 94  
Player: 2 - Latency: 70 - Average Latency: 93  
Player: 2 - Latency: 135 - Average Latency: 95  
Player: 2 - Latency: 98 - Average Latency: 95  
Player: 2 - Latency: 81 - Average Latency: 95  
Player: 2 - Latency: 73 - Average Latency: 94  
Player: 2 - Latency: 83 - Average Latency: 93  
Player: 2 - Latency: 73 - Average Latency: 93

Player: 2 - Latency: 71 - Average Latency: 92  
Player: 2 - Latency: 124 - Average Latency: 93  
Player: 2 - Latency: 68 - Average Latency: 92  
Player: 2 - Latency: 72 - Average Latency: 91  
Player: 2 - Latency: 133 - Average Latency: 93  
Player: 2 - Latency: 133 - Average Latency: 94  
Player: 2 - Latency: 100 - Average Latency: 94  
Player: 2 - Latency: 71 - Average Latency: 93  
Player: 2 - Latency: 136 - Average Latency: 95  
Player: 2 - Latency: 124 - Average Latency: 95  
Player: 2 - Latency: 93 - Average Latency: 95  
Player: 2 - Latency: 73 - Average Latency: 95  
Player: 2 - Latency: 62 - Average Latency: 94  
Player: 2 - Latency: 131 - Average Latency: 95  
Player: 2 - Latency: 109 - Average Latency: 95  
Player: 2 - Latency: 119 - Average Latency: 96  
Player: 2 - Latency: 107 - Average Latency: 96  
Player: 2 - Latency: 111 - Average Latency: 96  
Player: 2 - Latency: 53 - Average Latency: 95  
Player: 2 - Latency: 112 - Average Latency: 96  
Player: 2 - Latency: 83 - Average Latency: 95  
Player: 2 - Latency: 60 - Average Latency: 95  
Player: 2 - Latency: 58 - Average Latency: 94  
Player: 2 - Latency: 138 - Average Latency: 95  
Player: 2 - Latency: 92 - Average Latency: 95  
Player: 2 - Latency: 73 - Average Latency: 94  
Player: 2 - Latency: 142 - Average Latency: 95  
Player: 2 - Latency: 140 - Average Latency: 96  
Player: 2 - Latency: 79 - Average Latency: 96  
Player: 2 - Latency: 52 - Average Latency: 95  
Player: 2 - Latency: 128 - Average Latency: 95  
Player: 2 - Latency: 141 - Average Latency: 96  
Player: 2 - Latency: 115 - Average Latency: 96  
Player: 2 - Latency: 107 - Average Latency: 97  
Player: 2 - Latency: 80 - Average Latency: 96  
Player: 2 - Latency: 102 - Average Latency: 96  
Player: 2 - Latency: 122 - Average Latency: 97  
Player: 2 - Latency: 104 - Average Latency: 97  
Player: 2 - Latency: 91 - Average Latency: 97

Player: 2 - Latency: 101 - Average Latency: 97  
Player: 2 - Latency: 100 - Average Latency: 97  
Player: 2 - Latency: 79 - Average Latency: 97  
Player: 2 - Latency: 79 - Average Latency: 96  
Player: 2 - Latency: 73 - Average Latency: 96  
Player: 2 - Latency: 63 - Average Latency: 96  
Player: 2 - Latency: 125 - Average Latency: 96  
Player: 2 - Latency: 131 - Average Latency: 96  
Player: 2 - Latency: 122 - Average Latency: 97  
Player: 2 - Latency: 100 - Average Latency: 97  
Player: 2 - Latency: 114 - Average Latency: 97  
Player: 2 - Latency: 103 - Average Latency: 97  
Player: 2 - Latency: 82 - Average Latency: 97  
Player: 2 - Latency: 48 - Average Latency: 96  
Player: 2 - Latency: 123 - Average Latency: 97  
Player: 2 - Latency: 124 - Average Latency: 97  
Player: 2 - Latency: 111 - Average Latency: 97  
Player: 2 - Latency: 103 - Average Latency: 97  
Player: 2 - Latency: 85 - Average Latency: 97  
Player: 2 - Latency: 93 - Average Latency: 97  
Player: 2 - Latency: 73 - Average Latency: 97  
Player: 2 - Latency: 89 - Average Latency: 97  
Player: 2 - Latency: 72 - Average Latency: 96  
Player: 2 - Latency: 136 - Average Latency: 97  
Player: 2 - Latency: 130 - Average Latency: 97  
Player: 2 - Latency: 119 - Average Latency: 97  
Player: 2 - Latency: 123 - Average Latency: 98  
Player: 2 - Latency: 119 - Average Latency: 98  
Player: 2 - Latency: 115 - Average Latency: 98  
Player: 2 - Latency: 102 - Average Latency: 98  
Player: 2 - Latency: 85 - Average Latency: 98  
Player: 2 - Latency: 85 - Average Latency: 98  
Player: 2 - Latency: 83 - Average Latency: 98  
Player: 2 - Latency: 84 - Average Latency: 97

From looking at these results we get:

Average Latency: 97  
Highest Latency: 142  
Lowest Latency: 48

Here are some sample results for the Client on a separate machine having done 100 actions

Player: 1 - Latency: 102 - Average Latency: 102  
Player: 1 - Latency: 134 - Average Latency: 118  
Player: 1 - Latency: 82 - Average Latency: 106  
Player: 1 - Latency: 146 - Average Latency: 116  
Player: 1 - Latency: 102 - Average Latency: 113  
Player: 1 - Latency: 74 - Average Latency: 106  
Player: 1 - Latency: 46 - Average Latency: 98  
Player: 1 - Latency: 118 - Average Latency: 100  
Player: 1 - Latency: 42 - Average Latency: 94  
Player: 1 - Latency: 150 - Average Latency: 99  
Player: 1 - Latency: 91 - Average Latency: 98  
Player: 1 - Latency: 63 - Average Latency: 95  
Player: 1 - Latency: 43 - Average Latency: 91  
Player: 1 - Latency: 123 - Average Latency: 94  
Player: 1 - Latency: 103 - Average Latency: 94  
Player: 1 - Latency: 67 - Average Latency: 92  
Player: 1 - Latency: 131 - Average Latency: 95  
Player: 1 - Latency: 112 - Average Latency: 96  
Player: 1 - Latency: 83 - Average Latency: 95  
Player: 1 - Latency: 131 - Average Latency: 97  
Player: 1 - Latency: 111 - Average Latency: 97  
Player: 1 - Latency: 91 - Average Latency: 97  
Player: 1 - Latency: 55 - Average Latency: 95  
Player: 1 - Latency: 59 - Average Latency: 94  
Player: 1 - Latency: 63 - Average Latency: 92  
Player: 1 - Latency: 51 - Average Latency: 91  
Player: 1 - Latency: 151 - Average Latency: 93  
Player: 1 - Latency: 115 - Average Latency: 94  
Player: 1 - Latency: 71 - Average Latency: 93  
Player: 1 - Latency: 50 - Average Latency: 92  
Player: 1 - Latency: 114 - Average Latency: 92  
Player: 1 - Latency: 110 - Average Latency: 93  
Player: 1 - Latency: 90 - Average Latency: 93

Player: 1 - Latency: 38 - Average Latency: 91  
Player: 1 - Latency: 34 - Average Latency: 89  
Player: 1 - Latency: 122 - Average Latency: 90  
Player: 1 - Latency: 78 - Average Latency: 90  
Player: 1 - Latency: 42 - Average Latency: 89  
Player: 1 - Latency: 30 - Average Latency: 87  
Player: 1 - Latency: 118 - Average Latency: 88  
Player: 1 - Latency: 98 - Average Latency: 88  
Player: 1 - Latency: 86 - Average Latency: 88  
Player: 1 - Latency: 90 - Average Latency: 88  
Player: 1 - Latency: 78 - Average Latency: 88  
Player: 1 - Latency: 117 - Average Latency: 89  
Player: 1 - Latency: 117 - Average Latency: 89  
Player: 1 - Latency: 70 - Average Latency: 89  
Player: 1 - Latency: 34 - Average Latency: 88  
Player: 1 - Latency: 130 - Average Latency: 88  
Player: 1 - Latency: 118 - Average Latency: 89  
Player: 1 - Latency: 74 - Average Latency: 89  
Player: 1 - Latency: 30 - Average Latency: 88  
Player: 1 - Latency: 134 - Average Latency: 88  
Player: 1 - Latency: 122 - Average Latency: 89  
Player: 1 - Latency: 62 - Average Latency: 89  
Player: 1 - Latency: 126 - Average Latency: 89  
Player: 1 - Latency: 106 - Average Latency: 89  
Player: 1 - Latency: 111 - Average Latency: 90  
Player: 1 - Latency: 91 - Average Latency: 90  
Player: 1 - Latency: 71 - Average Latency: 90  
Player: 1 - Latency: 151 - Average Latency: 91  
Player: 1 - Latency: 63 - Average Latency: 90  
Player: 1 - Latency: 127 - Average Latency: 91  
Player: 1 - Latency: 91 - Average Latency: 91  
Player: 1 - Latency: 79 - Average Latency: 90  
Player: 1 - Latency: 67 - Average Latency: 90  
Player: 1 - Latency: 63 - Average Latency: 90  
Player: 1 - Latency: 83 - Average Latency: 90  
Player: 1 - Latency: 55 - Average Latency: 89  
Player: 1 - Latency: 59 - Average Latency: 89  
Player: 1 - Latency: 115 - Average Latency: 89  
Player: 1 - Latency: 103 - Average Latency: 89

Player: 1 - Latency: 75 - Average Latency: 89  
Player: 1 - Latency: 95 - Average Latency: 89  
Player: 1 - Latency: 67 - Average Latency: 89  
Player: 1 - Latency: 79 - Average Latency: 89  
Player: 1 - Latency: 51 - Average Latency: 88  
Player: 1 - Latency: 71 - Average Latency: 88  
Player: 1 - Latency: 67 - Average Latency: 88  
Player: 1 - Latency: 131 - Average Latency: 88  
Player: 1 - Latency: 86 - Average Latency: 88  
Player: 1 - Latency: 90 - Average Latency: 88  
Player: 1 - Latency: 78 - Average Latency: 88  
Player: 1 - Latency: 74 - Average Latency: 88  
Player: 1 - Latency: 54 - Average Latency: 87  
Player: 1 - Latency: 58 - Average Latency: 87  
Player: 1 - Latency: 46 - Average Latency: 87  
Player: 1 - Latency: 58 - Average Latency: 86  
Player: 1 - Latency: 122 - Average Latency: 87  
Player: 1 - Latency: 102 - Average Latency: 87  
Player: 1 - Latency: 82 - Average Latency: 87  
Player: 1 - Latency: 94 - Average Latency: 87  
Player: 1 - Latency: 90 - Average Latency: 87  
Player: 1 - Latency: 78 - Average Latency: 87  
Player: 1 - Latency: 74 - Average Latency: 87  
Player: 1 - Latency: 62 - Average Latency: 86  
Player: 1 - Latency: 74 - Average Latency: 86  
Player: 1 - Latency: 78 - Average Latency: 86  
Player: 1 - Latency: 58 - Average Latency: 86  
Player: 1 - Latency: 62 - Average Latency: 86

Average Latency: 86  
Highest Latency: 151  
Lowest Latency: 30

From these results, we can see that there isn't much difference between the latency of the client running on the same machine as the server and the client running on a separate machine.