21CY681 - INTERNET PROTOCOL LAB - X

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Assignment Topic: Analyzing bittorent and bht protocols using wireshark

AIM:

Analyzing bittorent and bht protocols using wireshark

TOOLS REQUIRED:

Bit-torrent

PROCEDURE:

3.Open Wireshark in the background by choosing the appropriate interface.

4.Then open your torrent file and start the download at least 20%. Stop the capture and document the answers to the following questions:

a.Give a detailed study about the working of BitTorrent in your downloading scenario.

BitTorrent peer-to-peer (P2P) protocol **finds users with files other users want and then downloads pieces of the files from those users simultaneously**.

Once connected, a BitTorrent client downloads bits of the files in the torrent in small pieces, downloading all the data it can get. Once the

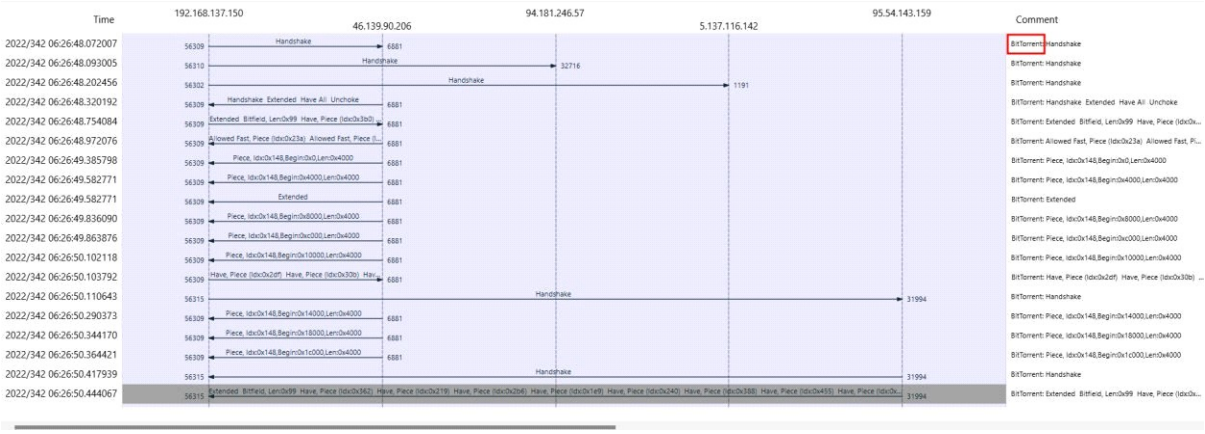
BitTorrent client has some data, it can then begin to upload that data to other BitTorrent clients in the swarm. In this way, everyone downloading a torrent is also uploading the same torrent. This speeds up everyone's download speed.

b.Working of BitTorrent.

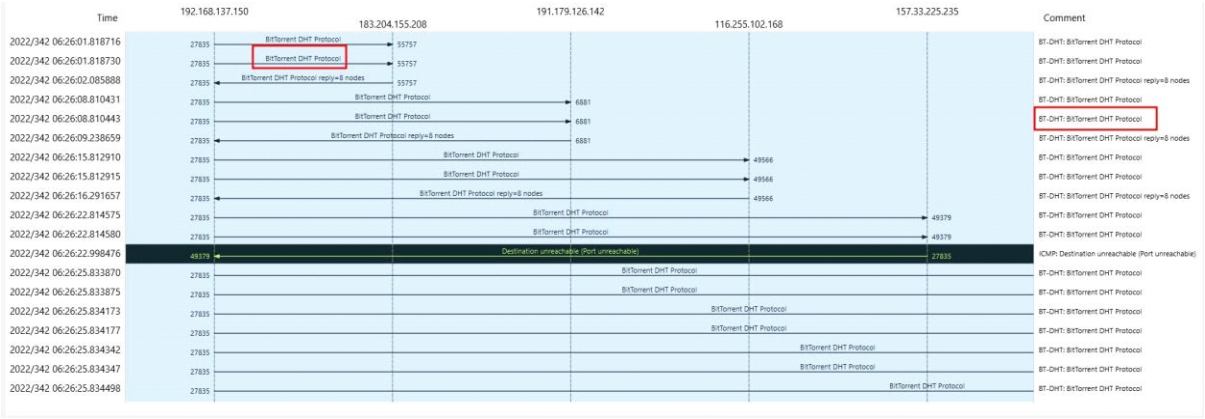
BitTorrent is a peer-to-peer protocol, which means that the computers in a BitTorrent "swarm" (a group of computers downloading and uploading the same torrent) transfer data between each other without the need for a central server.

c.Protocol Level Analysis

BITTORENT –



DHT -

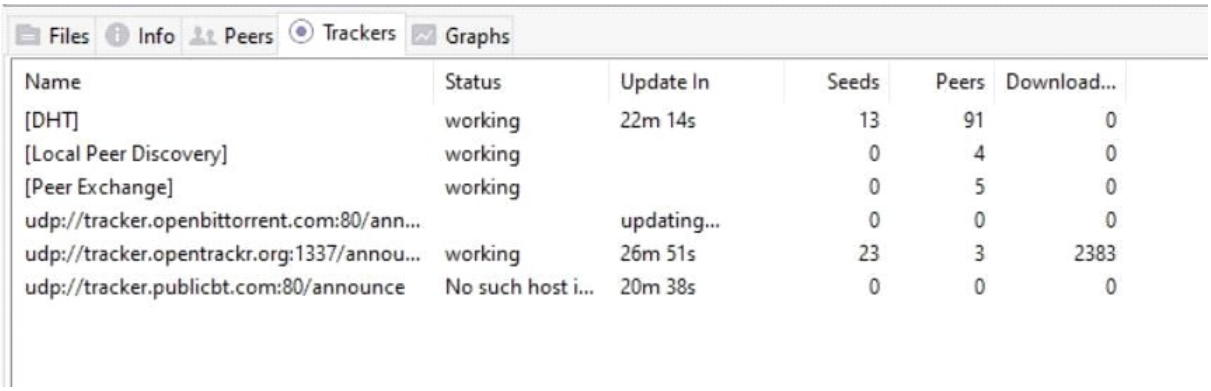


d. Tracker's status.

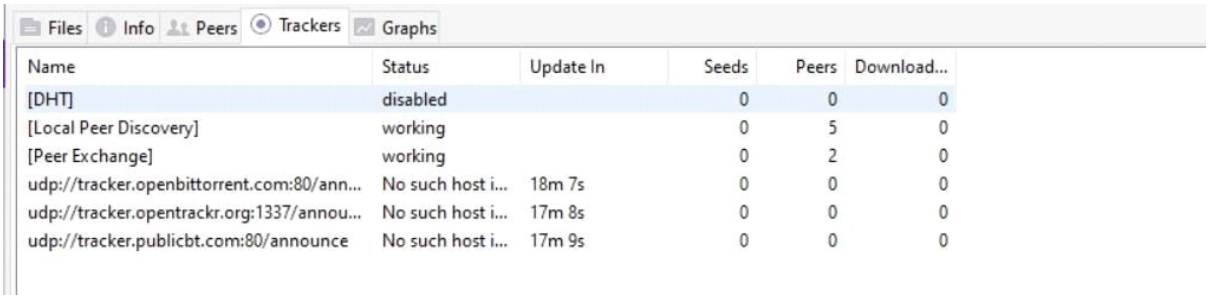
```
Hypertext Transfer Protocol
  POST /e?i=38 HTTP/1.1\r\n
  Host: i-38.b-46613.bt.bench.utorrent.com\r\n
  User-Agent: ut_core BenchHttp (ver:46613)\r\n
  Connection: close\r\n
  Content-Length: 227\r\n
  \r\n
  [Full request URI: http://i-38.b-46613.bt.bench.utorrent.com/e?i=38]
  [HTTP request 1/1]
```

Here we can be able to see that the name of the tracker is i-38.b-46613.bt.bench.utoorent.com

e.DHT status



Here we can see that while downloading the torrent file the DHT status is set to working.



Here while seeding the DHT status is set as disabled.

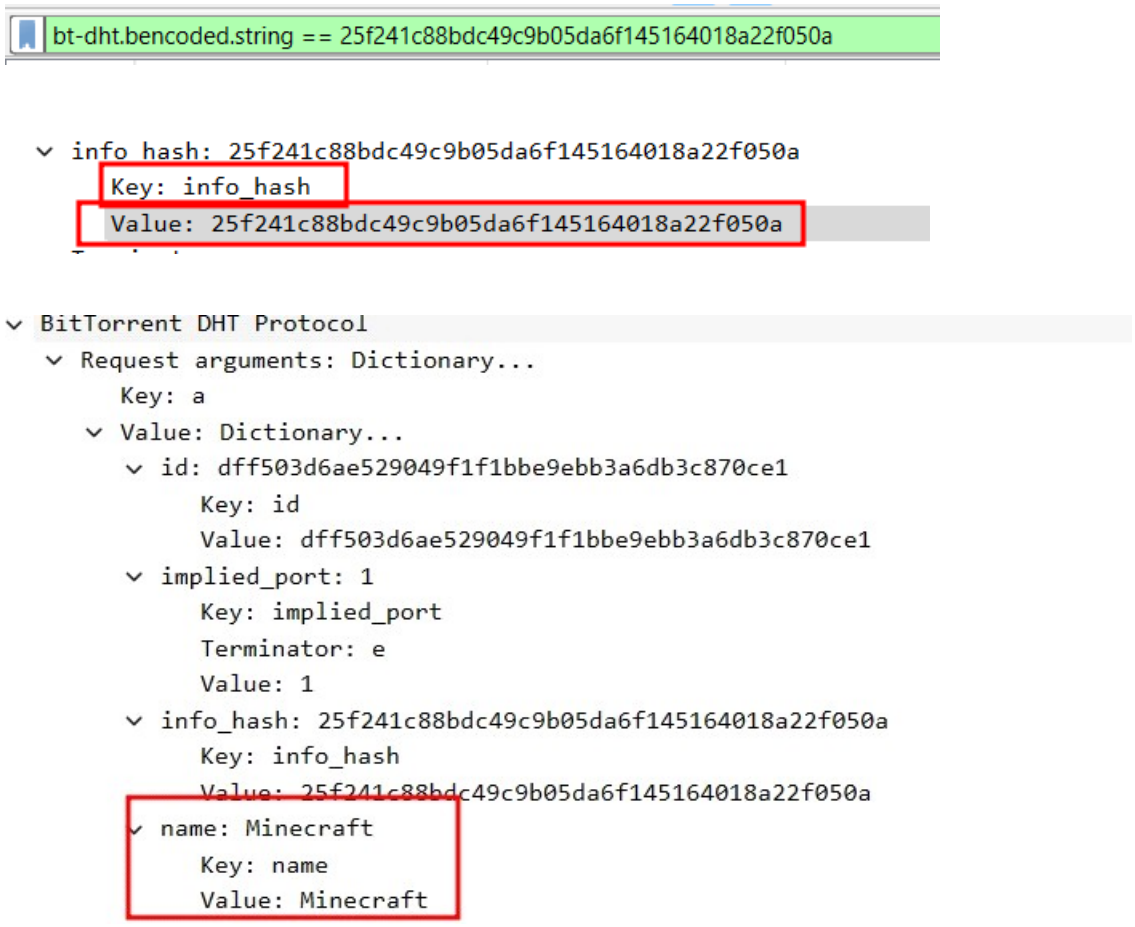
f.Identify other peers involved in the communication

From the below screenshot we can see that there are sevreral nodes which represents a peer and it sip address and port number is shown

```
    Key: nodes
  ⌄ Value: 8 nodes
    › Node 1 (id: dfe04db3460fb98d315cbeaa4539e187b92626a7, IPv4/Port: 86.41.10.163:53020)
    › Node 2 (id: dfe0bee587f8f3564f342a6ecf155ab146c41206, IPv4/Port: 223.109.186.214:6884)
    › Node 3 (id: dfe15bed3bf19c251cf5deb99627aa6f6620c7de, IPv4/Port: 95.79.124.208:21303)
    › Node 4 (id: dfe1d2c2ab35c73fe05a538e66b4b2545c262b01, IPv4/Port: 98.242.168.96:27033)
    › Node 5 (id: dfe201c9b22a34aae27b81935c0118f944d893b8, IPv4/Port: 185.149.90.126:52007)
    › Node 6 (id: dfe283abd9f97e4450ec636f21351e0920044efb, IPv4/Port: 35.139.52.195:6881)
    › Node 7 (id: dfe34745b5103072aa9c29eb0d3fbcd8759a4e1e, IPv4/Port: 121.170.44.25:7890)
    › Node 8 (id: dfe3e29bc55a2853958a91d730417607565b8156, IPv4/Port: 82.65.162.139:6881)
  Terminator: e
saction ID: a8530000
```

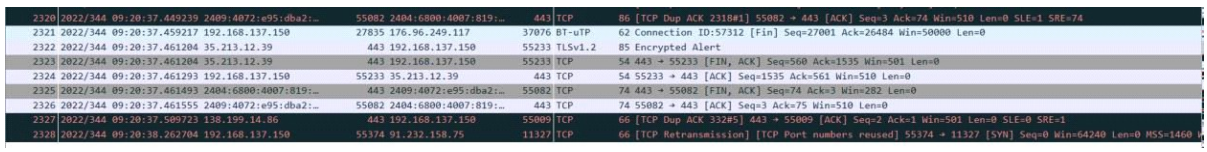
```
    ⌄ Value: 8 nodes
      ⌄ Node 1 (id: dfc3c164940003cd8c9e12312aa7b00c02a2a6b3, IPv4/Port: 119.193.226.69:8003)
          ID: dfc3c164940003cd8c9e12312aa7b00c02a2a6b3
          IP: 119.193.226.69
          Port: 8003
      ⌄ Node 2 (id: dfc66a15d53c851bff95cdbcd4cf9d6611ade402, IPv4/Port: 121.179.12.75:7795)
          ID: dfc66a15d53c851bff95cdbcd4cf9d6611ade402
          IP: 121.179.12.75
          Port: 7795
      › Node 3 (id: dfc085c6ab80e2cdcbc473480e19572ee344121a, IPv4/Port: 69.114.169.254:33806)
      › Node 4 (id: dfc504adfcb126eb1ecb59245b21bd341f7fcc0f, IPv4/Port: 221.145.147.185:41070)
```

g.Try to identify the name of the file downloded



5.Try to export the 20% of data you have captured as traffic in Wireshark while downloading files in Torrent.

6.After the Download completes and when it starts seeding, open the Wireshark and analyze the information being transferred in that traffic. Document the difference in Network traffic.



Here we didn’t get any packets for seeding. Since there wasn’t any seeding done by our system.

RESULT: Analyzed bittorent and bht protocols using wireshark.