SIIT ITS 413

ITS 413 – QUIZ 6

First name:	Last name:	
ID:	Total Mark	es:
		out of 10

Question 1 [3 marks]

Explain how a super-peer architecture like that used in the Fasttrack P2P network provides advantages offered by both fully-distributed networks (e.g. Gnutella) and centralised networks (e.g. Napster).

Question 2 [2 marks]

- a) If a system using Chord Distributed Hash Tables (DHTs) allows up to 256 nodes, how many unique key values are possible?
- b) If a resource maps to a key K in Chord, but no corresponding node K exists, what does Chord do?

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Question 3 [3 marks]

In Chord routes are maintained to only a selection of other nodes (e.g. 1, 2, 4, 8, ... positions aways). Explain an advantage and disadvantage of instead maintaining routes to nodes 2, 4, 6, 8, ... positions away.

Question 4 [1 mark]

Napster's performance is of order 1 for both latency (time to get search result) and number of messages sent. Whereas Gnutella is of order log(n) for latency and order n for messages sent (where n is the number of peers). What is a disadvantage of Napster compared to Gnutella?

Question 5 [1 mark]

A default value of the number of permanent peers (C) in Gnutella is 4. What is a disadvantage of increasing this value?