

Chapter 8

Security

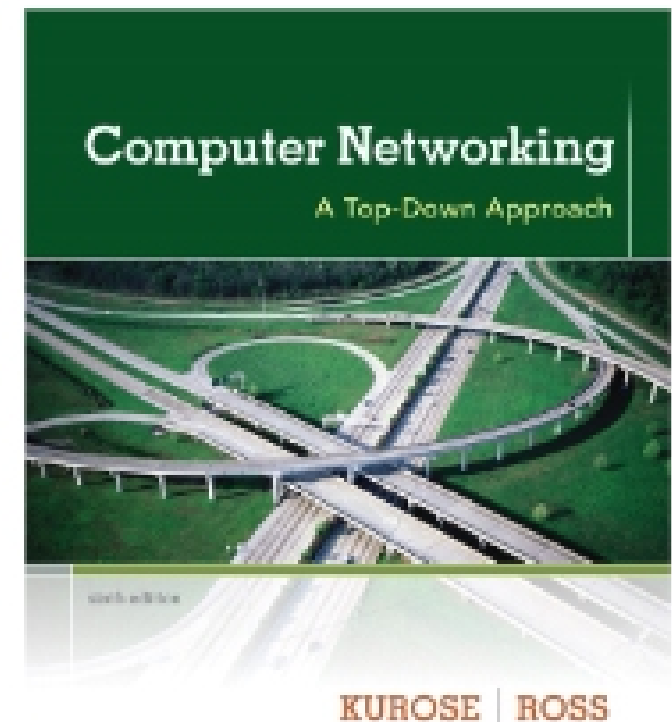
A note on the use of these ppt slides:

We're making these slides freely available to all (faculty, students, readers). They're in PowerPoint form so you see the animations; and can add, modify, and delete slides (including this one) and slide content to suit your needs. They obviously represent a lot of work on our part. In return for use, we only ask the following:

- ❖ If you use these slides (e.g., in a class) that you mention their source (after all, we'd like people to use our book!)
- ❖ If you post any slides on a www site, that you note that they are adapted from (or perhaps identical to) our slides, and note our copyright of this material.

Thanks and enjoy! JFK/KWR

© All material copyright 1996-2012
J.F Kurose and K.W. Ross, All Rights Reserved



Computer
Networking: A
Top Down
Approach
6th edition
Jim Kurose, Keith
Ross
Addison-Wesley
March 2012

Chapter 8: Network Security

Chapter goals:

- ❖ understand principles of network security:
 - cryptography and its *many* uses beyond “confidentiality”
 - authentication
 - message integrity
- ❖ security in practice:
 - firewalls and intrusion detection systems
 - security in application, transport, network, link layers

Chapter 8 roadmap

8.1 What is network security?

8.2 Principles of cryptography

8.3 Message integrity, authentication

8.4 Securing e-mail

8.5 Securing TCP connections: SSL

8.6 Network layer security: IPsec

8.7 Securing wireless LANs

8.8 Operational security: firewalls and IDS