Network Protocols

Class Overview
Prerequisites

- TDC 365 / Network Interconnection Technologies
- Some or all of the following would be nice:
  - TDC 361 / Basic Communication Systems
  - TDC 362 / Principles of Data Communications
  - TDC 363 / Local Area Networks
  - Network or system administration experience
You have the opportunity to...

- Learn how protocols work and don't work
- Study advanced concepts not found elsewhere
  - Gain a fundamental understanding of protocols
  - Discover how networks work in the real world
  - Explore to seminal papers, videos and people
  - Understand why E2E matters and NAT sucks
- Be taught by someone with operator experience
I will...

• Answer email promptly
• Be fair and impartial
• Encourage discussion and participation
• Make this a class you want to come to
• Help you learn

...as best as I can
I expect you to...

• Be present and attentive
• Ask questions and participate in discussions
• Not wait until the last minute to complete homework
• Give feedback when my instruction works or not
• Never cheat nor plagiarize
• Laugh at my jokes even if they are not funny
Grading for this course

• 20% homework (lowest one dropped)
• 25% midterm exam (closed book)
• 25% final exam (closed book/notes)
• 20% final project
• 10% class participation
Tentative schedule

- Module 1 (today)
  - Introduction
  - Exploration of network protocols
  - Internet protocols overview
- Module 2
  - The End-to-end Argument
  - Internet Protocol (IP) version 4
Tentative schedule (cont.)

• Module 3
  • Address Resolution Protocol (ARP)
  • Dynamic Host Configuration Protocol (DHCP)
  • Internet Control Message Protocol (ICMP)
  • Domain Name System (DNS)
• Module 4
  • Interior routing protocols (RIP, OSPF, IS-IS)
  • Exterior routing protocols (BGP)
Tentative schedule (cont.)

- Module 5
  - Internet Protocol version 6 (IPv6)
- Mid term exam
- Module 6
  - Transmission Control Protocol (TCP)
  - User Datagram Protocol (UDP)
  - Congestion avoidance and control principles
Tentative schedule (cont.)

- Module 7
  - IP multicast
- Module 8
  - Internetwork security
- Module 9
  - Network management and design
- Module 10
  - Real-time interactive protocols (SIP, RTP)
Tentative schedule (cont.)

- Module 11
  - Current topics and trends, miscellany
  - jtk's past/current work
- Final exam
Nightly timetable

- 17:45 / learn
- 19:30 / break
- 19:45 / learn
- 21:00 / good night
Introductions

• Who I am and my background
• My name is <name> and my protocol is <protocol>
Final notes

• Keep an eye on the following page:
  • http://condor.depaul.edu/~jkristof/tdc375/
• Be prepared to discuss readings in class
  • I will call on you
• Please, please, PLEASE!! NO plagiarism this time!
• Cell phones, PDAs and pagers on vibrate or off
• No SSNs on homework, exams, papers, email