MSLN Circuit Rider Program

msln Maine School & Library Network

Basic Troubleshooting Guide

The MSLN Circuit Riders

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Prepared by the MSLN Circuit Riders for the Gates Training Initiative

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Basic Troubleshooting Course
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Maintaining a Healthy Computer
Suggestions to help keep your computer problems at a minimum through proper maintenance and care.

Update Software

You should update (or check for updates) yearly. Remember to check the hardware requirements for these updates, and if you can't update software due to hardware requirements that's the first sign your hardware is getting old. Both Windows and Mac now have automatic software updates and you should install those when prompted.

The Windows Update pages:
For Windows 2000: http://www.microsoft.com/windows2000/downloads/
For Windows 98: http://www.microsoft.com/windows98/downloads/
For Windows 95: http://www.microsoft.com/windows95/downloads/
For Windows NT 4.0: http://www.microsoft.com/windowsnt/downloads/
For Windows XP: http://www.microsoft.com/windowsxp/downloads/

Run Diagnostics and Utilities
On your Windows PC you should run **Scan Disk** monthly and **Disk Defrag** quarterly or when your computer seems very slow. These can be found in your System Tools Folder.

To run Scan Disk
Start --> Programs --> Accessories --> System Tools -->Scan Disk

To run Defrag
Start --> Programs --> Accessories --> System Tools -->Disk Defragmenter

To run Disk Cleanup
Start --> Programs --> Accessories --> System Tools -->Disk Cleanup

How To Keep Your Computer Running Smoothly by Sandy Berger
http://www.aarp.org/computers-howto/Articles/a2002-07-18-howtosmoothly

Maintenance and Cleaning

Buy canned air to clean dust. Keep mice and keyboards clean.
Endust has a line of these products.
You can find cleaning supplies at Staples, Office Max or Best Buy
This web site has links to online resources that give you details on cleaning.

Computer Care and Maintenance from Library SupportStaff.Com
http://www.librarysupportstaff.com/4compcare.html

Some people use software like Norton Utilities or McAfee's First Aid
Norton Utilities: http://www.symantec.com/nu/nu_9x/
McAfee First Aid (online): http://www.mcafee.com/myapps/fao/default.asp

Norton Utilities works well but can slow your computer down because it is always running. Look carefully at the RAM requirements and figure you'll need double what they say you need. First Aid online can be slow with just a 56K connection. ☺

Uninstall Software Correctly

Use the unistallers that come with the program (usually in the same folder group)
Click on My Computer and navigate to the folder that holds the program you want to uninstall.
If the program doesn't have an uninstaller, use the Add/Remove programs feature in Windows
Start --> Settings --> Control Panel --> Add/Remove Programs

See a list of Uninstallers at CNET. These programs can remove remnants of programs or remove programs that were not properly uninstalled.
http://www.cnet.com/software/1,11066,0-806178-1202-0,00.html

There is a Troubleshooting and Repair Guide that has wonderful instructions at PCGuide.com
http://www.pcguide.com/ts/index.htm

Network Management Tool

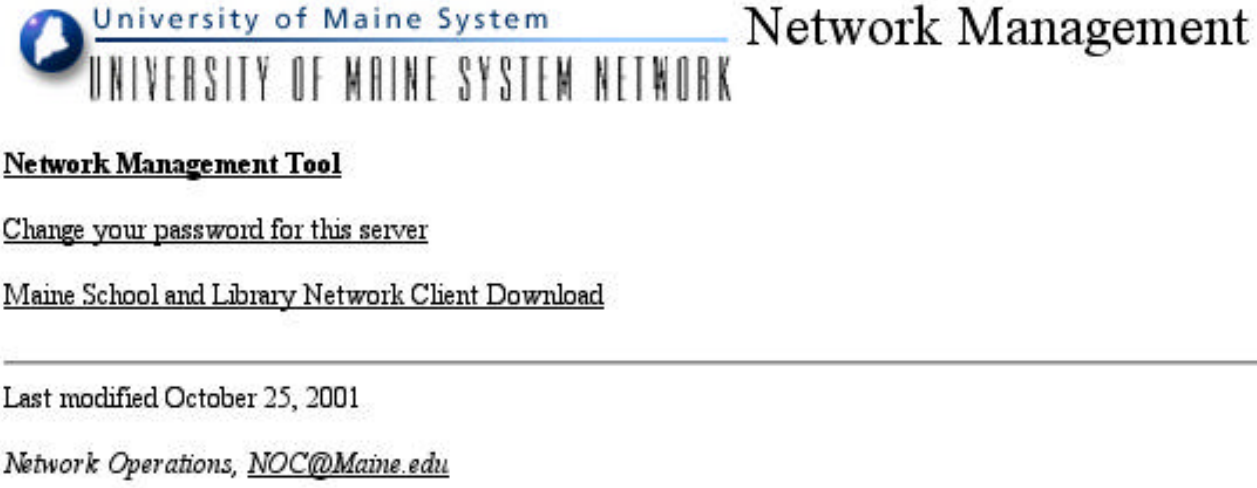
- **Login and passwords**
- **Adding and deleting computers**
- **Adding and deleting email accounts**

The MSLN Network Management Tool (or NM) can be found at: http://nm.msln.net/
The NM is a web-based utility that allows you to add new computers, change information about computers,
view all the computers and their IP Address and Mac address information, add and delete mail user accounts.

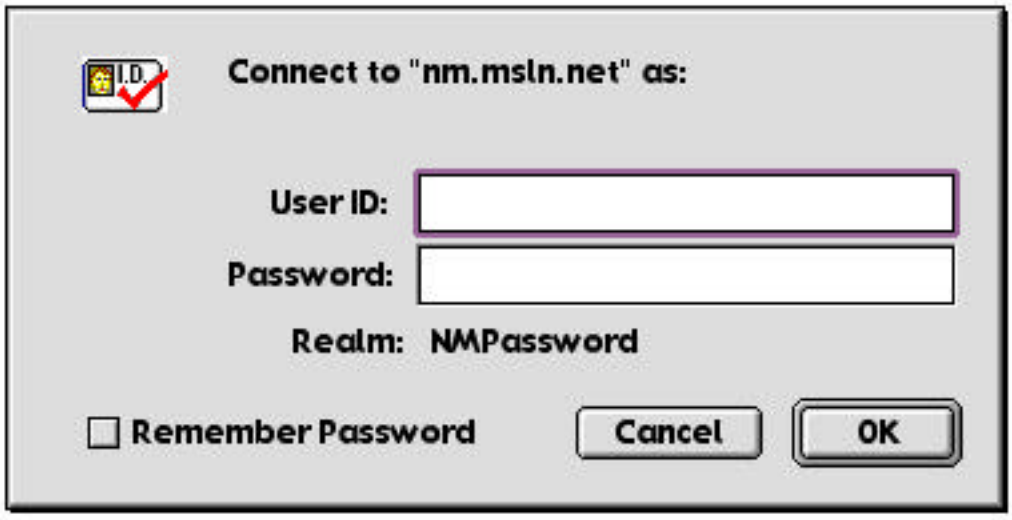
Logins and Passwords

To use the NM you must have a username and a password. This is provided to the person who is on record with the MSLN Help Desk as the technical coordinator for your library or school. If you do not have the username and password, you can call the MSLN Help Desk at 1-888-367-6756 (1-888-FOR-MSLN). The technical coordinator or the Library Director should make this call. If the technical coordinator has left, the Help Desk can issue a new username and password to the new Technical Coordinator or Library Director.

You can change the password at this initial screen by clicking on the link "Change your password for this server"
Please make a note of your password or choose a password that you will remember!
Once you have the username and password you can go to the NM web site – http://nm.msln.net

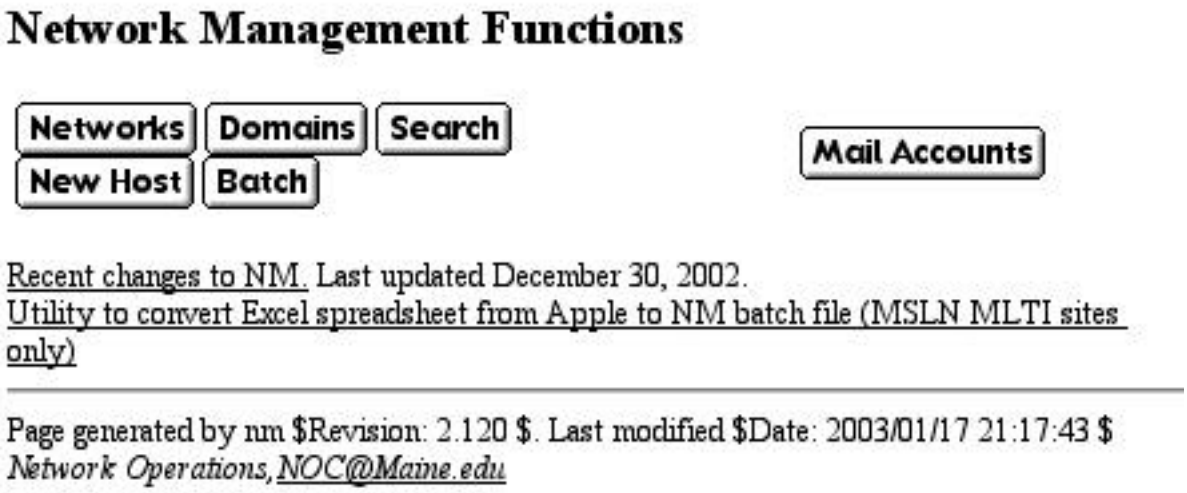


When you click on the link Network Management Tool you will get a dialog box that looks like this:



Just fill in the username and password; click OK and that will bring you to your library's Network Management page.

The NM page should look something like this:



Adding and deleting computers

If you click on the networks button you'll get a screen that looks like this one below.

Networks | Domains | Search | New Host | Batch | Mail Accounts

169.244.96.160

Description	Public Library
Subnet mask	255.255.255.248 (6 usable addresses)
Gateway address	169.244.96.161
Roaming enabled	
Contact	Name E-Mail address Telephone Address

Export | Expire

IP address	MAC address	Host name	Notes	Last DHCP/Bootp
169.244.96.161		gw-o-msln2-int.msln.net		
169.244.96.162		FR- -Lib.msln.net	Public Library	
169.244.96.163	00609735cf39	comp1. lib.me.us	added by caps	Thu Jan 23 13:03:44 2003
			169.244.96.164 to 169.244.96.166 available	

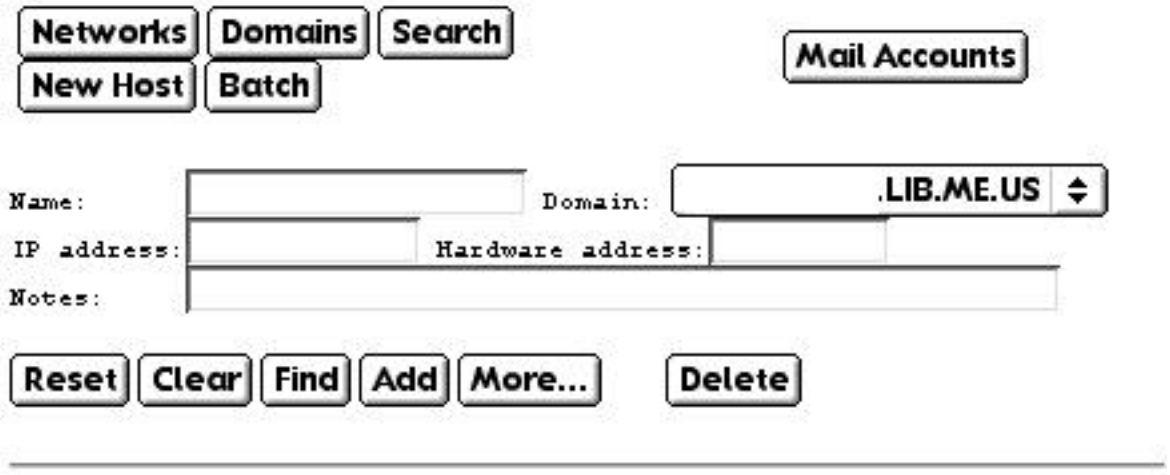
Click on the IP address under the word Subnet. You'll get a list of all your computers and their IP Addresses.
First decide which IP Address this computer will have from the numbers available at the bottom of the table.
Click on the New Host button. Here you give the computer a name, fill in the IP address from your available list, and also fill in the Hardware Address of your Network card. This is a 12 digit number that can be found on the card, or easier by checking on your computer. Note: The hardware address is also called the MAC address, or NIC address or **Physical Address**.

How to find the Hardware Address

For Windows 95/98
Start → Run: Type in winipcfg, then click OK. The adapter address is the MAC/ Ethernet. it is a 12 digit number

For Windows NT, 2000, XP
Start →Run → Type in cmd At the c:\ prompt, type in ipconfig/all. Look for Physical Address underneath the heading Ethernet Adapter.

Once you have entered the Hardware address it is a good idea to document in the notes the date you added the computer and who added the computer.



If you click on the networks button and then on your subnet number you'll see the new computer that you added in the table. It is a good idea to print this page – it contains a lot of information about your computers, your IP address range etc. Sometimes you need this information to configure the Network Properties on your computers.

To add or delete mail user accounts

Click on the Mail Accounts button on the right side of the page and you'll get a screen that has your library domain name and a list of all the mail accounts. You have a choice of 2 buttons, New Mailid or New Alias.
To add a new mail user id, click on the **New Mailid** button.
To create an Alias, click on New Alias.
To change a password for a user or delete a user, click on the user's name.
All these screens contain these fields.

The ID is the mail user name (first initial, last name – or whatever you choose)
If you are creating a new use ID remember that these user names must be unique. If you type in a user name that has already been used you will get a message that says: ***Unable to add jsmith: ID already exists***
Try another user name.

If you are deleting a user, just click the Delete button.
If you are changing a password, just type in the new password and click the Change button.
Please note: New passwords must be at least 6 characters and must be a combination of letters and numbers.
Sample password: jharmon416
There is additional technical information at the MSLN web site at:
http://www.msln.net/msln/services/email.html

What is a New Alias?

Remember that each mail ID (username) on MSLN has to be unique? If it is not unique you get an error saying you have created a duplicate id. That duplicate id may not be at your library (but at another MSLN site). So you have to create a different id. **BUT**, if there is an ID you particularly want (i.e. principal, librarian, postmaster, jim, etc.) but is not available, you can create a mail alias.

Creating Mail Aliases on the MSLN Server
A mail alias is just mail forwarding. Any mail sent to a mail alias is forwarded on to one or more other e-mail addresses. Since an alias has no mailbox associated with it, the name only needs s to be unique within your mail domain (within your library, not all of MSLN as with the regular Mail Ids). So you can have the mail alias "director@yourlibrary.lib.me.us" even if "director" is in use as an ID somewhere else on MSLN.
Using an alias, you can cause mail sent to director@yourlibrary.lib.me.us to be sent to the director's real e-mail address. You can also create an alias that will forward mail to multiple mail addresses. In this way you can create an alias like staff@yourlibrary.lib.me.us that forwards mail on to all/some of your staff e-mail addresses.

Click on the New Alias button. Add the ID “Director” (or whatever name you’d like).
Then type in the “real” mail user ID in the Forwarding Addresses area.

Error Messages

- Write the error message down
- What was the last thing you were doing?
- New Software?
- New Download?

Write the error message down
This not only helps you remember the error, but will help if you need to call for assistance.

What was the last thing you were doing?
Were you just turning the machine on? Getting on the Internet?
Working in a program? Trying to shut down?

New Software?
Were you downloading new software, old software… try uninstalling and then reinstalling.

New Download?
Something might not have downloaded properly try it again.

Some helpful sites:
http://service.real.com/help/errors/
http://www.pcguide.com/ts/x/sys/booterr.htm
http://www.brown.edu/Departments/Taubman_Center/errormsg.html
http://www.easydesksoftware.com/error.htm

Program Crashes

- **Occasional?**
- **Persistent?**
- **Update programs?**

Program Crashes

All computers are subject to crashing at one time or another, it will happen, it cannot be helped. Please sit back and breath slowly ten times…then try some simple steps.

Computer Crashes

Computer crashes do occur a lot in Windows 98 and there are many reasons why they do happen. Some computers can operate virtually all the time and hardly ever experience a computer crash. A computer crash can be defined as a catastrophic failure of the operating system or a software application. Yes, a software application on your computer can cause a computer to crash. A computer crash will normally have a blue screen background with a message on the screen that some kind of failure has happened giving you some instructions on how to resolve the problem.

Usually, you have only one choice to solve the problem, which is to turn off the power to the computer and turn it on again. If you have a file open in a software application and your computer crashes, that file can be lost or damaged.

Here's how to save most of, or, all of your files. As you add data to your file, click save on the tool bar every ten minutes. This will save your latest data entries, or set your software application to automatically save your file every ten minutes. The only data you will loose during a crash is the data not saved in the last ten minutes.

Here's what can happen when you open a new file, don't name it immediately, and begin data entry, and don't save the file, you experience a computer crash. Consider that file and its data are lost. Explained in another way, if you have created a new file and entered data for two hours and the computer crashes, the file and all of its data are lost. This means you must start a new file. Don't let this happen to you. Get in the habit of beginning a new document by saving it and giving it a file name. This is like computer insurance…the computer has something to keep track of not some un-named work in progress.

Crashes can also happen in XP, NT, W2000 but they are more stable than W95/98.

What are the possible causes of a computer crash? Some of the most common ones are listed here:

1. Windows 98 files have become corrupted. Hint! Running Windows Scan Disk can correct some of these problems.
2. Windows 98 Registry files become corrupted. ***Hint!*** If you backup the Registry shortly after a good Windows 98 installation, you can install the Registry backup files. This will correct the corrupted files.
3. Windows 98 ActiveX controls become corrupted.
4. Software drivers for you computer hardware (modem, sound card, or video card) become corrupted.
5. A new installation of the Windows 98 operating system did not properly install, causing corrupted files.
6. The installation of a new software application did not properly install, causing corrupted files. Each time you add software applications to your computer you add the risk of an improper installation. Test each software application extensively to be sure it's operating properly. ***Hint***! If your computer has been working properly and you install a new software application, and then begin experiencing computer crashes, chances are the new software application is causing the problem.
7. Improperly uninstalling a software application. Some software applications have their own uninstall program, which usually can be found in the Program Menu. All other software applications should be uninstalled from the Add/Remove Programs located in the Control Panel.
8. Computer games can corrupt Windows 98 files. Many computer games are not Windows 98 compatible. If the package or installation instructions do not say "Windows 98 compatible," don't install it. Generally, this is the same rule for any software application.
9. Installing a new software application with the Anti-Virus program enabled. Always disable the Anti-Virus application prior to a new software application installation. You can enable it after the installation.
10. Installing an older version of Norton Utilities on a Windows 98 operating system. Older versions will corrupt operating system files. Only install Norton Utilities 2000.
11. A virus will corrupt Windows 95/98.

When you encounter a persistent software crash this happens usually right after you have installed new software or a new program. This will not stop happening until you remove the newly installed software, start the computer in the safe mode, (press F8 when starting) and go to the control panel and use the add and remove programs icon. Remove the software you have just installed and restart your system, it should start up normally and your computer should run properly.

Updating programs

Sometimes you will have an older version of Windows and you try to install and run newer software, this could cause your system to crash. Try to keep updated with your computers operating system software as well as your applications.

To stay updated with Windows go to the start menu, settings, and windows update. This will connect you with Microsoft's web site and update your files automatically.

Viruses

- **Software (Norton, McAfee, and free software)**
- **Install and configure correctly**
- **Software updates**
- **Virus data/definitions update; how do you know it updated?**
- **What is auto-update?**
- **Scheduling**
- **Renewing**

Viruses and Anti-Virus Software

Types of software
McAfee, Symantec (Norton), Sophos, purchased with per computer license

Free software
AVG, PC-cillin

Install and Configure
Download AVG at www.grisoft.com
Save to desktop
Install software

Virus definitions
Downloading
Installing
Checking which version

What is Auto Update?
Some packages allow users to set up an auto update feature; this will automatically download the newest definitions and install them as needed.
Example: Checking AVG's site every Friday at 5:00.

Scheduling
Virus software should run every time your computer starts-up. This may seem to some users a waste of time until the day comes when their computer gets a virus and some or all of their data is lost. Most software programs come with a feature which allows a user to set the software so it only scans files which have changed since the last scan, this way when the

computer is started only the files which have been changed will be scanned, thus making the startup process mush faster.

Renewing

Most users will encounter this at some time and will choose to ignore this message. When the software company stops making definition updates for a particular version of software you will get this message. This is when you will need to update the version of software you are running, Example Norton Anti-Virus package Version 4.5 is now updated to Version 5.2. Most of the time an update costs less money to purchase than a whole new version.

Internet Connection

- **One computer or all computers**
- **How to check Hubs and Frad/Router**
- **What is an IP address? What is the MAC address?**
- **How to check for IP address and MAC address**
  - **W95/98 Start->Run->winipcfg**
  - **NT/XP/2000 Start>Run->CMD->C:/ipconfig /all**
  - **Or Start->Programs->Accessories->Command Prompt**

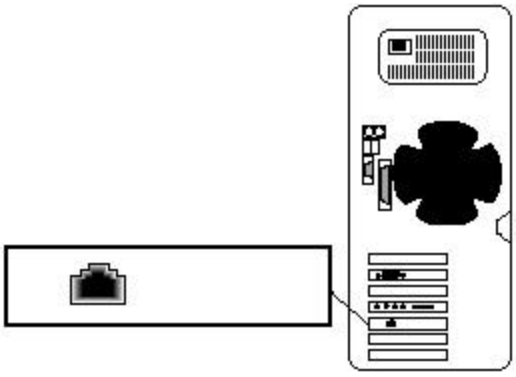
One Computer or Many Computers…

1. I f you are connecting just one computer you will need a cross-over cable to connect the computer to either the Frad or the Router. If you are connecting more than one computer you will be using Cat 5 patch cords (straight -through) to connect all the computers to the switch/hub.

2. Plug the other end of the network cable into the network card located in the back of the tower computer. The network card has a port that looks like the ports on the switch. The network cable should click into place when inserted properly. (Listen for the click!)

NOTE: Your computer may look different from the one pictured here. You may also have a modem card – the Ethernet cable/patch cord has a "bigger plug"

3. If you have unwound the network cable, make sure it is not in an area where patrons may walk or kick it. It is a good idea to wrap up as much of the cable as possible, tie it together with a twist-tie, and place it behind the computer.



Checking Hubs, Frads/Routers…

In general, a **hub** is the central part of a wheel where the spokes come together. The term is familiar to frequent fliers who travel through airport "hubs" to make connecting flights from one point to another. In data communications, a hub is a place of convergence where data arrives from one or more directions and is forwarded out in one or more other directions. A hub usually includes a **switch** of some kind. (And a product that is called a "switch" is really a “smart hub”). The distinction seems to be that the hub is the place where data comes together and the switch is what determines how and where data is forwarded from the place where data comes together.

1) In describing network topologies, a hub **topology** consists of a **backbone** (main circuit) to which a number of outgoing lines can be attached ("dropped"), each providing one or more connection **port** for **device** to attach to. For Internet users not connected to a local area network, this is the general topology used by your access provider. Other common network topologies are the **bus** network and the **ring** network. (Either of these could possibly feed into a hub network, using a **bridge**.)

A **FRAD** (frame relay access device; also sometimes referred to as a frame relay assembler/dissembler) is a box that encapsulates (puts **frame relay** header and trailer information on) outgoing data **packet**s and decapsulates (removes frame relay headers and trailers from) incoming packets.
The FRAD is a box, usually close to the user, that provides the interface between the user and a network that uses frame relay. MSLN had both 56K FRADS and 56K and T1 Routers in libraries.

A router may create or maintain a table of the available routes and their conditions and use this information along with distance and cost algorithms to determine the best route for a given packet. Typically, a packet may travel through a number of network points with routers before arriving at its destination.

Checking the lights….

When I turn on my machine, I get a message that says "DHCP Server Not Responding."

Try to see if you are able to get on the Internet using another machine on your network. If you are able to do so, then the problem is probably with the machine itself, and it not a networking problem.
Check to see if there is a link light on your Ethernet card. If not, try using a different cable or plugging the cable into a different port on the hub.

Check and see if the "Network" light on the FRAD is red. If this light is red, please contact the MSLN Help center so that we may troubleshoot the problem. **1-888-367-6756**
If there is a link light on the Ethernet card, a link light on the corresponding port on the hub, the Network light on your FRAD is green and you are still receiving DHCP errors, please contact the MSLN Help center. **1-888-367-6756**

Frad/Router is not responding. (Red Lights)

First, Check the outlet. Does the Frad/Router have power? Believe it or not, this is a frequently overlooked "technical problem." Frads and Routers should be on a circuit of their own and not on a circuit controlled by light switches or other common electric switches. They should not be disconnected for any reason without first informing MSLN.

You can also try unplugging the FRAD and then re-plugging it in. You may get a call from the MSLN Help Desk if you do this. They can tell when someone goes “offline”

What is an IP address?

An IP address is a 32-**bit** number that identifies each sender or receiver of information that is sent in **packet**s across the Internet. When you request an HTML page or send e-mail, the Internet Protocol part of **TCP/IP** includes your IP address in the message (actually, in each of the packets if more than one is required) and sends it to the IP address that is obtained by looking up the **domain name** in the **Uniform Resource Locator** (URL) you requested or in the e-mail address you're sending a note to. At the other end, the recipient can see the IP address of the Web page requestor or the e-mail sender and can respond by sending another message using the IP address it received.

An IP address has two parts: the identifier of a particular network on the Internet and an identifier of the particular device (which can be a server or a workstation) within that network. On the Internet itself - that is, between the **router** that move packets from one point to another along the route - only the network part of the address is looked at.

How to check for your IP address and MAC Address

- **W95/98 Start->Run->winipcfg**
- **NT/XP/2000 Start>Run->CMD->C:/ipconfig /all**
- **Or Start->Programs->Accessories->Command Prompt**

What is the MAC address?

On a local area network (**LAN**) or other network, the MAC (Media Access Control) address is your computer's unique hardware number. It is also called the Adapter Address,or the Physical address. It is always a combination of 12 number s and letters. It will look something like this: 00-00-E2-82-B4--7F. When you're connected to the Internet from your computer (or **host** as the Internet protocol thinks of it), a table relates your **IP address** to your computer's physical (MAC) address on the LAN.

Internet problems

Three Rules-of-Thumb for Dealing with Internet Problems

1. If you get a message saying the domain name server (**DNS**) can't find your page and you're sure you've typed it in correctly or clicked on a valid link, try it again - TWO more times! (Sometimes packets don't get there!)
2. If you get a "Not found" message, the page may be temporarily missing because of miscoding at the target site. Try it again tomorrow...or try the home page for the site and send e-mail asking them to restore the page.
3. Be aware that sometimes a page you've visited recently may be coming from your **cache** (or the cache on a **proxy** server within your library). To get the "fresh" version of the page, click on "Reload" in your tool bar. Also try clearing your cache.

Clearing the Cache – Clearing Temporary Files

Internet Explorer

While in the Internet Explorer program…
Click on Tools on the File Menu Bar
Click on Internet Options
On the General Tab, Click on the delete Files button in the Temporary Internet Files section.
Click the box for Delete all offline content.
Click OK.

Netscape

While in the Netscape program…
Click on Edit on the File Menu Bar
Click on Preferences
Click on the arrow next to Advanced
Click on Cache
Click the Clear Memory Cache button
Click the Clear Disk Cache button
Click OK.

Printers

- **Adding a printer**
- **Networking**
- **Sharing**
- **Printer Drivers (Web and CD)**
- **Basic troubleshooting**
- **Supplies**

Adding a printer

It is important before adding a printer that you make sure you have a copy of the printer driver and you read the instructions for installing those drivers.
New printers will come with a CD and usually you can connect the printer, put in the CD and an installation program will begin that you can follow step by step. The Windows OS also comes with many printer drivers on the Windows CD but these may be older drivers.

If you don't have the latest printer driver you can easily go out to the Internet and download it. It is easiest to do this on the computer that you will be connecting the printer to. Some of the drivers have large installation programs and won't fit on one disk. If you have to download drivers, check the "read me" at the web site for instructions on where to download the driver. Many times the instructions will tell you to create a folder and what to name it.

Here is a list of the most popular printer web sites for printer drivers.
Hewlett Packard - http://welcome.hp.com/country/us/eng/support.html
Canon - http://www.usa.canon.com/html/cprSupportDetail.jsp?navfrom=DrivD
Epson - http://www.epson.com/cgi-bin/Store/index.jsp
Lexmark - http://www.lexmark.com/US/support/drivers/

Sometimes these files are compressed (zipped) and you will have to have software to "unzip" the files.
If that is the case, you will have to download and install compression software before downloading the drivers.

You can download freeware, shareware and trail software for this at TUCOWS.
Go to: http://www.tucows.com/system/comp95_default.html
WinZip is the most popular but any zipping tool will work. Find one that says it is easy to use!

During the installation be prepared to answer a few questions regarding how the printer will be connected to the computer. Usually the installation program will give you three options…

1. The printer is connected to one computer (sometimes called a local printer)
2. The printer will be shared by other computers (you will use printer sharing that is built into Windows Networking)
3. The printer is networked (this usually means that the printer has an network (Ethernet) card and is attached to the network and not a computer.

Note: Most printers are now connected via USB. You can connect one printer to a USB hub and connect a couple of printers to that hub. This isn't a "network" and you would install the printer driver as if the printer was connected to one computer.

If you don't have the printer installation CD that came with the printer, first download the driver and make sure it is in a folder on your C drive that you can locate. Then go to:

For W95/98
START→ SETTINGS →PRINTERS → Add a printer

For Windows XP
START → PRINTERS & FAXES → Add a printer

Proceed step by step, reading and following directions. Some printers will automatically configure themselves with Windows XP. The older the printer and the older your operating system the more "complicated" it is.

There are easy to follow directions on How To Install A Printer at TechTV and ZDNet
http://www.techtv.com/callforhelp/howto/story/0,24330,3351582,00.html
http://www.zdnet.com/products/stories/reviews/0,4161,2411785,00.html

Networked Printers

Networked printers can be more expensive but could cost less than having a separate printer connected to each computer you have in your library. Networking a printer also allows you to put the printer where library staff can monitor number of pages printed, etc. Many libraries got a networked HP Laser Jet with their Gates computers

Printers can be connected to Ethernet hubs just like computers. This means that you printer has an IP address
just like the computers on your network. You can see what IP Addresses are available for your library by logging into the MSLN Network Management Tool. If you are adding computers or printers and need a larger range of IP Addresses, please contact the MSLN Help Desk (1-888-367-6756).

It is easiest to set up a networked printer using the printer's IP address. Sometimes this can be assigned via software; other printers need it programmed in at the printer (like the HP Laser printers many libraries got through the Gates program).

Sharing printers

To share a printer in Windows 95/98, XP, NT, 2000
The process is pretty much the same for all. Make sure the printer is installed and working correctly on the computer that it is connected to. First you have to enable printer sharing on this computer, then install the drivers and point to this printer on all the other computers.

To enable sharing
Go to Network Neighborhood → Right Click and select properties
Click the File and Print Sharing button
Select "I want to be able to allow others to print to my printer."
Click OK. You may be prompted to insert the Windows CD to copy additional files.
This enables the ability to share a printer but now you have to select what printer to share and how it is to be shared.

Select Printer to be Shared
Go to Start →Settings →Printers
Right click on the printer you want to share.
Click on the Sharing tab
Select Shared as and give the printer a name if one is not already there.
Leave everything else blank.

Configuring the other computers to use the Shared Printer
You most likely will have to install the drivers for the shared printer then point to that printer. The installation may ask you about printer sharing. If you select this option the installation program will guide you through the process. Note: Make sure
Go to Start →Settings →Printers
Double click on the Add Printer icon
Select either Network printer or printer attached to another computer (this varies)
Use the Browse button to locate the computer, then the printer and select the printer.
When you are done, the printer icon should have the "sharing hand" underneath it.

Instructions (with graphics)
http://broadband.earthlink.net/home-networking/networking/sharing.html

Troubleshooting Printer Problems

Most printer problems can be solved by reinstalling the printer drivers. It is a good idea to download the latest drivers from the manufacturer's web site. (See the list above.) If you have problems getting the quality you'd like from your printer, it could be the ink cartridge needs to be changed or cleaned, or double check the settings. For other problems the first step is to visit the printer manufacturer's support web site. Look for a FAQ (Frequently Asked Questions) section or a searchable database. If you can't solve your printer problem, contact an MSLN Circuit Rider for additional assistance.

Printer Supplies
Ink and laser cartridges are available locally at places like Staples and OfficeMax. You can also find them on the Internet. Some web sites sell "generic" cartridges in additional to the manufacturer's brands. Make sure that you have the original part number. You can look at the old cartridge to make sure or look up the part number at the manufacturer's web site. Make sure you also know the Make, model and number of you printer!

Essentials

- Windows Disks/CDs
- Program Disks/CDs
- Drivers
- Computer checklist – Inventory

Computer Checklist

- Make and Model
- Operating System (How to find your OS version) **
- Size of hard drive (How to find the size of your hard drive)**
- Amount of Memory (RAM)
- Network/Ethernet Card
    1. Name/Model
    2. MAC Address (Ethernet Address)
       How to find the address of your ethernet card?
- System or set up disks that came with your computer
- Windows CDROM
- Name and version of Email program
- Name and version of browser
- Program CDs

Computer Information Checklist

Make and Model_____

Operating System _____

Size of Hard Drive _____

Amount of Memory (RAM) _____

Network/Ethernet Card

Name/Model: _____

Ethernet Address (12digits):_____

Do you have System or set up disks that came with your computer?

Yes No

Do you have the Windows CDROM that came with this computer?

Yes No

Email program and version: _____

Browser program and version: _____

Notes:

How to find your OS Version

Windows 95/98

Start→Settings→Control Panel→System

Windows XP

Start→ Control Panel→System

How much room is left on your hard drive?

Windows 95/98

Double Click the My Computer icon
Click once on the C drive icon
Click on View→Details

Windows XP

Start→My Computer
Click once on the C drive icon
Click on View→Details

Browser version

Look what is noted as the browser starts up.
While in the program…

Internet Explorer

Go to Help on the File menu Bar
Click on About Internet Explorer

Netscape

Go to Help on the File menu Bar
Click on About Netscape

Resources

- **CD**
- **Circuit Rider Web Page**
- **Web Resources**

Resources

One great resource for Gates computers is the printed version of the Gates Library Computer-an easy guide.
This book, also available on CD if requested, contains many of the everyday situations you will experience. Many of the tools you will use to configure your computers and the how to's are located in this manual and on the CD that accompanies it.

The Circuit Rider web site contains a huge amount of data when it comes to the Internet connections and hardware used in your library.

This site **http://circrider.msln.net/** will guide you to answers to many of your questions.

Also the Circuit Riders are available to assist you in any way they can to keep your computer equipment running. Ask us for information about the circuit rider in your area.

Gates Computers

http://www.pacomputing.org/
Howtos: **http://www.pacomputing.org/How-To/How-To.aspx**
Troubleshooting: **http://www.pacomputing.org/Troubleshooting/troubleshooting.aspx**

General Help Sites

Help Site http://help-site.com/
Tech Advice http://www.techadvice.com/
ZDNet – Help and How To http://www.zdnet.com/filters/zdhelp/