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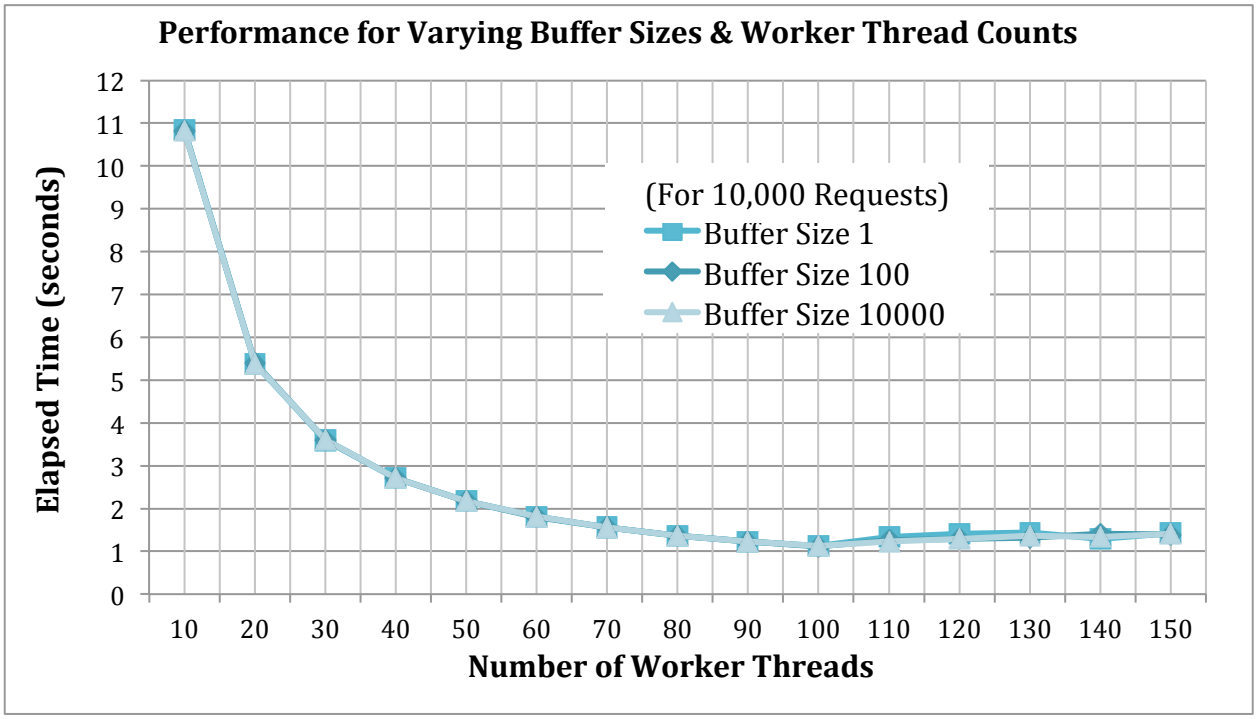
**Machine Problem 3 Report**
Performance for Varying Buffer Sizes & Worker Thread Counts

The below graph illustrates the performance of the client program using different buffer sizes and numbers of worker threads. A line is plotted for each of the following three buffer sizes: 1, 100, and 10,000. Each line relates varying numbers of worker threads with total elapsed time. This time interval is measured from the creation of the first secondary thread to the conclusion of the last thread and closure of request channels. In each iteration a constant 10,000 requests are issued by each of three people.




Most apparent in the graph is that buffer size has a negligible effect on overall performance. Although three lines representing vastly different buffer capacities are plotted, they are hardly distinguishable. More interesting is the effect of the number of worker threads. Worker threads are responsible for communicating requests with the data-server process, which, as shown in MP2, is relatively time-consuming. Hence, increasing the number of working threads does increase performance up to a point. However, as the worker thread count increases this effect diminishes. After almost exactly 100 worker threads this trend reverses, such that further increasing the number of worker threads actually hampers performance.