

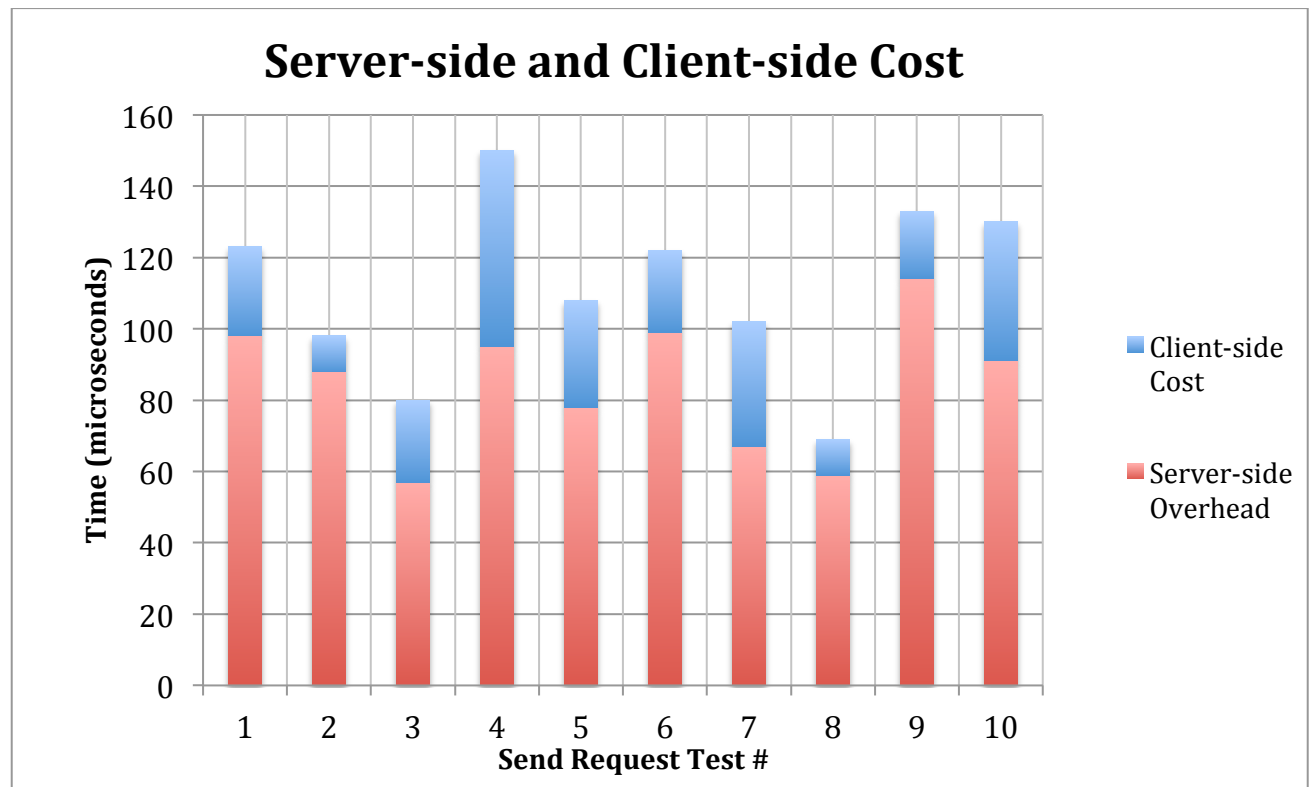
Carsten Hood
UIN: 922009787
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Machine Problem 2 Problem 2 Report

Overhead of Separate Server-Side Process

Write a brief report that compares the overhead of sending a request to a separate process (using the function `send_request()` in the client compared to handling the request in a local function. Measure the invocation delay of a request (i.e. the time between the invocation of a request until the response comes back.) Compare that with the time to generate the data on server (call to function `generate_data`). Submit a report that compares the two and that shows the overhead of generating the data in a separate process.

To compare the cost of client processes with the cost of server processes, two time periods were measured for each of ten tests. These are (1) the total interval spanning a `send_request()` function call and (2) the sub-interval of the resulting server-side `generate_data()` call. The total cost of each test is shown in the bar graph below, with the overhead of the server-side operation marked in red.



As apparent in the graph, the relative time consumed by sending a request to a separate process (shown in red) is quite large. This overhead is almost entirely negated when a local function is used to mimic the same operations instead. Thus, communication between two processes clearly comes at a significant cost.