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Connections Tab

The NFS Assistant Connections Tab lets you assign a mount point to a Windows drive letter. Your network administrator provides the NFS server names that appear on the Servers tab, and become your list of available servers. Use the Connections tab to browse available mount points for an NFS server and then to assign the mount point to a drive letter. You can specify options that affect NFS Assistant and the Print Assistant with the Global Options tab.

The Connections tab contains these fields and buttons:

Path

A server name. You can select a server name from the drop-down list or enter a server name as either a fully-qualified domain name, such as **pine.yoyodyne.com**, or as just the host name, such as, **pine**. Your network administrator provides the names of NFS servers.

The server name you specify in the Path edit box does not appear in your list of available servers. Enter the server name in the format: ***server**directory***, for example: **\\pine.yoyodyne.com\users**. You can also use the Path combo box to send a command to the NFS server.

Available Drives

Displays drive letters to which you can map a mount point.

NFS Servers

Displays the mount points of an NFS server. Double-click the computer icon to list subordinate directories. Double-click a directory name to open the Connect dialog box, which lets you log into the server.

Current Connections

Displays local and remote connections. After you log into a server, the connection name appears in black type in the Current Connections list. Drive mappings and connections created by other networking software appear in gray. Icons prefacing entries in the Current Connections list are:

Indicates a connection that reconnects at startup; that is, a permanent connection. Create permanent connections by clicking the Reconnect at Startup check box. Permanent connections invoked when Windows starts, save modifications between sessions.

Indicates a connection that does not reconnect at startup. Connections not made permanent appear in this list until you disconnect them or when Windows exits.

Connect button

Logs into an NFS server using the Connect dialog box.

Close button

Exits the application. All running connections remain in effect until you click the Disconnect button.

Modify button

Changes options for the NFS server selected in the Current Connections list using the Modify Connect Options dialog box. If you modify active connections, changes take effect immediately.

Disconnect button

Disconnects the connection to the NFS server selected in the Current Connections list. A connection does not need to be disconnected to change its options; change options on a running connection by clicking the Modify button.

Othernet button

Connects to an alternate networking application. The button legend displays the name of the network system type. This button does not appear if an alternate networking application is not available on your workstation. This button only appears if you access NFS Assistant from the File Manager application or the Network control panel; or if you access Print Assistant from the Print Manager application.

See Also:

- NFS Assistant Procedures

Path Combo Box

The Path combo box lets you select a server name from the drop-down list or enter a server name as either a fully-qualified domain name, such as **pine.yoyodyne.com**, or as just the host name, such as, **pine**. Your network administrator provides the names of NFS servers.

The server name you specify in the Path edit box does not appear in your list of available servers. Enter the server name in the format: ***server**directory***, for example: **\\ pine.yoyodyne.com\users**. You can also use the Path combo box to send a command to the NFS server.

NFS Servers List

The NFS Servers list displays the mount points of an NFS server. Double-click the computer icon to list subordinate directories. Double-click a directory name to open the Connect dialog box, which lets you log into the server.

Current Connections List

The Current Connections list displays local and remote connections. After you log into a server, the connection name appears in black type in the Current Connections list. Drive mappings and connections created by other networking software appear in gray.

Icons prefacing entries in the Current Connections list are:

Indicates a connection that reconnects at startup; that is, a permanent connection. Create permanent connections by clicking the Reconnect at Startup check box. Permanent connections invoked when Windows starts, save modifications between sessions.

Indicates a connection that does not reconnect at startup. Connections not made permanent appear in this list until you disconnect them or when Windows exits.

To delete an NFS connection, select the name and click the Disconnect button. To modify attributes of a connection, select the name and click the Modify... button. If you modify active connections, changes take effect immediately.

Available Drives Drop-Down List

The Available Drives drop-down list displays drive letters to which you can map a mount point. Click the drop-down list arrow to select a drive letter for your connection or use the currently displayed letter.

Connect Dialog Box

The Connect dialog box lets you log into an NFS server. The dialog contains these fields and buttons:

Host Name
The name of the host computer to which you are connecting.

User Name
Your login name for the NFS server. If your login name is not displayed or you want to access an alternate login, enter it. You can create a default user name that appears in the login dialog boxes for both NFS Assistant and Print Assistant by specifying the login name on the Global Options tab.

Password
The password associated with the user login name. The length and the allowed characters depend on the system you are logging into.

Authentication Server
The name of a PC-NFS server that can determine if you have access to the NFS server. Authentication consists of converting a user name and password into the NFS credentials known as the UID and GID (User ID and Group ID). If the NFS server you are connecting to runs PC-NFS, leave this edit box blank because authentication is handled directly by the server. If the NFS server is not running PC-NFS, NFS Assistant requires you to specify the name of a PC-NFS server that can authenticate your user name and password. Your network administrator provides this information.

Reconnect at Startup
Determines whether NFS Assistant should establish this connection when Windows starts. If you check the Reconnect at Startup check box, you must also check the Enable Permanent Connections check box on the Global Options tab to enable the Reconnect at Startup feature.

If you check this box, NFS Assistant establishes the connection when Windows starts using the server name and your user name to make the connection. If you clear this check box, you must establish the connection in each Windows session. If you check both this box and the Save Password check box, the connection occurs without interruption. If you clear the Save Password check box, NFS Assistant prompts you for your password when it attempts to establish the connection.

Save Password
Determines whether NFS Assistant should store your password for a connection. If you check this box and the Reconnect at Startup check box, when Windows starts, the connection occurs without interruption. If you check the Reconnect At Startup check box, but clear the Save Password check box, NFS Assistant prompts you for your password when Windows starts and when it attempts to establish the connection.

Enable Fast Read
Increases NFS performance by reading data before it is requested and storing it in cache memory. For example, if you are viewing the first page of a file, NFS Assistant anticipates that you want to view additional pages of the same file, requests those from the NFS server, and caches the data. The file displays much faster than if the pages were requested one at a time. Random I/O files are not affected by this feature.

Do not enable fast read if:
- The NFS server access is slow due to system overload

- The network adapter on your workstation cannot handle the speed at which data is being accessed by the NFS server (this can cause your workstation to hang)
- An intermediate router is overloaded

Options button

Changes options for the NFS connection using the Connect Options dialog box.

User Name Edit Box

The User Name edit box lists your login name. If your login name is not displayed or you want to access an alternate login, enter it. You can create a default user name that appears in the login dialog boxes for both NFS Assistant and Print Assistant by specifying the login name on the Global Options tab.

Password Edit Box

The Password edit box lets you enter the password associated with the user login name. The length and the allowed characters depend on the system you are logging into.

Authentication Server Edit Box

The Authentication Server edit box lets you enter the name of a PC-NFS server that can determine if you have access to the NFS server. Authentication consists of converting a user name and password into the NFS credentials known as the UID and GID (User ID and Group ID). If the NFS server you are connecting to runs PC-NFS, leave this edit box blank because authentication is handled directly by the server. If the NFS server is not running PC-NFS, NFS Assistant requires you to specify the name of a PC-NFS server that can authenticate your user name and password. Your network administrator provides this information.

Reconnect At Startup Check Box

The Reconnect at Startup check box lets you indicate whether NFS Assistant should establish this connection when Windows starts.

Important:

> If you check the Reconnect at Startup check box, you must also check the Enable Permanent Connections check box on the Global Options tab to enable the Reconnect at Startup feature.

If you check this box, NFS Assistant establishes the connection when Windows starts using the server name and your user name to make the connection. If you clear this check box, you must establish the connection in each Windows session. If you check both this box and the Save Password check box, the connection occurs without interruption. If you clear the Save Password check box, NFS Assistant prompts you for your password when it attempts to establish the connection.

Save Password Check Box

The Save Password check box lets you indicate whether NFS Assistant should store your password for a connection. If you check this box and the Reconnect at Startup check box, when Windows starts, the connection occurs without interruption. If you check the Reconnect At Startup check box, but clear the Save Password check box, NFS Assistant prompts you for your password when Windows starts and when it attempts to establish the connection.

Connect Options Dialog Box

The Connect Options dialog box lets you set options for an NFS session. The dialog contains these fields:

Drive
The drive letter for this connection.

Persist After Network Failure (Hard Mount)
Determines whether, if the NFS server goes down, the NFS Assistant should either attempt to reconnect or close the connection. (Even if the connection closes, NFS Assistant lists the connection in the Connections list until you disconnect the connection or Windows exits.) If you check this, NFS tries to reconnect every second, indefinitely, until a response is received from the server. When the server goes down, if access occurs from the MS-DOS prompt, only the prompt hangs; if access occurs from Windows, Windows hangs. If the Wide Area Network check box is checked, NFS retries every 30 seconds.

Clear this check box to indicate that if the NFS server goes down, NFS times out within 30 seconds.

Wide Area Network (High Latency)
Indicates whether your workstation is part of a wide area network (WAN). Check this box to compensate for delays when connecting across long distance phone lines or by satellite. Clear this box to indicate your site is local and does not require compensation for network delays. You can only enable or disable this option when you first create a connection; once the connection is active, this option is grayed. Contact your network administrator to determine if your workstation is on a wide area network.

Convert Text files to Stream-LF
Determines whether text files you view or copy are converted to Stream-LF format. To view UNIX or OpenVMS text files correctly, check the Convert Text Files to Stream-LF check box before opening the file. If you do not examine text files on non-DOS systems, clear this box. Binary files are not converted.

NOTE:
This option also affects how long it takes to access a directory. When this option is enabled, accessing a directory takes much longer as each text file is converted into Stream-LF format. We recommend you use this option selectively when you want to view a file.

Enable Data Caching
Determines whether NFS Assistant should increase NFS performance for programming applications accessing NFS mounted files. Check this check box to increase NFS performance when building applications between mounted file systems. Clear this check box if your system runs out of resources or memory. If your system has 4 MB of RAM memory, clear this check box.

Enable Network Locking
Determines whether you prevent access by other users to files that you have open. Check this box if you are using files in a shared environment and want to ensure that others cannot access a file while you are using it. Clear this box if you are the only one accessing the files on the file systems to which you are connected.

Enable Fast Write
Determines whether the NFS server increases NFS performance when saving data to

disk. This feature works by the NFS Assistant not waiting for verification from the NFS server that a write is successful; data is written, but the NFS Assistant does not wait to be sure. If a problem occurs on the NFS server, the next read or write request detects the problem and data is resent, or should the NFS server fail, queued until the server is back online.

Check this check box to increase performance. Clear this check box if performance decreases. If the NFS server overloads, use of this feature can cause slower write performance.

Read Only Filesystem

Determines whether you have read-only access for this NFS connection. Check this check box to disable write or delete access to files. Write access is disabled regardless of file access privileges permitting write access. Clear this check box to be able to write or delete files during an NFS session.

Maximum Packet Size

The number of characters (bytes) to be stored in a packet before it is sent to the NFS server. We recommend a packet size of 8192 bytes. If you have performance degradation over NFS, use 1024 bytes. Contact your network administrator for more information.

NFS Server Port

The port number on the NFS server. The default port is 2049 as specified in RFC 1094. If the NFS server you are connecting to uses a different port, enter that number in the NFS Server Port edit box. Your network administrator can provide port information for the NFS server.

Persist After Network Failure Check Box

The Persist After Network Failure check box lets you specify that if the NFS server goes down, the NFS Assistant should either attempt to reconnect or close the connection. (Even if the connection closes, NFS Assistant lists the connection in the Connections list until you disconnect the connection or Windows exits.)

Check this box to indicate that if the NFS server goes down, NFS should try to reconnect every second, indefinitely, until a response is received from the server. When the server goes down, if access occurs from the MS-DOS prompt, only the prompt hangs; if access occurs from Windows, Windows hangs. If the Wide Area Network check box is checked, NFS retries every 30 seconds.

Clear this check box to indicate that if the NFS server goes down, NFS times out within 30 seconds.

Whether you check or clear the check box, the connection stays in the Connections list until you disconnect it.

Wide Area Network Check Box

The Wide Area Network check box lets you specify that your PC is part of a wide area network (WAN). Check this box to compensate for delays when connecting across long distance phone lines or by satellite. Clear this box to indicate your site is local and does not require compensation for network delays. You can only enable or disable this option when you first create a connection; once the connection is active, this option is grayed. Contact your network administrator to determine if your PC is on a wide area network.

Convert Text Files Check Box

The Convert Text Files to Stream-LF check box lets you specify that text files you view or copy should be converted to Stream-LF format. To view UNIX or OpenVMS text files correctly, check the Convert Text Files to Stream-LF check box before opening the file. If you do not examine text files on non-DOS systems, clear this box. Binary files are not converted.

NOTE:

This option also affects how long it takes to access a directory. When this option is enabled, accessing a directory takes much longer as each text file is converted into Stream-LF format. We recommend you use this option selectively when you want to view a file.

Stream-LF Format

Stream-LF format means that each line in a text file contains both a carriage return and line feed. MS-DOS and Windows use Stream-LF format. UNIX systems typically store text files with only line feeds at the end of each line and do not display correctly when opened with a Windows utility such as Notepad. Other operating systems, such as OpenVMS, have alternate schemes for line termination and also do not display correctly in Windows. To display a file correctly, check the Convert text files to Stream-LF check box on the Connect Options dialog box before opening the file.

Enable Data Caching Check Box

The Enable Data Caching check box lets you specify whether NFS Assistant should increase NFS performance for programming applications accessing NFS mounted files. Check this check box to increase NFS performance when building applications between mounted file systems. Clear this check box if your system runs out of resources or memory. If your system has 4 MB of RAM memory, clear this check box.

Enable Network Locking Check Box

The Enable Network Locking check box lets you prevent access by other users to files that you have open. Check this box if you are using files in a shared environment and want to ensure that others cannot access a file while you are using it. Clear this box if you are the only one accessing the files on the file systems to which you are connected.

Enable Fast Write Check Box

The Enable Fast Write check box lets you specify that the NFS server should increase NFS performance when saving data to disk. This feature works by the NFS Assistant not waiting for verification from the NFS server that a write is successful; data is written, but the NFS Assistant does not wait to be sure. If a problem occurs on the NFS server, the next read or write request detects the problem and data is resent, or should the NFS server fail, queued until the server is back online.

Check this check box to increase performance. Clear this check box if performance decreases. If the NFS server overloads, use of this feature can cause slower write performance.

Enable Fast Read Check Box

The Enable Fast Read check box increases NFS performance by reading data before it is requested and storing it in cache memory. For example, if you are viewing the first page of a file, NFS Assistant anticipates that you want to view additional pages of the same file, requests those from the NFS server, and caches the data. The file displays much faster than if the pages were requested one at a time. Random I/O files are not affected by this feature.

Check this check box to increase performance. Clear this check box if:

- The NFS server access is slow due to system overload
- The network adapter on your PC cannot handle the speed at which data is being accessed by the NFS server (this can cause your PC to hang)
- An intermediate router is overloaded

Read Only Filesystem Check Box

The Read Only Filesystem check box lets you specify read-only access for this NFS connection. Check this check box to disable write or delete access to files. Write access is disabled regardless of file access privileges permitting write access. Clear this check box to be able to write or delete files during an NFS session.

NFS Server Port Edit Box

The NFS Server Port edit box lets you specify the port number on the NFS server. The default port is 2049 as specified in RFC 1094. If the NFS server you are connecting to uses a different port, enter that number in the NFS Server Port edit box. Your network administrator can provide port information for the NFS server.

Maximum Packet Size Edit Box

The Maximum Packet Size edit box lets you specify the number of characters (bytes) to be stored in a packet before it is sent to the NFS server. We recommend a packet size of 8192 bytes. If you have performance degradation over NFS, use 1024 bytes. Contact your network administrator for more information.

Modify Connection Options Dialog Box

The Modify Connection Options dialog box lets you modify the options for an NFS session. Options can be set while a session is running. The dialog box contains these fields and buttons:

Drive

The drive letter for this connection.

Persist After Network Failure (Hard Mount)

Determines whether, if the NFS server goes down, the NFS Assistant should either attempt to reconnect or close the connection. (Even if the connection closes, NFS Assistant lists the connection in the Connections list until you disconnect the connection or Windows exits.) If you check this, NFS tries to reconnect every second, indefinitely, until a response is received from the server. When the server goes down, if access occurs from the MS-DOS prompt, only the prompt hangs; if access occurs from Windows, Windows hangs. If the Wide Area Network check box is checked, NFS retries every 30 seconds.

Clear this check box to indicate that if the NFS server goes down, NFS times out within 30 seconds.

Wide Area Network (High Latency)

Indicates whether your workstation is part of a wide area network (WAN). Check this box to compensate for delays when connecting across long distance phone lines or by satellite. Clear this box to indicate your site is local and does not require compensation for network delays. You can only enable or disable this option when you first create a connection; once the connection is active, this option is grayed. Contact your network administrator to determine if your workstation is on a wide area network.

Convert Text files to Stream-LF

Determines whether text files you view or copy are converted to Stream-LF format. To view UNIX or OpenVMS text files correctly, check the Convert Text Files to Stream-LF check box before opening the file. If you do not examine text files on non-DOS systems, clear this box. Binary files are not converted.

NOTE:

This option also affects how long it takes to access a directory. When this option is enabled, accessing a directory takes much longer as each text file is converted into Stream-LF format. We recommend you use this option selectively when you want to view a file.

Enable Data Caching

Determines whether NFS Assistant should increase NFS performance for programming applications accessing NFS mounted files. Check this check box to increase NFS performance when building applications between mounted file systems. Clear this check box if your system runs out of resources or memory. If your system has 4 MB of RAM memory, clear this check box.

Enable Network Locking

Determines whether you prevent access by other users to files that you have open. Check this box if you are using files in a shared environment and want to ensure that others cannot access a file while you are using it. Clear this box if you are the only one accessing the files on the file systems to which you are connected.

Enable Fast Write

Determines whether the NFS server increases NFS performance when saving data to disk. This feature works by the NFS Assistant not waiting for verification from the NFS server that a write is successful; data is written, but the NFS Assistant does not wait to be sure. If a problem occurs on the NFS server, the next read or write request detects the problem and data is resent, or should the NFS server fail, queued until the server is back online.

Check this check box to increase performance. Clear this check box if performance decreases. If the NFS server overloads, use of this feature can cause slower write performance.

Enable Fast Read

Increases NFS performance by reading data before it is requested and storing it in cache memory. For example, if you are viewing the first page of a file, NFS Assistant anticipates that you want to view additional pages of the same file, requests those from the NFS server, and caches the data. The file displays much faster than if the pages were requested one at a time. Random I/O files are not affected by this feature.

Do not enable fast read if:

- The NFS server access is slow due to system overload
- The network adapter on your workstation cannot handle the speed at which data is being accessed by the NFS server (this can cause your workstation to hang)
- An intermediate router is overloaded

Read Only Filesystem

Determines whether you have read-only access for this NFS connection. Check this check box to disable write or delete access to files. Write access is disabled regardless of file access privileges permitting write access. Clear this check box to be able to write or delete files during an NFS session.

Maximum Packet Size

The number of characters (bytes) to be stored in a packet before it is sent to the NFS server. We recommend a packet size of 8192 bytes. If you have performance degradation over NFS, use 1024 bytes. Contact your network administrator for more information.

NFS Server Port

The port number on the NFS server. The default port is 2049 as specified in RFC 1094. If the NFS server you are connecting to uses a different port, enter that number in the NFS Server Port edit box. Your network administrator can provide port information for the NFS server.

Reconnect at Startup

Determines whether NFS Assistant should establish this connection when Windows starts. If you check the Reconnect at Startup check box, you must also check the Enable Permanent Connections check box on the Global Options tab to enable the Reconnect at Startup feature.

If you check this check box, NFS Assistant establishes the connection when Windows starts using the server name and your user name to make the connection. If you clear this check box, you must establish the connection in each Windows session. If you check both this check box and the Save Password check box, the connection occurs without interruption. If you clear the Save Password check box, NFS Assistant prompts you for your password when it attempts to establish the connection.

Servers Tab

The Servers tab lets you specify the name of an NFS server. Your network administrator can supply the names of servers to which you can connect. This tab contains these fields and buttons:

New Server Name
The name of an NFS server to which a connection can be attempted from the Connections tab. Enter a server name as either a fully-qualified domain name, such as **pine.yoyodyne.com**, or as just the host name, such as, **pine**. Your network administrator can supply the names of servers to which you can connect.

Servers
The names of NFS servers to which you can connect from the Connections tab.

Close button
Exits the application. All running connections remain in effect until you click the Disconnect button.

Add button
Adds the name of the NFS server to the list of servers to which you can connect.

Delete button
Deletes the selected name of an NFS server from the Servers List.

Global Options Tab

The Global Options tab lets you set a default user name, start NFS connections when Windows is started, view warnings if the network connection fails, and set file access privileges. NFS Assistant and Print Assistant share the user name, reconnect at startup, and warnings settings in the Global Options Tab. File access privileges do not appear on the Print Assistant Global Options tab.

The Global options tab contains these fields and buttons:

Default User Name
The default user name for the NFS Assistant and Print Assistant login dialog boxes.

Enable Permanent Connections at Startup
Enables or disables all permanent connections. Create permanent connections by checking the Reconnect at Startup check box when you create a connection. The Enable Permanent Connections check box is, in effect, a master switch for all the Reconnect At Startup settings. When you check the Enable Permanent Connections check box, all Reconnect at Startup connections mount when Windows starts. If you clear this check box, none of the Reconnect at Startup connections mount when Windows starts.

If you are using a laptop computer, you can enable all permanent connections when working in the office, but disable all permanent connections when working at home where none of the connections exist.

Enable Network Warnings
Determines whether to view warning messages when the network is not running or when the system has become too low on memory to perform NFS operations. Check this box to receive all warning messages. Clear this box to disable warning messages.

Default File Protection group
Controls the default file access privileges for all files you create or change on the NFS server. See Changing File Access Privileges.

Use Parent Directory Protection Mask
Indicates that files you create or change on the NFS server should have the same file access privileges as the directory that contains them.

Use Specified File Protection Mask
Indicates that files you create or change on the NFS server should have the file access privileges you specify in the Owner, Group, and World check boxes.

The Owner, Group, and World privileges check boxes indicate the default file access privileges for all files you create or change on the NFS server. Owner privileges are those assigned to you, Group privileges are those assigned to your group on the NFS server, and World privileges affect anyone else. Execute privileges control the use of programs, shell scripts, or batch files. Write access also lets you delete a file. Read access also lets you copy a file. Execute permission on a directory lets you scan it.

Close button
Exits the application. All running connections remain in effect until you click the Disconnect button.

Othernet button
Connects to an alternate networking application. The button legend displays the name of the network system type. This button does not appear if an alternate networking

application is not available on your workstation. This button only appears if you access NFS Assistant from the File Manager application or the Network control panel; or if you access Print Assistant from the Print Manager application.

Owner, Group, and World Privileges Check Boxes

The Owner, Group, and World privileges check boxes indicates the default file access privileges for all files you create or change on the NFS server. Owner privileges are those assigned to you, Group privileges are those assigned to your group on the NFS server, and World privileges affect anyone else. Execute privileges control the use of programs, shell scripts, or batch files. Write access also lets you delete a file. Read access also lets you copy a file. Execute permission on a directory lets you scan it.

See Also:

- Changing File Access Privileges

Enable Permanent Connections Check Box

The Enable Permanent Connections check box lets you enable or disable all permanent connections. Create permanent connections by checking the Reconnect at Startup check box when you create a connection. The Enable Permanent Connections check box is, in effect, a master switch for all the Reconnect At Startup settings. When you check the Enable Permanent Connections check box, all Reconnect at Startup connections mount when Windows starts. If you clear this check box, none of the Reconnect at Startup connections mount when Windows starts.

One use of this feature is with a laptop computer; you can enable all permanent connections when working in the office, but can disable all permanent connections when working at home where none of the connections exist.

Enable Network Warnings Check Box

The Enable Network Warnings check box lets you decide whether or not to view warning messages when the network is not running or when the system has become too low on memory to perform NFS operations. Check this check box to receive all warning messages. Clear this check box to disable warning messages.

Network Properties Dialog Box

The Network Properties dialog box lets you view or change file access privileges for a single file, and view its full file name. To view or change privileges for more than one file, refer to the Multiple File Network Properties dialog box. If you need to specify file access privileges for all files you access, use the File Protection Mask check boxes on the Global Options tab.

Caution:

> If you change file attributes with the File Manager Properties... option, do not change the privileges in this dialog box because uncertain results may occur which may make the file unreadable. Similarly, if you set the privileges in this dialog box, do not set the file attributes with the Properties... option.

This dialog box contains these fields:

Name

The file name as it is stored on the NFS server. NFS servers that run the OpenVMS or UNIX operating systems, or computers such as the Apple Macintosh, permit file names that are longer and that include special characters not supported by Windows. Viewing non-DOS file names provides additional information. Scroll this edit box horizontally by clicking the file name and using the arrow keys to view characters that extend beyond the edges of the indicator.

Drive

The drive letter associated with this NFS connection.

Type

The type of file. Typically file types are:

- Regular File: a text, executable, or binary file
- Directory: a directory

In addition, you may also see:

- Block Device: a disk drive or another random access device
- Character Device: a tape drive or another sequential access device
- Socket: a special file used for networking
- Symbolic Link: a link to another file
- Unknown: a file whose type is indeterminable

Owner

Identifies you to NFS. This value is known as UID and all files you create in NFS contain this value and that of your group ID, or GID. The UID and GID values identify your files as your own. Owner numbers range in value from 0 to 65,535 and are assigned by your network administrator.

Group

Identifies the work group to which you belong. This value is known as GID and all files you create in NFS contain this value and that of your owner ID, or UID. The UID and GID values identify your files as your own. Group numbers range in value from 0 to 65,535 and are assigned by your network administrator.

File Protection Mask group

Indicates the file access privileges for the file. Owner privileges are those assigned to you, Group privileges are those assigned to your group, and World privileges are those you assign to permit anyone else outside your group to read, change, or delete your files.

If your file is a program that can be executed, you can also limit who can execute the file.

If a file is given write access, it can be deleted. If a file is given read access, it can be copied. If a directory is given execute permission, its contents can be scanned. We recommend that you grant read, write, and execute privileges to yourself; read and execute privileges to group members; and no privileges to the world. If you need to share a file with someone, it is better to copy the file to a common directory instead of granting world file access privileges.

Owner, Group, and World Privileges Check Boxes

The Owner, Group, and World privileges check boxes let you view or change the file access privileges for yourself, for others in your group, and for anyone else using the NFS server. Owner privileges are those assigned to you, Group privileges are those assigned to your group on the NFS server, and World privileges are those you assign to permit anyone else other than yourself or your group to read, change, or delete your files.

If your file is a program that can be executed, you can also limit who can execute the file. If a file is given write access, it can be deleted. If a file is given read access, it can be copied. If a directory is given execute permission, its contents can be scanned. We recommend that you grant read, write, and execute privileges to yourself; read and execute privileges to group members; and no privileges to the world. If you need to share a file with someone, it is better to copy the file to a common directory instead of granting world file access privileges.

Multiple File Network Properties Dialog Box

The Multiple File Network Properties dialog box lets you view or change file access privileges for more than one file or directory. If file access privileges differ between the selected files or directories, the affected privileges are grayed. To view or change privileges for a single file or directory, refer to the Network Properties dialog box. If you need to specify file access privileges for all files you access, use the File Protection Mask check boxes on the Global Options tab.

Caution:

> If you changed file attributes with the File Manager Properties... option, do not change the privileges in this dialog box because uncertain results may occur which may make the files unreadable. Similarly, if you set the privileges in this dialog box, do not set the file attributes with the Properties... option.

This dialog box contains these fields:

Name
The path name for the files or directories you selected.

Drive
The drive letter associated with this NFS connection.

File Protection Mask group
Indicates the file access privileges for the file. Owner privileges are those assigned to you, Group privileges are those assigned to your group, and World privileges are those you assign to permit anyone else outside your group to read, change, or delete your files.

If your file is a program that can be executed, you can also limit who can execute the file. If a file is given write access, it can be deleted. If a file is given read access, it can be copied. If a directory is given execute permission, its contents can be scanned. We recommend that you grant read, write, and execute privileges to yourself; read and execute privileges to group members; and no privileges to the world. If you need to share a file with someone, it is better to copy the file to a common directory instead of granting world file access privileges.

Cisco TCP/IP Suite Online Help

 NFS Assistant

 Print Assistant

- Connections Tab
- Servers Tab
- Global Options Tab
- NFS Login
- Stream Connect
- LPR/LPD Login

 NFS Assistant Procedures

 Print Assistant Procedures

 NFS Concepts

Connections Tab

The Cisco TCP/IP Suite Print dialog box lets you assign a printer port to a print queue. The print queue you create can be on any NFS server to which you have access. Your network administrator can provide server names, protocols used, and the type of printer that each queue serves.

Once you know the name of a print server, enter it in the Servers tab to ensure it appears in your list of available servers. Browse the available print queues with the Connections tab, and then click the Connect button to assign the print queue to an available print device. Specify options that affect Print Assistant and the NFS Assistant with the Global Options tab.

Permanent connections appear in the Current Connections list with a green sheet in the printer icon; temporary connections have a white sheet. Connections are made permanent by checking the Reconnect at Startup check box in a login dialog box.

This tab contains these fields and buttons:

Path

The name of a print server available over NFS. Your network administrator can provide the names of print servers and the print queues they manage. You can enter the name of a server in the Path edit box instead of choosing a server specified on the Servers tab.

Available Ports

Displays ports to which a connection can be made.

Print Servers

Displays the NFS servers, print queues associated with the server, and the names of printers connected to the server. Double-click the NFS server name, which is shown in the list with a small computer icon, to view the protocols available on the server. Double-click the protocol to view printer names.

Current Connections

Displays connections. After you log into a server, the name appears in black type. Delete a print queue by selecting the name and clicking the Disconnect button. Change print queue login options by selecting the name and clicking the Modify... button. Permanent connections have a green sheet in the printer icon; temporary connections have a white sheet. Error messages can also display in this window.

Connect button

Connects to the print server or printer. If the printer or print server uses NFS, the NFS Login dialog box appears. If the printer is a Stream printer, the Stream Login dialog box appears. If the printer or print server uses the LPR/LPD protocol, the LPR/LPD Login dialog box appears.

Close button

Exits the application. All running connections remain in effect until you click the Disconnect button.

Modify button

Changes options for the connection selected in the Current Connections list.

Disconnect button

Disconnects a previously assigned print queue. Select the print queue to disconnect from the list provided in the Current Connections list.

Othernet button

Connects to an alternate networking application. The button legend displays the name of the network system type. This button does not appear if an alternate networking application is not available on your workstation. This button only appears if you access NFS Assistant from the File Manager application or the Network control panel; or if you access Print Assistant from the Print Manager application.

See Also:

- Print Assistant Procedures

Print Servers List

The Print Servers list displays the NFS servers, print queues associated with the server, and the names of printers connected to the server. Double-click the NFS server name, which is shown in the list with a small computer icon, to view the protocols available on the server. Double-click the protocol to view printer names.

Current Connections List

The Current Connections list displays connections. After you log into a server, the name appears in black type. Delete a print queue by selecting the name and clicking the Disconnect button. Change print queue login options by selecting the name and clicking the Modify... button. Permanent connections have a green sheet in the printer icon; temporary connections have a white sheet. Error messages can also display in this window.

Servers Tab

The Servers tab lets you specify the name of a server to which a print queue is connected. Click the Queues button to add or delete print queues for the selected server. Your network administrator provides the names of the servers, the protocols they support, and their available printers. This tab contains these fields and buttons:

New Server Name
The name of an NFS server to which a connection can be attempted from the Connections tab. Enter a server name as either a fully-qualified domain name, such as **pine.yoyodyne.com**, or as just the host name, such as, **pine**. Your network administrator can supply the names of servers to which you can connect.

Servers
Displays the names of NFS servers to which you can connect from the Connections tab.

Add Server
Saves the server in your list of available servers.

Close button
Exits the application. All running connections remain in effect until you click the Disconnect button.

Queues
Adds or deletes print queues for the selected server, and lets you specify the protocols available for the printer or print server, using the Queues dialog box.

Delete
Deletes the currently selected print server.

Othernet button
Connects to an alternate networking application. The button legend displays the name of the network system type. This button does not appear if an alternate networking application is not available on your workstation. This button only appears if you access NFS Assistant from the File Manager application or the Network control panel; or if you access Print Assistant from the Print Manager application.

New Server Name Edit Box

The New Server Name edit box lets you specify the name of an NFS server to which a connection can be attempted from the Connections tab. Enter a server name as either a fully-qualified domain name, such as **pine.yoyodyne.com**, or as just the host name, such as, **pine**. Your network administrator can supply the names of servers to which you can connect.

Queues Dialog Box

The Queues dialog box lets you specify the protocols a print server or printer supports. For servers that support the LPR/LPD protocol, it lets you identify their associated print queues. Your network administrator provides the names of print queues and the printers associated with the queues. The dialog box contains these fields:

Print Server
The name of the print server.

Enable NFS
Indicates that the print server supports the NFS protocol. Your network administrator can provide the name of the print server and the protocols it supports.

Enable Stream
Indicates that the print server supports the Stream protocol. Your network administrator can provide the name of the print server and the protocols it supports.

Enable LPR/LPD
Indicates that the print server supports the LPR/LPD protocol. Be sure to specify the name of the LPR/LPD print queue in the New LPR/LPD Queue Name edit box. While a print queue can be created without a name, it is unusable.

New LPR/LPD Print Name
The name of the LPR/LPD queue. Click the Add button to add the name to the list of available queues. Once you add a print queue, you can view it in the Connections tab. Naming conventions depend on the system to which you are connecting. Your network administrator can provide the name of the print server, the protocols it supports, and any LPR/LPD queues available.

Available LPR/LPD Print Queues
Displays the LPR/LPD queues you added. Delete unwanted queues with the Delete button.

Close button
Exits the application. All running connections remain in effect until you click the Disconnect button.

Add button
Adds a print queue to the list of available queues.

Delete button
Deletes the queue selected in the Available LPR/LPD Print Queues list.

Enable NFS Check Box

The Enable NFS check box lets you specify that the print server supports the NFS protocol. Your network administrator can provide the name of the print server and the protocols it supports.

Enable Stream Check Box

The Enable Stream check box lets you specify that the print server supports the Stream protocol. Your network administrator can provide the name of the print server and the protocols it supports.

Enable LPR/LPD Check Box

The Enable LPR/LPD check box lets you specify that the print server supports the LPR/LPD protocol.

Note:

Be sure to specify the name of the LPR/LPD print queue in the New LPR/LPD Queue Name edit box. While a print queue can be created without a name, it is unusable.

New LPR/LPD Queue Name Edit Box

The New LPR/LPD Queue Name edit box lets you enter the name of the LPR/LPD queue. Click the Add button to add the name to the list of available queues. Once you add a print queue, you can view it in the Connections tab. Naming conventions depend on the system to which you are connecting. Your network administrator can provide the name of the print server, the protocols it supports, and any LPR/LPD queues available.

Global Options Tab

The Global Options tab lets you set a default user name, start NFS connections when Windows starts, and view warnings if the network connection fails. NFS Assistant and Print Assistant share the options set in this tab. The tab contains these fields and buttons:

Default User Name

The default user name for the NFS Assistant and Print Assistant login dialog boxes.

Enable Permanent Connections at Startup

Enables or disables all permanent connections. Create permanent connections by checking the Reconnect at Startup check box when you create a connection. The Enable Permanent Connections check box is, in effect, a master switch for all the Reconnect At Startup settings. When you check the Enable Permanent Connections check box, all Reconnect at Startup connections mount when Windows starts. If you clear this check box, none of the Reconnect at Startup connections mount when Windows starts.

If you are using a laptop computer, you can enable all permanent connections when working in the office, but disable all permanent connections when working at home where none of the connections exist.

Enable Network Warnings

Determines whether to view warning messages when the network is not running or when the system has become too low on memory to perform NFS operations. Check this box to receive all warning messages. Clear this box to disable warning messages.

Stream Login Dialog Box

The Stream Login dialog box lets you access a Stream printer queue. The dialog contains these fields:

Device
The print device and the path of the print server.

Port
The port number on the Stream printer. The default port is 9100 for Hewlett-Packard (HP) printers. Printer port numbers vary by printer vendor. The printer documentation or your network administrator can provide port information.

Enable Telnet Negotiations
Determines whether Telnet negotiation is used with the printer. Some printers require Telnet negotiations when sending data to the printer. Telnet negotiations mean that, in addition to the data being printed, other control codes required during a Telnet session are sent simultaneously so that the printer can talk to your workstation as though you were conducting a Telnet session. Your network administrator or the printer manufacturer can inform you if the printer requires Telnet negotiation. If you are having trouble printing to a Stream printer, disconnect the queue and clear the Enable Telnet Negotiations check box.

Port Edit Box

The Stream printer Port edit box lets you specify the port number on the Stream printer. The default port is 9100 for Hewlett-Packard (HP) printers. Printer port numbers vary by printer vendor. The printer documentation or your network administrator can provide port information.

Enable Telnet Negotiations Check Box

Some printers require Telnet negotiations when sending data to the printer. Telnet negotiations mean that, in addition to the data being printed, other control codes required during a Telnet session are sent simultaneously so that the printer can talk to your workstation as though you were conducting a Telnet session. Your network administrator or the printer manufacturer can inform you if the printer requires Telnet negotiation. If you are having trouble printing to a Stream printer, disconnect the queue and clear the Enable Telnet Negotiations check box.

LPR/LPD Login Dialog Box

The LPD/LPR Login dialog box lets you log into a server that supports the LPR/LPD printing protocol. The dialog box contains these fields:

Device
The print device and the path of the print server.

User Name
Your login name. If your login name is not displayed or you want to access an alternate login, enter it. You can create a default user name that appears in the login dialog boxes for both NFS Assistant and Print Assistant by specifying the login name on the Global Options tab.

Personal Name
Your full name (or whatever name you wish to be known by) for the banner page that accompanies your printer output. Typically, Print Assistant gets your name from Windows. Your network administrator can tell you what style conventions, if any, are required when specifying your name for a banner page.

Filter Type
The type of filter in use at the printer site for file translation. Filters are identified by a single letter in the Filter type edit box. On all but the User Defined filter, the letter type is a reserved character and is grayed. If your network administrator has defined special print filters, select User Defined from the drop-down list and enter the letter associated with the print filter. Your network administrator provides the user defined filter letters.

Reconnect at Startup
Determines whether Print Assistant establishes this connection when Windows starts. If you check this check box, Print Assistant establishes the connection when Windows starts. If you clear this check box, you must establish the connection yourself.

Filter Type Drop-Down List

The Filter Type drop-down list lets you specify the type of filter in use at the printer site for file translation. Filters are identified by a single letter in the Filter type edit box. On all but the User Defined filter, the letter type is a reserved character and is grayed. If your network administrator has defined special print filters, select User Defined from the drop-down list and enter the letter associated with the print filter. Your network administrator provides the user defined filter letters.

Filter

A filter is a type of program that changes one type of data to another. Filters are used for printers to add protocols or special characters depending on the needs of the printer. For example, some printers expect to receive special control characters before receiving a PostScript file. A filter, in this case, would add control characters to any print jobs destined for the printer.

NFS Login Dialog Box

The NFS Login dialog box lets you log into an NFS print server and specify whether the Print Assistant should automatically reconnect the print queue when Windows starts. To create this queue each time Windows starts, click the Reconnect At Startup check box. The dialog box contains these fields:

Device
The print device and the path of the print server.

User Name
Your login name. If your login name is not displayed or you want to access an alternate login, enter it. You can create a default user name that appears in the login dialog boxes for both NFS Assistant and Print Assistant by specifying the login name on the Global Options tab.

Password
The password associated with the user login name. The length and the allowed characters depend on the system you are logging into.

Save Password
Determines whether Print Assistant stores your password for the connection. If you clear this check box, you are prompted to supply your password when Windows starts.

Reconnect at Startup
Determines whether Print Assistant establishes this connection when Windows starts. If you check this check box, Print Assistant establishes the connection when Windows starts. If you clear this check box, you must establish the connection yourself.

Queues Dialog Box

The Queues dialog box lets you specify the type of print server you entered in the Path edit box on the Connections tab. Your network administrator can provide the name of the print server and the protocols it supports. The dialog box contains these fields:

Path
The path of the print server.

NFS
Indicates that the print server supports the NFS protocol.

Stream
Indicates that the print server supports the Stream protocol.

LPR/LPD
Indicates that the print server supports the LPR/LPD protocol.

Cisco TCP/IP Suite PC-NFS Login Dialog Box

If you create a connection to an NFS printer and clear the Save Password check box, this dialog box appears when Windows starts. Enter your password and click OK. If a user name is not supplied, enter it. You can disconnect this connection from the Connections tab in the Print Assistant.

The dialog contains these fields:

Device
The print device and the path of the print server.

User Name
Your login name. If your login name is not displayed or you want to access an alternate login, enter it. You can create a default user name that appears in the login dialog boxes for both NFS Assistant and Print Assistant by specifying the login name on the Global Options tab.

Password
The password associated with the user login name. The length and the allowed characters depend on the system you are logging into.

Save Password
Determines whether Print Assistant stores your password for the connection. If you clear this check box, you are prompted to supply your password when Windows starts.

Reconnect at Startup
Determines whether Print Assistant establishes this connection when Windows starts. If you check this check box, Print Assistant establishes the connection when Windows starts. If you clear this check box, you must establish the connection yourself.

Reconnect At Startup Check Box

The Reconnect at Startup check box lets you indicate that Print Assistant should establish this connection when Windows starts. If you check this box, Print Assistant establishes the connection when Windows starts. If you clear this check box, you must establish the connection yourself.

Save Password Check Box

The Save Password check box lets you indicate whether Print Assistant should store your password for a connection. If you check this check box and the Reconnect at Startup check box, the connection occurs without interruption. If you check the Reconnect At Startup check box, but clear the Save Password check box, Print Assistant prompts you for your password when it attempts to establish the connection.

Cisco TCP/IP Suite Online Help

 NFS Assistant

 Print Assistant

 NFS Assistant Procedures

- Starting an NFS connection
- Setting NFS connection options
- Viewing UNIX or OpenVMS text files
- Changing File Access Privileges
- Viewing file names on non-DOS file systems
- Increasing NFS speed
- Sending Commands to the NFS Server

 Print Assistant Procedures

 NFS Concepts

Starting an NFS Connection

To start an NFS connection:

1. Double-click the NFS Assistant icon in the Cisco Suite 100 program group or choose the Network Connections... option from the Disk menu in the Windows File Manager application. The NFS dialog box appears.
2. If NFS server names appear in the NFS Servers list, select a server name and expand it. If server names do not appear in the list, click the Servers Tab and add the name of a server. Your network administrator can provide server names and mount points.
3. Once you expand the server, select the mount point to which you want to connect.
4. Select a drive letter from the Available Drives drop-down list.
5. To find a preferred mount point, double-click the server name in the Browse NFS Servers list and scroll through the list until you find the mount point. Select the mount point you want, or double-click the mount point to start the connection.
6. To connect to the NFS server, click the Connect button from the Connections Tab which opens the Connect dialog box.
7. Enter your user name in the Name edit box, if it does not already appear.
8. Enter your password in the Password edit box.
9. Check or clear the Reconnect at Start Up and Save Password check boxes as desired.
10. If additional options are required for setting data caching, text file conversion, or designating the file system as read only, click the Options... button, which opens the Connect Options dialog box.

Setting NFS Connection Options

To set NFS connection options:

1. From the Connections tab, click the Connect button, which opens the Connect dialog box.
2. To set NFS connection options, click the Options... button, which opens the Connect Options dialog box:
3. Set options as needed:
   - Keep the mount point after network failure
   - Increase time-out duration for Wide Area Networks
   - Increase data through-put
   - Change the server port
   - Change the maximum packet size

To modify NFS connection options:

1. From the Connections tab, select a connection in the Current Connections list, and click the Modify... button to open the Modify Connection Options dialog box.
2. Set options as needed:
   - Keep the mount point after network failure
   - Increase NFS speed
   - Reconnect mount point when Windows starts
   - Change the server port
   - Change the maximum packet size

Increase NFS Speed

The NFS Assistant lets you increase reading and writing performance when the server is overloaded or your network adapter is slowing your workstation.

Increase reading and writing performance by checking the Enable Fast Read and Enable Fast Write check boxes. If you are developing programming applications, check the Enable Data Caching check box.

If your workstation is experiencing slow downs on NFS, clear the Enable Fast Read check box and change the Maximum Packet Size to 1024.

Viewing UNIX or OpenVMS Text Files

When you use NFS to share files stored on a UNIX or OpenVMS system, text files may not format correctly with Windows utilities because the files are not in Stream-LF format. NFS Assistant provides the Convert Text Files to Stream-LF option that permits you to view UNIX or OpenVMS text files correctly.

To view UNIX and OpenVMS text files correctly on a workstation:

1. From the NFS dialog box, Connections tab, click the Connect button, which opens the Connect dialog box.
2. To set NFS connection options, click the Options... button, which opens the Connect Options dialog box:
3. Check the Convert Text Files to Stream-LF check box.

NOTE:

This option also affects how long it takes to access a directory. When this option is checked, accessing a directory takes much longer as each text file is converted to Stream-LF format. We recommend you use this option selectively when you want to view a file.

Changing File Access Privileges

NFS lets you specify who can read, write, delete, execute, and list your files. You can establish separate file access privileges for files you create for yourself, for members of your group, and for anyone else who uses the NFS server. In addition, you can set default privileges for all files you create or change, or for individual files or groups of files.

To set default privileges for all files you create or change:

1. Open the Network Control Panel, which opens the Global Options dialog box:
2. Check the Owner, Group, or World check boxes as required.

To set individual file access privileges:

1. From the File Manager, select a file from an NFS-connected drive.
2. Select the Properties... option.
3. In the Properties dialog box, click the Network... button. **Caution:** Do not set any file attributes in the Properties dialog box if you intend to set file access privileges with NFS. The attributes and NFS privileges are incompatible and can render the file unreadable.
4. The Network... button opens the Network Properties dialog box.
5. Check the Owner, Group, or World check boxes as required.

To set file access privileges for a group of files:

1. From the File Manager, select more than one file from an NFS connected drive.
2. Select the Properties... option.
3. In the Properties dialog box, click the Network... button. **Caution:** Do not set any file attributes in the Properties dialog box if you intend to set file access privileges with NFS. The attributes and NFS privileges are incompatible and can render the file unreadable.
4. The Network... button opens the Multiple File Network Properties dialog box.
5. Check the Owner, Group, or World check boxes as required.

Viewing Non-DOS File Names

Some non-DOS NFS servers store files with naming conventions not allowed in DOS. To list these files or directories, Cisco TCP/IP Suite NFS changes how the file names appear. (The guidelines that follow apply to both file and directory names.)

Cisco TCP/IP Suite NFS:

- Shortens file names longer than eight characters to eight characters
- Changes all dots before the last dot to tildes (~)
- Creates the file name extension from the first three characters after the last dot
- Converts lowercase letters to uppercase
- Converts non-legal characters to tildes (legal characters are A-Z, 0-9, and $#&@!%( )-{ }'_`^~)
- Checks to see if a duplicate file name exists and, if so, uses the first six characters of the file name as a starting name and then appends one or two letters to the name starting with A and running to ZZ until a non-duplicate name is found

If you connect to an NFS server running the OpenVMS operating system, such as with the NFS Server on Cisco MultiNet for OpenVMS, you may see file names containing dollar signs. This provides a method for storing case-sensitive files on a non-case-sensitive operating system.

Viewing Case-Sensitive File Names from an OpenVMS System

If the NFS server is a Cisco MultiNet for OpenVMS NFS Server, you may see file names containing dollar signs, such as **$h$ello$**. The dollar signs indicate that a case-sensitive file name has been stored on the OpenVMS system by a computer that supports uppercase, lowercase, and special characters in file names, such as the Apple Macintosh or those computers running the UNIX operating system. A dollar sign in the file name indicates that the case of the next letter should be changed to its opposite case (lowercase is the initial value). In this example, the file name **$h$ello$** is really **Hello There** and was stored on the OpenVMS server by a NFS client computer that supports case-sensitive file naming and spaces in the file name.

You can view the correct name for the file with the Network Properties dialog box. On your workstation, the file name is shortened to **$h$ello** according to the DOS 8.3 naming convention. This same file viewed on an OpenVMS system would appear as **$h$ello$7A$T$here**. The space in the file name is an illegal character under OpenVMS and is represented in the file name as $7A.

The Cisco MultiNet for OpenVMS NFS server uses special characters to represent file name characters not allowed in OpenVMS. The table that follows shows the characters that the Cisco MultiNet for OpenVMS NFS server substitutes for other "illegal" characters:

New Substitute Character	Old "illegal" Character	New Substitute Character	Old "illegal" Character	New Substitute Character	Old "illegal" Character	New Substitute Character	Old "illegal" Character
$4A	Ctrl-A	$4Q	Ctrl-Q	$5H	(	$7D	=
$4B	Ctrl-B	$4R	Ctrl-R	$5I	)	$7E	>
$4C	Ctrl-C	$4S	Ctrl-S	$5K	+	$7F	?
$4D	Ctrl-D	$4T	Ctrl-T	$5L	,	$8A	@
$4E	Ctrl-E	$4U	Ctrl-U	$5N	.	$8B	[
$4F	Ctrl-F	$4V	Ctrl-V	$5O	/	$8C	\
$4G	Ctrl-G	$4W	Ctrl-W	$5Z	:	$8D	]
$4H	Ctrl-H	$4X	Ctrl-X	$6A	Ctrl-@	$8E	^
$4I	Ctrl-I	$4Y	Ctrl-Y	$6B	Ctrl-[	$9A	`
$4J	Ctrl-J	$4Z	Ctrl-Z	$6C	Ctrl-\	$9B	{
$4K	Ctrl-K	$5A	!	$6D	Ctrl-]	$9C	|
$4L	Ctrl-L	$5B	"	$6E	Ctrl-^	$9D	}
$4M	Ctrl-M	$5C	#	$6F	Ctrl-_	$9E	~
$4N	Ctrl-N	$5E	%	$7A	Space	$9F	Delete
$4O	Ctrl-O	$5F	&	$7B	;		
$4P	Ctrl-P	$5G	'	$7C	<		

DOS 8.3 Naming Convention

The DOS 8.3 naming convention means that the file name may contain up to eight characters in the file name to the left of dot, and up to three characters in the file type to the right of the dot.

Increasing NFS Speed

The NFS Assistant lets you increase reading and writing performance when the server is overloaded or your network adapter is slowing your workstation.

To increase data NFS speed:

1. Start NFS Assistant from the Cisco Suite 100 program group. Click the Connections Tab.
2. Click the Connect button, which opens the Connect dialog box.
3. To set NFS connection options, click the Options... button, which opens the Connect Options dialog box.
4. Increase reading and writing performance by checking the Enable Fast Read and Enable Fast Write check boxes. If you are developing programming applications, check the Enable Data Caching check box.
5. If your workstation is experiencing slow downs on NFS, clear the Enable Fast Read check box and change the Maximum Packet Size to 1024.
6. In addition, if the NFS server is running Cisco MultiNet for OpenVMS, you can send the approximate_text_size command to the NFS server, which instructs the server to speed directory access by approximating the length of each text file in a directory rather than counting every byte.

Sending Commands to the NFS Server

You can send commands to the NFS server by appending the command to the name of an NFS server in the Path edit box on the Connections tab. Possible commands that can be sent differ by NFS server. The Cisco MultiNet for OpenVMS NFS Server supports a number of commands (called NFS server mount point options), which are described in the Cisco MultiNet for OpenVMS documentation.

The most useful command for workstation use is the **/approximate_text_size** command, which speeds directory access by letting the NFS server approximate the length of each text file in a directory file rather than counting every byte.

To send a command to the NFS server:

1. Start the connection from the Connection tab.

2. Enter the name of the NFS server in the Path edit box in this format:

   server_name#/command,

   where ***server_name*** is the name of the NFS server to which you are connecting and ***command*** is the command you are sending to the NFS server. The **#/** characters are required by the Cisco MultiNet for OpenVMS NFS Server.

   The Cisco MultiNet for OpenVMS NFS Server separates the command from the path specification and activates the feature.

Cisco TCP/IP Suite Online Help

 NFS Assistant

 Print Assistant

 NFS Assistant Procedures

 Print Assistant Procedures

- Accessing a Remote Printer
- Creating a Print Queue
- Connecting to an NFS Print Server
- Connecting to an LPR\LPD Print Server
- Connecting to a Stream Print Server

 NFS Concepts

Accessing a Remote Printer

With the Print Assistant, you can access a remote printer by assigning a port to a print queue. Your network administrator provides the names of print servers, the protocols they support, their available printers, and the names of optional filters for preparing information for different types of printers.

To assign a port to a remote print queue:

1. Access the Print Assistant so that the Print Assistant dialog box appears.
2. If print servers appear in the Print Servers list, double-click the server name to list supported protocols. If a print server is not listed, you can enter the print server name and printer in the Path edit box and click the Connect button. When you do, the abbreviated Queues dialog box appears asking for protocol information.

3. Double-click the name of the print queue to view the names of the printers.

4. Select the printer name and click the Connect button. If the printer or print server uses NFS, the NFS Login dialog box appears. If the printer is a Stream printer, the Stream Login dialog box appears. If the printer or print server uses the LPR/LPD protocol, the LPR/LPD Login dialog box appears.
5. Enter the information as required for each login dialog box. When the dialog is complete, click the Close button. You can now send print requests to the printer.

Creating a Print Queue

Printers are accessed through print queues that route information to the correct printer and print it correctly. Your network administrator provides the names of print servers, the protocols they support, and their available printers. Once you have this information, you can identify print queues for your workstation that correspond to the print queues on the network. Once you identify the available print servers, protocols, and printers, use the Connections tab to connect them to your port.

To create a print queue:

1. Open the Print Assistant tab dialog from any application's Print dialog box or from the Print Manager, and click the Servers tab.
2. Enter the name of a print server and press the Enter key. The Queues dialog box opens to let you specify which protocols the print server supports and the names of any LPR/LPD print queues:
3. If the print server uses NFS, check the Enable NFS check box.
4. If the print server uses the Stream protocol, check the Enable Stream check box.
5. If the print server uses the LPR/LPD protocol, check the Enable LPR/LPD check box. If so, also specify a queue name, and click the Add button. The Add button only applies to LPR/LPD queues.
6. When you are done, click the Close button.
7. Click the Connections tab in the Print Assistant tab dialogs.

8. Double-click the print server name in the Print Servers list to view the supported protocols. Double-click the desired protocol icons to view the names of individual printers. Printer names are viewed as shown in the following graphic:

9. Select a printer and click the Connect button. When you click Connect, if the printer or print server uses NFS, the NFS Login dialog box appears. If the printer is a Stream printer, the Stream Login dialog box appears. If the printer or print server uses the LPR/LPD protocol, the LPR/LPD Login dialog box appears.

Connecting to an NFS Printer

To connect to an NFS Printer:

1. From the Connections Tab, expand a server entry by double-clicking the server icon.
2. List the NFS print queues by double-clicking the NFS icon.
3. Select a print queue, and login into the print server by either double-clicking the queue name or by clicking the Connect button. The PC-NFS Connect dialog box appears:
4. Enter your login name in the User Name edit box.
5. Enter your password in the Password edit box.
6. To permanently add this connection to your list of available printers, check the Reconnect at Startup check box.
7. To store your password for future use of this printer, check the Save Password check box. If you clear this check box, the Print Assistant prompts you for a password when it attempts to reconnect to this printer.
8. Click the OK button to connect the port to the printer.

Connecting to a Stream Printer

To connect to a Stream printer:

1. From the Connections Tab, expand a server entry by double-clicking the server icon.
2. List the Stream print queue names by double-clicking the Stream icon.
3. Select a print queue, and connect the Stream printer by either double-clicking the queue name or by clicking the Connect button. The Stream Connect dialog box appears.
4. If the printer is not a Hewlett-Packard (HP) printer, enter the port number for the printer in the Port edit box. The printer documentation or your network administrator can provide the port number.
5. If Telnet negotiations are not required for the printer, clear the Enable Telnet Negotiations check box.
6. To permanently add this connection to your list of available printers, check the Reconnect at Startup check box.
7. Click the OK button to connect the port to the printer.

Connecting to a LPR/LPD Printer

To connect to a LPR/LPD printer:

1. From the Connections Tab, expand a server entry by double-clicking the server icon.
2. List the LPR/LPD print queue by double-clicking the LPR/LPD icon.
3. Select a print queue, and login into the print server by either double-clicking the queue name or by clicking the Connect button. The LPR/LPD Connect dialog box appears.
4. Enter your login name in the User Name edit box.
5. Enter the name you want to appear on a print banner sheet in the Personal Name edit box.
6. If your network administrator has told you to use a print filter for the LPR/LPD printer, select the filter type from the Filter Type drop-down list.
7. To permanently add this connection to your list of available printers, check the Reconnect at Startup check box.
8. Click the OK button to connect the port to the printer.

Cisco TCP/IP Suite Online Help

 NFS Assistant

 Print Assistant

 NFS Assistant Procedures

 Print Assistant Procedures

 NFS Concepts

- NFS (Network File System), NFS client and server, and mount points
- NFS printing
- For More Information

NFS (Network File System)

NFS lets you share files and directories on another computer with those of your own. The files and directories on the other system are known collectively as a *file system*; there can be only one file system per disk.

Cisco TCP/IP Suite for Windows provides an NFS client that you can use to access any NFS server on another computer. Use of this application depends on the existence of an NFS server that you can access. You must have a login account on the NFS server and know your login account name and password. Your network administrator provides the name of the NFS server and the login. The NFS server administrator decides which directories are accessible over NFS. These directories are called *mount points*. Accessing NFS files is the same as accessing files on your local drives. You can copy, move, view, and delete files just as you do under Windows. When Windows is running, you can access NFS-mounted drives from a DOS shell.

The operating system on the NFS server is transparent to you when you use an NFS client, but if the NFS server does not run PC-NFS, then access to a server running PC-NFS services is required. If the NFS server is not running PC-NFS, NFS Assistant requires you to specify the name of the server running PC-NFS services in the Authenticate Server edit box in the Connect dialog box when connecting to an NFS server. Your network administrator provides this information. In addition, the Convert Text Files to Stream-LF option provides an additional feature for viewing UNIX and OpenVMS text files.

You can access the NFS Assistant from the Network Control Panel or from the NFS Assistant icon in the Cisco Suite 100 program group. Additionally, the File Manager Properties... option, the Network Connections command, and any application's Open or Save As dialog boxes provide access to NFS Assistant. Any application's Print dialog box provides access to Print Assistant.

The only difference between accessing files on your workstation and those in NFS is that before you use NFS for the first time, you must specify the name of an NFS server, select a directory you want to access from the mount points list, and then log into the NFS server. While creating each connection, check the Reconnect at Startup check box in the Connection dialog box and your NFS connections automatically connect each time Windows starts. Thereafter, evidence of the connection appears only as initial login messages and as additional drives in each File Manager drive window.

Mount Points

Mount points are directory names to which you are granted access on a remote system. "Mount" probably originated in tape drive terminology when placing a tape drive on the spindle was referred to as mounting. Similarly, gaining access to an NFS file system mounts a directory on your workstation as a new drive letter.

NFS Printing

NFS lets you print files on remote printers. Remote means printers connected to another computer or that are free-standing with their own network connections. Each printer is served by a print queue that resides on a computer known as a print server.

With the Print Assistant, you can connect your parallel ports to an NFS, LPR/LPD, or Stream print queue. Once connected, any application can print to the NFS print queue just as it would with your current printer configuration.

Print queues can be handled by Stream, LPR/LPD, or NFS protocols.

Accessing the Print Assistant

You can access the Print Assistant with the Printer... button in an application's Print dialog box and then with the Network... button from the Print Setup dialog box. Alternately, you can double-click the Print Assistant icon in the Cisco Suite 100 program group, or choose Network Connections... from the Printer menu in the Print Manager. Print Manager appears in the Main program group.

Print Queues

A print queue is a mechanism that computers use to send print requests to printers in an orderly fashion and to prevent simultaneous print requests from interleaving. Printers are frequently identified by their queue names; for example, if you send a request to the SYSTEM printer, it is likely that it uses the SYSTEM queue.

Stream Print Queues

The Stream protocol means that the Print Assistant sends print requests directly to a printer. When using the Stream protocol, the Print Assistant opens a TCP/IP connection to the specified printer port and sends the document to the printer making sure that each line ends with a carriage return and line feed. Once you submit your print request, you cannot use the Print Manager to delete it.

LPR/LPD Print Queues

The LPR/LPD protocol is based on the BSD UNIX printing protocol and supports LPR or LPD functionality. The Print Assistant uses the LPR/LPD protocols to submit print requests to LPR/LPD print servers. When using an LPR/LPD printer server, you must know the names of the print queues on the printer server. Once you submit your print request, you cannot use the Print Manager to delete it.

NFS Print Queues

The Print Assistant uses the NFS protocol to submit print requests to NFS print servers. NFS print servers identify their print queues for you and let you view the available printers on the Connections tab. You can delete print requests to NFS print queues using the Print Manager.

For More Information

Recommended Reading

For an excellent conceptual overview of TCP/IP networking concepts, we recommend the following books:

Comer, Douglas E., ***Internetworking with TCP/IP***, Volume I, 2nd ed., Prentice Hall

Black, Uyless D., ***TCP/IP and Related Protocols***, McGraw

For information on NFS, we recommend:

Stern, Hal, ***Managing NFS and NIS***, O'Reilly and Associates, Inc.

Recommended books for users of all levels.

Relevant RFC

For more information on NFS, consult RFC 1094, written by Sun Microsystems, Inc., March 1989.

Learn how to get RFCs.