Computer Communication Networks

Introduction

ICEN/ICSI 416 – Fall 2016
Prof. Dola Saha

UNIVERSITY AT ALBANY
State University of New York

Introductions

➢ Instructor

- Prof. Dola Saha, PhD University of Colorado Boulder
- http://www.albany.edu/faculty/dsaha/
- dsaha@albany.edu

➢ Students

- Upload pictures in blackboard

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Information

➢ Course Website:

- http://www.albany.edu/faculty/dsaha/teach/2016Fall_CEN416/2016Fall_CEN416.html

➢ Blackboard:

Course Website	Blackboard
Lecture Slides	Homework Assignments
Class Calendar / Schedule	Homework Submission
Other Information	Homework Solutions
	Announcements
	Grades

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Office Hours

➢ Where: BA 312

➢ When:
- Tuesday 2:00-3:00PM
- Thursday 3:00-4:00PM
- By appointment.

Textbooks

➢ Required:
- ▪ "Computer Networks: A Systems Approach", Larry Peterson and Bruce Davie, Elsevier

➢ Reference:
- ▪ "Computer Networking: A Top Down Approach", James Kurose and Keith Ross, Pearson
- ▪ "Computer Networks", Andrew S. Tanenbaum, and David J. Wetherall, Pearson

Assignments & Grading

➤ Assignments

  ▪ No late assignments will be accepted.

  ▪ All assignments are due by 11:59PM on the due date.

  ▪ Re-grading requests will be considered up to 5 business days after posting the grades for the corresponding assignment.

➤ Grading

  ▪ Projects - 20%

  ▪ Homework - 20%

  ▪ Midterm - 25%

  ▪ Final Exam - 30%

  ▪ Attendance and class participation – 5%

Academic Integrity

➢ Undergraduate Academic Regulations
- http://www.albany.edu/undergraduate_bulletin/regulations.html

➢ Academic Dishonesty
- Plagiarism, Cheating on examinations, unauthorized collaboration, etc.

➢ Practicing Academic Integrity
- Citation

➢ Penalties for Violation
- Warning, lowering grade, failing grade

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Cell Phone in classroom

➢ Keep your phone in vibrate mode

➢ Be attentive

➢ Respect other students

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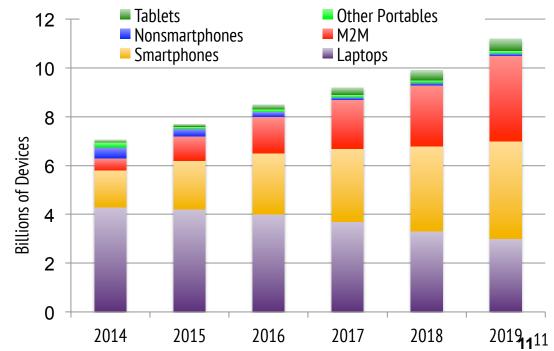
Why this course?

Syllabus

- Internet Architecture
- Application, Transport, Network, MAC and Physical Layers
- Network Security
- Congestion Control
- Resource Allocation
- Modern Applications

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Challenges Ahead

Expected Growth of Mobile Data Traffic

Expected Growth of Mobile Devices

➢ High bandwidth

➢ Low latency

➢ High Reliability

➢ Number of devices

➢ Diversity in traffic

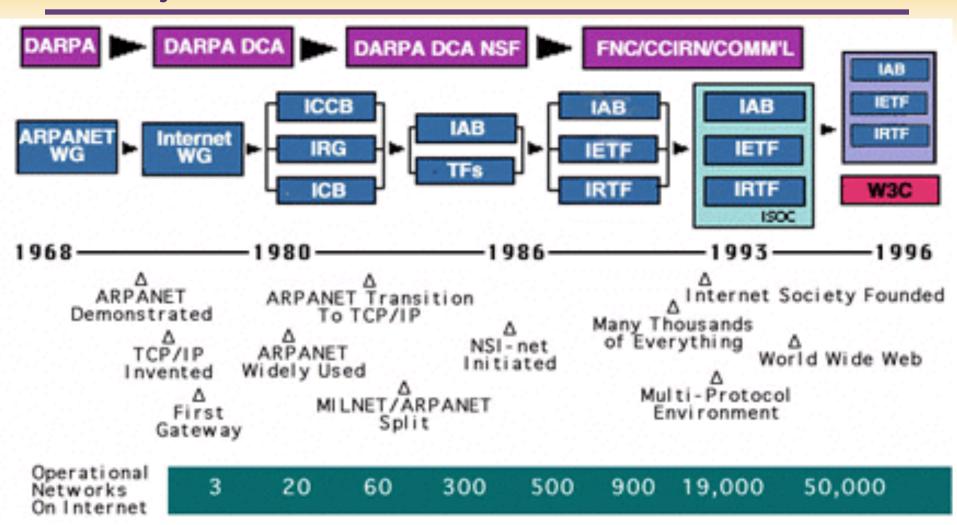*Source: Cisco Visual Networking Index Mobile, 2015*
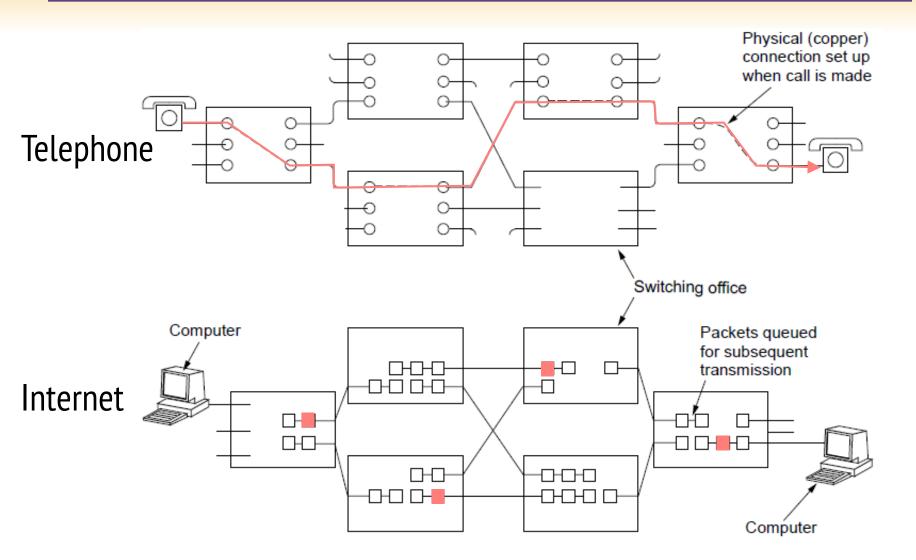
Rotary Phone
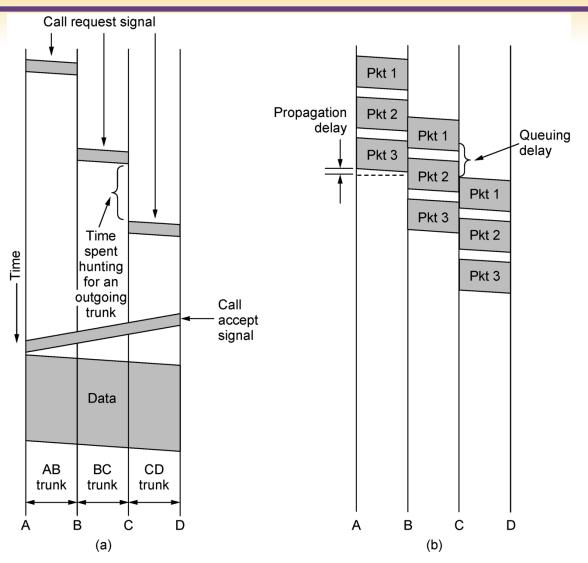
➢ Used by telephony system

History of the Internet

http://www.internetsociety.org/internet/what-internet/history-internet/brief-history-internet
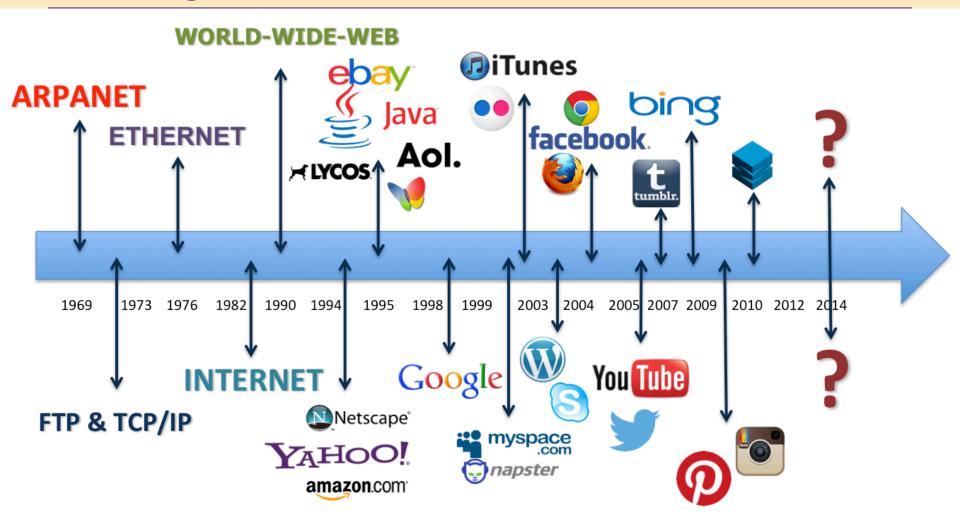
Circuit Switching vs Packet Switching

Telephone

Internet

Circuit Switching vs Packet Switching

Timing of events in (a)circuit switching, (b)packet switching.

Evolving Internet

http://malonemediagroup.com/history-of-the-internet-timeline-an-ever-evolving-digital-world/
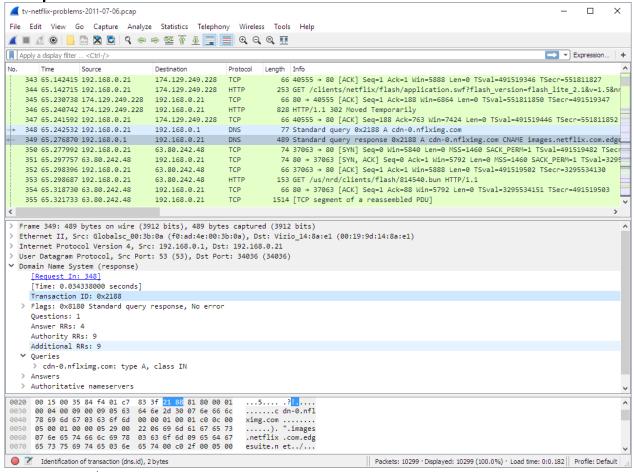
Proverb

- ➢ Tell me and I forget.
- ➢ Show me and I remember.
- ➢ Involve me and I understand.

Homework is a way to get involved!!!!

Wireshark

➢ https://www.wireshark.org

- Get Acquainted → Download stable release

Python

- ➢ Download Python
  - ▪ https://www.python.org/downloads/
  - ▪ Check your OS
  - ▪ Version – 3.5.2