NS-3 Assignment on Transport Layer

Task 1

Study the `examples/tcp/tcp-variants-comparison.cc` file with the `--tracing` option enabled. If your seven digit id is x, pick $(x + 3)\%17$ and $(x^2 + 12)\%17$ from the list below.

0. TcpNewReno
1. TcpLinuxReno
2. TcpHybla
3. TcpHighSpeed
4. TcpHtcp
5. TcpVegas
6. TcpScalable
7. TcpVeno
8. TcpBic
9. TcpYeah
10. TcpIllinois
11. TcpWestwoodPlus
12. TcpLedbat
13. TcpLp
14. TcpDctcp
15. TcpCubic
16. TcpBbr

Copy the file into `scratch` directory and run it, keeping num_flows $= 1 + x^3\%7$ and bandwidth $= 1 + x$ Mbps.

A bunch of `.data` files will be generated. Plot each one of them using your favorite plotter. Now, justify the results with the source code of your TCP variant (implemented in NS-3).

Task 2

Make a little tweak on any of the two TCP congestion control variants you are working with. Your tweak can be from the literature, or from your own intuition. Your intuition should be coherent, but it is not required that your algorithm will result in a better performance.

Make your tweak in a copied file. Then repeat task 2 for your tweaked variant.

Submission Format

```
2005xyz
| -- 2005xyz_report.pdf
| -- code/
| ------ your modified files
| ------ a txt file containing the relative paths of the modified files
```

Marks Distribution

Task	Marks
Task 1	60
Task 2	40

For outstanding tweaks in Task 2, bonus marks may be awarded.

Deadline: December 17, 2024, 12:30 AM