

STUDENT ACTIVITY 3.1_KEY: INTERNET SECURITY

MTA Course: 98-367 Security Fundamentals

Topic: Firewalls

File name: SecurityFund_SA_3.1_Key

Lesson Objective

3.1: Understand dedicated firewalls. *This objective may include, but is not limited to:* types of firewalls and their characteristics, when to use a hardware firewall instead of software firewall, stateful vs. stateless inspection.

Resources, software, and additional files needed for this lesson

- Internet access

Directions to the student

Answer the following questions.

Content

1. Identify the features necessary in your perimeter firewall.

Firewall Features

Depending on the features that a firewall supports, traffic is either allowed or blocked using a variety of techniques. These techniques offer varying degrees of protection, based on the capabilities of the firewall. The following firewall features are listed in increasing order of complexity:

- Network adapter input filters
- Static packet filters
- Network address translation (NAT)
- Stateful inspection
- Circuit-level inspection
- Proxy
- Application layer filtering

2. Classify firewall products

Grouping firewalls into classes allows for the abstraction of the hardware from the requirements of the service, so that service requirements can be matched against class features. As long as a firewall fits into a specific class, you can assume it supports all the services of that class.

The various classes are as follows:

- Personal firewalls
- Router firewalls
- Low-end hardware firewalls
- High-end hardware firewalls
- Server firewalls

3. Select the best firewall product for your perimeter firewall

No firewall is 100% safe: the only way to ensure that your network cannot be attacked electronically from the outside is to implement an air gap between it and all other systems and networks. The result would be a secure network that is virtually unusable. Firewalls enable you to implement an appropriate level of security protection when connecting your network to an external network, or when joining two internal networks.

Source:

Perimeter Firewall Design:

<http://technet.microsoft.com/en-us/library/cc700828.aspx#XSLTsection130121120120>