ΟΙΚΟΝΟΜΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ

ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS

Information-Centric Networks

Section # 1.1: Introduction

Instructor: George Xylomenos

Department: Informatics

European Union
European Social Fund

OPERATIONAL PROGRAMME
EDUCATION AND LIFELONG LEARNING
investing in knowledge society
MINISTRY OF EDUCATION, LIFELONG LEARNING AND RELIGIOUS AFFAIRS
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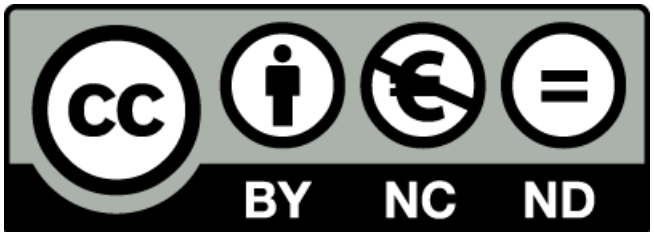

Introduction

- Objectives
- Teaching
- Evaluation
- References
- Program
- Today's topics: Clean slate

Objectives

- Course content
  - The content consists of three parts
    - Each part will be based on recent research papers
  - What problems is the Internet facing?
  - What are Information-Centric Networks?
  - Do we need them? Why not simply evolve the Internet?
- Course objectives
  - Understand the problems of the Internet
  - Introduce Information-Centric Networks
  - Present the basic proposals in the area
  - Critically evaluate these proposals
  - Prepare for research in this area

Teaching

- Who is this course for?
  - Research oriented graduate or undergraduate students
  - Those interested in state of the art networking research
- Instructor
  - George Xylomenos, Assistant Professor (xgeorge AT aueb.gr)
- Prerequisites
  - Advanced Computer Networks
  - Distributed Systems
  - Operating Systems

Evaluation

- The course consists of three parts
- Part I: My presentations
  - Each week I will present a set of research papers
  - There will be an exam at the end based on these papers
- Part II: Your presentations
  - Each of you will present a research paper
  - Your goal is to replace one of my presentations
- Part III: Your reviews
  - Each of you will write a review of one of the areas covered
  - Your goal is to provide a summary of current research
- Grading
  - Exam: 40%, Presentation: 20%, Review: 40%

References

- We will use exclusively research papers
  - There are no textbooks at this level
  - You are expected to read all the papers
- My presentations will be in English
  - All materials are in English anyway
  - Advanced research has not been translated yet
- Your presentations and reviews will be in English
  - This is not an English class, so do not fear!
  - It will be easier to create slides in English
  - It will be impossible to write your review in anything but English

Program

- The program may be revised during the course
  - You will have to present some of these yourselves!
- Clean slate network design
- The design and evolution of the Internet
- DNS and routing issues
- Content distribution
- Evolved naming & resolution, addressing & forwarding
- ICN: Content routing & clean-slate
- ICN: Publish-subscribe & other approaches
- ICN: Clean-slate routing
- Alternatives to ICN

Today's topics: Clean slate

- The classic clean slate presentation by Van Jacobson
  - Van Jacobson: If a Clean Slate is the solution what was the problem? Stanford 'Clean Slate' Seminar, February 27, 2006
    - This work led to CCN/NDN, which we will cover later on
- A presentation at an EU Future Internet meeting
  - Mark Handley: The Challenges of Evolving the Internet, EU Consultation meeting, 31 January 2008, Brussels, Belgium
    - Related paper: Mark Handley: Why the Internet only just works, BT Technology Journal, Vol 24, No 3, July 2006
- Another presentation at the same EU meeting
  - Anja Feldman: Internet Clean Slate, EU Consultation meeting, 31 January 2008, Brussels, Belgium
    - Related paper: Anja Feldman: Internet Clean-Slate Design: What and Why?, ACM CCR, Volume 37, Number 3, July 2007.

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End of Section # 1.1

Course: Information-Centric Networks, **Section # 1.1: Introduction**

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