# Peer-to-Peer Networking

## *Exercises for lecture P2P Issues*

### *Task 1: P2P usage issues*

Read the paper (provided on the exercise page): *The Front Line Battle Against P2P* by Ennis et al.[1] It's a very practical example of the effects emerged from large-scale usage of P2P networks.

- Describe what problems P2P could cause for different parties, such as the community providing the network connection
- What is the “firm approach” described in the paper?
- Is blocking (restricting) P2P traffic easy / hard? Why / why not?
- What tools and methods could be applied to control P2P traffic?
- Find out what policies your local campus area network provider has defined? Can you say anything about the firewall rules?

### *Task 2: Other NAT traversal techniques*

Explain the fundamentals of the following techniques. Is any of them better than others, i.e., a more generic solution?

- Traversal Using Relay NAT (TURN)
- NAT traversal based on NAT control: Realm-Specific IP, Middlebox Communications, Universal Plug and Play, Application Level Gateway (ALG)
- TCP Hole Punching?

You can use the paper (link provided on the exercise page) *NAT Traversal Techniques and Peer-to-Peer Applications* by Zhou Hu[2] as a starting point.

## References:

[1] Ennis, D., Anchan, D., and Pegah, M. 2004. The front line battle against P2P. In Proceedings of the 32nd Annual ACM SIGUCCS Conference on User Services (Baltimore, MD, USA, October 10 - 13, 2004). SIGUCCS '04. ACM Press, New York, NY, 101-106. DOI= http://doi.acm.org/10.1145/1027802.1027828

[2] Zhou Hu: NAT Traversal Techniques and Peer-to-Peer Applications. Peer-to-peer technologies, networks and systems. Seminar on Internetworking, Spring 2005. Available: [http://www.tml.tkk.fi/Publications/C/18/]