AST: Peer-to-Peer Systems
Supervisors' guide 2002

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These are notes for supervisors accompanying material for the 5 lectures on p2p in advanced systems topics, including the 2 example questions. There was no prior course, so we offer these as examples of the type of quesiton that might get asked on this material - the nature of the p2p material at the moment is largely taxonomical, so obviously questions on it are more about knowledge and understanding than on applications of knowledge and skills.

The three example questions are in `http://www.cl.cam.ac.uk/Teaching/2002/AdvSysTopics/p2p-q.pdf`

q0 Linking all the parts of AST, we ask them to think about hashing, caching and concurrency in the context of p2p!

q1 Decentralization - the theme here is contrast with classic (e.g. client server) systems, and anonimity, routing and so on. The lack of a single point of failure, attack, charging, key distribution and so on are all plus points. The sublte point is that all the same thigns are minus points.

q2 Performance of self-organization - the theme here is the oft-claimed scaling properties and emergent behaviour of p2p are not necessarily as good as classical systems. However, they need to be studied under dynamic use scenarios, rather than merely analyzed. - The dimensionality of CAN Is mentioned in the notes (on the course additional material web site at:

`http://www.cl.cam.ac.uk/Teaching/2002/AdvSysTopics/`

background For further reading, a local chapter of a book provides a lot more information:

`http://www.cl.cam.ac.uk/ jac22/out/grid-p2p-paper.pdf`

See also "White Paper: A Survey of Peer-to-Peer File Sharing Technologies", Athens University of Economics and Business The eBusiness Centre `http://www.eltrun.aueb.gr/whitepapers`