Sirindhorn International Institute of Technology
Thammasat University

Final Exam: Semester 1, 2011

Course Title: ITS323 Introduction to Data Communications

Instructor: Steven Gordon

Date/Time: Thursday 13 October 2011; 9:00–12:00

Instructions:

- This examination paper has 21 pages (including this page).

- Conditions of Examination: Closed book; No dictionary; Non-programmable calculator is allowed

- Students are not allowed to be out of the exam room during examination. Going to the restroom may result in score deduction.

- Students are not allowed to have communication devices (e.g. mobile phone) in their possession.

- Write your name, student ID, section, and seat number clearly on the front page of the exam, and on any separate sheets (if they exist).

- Assume bits are ordered from left to right. For example, for the data 00001111, the first (1st) bit is 0 and the last (8th) bit is 1.

- Assume the speed of transmission is 3×10^8 m/s

- Reference material included at the end of the exam may be used.

ITS323 Final Exam Hints

- 11 questions
- 100 marks total
- Cover topics from (and including) lectures on Data Link Control Protocols to Internet Applications
- Use quizzes and exams from previous years to study

Reference Material

Selected well-known ports:

- FTP 20 and 21

- SSH 22

- Telnet 23

- SMTP 25
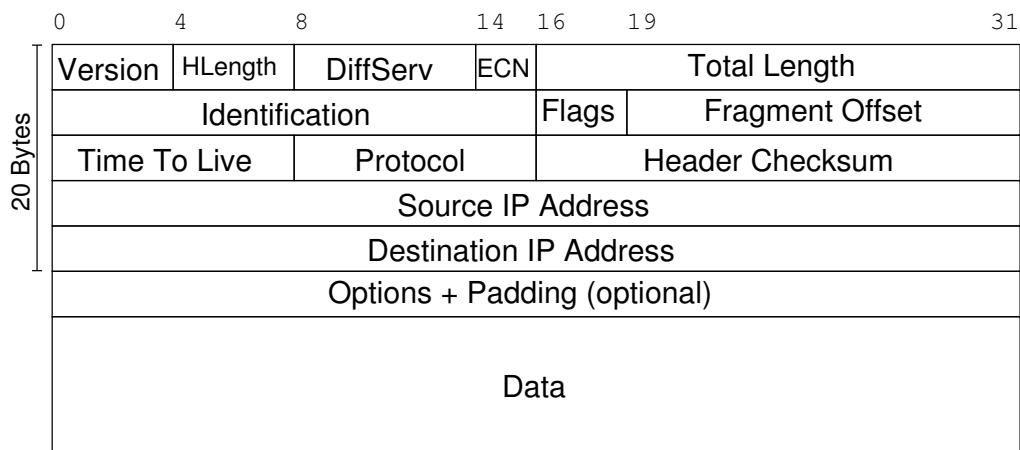
- DNS 53

- HTTP 80

- HTTPS 443

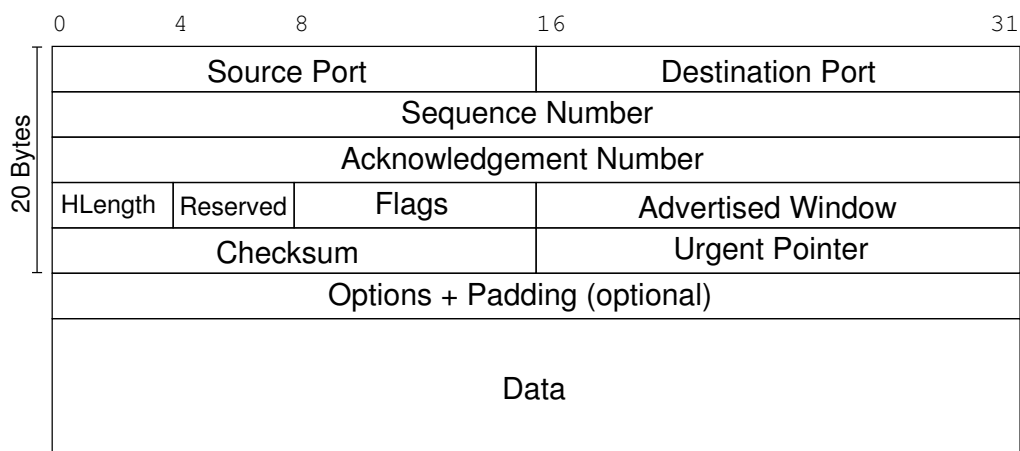Figure 4: IP Datagram Format. Flags: Reserved, Don't Fragment, More Fragments

Figure 5: TCP Segment Format. Flags: CWR, ECE, URG, ACK, PSH, RST, SYN, FIN
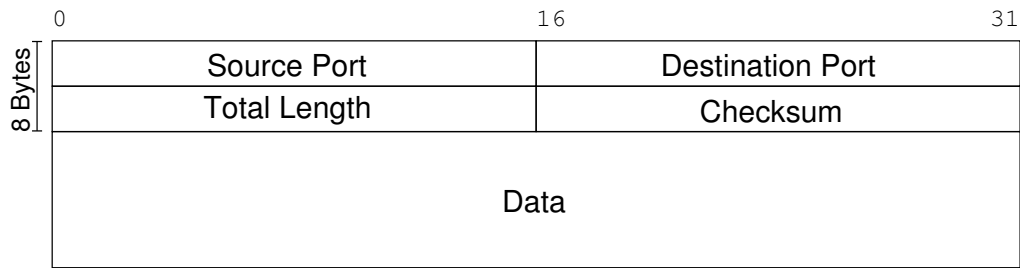
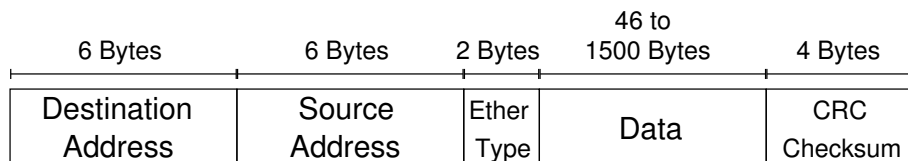Figure 6: UDP Datagram Format

Figure 7: Ethernet Frame Format

Selected Protocol numbers:

- 1 ICMP

- 6 TCP

- 17 UDP

Selected HTTP Status Codes:

- 200 Ok

- 304 Not Modified

- 401 Unauthorized

- 404 Not Found