

Announcements

- Remember: you are responsible for verifying what you submit through the submit server. You can download the zip file you submitted.
- Any questions about P3?
- In-Class Discussion Today
- About early warning grades

Peer-to-Peer Networks (Part of this material is from Wikipedia)

- P2P is a computer network that relies on the computing power and bandwidth of the network's participants rather than concentrating it in a set of servers
- Purposes
 - File sharing (e.g., audio, video, data, etc.)
 - Telephony
 - You can share your files and share files of other members in the network
- **Pure P2P system** - does not have the notion of clients or servers but only equal peer nodes that function as both clients and servers.
- **Non pure P2P system** - A user will send a search to a centralized server(s) for an item (e.g., a song) and the server will return a list of peers with the item. The server will also facilitate the connection and download

Original Napster

- First widely-used p2p music sharing system, allowing the exchange of MP3 format song files
- It had a localized index for MP3 files
- Napster was not fully peer-to-peer
 - Used central servers to maintain lists of connected systems and their files
 - Actual transactions were conducted directly between machines.
- Napster was shut down to comply with an injunction that ordered Napster to prevent the trading of copyrighted music on its network
- Napster has been resurrected as a commercial online music service

P2P Networks

- Some P2P Networks
 - **eDonkey2000**
 - Most popular network (According to Slyck.com)
 - **Gnutella**
 - True peer-to-peer system that operates without a central server
 - Second most popular network file sharing network system (According to Slyck.com)
 - **FastTrack**

Slyck.com

- A site with plenty of information about P2P networks is:
 - www.slyck.com
 - Let's see the table with users per network provided on that site
- A more complete list of P2P networks and the clients that connect to it can be found at
 - <http://slyck.com/programs.php>

P2P Protocols

- **FastTrack**

- Both the name of a protocol and a network
- Uses supernodes to improve scalability. A supernode is an indexing server.
- Powerful computers running client software will automatically become a supernode, effectively acting as a temporary indexing server for other, slower clients.

- **(MFTP) Multisource File Transfer Protocol**

- Still under development
- Allows file identification by contents regardless of the file's name
- Allows sharing of metadata (e.g., this file is good) about a given file with links on Web sites

P2P Protocols

- **Bitorrent**
 - Both the name of a protocol and a P2P client application
 - Designed to widely distribute large amounts of data
 - It reduces server load by letting clients download a file from each other
 - Peers download missing file fragments from each other and upload those that they already have to clients (peers)
 - Clients start sharing file fragments with their peers before the requested file is downloaded