

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

2005001

variants -> 7, 11
num_flows -> 7
bandwidth -> 3

Copy the file into `scratch` directory and run it, keeping `num_flows = 1 + x3%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