Additional Notes About Networks

This document contains information about specific networks. For additional information about Windows for Workgroups that does not pertain to networks, see "Other Online Documents" at the end of this document.

Using Write to View This Document

If you enlarge the Write window to its maximum size, this document will be easier to read. To do so, click the Maximize button in the upper-right corner of the window. Or open the Control menu in the upper-left corner of the Write window (press ALT+SPACEBAR), and then choose the Maximize command.

To move through the document, press PAGE UP or PAGE DOWN. Or click the arrows at the top and bottom of the scroll bar along the right side of the Write window.

To print the document, choose Print from the File menu.

For Help on using Write, press F1.

To read other online documents, choose Open from the File menu.

Contents

This document contains information about the following topics:

1.0 General Notes

- There are many settings in the SYSTEM.INI file that affect the way Windows for Workgroups works. You can change these settings to correct most problems you might have while using Windows for Workgroups and other networks. See the SYSINI.WRI online document for information about changing the following SYSTEM.INI settings:

  [Boot]
  Network.drv=
  SecondNet.drv=

  [Standard]

Int28Filter=
NetHeapSize=

[386Enh]
AllVMsExclusive=
EMMExclude=
FileSysChange=
InDOSPolling=
Int28Critical=
NetAsyncFallback=
NetAsyncTimeout=
NetDMASize=
NetHeapSize=
Network=
ReflectDOSInt2A=
SecondNet=
TimerCriticalSection=
Transport=
TokenRingSearch=
V86ModeLANAs=
UniqueDOSPSP=

[network]
Exclude=
LANAs=

- The Windows for Workgroups Setup program places the following lines in your SYSTEM.INI file that are required for Windows for Workgroups to run correctly. Do not remove any of the following entries:

  [boot]
  network.drv=wfwnet.drv

  [386Enh]
  network=vnetbios.386,vnetsup.386,vredir.386,vserver.386,vbrowse.386,
  vwc.386

  If you have upgraded over a previous version of Windows 3.0 or 3.1 with an installed network, Setup may leave entries that may be unnecessary, causing performance problems or incorrect network behavior. If you experience network problems and have any of these lines in your SYSTEM.INI file (or WIN.INI file), try removing the lines to see if the problem can be corrected.

  In the SYSTEM.INI file:

  [386Enh]
  INDOSPolling=TRUE

EMMExclude=D800-DFFF (or other memory range)
TimerCriticalSection=5000 (or other value)
UniqueDOSPSP=TRUE
PSPIncrement=5
NetHeapSize=76 (or other value)
NetAsynchTimeout=50
NetAsynchFallback=true
PerVMFiles=0
OverlappedIO=off
device=baninst.386
device=vvinesd.386
device=decnet.386
device=decnb.386
device=lantasti.386
device=vnetware.386
device=vipx.386
device=lanman10.386

In the WIN.INI file:

load=winpopup.exe
load=nwpopup.exe

[ports]
LPT1.DOS=
LPT2.DOS=
LPT3.DOS=

- Many protocols and other networks require the **TimerCriticalSection** line in the [386Enh] section of the SYSTEM.INI file to be set to a value of 10000 or greater. For more information, see the SYSINI.WRI online document.

- The default value for the **NetHeapSize** line in the [Standard] section of the SYSTEM.INI file is 8K. Although some applications require this value, in most cases you can decrease the value to 4K in order to increase the amount of memory available to your applications. A few applications require the value to be 4K.

- If you want to change your network configuration, use Control Panel to make the changes.

- Some network adapters require the **ExcludeHighRegion** (or **EMMExclude**) line in the [386Enh] section of the SYSTEM.INI file to be set to the memory range used by the adapter. For more information, see your network-adapter documentation and the SYSINI.WRI online document.

These cards may also require an **x=** option on the EMM386 command line in your CONFIG.SYS file. For more information, see Chapter 11, "Managing Memory and Performance," in the *Microsoft Windows for Workgroups User's Guide*. If you are using 386Max, QEMM, or another memory manager, see your memory-manager documentation to find out whether you need to exclude this area.

- The *Windows for Workgroups Resource Kit for the Microsoft Windows for Workgroups Operating System Version 3.1* contains additional information about setting up and configuring Windows for Workgroups for use with other networks and information for system administrators. This kit provides complete technical information about Windows for Workgroups for the support professional. It includes a technical reference manual and a disk containing helpful utilities, system-resource viewers, drivers, and accessories.

  To order the Windows for Workgroups Resource Kit within the United States, dial:

  1-800-642-7676

  To order outside of the United States, dial the phone number for your area. You can find this number on the International Subsidiary card.

- If you are running a shared copy of Windows for Workgroups from a network drive, make sure both your personal Windows directory and the shared network directory are included on the **path** command line in your AUTOEXEC.BAT file. To run a shared copy of Windows for Workgroups, you must start the network before starting Windows for Workgroups. (When you start the network before you start Windows for Workgroups, about 100K less conventional memory is available.)

- If you used **setup /n** to set up a shared copy of Windows for Workgroups, and you specified a network directory for your personal Windows directory, you cannot start the network (real-mode redirector) before starting Windows for Workgroups unless you first copy your SYSTEM.INI file to the directory on your hard disk where NET.EXE is located. NET.EXE should be located in the root directory of your startup drive.

- If you receive sharing violations while running a shared copy of Windows for Workgroups, make sure that all of the files in the shared network directory are marked as read-only.

- Windows Print Manager spools print jobs to the location specified by the MS-DOS environment variable TEMP. If TEMP is not set, Print Manager will use the root of drive C. The TEMP variable may be set by placing a **set temp=** statement in the AUTOEXEC.BAT file or network login script. For example, to spool to the network directory C:\WINDOWS\TEMP, you

would use the statement **set temp=c:\windows\temp**. Each user must have a personal TEMP directory.

2.0 Using Novell NetWare

For information about setting up Novell NetWare support in Windows for Workgroups, see Appendix B, "Using Windows for Workgroups with Other Networks," in the *Microsoft Windows for Workgroups User's Guide*.

Windows for Workgroups includes the following NetWare files:

NETX.COM (version 3.26)
MSIPX.SYS
MSIPX.COM

Windows for Workgroups uses NDIS network-adapter drivers. ODI network-adapter drivers are not supported.

In addition:

- When you set up NetWare support in Windows for Workgroups, the value of the **lastdrive** command in your CONFIG.SYS file is set to P (unless the command already exists and has a value less than P). When you restart your computer, your login directory is drive Q. If you have any NetWare login scripts, make sure they reference the correct drive letter for your login directory.

  When the **lastdrive** command is set to P, you can use letters from A to P to connect to other Windows for Workgroups computers or Microsoft LAN Manager servers. Letters after P are reserved for connecting to Novell NetWare servers.

- Do not try to log in, log out, attach, or detach a Novell server from MS-DOS Prompt within Windows. You should log in before starting Windows for Workgroups and attach or detach servers by using File Manager or Print Manager.

- If you are using a token-ring network and the driver on your Novell server does not support source routing (for example, IBM token-ring drivers prior to version 2.4), remove the ROUTE.COM statement from your AUTOEXEC.BAT file.

- If you have problems connecting to a Novell server, make sure the Adapter Media Type setting in Control Panel matches your Novell NetWare software configuration. For more information, see Chapter 6, "Troubleshooting," in *Getting Started*.

- By default, NetWare allows you access to only 40 files at a time. When you are running applications with Windows, you can exceed this limit rather quickly. If so, you might see unexpected error messages. To increase the file access limit, add the following line to your SHELL.CFG file:

  file handles = 60

  You should also add the following to your CONFIG.SYS file:

  files = 60

- If you get unusable output when printing to a NetWare server (such as incorrect fonts, garbled text, invalid page breaks, or blank lines), you may need to edit your print-job configuration. Try using the NetWare PRINTCON utility to set the Auto Endcap and Enable Timeout options to No.

- If you run Windows for Workgroups in 386 enhanced mode, swapping to a drive on a NetWare 286 server might make starting Windows for Workgroups take up to a minute. For information about controlling the location of your swap file, see Chapter 11, "Managing Memory and Performance," in the *Microsoft Windows for Workgroups User's Guide*.

- A NetWare file server does not include the directory entries dot (.) and double dot (..) as MS-DOS does. However, the NetWare shell (version 3.01 or higher) can emulate these entries when applications attempt to list the files in a directory. If you have problems listing files or deleting directories, turning on the Show Dots feature will help. Add the following line to your SHELL.CFG file:

  show dots = on

  Turning on Show Dots will cause problems with earlier versions of some 80286-based NetWare utilities, such as BINDFIX.EXE and MAKEUSER.EXE. Make sure you upgrade these utilities if you upgrade your NetWare shell. For more information, contact your Novell dealer.

- Redirected drives can look different in Windows for Workgroups from the way they did without Windows for Workgroups. For example, a device mapped as FileServerName/Volume:Directory will appear in Windows as FileServerName/Volume:\, showing the root of the file server's shared volume rather than the subdirectory. You can correct this with the MAP ROOT entry, as explained in the following information.

- In some cases, Windows-based applications may change the default directory on a drive. This might cause problems if, for example, your path includes the current directory on a network drive (that is, your path includes a drive letter without a specific directory, such as z: instead of z:\

system).

You can prevent this problem by using MAP.EXE and LOGIN.EXE versions 3.0 and later to set up false roots, or by choosing the MAP ROOT function when mapping a connection in File Manager. This feature simulates the MS-DOS **subst** command, which sets the root of a given drive to a directory designated by the user instead of to the true root of the volume.

For example, suppose you normally mapped drive F to the HOME\TERRI directory on the SERVER\SYS volume, and then included F: in your path. You would do this by including the following command in your AUTOEXEC.BAT file or by typing the command before starting Windows:

map f:=server\sys:home\terri

The default directory on drive F would then be HOME\TERRI. To prevent Windows from changing this, you would replace the command above with the following:

map root f:=server\sys:home\terri

This command would make the directory HOME\TERRI appear to be the root of drive F.

- If Windows for Workgroups is running in 386 enhanced mode, you can adjust the way Windows handles your network drive mappings by using the Network option in Control Panel.

  Usually, when you quit Windows for Workgroups, all of your drive mappings are restored to the way they were before you started Windows for Workgroups, and all changes you made while running Windows are lost. If you clear the Restore Drives option in the settings dialog box for NetWare, the mappings you made in Windows for Workgroups will remain when you quit.

  Typically, each instance of MS-DOS Prompt you start from Windows for Workgroups has its own set of drive mappings. Changes you make in one instance do not affect another. If you set the NWShareHandles option, drive mappings will instead be global, and changes to the mappings or the current drive made in one instance of MS-DOS Prompt will affect all other applications. If you are running a NetWare 286 server, setting NWShareHandles increases the number of workstations that can be connected to the server before the server runs out of available connections.

  See the Help available in the Network dialog box in Control Panel for more information on these options.

- If you have applications or files that use extended characters (ASCII characters above 128) and you have problems viewing or using them, try adding the following line to your SHELL.CFG file:

  special uppercase = on

- When connecting or disconnecting network resources from File Manager, Print Manager, or Control Panel, pay attention to the state of the Permanent check box. If this option is selected when you make a connection, the connection is automatically made each time you restart Windows for Workgroups. To stop reconnecting, disconnect with the Permanent check box selected. If the option is not selected when you disconnect, the connection is removed for the current Windows session but is reconnected when you restart Windows for Workgroups.

- If you want to use IPX-based applications with Windows for Workgroups running in standard mode, you must be sure to load the TBMI2.COM memory-resident program before starting Windows for Workgroups.

  This file is included on the Windows for Workgroups Setup disks. You can use the MS-DOS **expand** command to copy it to your hard disk if it is not already there.

- If you were running Novell NetBIOS before you set up Windows for Workgroups, the Setup program attempts to remove it when you set up Windows for Workgroups. The following procedure describes how to install Novell NetBIOS after you have set up Windows for Workgroups.

  Note: This example assumes that you have one network adapter running Microsoft NetBEUI. For information about the settings used in this example and how to change them, see the SYSINI.WRI online document.

  To install Novell NetBIOS after you have set up Windows for Workgroups:

  1. Add the following line to the [network] section of your SYSTEM.INI file:

     exclude=0

  2. Add the following line to the [386Enh] section of your SYSTEM.INI file:

     V86ModeLANAs=0

  3. If you plan to start the network before you start Windows (run the real-mode network), this line should read as follows:

     V86ModeLANAs=0,1

You should also add the following line to the [network] section of your SYSTEM.INI file:

LANAs=0,1

You should also add the following line to your AUTOEXEC.BAT file:

net start netbeui

This line should come after the **net start** command and after the line that loads NETBIOS.EXE, but before any other network commands.

4. In your AUTOEXEC.BAT file, make sure that the line that loads NETBIOS.EXE comes after the initial **net start** command and after the **msipx** and **netx** commands but before any other commands that load components of the Windows for Workgroups networking software (for example, commands such as **net start netbeui** or **net logon**).

- After Windows for Workgroups is installed, applications that use named pipes to communicate with NetWare servers may no longer work correctly. Applications that use named pipes to communicate with Microsoft LAN Manager servers will work with Windows for Workgroups.

  Many network applications that use named pipes can also be configured to use another method of communicating on the network, such as IPX or SPX. Contact your network-application vendor for additional details.

3.0 Other Online Documents

The following table describes other online documents that contain important information about Windows for Workgroups that is not included in the *Microsoft Windows for Workgroups User's Guide* or in Help.

Document	Contains
SETUP.TXT	Information about problems that may occur when you set up Windows for Workgroups.
README.WRI	Information about using Windows for Workgroups with the Multimedia Extensions version 1.0, specific display-adapter and system configurations, and MS-DOS–based applications, and information that was unavailable when the *Microsoft Windows for Workgroups User's*

	Guide was printed.
PRINTERS.WRI	Information about specific printers and fonts.
SYSINI.WRI	Information about the settings in the SYSTEM.INI file.
WININI.WRI	Information about the settings in the WIN.INI file.