COMP2207 IPv4/IPv6 Performance Report

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1 Data Gathering

To gather the data, I decided to create a bash script. The idea was to use the native `ping` and `ping6` commands available in standard POSIX compatible environments to do the actual pinging, and then use the standard utilities to save the min/max/average/standard deviation data into a CSV file (along with the time and IP that was actually pinged).

My script had options to specify the number of pings and interval between pings. I used bash's inbuilt `getopts` using flags in order to set these values. I defaulted to setting the number of pings to 30 and the interval to 0.5 seconds. This meant each test would take a minimum of 15 seconds and therefore each running of the script would take on average 25 to 30 minutes.

My script logged the time of day, the IP address (resolved from the hostname) and then min/max/average/standard deviation. It logged the data independently for each host. This meant each host's IPv4 and IPv6 data was kept in different files and therefore kept separate. I chose to log this much data as it would give greater flexibility later when analysing the results.

I left my data gathering script running for about a day. I then wrote another quick bash script to extract the hostname, and average the average ping time. This left me with a `summary.4.csv` file and a `summary.6.csv` file containing each host and the average ping. I then combined these two files together along with the `Top100Sites.csv`

2 Measurement Results

3 Discussion