

Group 20  
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### **Design and Analysis**

We built a message manager that serializes, connects and sends/reads all of our messages and delivers the messages to the main application in a desirable fashion with the use of a single function call. The program uses 3 threads total: to listen for messages, to work, to listen for user input for dynamic throttling. When the job queue is empty, the worker thread sends a done message to the other server. If the other server has jobs still, it sends half of them to the idle machine. In the case that the other server also has no more jobs, it sends back a done message and both machines begin to aggregate results and shutdown.