Peer to Peer Systems
Master Degree in Computer Science,
Computer Science and Networking,
Business Informatics
Academic Year 2013/2014
Assignment n.2

The goal of this assignment is to experiment the PING/PONG protocol of Gnutella [1]. The slides of the "P2P systems" lesson of 27/9/2013 are the basic reference for the implementation of different versions of the protocol.

The student should compare the following versions:

- the basic protocol without any optimization.

- the extended protocol including basic PONG caching.

- the extended protocol including refined PONG caching.

The protocols must be implemented in JAVA. The student is free to choose between a thread-based implementation of the Gnutella nodes or a network-based implementation exploiting sockets. Furthermore, the topology of the network may be statically defined (for instance in a configuration file).

The student is required to present:

- a very short relation presenting the main design choices.

- the code implementing the protocols.

- a set of charts showing the effectiveness of the PONG optimization with respect to the basic protocol. For instance, a chart may report the network traffic (average number of messages exchanged on the network) as a function of the number of nodes.

References

[1] The Gnutella Protocol specification

rfc-gnutella.sourceforge.net/src/rfc-0_6-draft.html