ELT-53206 "Peer-to-peer networks" exam questions (date 11.02.2016)

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No calculators allowed

Please, answer in order of questions!

1. What are the two fundamental service models in the Internet?

2. Illustrate and discuss 3-tiers service architecture.

3. What are the problems of hybrid P2P solutions?

4. What kind of effect WWW had on the Internet characteristics?

5. Illustrate and discuss basic principles of Napster.

6. What kind of search algorithm was used in Gnutella v0.4?

7. What was the major improvement of Gnutella v0.6 compared to v0.4?

8. What is swarming? Which P2P system was the first to introduce it?

9. What happens at node arrival to a generic DHT?

10. Which is better in terms of communication overhead: DHT or central server?

11. What is the role of tracker in BitTorrent network?

12. Which scheduling strategy is used at the beginning of downloading in BitTorrent?

13. Why do we need optimistic unchoke in BitTorrent?

14. Which strategies are used for P2P traffic management?

15. Explain the concept of traffic localization.

16. Which is better for streaming: mesh or tree? Why?

17. How can MDC improve the performance in streaming P2P systems?

18. Explain the concept of CDN.

19. Illustrate the pathways of data/signalling/registration in three generations of VoIP.

20. How does Skype work if firewall blocks direct UDP between users?