Peer-to-peer networks

Ashok Argent-Katwala

Imperial College London

http://aesop.doc.ic.ac.uk/

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What is P2P?

- Focussed on peers
- Resources at the edges
- Typically unreliable individuals

How much centralisation?

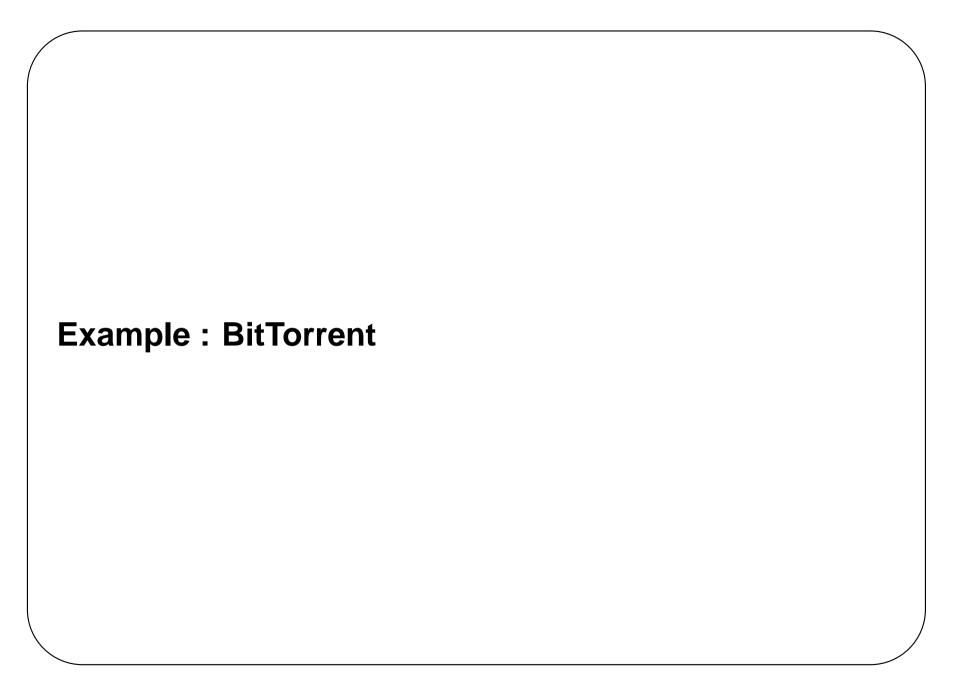
Central coordination e.g. Napster, IRC/fservs, BitTorrent

Hierarchical e.g. DNS

Fully decentralised e.g. Freenet, Gnutella

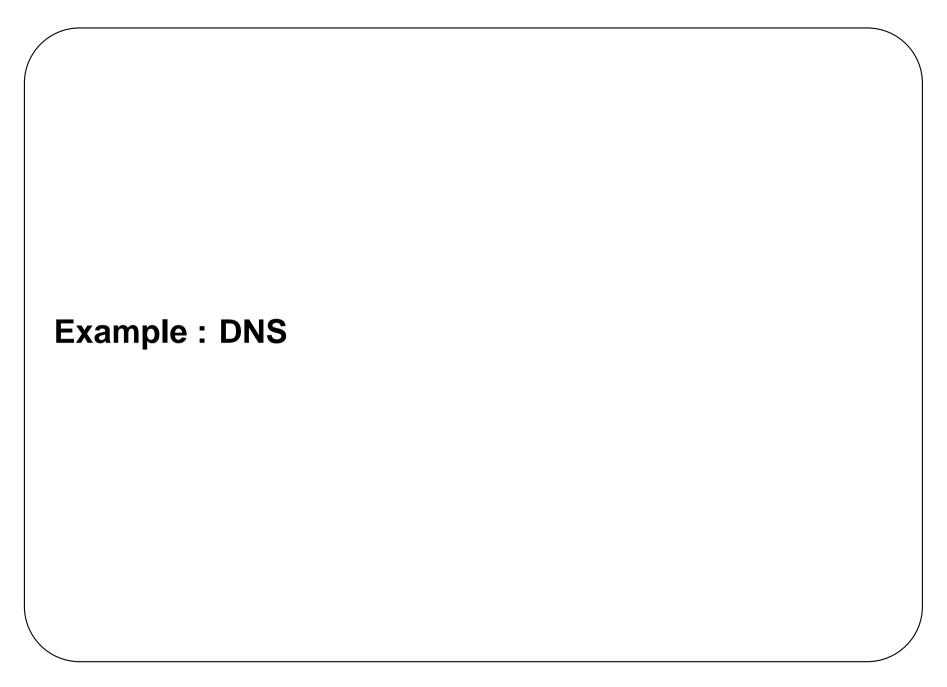
Central coordination

- +Server behaviour well understood
- +Much simpler to build
- Centres can become the bottleneck
- Centres are vulnerable to failure / overloading / takedown



Hierarchy of peers

- Some are more equal than others
- +Scales better
- +Relatively well understood
- May be vulnerable to failure or attack



Decentralised

- Fully equal peers
- No single point-of-failure



News

- BitTorrent/SuprNova analysis by Johan Pouwelse et al
- SuprNova dead

Links

```
<http://logicwand.com/torrent/>
<http://aesop.doc.ic.ac.uk/>
...
<http://peer-2-peer.org/>
<http://www.theregister.co.uk/2004/12/18/bittorrent_
measurements_analysis/>
<http://yro.slashdot.org/yro/04/12/19/1712258.shtml>
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