Peer-to-Peer Systems

Errata

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Introduction

• I held this lecture for the first time
  - it was a very, very busy semester

• Some mistakes happened...
  - Some slides contain errors, some are just confusing...
  - ... I’m only human

• Other humans who write books publish “errata” (e.g. available from the book website - now even the IETF has errata for RFCs)
  - this is an “errata” slide set for the lecture

• Intention: make your life easier when preparing for the test
  - avoid trying to understand a non-understandable slide
General note about this lecture

- Its contents are (mainly) from research
- P2P systems are relatively new; there are no standards
  - de facto standards exist: e.g., everybody knows about DHTs and Chord
- Some things are vague because even the original description is vague, but still they are interesting enough to be included
  - I won’t ask you about such vague things in the test
  - Don’t try to see “behind” what’s on the slides: if something isn’t properly explained but only vaguely hinted at, this is as much as you should know
  - e.g. no need to try to find out the exact joining algorithm for P-Grid
- Some things are unknown because they were not defined
  - e.g. some of the DHTs are just ideas that were described in papers, not systems that you can download and use
- Some things are not important
  - e.g. it doesn’t matter if CAN partitions the space in the order of X, Y, Z or Y, X, Z
  - Try to be consistent in the test, and if your solution doesn’t match what is on the slides, explicitly state what you’re doing and why you’re doing it.

Errors

- Part 1
  - Slide 14: acronym for Network News Transport Protocol is NNTP, not NNCP

- Part 2
  - eDonkey and FreeNet description partially confusing
    - You should remember that eDonkey can let peers forward parts of files
    - You should remember that FreeNet is about anonymity, and its operation is somewhere between a DHT (because it routes towards hash codes) and a “normal” unstructured system; it leverages the small world effect
    - Anyway I won’t ask you about these two systems in the test
Errors /2

- Part 2 (cont’d)
  - Inconsistency on slide 64 (thanks to Daniel Strigl for spotting this)
    - “Leecher serves 4 best uploaders, chokes all others”
      but the Mahlmann/Schindelhauer book says:
    - “Jeder Peer unterhält eine Liste von Peers, die gedrosselt werden. …
      Hierzu speichert jeder Peer eine Mindestanzahl von gedrosselten Peers (z.B. vier). In diese Liste werden nun diejenigen Peers aufgenommen, von denen der Download am schlechtesten war.“
      - Don’t know what’s correct right now, but won’t ask you about this detail

- Part 4
  - Remove slide 78 (Chord with finger tables example)
  - It’s clear enough (even clearer :-)) without this slide

Errors /3

- Part 5
  - Remove slide 30 about network proximity in Pastry (simply confusing and unnecessary)
  - Replace “Knoten” with “Node” on slide 43 :-)

- Part 6
  - Slide 4: remove, from the list of Symphony enhancements:
    “Route to the neighbor that minimizes absolute distance to destination”
    (unclear why this is an enhancement - it’s supposed to be done anyway)
  - Slide 17: routing in a distance halving network
    - unclear how the routing algorithm operates in a distributed fashion
    - I won’t ask you that

- Part 8
  - Slide 19: remove statement “up to 18% of DNS traffic goes to root servers” (because I’m not sure that this is credible, should have checked original source)
Errors /4: part 7, slide 15

Wrong:

Right:

Sorry!
References / acknowledgments

- Errors from:
  - no, just kidding, I’m not pointing my finger at anyone - it’s my lecture, my responsibility, my fault  :-)