

### **Topic 8: Best Practices with Firewalls**

Before hackers can do things to your computer, they need to gain information about your system and the network where it resides. This information gathering process is called reconnaissance.

A good way to protect yourself from hackers and their reconnaissance is to use a personal firewall. A personal firewall is a device or software package that can actively monitor Internet traffic to and from your computer, provide detailed logs of hacking attempts against your computer, and can be configured to block traffic that you don't want to receive. Firewalls can significantly hinder a hacker's ability to acquire information about your computer and subsequently hinder their ability to wreak their havoc.

Examples of a few things firewalls can do:

- Block ports that viruses, worms, and Trojans use to communicate with other machines on the Internet.
- Prevent unwanted sharing of your files and computer resources such as printers.
- Prevent applications on your computer from connecting to the Internet if they don't need to.
- Block illegitimate traffic sent by your computer or illegitimate traffic sent to your computer.
- Significantly increase the difficulty for hackers to access and subsequently exploit un-patched network applications and services on your computer.

Traffic sent to and from your computer often travels "in the clear". This means that malicious persons can intercept communication with your computer and read and/or alter the content of the communication. Examples of information that would be of interest to a malicious person are passwords, credit card numbers, and other personal information. VPNs (Virtual Private Networks) offer a method for computer users to encrypt, or make unreadable, any personal information that might be intercepted. The computer user is required to install a VPN software client in order to utilize a VPN. Once the VPN client software is installed and started, an encrypted channel can be established between your computer and the VPN concentrator thus thwarting attempts to intercept personal information.

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