**Troubleshooting a Network Adapter**

When installing the NIC, you may encounter some problems or errors. Let’s take a look at

some NIC troubleshooting.

If your network adapter is not working, the problem might be with the hardware, the

driver software, or the network protocols. We discuss the Layer 3 (Network Layer) issues

later in this chapter in the section “Understanding TCP/IP.” The following are some common

Layer 1 (Physical Layer) and Layer 2 (Data Link Layer) causes for network adapter problems:

**Network Adapter Not on the HCL** If the device is not on the Hardware Compatibility

List (HCL), use your Internet resources to see if others have discovered a solution, or

contact the hardware vendor for advice.

**Outdated Driver** Make sure that you have the most current driver for your adapter. You

can have Windows 10 check for an updated driver from the Driver tab of the Properties

page for the adapter by clicking the Update Driver button and having Windows search for a

better driver, or you can check for the latest driver on the hardware vendor’s website.

**Network Adapter Not Recognized by Windows 10** Check Device Manager to see whether

Windows 10 recognizes the adapter. If you don’t see your adapter, you can try to manually

install it.

**Improperly Configured Network Card** Verify that the settings for the network card are

correct for the parameters known within your network and for the hardware device the

machine is connected to.

**Cabling Problem** Make sure that all network cables are functioning and are the correct

type. This includes making sure that the connector is properly seated, the cable is straight

or crossed (depending on where it’s plugged in), and the cable is not broken. This is usually

done by looking at the little green light (LGL) on the network adapter card. This does not

guarantee a good connection even if the LGLs are illuminated. A single conductor failure in

a cable can still have a link light on, but data is not passing.

**Bad Network Connection Device** Verify that all network connectivity hardware is properly

working. For example, on a Fast Ethernet network, make sure the switch and port

being used are functioning properly.

There are seven layers to the OSI model. Starting at Layer 7 and working

down, they are Application, Presentation, Session, Transport, Network,

Data-Link, and Physical. You can remember this by using the phrase “All

People Seem To Need Data Processing.”