

CS 164 Spring 2006 - Assignment 1

Internet performance modeling.

You want to measure the (a) round-trip-time delay, and (b) path length, between UCR and a destination in US and a destination overseas (Europe, Asia, Africa).

You can use ping and traceroute to collect the data. Try to not all use the same measurement points. Pick the website of small company or a place from your home country.

Plotting: In both cases we want you to plot the distribution of the metric you measure (delay and path length):

- (a) the probability distribution function
- (b) the cumulative probability distribution function

Statistics: Report the average, median, standard deviation, and 5%-percentile and 95%-percentile values. You need to explain what are the definitions of each these statistics and what it means intuitively.

Discussion: Comment on what you observe. Is the behavior stable, what differences do you observe between US and overseas points.

Your assignments should read like a report and not a collage of plots and numbers. (Intro, Data collection, Plots, Stats, Discussion). You should also append the programs that you wrote to calculate and plot, with a small readme file of how one can use the programs you wrote.

Note: you do not have to have one monolithic program, you can write small scripts. You can use the programming language of your choice (C, python, perl), a spreadsheet if you want, or awk, and gnuplot. If you use a highly specialized software ask your TAs or me.