Lab Assignment-2

112001046 Vaibhav B Nagrale

1. Perform a traceroute to www.facebook.com. You can use the tool from the command line (within the Terminal application) on Linux/Mac OS X by simply running "traceroute www.facebook.com" and on Windows machines by issuing the following command from the command prompt: "tracert www.facebook.com". Answer the following questions. Add screenshots with highlights for all answers.

a. What is the IP address associated with "www.facebook.com" (for example,

"18.0.1.2")?

Ans.

31.13.79.35

b. What is the IP address and DNS name of the router that is just one hop before the destination?

Ans.

IP address: 31.13.29.205

DNS: po101.psw01.bom1.tfbnw.net

c. How many hops did it take for the traceroute to reach from your machine to the destination?

Ans.

it took 10 hops to reach the destination (www.facebook.com).

d. Which link incurs the longest latency (or delay) from the source to the destination?

Ans.

The link for hop between 9 to 10 has longest latency from source to destination.

2. Perform a traceroute to www.google.com. Also perform a traceroute to www.google.co.kr and www.google.co.in

a. What is the IP address associated with "www.google.com"?

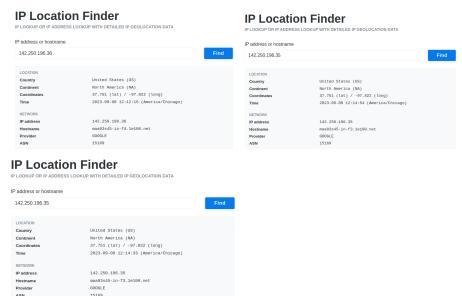
Ans.

142.250.196.36

b. Where do you think that "www.google.com", "www.google.co.kr", and "www.google.co.in" are physically located?

Ans.

Since in traceroute of each sites most of the ip of routers are same, so we can say they are at same location. The location is United States (US).



c. Do you observe any unresponsive router hops (i.e., routers that don't send a diagnostic message when the packet is dropped)?

Ans.

Yes, they are represented by '*' (3, 4, 5 and 8th hop).

d. Are the round trip latencies observed to intermediate hops increasing uniformly or are there abrupt jumps? If there are abrupt jumps in measured latencies, can you explain why they occur?

Ans.

Yes, there are abrupt jumps in www.google.com in hop 9 to hop 10 (20.822ms to 31.893ms). There are abrupt jumps because the two routers are located far from each other.

3. www.traceroute.org provides a list of publicly available traceroute servers. Perform a traceroute to your computer from one of these servers. Also traceroute to that server from your computer. Are the same routers observed in both directions?

Ans.

Home / Traceroute					
		Traceroute			
Нор	Hostname	IP Address			
	g1-2.core1.troy2.waveform.net	(208.79.209.137)	0.596 ms		
	192.111.55.214	(192.111.55.214)	0.315 ms	0.462 ms	0.274 ms
	core9.tym2.managedway.com	(208.79.213.98)	0.310 ms		0.325 ms
	38.142.133.97	(38.142.133.97)	1.003 ms	1.050 ms	0.986 ms
	be2123.rcr51.tol01.atlas.cogentco.com	(154.54.82.137)	2.868 ms	3.032 ms	2.847 ms
	be3745.ccr22.cle04.atlas.cogentco.com	(154.54.30.129)	4.772 ms	4.997 ms	4.894 ms
	be2890.ccr42.jfk02.atlas.cogentco.com	(154.54.82.246)	16.390 ms		
	be3496.ccr31.jfk10.atlas.cogentco.com	(154.54.0.142)	16.614 ms	16.645 ms	33.160 ms
	38.122.229.102	(38.122.229.102)	18.867 ms	21.963 ms	18.475 ms
	103.198.140.212	(103.198.140.212)	209.670 ms	209.424 ms	209.008 ms
	103.198.140.38	(103.198.140.38)	211.394 ms	212.585 ms	211.246 ms
	103.198.140.212	(103.198.140.212)	208.977 ms	209.012 ms	365.988 ms
		(115.247.69.86)	209.292 ms		
	14.139.174.50	(14.139.174.50)	280.238 ms	287.730 ms	279.904 ms

No, as per above trace route I don't see same routers in both directions but I observe that some routers are in same subnets (like 14.139.174.49 and 14.139.174.50).