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Dialing into PittNet using PPP on your Windows 2000 PC

What is PPP?

Point-to-point Protocol (PPP) is a method for connecting a personal computer to PittNet and the Internet using a standard phone line and a modem. The difference between PPP and other, older dial-up procedures is that a PPP setup will establish a direct Internet connection that allows the PC to use TCP/IP (Internet-based) applications as if it had its own direct Internet port instead of just a phone jack. Communication programs such as Telnet, FTP and Netscape will all run from a Windows-based PC with a good PPP connection. The University of Pittsburgh offers PPP communication to its computing community through all available dial-up lines.

In order to make a connection using PPP, you must have a modem capable of at least 9600 bps communication. A slower modem may be successful, but the performance may be too slow to be of any practical use.

You do not need to install a communications package such as Trumpet Winsock or LAN WorkPlace in order to initiate PPP communication using a modem on a Windows 2000 PC. Do not install any other outside communications package on your Windows 2000 PC as they may severely impede your machine's communications ability.

If you have a PC with an older version of Windows (Windows 98 or earlier) then these directions do not apply to your PC setup. See the help sheets listed under Remote Access on the **Documentation Archives** Web page at http://technology.pitt.edu/support/archives.html.

Fortunately for Windows 2000 users, no additional software is needed in order to set up PPP communication using a modem. However, your PC must be set up to use Internet protocols, including PPP.

Getting Your Modem Installed

To see if your PC can recognize your modem, double-click on the "Control Panel" folder icon, available under "My Computer." In the Control Panel window, double-click the "Phone and Modem Options" icon.

If Windows 2000 detects a modem, then the modem will be listed on the Modem tab, and you can skip ahead to the next section.

If Windows 2000 does not detect a modem, then you will be prompted to go through the installation process. If you have not physically installed the modem, turn off your machine and install the modem card. Then, restart your PC to see if the modem is recognized by plug-and-play.

The "Install New Modem" screen that appears will give you options for installing either a PC Card (PCMCIA) modem or an internal or external modem Both the PC Card modem and the external modem installation process use "wizard" screens that will take you through the installation as a series of steps represented by different screens.

Modem Installation Tips

- After the install process has been initiated by the wizard program, it will attempt to automatically recognize your modem again. Click the "Yes" button when the wizard program asks if you wish to attempt to locate the modem automatically.

- The wizard installation program will try to set the modem up on your PC's COM1 communications port. Some PCs will require that Windows 2000 install both the port and the modem at the same time. If this is not possible, then the wizard program will install just the port using the "Add New Hardware" wizard program.

If this happens, follow the "New Hardware" process to the end and then click "Finish." Then restart your PC and click on the "Modems" icon again to start a separate process for the modem installation.

- Some internal modems on Windows 2000 PCs cannot be recognized properly due to conflicts with certain sound cards. If your PC is not correctly recognizing your internal modem, try removing the sound card and restarting the PC. With this possible conflict temporarily eliminated, the PC may be able to recognize the modem properly and the sound card can then be re-installed and the PC started again with all equipment recognized and functioning.

If you are using an **external** modem on an *older* PC, you should make sure that the COM port that the modem will be using has a "16550 UART" chip controlling it. Check your PCs specifications or use the MSD program (if you have installed this utility) in "DOS Prompt" mode to check your PCs COM ports. If necessary, you may have to reconfigure the COM port that your modem uses or attempt to use a port controlled by an older 8250 UART chip. PC Cards (PCMCIA modems) will have this chip built in.

Creating a New Dial-Up Connection Icon

This procedure explains how to create an icon for connecting to the University's Dial-up lines. If done correctly, you will have an icon in your "Dial-Up Networking" folder that will establish a PPP connection for you with only a few clicks of the mouse and some keystrokes.

1. From the **Start** menu, select **Settings, Control Panel.**

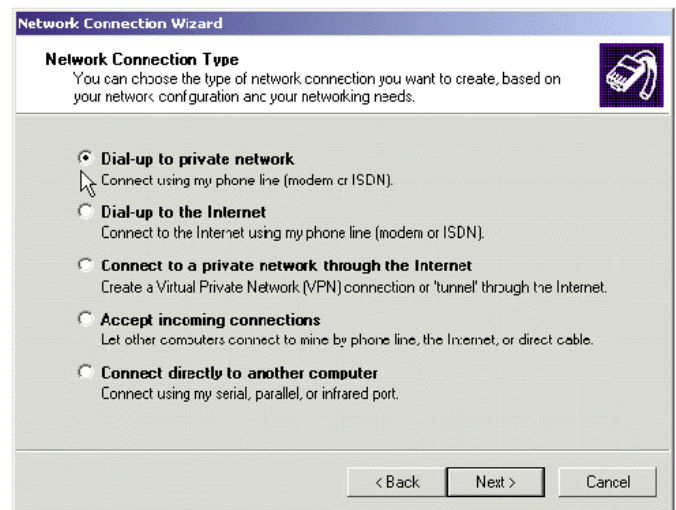2. Double-click the **Network and Dial-up Connections** icon.

Network and Dial-up Connections

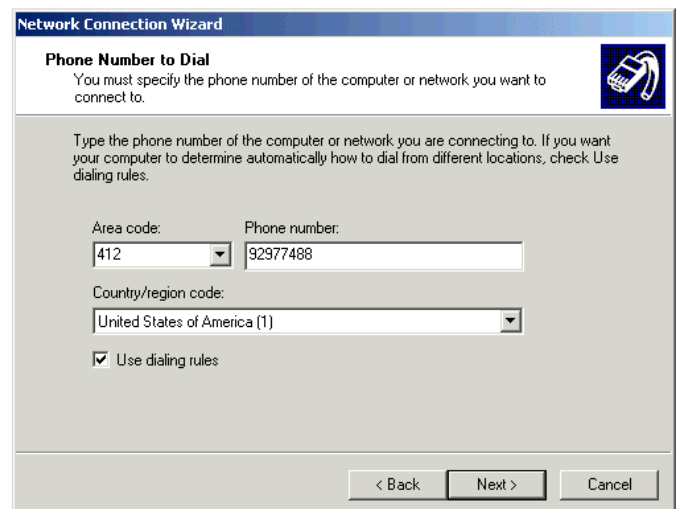3. Double-click **Make New Connection**.

Make New Connection

This will begin a process employing what is known as "wizard" screens that will ask you for important information one or two screens at a time rather than placing everything on a screen all at once. Click **Next** to begin using the Wizard.

4. In the first wizard screen, **Network Connection Type**, select **Dial-up to private network** and click **Next**.

5. The second wizard screen, **Phone Number to Dial**, shows fields for the area code, phone number and country/region code. The telephone number that you enter will vary, depending on where you are dialing from and what University dial-up line you wish to use.

6. Select the **Use dialing rules** checkbox.
   a. Place the appropriate area code in the **Area Code:** field.

   b. The field for **Country Code** should read United States of America.

- The dial-up number for the Pittsburgh campus is (412) 297-7488. If you wish to dial into a regional campus, use one of the following numbers:
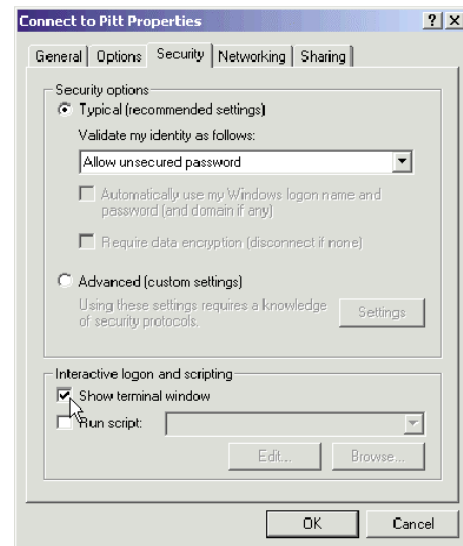
Bradford campus	(814) 362-7597
Greensburg campus	(724) 836-9997
Johnstown campus	(814) 269-7950
Titusville campus	(814) 827-4486

NOTE: You must include the area code for the dial-up networking to work.

- If you are dialing from on-campus, remember to add a **9** before the number (for example, **9 412-297-7488**).
- To shut off call waiting from an on-campus phone, add a **#9** before the **9**(for example, **#9 9 412-297-7488**). The code to shut off call-waiting for most phone systems outside of the Pitt system is ***70** (for example, ***70 412-297-7488**).

7. In the third wizard screen, **Connection Availability**, select **For all users** and click **Next**.

8. In the last wizard screen, enter the name to use for the connection such as "Connect to Pitt." Click the **Add a shortcut to my desktop** box to place a shortcut on your desktop and select **Finish**.
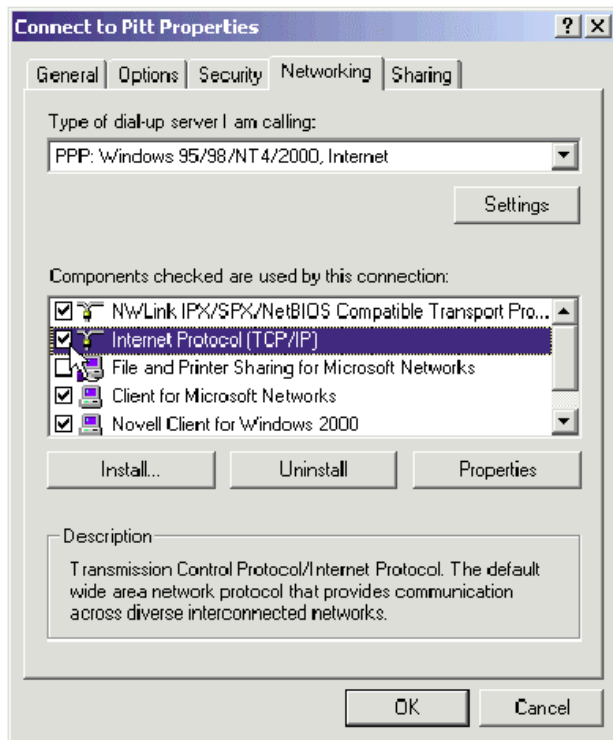
9. The **Connection** window appears. If it does not, double-click the **Connect to Pitt** icon that now appears in the **Networking and Dial-up Connections** folder.

10. Click the **Properties** button.
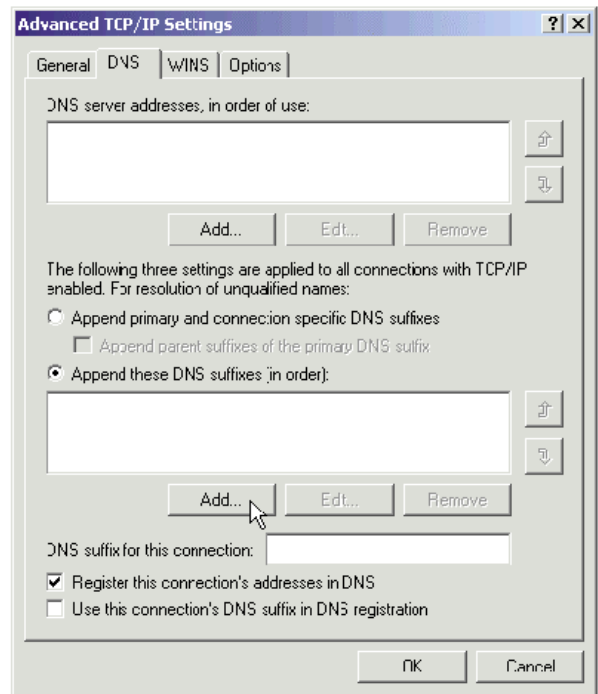
11. Click the **Security** tab.

12. Place a check in the **Show terminal window** box under **Interactive logon and scripting**.

Configuring Your Dial-Up Networking for the Pitt Environment

1. In the **Connect to Pitt Properties** window, click the **Networking** tab. If the **Connect to Pitt Properties** window was closed:

   a. From the **Start** menu, select **Settings, Control Panel.**

   b. Double-click the **Network and Dial-up Connections** icon.

   c. Double-click the **Connect to Pitt** icon that you just created and click the **Properties** button.

2. Make sure that the **Internet Protocol (TCP/IP)** box is checked.

3. Select **Internet Protocol (TCP/IP)** so that it is highlighted and click the **Properties** button.

Connect to Pitt Properties

General | Options | Security | Networking | Sharing

Type of dial-up server I am calling:

PPP: Windows 95/98/NT4/2000, Internet ▼

Settings

Components checked are used by this connection:

☑ NWLink IPX/SPX/NetBIOS Compatible Transport Pro...
☑ Internet Protocol (TCP/IP)
☐ File and Printer Sharing for Microsoft Networks
☑ Client for Microsoft Networks
☑ Novell Client for Windows 2000

Install... | Uninstall | Properties

Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

OK | Cancel

4. Make sure **Obtain an IP address automatically** and **Obtain DNS server address automatically** are both selected.

Internet Protocol (TCP/IP) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

● Obtain an IP address automatically
○ Use the following IP address:

IP address:

● Obtain DNS server address automatically
○ Use the following DNS server addresses:

Preferred DNS server:
Alternate DNS server:

Advanced...

OK | Cancel

5. Click the **Advanced** button and select the **DNS** tab.

6. Make sure **Append these DNS suffixes (in order):** is selected and click the **Add** button below the blank box.

Advanced TCP/IP Settings

General | DNS | WINS | Options

DNS server addresses, in order of use:

Add... | Edit... | Remove

The following three settings are applied to all connections with TCP/IP enabled. For resolution of unqualified names:

○ Append primary and connection specific DNS suffixes
  ☐ Append parent suffixes of the primary DNS suffix
● Append these DNS suffixes (in order):

Add... | Edit... | Remove

DNS suffix for this connection:

☑ Register this connection's addresses in DNS
☐ Use this connection's DNS suffix in DNS registration

OK | Cancel

7. Enter **pitt.edu** in the **TCP/IP Domain Suffix** box and click the **Add** button.

TCP/IP Domain Suffix
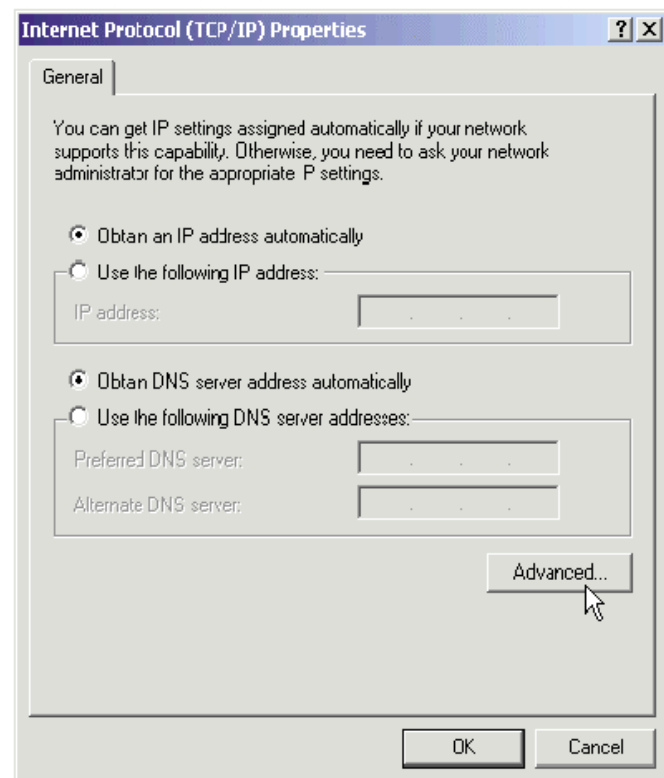
Domain suffix:

pitt.edu

Add | Cancel

8. Click the **OK** button. You are now ready to attempt your first PPP login.
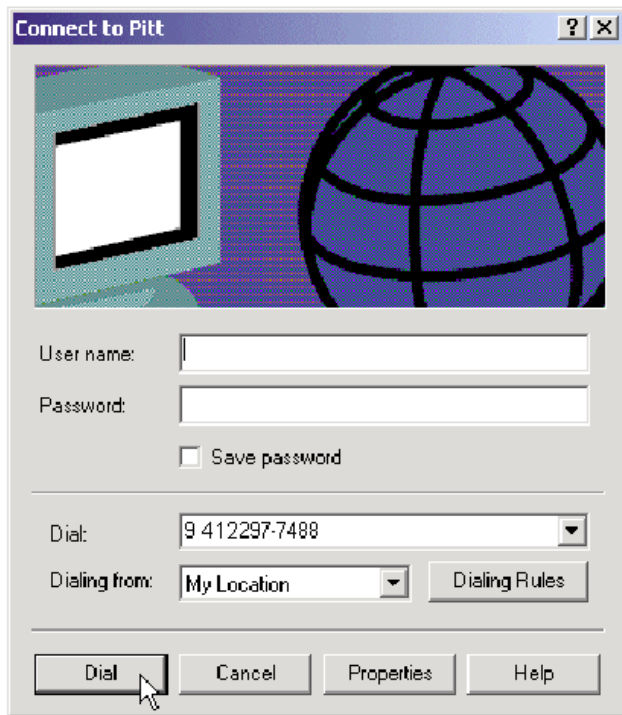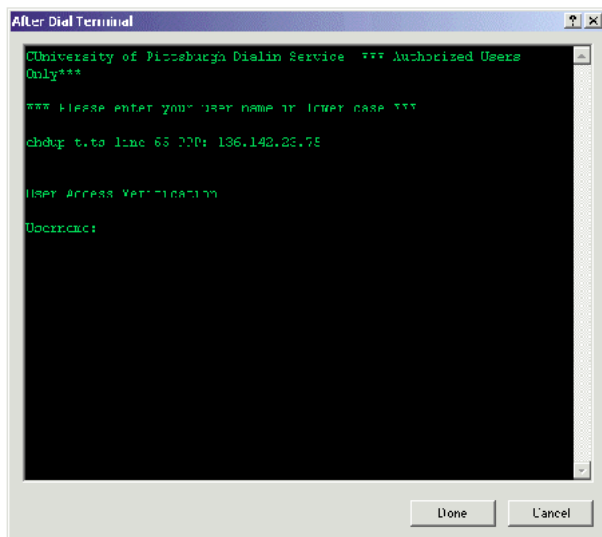
Dialing in and Making Your PPP Connection

1. In the **Connect to Pitt** window, make sure the character string in the "Phone Number" field matches the number you entered in the Network Connection wizard.

   NOTE: If the **Connect to Pitt** window was closed, double-click the new icon on your desktop that you created in the previous section of this help sheet.

2. Click the "Dial" button.

4

A small connection dialog box appears. You will know that your modem is working correctly if you hear dialing tones, low-pitched static, high-pitched static and then silence.

3. If the connection is successful, the "After Dial Terminal" window appears. This screen displays the welcome text from the Pitt Dial-up service.

You are prompted for your University Computer Account username and password. Enter both of these.

     User Access Verification

     Username: **wtlst1**
     Password:

If your login is successful, you will be presented with a "Local>" prompt. *DO NOT* attempt to log into UNIX or VMS from this prompt. For timesharing access, use the Telnet utility. Instructions for accessing Telnet and FTP are listed in the next section.

4. At the "Local>" prompt:

    * Type in **ppp.**
    * Press **Enter** or **Return**.
    * Then, click the **Done** button.

5. The **Connection Complete** window appears. Click **OK**.

NOTE: To disconnect from a PPP login, double click on the minimized icon for the connection or the system tray icon () and click the "Disconnect" button. Make sure that you quit from all Internet-based applications first.

Running Telnet and FTP

In addition to PPP dial-up software, Windows 2000 also includes versions of Telnet terminal emulation software as well as a file transfer protocol (FTP) utility. Both of these utilities can be accessed via the "Start" button.
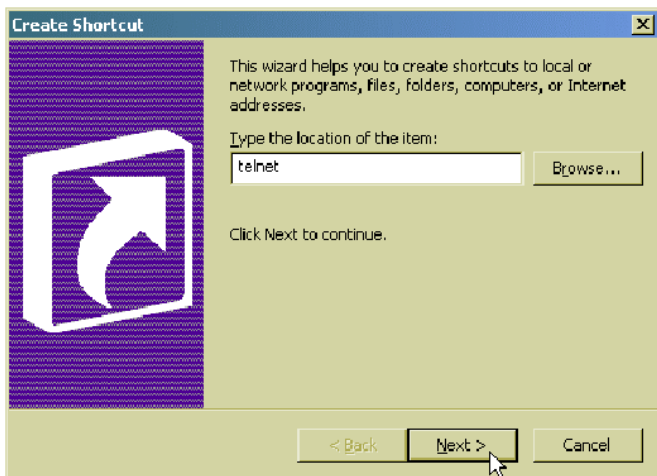
1. Click the **Start** button. The entire **Start** menu will appear with the **Run** option accessible near the bottom of the list. While continuing to hold in the mouse button, move the arrow-shaped pointer until it is over the "Run..." command and then release the mouse button.

2. The "Run" dialog box will appear. In order to run the FTP utility, enter "**ftp**" on the line next to **Open:**. To begin running Telnet, enter "**telnet**" on the **Open:** line.

3. Click on the **OK** button. This will begin running either Telnet or FTP. If you think that you will be using either or both of these utilities a great deal in the future, you may want to create a shortcut icon for them on your desktop. This procedure is detailed in steps 4 through 7.

4. To create a shortcut for either Telnet or FTP, right-click on your desktop.

5. Select **New, Shortcut**.

6. Enter **telnet** or **ftp** in the text box where you are asked to "Type the location of the item:" and click the **Next** button.

7. Enter a name for the shortcut in the "Select a Title for the Program" window.

8. Click the **Finish** button. Your **telnet** and **ftp** icons appear on your desktop.

Most users of Internet services such as the Pitt SLIP/PPP service are anxious to use the Netscape World Wide Web browser to check out what is available on the Web. You can acquire a CD which contains this (and other) software from any Campus Computing Lab or from Software Licensing Services (SLS). SLS is located in 203 Bellefield Hall.

Closing your PPP connection

It is important to remember to close your PPP connection when you are finished using Internet utilities since access to the Internet is becoming increasingly more valuable. This is done by double-clicking on the minimized Dial-up Networking icon (named "Connect to Pitt" in this help sheet) and then clicking on the Disconnect button.

Getting Help

For software usage or PPP setup questions, contact the **Help Desk** at (412) 624-HELP [4357] or via the Web at **http://technology.pitt.edu**.

The Help Desk is available 24 hours a day, seven days a week. The consulting staff is familiar with this procedure and most of the popular Internet utilities.