

# Setting Up Your Network

Network / file problems, such as those with symptoms like error 1477 and 2172, can take many forms. They can be caused by one or more of the following:

- Kinked or damaged cable - just because it looks ok doesn't mean it is - test it or swap it out for another one you may have.
- Cable running close to a fluorescent light ballast (fixture)
- Loose connector/plug on cable
- Old "worn out" cables, particularly coax cables that have been around for years
- Out of date drivers
- Bad hub or a bad port on a hub
- Failed/failing network card
- Power problems (PLEASE protect your systems with a UPS, power problems are one of the biggest troublemakers we know of. Yes, a UPS might cost \$79 to \$450 depending on how big a unit you buy, but how much is your computer and a day's worth of business worth? Consider it much less than the time to fix a power-caused mess. [Click here](#) for more lectures about very important issues.
- Network setup and/or configuration problems.
- Inadvertent shutdowns
- Shutting down servers while workstations are still in the program
- Out of date network drivers (even those right out of the box are sometimes a problem)
- Improper or less than desirable network bindings/settings

NOTE: Remember that having backups is a saving grace in the face of file/network problems. Network problems can corrupt your files in a heartbeat. If you have no backups, you are in big trouble (future or present - trouble will occur). Having backups is a responsibility you must take VERY seriously.

Drivers up to date? Windows networking is subject to a number of problems, MANY of which can be solved simply by installing updated driver software from the manufacturer or (more often) Microsoft. The link below will go to a web page that describes just ONE of the problems in Windows peer-to-peer networking, yet there are several other problems referenced at the bottom of that page. In particular, anyone on Windows 95 needs to get their network drivers and "requestor" updated.

<http://support.microsoft.com/support/kb/articles/q174/3/71.asp> and <http://support.microsoft.com/support/kb/articles/q148/3/67.asp> in particular note some problems that can burn you.

Windows NT users - Are you on service pack 6 instead of service pack 6a or another service pack? If so, expect lots of problems. Microsoft has acknowledged that service pack 6 broke a lot of things network-wise. You can get service pack 6a at their site or you can go back to service pack 5, either of which is stable. In addition, do NOT mix service packs on different NT machines on your network. In other words, run all your NT machines on service pack 5 or on service pack 6a, but not a mix of both service packs.

Is your network slow when using a mapped drive letter? The reason is this: The computer has both TCP/IP and NetBEUI (network protocols, similar to different spoken languages). TCP/IP for the Internet and NetBEUI for the local network. TCP/IP is the default protocol. When connecting to a mapped drive after some idle time, the computer tries to connect first over TCP/IP and times out. You should REMOVE NetBEUI as a protocol.

Is your network slow when using a mapped drive letter? (part 2) Is the drive mapped to the main computer's drive or to a folder? If it is mapped to a folder, you will likely see a decrease in performance, often a quite noticeable decrease. We are not sure why this happens, but mapping directly to the drive has been proven time and time again to be faster. We have not discovered the reason for this, despite extended searches of Microsoft's tech database ( <http://msdn.microsoft.com> ).

### **Windows 98 networking**

Here is Microsoft's "best place to start" page for dealing with Windows98 issues, including networking issues. <http://support.microsoft.com/highlights/w98.asp>

### **Windows ME (Millennium) networking**

Here is Microsoft's "best place to start" page for dealing with Windows ME/Millennium issues, including networking issues. <http://support.microsoft.com/highlights/winme.asp>

### **Windows 2000 networking**

Here is Microsoft's "best place to start" page for dealing with Windows 2000 issues, including networking issues.  
<http://support.microsoft.com/highlights/Win2000.asp>

### **Windows XP networking**

Here is Microsoft's "best place to start" page for dealing with Windows XP issues, including networking issues.  
<http://support.microsoft.com/highlights/winxp.asp>

### **Need Netbeui on your XP systems and can't find it?**

Click here to find out how to install it.

<http://support.microsoft.com/search/preview.aspx?scid=kb;en-us;Q301041>

### **Novell Netware problems?**

The problem could be your Novell Opportunistic Locking setting. Contact your network person for further details. How to turn it off? Go to Control Panel -> Networks -> Novell Client Properties -> Advanced Settings Tab -> Opportunistic Locking and make sure this is switched off on all client Machines - ALSO Make sure True Commit is ON at each client PC (This should help stop data corruption)

Performance issues are often caused by network protocol "bindings"  
Check the following Network protocols basics:

- Make sure that your default network protocol has no bindings to a virtual device (dialup.....).
- If you are using TCP/IP and you have dialup on this workstation, try NetBEUI.
- Try to avoid using IPX and NetBEUI together. IPX gets confused when you have a "chatty" NetBEUI. Removing IPX (if you can) is strongly advised.
- If you need to examine the network further, check out <http://www.sysinternals.com/tdimon.htm> to get a bird's eye view of what's going on.

Does the system work on some machines but seems to "think about it" and then do nothing on others? Sometimes your network "times out" when loading Photo One across a network. It's a big program, with a memory "footprint" of about 20 meg. You could try making a c:\p6 folder on the workstation, then copy the .exe and .dll files from the server's \p6 folder to the workstation's \p6 folder. Next, change the shortcut so that the target points to c:\p6\p1w.exe instead of serverdriveletter\p6\p1w.exe - BUT leave the "Start in" alone.

Does the system work on some machines but seems to "think about it" and then do nothing on others? Sometimes your Windows doesn't have enough "files" set in your config.sys. Try 100 or 125. If this isn't descriptive enough, you need to have your consultant do this for you. Sometimes having full-time virus scanning turned on does this. Ask your virus software vendor how to work around this OR exclude our program from your scanner if you can.

Power management - Do you have Energy Star features on your computers? Probably so. Power management and networking DO NOT MIX. You can have your computers' power management features turn off and/or dim the monitor, but DO NOT have them turn off the hard drive, network cards etc. This will definitely cause you grief when computers are networked. Grief = lost data

### **Database corruptions, timeouts and other troubles**

Another issue is the various ways that Windows9x and NT try to improve performance, often at the price of stability. Sometimes these things work, other times they cause network timeouts because they force additional file operations behind the scenes and those file operations time out (fail). One way to turn one of these items off is to turn off "Synchronous buffer commits". To do this, click Control Panel, System, Performance, File System, Troubleshooting and check the "Disable synchronous buffer commits" checkbox.

### **Database corruptions, timeouts and other troubles, part II**

Further, Windows NT users face issues caused by some performance improvements that NT tries to implement with network applications by 'faking' multiple use of files. Unfortunately, some users experience file corruption because of this. This article is a bit of nerd-speak, but your network person should take a look at it if you are seeing "Access denied" errors on network files when they \*know\* that the network permissions are set properly. <http://support.microsoft.com/support/kb/articles/Q129/2/02.asp> The topic of

this article can also be the cause of database corruption and network timeouts (drive not available messages and the like).

### **Tune up your network**

Many of the aforementioned settings are automatically checked/corrected via a utility program called "Network Tune Up". The program is free. Note that it does change internal network settings and requires a reboot afterwards. The settings changed include oplocks (on Windows NT and Windows 2000) and the Windows9x/WindowsMe buffering settings noted above. It also checks Windows9x/WindowsMe machines to be sure they don't have a buggy version of the Microsoft network driver installed. [Click here to download Network Tune Up](#). We got it from Bytemasters (<http://www.bytemasters.com>).

Another NT issue re: slow network performance with Service Pack 4, 5, 6, or 6a (Q249799)

<http://www.microsoft.com/technet/support/kb.asp?ID=249799>

### **Fix that leaky hose**

While it is certainly possible, don't automatically assume network errors are a program problem. These products are being used in many, many networked systems and by as many as 130 people simultaneously on ONE network. Do other multi-user applications work ok? Can you save a text file into our application's directory using Windows Notepad? If not, the problem is more than likely with the network setup. Just one little thing related to sharing or "permissions" can mess things up. Keep in mind that our programs have many (as many as 80 or more) files open across your network at once, where Notepad only has one. Like a leaky hose where you don't see the leaks till lots of water is going through the hose under pressure, a network can exhibit similar behavior and not fail until it is under a heavy load.

### **Getting a TPSBT 1477 and/or 2172?**

The 1477 and 2172 errors are caused by improperly "closed" files. Kind of like a file cabinet whose drawer or file wasn't closed. Improper closing can be caused by rebooting the server while the workstation is in the program, rebooting a workstation while it is in the program, logging out while you are in the program, having a power outage or even a "burp" in the power, and so on. The items noted above can help this situation as well. Our programs have anywhere from 30-80 files open at once. Most other programs that you use on the network don't "push" the network anywhere near this hard. Sometimes a network is like a bad garden hose. Turning the water on slow doesn't expose a leak. Turning it on full force and putting your thumb over the end does.

We have a program that will detect which version of the Windows network redirector (i.e.: what lets you 'talk' to the computers on the network), but it is not as smart as we'd like. Click [here](#) to download it (about 600k), then just run it (there is no install). It may or may not point out a problem and it is of no use if your server isn't Windows NT or Windows 2000. If you don't have the current network client/redirector (note the link to

Microsoft above), you are asking for trouble. Have your hardware person check this information out for you. It's very important.