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Screen Description

The left half of the main window is the local information. The right half of the main window is the remote information. In each half of the main window there are two list boxes. The upper box is a list of directories while the lower half is a list of files. Just to the right of the two listboxes are a column of buttons. These are (from top to bottom):

Chg	Dir

<u>MkDir</u>

RmDir

File Mask

<u>View</u>

Exec

Rename

Delete

Below the listboxes, there are two status lines. You can double click in this area to expand this listing.

ChgDir Button

Used to change directories. If a name is highlighted in the directory listbox, the system will change directories to that name. If no name is highlighted, you will be prompted for the directory to change to. Not all systems have the concept of directories so a failure here does not necessarily indicate a failure in this program.

MkDir Button

Used to create a directory if possible. You are prompted for a directory name and must supply a name that is valid for the current system. Not all systems allow you to make and delete directories remotely so a failure here does not indicate a failure in this program.

RmDir Button

Used to remove a directory if possible. You are prompted for a directory name. Not all systems allow you to make and delete directories remotely so a failure here does not indicate a failure in this program.

File Mask

Here you supply a file mask that is valid for the system that you are on. You can use "-altr" in the remote side if you are connected to a UNIX host to receive names in date sequence. Any argument string may be used on the remote side that is valid on the remote system at the end of an "Is" command in a command line ftp client.

Display Button

Used to view a file in ASCII format by whatever viewer you have defined in the OPTIONS dialog box.

Exec Button

Used to execute a file according to the standard file manager extension associations. If you select the remote **Exec** button, the file is downloaded to the Windows temporary directory (defined with the DOS TMP environment variable). If an association does not exist, you are provided with the opportunity to provide that association at execution time. Files will automatically be downloaded in binary mode when the **Exec** button is used.

Execute Buttons

When you click on a filename in the local side and then click on execute, the file is executed using the same rules as if it were executed in the file manager.

If you click on a remote filename and then click on execute, it will be transferred in binary mode to the Windows temporary directory and will be executed from the current directory using the same rules as if executed in the file manager.

If the filename has an extension other than .EXE, .COM, .BAT or .PIF, then the file associations from the file manager are used. If the extension has no association, you will be allowed to specify the association at run time. This association is saved in the WIN.INI file in the Extensions section and will also be valid for the file manager.

You can set associations by selecting the Options and then selecting Associations.

Rename Button

Used to rename a file if possible. Enter the new name for the item and press **Rename** or press **Cancel** to leave the item intact. Not all systems allow you to rename files and directories remotely so a failure here does not indicate a failure in this program. Other systems will allow you to rename a file over the top of an existing file. You may also be able to move a file from one directory to another directory by specifying a full or relative path (and the filename).

Delete Button

Used to delete a file if possible. Press **YES** to delete the item or **NO** to cancel. Not all systems allow you to delete files remotely so a failure here does not indicate a failure in this program.

Description

This application is a File Transfer Protocol (<u>FTP</u>) client application for Windows Sockets and was designed to take full advantage of the point and click capabilities of the Windows 3.x environment. WS_FTP provides ease of use for the beginner plus a full set of functions for the power user. WS_FTP provides features like retention of site profiles and functions like multi-file transfer using standard windows methods.

WS FTP conforms to the WinSock interface specification making it a WinSock compliant application.

For more information on FTP and FTP sites, please refer to the many different NETNEWS groups or one of the recent books on the Internet.

Connecting

WS_FTP contains a remote host profile capability. Once the profile information is entered, you can connect to a remote host by simply clicking on the connect button, choosing the host from the name list and then clicking on the OK button.

Session Profile

Profile Name

Host Name

Host Type

User ID

Password

Account

Anonymous Login

Save Password

Save/Delete Buttons

Advanced...

Advanced Profile Parameters

Timeout
Port
Passive transfers
Use Firewall

Profile Name

This is a profile or configuration name and can be anything you desire to identify the connection you are creating. The length of this name is restricted as it is used as a section name in the WS_FTP.INI file.

Remote Host Name

This is either a fully qualified Internet host name or an IP address.

Remote Host Type

If you know the host type, select it from the drop down list. If you don't know, try "auto detect".

If you can connect to a remote host but don't get a directory listing, try changing the host type in the OPTIONS dialog box. I am still working on the "auto detect". It does take care of about 90% of all hosts.

User ID (userid)

Enter the userid that you wish to use for this configuration. (or you can click on the **Anonymous Login** check box to automatically enter <u>anonymous</u> as the userid.)

Password

Enter the password that you wish to use for the userid that you entered.

If this is an <u>anonymous</u> login, you should enter your full electronic mail address. It is recommended that you place a minus (-) sign in front of your e-mail address for anonymous logins.

Instead of entering your password for anonymous logins, it is recommended that you simply click on the **Anonymous Login** checkbox.

Firewall Password

Enter the password for the firewall host for the userid that you entered.

Account

Enter the account that you wish to use for the userid that you entered if the remote host requires an account. Note that the account is used for VM/CMS hosts for the initial password to the user's default directory. When you ChgDir on a VM/CMS host you are prompted each time for the password to connect to that directory.

Timeout

This is the number of seconds before WS_FTP times out waiting for a host response to a command.

Note that the initial connection Timeout is determined by your WinSock DLL. Setting this value higher does not have any effect on the initial connection to the host. Setting to less than the amount of time that your WinSock DLL uses will cause the connection to fail in that amount of seconds.

File transfers will not time out and must be canceled to end the transfer in the case of a lost connection.

Port

This is the port to connect to on the remote host. This is normally 21, however, it may be something different if you are going through a firewall.

Anonymous Login

Checking this box will automatically enter $\underline{anonymous}$ as your userid and enter your e-mail address as the password.

Firewall

If you are behind a <u>firewall</u> host, click this box. You must insure that the firewall information has been correctly filled out. You can specify a <u>PORT</u> to be used for the firewall.

WS_FTP supports five types of firewalls.

SITE hostname

Firewall host, userid and password is required. User is logged on the firewall and the remote connection is established using **SITE remote_host**.

USER after logon

Firewall host, userid and password are required. User is logged on the firewall and the remote connection is established using **USER remote_userid@remote_host**

USER with no logon

Firewall host required, userid and password are ignored. **USER remote_userid@remote_host** is sent to firewall upon initial connection.

Proxy OPEN

Firewall host required, userid and password are ignored. **OPEN remote_host** is sent to firewall upon initial connection.

PASV Mode.

There is another kind of firewall, which is not specifically configured. A router-based firewall is one which allows connections to be established in one direction only. The router itself is invisible to the user. However, the default mode within FTP is that "data" connections are established by the server rather than the client. To work with a router-based firewall requires using the <u>PASV Mode</u> of FTP. The PASV mode of operation can be turned on from the Options screen.

(Code for type 0 was initially provided by Jeff Welty) (Code for type 1 and PASV was initially provided by Robert E. Stockwell.)

Save Password

Only check this box if you are the only user of your computer and no one else has access to your Windows directory. Password are stored in the WS_FTP.INI file and even though they are encrypted, it is an easy encryption to break (especially since the source is distributed).

Save/Delete buttons

The SAVE and DELETE buttons are provided in order to help you manage the configurations. If the Auto Save Config option is checked, a configuration is automatically saved when you select the **OK button** and there is no imposed limit on the number of configurations that you may have.

The DELETE button can be used to remove unwanted entries and the SAVE button can be used to save an entry without trying to actually connect to the host. The CANCEL button exits the dialog box without saving any changes to the current configuration.

Transferring files

File <u>uploads</u> and <u>downloads</u> do NOT timeout. You must CANCEL the operation in the event that you lose the connection to the remote host.

During the transfer of files, the HELP button changes to ABORT if the <u>HASH</u> option is off or an ABORT dialog box is displayed if the HASH option is on. The current transfer may be cancelled by clicking on the CANCEL or ABORT button. File uploads will cancel immediately while file downloads may take up to 30 seconds to cancel. In both cases, the partial file is not deleted automatically.

Transferring multiple files
Transfer mode
Double clicking in list boxes
Changing Directories
HINTS
Auto Transfer of Files

Command Line Options

Items enclosed in [brackets] are optional.

```
WS_FTP -i inifile [other_args_as_required]
WS_FTP [-i inifile] -p profile_name (not valid with other args)
WS_FTP -ask (prompt for command line arguments)
WS_FTP file://hostname/pathname/filename [local:/pathname/filename] [-ascii]
WS_FTP ftp://hostname/pathname/filename [local:/pathname/filename] [-ascii]
WS_FTP I/hostname/pathname/filename [local:/pathname/filename] [-ascii]
WS_FTP hostname:/pathname/filename [local:/pathname/filename] [-ascii]
WS_FTP local:/pathname/filename I/hostname/pathname/filename [-ascii]
WS_FTP local:/pathname/filename hostname:/pathname/filename [-ascii]
```

MORE INFO

Command Line Options Info

To do this with an ICON:

1. set the "Command Line" for the icon to one of the following: receive

 $\label{local:full_path_to_file} $$ "ws_ftp\ hostname:full_path_to_file\ [local:full_path_to_destination]\ [-ascii]" $$ send$

ws_ftp local:full_path_to_file hostname:full_path_to_file [-ascii]

- 2. set the "Working Directory" to where you want the file to be placed if it is not specified in the command line.
- 3. set the "Description" to something descriptive.

hostname is assumed to be the name of a configuration. If it is not, then it is assumed to be the full domain name of a remote host or the IP address of a remote host and the userid will be <u>anonymous</u>.

If this is not an anonymous ftp session and a password is required by the host and not specified in the configuration, you will be prompted for the password (and account if applicable).

During the transfer of files an ABORT dialog box is displayed. The current transfer may be cancelled by clicking on the CANCEL button. File downloads may take up to 30 seconds to cancel after clicking on CANCEL. The partial file is not deleted automatically.

Processing rules for this are to use the host, userid, password, account and gateway/firewall information specified in the configuration **hostname** if one exists. If one doesn't exist, it is assumed that the **hostname** is an actual host and the userid will be <u>anonymous</u> and the password will be the specified e-mail address.

Hints

Change default local directory

Overcoming name conversion problems

Changing Directories

Double clicking

Transfer Mode

Saving a "viewed" file

Drag and Drop

No directory listing

Access to debug commands

Changing the default directory

To set the default local startup directory to be something other than where WS_FTP is located

- a. Highlight the WS_FTP icon and press ALT-ENTER (or select \underline{F} ile \underline{P} roperties) in the Program Manager.
- b. Change the Working Directory to your desired directory.

Overcoming name conversion problems

If you have problems with remote to local file name conversions, check the <u>Prompt</u> option in the **Options** dialog box. You will then be shown the proposed file name and allowed to change it.

Changing Directories

To change directories, click on the desired directory and press the **ChgDir** button.

If you want to change to a directory without traversing the full tree, make sure there is no name selected in the list box and click on **ChgDir** (works with **RmDir** also). When changing drives on a remote system, you usually have to enter a directory name in addition to the drive letter.

You can also double click on a directory name to change to that directory.

Double Clicking

You can double click on a directory name to change to that directory or double click on a file name to transfer that file (or to execute the file depending on the options).

Double Click Options

<u>Transfer</u>

Execute

Nothing

File Transfer Modes

Use Binary mode to transfer all files unless you know the file only contains text, then use ASCII.

If you KNOW that the host that you are transferring to or from is the same as your local host, you CAN always use BINARY mode and never use ASCII.

Transfer Modes

ASCII

BINARY

<u>L8</u>

Auto Detect

Saving a "viewed" file

If you use **View** to display a remote file and then wish to save that file and have the $\underline{\text{viewer}}$ set to **NOTEPAD**, you can select the **SaveAs** menu option and save the file to whatever name you want.

Transferring Multiple Files

To transfer multiple files, use the SHIFT or CTRL keys when selecting filenames. (this is a standard windows method).

To select two or more items in sequence

- 1 Click the first file that you want to select and drag the mouse pointer down, releasing the mouse button on the last file in the group.
- OR -
- 1. Click the first file that you want to select.
- 2 Press and hold down SHIFT while you click the last file in the group.

To select two or more items out of sequence

Press and hold down CTRL while you click each file.

To cancel a selection

Press and hold down CTRL while you click the selected file.

After selecting the desired files, press the desired transfer direction button.

Drag and Drop Feature

You can drag one of more files from the Windows File Manager and drop them anywhere on the main window (or when iconized) and they will be transferred to the current directory of the remote host using the current transfer mode (ASCII/binary).

You cannot drag and drop directories, nor can you drag or drop from the remote host to another application.

Directory Display Problems

If you can connect to a remote host but don't get a directory listing, try changing the host type in the connect or options dialog boxes. I am always working on the "auto detect" and host types. It does take care of about 90% of all hosts.

Some hosts MAY not be properly auto-detected and must be set at connect time!

Debug Menu

You can bring up a popup menu by clicking the right mouse button when the cursor is pointing at the gray area of the main window. This gives you access to some additional FTP commands. (NOT RECOMMENDED FOR THE BEGINNER!)

Options

Program Options

Program options affect the layout and operation of WS_FTP.

Session Options

Session options affect the current session (and session defaults)

Extensions

Extensions are used for Auto Mode (auto detect binary/ascii)

Associations

Associations affect execution by Exec button.

Save Dir Name

Saves the local and remote directory names in the current session profile.

Save Win Loc

Saves the current main window size and location.

Program Options

Options available in this dialog affect the display and operation of WS_FTP for all configurations.

Alternate Screen Layout

Buttons on Top

Show Directory Information

Auto Save Host Profile

Verify Deletions

Auto Connect

Debug Messages

Text Viewer

E-Mail Address

Listbox Font

Scale Font

Double Click

Transfer

Execute

Nothing

Recv Size

Send Size

Alternate Screen Layout (program option)

Controls the main window display layout. The alternate layout has the local directory and file list on top and the remote directory and file list on the bottom. Directories are on the left and file lists are on the right.

Buttons on Top (program option)

Controls the placement of the buttons that are normally across the bottom of the window.

Show Directory Information (program option)

When turned on, additional file information is displayed when possible. Not all host types are supported for this option! The client does not attempt to decipher or interpret this information. It is only displayed for human consumption.

Auto Save Config (program option)

If checked, WS_FTP will automatically save the Session Profile when you click on Ok in the Session Profile dialog. Even though this option also appears in the Session Profile dialog box, its state is only saved in the Program Options dialog box.

Verify Deletions (program option)

If checked, WS_FTP will prompt you for deletion of files.

Auto Connect (program option)

Controls whether or not WS_FTP displays the connect dialog box when WS_FTP first starts.

Debug Messages (program option)

This enables extra debug messages in the message window at the bottom of the main window. (These messages generally are of no value to the user as all error messages are displayed even when this option is off.)

Text Viewer (program option)

This is the program that is invoked for ${f LongDir}$ and ${f Display}$ buttons. The default value is ${f notepad}$.

E-Mail Address (program option)

This is used as the default password for <u>anonymous</u> logins as required by most anonymous ftp sites.

It is recommend that you place a minus (-) sign as the first character of your email address in order to turn off descriptive messages on the remote host.

ListBox Font (program option)

This is used to change the font that is used in the listboxes. SysVar is the default system font and is a variable font. SysFix is the fixed system font and will improve the alignment of columns in the boxes. AnsVar is the ANSI Variable Font, which is a narrower font than the System font. AnsFix is the ANSI Fixed Font.

Scale Fonts (program option)

This is used to cause the font outside the listboxes to reduce in size when the window size reduces. The font used will always be the ANSI variable font.

Double Click Transfer (program option)

When you double click on a filename, the file is transferred to the opposite side. (If you double click on a file on the local side, it is uploaded to the remote system. If you double click on a file on the remote side, it is downloaded to the local system.)

Double Click Execute (program option)

When you double click on a filename, the file is executed using the same rules as if double clicked on in the file manager. If you double click on a remote file, it will be transferred in binary mode to the Windows temporary directory and will be executed from the current directory using the same rules as if double clicked on in the file manager.

Execute Buttons

Double Cick Nothing (program option)

When you double click on a filename nothing happens.

Receive Size (program option)

This is used to control how many bytes are read from the network in each read (recv). This option can have a value from 80 to 4096. You should see the best results with this set to 4096. Note that the actual number of bytes read in each read is determined by the underlaying TCP/IP stack and by the amount of information available.

Send Size (program option)

This is used to control how many bytes are written to the network in each send. This option can have a value from 80 to 4096. The optimum value to place here will depend on your underlying TCP/IP stack. If you have a direct connection, Id suggest setting this to 4096. If you have a slip or PPP connection, you probably want to set it to the MTU size.

Session Options

These options reflect the options in use for the current session and are specific for the configuration. If you wish to make the options be the default for all sessions, press the Save as Default button. Sessions can still have unique options other than default by setting the option in this dialog and pressing Save. *Note that only options that are different than the default options are saved for the session.* If you change the defaults later, you may want to re-check the session options for a configuration.

Host Type
Auto Update Remote Directories
Show Transfer Dialog
Use PASV Transfer Mode
Send Unique
Receive Unique
Prompt for Destination
Sound When Transfer Done
Sorted Listboxes
Use Firewall
Transfer Modes

ASCII
BINARY
L8
Auto Detect

Auto Update Remote Directories (session option)

When this option is not checked, the remote directory list will not be refreshed after uploading a file, deleting a file or directory or creating a directory. This can be accomplished manually by clicking in the remote side REFRESH button when the option is turned off.

Show Transfer Dialog (session option)

When the option is on, an ABORT dialog box will be displayed during file transfers that displays the status of the transfer. Note the percent done bar is only displayed if the file size is sent from the remote host on receives.

Use PASV Transfer Mode (session option)

PASV Mode forces "data" connections to be established by the client, rather than the server (which is the default). PASV Mode may be required for users which are behind a router-based firewall.

Send Unique (session option)

This option causes the transmitted file names to not conflict with existing files *if the remote host supports the STOU FTP command*. The new filename is determined by the remote host.

Receive Unique (session option)

This option causes the received file names to not conflict with existing files. The new filename will be changed so that the sixth though eighth character of the filename will be a number from 000 to 999.

Prompt for Destination (session option)

Enables local/remote filename prompting. For each file that is transferred, you will be shown the proposed destination file name and allowed to change it. You CAN enter a full pathname to a different directory if you wish.

Sound When Transfer Done (session option)

Causes bell to sound at end of each file transfer. If you have a sound card, this will be the Default Beep sound if you have Enable System Sounds selected in the Control Panel Sound setup.

Sorted Listboxes (session option)

If this box is checked, the $remote\ file\ listbox$ is automatically sorted. Otherwise the files are presented in the order the remote host transmitts them.

Send PORT Command (session option)

This causes the PORT nn,nn,nn,nn,nn,nn command to be sent to the remote system each time a file is transferred.

This should always be left on. This option is NOT saved along with the other program options. This option is no longer displayed in any dialog boxes.

ASCII (transfer mode)

Used for TEXT file transferring. The end of line character that is different on different type of computers. This will insure that the end of line character is translated properly.

If you KNOW that the host that you are transferring to or from is the same as your local host, you CAN always use BINARY mode and never use ASCII.

Binary (transfer mode)

Used for non-TEXT file transferring. Executable programs, word processing documents, spreadsheets, databases, graphic and sound are some examples of files that MUST be transferred in BINARY mode.

If you KNOW that the host that you are transferring to or from is the same as your local host, you CAN always use BINARY mode and never use ASCII.

L8 (transfer mode)

Used for VMS non-TEXT file transferring.

Auto Detect (transfer mode)

When this option is selected, all files will be transferred in binary mode unless the extension is found in the WS_FTP.EXT file and then the file will be transferred in ASCII mode. Note that extensions can be up to 10 characters long and can contain periods, etc.. These are not DOS extensions! Rather they are the ending characters of a filename. If you expect it to match on a period, you MUST put the period in.

Sample:

.LST

.TXT

.ME

README

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Firewall code originally written by Jeff Welty and Robert E. Stockwell.

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Private contributions for my effort would not be turned down but are totally unnecessary. This program was developed entirely on personal equipment using personal time and personal resources. My association with the U.S. Army has no bearing on the design or implementation of this program nor does it imply that the U.S. Army, Fort Gordon, the United States Military Academy or the U.S. Army Computer Science School endorse the use of this program.

Commercial use must be coordinated with Ipswitch Inc., 333 North Ave., Wakefield, MA, 01880, (617)-246-1150. E-mail <info@ipswitch.com>.

Latest Version

The "home" site (where to get the latest version) of WS_FTP is FTP.USMA.EDU. WS_FTP is located in the /pub/msdos/winsock.files directory. The configuration information is:

NAME: WS FTP

HOST: FTP.USMA.EDU
TYPE: AUTO DETECT
USERID: anonymous

PASSWORD: your_email_address DIRECTORY: /pub/msdos/winsock.files

URL: ftp://ftp.usma.edu/pub/msdos/winsock.files/ws_ftp.zip

Installation

Place WS_FTP.EXE, WS_FTP.HLP and WS_FTP.INI in your Windows directory or in any directory you choose.

The easiest way to add WS_FTP to your Program Manager is to drag the program name out of the File Manager into the desired Program Manager window.

-OR-

In the Windows Program Manager, select the File New menu option and create a new program item.

Enter a command line with the full path to ws_ftp.exe and set the working directory as desired. Click on OK.

Note that you currently must have WS_FTP.HLP and WS_FTP.INI in your working directory OR in the Windows directory.

Anonymous, definition

Most FTP sites support **anonymous** logins where you do not have to have an actual account on the system in order to access the system to transfer files. Normally the userid is the word **anonymous** and the password is your full e-mail address. Usually, you can place a minus (-) sign as the first character of your e-mail address to reduce the number of messages that come from the host FTP process.

Firewall, definition

Some organizations have chosen to separate their networks from the rest of the world while still allowing certain users the ability to access resources outside of that organization's network. This access is provided through a "gateway" or "firewall" host system and is generally uni-directional. There is another kind of firewall, which is not specifically configured. A router-based firewall is one which allows connections to be established in one direction only. The router itself is invisible to the user. To work with a router-based firewall requires using the <u>PASV Mode</u> of FTP.

FTP, definition

FTP stands for File Transfer Protocol. This is one of the standard protocols defined for use on a TCP/IP network.

Winsock, definition

WinSock is a specification that network software providers use as a guideline for the standard application programming interface to their network software.

Upload

Transferring a file **FROM** your local workstation **TO** a remote host or workstation.

Download

Transferring a file **TO** your local workstation **FROM** a remote host or workstation.

Local file name

Enter a valid name for a MS_DOS file in the form of *filename.ext*. *Filename* is a maximum of eight characters consisting of the letters A-Z and digits 0-9. *Ext* is a maximum of three characters consisting of the letters A-Z and digits 0-9. Recommend you use standard extensions for files, such as .TXT, .ZIP, .DOC, .WKS, etc..

Remote file name

Enter a name for a file that is valid on the system you are connected to. Many systems allow names that are much longer than MS_DOS allows. Also, some systems allow characters that MS_DOS does not allow. No error checking or filtering is performed on the name that you enter.

Remote directory name

Enter the name of a remote directory. Naming conventions must match the remote system. Refer to the documentation for the remote system for additional help. On most systems, a directory must be empty in order to be able to delete it. Not all systems allow you to make and delete directories remotely so a failure here does not indicate a failure in this program.

SITE Command

(available by clicking the right mouse button)

Enter a remote site specific command. The client will prefix your entry with the word SITE and send you entry unedited to the remote system. It is up to you to determine what is valid input for this command by reading the documentation for the remote system.

QUOTE Command

(available by clicking the right mouse button)

Enter any command that you want. It will be sent unedited to the remote system. It is up to you to determine the command syntax depending on the host you are connected to. You should not send any commands that need to open a secondary channel.