PA 6 report

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***Rubric:***

Report should show the runtime comparison with varying w against PA5.

* 1. Are you seeing any difference? Why do you think you are seeing a difference? Repeat some experiments on the localhost. Are the runtimes now matching with those of FIFO from PA5? If so why? Deduct 5 pts if this question is not answered.
  2. The point of diminishing return should be mentioned - **deduct 5** points otherwise. Compare this point against the same for PA5.

***Video link:***

demo: <https://youtu.be/MbIyetWd304>

bonus: <https://drive.google.com/file/d/1Cz9fXuZ5mtkxCVyNatSP_-8u9hz6EsR7/view?usp=sharing>

***Data requests PA5 vs PA6:***

Command used:

PA5: ./client -n 15000 -p 15 -w X -b 1024

PA6: ./client -n 15000 -p 15 -w X -b 1024

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| -w | 10 | 20 | 30 | 50 | 100 | 200 | 300 | 350 | 400 | 500 |
| PA5 | 86.21 | 61.14 | 40.40 | 31.93 | 24.44 | 24.58 | 21.32 | 22.82 | 23.86 | 26.10 |
| PA6 | 73.31 | 38.66 | 27.31 | 28.44 | 27.16 | 29.89 | 35.46 | 40.94 | 32.71 | 37.91 |

The point of diminishing return for PA5: 300

The point of diminishing return for PA6: 100

Observation:

Although PA6 has a lower point of diminishing return, PA6 preforms better with lesser number of the worker.

PA6 has worse performance comparing to PA5 on average as the number of worker increases. I believe this is due to the time taken for connection of TCP is significant.

After the program has reaches their point of diminishing return, extra connections of worker threads/channels have negative impact on the time performance.

***File transfer PA5 vs PA6:***

Command used:

PA5: ./client -f X -w 50

PA6: ./client -f X -w 50 -o 192.168.1.149

|  |  |  |
| --- | --- | --- |
| -f | 12.csv | handout.pdf |
| PA5 | 1.54879 | 1.753 |
| PA6 | 0.308 | 1.134 |

Observation:

using TCP to transfer file is significantly faster.