This document describes how to set up dialup networking for Windows 95. Dialup networking is a way to connect to the Internet from home, using a modem. Once you've set it up, you will be able to use network software such as telnet, FTP, and Netscape at home, just as if your computer were connected to an Ethernet at Rutgers. It assumes that you have already read the document "Working at Home".

Note: This document is formatted using a style sheet. If possible, it should be viewed and printed from Netscape 4 (Communicator), or Internet Explorer 4, or later. Older browsers won't see the proper formatting. A PDF version of the document is also available. This has somewhat better fonts and formatting, and is better for printing.

The document is located at http://www.cs.rutgers.edu/LCSR-Computing/win95.html

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1. Installing Dialup Networking on Windows 95

These instructions assume that you know what phone number to dial. If not, try "man dialups" on any of our Unix machines. That will give you the numbers on each campus. It doesn't make sense to put them in this document, because they tend to change a lot.

NOTE: 1. Installing Dialup Networking on Windows 95 and 2. Creating a New Connection only need to be done once (although you may want to create a new connection -- 2. Creating a New Connection -- if you start using a new phone number or something else changes about the way you connect). If you've already done them, go directly to 3. Making a connection when you want to connect your computer to the network.

It is possible to install Dialup Networking as you are installing Windows 95. If you choose the "typical" release, and the "most common components" you won't get either dialup networking or TCP/IP. But if you are careful, you can choose "Dial-Up Networking" and "TCP/IP" during the initial installation, and save some time.

However we're going to assume that you didn't do this. So we're going to tell you how to add the necessary software after you've installed Windows 95. If you do it during installation, the process still looks like what we're going to describe. It's just that it happens during the initial installation. Anyway, for the rest of this section we're going to assume that you have already installed Windows 95, and that you didn't choose any networking options when you did the installation.

Open "My Computer", the "Control Panel" inside that, and "Add/Remove Programs" inside that. On the resulting window, choose the tab "Windows Setup". You'll see a
box with a scroll bar containing a number of software components. Select "Communications" with your mouse, and then click on the button near the lower right labelled "Details". That will bring up another window listing various types of communications software. Make sure that there is a check mark next to "Dial-Up Networking". Click on the little square box at the left to make the check mark appear if it isn't there already. Now click "OK" in that window. When you get back to the "Add/Remove Programs" window, make sure that there is a check mark next to "Communications". Then click "OK" in that window.

The system will now install Dial-Up Networking. It will ask you for your install diskettes or CD. Eventually it will bring up a window that asks you to supply a name for your computer and workgroup. This is intended for the Microsoft LAN protocols, and will be irrelevant for TCP/IP. You must supply both a computer and workgroup name, but it doesn't matter what they are. I normally use my last name. After doing this, you chose "Close" and things will continue.

You'll now be told that you have to restart your system. When the system comes back up, the "My Computer" entry will have a new icon: "Dial-Up Networking." Eventually you're going to have to configure dialup networking, but you also need to install the TCP/IP software. I recommend doing this now (although when I did the actual test, I did it at the end, after configuring dialup networking).

Open "My Computer", the "Control Panel" inside that, and "Network" inside that. You'll find a window with three tabs. In the "Configuration" tab, you'll find a list of networking components that have been installed. If "Dialup Adapter" and "TCP/IP" are both listed, you don't need this step. If "TCP/IP" is missing, select "Dialup Adapter" with your mouse, and then click the button "Add". That will get a new window listing "network component types". Select "Protocol" with your mouse, and then click the button "Add". That will get a new window with two listings. On the left will be Manufacturers. Select "Microsoft" with your mouse. The list on the right will then have the major Microsoft-supported protocols. Select "TCP/IP" with your mouse, and then click the button "OK" in that window and again in the window to which it returns.

The system will now install TCP/IP. It will ask you for your install diskettes or CD. Eventually you'll be told that you have to restart your system. When the system comes back up, TCP/IP will be available (although it would take a lot of work with the menus to verify that).

Now you need to configure dialup networking. Open "My Computer", and the "Dial-Up Networking" inside that. The first time you do this, you'll be asked for some information. First you have to choose your modem type. You'll be guided through this. Then it will ask for some information about your phone setup. You'll be guided through this. Finally, you'll be asked to define a new connection.

The result of this is going to be an icon in the "Dial-Up Networking" folder that you can click in order to make a connection. If you talk to several different computers, which require different configurations or phone numbers, you can configure a different "connection" for each (i.e. create an icon for each).

The rest of the dialog is just like what happens when you open the "Dial-Up Networking" folder and double-click on "Make New Connection", so continue on into the next section and pretend you've double-clicked "Make New Connection".
2. Creating a new connection icon in the "Dial-Up Networking" folder

This section describes how to create a new icon in "Dial-Up Networking." This folder lets you have different icons for different places you connect to. For example, if you use both Rutgers and a commercial ISP, you'll want an icon that connects you to Rutgers and another icon that connects you to your ISP. Each icon has its own phone number to dial, and its own dialup properties. You can have more than one icon with the same phone number. E.g. if you install SLIP, you could have one icon that makes a PPP connection and one that makes a SLIP connection. (Note however that Rutgers now supports only PPP.)

To create a new connection icon, go into "My Computer" and then "Dial-Up Networking". Double-clock the "Make New Connection" icon.

You'll be asked for the connection name. This is the name that will be used for the icon you're creating. You can choose any name you like. But it should be something descriptive. For a connection to Rutgers, it would make sense to use "Rutgers" as the connection name. On the same screen, you'll see a place for the modem, which should already be filled in with your modem type. Under that is a button "Configure". Click that. You'll get a window with three tabs.

Choose "General", and make sure things look right for your modem. It should be OK, but this gives you a chance to choose a different com port. With some newer modems, it may have chosen a maximum speed that's slower than what the modem can really handle. So you can use the "Maximum speed" box to adjust it.

Now click "OK" at the bottom of that window. You'll be back to the original "Make New Connection" window, with the name of the connection on it. Click "Next". You'll be asked to fill in the phone number. This should be the phone number you want to start with. (You can change this when you're dialing, e.g. to try another number if you get a busy signal.) Continue clicking "Next" and "Finish" as appropriate. The final result will be a new icon in the "Dial-Up Networking" folder.

There are many parameters you can adjust about the connection. However the default settings should be appropriate. Thus you shouldn't have to mess with any of the parameters. If you do, you could cause problems.

OK, now you're ready to connect to the network.

3. Making a connection

Come here when you want to connect your computer to the network. You do the section described in 1. Installing Dialup Networking on Windows 95 and 2. Creating a New Connection once. You'll probably do this section every time you turn on your computer, or at least every time you want to use the network.

Once you have connected to the network you can use programs such as telnet or Netscape. The network connection lasts until you turn off your computer or hang up the phone (or something happens to the phone line so that your connection breaks). During the time when you're connected, you can start and stop programs like telnet and Netscape. Exiting from telnet or Netscape does not break your main connection
to the network. So you don’t need to do the steps listed here again unless you turn off your computer, hang up the phone, or something goes wrong.

Make sure you’re in Dial-Up Networking: Open "My Computer" and then "Dial-Up Networking" in it. Double-click the icon for your connection. (This is the icon you created in 2. Creating a New Connection.) This will bring up a screen with username, password, and phone number. The phone number should already be right. The first time you do this, you’ll need to put in the right username. This should be your Unix username followed by the system that you use. Here are examples of each of the possible formats, depending upon which system you use. Of course you’d use your own Unix username instead of smith:

Camden
    smith@clam
    smith@crab
Newark
    smith@andromeda
    smith@pegasus
New Brunswick
    smith@eden-dialup
    smith@rci-dialup
Computer Science modems
    smith@athos
    smith@paul
    smith@remus

Note that RCI and ICI users must use rci-dialup or ici-dialup, and not just rci or ici. Windows will remember the username, so you should only have to set this up the first time.

In the password field, enter the password you use for the Unix system indicated.

Now click "connect".

At this point you should get a small box that displays messages showing what is going on. You’ll see things like "dialing", "logging into network", etc. If something goes wrong, you should get a box with an error message. In that case, make sure you write down the exact error message, so you can report it to the help desk.

You’re now ready to use TCP/IP commands. Windows95 comes with some of the more common TCP/IP commands, e.g. telnet and FTP. Many of you will find that the only thing additional you need is a web browser. Currently Netscape is the most commonly used web browser at Rutgers, although a lot of people also use Internet Explorer. You can get a copy of Netscape on diskette from the Information Center in Hill Center.

You can also use all the common free and shareware "winsock" software. Since Windows95 is a 32-bit operating system, it’s best to try and find 32-bit versions of the programs. If you do a lot of interactive work on our Unix systems, you’ll want a better telnet than the one that comes with Windows 95. I recommend the 32-bit version of WinQVT/net. It’s got a very good telnet. It also has FTP, mail, and news. However there are better versions of those functions. You may also be interested in the 32-bit version of ws_ftp, which is a rather nice FTP program. If you can’t find 32-bit versions
of software, you can use normal 16-bit winsock software too.

Note: Be careful about installing TCP/IP software meant for Windows. Some of it assumes that you don't have any TCP/IP support at all, and installs a new 16-bit TCP/IP package. You don't need that. Thus you don't need Trumpet winsock, or the original version of "Internet in a Box". What you want is software that runs on top of "winsock", i.e. software that assumes you already have winsock installed. Examples are ws_ftp and Netscape.