

CS1001

Lecture 6

Overview

- Homework 1
- Memory, Data Storage
- Architecture Comparisons
- Computer Networks

Goals

- Understand how information is stored in a variety of media
- Know tradeoffs between memory types
- Examine how computer networks affect this memory hierarchy

Goals (2)

- Learn fundamentals of networking
- Examine network security issues

Assignments

- Brookshear: Ch 2, Ch 3.5, 3.6, 3.7 (Read)
- Know factual material (bolded terms) in 3.5, 3.6, 3.7
- Read linked documents on these slides (slides will be posted in courseworks)

Memory Hierarchies

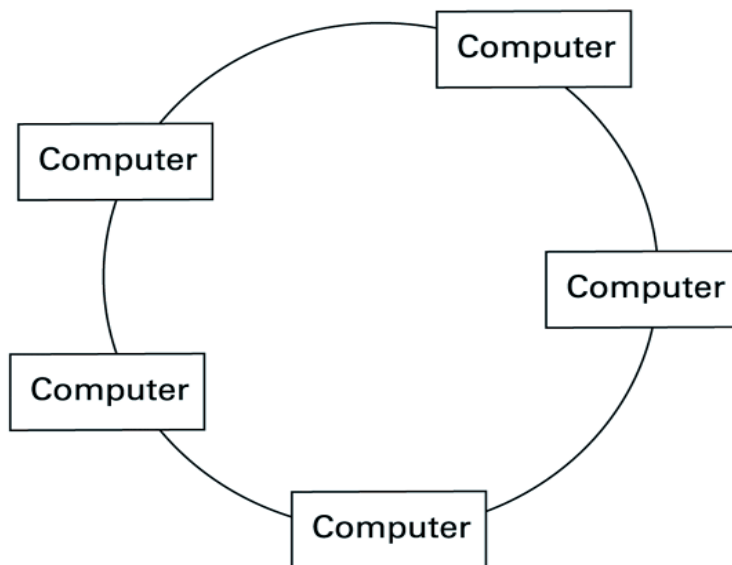
- Every type of storage has pros/cons
- All digital storage represents data as a sequence of "on" or "off" values.
 - In Electrical Storage, Electricity (hi voltage/no voltage) represents this
 - In magnetic storage, + and – polarities represent this
 - In optical storage, reflect/absorb represent this

Networks

- Local Area Networks – (LANs)
- Wide Area Networks – (WANs)
- An “Enterprise” Network
- Distributed Storage/Processing

Figure 3.10: Network topologies

a. Ring



b. Bus

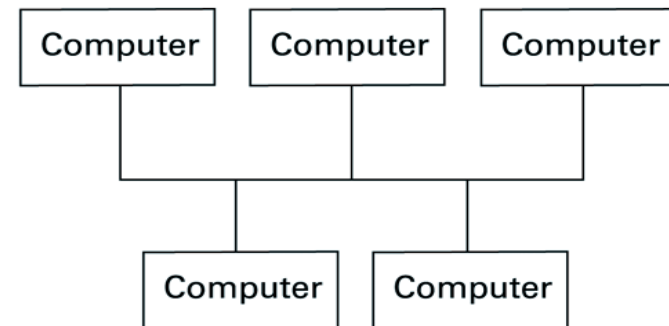
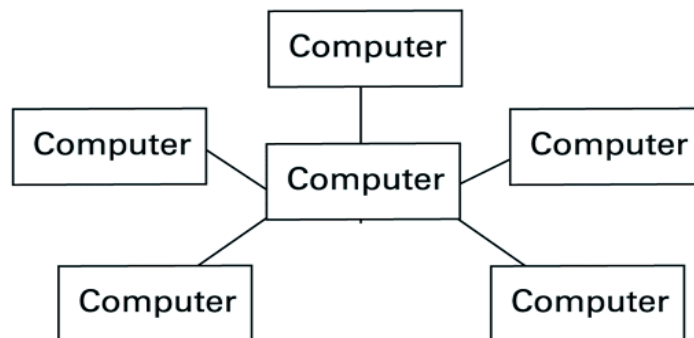


Figure 3.10: Network topologies (continued)

c. Star



d. Irregular

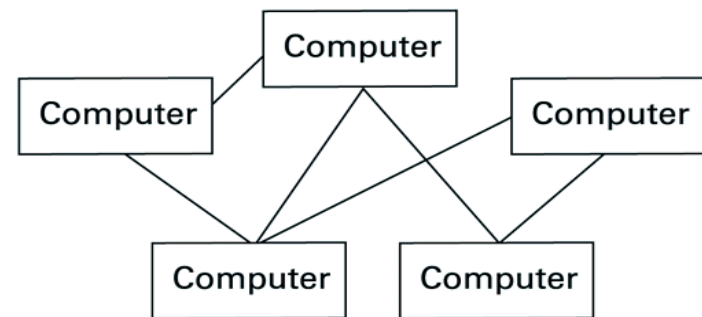


Figure 3.12: A typical approach to connecting to the Internet

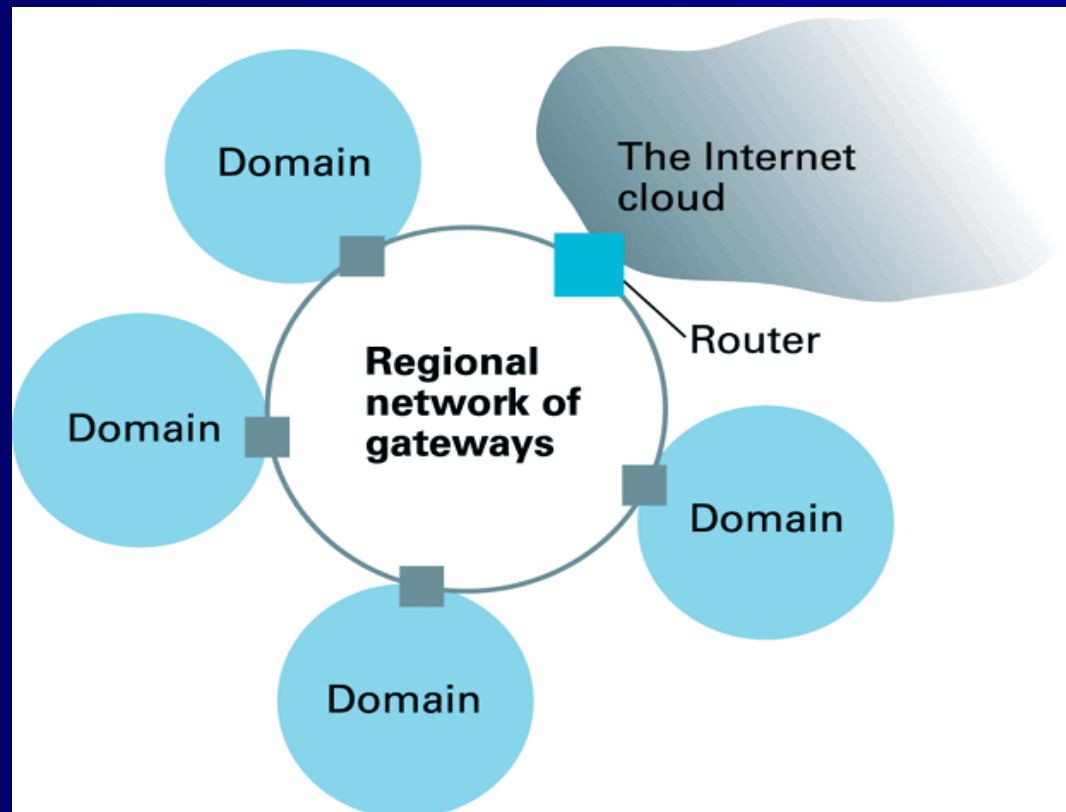


Figure 3.13: A typical URL

`http://ssenterprise.aw.com/authors/Shakespeare/Julius_Caesar.html`

		Mnemonic name of host holding the document	Document name
Protocol required to access the document. In this case it is hypertext transfer protocol (http).			Directory path indicating the location of the document within the host's file system

Figure 3.14: A simple Web page expressed in HTML

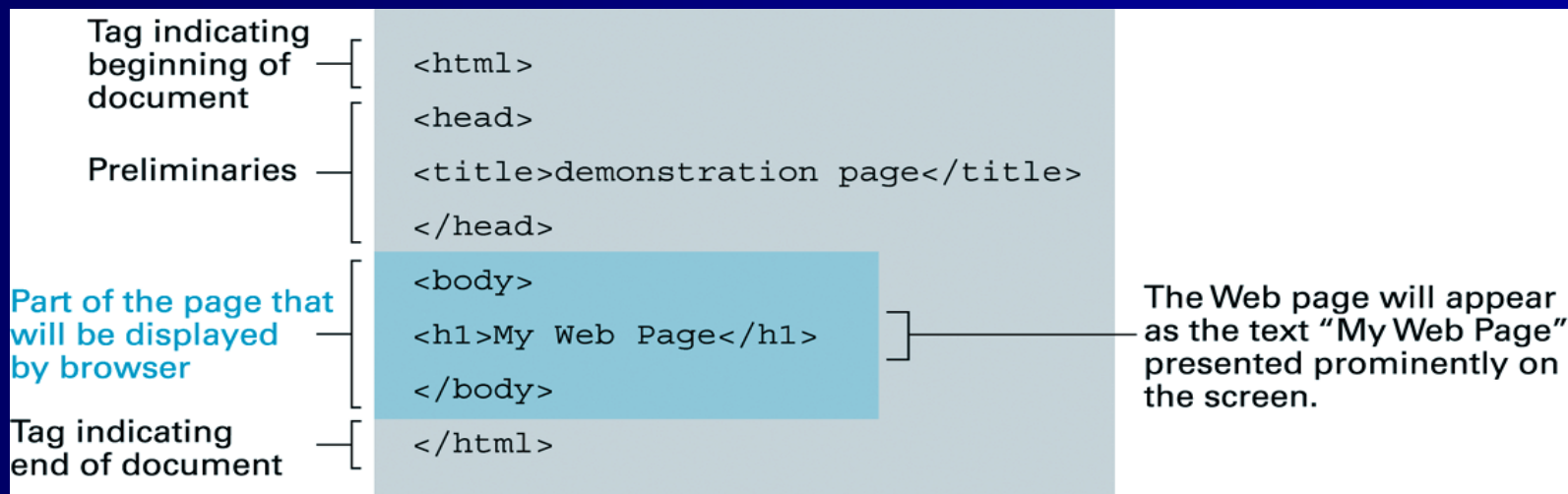


Figure 3.17: Package-shipping example

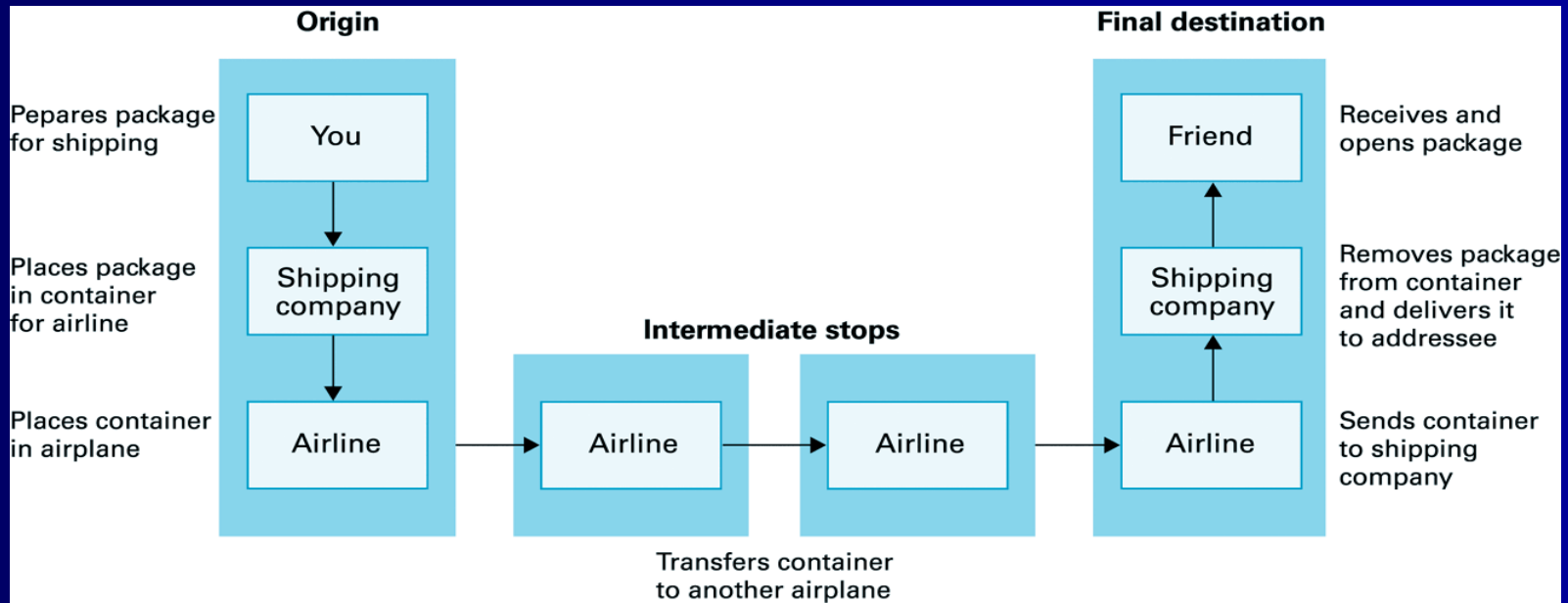


Figure 3.18: The Internet software layers

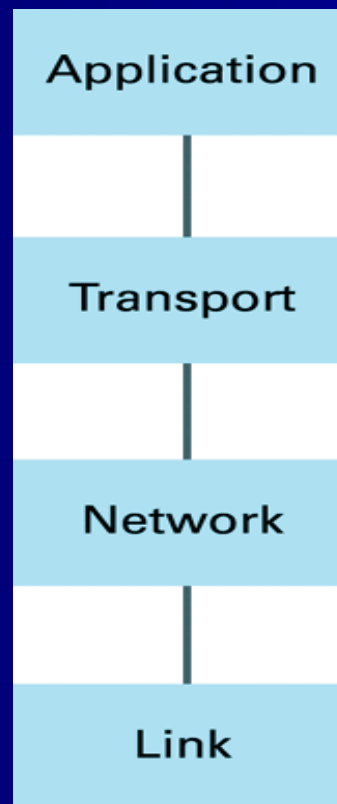
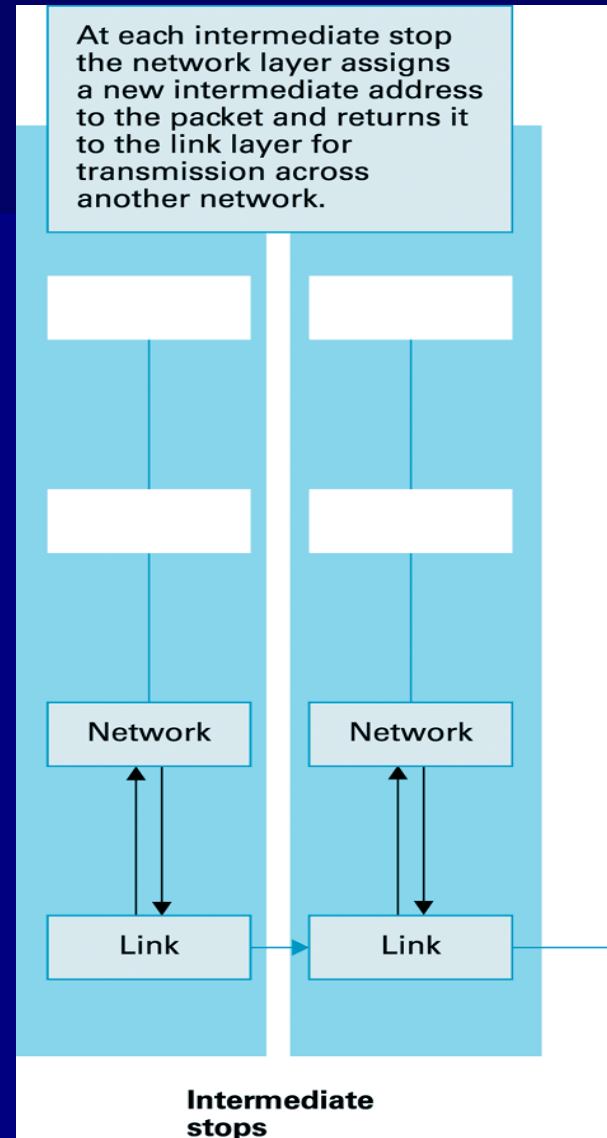
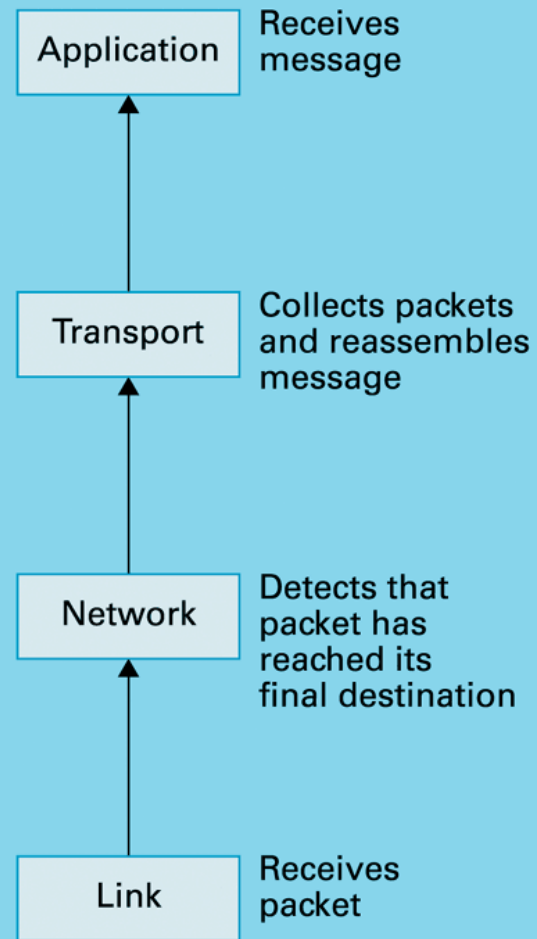


Figure 3.19: Following a message through the Internet (continued)



**Figure 3.19:
Following a
message
through the
Internet**



**Final
destination**

Figure 3.20: Choosing between TCP and UDP

