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What is Network Control?

The Network Control icon provides a quick and easy path to connecting to shared network files and printers in Windows.

In addition to accessing Network Control from its icon in the OnNet program group, you can access it by choosing one of the following menu items:

- Network Connections from the Options menu in Windows Print Manager
- Network Connections from the Disk menu in Windows File Manager

The following table lists and describes the icons that you can use to manage network file and print connections in Windows:

Use this icon	To do this
 File Manager	Configure and manage connections to files on a Network File System (NFS) server.
 Print Manager	Configure and manage connections to network printers; view and manage network print queues.
 Printers	From Control Panel, configure and manage connections to network printers.
 Network	From Control Panel, configure login information for NFS connections, set default file permissions, and tune the configuration of other software that supports the use of Network Control.
 Network Control	Access all of the above functions from a single icon in the WinApps program group.

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Preparing for Network File Sharing and Printing

Setting up your network file sharing and printing environment can be easier if you gather certain information and verify certain configuration details first.

To prepare for network file sharing

- Know the hostnames of any NFS servers that you want to use.
- Know your username and password on the NFS server systems that you want to use.
- Verify that the lastdrive= entry in your CONFIG.SYS file can accommodate the number of file systems that you want to use concurrently.

  For example, if your system has built-in A, B, and C drives and you want to be able to connect to three additional network file systems (D, E, and F), your CONFIG.SYS file should contain the entry

  lastdrive=F:

  to support the network drive letters D, E, and F.

To prepare for network printing

- Know the hostnames of the print servers that you want to use.
- Know the names of the printer queues that you want to use.
- If you use LPR printing, verify that your PC's hostname is in the print server's authorization file, if the server uses one. This file is typically called /etc/hosts.lpd or /etc/hosts.equiv.
- If you use NFS printing, know your username and password on the NFS server systems that you want to use.
- Ensure that the appropriate printer drivers are installed on your PC. See your Windows documentation for details.

Related Topics

What is LPR?
What is Network Control?
What is NFS?

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Network File Sharing and Printing Configuration

Use the basic Drive Connection dialog box to connect to network drives or basic Printers Connection dialog box to connect to printers. You can select a drive or printer from a pulldown list and connect to that drive or printer, or specify all previously connected and saved network connections.

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Set Advanced or Basic Network Control

When you use Network Control for the first time, the Advanced user interface appears. If you want to use advanced features such as viewing previous connections, setting NFS attributes, and changing InterDrive configuration parameters, use the Advanced user interface; otherwise, use the Basic user interface.

To switch from Advanced to Basic Network Control

1. From the Network Control main dialog box, choose the InterDrive icon.
2. Clear Use advanced dialog box.
3. Choose OK.

   Now when you select the Drives or Printers icon, the Basic user interface appears. The Basic user interface remains in effect until you change to the Advanced user interface.

To switch from Basic to Advanced Network Control

1. From the Network Control main dialog box, choose the InterDrive icon.
2. Select Use advanced dialog box.
3. Choose OK.

   Now when you choose the Drives or Printers icon, the Advanced user interface appears. The Advanced user interface remains in effect until you change to the Basic user interface.

Related Topics

What is InterDrive?

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Connect to a File System

To configure a basic file system connection so you can connect to file systems (drives) using the basic Drive Connections dialog box:

1. From the Settings menu, select InterDrive Options.
2. If Use advanced dialog box is checked, clear the check box.
3. Choose OK.
4. From the Drive Connections dialog box, choose Done.

Configure a file system as follows:

1. Choose the Drives icon. The Drive Connections dialog box appears.
2. Specify a drive in the Drive box.
3. Specify the hostname and path or select it from the Network Resource or alias box.
4. If you want to reconnect to the same file system (drive) when you next log on to a sesson, make sure the Always Make Permanent option is checked under the Settings menu.
5. Choose Connect.

Related Topics

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Configure a Basic File System Connection

To configure a basic file system connection so you can connect to file systems (drives):

1. Choose the Drives icon. The Drive Connections dialog box appears.
2. Specify a drive in the Drive box.
3. Specify the hostname and path or select it from the Network Resource or alias box.
4. If you want to reconnect to the same file system (drive) when you next log on to a sesson, make sure the Always Make Permanent option is checked under the Settings menu.
5. Choose Connect.

Related Topics

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Disconnect from a File System

To disconnect from a connected drive

1. Choose the Drives icon.

   The Drive Connections dialog box appears.

2. From the Drive Connections dialog box, select a connected file system.
3. Choose the Disconnect button.

Related Topics

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Use Basic Printer Connections

To configure a printer connection so you can connect to printers using the basic Drive Printers dialog box:

1. From the Settings menu, select InterDrive Options.
2. If Use advanced dialog box is checked, clear the check box.
3. Choose OK.
4. From the Printer Connections dialog box, choose Done.

Configure a printer as follows:

1. Choose the Printers icon. The Printer Connections dialog box appears.
2. Specify a port in the Port field.
3. Specify the resource or alias in the Resource or Alias field.
4. If you want to reconnect to the same printer when you next log on to a sesson, choose Reconnect at Logon.
5. Choose Connect.

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Browse for File Systems

1. In the Drive Connections dialog box, in the Network Resource or Alias box, enter the hostname of the file server that you want to browse.
   --or--
   If the Network Resource or Alias box displays a list of hostnames, double-click the hostname of the file server that you want to browse. (Double-clicking also closes an open list of available file systems.)

   A list of file systems appears below the hostname in the Network Resource or Alias box.
2. Select the file system to which you want to connect.
3. In the Local Drive box, select a drive letter to associate with the file system to which you are connecting.
4. Choose Connect.
   --or--
   Press and hold the left mouse button; then drag the selected file system to the Current Connections box and release the mouse button.
5. If you have not yet set a default username and password, the Login dialog box prompts you for them.

   If the connection succeeds, the file system appears in the Current Connections box.

Tip: If you already know the hostname and directory specification of the file system that you want to connect to, you can type its network path directly in the Network Resource or Alias box.

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Login and User Information
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Ways to Connect to File Systems
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Connect to a Configured File System

1. In the Drive Connections dialog box, select the file system from the Previous Connections list.
2. Choose Connect.
   --or--
   Press and hold the left mouse button; then drag the selected file system to the Current Connections box and release the mouse button.
3. Ìf you have not yet set a default username and password, the Login dialog box prompts you for this information.

   If the connection succeeds, the file system appears in the Current Connections box.

Note: Before you connect to a configured file system, verify that its drive letter is not already in use for a current connection.

Related Topics

Login and User Information
Set or Remove Permanence on a File System

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Set or Remove Permanence on a File System

Use to change the default permanence setting for a specific file system or for all connections.

To change permanence for a specific connection

1. In the Drive Connections dialog box, in the Current Connections or Previous Connections box, select the connection whose permanence setting you want to change.

   A [P] in the connection listing indicates that the connection is currently permanent; lack of a [P] indicates that the connection is not permanent.

2. From the Settings menu, choose Make Connection Permanent to reverse the current setting.

Related Topics

Change the Default Permanence Setting
Permanent Connections

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Change the Default Permanence Setting

1. In the Drive Connections or Printer Connections dialog box, pull down the Settings menu.

   If there is no check mark next to the Always Make Permanent command, you must explicitly configure a connection as permanent if you want it to be restored each time that Windows starts.

2. Choose the Always Make Permanent command to change the current setting.

   The change takes effect for all subsequent connections to printers and file systems. Note that when Always Make Permanent is selected, all new connections, including those that you make after browsing or by directly typing a network path, are made permanent by default.

Related Topics

Permanent Connections
Set or Remove Permanence on a File System
Set or Remove Permanence on a Print Connection

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Use an Alternate Primary Group ID

1. In the WinApps program group, double-click the Configure icon.
2. From the list of items, select InterDrive, and choose Modify.
3. From the list of categories, select File System Configuration, and choose Modify.
4. Select the file system that you want to modify, and choose Update.
5. Group Identifier is in the list of additional parameters (choose the Additional button to see these). Select the parameter from the list; in the box at the bottom of the screen, type the ID that you want to use.
6. Choose OK until you return to the main configuration window.
7. From the File menu, choose Save to save your changes; then choose Exit to exit from the Configure utility.
8. Use Network Control or Windows File Manager to configure and connect to the file system as usual.

   The Network Driver changes your primary GID to the value that you specify and connects to the file system using that GID.

Note: You must be a member of the group whose GID you specify; if you are not, your original primary GID remains unchanged. To see the groups of which you are a member, open a DOS session and enter a command in the format

idconfig -g *drive:*

Related Topics

User Identifiers and Group Identifiers

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Use a Centralized Authentication Server

1. In the WinApps program group, double-click the Configure icon.
2. From the list of items, select InterDrive, and choose Modify.
3. From the list of categories, select Fine Tuning, and choose Modify.
4. From the list of items in the Fine Tuning dialog box, select PCNFSD server.
5. In the box labeled PCNFSD Server at the bottom of the screen, enter the hostname or IP address of the authentication server that you want to use for all file system connection requests.
6. Choose OK until you return to the main configuration window.
7. From the File menu, choose Save to save your changes; then choose Exit to exit from the Configure utility.
8. Use Network Control or Windows File Manager to configure and connect to the file system as usual.

Note: Each user who connects to a file system by way of a centralized authentication server must have the same user identifier (UID) and group identifier (GID) on both the authentication server and the host whose file system is being used. If this is not the case, the connection may succeed, but the user will not have the appropriate permissions for using files.

Related Topics

Authentication
Configure a File System Connection
File Permissions

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Change File System Connection Options

1. In the Drive Connections dialog box, select the connection from the Previous Connections list.
2. From the Settings menu, choose InterDrive Options.

   The Configure Drive dialog box appears, showing current settings for the connection.
3. Enter or select new information for any settings that you want to change. Choose the Advanced button to see and set additional options.
4. Choose OK.

Tip: You can also double-click on a file system in the connection list to change its configuration.

Related Topics

Configure a Basic File System Connection
Connect to a Configured File System

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Set Default Permissions for a File System

1. In the Drive Connections dialog box, select the file system whose default permissions you want to change.
2. From the Settings menu, choose NFS Attributes.

   The NFS Attributes dialog box appears.
3. Decide what class or classes of user (owner, group, world) to grant access to.
4. For each user class, select the access rights (read, write, execute) to grant.
5. Choose OK.

Related Topics

File Permissions

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Manage File Locking

1. In the Drive Connections dialog box, select the file system whose configuration you want to change.
2. In the Configure Drive dialog box that appears, choose the Advanced button.
3. Click in the Enforce File Locking check box to change its setting.

File locking is enabled by default for all new file systems that you configure. Locking is highly recommended to protect shared files from being overwritten.

Note that not all NFS servers support file locking. If you are unsure whether file locking is available for the files that you want to use, ask the NFS server administrator.

Related Topics

File Locking
NFS Server Requirements

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Prevent Filename Mapping on CD-ROM Drives

1. In the Drive Connections dialog box, From the Session menu, choose New Drive Connection.
2. In the Configure Drive dialog box that appears, enter required information, then choose the Advanced button.
3. Click in the Mount CD-ROM check box to select it and prevent mapping of filenames on the CD-ROM drive.
4. Choose OK.

You can also change this option for an existing connection. Select the connection; then, from the Settings menu, choose Drive Options.

Related Topics

Change File System Connection Options
Configure a File System Connection
Filename Mapping

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Prevent Mapping of Uppercase Filenames

1. In the Drive Connections dialog box, From the Session menu, choose New Drive Connection.
2. In the Configure Drive dialog box that appears, enter required information, then choose the Advanced button.
3. Click in the Map Lowercase Filenames check box to reverse the default name mapping rules.
4. Choose OK.

You can also change this option for an existing connection. Select the connection; then, from the Settings menu, choose Drive Options.

Related Topics

Change File System Connection Options
Configure a File System Connection
Filename Mapping

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Show Long Filenames in File Manager

1. In the Drive Connections dialog box, from the Settings menu, choose Show Long Filenames.

   A check mark next to the command indicates that File Manager will display filenames in their native (long) format. Lack of a check mark indicates that File Manager will display mapped filenames.

2. If you currently have File Manager open, you may need to exit from it and restart it for the change to take effect.

Related Topics

Filename Mapping
What is InterDrive?

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Create Symbolic Links to File Systems

Log in directly to the UNIX file server and enter a command in the format

ln -s *pathname linkname*

where

- pathname is the full directory specification of the directory to which you want the link to point.
- linkname is the name of the link file.

Note: The Network Driver does not support the use of the double dot (..) notation in link pathnames to indicate a directory one level above the current directory. When creating a symbolic link that you want to use for connecting to network file systems, specify the full name of each directory in the path.

Related Topics

Symbolic Links

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Configure an LPR Print Connection

1. In the Printer Connections dialog box, from the Session menu, choose New LPR Printer.

   The Configure LPR Printer dialog box appears.

2. Enter or select information in the fields provided.

   For the print session name, specify a name of 11 characters or fewer to identify the print connection. The name should not include spaces or any of the following special characters:

   ^ = ; & [ ] * ( ) + \ / | " : . , ? < >

   A hyphen (-) is valid except as the first character in the print session name.

3. Choose OK.

   The print connection appears selected in the Previous Connections box. To establish the connection, choose the Connect button, or use the left mouse button to drag the selected print connection to the Current Connections box.

Related Topics

Connect to a Configured Printer
Formatting Files to Print
Ways to Connect to LPR Printers
What is LPR?

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Configure an NFS Print Connection

To configure a connection to a printer controlled by a Network File System (NFS) server:

1. In the Printer Connections dialog box, from the Session menu, choose New NFS Printer.

   The Configure NFS Printer dialog box appears.

2. Enter or select information in the fields provided.

   For the print session name, specify a name of 11 characters or fewer to identify the print connection. The name should not include spaces or any of the following special characters:

   ^ = ; & [ ] * ( ) + \ / | " : . , ? < >

   A hyphen (-) is valid except as the first character in the print session name.

3. Choose OK.

   The print connection appears selected in the Previous Connections box. To establish the connection, choose the Connect button, or use the left mouse button to drag the selected print connection to the Current Connections box.

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Connect to a Configured Printer
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Browse for NFS Printers

1. In the Printer Connections dialog box, in the Printer box, enter the hostname of the print server that you want to browse.
   --or--
   If the Printer box displays a list of hostnames, double-click the hostname of the server that you want to browse (double-clicking also closes an open list of available printers).

   A list of printers appears below the hostname in the Printer box.
2. Select the printer that you want to use.
3. In the Port box, select a printer port to associate with the printer.
4. Choose Connect.
   --or--
   Press and hold the left mouse button; then drag the selected file system to the Current Connections box and release the mouse button.
5. If you have not yet set a default username and password, the Login dialog box prompts you for them.

   If the connection succeeds, the print connection appears in the Current Connections box.

Tip: If you already know the hostname and queue name of the printer to which you want to connect, you can type the network path of the printer directly in the Printer box.

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Login and User Information
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Ways to Connect to NFS Printers
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Use a Print Command or Program

1. In the Printer Connections dialog box, in the Port box, select a port to associate with the print command.
2. In the Printer Type box, select Print Program.
3. In the Print Command box, enter the print command, or the pathname of a batch file containing a series of commands.
4. Choose Connect.

   The print command definition appears in the Current Connections box. The Network Driver assigns a name to the connection for future reference. You can change this name if you prefer another.

Note that you can configure and save a print command connection if you want to use it repeatedly. Choose Configure Print Program from the Session menu to configure a new connection.
--or--
Select an existing print program connection; then choose Make Connection Permanent from the Settings menu.

Related Topics

Print Commands and Programs

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Connect to a Configured Printer

1. In the Printer Connections dialog box, select the print connection from the Previous Connections list.
2. Choose Connect.
   --or--
   Press and hold the left mouse button; then drag the selected print connection to the Current Connections box and release the mouse button.
3. If you are connecting to an NFS printer, and if you have not yet set a default username and password, the Login dialog box prompts you for this information.

   If the connection succeeds, it appears in the Current Connections list.

Related Topics

Configure an LPR Print Connection
Configure an NFS Print Connection
Login and User Information

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Change Print Connection Options

1. In the Printer Connections dialog box, select the connection from the Previous Connections list.
2. From the Sessions menu, choose Configuire Printer.

   The Configure Printer dialog box for the appropriate printer type appears, showing current settings for the connection.
3. Type or select new information for any settings that you want to change.
4. Choose OK.

Tip: You can also double-click on a print connection in the list to change connection options..

Related Topics

Configure an LPR Print Connection
Configure an NFS Print Connection

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View Queued Jobs

1. In Windows Print Manager, from the View menu, choose Other Net Queue.
   --or--
   From the WinApps program group, choose Network Control; then choose the Queues icon.

   The Print Queues dialog box appears.
2. Select a printer name from the Known Printers list.
   --or--
   If the printer that you want is not listed, select Other Printer and enter the network path in the box, in the format

   *hostname**printername*
3. If you entered the printer name, select the protocol that the printer uses.
4. If you want to see only your print jobs instead of all users' queued jobs, select Show Only My Jobs.

   (**Note:** This option is available only for printing to NFS servers running Version 2 of the authentication and print server, typically known as PCNFSD.)
5. Choose Refresh.

   The queued print jobs appear. The Network Driver does not format or interpret the information that a print server sends in response to a query. This is because not all print servers report the same information or format data in the same way.

Related Topics

Remove a Job from a Print Queue

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Remove a Job from a Print Queue

1. In Windows Print Manager, from the View menu, choose Other Net Queue.
   --or--
   From the WinApps program group, choose Network Control; then choose the Queues icon.

   The Print Queues dialog box appears.
2. Select a printer name from the Known Printers list.
   --or--
   If the printer that you want is not listed, select Other Printer and enter the network path in the box, in the format

   *hostname**printername*
3. If you typed the printer name, select the protocol that the printer uses.
4. If you want to see only your print jobs instead of all users' queued jobs, select Show Only My Jobs.

   (**Note:** This option is available only for printing to NFS servers running Version 2 of the authentication and print server, typically known as PCNFSD.)
5. Choose Refresh.

   The queued print jobs appear.
6. Choose the Delete button.

   A dialog box prompts you for the number of the job to delete.
7. In the queue listing, find the number of the job that you want to delete, and enter the number in the Job ID box.
8. Choose OK.
9. Choose Done to exit from the Print Queues dialog box.

Related Topics

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Set or Remove Permanence on a Print Connection

1. In the Printer Connections dialog box, in the Current Connections or Previous Connections box, select the connection whose permanence setting you want to change.

   A [P] in the connection listing indicates that the connection is currently permanent; lack of a [P] indicates that the connection is not permanent.

2. From the Settings menu, choose Make Permanent to reverse the current setting.

Related Topics

Change the Default Permanence Setting
Permanent Connections

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Change Automatic Login Behavior

1. In the WinApps program group, double-click the Configure icon.
2. From the list of components to configure, select InterDrive; then choose Modify.
3. From the list of categories, select Fine Tuning; then choose Modify.
4. From the list of configurable parameters, select Automatic Login.

   The box labeled Automatic Login at the bottom of the screen shows the current value. Select No to turn off the automatic login feature.
5. Choose OK until you return to the main window of the Configure utility.
6. From the File menu, choose Save to save your change; then choose Exit to exit from the Configure utility.

Related Topics

Authentication
Log in After Windows Starts
Login and User Information

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Log in After Windows Starts

1. In the Advanced Drive Connections or Advanced Printer Connections dialog box, from the Session menu, choose Login.

   The Login dialog box appears.

3. Enter your username and password in the fields provided.
4. By default, the Network Driver attempts to restore connections to all permanent network resources when you log in. If you do not want to restore permanent connections, click the Restore All Drives and Printers check box to turn the option off.
5. Choose OK.

   The Network Driver stores your login information in memory and uses it to make subsequent NFS connections. If you select the Restore All Drives and Printers option, the Network Driver also tries to connect to permanent file systems and printers now.

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Authentication
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Log Out

1. In the Drive Connections or Printer Connections dialog box, from the Session menu, choose Logout.

   The Logout dialog box appears.

2. Normally, the Network Driver disconnects all network resources when you log out. If you want to remove your username and password from memory but preserve existing connections, click the Disconnect All Drives and Printers option to turn the option off.

3. Choose OK.

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Disconnect a Connection

1. In the Drive Connections or Printer Connections dialog box, select the connection in the Current Connections box that you no longer want to use.
2. Choose Disconnect.

Note: If the connection is permanent and you do not want it to be restored the next time you start Windows, you must also remove permanence from the connection.

Related Topics

Set or Remove Permanence on a File System
Set or Remove Permanence on a Print Connection

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Delete Items from a Connection List

1. In the Drive Connections or Printer Connections dialog box, from the Previous Connections list, select the name of a network connection.
2. From the Session menu, choose Delete Connection.
   --or--
   Press the Delete key on your keyboard.
3. The Network Driver prompts for confirmation that you really want to delete the connection entry. If you do not want to see the confirmation message every time you delete a connection, select Don't Show This Message in the Future.
4. Choose OK.

You must reconfigure a deleted connection if you want to use it again.

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View and Change InterDrive Settings

1. In Control Panel, double-click the Network icon.
   --or--
   From the WinApps program group, choose Network Control; then choose the InterDrive button.

   The InterDrive Options dialog box displays a status message stating whether InterDrive is running and whether it is running as a TSR or a VxD. It also displays the current defaults for settings.
2. Change any runtime options that you want to change.
3. When you are finished, choose OK.

Note: Changes to InterDrive settings take effect for the current InterDrive session only.

Related Topics

What is InterDrive?

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Start and Stop the InterDrive TSR

1. Close any network files and applications that you are using.
2. Exit from Windows.
3. At the system prompt, enter **idutil -u** to unload the InterDrive TSR.
4. At the system prompt, enter **idrive** to restart the InterDrive TSR.

Related Topics

What is InterDrive?

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Start and Stop the InterDrive VxD

The VxD version of InterDrive should stop automatically when you exit from Windows and start automatically when you run Windows. If it does not, use the following procedure:

1. Exit from Windows.
2. Verify that the vidrive=yes parameter exists in the [pctcp vxdinit] section of your configuration file.
3. If the vidrive=yes parameter does not exist, create it, and save your changes.
4. At the system prompt, enter **vxdinit -u** to unload the VxD loader.
5. At the system prompt, enter **vxdinit** to restart the VxD loader.
6. Restart Windows.

Related Topics

What is InterDrive?

Introduction
Step-by-Step Instructions
Concepts

Concepts

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What is the FTP Software Network Driver?

When you share network files and printers in Windows, the software that actually does the work is the FTP Software Network Driver. That is why you see references to the Network Driver when you use certain Network Control dialog boxes and help. Network Control is only one interface to the Network Driver. You can also use the services of the Network Driver directly from standard Windows menus in File Manager, Print Manager, and Control Panel.

In addition to interacting with Windows and applications in Windows, the Network Driver relies on InterDrive software to communicate with the Network File System (NFS) servers whose network resources you use. InterDrive helps to establish the connection to a network file system or printer, and manages the transfer of data between your PC and the NFS server.

Related Topics

What is InterDrive?
What is Network Control?

Introduction
Step-by-Step Instructions
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What is InterDrive?

InterDrive is software that supports the use of files and printers through the Network File System (NFS) protocol. When you try to connect to a file system or to a printer, InterDrive serves as the messenger between your PC and the NFS server. InterDrive supplies your username and password to the server and requests authorization for you to use the resource.

InterDrive also interprets access rights to files in a network file system and translates network filenames into a format that conforms to DOS naming conventions.

When you installed your networking software, InterDrive was configured to run on your system in either of two ways:

- As a TSR (terminate-and-stay-resident) program.
- As a VxD (virtual device driver).

A terminate-and-stay-resident (TSR) program loads into memory and continues to run for as long as your computer remains running, or until you explicitly unload the TSR or restart your PC. A virtual device driver (VxD) manages data exchanges between Windows applications and your system. A TSR uses conventional memory, whereas a VxD takes advantage of Windows memory management.

The type of network kernel installed on your system (TSR or VxD) determines whether you are using the TSR or VxD version of InterDrive. If you work mainly in Windows, FTP Software recommends using the VxD because of its memory advantage. However, you may need to use the TSR under the following conditions:

- You need to connect to file systems and printers before starting Windows.
- You need to be able to exit from Windows and retain connections to network file systems and printers.

Note: If you use the Network Driver to do printing only to an LPD server or to your own print program, you do not need to run InterDrive.

Related Topics

What is the FTP Software Network Driver?

Introduction
Step-by-Step Instructions
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What is NFS?

Network File System (NFS) is a standard protocol for file and printer sharing in TCP/IP networks. A protocol is like a language because it defines a set of rules for communicating.

NFS was originally developed by Sun Microsystems for use on UNIX systems, Today, NFS servers are available on many types of systems, including PCs running DOS, Windows, and OS/2.

If a host in your network is running an NFS server, you can use the FTP Software Network Driver to connect to and use file systems on the server as if the file systems were local. You can also use a network printer managed by an NFS server, as long as the server is running at least version 2 of the authentication component (usually called PCNFSD).

Related Topics

NFS Server Requirements
Ways to Connect to File Systems
Ways to Connect to NFS Printers

Introduction
Step-by-Step Instructions
Concepts

What is LPR?

LPR is a standard protocol for printing to remote hosts that are running Line Printer Daemon (LPD) software. A protocol is like a language because it defines a set of rules for communicating. Daemon is a UNIX-style name for a software component, often a server, that responds to requests or performs specific tasks.

The LPD print server was originally developed for use on Berkeley UNIX hosts. Today, LPD print servers are available on many types of systems, including PCs running DOS, Windows, and OS/2. Your PC/TCP or OnNet software includes a Windows Print Server that supports LPD-style printing.

If a host on your network is running an LPD print server, you can use the Network Driver to connect to and print to the LPD server. To do this, choose the LPR printer type when configuring a new print connection.

Related Topics

Ways to Connect to LPR Printers

Introduction
Step-by-Step Instructions
Concepts

Other Network Operating Systems

The Other NOS button, available in the Drive Connections, Printer Connections, and Print Queues dialog boxes, gives you access to the file and print sharing functions of other network operating systems running on your PC. For example, if you are also using LAN Manager on your PC, choosing Other NOS from the Drive Connections dialog box displays the LAN Manager interface for sharing network file systems.

The ability to use the functions of one NOS through the interface of another NOS is called chaining.

The FTP Software Network Driver can chain to any other NOS that supports chaining. The Network Driver can also be chained off of Windows for Workgroups. When you install PC/TCP or OnNet software, the setup program detects the presence of other network operating systems and prompts you for information on the chaining order that you want to use. It then makes the appropriate changes to your system files.

For details about configuring PC/TCP or OnNet to run with another NOS, see the advanced installation and configuration information in your product documentation set.

Related Topics

Introduction
Step-by-Step Instructions
Concepts

Permanent Connections

A permanent network connection is a connection that the Network Driver restores automatically each time you start Windows. Permanent connections are a convenient way to establish your normal working environment when Windows starts.

You can change the permanence setting for a specific connection at any time. To do so, select the connection; then choose Make Connection Permanent from the Settings menu. The Make Connection Permanent command is also a way to save (configure) a temporary connection that you made by browsing or by directly typing a network path.

The Always Make Permanent command on the Settings menu determines whether all new connections to file systems and printers are made permanent by default. When Always Make Permanent is selected, all new connections, including those made by browsing or by directly typing a network path, are made permanent automatically.

Related Topics

Set or Remove Permanence on a File System
Set or Remove Permanence on a Print Connection

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Step-by-Step Instructions
Concepts

Network Paths

A network path is the complete specification that the Network Driver uses to locate a file system or a printer in the network.

If you know the network path of a file system or printer, and you want to connect to it using default options, you can enter the network path directly in the Drive Connections or Printer Connections dialog box.

The network path for a printer is in the format

*host**printer*

where

host	Is the hostname or IP address of the print server.
printer	Is the printer queue name of a printer that you want to use.

For example, the following is the network path of a printer named lp on host Fox:

\\fox\lp

The network path for a file system is in the format

*host**file_system*

where

host	Is the hostname or IP address of the file server
file_system	Is the complete directory specification of a file system that you want to use, as you would see the file specification if you were directly logged in to the remote host.

When you are connecting to file systems, be sure to include the root directory in the path specification. Remember that the backslash (\) between hostname and file system name is a delimiter that is part of the network path syntax, not part of the file system path. For example, the network path for a UNIX file system might look like this:

\\bear\/usrs/lee

Note that if you are connecting to a file system on a PC, the server might require the pathname to include the drive where the file system resides. For example:

\\fox\C:\LFILES

If you want to avoid specifying network paths, use the Configure Drive or Configure Printer dialog boxes to connect to network resources. The Network Driver builds the correct network path syntax for you, based on the hostname and resource name you specify.

Related Topics

Configure a Basic File System Connection
Configure an LPR Print Connection
Configure an NFS Print Connection

Introduction
Step-by-Step Instructions
Concepts

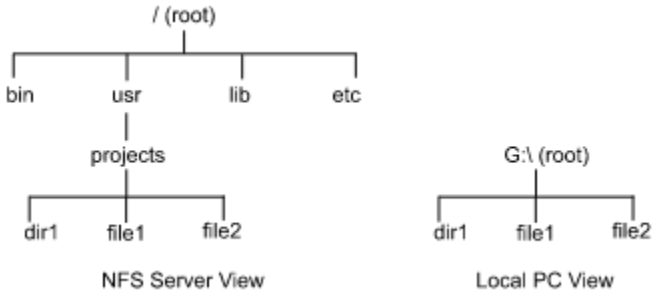
What is a File System?

An NFS server makes its directories available for network use by a process called exporting. An exported directory, and the files and subdirectories it contains, is called a file system.

When you connect to a file system, you associate a local drive letter on your PC with the remote file system. Because of this association, network file systems are also referred to as network drives. You can manage and use the files on a network drive in the same way that you use your local files.

The directory path that you specify when you connect to a file system becomes the root of the network drive as it appears on your local PC. From your PC, you cannot see or change any directories above the network file system root. This root is usually one or more levels below the actual root directory that you would see if you were directly logged in to the remote system.

For example, suppose that you connect to a network file system whose pathname on the UNIX server is /usr/projects. The following diagram illustrates the relationship between the actual root directory as it exists on the server and the root of the network file system as you see it from your PC:



In this example, the contents of the /usr/projects directory would appear on your PC as the contents of the root directory on the G drive (G:\). The directory structure and filenames appear to you locally in PC formatregardless of whether the remote file server is a UNIX system or a PC. You can use DOS commands or Windows applications to edit and manage the files.

Related Topics

Browse for File Systems
Configure a Basic File System Connection

Introduction
Step-by-Step Instructions
Concepts

Ways to Connect to File Systems

Use the Drive Connections dialog box to create a new file system connection. You can create a new connection in either of the following ways:

- Configure the connection and save it for reuse by choosing New Drive Connection from the Session menu.

  Configuring a connection is the most convenient way to work with file systems that you use regularly. You can change default characteristics and customize the connection to suit your needs. Configured file systems appear in the Previous Connections list so that you can easily select and reconnect to them any time you want.

- Make a temporary connection by entering information directly in the Network Resource or Alias box.

  This method preserves the connection only as long as InterDrive is running. However, if you do not plan to use the file system regularly, and if you are able to accept default file system characteristics, this is a quick and easy way to connect.

  You can enter a network path directly in the Network Resource or Alias box, or you can browse through the list of file systems available on NFS servers in your network and select a file system. Browsing is convenient if you are unsure of the name of the file system that you want to use, or if you just want to explore the resources available on the network.

  You can save a temporary connection for reuse by selecting it, then choosing Make Connection Permanent from the Settings menu.

Related Topics

Browse for File Systems
Configure a Basic File System Connection
Network Paths

Introduction
Step-by-Step Instructions
Concepts

File Locking

File locking prevents more than one user from opening and changing a file at the same time. Locking is enabled by default for all network file systems. When locking is enabled, if you try to open a file that is already in use, you receive an error message.

File locking is reliable only if everyone uses it consistently. If one user in your work group disables file locking and opens a file, another person could open the same file without knowing that it is already in use. This can cause problems because the last user to save the file overwrites any changes that the other user has made.

To ensure that file locking works reliably:

- Verify that all users have enabled file locking for a file system that they are sharing (Enforce File Locking is an advanced option in the Configure Drive dialog box).
- Verify that all users who are sharing the same file system enable file locking in their applications. For example, if you are editing files in a word processor, and the word processor supports file locking, all users must enable that feature. Refer to your application documentation for details.
- Verify that software is running on the remote host to support file locking. The component of NFS servers that is responsible for file locking is typically called lockd (for lock daemon). If you are having problems with file locking on a specific server, ask the system administrator to verify that the lock daemon is working.

Related Topics

Manage File Locking
NFS Server Requirements

Introduction
Step-by-Step Instructions
Concepts

Filename Mapping

Network file systems can have different file naming conventions from DOS. For example, UNIX filenames are case sensitive, can be longer, and can contain special characters such as semicolons (;) that are not valid in DOS filenames.

InterDrive creates mapped names for files whose names do not conform to DOS naming conventions. InterDrive first converts all lowercase letters to uppercase, then generates a name consisting of all or a portion of the original filename, plus special characters and digits. Sometimes, the result is not what you want or expect.

You can control the display of filenames in Windows by

- Reversing the rules for mapping lowercase and uppercase names.
- Preventing mapping of filenames on a CD-ROM drive.
- Requesting that you want to see filenames in their original (long) format in File Manager.

Related Topics

Change File System Connection Options
Prevent Filename Mapping on CD-ROM Drives
Prevent Mapping of Uppercase Filenames
Show Long Filenames in File Manager

Introduction
Step-by-Step Instructions
Concepts

Changing Filename Mapping Rules

The mapping rules that InterDrive uses assume that network files are on a UNIX system and follow typical UNIX lowercase or mixed case naming conventions. Consequently, InterDrive treats lowercase filenames in the network file system as normal, and maps

- Uppercase and mixed case names.
- Any name that does not conform to DOS restrictions on length or use of special characters.

If you are connecting to a file system where names are all or mostly uppercase (for example, on an OS/2 server), you might want to instead treat uppercase names as normal and map lowercase and mixed case names. This is an advanced option in the Configure Drive dialog box.

Preventing filename mapping on CD-ROM drives

When you configure a network drive, you can specify that it is a CD-ROM drive. Many CD-ROM drives have naming conventions that include semicolons or other punctuation in all filenames. The Mount CD-ROM option prevents InterDrive from mapping all filenames with these special characters on the CD-ROM drive. This is an advanced option in the Configure Drive dialog box.

Showing Long Filenames in File Manager

If you want File Manager to display all filenames in their long (native) format instead of as mapped names, you can specify your preference. Use the Show Long Filenames command on the Settings menu in the Drive Connections dialog box to change the current behavior. You can change this option on a global basis only; you cannot specify it selectively for specific file systems.

Note: The long filenames option works well for viewing files in File Manager, but can produce unexpected results if you try to manipulate certain files (for example, run an executable with a long filename) from File Manager. This is due to the way File Manager stores long filenames internally, and the way that File Manager interacts with DOS. If you want to do anything with long filenames other than view them in File Manager, do not select the Show Long Filenames option.

Symbolic Links

A symbolic link is a file that points to the pathname of another file or directory. Users of UNIX file systems can create symbolic links to shorten or customize the path to a file or directory. InterDrive supports the use of symbolic links, both in the network paths that you use to mount a UNIX file system, and within mounted file systems.

Symbolic links can be useful in mount pathnames for these reasons:

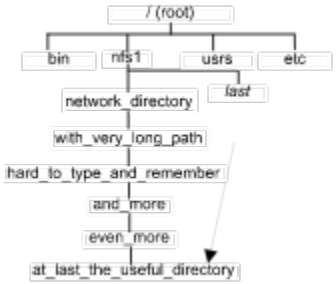
- InterDrive restricts the length of a mount pathname to 80 characters.

  If the file system that you want to mount has a long directory path, you can create a symbolic link and then use the link name as the directory path to mount.

- InterDrive maps filenames and directory names that do not conform to DOS conventions.

  Creating a symbolic link for a mapped directory name lets you see and refer to the directory using a name of your choice instead of the mapped name.

The following example shows a network file system on a hypothetical NFS server named Server1. The symbolic link named last, shown italicized in the root directory, is a shortcut way of referring to the last directory in the long and complicated directory path.



InterDrive users can mount the file system using the network path

\\Server1\/last

instead of using the long and complicated path of the true directory structure.

InterDrive can process two types of symbolic links:

- Relative
- Absolute

A relative link is so named because the path it points to is relative to where the link file exists. The first name in the link path indicates a directory or file directly below the directory where the link was created. You can recognize relative links by the fact that their pathnames do not begin with a leading slash. For example, the relative path for the link in the example begins with

networkdirectory/with_very_long_path.

The pathname pointed to by an absolute link includes all directory names starting from the root. For example, the absolute path for the example link would begin with

/nfs1/network_directory/with_very_long_path.

An absolute symbolic link may point to a directory structure outside of the current directory where the link file exists. When InterDrive encounters an absolute link pointing to a directory outside of your mounted file system, InterDrive automatically tries to mount the other file system using the parameters that it used to mount the current file system. If the linked file or directory is available to network users, you can use the link and the directory or file that it points to.

Note that to create symbolic links, you must log in directly to the UNIX file server.

Related Topics

Create Symbolic Links to File Systems

Introduction
Step-by-Step Instructions
Concepts

Printing Methods Available in Windows

With the FTP Software Network Driver, you can print to as many as seven different network printers, using the LPT and COM ports on your PC.

The Network Driver does print redirection--it intercepts data that is targeted for a local printer port, and sends it across the network to a print server instead. Print redirection makes it possible for you to print easily from any application to a network printer as if the printer were directly connected to your PC.

You can configure any combination of the following types of network print connections:

Select this type	To do this
NFS	Print to a Network File System (NFS) printer
LPR	Print to a UNIX style Line Printer Daemon (LPD)
Print Program	Print to a command, a batch file, or a print program

Because you can use more than one print method concurrently, your choice of printing method is based mainly on personal preference and the type of server software available on the host system to which the printer is connected. (Remember that if you use NFS printing, InterDrive must also be configured and running).

You can also use other printing methods from Windows, but those printing methods are unrelated to the print redirection that the Network Driver does. For details, see your FTP Software product documentation set.

Related Topics

Print Commands and Programs
Ways to Connect to LPR Printers
Ways to Connect to NFS Printers

Introduction
Step-by-Step Instructions
Concepts

Ways to Connect to NFS Printers

Use the Printer Connections dialog box to configure a connection to a printer controlled by a Network File System (NFS) server. You can create an NFS print connection in either of the following ways:

- Configure the connection and save it for reuse by choosing New NFS Printer from the Session menu.

  Configuring a print connection is the most convenient way to work with printers that you use regularly. You can change default characteristics and customize the connection to suit your needs. Configured printers appear in the Previous Connections list so that you can easily select and reconnect to them any time you want.

- Make a temporary connection by supplying information directly in the Printer box.

  This method preserves the connection only as long as InterDrive is running. However, if you do not plan to use the printer regularly, and if you are able to accept default printer characteristics, this is a quick and easy way to connect to an NFS printer.

  You can enter a network path directly in the Network Resource or Alias box, or you can browse through the list of available printers on NFS servers in your network and select a printer name. Browsing is convenient if you are unsure of the name of the printer that you want to use, or if you just want to explore the resources available on the network.

  You can save a temporary connection for reuse by selecting it, then choosing Make Connection Permanent from the Settings menu.

Related Topics

Browse for NFS Printers
Configure an NFS Print Connection
Network Paths
What is NFS?

Introduction
Step-by-Step Instructions
Concepts

Ways to Connect to LPR Printers

Use the Printer Connections dialog box to configure a connection to a printer controlled by a Berkeley UNIX style line printer daemon (LPD). This connection uses Printer Type LPR because **lpr** is the command typically used to send files to a UNIX LPD server. You can create an LPR print connection in either of the following ways:

- Configure the connection and save it for reuse by choosing New LPR Printer from the Session menu.

  Configuring a print connection is the most convenient way to work with printers that you use regularly. You can change default characteristics and customize the connection to suit your needs. Configured printers appear in the Previous Connections list so that you can easily select and reconnect to them any time you want.

- Make a temporary connection by supplying information directly in the Printer box.

  This method preserves the connection only for the current Windows session. However, if you do not plan to use the printer regularly, and if you are able to accept default printer characteristics, this is a quick and easy way to connect to an LPR printer.

  You can save a temporary connection for reuse by selecting it, then choosing Make Connection Permanent from the Settings menu.

Related Topics

Configure an LPR Print Connection
Network Paths
What is LPR?

Introduction
Step-by-Step Instructions
Concepts

Print Commands and Programs

If you do not want to print directly to an NFS or LPR printer, you can redirect print jobs to a command or other program. This lets you send files to other types of print servers or do additional processing on a file before you print it.

For example, if you have written your own program called myprint.exe, you can specify its name on the print command line.

Or, if you want to do several different things to process a file before printing it, you can create a batch file containing the processing commands, and then specify the batch filename as the print command. For example, suppose that you create a file with a publishing markup language and you need to run the file through a text processor before printing the final output. You could create a batch filenamed PRINT-IT.BAT containing the following commands:

```
dohelp %1 > donefile.txt

lpr -S bear -P lp donefile.txt
```

The first command runs the dohelp text processor on the current file (indicated by %1) and redirects the output to a filenamed DONEFILE.TXT. The second command sends DONEFILE.TXT to the printer named lp connected to the print server named bear.

After creating the batch file, redirect your default printer port to that file. Then, when you choose the print option from within an application, the batch file processes the file that you are printing.

Related Topics

Use a Print Command or Program

Introduction
Step-by-Step Instructions
Concepts

Authentication

When you try to connect to an NFS file system or printer, an authentication server, usually called PCNFSD, verifies your username and password. By default, InterDrive requests authentication from the same server whose file system you are trying to connect to. However, for connecting to file systems, it is possible to use an authentication server on a different host.

For example, you might use file systems on servers named Green, Blue, and Red, with server Green authenticating connection requests for all systems. A centralized authentication server is useful if

- Your site or work group stores and maintains password information in one secure, centralized place, and mirrors that information on other systems.
- PCNFSD software is not available on all NFS servers in your network.

Note: Each user who connects to a file system by way of a centralized authentication server must have the same user identifier (UID) and group identifier (GID) on both the authentication server and the host whose file system is being used. If this is not the case, the connection may succeed, but the user will not have the appropriate permissions for using files.

Related Topics

File Permissions
Use a Centralized Authentication Server

Introduction
Step-by-Step Instructions
Concepts

Login and User Information

When you try to connect to NFS file systems and printers, the server requires a username and password. This helps to prevent unauthorized users from gaining access to network files and printers. The Network Driver includes several features that can automate the network login process and make it more convenient.

By default, the Network Driver prompts you for a username and a password when Windows starts. The Network Driver stores the username and password as your default login information and uses them to make all subsequent NFS connections. It also uses your default login information to restore any permanent NFS connections that are configured for you.

If you cancel the Login dialog box, you are not prompted for a username and password and your NFS connections are not restored.

Default login information remains in memory only as long as InterDrive is running (or until you change the default, or log out of the network). When you stop and restart InterDrive, you must supply the login information again.

If your default login information fails for a particular connection, you are prompted for an alternate username and password.

While you are in Windows, you can also:

- Use the Login dialog box (from the the Network Control Session pulldown menu of the Advanced Drive Connections or Advanced Printer Connections) to change your default username and password. This might be useful if more than one person uses the same PC to share file systems. It is a way to establish a new username and password, and optionally restore permanent connections for that user, without having to exit from and restart Windows.
- Use the Logout dialog box (from the the Network Control Session pulldown menu of the Advanced Drive Connections or Advanced Printer Connections) to clear your password information from memory and optionally close all network connections.
- Use the OnNet Configure utility to change the automatic login setting. You might want to do this, for example, if you use the Network Driver for LPR printing only, and you do not want to be prompted for NFS login information each time Windows starts.

Related Topics

Change Automatic Login Behavior
Log in After Windows Starts
Log Out

Introduction
Step-by-Step Instructions
Concepts

User Identifiers and Group Identifiers

As with UNIX systems, NFS servers grant access to files based on the user identifier (UID) and group identifier (GID) of the requesting user. Your UID is a number associated with the name that you use to log in to the NFS server, and your GID is a number associated with a user group in which you are a member. Both are stored in files on the server.

When you connect to a file system, the Network Driver obtains your UID and GID from the server and uses them with all subsequent requests to the server. Your UID and GID determine your file access privileges.

You may occasionally use a file system owned by a group of which you are a member, but whose GID is not your primary GID. Before you connect to the file system, you may need to change your primary GID to the GID of the group that owns the file system.

For example, in certain circumstances, when you edit a file, your owner permissions are applied to the file as if you created it. When your primary GID is different from that of the original file owner, this can lock the original owner out of access to the file.

You can prevent this situation by changing your primary GID to the GID of the file owner before connecting to a file system or before using any files in that file system.

Related Topics

File Permissions
Use an Alternate Primary Group ID

Introduction
Step-by-Step Instructions
Concepts

File Permissions

The Network Driver uses UNIX-style NFS permissions to control access to network files. You can assign access rights based on three classes of user:

- Owner, who is the user who creates the file.
- Group, which represents a defined set of users who share the same access rights.
- World, which represents any other user of the system.

The following table explains the meaning of the access rights that you can assign to each class of user:

Permission	Lets users do this to files	Lets users do this to directories
Read	View and copy files, or run a program or script file.	List files.
Write	Edit and delete files.	Add or remove files.
Execute	Has no effect.	Make a directory the current directory. Use the directory name in a pathname.

When interpreting access to network files, the network driver makes the closest possible translation between DOS file attributes and NFS file permissions. However, the translation is only approximate and some differences exist. For example,

- NFS does not make the distinction that UNIX does between read access and execute access. Granting only execute access to a file has no effect. You must grant read access to an executable file for DOS users to be able to run it.
- If the file system is on a UNIX host, you might not see some files in spite of having read access to them. That is because InterDrive translates the UNIX setuid bit to the DOS hidden file attribute. (Normally, on a UNIX system, the setuid bit specifies that a file inherits the user ID of the person who creates or edits the file).

When you connect to a UNIX file system, InterDrive preserves the permissions that were previously assigned to existing files. When you connect to any kind of file system, InterDrive sets default permissions on all new files and directories that you create on the network drive.

The default permissions are

- Read, write, and execute to the owner of a file.
- Read, write, and execute to anyone in the same group as the owner of the file.
- Read and execute to all other users.

You can change this default set of permissions. You also can change permissions on any individual directory or file.

Related Topics

Set Default Permissions for a File System

Introduction
Step-by-Step Instructions
Concepts

NFS Server Requirements

For NFS file sharing and printing to work, both your PC and the NFS server must be configured appropriately. For example,

- A file on the server (typically called /etc/passwd on UNIX systems) must contain your username and password to support the authentication process.
- Another file (typically called /etc/exports) must grant your PC access to any file systems to which you want to connect. If you want to do NFS printing, the exports file must also contain the name of a spool directory where your files can be copied to wait for printing.

In addition, the following software components must be running on the NFS server (because of their origin on UNIX systems, these components are typically called daemons):

Daemon	Significance
portmapper	Must be running for other daemons to work. Allows InterDrive to find the daemons that provide NFS services.
PCNFSD	Verifies your username and password to determine whether or not you are authorized to connect to a file system.
MOUNTD	Establishes the connection between your PC and a file system.
NFSD	Handles file and directory requests that originate from your PC, such as displaying a directory listing or changing directories.
LOCKD	Manages file locking. This daemon is not available on all NFS servers. It is required only if you use file locking.

If you have trouble connecting to NFS file systems and printers, contact the server administrator to verify that the appropriate information is configured for you.

Related Topics

Getting Started

Introduction
Step-by-Step Instructions
Concepts

Formatting Files to Print

For print redirection to work, you need to install the printer driver for the network printer that you want to use, and set it as the default printer for the port that you want to redirect. For help on how to accomplish these tasks, see your Windows documentation.

If you are printing to an NFS server, you do not need to configure anything additional on your PC to support the formatting of files to print. The network software copies the file verbatim to the NFS server and the server controls the formatting of the file for printing. If you have trouble printing binary files on the NFS server, the server administrator may need to change an entry in the print configuration file (usually called pcnfsd.conf).

For LPR print connections, the binary option is selected by default in the Configure LPR Printer dialog box. This option is equivalent to the **-v** option of the traditional **lpr** command on which LPR printing in Windows is based. If you print primarily ASCII files, you should turn off this option when configuring the print connection.

Note: If you are printing to an LPD server on a Sun system, try printing without the binary option selected (this is equivalent to specifying the **-l** or **-f** option on the **lpr** command line). Some Sun print servers work better this way.

Related Topics

Change Print Connection Options
Configure an LPR Print Connection

Introduction
Step-by-Step Instructions
Concepts

Printing PostScript Files

If you have trouble printing PostScript files, the reason may be the way the PostScript print driver is configured on your system. Possible causes of problems include the following

- The print server encounters Ctrl+D characters in the file.

  Windows 3.1 PostScript drivers add these characters to the beginning of a print file. This can cause problems on a UNIX print server, where Ctrl+D is interpreted as an end-of-file character.

  Typical symptoms of this problem are that a file sits in the print queue; only a banner page prints; or the server prints PostScript characters instead of the formatted text. You can prevent PostScript drivers from adding Ctrl+D to print files by adding an entry to the WIN.INI file.

- The PostScript driver is configured to print to an encapsulated PostScript file.

  In this case, printing appears to work, but the job is printed to a file instead of to the network printer.

To prevent Windows from adding Ctrl+D characters to your print files

1. Open your Windows WIN.INI file with a text editor.
2. Look for the section `[`*`PrintDriver,Port`*`]` where *`PrintDriver`* is the name of the PostScript printer driver and *`Port`* is the name of the local port that you want to use. If the section does not exist, create it (get the driver name from the `[devices]` section of the file). For example, the following section defines an Apple LaserWriter driver being used on LPT1:

   ```
   [Apple LaserWriterII NT,pscript,LPT1:]
   ```

3. In the print driver section, insert the entry `CtrlD=0`
4. Save your changes.

For more information, see your Windows documentation, the Windows PRINTERS.WRI file, and the Windows WININI.WRI file.

To verify that the driver is not printing to an encapsulated PostScript file

1. In Control Panel, double-click the Print Manager icon.
2. From the Options menu, choose Printer Setup.
3. In the Printers dialog box, select the printer driver that you are using, and choose Setup.
4. In the Printer Setup dialog box, choose Options.
5. In the Print To box, verify that Printer, not Encapsulated PostScript file, is selected.

Related Topics

Introduction
Step-by-Step Instructions
Concepts

Connecting to File Systems

InterDrive software must be running on your system to support NFS file and printer sharing. When InterDrive starts, it allocates a default number of file system connections that you can use concurrently. You cannot change these values.

If you are using the VxD version of InterDrive, the default is set to the maximum of 26 file systems. If you are using the TSR version of InterDrive, the default is 2 file systems.

If you try to connect to a file system and receive the message that no more drives are available, you can increase the number of drives allocated in your system's CONFIG.SYS file.

Related Topics

Change the Number of Drives That CONFIG.SYS Allows
What is InterDrive?

Introduction
Step-by-Step Instructions
Concepts

Connecting to Printers

InterDrive software must be running on your system to support NFS file and printer sharing. When InterDrive starts, it allocates a default number of print connections that you can use concurrently.

If you try to connect to a printer and receive the message that no more printers are available, you can increase the number of printers, provided that you have not already reached the maximum of 7. If you are using the TSR version of InterDrive, the default is one printer without an expanded memory manager (EMM) or 7 printers with an EMM. The default for the VxD is set to the maximum of 7.

Other problems with connecting to printers may be due to the situation on the server side. For additional troubleshooting information, see the *Advanced User's Guide*.

Related Topics

What is InterDrive?

Introduction
Step-by-Step Instructions
Concepts

Change the Number of Drives That CONFIG.SYS Allows

1. Open your CONFIG.SYS file with a text editor and edit the lastdrive= command. For example, the command

   lastdrive=F:

   allows a PC with physical drives A, B, and C to use the additional letters D, E, and F as network drives.

2. Restart your PC for the change to take effect.

Related Topics

What is InterDrive?

Introduction
Step-by-Step Instructions
Concepts

Viewing and Using Files in File Manager

Occasionally you may have trouble seeing and using files in File Manager. For example:

If you cannot open, copy, or delete a file in File Manager:

You may have to disable the Show Long Filenames option. This option is useful for viewing network files whose names do not conform to standard DOS naming conventions. However, if you try to manipulate a file with a long name from File Manager, you may encounter problems due to the way File Manager handles long filenames internally.

If you want to do anything other than view long filenames in File Manager, it is recommended that you disable the Show Long Filenames option on the Settings menu.

If you cannot see all of the directory levels in your file system:

Increase the value of the InterDrive Directory Buffers option. You should not encounter this situation unless you are using the InterDrive TSR, because the InterDrive VxD allocates the maximum value of 1,000, which roughly corresponds to the number of directory levels you can see. With the TSR, the default number of directory buffers is 6.

Related Topics

Filename Mapping
View and Change InterDrive Settings

Introduction
Step-by-Step Instructions
Concepts

Handling LPR Printing Timeouts

The Network Driver communicates with an LPD server by sending a message and waiting for a response. The Network Driver has a reply timeout period, after which it stops waiting for confirmation that the LPD server has received all of the print job and the connection can be closed. If you attempt to print to an LPD server and you get error messages indicating that the print failed, you may need to increase the value of this timeout.

Possible causes of a timeout might be that the print server is unable to process a print job due to small buffer space. Or, the delay might be due to a slow or congested network. If your LPD server has trouble handling print jobs from Windows, open your configuration file with a text editor and increase the value of the `reply-timeout=` parameter in the `[pctcp pctcpnet]` section.

Related Topics

Introduction
Step-by-Step Instructions
Concepts

The Session Menu

Use the Session menu to configure new file system and print connections, log in or out, and exit from the Drive Connections or Printer Connections dialog box. The options on the menu change depending on which dialog box you are using.

Drive Connections menu commands

New Drive Connection — Displays an empty Configure Drive dialog box for configuring a new file system connection.

Configure Drive Connection — Displays the Configure Drive dialog box when you have a connection selected in the Previous or Current Connections field. The dialog box contains the selected drive connection information, including file system name, hostname, path, username, and drive letter.

Printer Connections menu commands

New, NFS Printer	Configures a new connection for NFS printing.
New, LPR Printer	Configures a new connection for LPR printing.
New, Print Program	Configures a new connection for a print program.
Configure Printer	Displays the Configure Printer dialog box when you have a printer connection selected in the Previous or Current Connections field. The dialog box contains the selected printer connection information, including file system name, hostname, path, username, and drive letter.

Menu commands common to both types of connections

Delete Connection	Removes the selected connection from the list of configured connections.
Login	Prompts for a username and a password to save as the default, and optionally restores all permanent connections.
Logout	Clears the default username and password from memory and optionally closes all current connections.
Close	Closes the dialog box.

Related Topics

Introduction
Step-by-Step Instructions
Concepts

The Resources Menu

Use the Resources menu to switch between the dialog box for managing file system connections and the dialog box for managing print connections. You can choose either Drives (for file systems) or Printers. A check mark appears in the menu next to the currently selected resource type. When you change the type, the appropriate dialog box for managing that resource type appears.

Related Topics

Introduction
Step-by-Step Instructions
Concepts

The Settings Menu

Use the Settings Menu to view and change options for file system and print connections. The menu changes depending on whether you are using the Drive Connections or the Printer Connections dialog box.

Drive Connections menu commands

NFS Attributes

Lets you specify the default permissions to apply to all new files and directories created on the selected network drive. For a selected file or directory within a mapped drive, you can view the current permissions, and change them if you are the owner.

Menu commands common to both types of connections

Make Connection Permanent

Turns permanence on or off for the selected connection. Selecting this also causes a temporary connection to be saved for reuse.

Always Make Permanent

Changes the default permanence setting. A check mark beside this option indicates that all new connections are made permanent automatically. Selecting this option again reverses the default.

Show Long Filenames

Causes File Manager to display network filenames that do not conform to DOS naming conventions in their original (long) format.

Note: This option can produce unexpected results if you try to manipulate files with long names (for example, open or delete them) from File Manager. This is due to the way File Manager stores long filenames internally. If you want to do anything with long filenames other than view them, selecting this option is not recommended.

InterDrive Options

Lets you view and change InterDrive configuration parameters.

Related Topics

Introduction
Step-by-Step Instructions
Concepts

Drive Connections

Use any of the following menu paths to open the Drive Connections dialog box:

From the WinApps program group, choose Network Control; then choose the Drives button.
--or--
From the Windows File Manager Disk menu, choose InterDrive.
--or--
From the Windows for Workgroups File Manager Disk menu, choose Network Connections; then, from the Drive Connections dialog box, choose FTP NFS.
--or--
If the Network Driver Printer Connections dialog box is open, you can change to the Drive Connections dialog box by choosing Drives from the Resources menu.

Printer Connections

Use any of the following menu paths to open the Printer Connections dialog box:

From the WinApps program group, choose Network Control; then choose the Printers button.
--or--
From the Windows Control Panel, double-click Printers. The Printers dialog box appears. Choose Connect; then, from the Connect dialog box, choose Network.
--or--
From the Windows Print Manager Printer menu, choose Network Connections.
--or--
From the Windows for Workgroups Print Manager Options menu, choose Connect Network Printer; then, from the Connect Network Printer dialog box, choose FTP NFS.
--or--
If the Network Driver Drive Connections dialog box is open, you can change to the Printer Connections dialog box by choosing Printers from the Resources menu.

Drive Connections

Use the Drive Connections dialog box to create and manage connections to file systems.

In the Network Resource or Alias box, you can enter the hostname of an NFS server, browse through the file systems available on that server, and optionally connect a file system. A connection that you make by browsing lasts only for the current Windows session.

If you want to use specific file systems regularly, you can configure and save them for reuse by choosing New Drive Connection from the Session menu. Any already-configured file systems appear in the Previous Connections box. These file systems are available each time you start a new Windows session.

The Current Connections list shows all existing file system connections, both configured and temporary. If you no longer want to use a connection, select it and choose the Disconnect button. If you want to save a temporary connection for reuse, select it, then choose Make Permanent from the Settings menu.

Dialog Box Items

Drive

Network Resource or Alias
Previous Connections
Current Connections

Connect
Disconnect
Other NOS

Configure Drive

Use the Configure Drive dialog box to create or change the definition of a file system connection. Configuring a file system connection saves the information that you supply so that you can easily use the connection again.

Access the Configure Drive dialog box by choosing one of these menu items:

- New Drive Connection from the Session menu in Network Control
- Configure Drive Connection from the Session menu in Network Control
- Drive Options from the Interdrive menu in Windows File Manager

Enter basic information in the fields provided. Optionally, choose the Advanced button to display and configure additional file system characteristics, such as read-only access, file locking, and filename mapping rules.

When you are satisfied with the information that you entered, choose OK. Or, choose Cancel to exit from the dialog box without making any changes.

Note that you cannot change the name of a file system that is currently connected. You can disconnect the file system, make the change, and then reconnect.

Dialog Box Items

File system name
Hostname
Path
Username
Drive letter
Make permanent

Advanced >>

Maximum transaction size: Read
Maximum transaction size: Write

Retry timeout

Enable symbolic link processing
Map lowercase filenames
Mount drive read-only
Use TCP for NFS data
Enforce file locking
Mount CD-ROM
Hide dotfiles
Autotune

Printer Connections

Use the Printer Connections dialog box to create and manage connections to network printers.

In the Printer box, you can enter the name of an NFS server, browse through the printers available on that server, and optionally connect to a printer. A connection that you make by browsing lasts only for the current Windows session.

If you want to use specific printers regularly, you can configure and save them for reuse by choosing a command from the New option of the Session menu.

To do this	Choose this
Configure a connection to a printer managed by an NFS server	NFS Printer
Configure a connection to a printer managed by an LPD server	LPR Printer
Redirect print output to a command or to a batch file	Print Program

The Previous Connections box displays configured print connections. These print connections remain available from Windows session to Windows session, and you can connect to them at any time.

The Current Connections list shows all existing print connections, both configured and temporary. If you no longer want to use a connection, select it and choose the Disconnect button. If you want to save a temporary connection for reuse, select it, and choose Make Permanent from the Settings menu.

Dialog Box Items

Port
Printer Type

Printer
Previous Connections
Current Connections

Connect
Disconnect
Other NOS

Configure NFS Printer

Use the Configure NFS Printer dialog box to create or change the definition of a Network File System (NFS) print connection. Configuring a print connection causes the Network Driver to save the information that you supply so that you can easily use the connection again.

Enter required information in the fields that you see. Optionally, choose the Advanced button to display and configure additional printing characteristics, such as number of copies to print.

When you are satisfied with the information that you entered, choose OK. Or, choose Cancel to exit from the dialog box without making any changes.

Note that you cannot change the session name or username for a printer that is currently connected. You can disconnect the printer, make the change, and then reconnect.

Dialog Box Items

Print session
Hostname
Printer name
Username
Port
Make permanent

Advanced >>

Copies to print

Configure Print Program

Use the Configure Print Program dialog box to redirect print output to a command, a batch file, or other print program of your choice. Configuring a print program causes the Network Driver to save the information that you supply so that you can easily use it again.

In the Program Text box, enter a print command, or the pathname of a DOS batch file containing a series of commands.

When you are satisfied with the information that you entered, choose OK. Or, choose Cancel to exit from the dialog box without making any changes.

Dialog Box Items

Print session
Program text
Port
Make permanent

Configure LPR Printer

Use the Configure LPR Printer dialog box to define a connection to a printer managed by a Berkeley UNIX Line Printer Daemon (LPD). Configuring a print connection causes the Network Driver to save the information that you supply so that you can easily use the connection again.

Enter required information in the fields that you see. Optionally, choose the Advanced button to display and configure additional printing characteristics, such as binary and banner page printing.

When you are satisfied with the information that you entered, choose OK. Or, choose Cancel to exit from the dialog box without making any changes.

Note that you cannot change the session name for a printer that is currently connected. You can disconnect the printer, make the change, and then reconnect.

Dialog Box Items

Print session
Hostname
Printer name
Username
Port
Make permanent

Advanced >>

Copies to print
Binary
Print banner page

InterDrive Options

Use the InterDrive Options dialog box to change InterDrive configuration parameters.

Access this dialog box by:

- Clicking on the Network icon in the Windows Control Panel
- Choosing InterDrive options from the Settings menu in Network Control

Note: InterDrive sets appropriate defaults for most options. Normally, you should accept these options, particularly if you are using the VxD version of InterDrive. Change InterDrive configuration only if you are aware of the dependencies between the kernel, InterDrive, and the network. Making unnecessary changes can degrade performance.

Runtime options allow you to change configuration parameters without having to restart InterDrive; however, changes remain only as long as InterDrive is running. If you want to save a change that you make to a runtime option, use the Configure utility.

When you are satisfied with the information that you entered, choose OK. Or, choose Cancel to exit from the dialog box without making any changes.

Dialog Box Items

Lookup cache timeout
Lock timeout

Hide dotfiles
Use advanced dialog box
Disconnect drive on timeout
Enable symbolic link processing

Permissions

Use Permissions to set default access rights for new files and directories created in the selected file system. Decide what class or classes of user to grant access to, and for each class of user, select the access rights that you want to grant.

When you are satisfied with the information that you entered, choose OK. Or, choose Cancel to exit from the dialog box without making any changes.

Automatic Login

Specify a default username and password for logging in to NFS file and print connections. The FTP Software Network Driver uses your default login information to make all subsequent NFS connections. The Network Driver also uses your default login to restore any permanent connections, if they do not already exist.

If your default username and password fail for a specific connection, you are prompted for an alternate username and password.

Enter your username and password and choose OK. Or, choose Cancel to exit from the dialog box without setting default user information. If you cancel this dialog box, your permanent connections will not be restored.

User Information

Specify a username and password for connecting to the NFS resource listed in the status bar of the Login dialog box. If you do not know your username and password, ask the server or network administrator.

You can select Save as Default to save the username and password that you specify for use with subsequent connections. If the default login information fails for a specific connection, you are prompted for an alternate username and password.

Or, choose Cancel to exit from the dialog box without logging in to the connection.

Dialog Box Items

Name
Password
Save As Default

Login

Specify a default username and password for logging in to NFS file and print connections.

When the Restore All Drives and Printers box is selected, the Network Driver uses your login information to connect to all permanent file systems and printers, if they are not already connected. Click the check box to change this setting.

When you have specified the appropriate information, choose OK. Or, choose Cancel to exit from the dialog box without logging in.

Dialog Box Items

Name
Password
Restore All Drives and Printers

Logout

When you log out, the Network Driver removes your username and password from memory and optionally closes all current file and print connections. To remove your user information from memory but preserve existing connections, click the Disconnect All Drives and Printers check box to change the default setting of this option.

When you have specified the appropriate information, choose OK. Or, choose Cancel to exit from the dialog box without logging out.

Dialog Box Items

Disconnect All Drives And Printers

Print Queues

Use the Print Queues dialog box to view and manage network print queues.

Select a printer from the Known Printers list, or select Other Printer and type its network path, in the format

*hostname**queuename*

Choose Refresh to display the results of a query to the print server about the specified queue.

The Network Driver displays the result of a print query without formatting or interpreting the result. This is because not all print servers report the same information or format data in the same way.

To delete a job displayed in the listing, choose Delete, then specify the number of the job.

When you are finished using the Print Queues dialog box, choose Done.

Dialog Box Items

Known printers
Other printer

Protocol: NFS
Protocol: LPR
Show only my jobs

Results from Server

Refresh
Other NOS

Remove Queued Job

In the queue display, find the ID number of the print job that you want to delete, and enter the number in the Job ID box. Then choose OK. Or, if you decide not to delete the print job, choose Cancel to exit from the dialog box.

Dialog Box Items

Job ID

Network Control

The Network Control icon provides a quick and easy path to configuring and using shared network files and printers in Windows.

Use this icon	To do this
 Drives	Configure and manage file system connections.
 Printers	Configure and manage print connections.
 Queues	View and manage network print queues.
 InterDrive	Change settings for InterDrive, which is the underlying network software that supports the use of NFS files and printers.

You can also use standard Windows menus available through File Manager, Print Manager, and Control Panel to accomplish the same tasks. Network Control is a more direct way to access all file and printer connections from a single icon. It is also a direct path to managing FTP Software connections when another network operating system, such as Windows for Workgroups, is running as your primary network.

InterDrive Error

The Network Driver has detected that InterDrive is not running. InterDrive is necessary for making Network File System (NFS) file and print connections.

If you do not want to use NFS file sharing and printing, you can still use the Network Driver to manage LPR and print program connections. To prevent the Network Driver from displaying this warning message each time you try to manage print connections, select Don't Show This Message in the Future.

Note: If you turn this message off, you must specify `warn-noidrive=1` in the `[pctcp pctcpnet]` section of your configuration file if you decide later that you want to see the message again.

If you do want to use NFS file sharing and printing, you must first start InterDrive. The procedure differs, depending on whether you are using the TSR or the VxD version of InterDrive. If you do not know which version you are using, ask your network administrator.

Related Topics

Start and Stop InterDrive

Delete Session Entry?

Deleting a connection from the list causes the Network Driver to remove the connection definition from your configuration file. If you want to use this connection again after deleting it, you have to reconfigure the connection.

If you do not want the Network Driver to display this message each time you try to delete connections, select Don't Show This Message in the Future.

Note: If you turn this message off, you must specify `warn-delete=1` in the `[pctcp pctcpnet]` section of your configuration file if you decide later that you want to see the message again.

To remove the connection definition from the list and from the configuration file, choose OK. Or, choose Cancel to preserve the connection definition.

Dialog Box Items

Don't show this message in the future

Port In Use

The Network Driver tried to connect to a printer and found that the port number configured for that connection is already in use.

Select another port number to use for this connection.Your new selection is saved to the configuration file. Or, choose Cancel if you do not want to connect to the printer using a port other than its configured port.

Drive In Use

The Network Driver tried to connect to a file system and found that the drive letter configured for that connection is already in use.

Select another drive letter to use for this connection.Your new selection is saved to the configuration file. Or, choose Cancel if you do not want to connect to the file system using a drive other than its configured drive.

Warning

Do not enable the Show Long Filenames option if you want to use File Manager to manage files that have long filenames, other than to use it for viewing the filenames. Enabling the Show Long Filenames option is useful for viewing filenames but can produce unexpected results if you manipulate files; for example, you cannot:

- Drag and drop a file with a long filename out of File Manager and into another application (such as Word for Windows).
- Run an executable with a long filename by double-clicking the filename in File Manager.
- Create a directory with a mixed case or uppercase name (this causes InterDrive to assign it a mapped name). For example, you could not run an executable contained in the directory by double-clicking on the filename in File Manager. You also could not delete the directory.

Basic Drive Connections

Use the basic Drive Connections dialog box to connect to and disconnect from a network drive.

To connect to a drive

1. From the Drive pulldown list, select a drive letter that is not connected to a file system.
2. From the Network Resource or Alias pulldown list, select a file system or enter a network resource pathname or the name of any previously created alias.
3. Choose Connect.

To disconnect from a drive

1. From the Drive pulldown list, select a connection.
2. Choose Disconnect.

To reconnect automatically to a drive

To reconnect automatically to a drive when you log in to a Windows session, select the Reconnect at logon check box.

To access files on another network operating system

To access the file sharing functions of another network operating system running on your PC, choose Other NOS.

Dialog Box Items

Drive

Network Resource or Alias
Previous Connections
Current Connections

Connect
Disconnect
Other NOS

Basic Printer Connections

Use the basic Printer Connections dialog box to connect to and disconnect from a network printer.

To connect to a printer

1. From the Port pulldown list, select a Port that is not connected to a printer.
2. From the Network Resource or Alias pulldown list, select a printer or enter a network resource pathname or the name of any previously created alias.
3. Choose Connect.

To disconnect from a printer

1. From the Port pulldown list, select a connection.
2. Choose Disconnect.

To reconnect automatically to a printer

To reconnect automatically to a printer when you log in to a Windows session, select the Reconnect at logon check box.

To access printers on another network operating system

To access the printer sharing functions of another network operating system running on your PC, choose Other NOS.

Dialog Box Items

Port
Printer Type

Printer
Previous Connections
Current Connections

Connect
Disconnect
Other NOS

NFS Attributes

Use NFS Attributes dialog box to specify the default permissions to apply to all new files and directories created on the selected network drive. For a selected file or directory within a mapped drive, you can view the current permissions; if you are the owner, you can change them.

Access this dialog box by choosing one of these menu options:

- NFS Attributes from the Settings menu of the Drive Connections window in Network Control
- NFS Attributes from the Interdrive menu in Windows File Manager

The attributes you can set depends on the number of files you select in the File Manager.

- When you select a root directory and choose NFS Attributes, you see the NFS attributes to be applied to new files and directories that are created on the drive.
- When you select a file or directory and choose NFS Attributes, you see the NFS attributes of the selected file or directory. If you have long filenames disabled, the dialog box also displays the complete filename of the selected file.
- When you select multiple files and choose NFS Attributes, the dialog box displays the number of files selected and the attributes for these files.

The NFS Attributes dialog box shows the following access rights associated with the selected file or directory:

- Your user ID (UID) or the UID of the owner. You cannot change the user ID.
- The group ID (GID) of the owner or your primary group ID. You cannot change the group ID, but you can change the primary group ID.

You can change the primary group ID access rights to:

- allow you to access files owned by a group to which you belong but whose group ID is not your primary group ID

  --or--
- allow members of your secondary group ID access to your files by creating files with your secondary group ID.

To change the primary group ID

1. From File Manager, select a root directory.
2. From the Primary Group ID pulldown menu, select the primary group ID of the group that owns the file or directory.
3. Choose OK.

The primary group ID is saved in the configuration file.

Dialog Box Items

Permissions: Owner/ReadPermissions: Owner/WritePermissions: Owner/ExecutePermissions: Group/ReadPermissions: Group/WritePermissions: Group/ExecutePermissions: World/ReadPermissions: World/WritePermissions: World/Execute

User ID
Group ID

Related Topics

User Identifiers and Group Identifiers

File Permissions

No PCTCPLFN.DLL Found

Windows cannot load the file PCTCPLFN.DLL, which is needed for long name support. Verify that the directory containing the DLL is listed in your path. Or, see your system administrator for assistance.

View Quotas

To view quotas on NFS mounted drives, run File Manager. Choose Quota from the Interdrive menu to view a dialog box that displays the amount of disk space available to you on the network drive. This information applies to your user account unless you specifically request quota information for a group account. It is available only if the remote server supports this feature by running a remote quota daemon. Ask your system administrator for information about remote quota support.

To request quota information for a group account

1. From the Type group box, select Group.
2. From the Group ID pulldown menu, select a group ID (GID).
3. Click Refresh.

Note: Group quota information is available only if the remote server is running Remote Quota Daemon (RQUTAD) Version 2.0.

This group box	Contains this quota information
Type	Shows whether the quota information applies to a user or a group.
User	Shows the user ID (UID) and group ID (GID) associated with the selected drive.
Status	Indicates whether the server on the selected drive provides quota support for the user or group.
NFS	Indicates the path on the current drive which is currently mounted.
Quota Results	Disk Space: Shows the hard limit, the soft limit, currently used, total, free, and available. Files: Shows the hard limit, the soft limit, and the current number. Time Left For Exceeded Limit: Shows the values for disk space and files.

No PCTCPLPR.DLL File Found

Windows cannot load the file PCTCPLPR.DLL, needed for accessing remote LPR printers. Without this file, you cannot print to network printers that use the LPR protocol.

Verify that the directory containing the PCTCPLPR.DLL is included in your Path.

No PCTCRPC.DLL File Found

Windows cannot load the file PCTCRPC.DLL, needed for calling remote procedures such as authentication and browsing for exported file systems.

Verify that the directory containing the PCTCRPC.DLL is included in your Path. In addition, make sure that the directory contains the following files:

- PCNFSXDR.DLL
- MOUNTXDR.DLL
- QUOTAXDR.DLL
- NFSXDR.DLL
- RPC4WIN.DLL

No IDRIVE.DLL File Found

Windows cannot load the IDRIVE.DLL file, so you are unable to use NFS services, such as connecting to remote file systems when using Windows network drivers.

Verify that the directory containing the IDRIVE.DLL is included in your Path.

alias: In InterDrive®, a shorthand name representing a configured NFS file system.

file system: A directory that you can use over the network, and the files and subdirectories that the directory contains.

GID (group identifier): A number associated with a user group in which you are a member on the NFS server. File access privileges are based on your UID (user identifier) and GID. When you connect to a file system, the Network Driver obtains your GID from the server and uses the GID with all subsequent requests to the server.

InterDrive: Software that works together with the FTP Software Network Driver to provide access to Network File System (NFS) files and printers from Windows. InterDrive also supports the use of NFS resources from DOS.

Network File System (NFS): A standard protocol for file and printer sharing in TCP/IP networks. Using the Network Driver and InterDrive software, you can connect to files and printers on NFS servers and use them as if they were on your local PC.

permanent network connection: A connection that the FTP Software Network Driver restores automatically each time you start Windows. Permanent connections are a convenient way to establish your normal working environment when Windows starts.

terminate-and-stay-resident (TSR) program: A program that loads into memory and stays running for as long as your computer remains running, or until you explicitly unload the TSR or restart your PC. The type of kernel installed on your system (TSR or VxD) determines whether you are using the TSR or VxD version of InterDrive.

UID (user identifier): A number associated with the name that you use to log in to the NFS server. File access privileges are based on your UID and GID (group identifier). When you connect to a file system, the Network Driver obtains your UID from the server and uses the UID with all subsequent requests to the server.

virtual device driver (VxD): Manages data exchanges between Windows applications and your system. The type of kernel installed on your system (TSR or VxD) determines whether you are using the TSR or VxD version of InterDrive.

Hard limit: The number of kilobytes available on the disk for use beyond which you are not allowed to exceed.

Soft limit: The number of kilobytes available on the disk for use beyond which you can temporarily exceed. If you exceed this value, you and the system administrator are notified about the exceeded amount after a predetermined amount of time has passed (the value shown in Time Left For Exceeded Limit).

Currently used: The number of kilobytes on the disk that you are using.

Total: The number of kilobytes available on the disk.

Free: The number of kilobytes on the disk available to a user with superuser privileges.

Available: The number of kilobytes available on the disk to a user who does not have superuser privileges.

Hard limit: The number of files that can be created beyond which you cannot exceed.

Soft limit: The number of files that can be created beyond which you can temporarily exceed. If you exceed this value, you and the system administrator are notified about the exceeded amount when a predetermined amount of time has passed (the value shown in Time Left For Exceeded Limit).

Current number: The number of files on the drive.

Time left for exceeded limit: The amount of time, in the format *days hours:minutes:seconds*, that remains until you and the system administrator are notified that you have exceeded the soft limit for disk space on the drive.

Time left for exceeded limit: The amount of time, in the format *days hours:minutes:seconds*, that remains until you and the system administrator are notified that you have exceeded the soft limit for files on the drive.

Select a local drive letter or port to associate with a new connection.

Displays the names of NFS servers that have file systems or printers to which you can connect. Double-click a server name to display its available resources. Or, if no server names appear, enter a name at the top of this box. You can select a resource from the resulting list and connect to it.

Displays configured connections, which are available from Windows session to Windows session.

Displays resources that are currently connected. A (P) in the connection listing indicates a permanent connection, which is restored automatically each time Windows starts.

Connects to the selected drive or printer.

Closes the selected connection.

Provides access to the resource sharing functions of another network operating system running on your PC.

Lets you view and change advanced file system options.

Enter a name of 11 characters or fewer to identify the file system. The name cannot include spaces or any of the following special characters:

^ = ; & [ ] * ( ) + \ / | " : . , ? < >

A hyphen (-) is valid except as the first character in a file system name.

Enter the hostname or IP address of the NFS file server.

Enter the complete directory path of the file system. If you are connecting to a UNIX system, use forward slashes (/) to delimit directory names. If you are connecting to a PC, delimit directory names with backslashes (\). Note that an NFS server on a DOS system might require you to include the drive letter in the path.

Enter a username here only if your username for this file system is different from the default username that you supplied when you logged in.

Select a local drive letter to associate with the file system.

Select this if you want the connection to be restored automatically every time you start Windows.

Select the largest amount of data, in bytes, that InterDrive can read in a single User Datagram Protocol (UDP) packet.

You should not need to change this value. If the Autotune box is selected, the software automatically adjusts the read size to an appropriate value, using the value specified here as a maximum.

Select the largest amount of data, in bytes, that InterDrive can write in a single User Datagram Protocol (UDP) packet. For best results, this should be equal to the block size of the NFS server.

You should not need to change this value. If the Autotune box is selected, the software automatically adjusts the write size to an appopriate value, using the value specified here as a maximum.

Select the maximum number of seconds to attempt resending packets to an NFS server when the server or the network is not responding.

Select this to reverse default filename mapping behavior and map lowercase and mixed-case filenames. This may be useful if you are connecting to a file system on a host where filenames are all or mostly uppercase (such as some OS/2 or DOS servers).

Select this if you want to view and copy files, but not change or delete them.

Select this to use Transmission Control Protocol (TCP) for transactions with the NFS server. Some NFS servers support TCP, which can work better than User Datagram Protocol (UDP) over long distances.

Select this to help protect files that multiple users can open and modify.

Select this if the file system is on a CD-ROM drive.

Select this if you want the software to automatically adjust the NFS read and write size based on kernel configuration, network traffic, and other factors.

Specify whether or not to display filenames that begin with a period (dot). By convention, some UNIX hidden filenames begin with a period. Selecting this option prevents you from seeing these files.

Note: A change to this parameter remains in effect only as long as InterDrive is running. If you want to make a change that persists, use the Configure utility.

Enables InterDrive to follow symbolic links, which are special files on UNIX servers that shorten or customize the path to a file or a directory.

Note: A change to this parameter remains in effect only

as long as InterDrive is running. If you want to make a change that persists, use the Configure utility.

Select the local printer port that you want to associate with a new connection.

If you connect by browsing or by typing a network path directly in the Printer or Print Command box, select a printer type from this list.

If you know the server name and queue name of a printer that you want to use, you can enter it directly in this box, in the format

*hostname**queuename*

Choose this to view and change advanced printer options.

Enter a name of 11 characters or fewer to identify the print session. The name cannot include spaces or any of the following special characters:

^ = ; & [ ] * ( ) + \ / | " : . , ? < >

A hyphen (-) is valid except as the first character in a print session name.

Enter the hostname or IP address of the print server.

Enter the queue name of the printer to which you want to connect.

Enter a username here only if your username for this printer is different from the default username that you supplied when you logged in.

Select an available LPT or COM port to associate with the print connection.

Select the number of copies to print. For NFS printing, this feature is available only with PCNFSD Version 2.

Note: You can specify the number of copies to print from most Windows applications. Set the number of copies here or in the application, but not in both places.

Formats LPR print jobs in binary ("raw mode") format, equivalent to the **-v** option in the standard UNIX **lpr** command.

Note: If you are printing to a Sun system, try printing without the binary option selected. (This is equivalent to specifying the **-l** or **-f** option on the **lpr** command line.) Some Sun print servers work better this way.

Prints a cover page with each print job. The cover page usually contains your username and the name of the print job.

Note that some servers do not print jobs unless banner page printing is enabled.

Enter a print command, or the path of a DOS batch file containing a series of commands.

Select the number of seconds that InterDrive uses stored information about file and directory names before obtaining fresh information from the server. A larger timeout improves performance in finding files, but does so at the risk of leaving obsolete file handles in the cache. Reduce the timeout for file systems where multiple users share the same files.

Note: A change to this parameter remains in effect only as long as InterDrive is running. If you want to make a change that persists, use the Configure utility.

Select the number of seconds during which InterDrive attempts to negotiate locking for a file that is in use.

Note: A change to this parameter remains in effect only as long as InterDrive is running. If you want to make a change that persists, use the Configure utility.

Specify whether or not to display an error message when InterDrive times out on an attempt to send data to the NFS server. Selecting this option causes InterDrive to silently disconnect the remote file system without displaying the message after a timeout occurs.

Note: A change to this parameter remains in effect only as long as InterDrive is running. If you want to make a change that persists, use the Configure utility.

Select the number of read-write buffers InterDrive uses to process file access requests.

Select the size of each read-write cache buffer.

Select the size of the NFS print data buffer, in bytes.

Select the maximum number of entries to store in the lookup cache, which speeds the retrieval of frequently used data. A 0 (zero) disables lookup caching.

Select the number of entries that InterDrive uses to store information about locked files.

Select the number of entries allowed in the name-mapping cache.

Select the maximum number of buffers InterDrive uses to retain the names of directories accessed during a directory search.

Select the number of transaction buffers allocated for internal InterDrive functions.

Grants the person who creates a file or directory the right to view and copy files, but not make changes to files. Read permission also lets users run an executable program (note that this is

different from UNIX file systems, where only Execute permission is necessary for running a program).

Grants a defined set of users the right to view and copy files, but not make changes to files. Read permission also lets users run an executable program (note that this is different from UNIX file systems, where only Execute permission is necessary for running a program).

A system administrator typically defines groups in a file on the server.

Grants the right to view and copy files to any user who is not a file's owner or a member of the same group as that of the file's owner. Read permission also lets users run an executable program (note that this is different from UNIX file systems, where only Execute permission is necessary for running a program).

Grants the person who creates a file or directory the right to edit and delete files. Applied to directories, Write lets owners create and delete files in the directory.

Grants a defined set of users the right to edit and delete files. Applied to directories, Write lets group members create and delete files in the directory.

A system administrator typically defines groups in a file on the server.

Grants the right to edit and delete files to any user who is not a file's owner or a member of the same group as that of the file's owner. Applied to directories, Write lets users create and delete files in the directory.

Grants the person who creates a file or directory the right to run a program. Applied to a directory, Execute lets the owner change to that directory or refer to the directory in a pathname.

Note: InterDrive does not make the distinction that UNIX does between Read permission and Execute permission. You must grant Read permission to an executable file for a DOS user to be able to run the executable.

Grants a defined set of users the right to run a program. Applied to a directory, Execute lets group members change to that directory or refer to the directory in a pathname.

Note: InterDrive does not make the distinction that UNIX does between read permission and execute permission. You must grant read permission to an executable file for a DOS user to be able to run the executable.

Grants the right to run a program to any user who is not a file's owner or a member of the same group as that of the file's owner. Applied to a directory, Execute lets users change to that directory or refer to the directory in a pathname.

Note: InterDrive does not make the distinction that UNIX does between read permission and execute permission. You must grant read permission to an executable file for a DOS user to be able to

run the executable.

Type or select a username for logging in to NFS file and print connections. Or, you may be able to log in unauthenticated by entering a username of nobody and no password. Many NFS servers grant unauthenticated users the access privileges of an anonymous guest.

Enter a password for logging in to NFS file and print connections. Your password should be defined for you in a file on the server. If a password is not defined for you, you may be able to log in unauthenticated by entering a username of nobody and no password. Many NFS servers grant unauthenticated users the access privileges of an anonymous guest.

Saves the username and password that you specify for use with subsequent connections. If your default login information fails for a specific connection, you will be prompted for an alternate username and password.

Restores connections to all permanent file systems and printers using the new username and password that you specified.

Closes existing connections when you log out. Disable this option if you want to remove your username and password from memory but preserve existing connections.

Lets you view the queue contents of a printer that is already defined or connected.

Select a printer queue from this list.

Lets you specify and view a printer queue that is not in the Known Printers list.

Enter the network path of a printer whose queue you want to see, in the format

*hostname**printername*

Select this if the printer that you specified is managed by an NFS server.

Select this if the printer that you specified is managed by an LPR server.

Displays the results of a query to the specified printer queue. The Network Driver does not format or interpret the information that a print server sends in response to a query. This is because not all print servers report the same information or format data in the same way.

Displays the results of a query to the specified printer queue.

Removes a job from the specified printer queue.

Provides access to the printer queue management functions of another network operating system.

Displays only your print jobs instead of all users' jobs.

Note: This option is available only for print queues on NFS servers running version 2 of the authentication daemon (typically known as PCNFSD).

In the queue display, find the ID number of the print job that you want to delete, and enter the number here.

Select this if you intentionally do not use InterDrive and you do not want to see this message in the future when you try to create or manage print connections.

Select this if you do not want to see this message anymore in future attempts to delete connections.

Select an alternate port or drive to use for this connection. Your new selection is saved to the configuration file.

Choose this button to configure and manage file system connections.

Choose this button to configure and manage network print connections.

Choose this button to view and manage network print queues.

Choose this button to change settings for InterDrive, network software that supports the use of NFS files and printers.

Choose this button to see version and resource information about the Network Control application.

To establish a connection, select a local drive or port from the pulldown list, and click Connect. If the drive is already connected, you can disconnect it by clicking the Disconnect button.

Use the pulldown list to view the previously connected network resource or aliases. Or, type the path name or alias (a server name and file system name) of any alias already created.

Click this checkbox if you want to reconnect automatically to the selected resource when you log in to a Windows session again.

If you have not connected, connects to the selected network resource.

If you have connected, disconnects from the selected network resource.

Choose this button to access the file sharing functions of another network operating system running on your PC.

Closes the Drive Connections dialog box.

The User ID (UID) of a file or directory is a numeric identifier associated with your login name on the server. You can change access rights to a file or directory only if you created it.

Group membership is determined by your group ID (GID), which is assigned to you in a group file on the server. Files or directories may have limited access to specific groups.

Select this if you intentionally do not use long file name support and you do not want to see this message in the future when you try to create or manage print connections.

Select this if you intentionally do not use remote procedures (such as authentication and browsing for exported file systems) and you do not want to see this message in the future when you try to create or manage print connections.

Select this if you intentionally do not access remote LPR printers and you do not want to see this message in the future when you try to create or manage print connections.

Displays quota information for your current group.

Displays quota information for your current user account.

Displays your current user account ID.

Displays your current group ID.

Closes the Quota dialog box.

Refreshes the quota information display.

Select this checkbox to use the advanced Drive Connections or Printer Connections dialog box. Remove the check from the checkbox to again use the basic dialog boxes. The change takes effect next time you enter these

dialog boxes from the Network Control entry window.

Your user ID, a number associated with your login name on the server.

Displays or hides additional elements of this dialog box.

Returns to the previous dialog box.

Displays the Open dialog box so that you can search for a specific file.

Cancels your selection(s) and close the dialog box without taking any action.

Closes the dialog box.

Exits the application.

Displays Help about the contents of this dialog box.

Does not proceed as indicated.

Proceeds to the next dialog box.

Confirms your selection(s) and close the dialog box.

Opens the Options dialog box.

Enter a word or string of characters to log in to another system, workgroup, or domain on a network.

Protects the contents of the file from modification.

Starts the operation.

Stops the operation.

Starts or stops the operation.

Enter the hostname or IP address of the remote host that you are trying to reach.

Enter the name that you use to log in to a computer on a network.

Proceeds as indicated.

Proceeds as indicated and avoids further prompts for confirmation.

Click this to set up options,

Saves all the changes you have made without closing the dialog box.

Context-sensitive help for this item is not yet implemented.

Help for this dialog box is not yet implemented.

account name: The name or word that identifes who is billed for this session on a computer system.

case sensitivity: The ability of a program to evalutate the difference between the capitalized and non-capitalized versions of a character. Case sensitive programs treat for example, *cat* and *Cat*, as distinct items.

It matters how you enter file and variable names on a case sensitive operating system (such as the UNIX operating system). If you want to view a file named *Cat*, and you enter the characters *cat*, the system displays the file named *cat* if one exists, or gives you an error message. It does not display a file named *Cat*. Case sensitivity also effects the way that files are listed when sorted in alphabetical order.
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filename conventions: A TCP/IP network usually contains computers that run different operating systems. Each operating system has different conventions for naming files. For example, both the number and kinds of characters that can be used in a name are often subject to limits.

When you use some TCP/IP supported services such as telnet and ftp, use the filenaming conventions in effect on the host system to work with files that are on the host.

hostname: The name of a networked computer.

The hostname is one form of the computers TCP/IP network address; the other is its complete numeric network address.You can access a computer by its hostname or its numeric network address.

toolbar: A group of buttons that appears below the menu bar. These buttons let you gain access quickly to the application's features.

IP address: A number (in the form *n.n.n.n* where each *n* is a value in the range 0 to 255) that uniquely identifies a networked computer that uses the TCP/IP communication protocol. (The Internet Protocol is defined in RFC 791.)

MIB-II: The Management Information Base (MIB) database used by an SNMP MIB agent to store information about the network operations of your PC. MIB-II (or MIB version 2) is the second version of the Internet-standard MIB. RFC 1213 defines the format of MIB-II.

packet: A single network message with its associated header, addressing information, data, and optional trailer. Also known as a "frame" or "datagram".

password: A word or string of characters that you supply in order to login to another system on a network. Systems that accept the username "anonymous" often require you to provide your e-mail address as the password.

permissions: On UNIX systems, settings that control who has access to a file and what rights (read, write, or execute) are given. NFS uses UNIX-style permissions to control access to network files.

protocol window: Some OnNet applications support a window dedicated to displaying the interactions between your PC and the remote host (the protocol). You can display the window usually from a View, Settings, or Options menu.

remote host: A networked computer that makes a service available to other computers on the network. Typical host services include transferring files, printing files, and managing logins from remote users.

SNMP community: A relationship between an SNMP agent and one or more SNMP management stations.

SNMP community name: A unique name shared by the members of an SNMP community.

SNMP message: A packet of data, consisting of an SNMP community name and SNMP commands and operands.

status bar: A message area, typically at the bottom of the application window, that provides information about the component that is currently selected, or the state of the application.

session: A session comprises the interactions between your PC and a remote host beginning with the initial connection and ending when you or the host explicitly disconnect.

Some OnNet applications allow you to configure sessions, that is, automatically send parameters such as your username and password to the remote host..

session definition: The configuration settings for a particular session or host connection. A session definition might include such settings as the hostname of a computer on the network and your login name for that computer, as well as other values that you specify. The set of session parameters you can specify differs with each program.

TCP (Transmission Control Protocol): A Transport layer, connection-oriented, end-to-end protocol that provides reliable, sequenced, and nonduplicated delivery of bytes to a remote or a local user. TCP provides reliable byte stream communication between pairs of processes in hosts attached to interconnected networks.

time out: A period of time when a connection between a PC and a host computer is allowed to be idle or unused, or when a PC can attempt to make a connection to a networked host..

When the time period elapses, the host closes the idle connection, or the PC reports that it failed to connect to a host.

UDP (User Datagram Protocol): A Transport layer, connection-less mode protocol providing a (potentially unreliable, unsequenced, and/or duplicated) datagram communication for delivery of packets to a remote or a local user. UDP provides a procedure for a process to send messages to other processes with a minimum of protocol mechanism.

username: A name required for login to a remote system.

wildcard: A character such as * or ? that represents one or more characters in a filename. In a network, each operating system supports

its own wildcard characters and syntax. When you use wildcards on a remote host, follow the conventions that apply to that host.

Technical assistance

Users in the U.S. and Canada, and worldwide resellers Contact FTP Software®:

Telephone: **(800) 382-4387**
(508) 685-3600
E-mail: **support@ftp.com**
Fax: **(508) 794-4484**

or

Users outside of the U.S. and Canada Contact your local reseller.

Tip

For FREE online technical services, see:

World Wide Web:	**http://www.ftp.com**
Anonymous Ftp Server:	**ftp.ftp.com**
Bulletin Board System:	**(508) 684-6240** (settings 8,N,1)
CompuServe:	**GO FTPSOFT** (PCVENJ Section 8)