

計算機網路概論 Homework 1 B10815057 廖聖郝

1. (1) 500 Kbps

(2) 64 秒

2.

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tracert www.google.com
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在上限 30 個躍點上

追蹤 www.google.com [172.217.160.100] 的路由:

1	<1 ms	<1 ms	1 ms	140.118.215.254
2	1 ms	1 ms	1 ms	10.250.250.5
3	<1 ms	1 ms	<1 ms	10.0.0.6
4	1 ms	1 ms	1 ms	10.0.0.9
5	1 ms	1 ms	1 ms	192.192.7.197
6	2 ms	2 ms	4 ms	192.192.61.82
7	3 ms	4 ms	3 ms	192.192.61.185
8	3 ms	2 ms	3 ms	192.192.61.198
9	3 ms	3 ms	9 ms	72.14.196.229
10	4 ms	3 ms	3 ms	108.170.244.129
11	3 ms	3 ms	3 ms	216.239.48.135
12	3 ms	4 ms	3 ms	tsa03s06-in-f4.1e100.net [172.217.160.100]

3. 7 分鐘

4. (1) 0.15 秒

(2) 1.5Mbits (1500000bits)

5.

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▼ Frame 27501: 625 bytes on wire (5000 bits), 625 bytes captured (5000 bits) on interface \Device\NPF_{651C0D2C-2C31-4B1C-B646-48250EE55F58}, id 0
  > Interface id: 0 (\Device\NPF_{651C0D2C-2C31-4B1C-B646-48250EE55F58})
    Encapsulation type: Ethernet (1)
    Arrival Time: Nov  1, 2020 02:28:34.393539000 台北標準時間
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1604168914.393539000 seconds
    [Time delta from previous captured frame: 0.000147000 seconds]
    [Time delta from previous displayed frame: 0.000147000 seconds]
    [Time since reference or first frame: 515.679888000 seconds]
    Frame Number: 27501
    Frame Length: 625 bytes (5000 bits)
    Capture Length: 625 bytes (5000 bits)
    [Frame is marked: False]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:ip:tcp:http]
    [Coloring Rule Name: HTTP]
    [Coloring Rule String: http || tcp.port == 80 || http2]
  ▼ Ethernet II, Src: Micro-St_0d:c8:40 (30:9c:23:0d:c8:40), Dst: Cisco_b5:5e:c8 (70:61:7b:b5:5e:c8)
    > Destination: Cisco_b5:5e:c8 (70:61:7b:b5:5e:c8)
    > Source: Micro-St_0d:c8:40 (30:9c:23:0d:c8:40)
    Type: IPv4 (0x0800)
  ▼ Internet Protocol Version 4, Src: 140.118.215.77, Dst: 140.118.242.106
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
    > Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 611
    Identification: 0x9b4f (39759)
    > Flags: 0x40, Don't fragment
    Fragment Offset: 0
    Time to Live: 128
    Protocol: TCP (6)
    Header Checksum: 0x7aa0 [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 140.118.215.77
    Destination Address: 140.118.242.106
  ▼ Transmission Control Protocol, Src Port: 9445, Dst Port: 80, Seq: 1, Ack: 1, Len: 571
    Source Port: 9445
    Destination Port: 80
    [Stream index: 1099]
    [TCP Segment Len: 571]
    Sequence Number: 1 (relative sequence number)
    Sequence Number (raw): 3906049503
    [Next Sequence Number: 572 (relative sequence number)]
    Acknowledgment Number: 1 (relative ack number)
    Acknowledgment number (raw): 1553433463
    .... 0101 .... = Header Length: 20 bytes (5)
    > Flags: 0x018 (PSH, ACK)
    Window: 4106
    [Calculated window size: 1051136]
    [Window size scaling factor: 256]
    Checksum: 0x41d7 [unverified]
    [Checksum Status: Unverified]
    Urgent Pointer: 0
  ▼ [SEQ/ACK analysis]
    [IRTT: 0.000885000 seconds]
    [Bytes in flight: 571]
    [Bytes sent since last PSH flag: 571]
  ▼ [Timestamps]
    [Time since first frame in this TCP stream: 0.001032000 seconds]
    [Time since previous frame in this TCP stream: 0.000147000 seconds]
    TCP payload (571 bytes)
  ▼ Hypertext Transfer Protocol
    > GET /home.php HTTP/1.1\r\n
    Host: www.ntust.edu.tw\r\n
    Connection: keep-alive\r\n
    Upgrade-Insecure-Requests: 1\r\n
    User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/86.0.4240.111 Safari/537.36\r\n
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9\r\n
    Accept-Encoding: gzip, deflate\r\n
    Accept-Language: zh-TW,zh;q=0.9,en-US;q=0.8,en;q=0.7\r\n
    > Cookie: UqZBpD3n3iPIDwJU9A2tuwUNAP819YFO=vLZCByBQSD057; PageLang=zh-tw; _counter=41480871; ntustLan=zh-TW\r\n
    \r\n
    [Full request URI: http://www.ntust.edu.tw/home.php]
    [HTTP request 1/1]
    [Response in frame: 27502]
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6. C

7. 訊息 5:

Name = dns.abc.com.tw

Value = the host name of dns.abc.com.tw DNS server

訊息 7:

Name = service.abc.com.tw

Value = 192.168.1.100