

## General Desktop Support for Users of Windows 7

The Windows 7 operating system has several differences versus Windows XP that might take some intervention to get users re-accustomed to their normal computer habits.

The following procedures can be used to assist users with common tasks that need to be done in Windows.. This scope of this document does not cover the installation procedure.

### Network Connections in Windows 7

All network connection settings are accessed through the *Network and Sharing Center*.

1. Click on the network icon in the system tray and click on **Open Network and Sharing Center**. The *Network and Sharing Center* control panel should be displayed as Figure 6-1.
2. From *Network and Sharing Center* the following settings can be adjusted:
  - a. **Manage wireless networks** – Add or modify wireless networks and adapter settings
  - b. **Change adapter settings** – Allows management of all adapters available to Windows
  - c. **Internet Options** – Adjust default options that are applied to Internet Explorer and some instances accessed from Windows Explorer. These settings include security and user preferences.
  - d. **Windows Firewall** – Enable or disable Windows Firewall for different connection types. Generally these settings are not user controlled when in a domain environment.

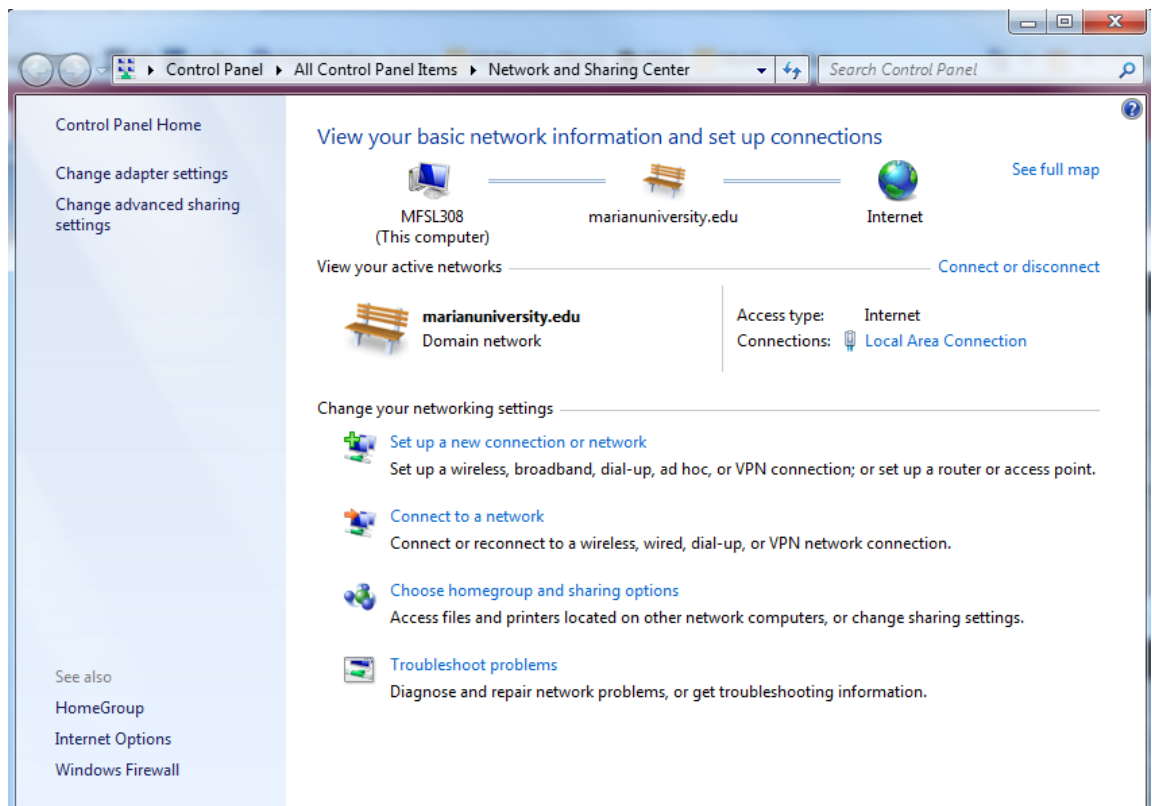


Figure 6-1 *Network and Sharing Center* control panel

3. Click on **Local Area Connection** in the *View your active networks* section. The *Local Area Connection Status* dialog box should be displayed.

4. Click on **Properties**. The *Local Area Connection Properties* dialog box should be displayed.
5. Click on **Internet Protocol Version 4 (TCP/IPv4)**, then click **Properties**. The *Internet Protocol Version 4 (TCP/IPv4) Properties* dialog box should be displayed as Figure 6-2.
6. For most instances DHCP will be the preferred addressing method so ensure that the **Obtain an IP address automatically** radio button is selected.  
If a static address is required then the **IP address**, **Subnet mask**, and **Default gateway** boxes will need to be filled out with correct information.

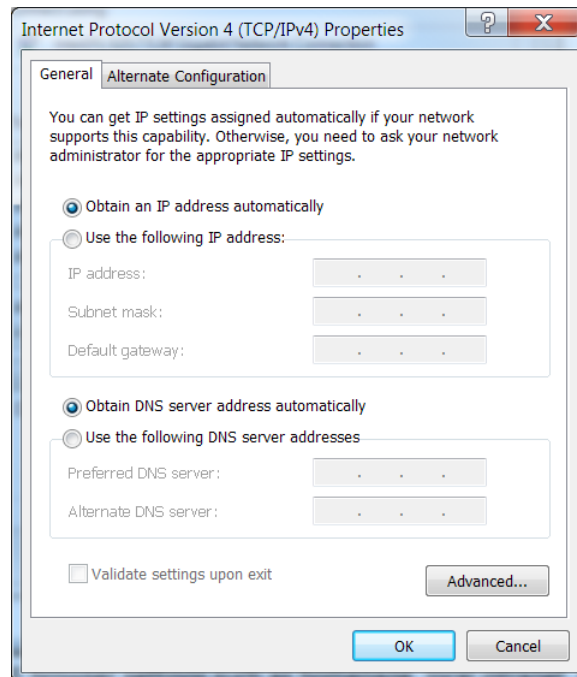


Figure 6-2 Internet Protocol Version 4 (TCP/IPv4) Properties dialog box

7. For most instances DNS should be obtained via DHCP so ensure that the **Obtain DNS server address automatically** radio button is selected.  
If a static address is required then at the least the **Preferred DNS server** will need to be filled out with correct information.
8. Click **OK**.
9. Click **OK** to close the *Local Area Connection Properties*.
10. Click **Close**.
11. *Network and Sharing Center* can be closed unless further changes need to be made.

## Windows Explorer and Mapping Drives in Windows 7

1. Open an instance of *Windows Explorer* by clicking on the folder icon in the Taskbar. The *Windows Explorer* window should be displayed as Figure 6-3.
2. From *Windows Explorer* the following can be seen:
  - a. **Local disk drives** – Partitions on disk drives, optical drives, removable and external drives.
  - b. **Libraries** – Allows consolidation of folders into a directory that can pull from multiple locations that can be user defined and accessed from a single reference point. Directories can be classified based on the default libraries of *Documents*, *Music*, *Pictures*, and *Videos*.
  - c. **Favorites** – A quick click to open the Desktop, Downloads, or Recent Places.
  - d. **Network** – View mapped network drives or network machines that are discovered on the Local Area Network.

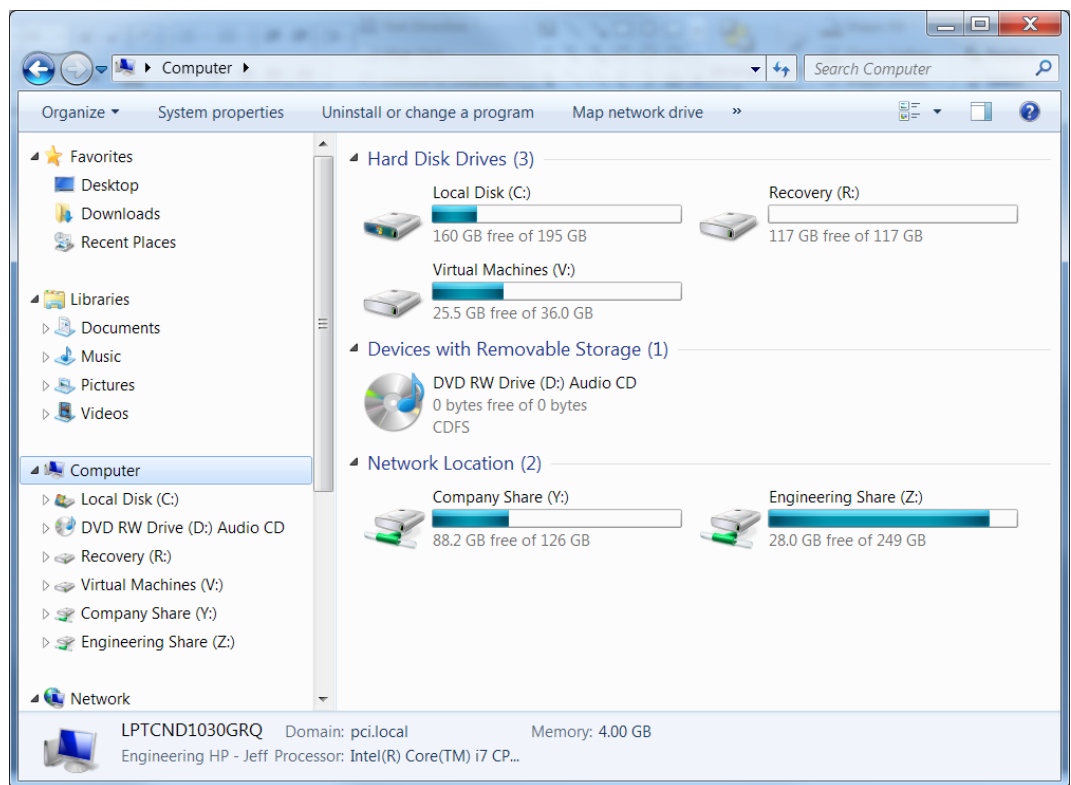


Figure 6-3 Windows Explorer window

3. To map a network drive, click on *Computer*
4. Click on **Map network drive** from the upper menu bar. The *Map Network Drive* dialog box should be displayed as Figure 6-4.
5. Click on drop-down menu to select a drive letter in the **Drive** field.
6. Specify the folder location in the **Folder** field by IP address or Hostname. Click **Browse** if the share needs to be located on the Local Area Network.
7. Click **Finish**.

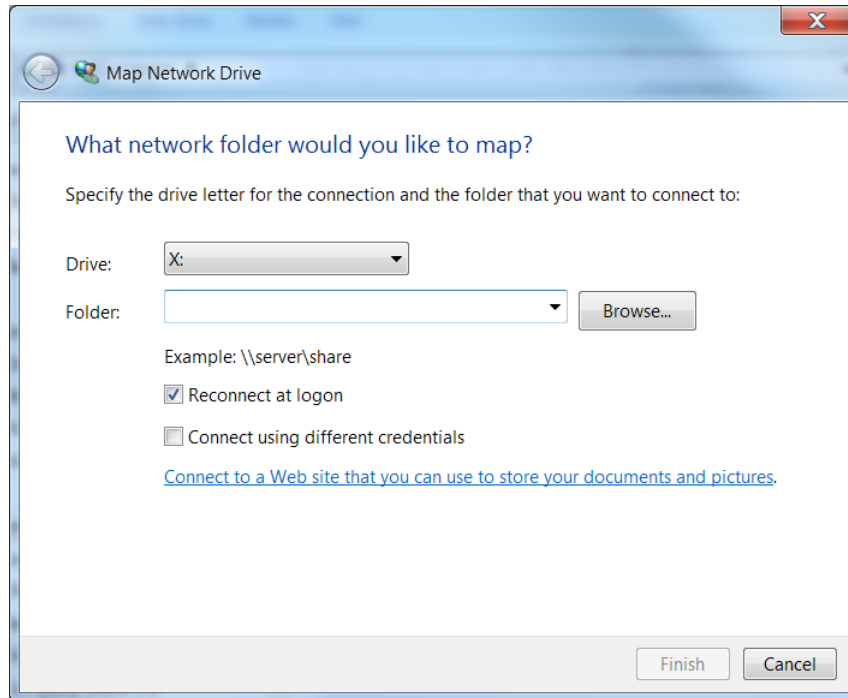


Figure 6-4 Map Network Drive dialog box

## Mapping Network Printers in Windows 7

1. Open *Devices and Printers* that is located from the *Start Menu*. The *Devices and Printers* window should be displayed as Figure 6-5.
2. From *Devices and Printers* the following can be seen:
  - a. *Local printers* – Printers that are physically connected via USB or Serial interfaces
  - b. *Network printers* – Printers that are network capable or shared from a networked machine (Print Server).

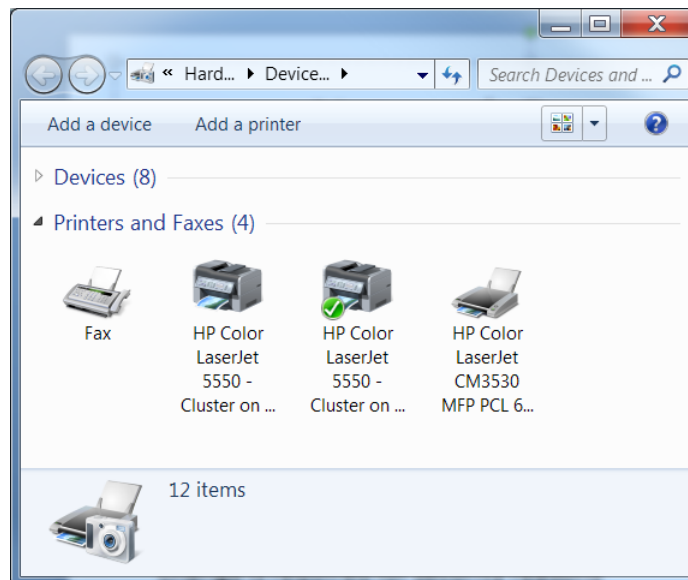


Figure 6-5 Devices and Printers window

3. Click **Add Printer**.
4. Windows will attempt to discover any printers on the network. If the printer to be mapped is discovered select it from the list and click **Next**.  
If the printer wasn't discovered click **The printer that I want isn't listed**. Add the printer by searching the directory or by name.
5. The printer drivers will be installed automatically and the new printer will show up in the **Devices and Printers** window.
6. To set the printer as default, right-click and choose **Set as default printer**.

## Troubleshooting Tools in Windows 7

### Application Troubleshooting Tools in Windows 7

Application level troubleshooting can be done with a couple built-in tools called **Troubleshoot Compatibility** and **Event Viewer**.

1. Right-click on an application, select **Troubleshoot Compatibility**.  
The **Program Compatibility** window should be displayed as Figure 6-6.
2. Select any of the problems that are noticed, then click **Next**  
Continue to run through the wizard answering the questions presented to allow Windows to apply compatibility settings that will allow the program to run correctly. Re-run the Wizard to test different scenarios.

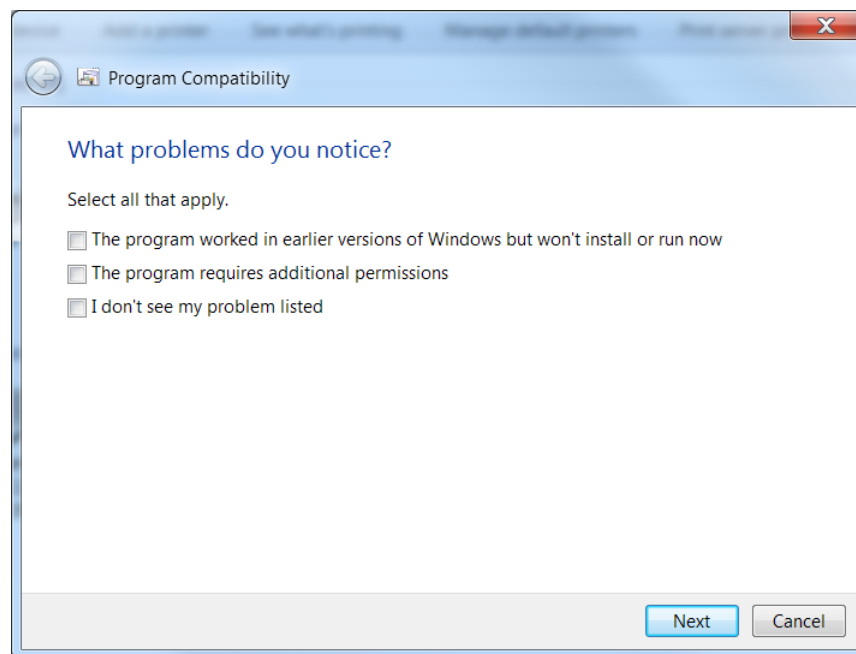


Figure 6-6 Program Compatibility window

3. If the user is still noticing issues the **Event Viewer** may have some error messages displayed pointing to possible problems with the application or system.
4. Open **Control Panel** from the **Start Menu**.
5. Select **Small icons** in the **View by:** section.
6. Click **Administrative Tools**  
Open **Event Viewer**. The **Event Viewer** window should be displayed as Figure 6-7.
7. **Event Viewer** has several different logs that show logs pertaining to different areas of the operating system:

- a. **Application** – Events that apply to any applications running outside of the operating system services.
- b. **Security** – Events that apply to any authentication processes on the system
- c. **System** – Events that apply to services or operating system level processes

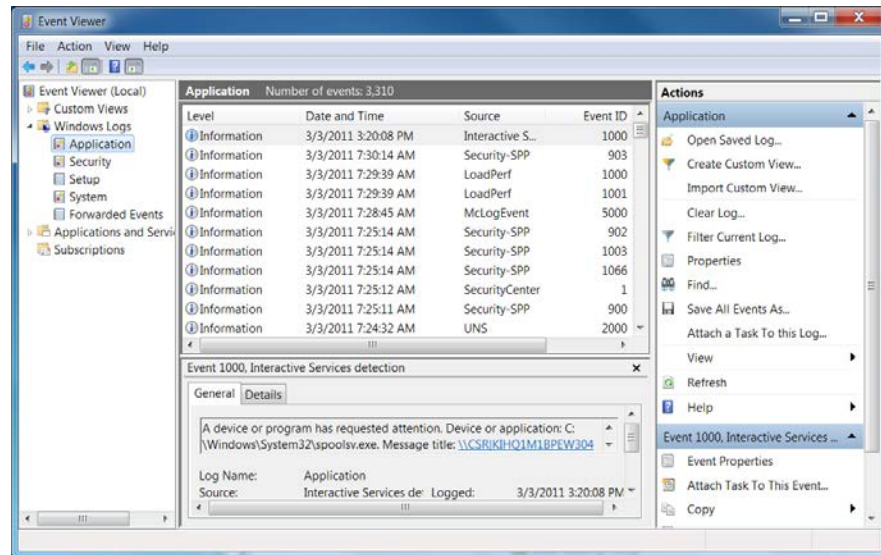


Figure 6-7 Event Viewer window

8. *Event Viewer* has several different levels of events:
  - a. **Information** – general events that are logged for informational purposes to no impact of the user or system
  - b. **Warning** – an issue was detected that may or may not affect the process or user.
  - c. **Error** – a critical problem was detected that affected either the application or process on the system and was more than likely detected by the user.
9. Start with errors or warnings in the Windows Logs that might apply to the issue you are seeing based off the description in the Source column. You may have to recreate the issue and refresh the event log to see if anything was detected by the system.

## Network Troubleshooting Tools in Windows 7

Network level troubleshooting can be done with a couple built-in tools through the **Command prompt** or through the Windows connectivity troubleshooting wizard.

1. To start the Windows connectivity troubleshooter, right-click on the network icon in the system tray, then select **Troubleshoot Problems**. The *Windows Network Diagnostics* window should be displayed as Figure 6-8.
2. Select any of the problems that are noticed.  
Continue to run through the wizard answering the questions presented to allow Windows to apply network settings that will allow connectivity. Re-run the Wizard to test different scenarios.

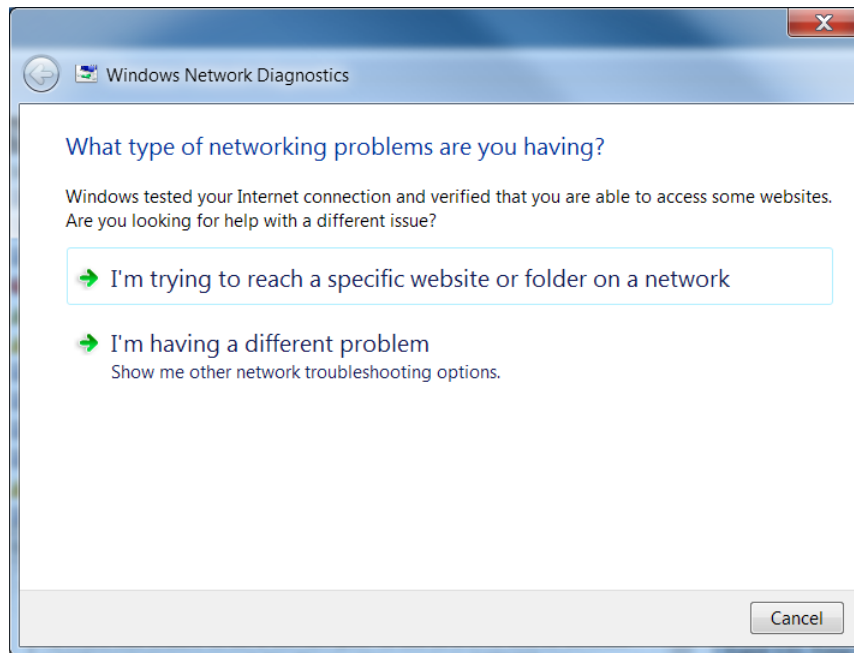


Figure 6-8 Windows Network Diagnostics window

3. Manual verification can also be performed through the *Command Prompt*
4. Click on the *Start Menu*, then type *CMD* in the programs and search box.
5. Once the *Command Prompt* is open the following commands can be typed to verify network connectivity and services:
  - a. *Ipconfig /all* – Displays IP address assigned to physical interfaces as well as default gateways, DHCP server, and DNS server. If the IP address is shown as a 169.254.x.x then Windows automatic addressing has assigned an address because a DHCP server could not be contacted.
  - b. *ping* – Sends ICMP echos to a distant device and expects a reply. Start with the nearest device (default gateway) and work out to the destination IP. Depending on the device an ICMP reply may not be allowed. The *Command Prompt* window should be displayed as Figure 6-9.
  - c. *tracert* – Sends ICMP packets out incrementing the TTL with each attempt to perceivably “walk” out the routed network. Good to see where a possible problem device may be, but also relies on replies to be received when end-devices may not allow them to be sent. The *Command Prompt* window should be displayed as Figure 6-10.
  - d. *Nslookup* – performs a domain name server request against the assigned DNS server through DHCP or static assignment. Good to see if web URL addresses can be resolved to an IP address where requests for information are ultimately directed. If a DNS response is not received then URL to IP resolution cannot be performed and browsing will be affected. DNS server should be verified as accessible through a ping or tracert. The *Command Prompt* window should be displayed as Figure 6-11.

```

Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\awmiller17>ping www.yahoo.com

Pinging ds-any-fp3-real.wa1.b.yahoo.com [98.138.253.109] with 32 bytes of data:
Reply from 98.138.253.109: bytes=32 time=135ms TTL=53
Reply from 98.138.253.109: bytes=32 time=139ms TTL=53
Reply from 98.138.253.109: bytes=32 time=33ms TTL=53
Reply from 98.138.253.109: bytes=32 time=37ms TTL=53

Ping statistics for 98.138.253.109:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 33ms, Maximum = 139ms, Average = 86ms

C:\Users\awmiller17>

```

Figure 6-9 Ping command prompt window

```

Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\awmiller17>tracert www.yahoo.com

Tracing route to ds-any-fp3-real.wa1.b.yahoo.com [98.138.253.109]
over a maximum of 30 hops:
  0  10 ms  1 ms  1 ms  10.1.2.9
  1  <1 ms  <1 ms  <1 ms  10.1.254.1
  2  2 ms  1 ms  1 ms  r-marianuniv-gig0-1.wiscnet.net [205.213.144.28]
  3  1 ms  4 ms  1 ms  r-fdldcan-hub-ge-0-0-8-0.wiscnet.net [140.189.72.73]
  4  3 ms  2 ms  3 ms  r-uwgreenbay-hub-xe-0-1-0-3965.wiscnet.net [140.189.8.161]
  5  5 ms  5 ms  5 ms  r-uwmilwaukee-isp-ae5-3945.wiscnet.net [140.189.8.169]
  6  14 ms  14 ms  14 ms  r-equinix-isp-xe-5-1-0-3985.wiscnet.net [140.189.8.122]
  7  185 ms  53 ms  15 ms  exchange-cust1.ch1.equinix.net [206.223.119.16]
  8  31 ms  46 ms  33 ms  ae-7.pat2.nez.yahoo.com [216.115.104.126]
  9  33 ms  31 ms  32 ms  xe-5-0-0.msr1.ne1.yahoo.com [216.115.100.1]
 10  32 ms  32 ms  32 ms  xe-7-0-0.clr2-a-gdc.ne1.yahoo.com [98.138.0.27]
 11  32 ms  32 ms  32 ms  et-17-1.fab2-1-gdc.ne1.yahoo.com [98.138.0.81]
 12  33 ms  33 ms  33 ms  po-11.bas2-7-prd.ne1.yahoo.com [98.138.240.24]
 13  54 ms  53 ms  53 ms  ir1.fp.vip.ne1.yahoo.com [98.138.253.109]

Trace complete.

C:\Users\awmiller17>

```

Figure 6-10 Tracert command prompt window



```
Command Prompt
Microsoft Windows [Version 6.1.7601]
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C:\Users\awmiller17>nslookup www.yahoo.com
Server: mudc3.marianuniversity.edu
Address: 10.1.254.52

Non-authoritative answer:
Name: ds-any-fp3-real.wa1.b.yahoo.com
Addresses: 2001:4998:f00d:1fe::3000
           2001:4998:f00d:1fe::3001
           2001:4998:44:4::c:9101
           2001:4998:44:4::c:9102
           98.138.253.109
           98.139.183.24
Aliases: www.yahoo.com
          fd-fp3.wg1.b.yahoo.com
          ds-fp3.wg1.b.yahoo.com
          ds-any-fp3-lfb.wa1.b.yahoo.com

C:\Users\awmiller17>
```

Figure 6-11 Nslookup command prompt window