

582615: Overlay and peer-to-peer Networks, Fall 2010

Assignment/Exercise 1

Instructions:

- Group work allowed, groups of up to 3 people allowed
- Due date: 29.9. 4pm
- What to return: Your answers as plain text e-mail, PDF, DOC, or RTF.
- Please include all the names and student numbers in the document.
- Submission address: [eemil.lagerspetz\(at\)hiit.fi](mailto:eemil.lagerspetz(at)hiit.fi)

Question 1

Consider the benefits and drawbacks of overlay networks. What are the advantages and disadvantages of peer-to-peer overlays in which peers assist each other in data and content delivery?

Question 2

Write down a list of peer-to-peer application scenarios. You can use search engines to find peer-to-peer implementations and their usage scenarios.

What appear to be the best usage scenarios and what the worst?

Question 3

How does one use BitTorrent to disseminate data? Please detail the phases of the protocol. You can find more details in the BitTorrent specification:

http://bittorrent.org/beps/bep_0003.html

<http://wiki.theory.org/BitTorrentSpecification>

Question 4

Consider the rarest first and the choking algorithms of the BitTorrent protocol and discuss their impact on performance. You can find details of the algorithms in the BitTorrent specification and several scientific articles.

Reference: <http://www.imconf.net/imc-2006/papers/p20-legout.pdf>