B04901110 林冠宇 電網導 p18

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | destination | | [www.facebook.com](http://www.facebook.com/) | | |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | 13:32 |  |  |  |  | a. |  |  |  |
| # hops |  |  |  |  |  |  |  |  |  |
| 13 |  | 26.082 | 25.908 |  |  | average |  |  | 8.602571 |
| 13 |  | 4.294 | 4.221 | 4.449 |  | standard deviation | |  | 7.269977 |
| 13 |  | 5.834 | 5.809 | 8.717 |  |  |  |  |  |
| 13 |  | 4.053 | 4.092 | 4.069 |  |  |  |  |  |
| 13 |  | 7.521 | 7.617 | 7.77 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | 17:08 |  |  |  |  |  |  |  |  |
| 13 |  | 5.612 | 5.613 | 5.609 |  | average |  |  | 5.215267 |
| 13 |  | 4.365 | 4.673 | 4.544 |  | standard deviation | |  | 0.88469 |
| 13 |  | 4.794 | 4.869 | 4.842 |  |  |  |  |  |
| 13 |  | 4.163 | 4.158 | 4.776 |  |  |  |  |  |
| 13 |  | 6.745 | 6.74 | 6.726 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | 02:53 |  |  |  |  |  |  |  |  |
| 13 |  | 8.799 | 9.316 | 8.572 |  | average |  |  | 5.9326 |
| 13 |  | 3.894 | 3.835 | 3.626 |  | standard deviation | |  | 1.96023 |
| 13 |  | 4.215 | 5.472 | 5.451 |  |  |  |  |  |
| 13 |  | 4.335 | 4.141 | 4.977 |  |  |  |  |  |
| 13 |  | 7.306 | 7.297 | 7.753 |  |  |  |  |  |

edge-star-mini-shv-01-tpe1.facebook.com (31.13.87.36) is the destination.

b. the number of routers remain 13 for 50 data, but the paths change from time to time.

c. Since I did this task in NTU, the ISP the packets pass through involved (TAnet – Taiwan academic network, TPIX-TW – PeeringDB – an IXP, and the facebook ISP located in US).

In this case, no large delay occur at the peering interfaces between adjacent ISPs.

d. –(a)

destination: [www.ucla.com](http://www.ucla.com) - gateway.lb.it.ucla.edu [164.67.228.152]

13:32:

delay

average – 155ms deviation- 5.664ms

17:08:

average – 122ms deviation- 13.664ms

02.53:

average – 134ms deviation- 7.664ms

(calculated via excel)

d-(b) No, the hops remain 20 in all data.

d-c about 4 ISPs are involved in the task, which are TAnet, ASnet, Indiana University ISP, and UCLA network. No apparent large delay occurred at peering interfaces.