

FIT3031 Tutorial 1

INTRODUCTION TO INFORMATION & NETWORK SECURITY

Review Questions

1. What are the three issues OSI security architecture focuses on?
2. What are the differences between passive attack and active attack?
3. Describe different types of passive attacks.
4. Describe different types of active attacks.
5. What are the six main security services defined by OSI security architecture? Briefly describe each of them.
6. Name six security mechanisms.
7. Describe the model for network security as shown in Figure 1.4 below. What are the components it should have? What are the basic tasks that such a model should perform?

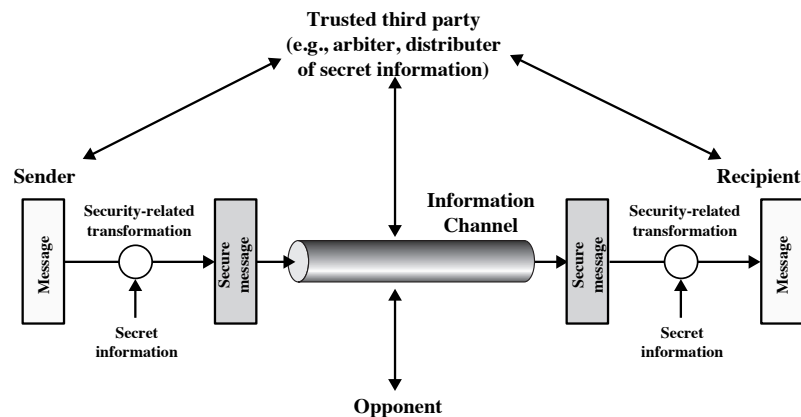


Figure 1.4 Model for Network Security

Problems

1. Consider an automated teller machine (ATM) in which users provide a personal identification number (PIN) and a card for account access. Give examples of confidentiality, integrity and availability requirements associated with the system. In each case, indicate the degree of importance of the requirement.
2. Consider a desktop publishing system used to produce documents for various organizations.
 - a. Give an example of a type of publication for which confidentiality of the stored data is the most important requirement.
 - b. Give an example of a type of publication for which data integrity is the most important requirement.
 - c. Give an example in which system availability is the most important requirement.
3. Consider a telephone switching system that routes calls through a switching network based on the telephone number requested by the caller. Give examples of confidentiality, integrity and availability requirements associated with the system. In each case, indicate the degree of importance of the requirement.
4. For each of the following assets, assign a low, moderate or high impact level for the loss of confidentiality, availability and integrity, respectively. Justify your answers.
 - a. An organization managing public information on its Web server.
 - b. A law enforcement organization managing extremely sensitive investigative information.
 - c. A financial organization managing routine administrative information (not privacy-related information).
 - d. An information system used for large acquisitions in a contracting organization that contains both sensitive pre-solicitation phase contract information and routine administrative information. Assess the impact of the 2 datasets separately and the information system as a whole.
 - e. A power plant contains a SCADA (supervisory control and data acquisition) system controlling the distribution of electric power for a large military installation. The SCADA system contains both real-time sensor data and routine administrative information. Assess the impact of the 2 datasets separately and the information system as a whole.