

# CPSC 441 – Assignment 3

## Pathfinder Results – Kaumil Patel

### Traceroute results from Home

Category	Destination	Domain Name	IP Address	Location	When Home	Num Hops	BaseRTT ms
AB1	Calgary	ucalgary.ca	136.159.96.125	Calgary	Nov 15/5:17	15	97.78
CAN1	Toronto, Ontario	utoronto.ca	128.100.166.120	Toronto, Ontario	Nov 15/5:17	20	235.80
CAN2	Montreal, Quebec	mcgill.ca	132.216.177.160	Montreal, Quebec	Nov 15/5:17	18	220.36
CAN3	Vancouver, British Columbia	ubc.ca	206.87.224.15	Vancouver, British Columbia	Nov 15/5:18	16	29.21
US1	New York	nyu.edu	216.165.47.10	New York	Nov 15/5:18	20	155.39
US2	Stanford, California	stanford.edu	171.67.215.200	Stanford, California	Nov 15/5:18	16	234.68
INTL1	Westminster, United Kingdom, Europe	london.ac.uk	128.86.130.42	Westminster, United Kingdom, Europe	Nov 15/5:19	21	170.08
INTL2	Paris, France, Europe	u-paris.fr	195.220.128.193	Paris, France, Europe	Nov 15/5:19	27	235.52

### Traceroute results from UCalagry

Category	Destination	Domain Name	IP Address	Location	When UCalagry	Num Hops	BaseRTT ms
AB1	Calgary	ucalgary.ca	136.159.96.125	Calgary	Nov 15/11:30	11	2.95
CAN1	Toronto, Ontario	utoronto.ca	128.100.166.120	Toronto, Ontario	Nov 15/11:30	21	86.12
CAN2	Montreal, Quebec	mcgill.ca	132.216.177.160	Montreal, Quebec	Nov 15/11:31	22	115.04
CAN3	Vancouver, British Columbia	ubc.ca	206.87.224.15	Vancouver, British Columbia	Nov 15/11:31	17	15.46
US1	New York	nyu.edu	216.165.47.10	New York	Nov 15/11:32	20	100.34
US2	Stanford, California	stanford.edu	171.67.215.200	Stanford, California	Nov 15/11:32	17	99.37
INTL1	Westminster, United Kingdom, Europe	london.ac.uk	128.86.130.42	Westminster, United Kingdom, Europe	Nov 15/11:32	22	204.81
INTL2	Paris, France, Europe	u-paris.fr	195.220.128.193	Paris, France, Europe	Nov 15/11:33	22	204.89

## Program results

Destination	Cost	Hops	Shortest Path
YYC to YYZ	2097	3	YYC -> YQR -> YWG -> YYZ
YYC to YUL	2308	4	YYC -> YQR -> YWG -> YOW -> YUL
YYC to YVR	720	1	YYC -> YVR

## Observations:

The route taken to utoronto.ca goes through the USA and 4 different autonomous systems. Compared to the pathfinder program results the internet takes a much longer route through British Colombia which goes in the complete opposite direction. The results demonstrates internet routing doesn't necessary take the shortest path this may be due to network load, internet service provider agreements and peering policies.

The traceroutes from my home and UCalgary also take very different routes. Routes from UCalgary originate in the UCalgary autonomous system and go through the Canarie network. UCalgary traceroutes are typically also faster since they route through inside Canada while Shaw connect to the destination through the USA which is a longer distance. The origin autonomous systems for both traceroutes are different and they are connected to different networks which is why the results vary in time and the path taken.