Course Overview

Future Internet Communication Technologies

Prof. Dr. Panagiotis Papadimitriou

Course Description

- Advanced networking course on state-of-the-art and emerging Internet technologies:
  - programmable switches / OpenFlow
  - software routers on commodity servers
  - flow processing
  - multi-path congestion control
  - overlays
  - content distribution networks (CDN)
  - network/router virtualization

Prerequisites

- Good understanding of Internet architecture and protocols, e.g.,
  - TCP/IP
  - DNS
  - Routing protocols

- Courses:
  - Netze und Protokolle, or
  - Rechnernetze

Course Schedule

- Lecture:
  - Lecturer: Prof. Panagiotis Papadimitriou
  - Time: Wednesday 10:00 – 11:30
  - Room: Multimedia Room (15th floor, Appelstr. 9A)

- Exercise:
  - Tutor: David Dietrich
  - Time: Wednesday 11:45 – 12:30
  - Room: Multimedia Room or iL2 (15th floor, Appelstr. 9A)

Course Structure

- Introduction to Internet Architecture
- Packet Forwarding
- Flow Processing
- Congestion Control
- Overlay Networks
- Virtual Networks
- Multimedia Delivery

Reading Material

- Lecture Slides:
  - Slides will be uploaded to Stud.IP before each lecture
- Exercise Sheets:
  - Exercises will be also uploaded to Stud.IP
- Books:
  - Recommended (but not required):
    - Computer Networking: A Top-Down Approach by J. Kurose and K. Ross
    - Computer Networks: A Systems Approach by L. Peterson and B. Davie
- Papers:
  - Papers, Internet drafts and other documents for advanced topics (e.g., flow processing, network virtualization)

Grading

- Grading:
  - Examination (written) at the end of the term
  - Registration will be required to participate in the exams (more information before the end of the term)

Contact

- Office Hours:
  - Thursday, 11:00 – 12:00
  - Office: 1420 (14th floor, Appelstr. 9A)

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