Comparison of Gnutella and Freenet

First some similarities

- P2P
- Decentralized
- Unstructured
- Open protocol

Some differences

Routing

- Freenet uses dynamic routing tables.
  - Considers previous performance of peer (transfer time, response time) and success rate for similar keys
- Gnutella uses flooding and ultrapeers.

Search

- Freenet uses hashes to identify files.
  - Search difficult when the hash is unknown.
- Gnutella uses flood based searching and ultrapeers with index of leaf nodes.
  - Keyword search possible
  - Larger traffic overhead. Improved by QRP and DQ.

File sharing

- Freenet allows file storage (read/write).
  - Data is replicated in the network.
  - Popular data stays in the network.
- Gnutella only allows file sharing (read only).
  - File disappears when provider goes offline.

Security

- Freenet is encrypted and anonymous.
- Gnutella is unencrypted and open.

File transfers

- Freenet transfers data within the network
  - Traffic is kept encrypted
  - Peers remain anonymous.
  - Often slow
- Gnutella-peers connect directly
  - Peers connect via TCP/IP and transfer data with HTTP.
  - IP-address is revealed to peers.

Questions?