FTP4W.DLL V.??
API MANUAL
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FTP4W.DLL provides an implementation of the FTP protocol (specified in the RFC 959) in a Windows Dynamic Library (DLL), which can be used by any language (and any compiler). It requires a Windows Sockets DLL (Winsock.DLL).

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LICENSE AGREEMENT

FTP4W was written by Philippe Jounin and is Copyrighted 1994 by him and the SNCF (French Railways). The author disclaims all liability for its use or for problems, data corruption, data loss, or other loss that may result from its use.

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This program may be included on CD-ROMs or other distribution methods freely, provided any charge for such is for recovering the cost of distribution and reasonable profit and not for the purpose of "selling" the program. In this case the distribution must contain the complete program including this file.

Send any comments to ark@ifh.sncf.fr.

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SPECIAL THANKS TO...

Thanks To Santanu Lahiri for providing the source of WinFTP, a FTP client for windows. I have learned a lot (about FTP and Windows) by reading it.

Thanks to all the Internet community which has reported some implementation problems and has contributed to this new release, especially:

- Gillian Duncan (Corrections of this manual)
- Burks Oakley <b-oakley@uiuc.edu> (tests and ToolBook support)
- Richard Terpstra <terpstr2@ksla.nl> and Kees de Rooij (VB Sample)
- Vince Vielhaber <vev@msen.com> (VMS and C++ support)
- Bram Buitendijk <Bram.Buitendijk@library.KNAW.nl> (MS-Access support)
- Teemu Mottonen <Teemu.Mottonen@ktl.fi> (Corrections of this manual)
- Robin Bowes <robin@plato.ucsalf.ac.uk> (Paradox supports)
- Terry Field <terry@mincom.oz.au> (Bug report)
- David Combs <dkcombs@netcom.com> (has fully rewritten this manual)
- Andreas Tikart <Andreas.Tikart@uni-konstanz.de> (tp7 sample)
- Ricky Freyre <rickyf@mail.halcyon.com>

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NEW WINDOW'S BASED HELP FORMAT

A note from Michael Douglass:

Though it took me some time to complete this project, I am satisfied that I have done a good job documenting the FTP4W API Functions.   Most of the wording was taken straight from Philippe Jounin's documentation.   However, some rewording/clarification was performed on the documentation to better document the functions.

This version of the help file is still pretty much a draft version and still needs some work.   I intend to resume my Q&A sessions with Philippe to provide exact documentation for each function.   If you have a question about the FTP4W.DLL, please send me a copy as well as Philippe so that I may modify the help file to clarify any questions someone may have.   With your assistance, we can have the best documentation for the best FTP library available on the net!   My PGP public key is listed below for those security people.

THINGS TO BE COMPLETED:
    1) Not all of the functions have been rewritten.   The format seen in the first ten or so functions will be
      duplicated throughout the entire documentation.

THINGS TO BE ADDED:
    1) Search index
    2) Anywhere that an API function is mentioned, make it a hyperlink to the API reference for that
      function.
    3) Add a See Also: section to each function.   (Any advice/suggestions on how to group the functions
      for the See Also?)

If there are any questions or comments you wish to make on this new help file, please send them to Philippe and myself.   Thank you.

Michael Douglass
<mikedoug@texas.net>
http://www.texas.net/~mikedoug

-----BEGIN PGP PUBLIC KEY BLOCK-----
Version: 2.6.2

mQBtAzCz4n4AAAEDAK4zVDC0CpFnzy9og0Ugd5m6XjCyaAX9rHF3hAU80YO97oSM
eedS1wpDX8RqNSLQF7sMXF+78sETMG8iI1TRuGT8mB2ZnAx0j6ZXGDhBQ9bZdLMH
SEQvEsqj66KegBia7QAFEbQlTWljaGFlbCBEb3VnbGFzcyA8bWlrZWRvdWdAdGV4
YXMubmV0Pg==
=29+2
-----END PGP PUBLIC KEY BLOCK-----

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THE FOUR TYPES OF FUNCTIONS

FTP4W provides four groups of functions:

Local Functions - Used for storage and use of local information
Connection functions - Used to connect and disconnect to remote locations
Data transfer functions - Used to actually transfer the data
FTP Commands functions - Other commands for ftp use

The Two Modes of Data Transfer

THE TWO MODES OF DATA TRANSFER FUNCTIONS:

=SYNCHRONOUS DATA TRANSFERS:
Synchronous functions have been implemented because some languages can not handle user defined messages, but it is recommended to use asynchronous versions.

> If the programmer chooses the synchronous mode (set by the FtpSetSynchronousMode function), all of the FTP4W calls will return when the task is finished. Each function returns an integer return-code based on the results of the task.

=ASYNCHRONOUS DATA TRANSFERS:
Asynchronous calls give the application a way to follow the progress of a data transfer.   The DLL posts a message for the application each time it receives a packet of data.   This allows for MUCH better control of the flow of information to and from the remote host as well as allowing for an extremely better way to keep the user of your application up-to-date with the current progress of any transfer.

> In the asynchronous mode (default or set by FtpSetAsynchronousMode), all data transfer functions and FtpLogin will return immediately with FTPERR_OK if the request is valid.   If the request is not valid (such as calling FtpLogin before FtpInit), then the function will return an error code to that effect (in this case, FTPERR_NOTINITIALIZED).   If the function returns FTPERR_OK, then the application must wait for a user-specified message to be posted to a user-specified window.   The extra parameters wParam and lParam of the message will be used for information such as the success or failure of the command along with any extra information (as specified in each functions definition described below).

FTP Handle (like a file handle)?

DO I NEED AN 'FTP HANDLE' (like a file handle)?

The FTP4W calls do not need any handle to identify the FTP session. Rather, they use the Windows function **GetCurrentTask** to get a task identifier.   This mechanisms avoids the use of an argument but it prohibits having more than one FTP session for a given task (note that if the same application is started twice, FTP4W will just see two differents tasks, so each application can have its own FTP session).

Known Bugs

This version of Ftp4w does not support the following stacks:
- SPRY winsockets
- LAN Workplace (Novell)

To run Ftp4w with LAN Workplace, the file Ftp4w.Dll should be replaced by Ftp4wLWP.Dll.

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The Flow of an FTP4W Application:

The first function that an application should call is **FtpInit**. It allocates buffers and gets information about the task which has called it.

If the programmer   wishes (or must) use the synchronous mode, the function **FtpSetSynchronousMode** must be called *now*.   FTP4W defaults to the asynchronouse mode, but it would be a good idea to call **FtpSetAsynchronousMode** explicitly to allow for future changes in FTP4W.

When the task is ready to make a connection with an FTP server. It must either
         - Call **FtpOpenConnection**, **FtpSendUserName** and **FtpSendPasswd**
         - or just call **FtpLogin** (which combines the 3 functions).

If it succeeds the user is logged on and can use any of the other FTP4W functions. For Instance, the application can call **FtpDir** to read the contents of the remote directory.

To end the connection, the application must call **FtpCloseConnection**. If the function does **not** succeed (e.g. the network has been shut down), it must call **FtpLocalClose**.   In both cases, to release the allocated buffers, the application must call **FtpRelease** before it exits.   This ending procedure can be done as follows in 'C':

> *if (FtpCloseConnection()!=FTPERR_OK)*
>   *FtpLocalClose();*
> *FtpRelease;*

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API FUNCTION REFERENCE
FTP4W API FUNCTIONS:

FTP4WVER

Syntax: int Ftp4wVer(LPSTR szVerStr, int nStrSize)

Arguments: LPSTR szVerStr   Buffer which is to receive the version information.   (32 bit
                                         pointer).
                 int nStrSize: Number of bytes allocated for the buffer above.

Return: A two byte integer containing the version number.

Ftp4wVer returns the version number of the DLL as an integer. The low order byte is the release number,
and the high order byte is the major version number.

The function copies in the users's buffer a string which contains information on the DLL (name, version,
author, copyright). This string is *guaranteed* not to exceed 100 characters.

Example:
                 int version = Ftp4wVer(…);
                 int major = (0xff00 & version) >> 4;
                 int release= (0x00ff & version);

FTPABORT

Syntax: int FtpAbort()

Return:
   FTPERR_OK   Abort is in progress

FtpAbort aborts a data transfer without breaking the connection with the ftp server.   FtpAbort returns immediatley.   When the transfer is successfully aborted, the transfer function returns the error code (FTPERR_CANCELBYUSER) via a message to the window specified in the call to the transferring function.   Any opened file is closed but not removed.

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API FUNCTION REFERENCE
FTPRECVFILE
FTPAPPENDTOLOCALFILE

Syntax: int FtpRecvFile (LPSTR szRemote, LPSTR szLocal, char cType, BOOL bNotify, HWND
              hParentWnd, UINT wMsg)
            int FtpAppendToLocalFile (LPSTR szRemote, LPSTR szLocal, char cType, BOOL bNotify,
              HWND hParentWnd, UINT wMsg)

Arguments: LPSTR szRemote   Name of file to retrieve.   Can be either a full file name with
                                    absolute path names, or a relative filename.
            LPSTR szLocal   Name of file to create locally.
            char cType   Type of transfer.   Binary **(TYPE_I)** or ASCI **(TYPE_A)**
            BOOL bNotify   bNotify controls whether or not your window (specified in
                                    hParentWnd) receives a message each time a frame is
                                    received.
            HWND hParentWnd   This is a handle to the window that you want FTP4W to post
                                    messages to.   (See below for full details.)
            UINT wMsg   Custom Message Number to send window.   (See below for full
                                    details.)

These functions copy a remote file (szRemote) to a local file (szLocal).   If the local file already exists, the
function FtpRecvFile over-writes it; and FtpAppendToLocalFile appends the remote file to the end of the
existing file.   If the file does not exists, it is created in either case.

Asynchronous Mode:
In the asynchronous mode, the function returns immediately.   When the transfer is completed, or
interrupted for any reason, a message will be posted to the window specified by hParentWnd with the
message id equal to wMsg, wParam equal to TRUE, and the lParam equal to the return code (see below
for return codes).   You **must** specify a hParentWnd and a wMsg, or you will never know when the
transfer is completed.

When using these functions in the asynchronous mode, you **must** still check the return code of the
function.   If there is an error initiating the transfer, then the Recv functions will return immediately with the
appropriate error code (see below for return values).

Synchronous Mode:
In the synchronous mode, the function returns upon completion of the transfer and does **not** post a
message to the specified window as the asynchronous version does.   In the synchronous mode, if you
set bNotify (see below) to FALSE, then you do not need to specify a hParentWnd nor do you need to
specify a wMsg.   You can use "(HWND) 0, (UINT) 0" for those two parameters.

Both Asynchronous and Synchronous Modes: (*bNotify*)
If you set bNotify to TRUE, then during the file transfer, the window specified by hParentWnd will receive
messages with an id of wMsg,   wParam=FALSE, and lParam equal to the number of bytes transfered
thus far.   In this way, you can monitor the transfer, and allow your program to alert the user of the status
of the transfer.

Return Codes:
    FTPERR_OK   (Synchronous) File Received
                                    (Asynchronous) File Retrieval successfully initiated   Watch for
                                       message(s) posted to hParentWnd for further updates on the
                                       status of the transfer.

FTPERR_PASVCMDNOTIMPL	Server does not support passive mode
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_CANNOTCHANGETYPE	The server has rejected the command TYPE
FTPERR_CANTOPENFILE	Local file can not been open
FTPERR_CANTWRITE	FTP4W can not write in local file (disk full)
FTPERR_CANTCREATESOCKET	No more free sockets (Two sockets are needed)
FTPERR_TRANSFERREFUSED	the server refused the Retrieve command
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

FTPSENDFILE
FTPAPPENDTOREMOTEFILE

Syntax:　　　int FtpSendFile (LPSTR szRemote, LPSTR szLocal, char cType, BOOL bNotify, HWND
　　　　　　　　　　hParentWnd, UINT wMsg)
　　　　　　　int FtpAppendToRemoteFile (LPSTR szRemote, LPSTR szLocal, char cType, BOOL bNotify,
　　　　　　　　　　HWND hParentWnd, UINT wMsg)

Arguments:　LPSTR szLocal　　　　　　　Name of file to send.
　　　　　　　LPSTR szRemote　　　　　　Name of file to write on the remote end.
　　　　　　　char cType　　　　　　　　Type of transfer.　Binary **(TYPE_I)** or ASCI **(TYPE_A)**
　　　　　　　BOOL bNotify　　　　　　　bNotify controls whether or not your window (specified in
　　　　　　　　　　　　　　　　　　　hParentWnd) receives a message each time a frame is sent.
　　　　　　　HWND hParentWnd　　　　　This is a handle to the window that you want FTP4W to post
　　　　　　　　　　　　　　　　　　　messages to.　(See below for full details.)
　　　　　　　UINT wMsg　　　　　　　　Custom Message Number to send window.　(See below for full
　　　　　　　　　　　　　　　　　　　details.)

These functions copy a local file (szLocal) to a remote file (szRemote).　If the local file already exists, the function FtpSendFile over-writes it; and FtpAppendToRemoteFile appends the local file to the end of the existing file.　If the file does not exists, it is created in either case.

Asynchronous Mode:
In the asynchronous mode, the function returns immediately.　When the transfer is completed, or interrupted for any reason, a message will be posted to the window specified by hParentWnd with the message id equal to wMsg, wParam equal to TRUE, and the lParam equal to the return code (see below for return codes).　You **must** specify a hParentWnd and a wMsg, or you will never know when the transfer is completed.

When using these functions in the asynchronous mode, you **must** still check the return code of the function.　If there is an error initiating the transfer, then the Send functions will return immediately with the appropriate error code (see below for return values).

Synchronous Mode:
In the synchronous mode, the function returns upon completion of the transfer and does **not** post a message to the specified window as the asynchronous version does.　In the synchronous mode, if you set bNotify (see below) to FALSE, then you do not need to specify a hParentWnd nor do you need to specify a wMsg.　You can use "(HWND) 0, (UINT) 0" for those two parameters.

Both Asynchronous and Synchronous Modes:　(*bNotify)*
If you set bNotify to TRUE, then during the file transfer, the window specified by hParentWnd will receive messages with an id of wMsg,　wParam=FALSE, and lParam equal to the number of bytes transfered thus far.　In this way, you can monitor the transfer, and allow your program to alert the user of the status of the transfer.

Return Codes:
　　FTPERR_OK　　　　　　　　　　　　(Synchronous) File Sent
　　　　　　　　　　　　　　　　　　　(Asynchronous) File Transfer successfully initiated　Watch for
　　　　　　　　　　　　　　　　　　　message(s) posted to hParentWnd for further updates on the
　　　　　　　　　　　　　　　　　　　status of the transfer.
　　FTPERR_PASVCMDNOTIMPL　　　　　Server does not support passive mode
　　FTPERR_NOTINITIALIZED　　　　　　Session has not been initialized by FtpInit

FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_CANNOTCHANGETYPE	The server rejects the command TYPE ASCII
FTPERR_CANTOPENFILE	Local file can not been open
FTPERR_CANTWRITE	FTP4W can not write in local file (disk full)
FTPERR_CANTCREATESOCKET	No more free sockets (Two sockets are needed)
FTPERR_TRANSFERREFUSED	the server refused the STOR command
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

FTPBYTESTOBETRANSFERED

Syntax: long FtpBytesToBeTransferred(void)
            long FtpBytesToBeTransfered(void)

FtpBytesToBeTransfered returns the total length of the file which is transfered. For ASCII transfers, it can be slightly different from the number of bytes to be received. Furthermore, if the result of this function is 0, it means that the FTP server did not send this information (Windows-NT server for instance).

*Note: Since the previous versions spelled **Transfered** instead of **Transferred**, the functions FtpBytesTransfered and FtpBytesTransfered are still implemented for backwards compatibilty.*

FTPBYTESTRANSFERED

Syntax: long FtpBytesTransferred(void)
            long FtpBytesTransfered(void)

FtpBytesTransferred returns the number of bytes which has been transferred for the last initiated transfer (completed or in progress).

*Note: Since the previous versions spelled **Transfered** instead of **Transferred**, the functions FtpBytesTransfered and FtpBytesTransfered are still implemented for backwards compatibilty.*

FTPCDUP

This function changes the remote default directory up to its parent directory.

Syntax: FtpCDUP (void)

Return Codes:
FTPERR_OK	Directory has been changed
FTPERR_SERVERCANTEXECUTE	CWD has failed (directory does not exists..)
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

FTPCLOSECONNECTION

Syntax: FtpCloseConnection (void)

This function tries to gracefully close the connection. It will fail if a file transfer is in progress or if the server has timed-out. In the case of a failure to "gacefully close", you must use FtpLocalClose function.

Return Codes

FTPERR_OK	FTP session has been closed
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection.

FTPCWD

Syntax: FtpCWD (LPSTR szPath)

This function changes the current working directory on the remote server.

Argument: LPSTR szPath   name of the new directory

Return Codes:
FTPERR_OK	Directory has been changed
FTPERR_SERVERCANTEXECUTE	CWD has failed (directory does not exists..)
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

FTPDATAPTR

Syntax: LPProcData FtpDataPtr (void)

FtpDataPtr returns the address of the internal structure LPProcData (see Ftp4w.h).
This function is provided only for debugging purposes and should be use cautiously.

FTPDELETEFILE

Syntax: FtpDeleteFile (LPSTR szFile)

Argument: LPSTR szFile   Name of the remote file to be deleted

This function attempts to delete the remote file referenced by szFile.

Return Codes:
FTPERR_OK	File has been deleted
FTPERR_FILELOCKED	File can not be deleted
FTPERR_NOREMOTEFILE	File has not been found
FTPERR_SERVERCANTEXECUTE	File can not be deleted
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

FTPDIR

Syntax: int FtpDir (LPSTR szFilter, LPSTR szFile, BOOL bLongDir, HWND hWnd, WMSG wMsg);

Arguments:

LPSTR szFilter	Remote path and filename mask. Note that the wildcard expansion is dependent of the remote host and is not necessarily the same as MS DOS format. An empty string or NULL will give the current remote directory.
LPSTR szFile	The file where the data is to be written, if szFile is NULL, the information is posted to the window hWnd (see below)
BOOL bLongDir	Allow the application to choose between the long or the short form of listing. The short form give only the name of the files, the format of the long form depends on the server.
HWND hWnd	The handle of the windows to which the message is to be passed
WMSG wMsg	The application-defined message to be passed to the window.

This function retrieves a listing of a remote directory using the filter szFilter.   The listing is placed into a local file specified by szFile or posted line by line to the window specified by hWnd.

In the *asynchronous* mode, you can leave szFile NULL and the information will be posted to the window hWnd with the message wMsg.   The function message parameters will be wParam=FALSE each time a line of data is received. lParam is a pointer to a LPSTR containing the data. The application must save the data because the next line sent by the server will overwrite it. The string is null-terminated and contains only one line (the ending   <CR><LF> has been removed). The final message received by the application will have wParam=TRUE and lParam is the return code.

Using the *asynchronous* mode where szFile is NOT NULL, a message will still be posted to hWnd to let the programmer know that the transfer of the directory is complete.

In the *synchronous* mode, you **must** specify szFile, and the last two arguments are ignored completely.

Return Codes:

FTPERR_OK	Dir has been done
FTPERR_PASVCMDNOTIMPL	Server does not support passive mode
FTPERR_NOTINITIALIZED	session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_CANNOTCHANGETYPE	The server rejects the command TYPE ASCII
FTPERR_CANTOPENFILE	Local file can not been open
FTPERR_CANTWRITE	FTP4W can not write in local file (disk full)
FTPERR_CANTCREATESOCKET	No more free sockets (Two sockets are needed)
FTPERR_TRANSFERREFUSED	the server refused the dir command
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

Syntax: DWORD FtpGetFileSize(void)

Note*: This function has been obsoleted by FtpBytesToBeTransferred.*

This function tries to get the size of the file which is to be received. It must be used immediatly after a FtpRecvFile, because it searches in the most recent reply, looking to see if the server has sent back the size of the file.

If the function succeeds, it returns the length of the file. (Note that in ASCII mode, it can be slightly different from the number of bytes FTP4W will actually receive.) In the case of a failure it returns 0.

This function is obsolete and should be replaced by FtpBytesToBeTransferred.

FTPINIT

Syntax: int FtpInit (HWND hParentWnd)

Argument: HWND hParentWnd   The application's primary window handle.

FtpInit must be called before any other function. It allocates buffers, reads information about the task which has called it and creates an invisible window for its internal use.   Before it exits, the application must call **FtpRelease** to release these internal resources.

The function requires the handle of an application window (or NULL).

Return codes:

   FTPERR_OK   Initialization has been done
   FTPERR_INSMEMORY   Not enough memory
   FTPERR_CANTCREATEWINDOW   FtpInit can't create its window
   FTPERR_SESSIONUSED   The task has already called FtpInit FTP4W session

FTPISASYNCHRONOUSMODE

Syntax: BOOL FtpIsAsynchronousMode(void)

This function checks to see if Ftp4w is in the asynchronous mode.

Return: TRUE if Ftp4w is in asynchronous mode,
            FALSE if Ftp4w is in synchronous mode.

FTPLOCALCLOSE

Syntax: int FtpLocalClose (void)

This function closes the opened socket without warning the server. You must use this function only if FtpCloseConnection has failed.

Return Codes: FALSE if the session has not been initialized by FtpInit
                     Otherwise TRUE.

FTPLOGIN

Syntax: int FtpLogin(LPSTR szHost, LPSTR szUser, LPSTR szPass, HWND hWnd, WMSG wMsg)

Arguments: LPSTR szHost   Name of the remote host (the computer on which the server is running).
                    LPSTR szUser   Name of the user.
                    LPSTR szPassPassword (it can be NULL if the user has no password).
                    HWND hWnd   Is the handler of the windows to which the message is to be posted.
                    WMSG wMsg   Is the application-defined message to be posted to the application.

This function combines the three functions FtpOpenConnection, FtpSendUserName and FtpSendPasswd. In the synchronous mode, FtpLogin will return when the login process is complete, or when there is an error; and the two last arguments are unused. In the asyncrhonous mode FtpLogin will immediately return FTPERR_OK, and when the login process is complete, or when there is an error, the application will receive a wMsg message in the hWnd window.

The message will include the parametersby:
            wParam: always TRUE
            lParam: The return code of the function

Return Codes:
Return codes are in the Low Word of the lParam argument:

FTPERR_OK	User is logged on
FTPERR_ENTERACCOUNT	Successful function but server awaits an account name
FTPERR_LOGINREFUSED	The USER/PASSWD has been rejected
FTPERR_NOTINITIALIZED	session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection.
FTPERR_CANTCREATESOCKET	The socket has not been created
FTPERR_CONNECTREJECTED	Connect has been rejected (server is not a FTP server, ...)
FTPERR_CANTCONNECT	The connect has failed
FTPERR_TIMEOUT	The connect has timed-out

FTPLOGTO

Syntax: int FtpLogTo (HFILE hLogFile)

Argument: HFILE hLogFile   A opened file handler to be written to.   (pass it HFILE_ERROR
                                                             to set silent mode.)

This function set or reset a log mode. In log mode, all data sent or received on the control port (21) are
sent to the opened file passed as an argument.   The frame which contains the password is logged as
"PASS +++" for obvious reasons.

To set silent mode (default), just call **FtpLogTo (HFILE_ERROR)**.   Note that the file is not closed by
Ftp4w.

FTPMKD

This function creates a directory on the remote server. The full name of the new directory is returned in a user's buffer. If the FTP-server has succesfully created the directory but did not return its full name, this buffer is set to an empty string.

Syntax: FtpMKD (LPSTR szPath, LPSTR szBuf, UINT uBufSize)

Argument: szPath: name of the directory to be created
             szBuf: Buffer to be filled with the full name of the created directory
             uBufSize: Size of the user's buffer

Return Codes:
    FTPERR_OK   Directory has been created
    FTPERR_SERVERCANTEXECUTE   MKD has failed (can not create directory, directory already
                                   exists, ...)
    FTPERR_NOTINITIALIZED   Session has not been initialized by FtpInit
    FTPERR_NOTCONNECTED   User is not connected to a remote host
    FTPERR_SENDREFUSED   FTP4W can not send the data (network is down)
    FTPERR_NOREPLY   FTP4W has received no reply. FTP4W does not close the
                                   connection socket (use FtpLocalClose).
    FTPERR_UNEXPECTEDANSWER   FTP4W has received a reply. But this reply is not a valid FTP
                                   answer. FTP4W does not close the connection

FTPOPENCONNECTION

This function establishes the connection with the FTP server.
Once the connection is done, it waits for the reply of the server.

This reply must begin with "220" (RFC 959), if not a special error is generated.

FTP4W does not check to see if a connection already exists.

Syntax: FtpOpenConnection (LPSTR szHost)

Argument: szHost: The name of the remote host to connect to

Return codes:
FTPERR_OK	Successful connection
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_CANTCREATESOCKET	The socket has not been created
FTPERR_CONNECTREJECTED	Connection has been rejected (server is not a FTP server, ...)
FTPERR_CANTCONNECT	The connection has failed
FTPERR_TIMEOUT	The connection has timed-out
FTPERR_NOREPLY	The connection is successful, but FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	The connection is successful and FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection.

FTPPWD

This function returns the name of the default directory on the remote server.

Syntax: FtpPWD (LPSTR szPath, UINT uBufSize)

Argument: szPath: buffer to be filled with the name of the remote default directory
             uBufSize: size of this buffer

Return Codes:
FTPERR_OK	Name of the remote directory available in the buffer
FTPERR_SERVERCANTEXECUTE	PWD has failed (directory does not exists..)
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_PWDBADFMT FTP4W can not interpret server's answer	
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

FTPQUOTE

It allows the user to send to the server any FTP command he wants. FTP4W will send it to the server and waits for its reply.

Note: The names of the commands given there are DIFFERENT from the commands you would type in by hand with a text-oriented FTP client. In fact, the ones you type in by hand are read by a higher-level "front end" to the REAL ftp, and that higher-level then translates them into shorter names.
To have the list of the codes accepted by the FTP servers, refers to the RFC 959.

Note: The application can not start a data-transfer with this command.

The return code is either a FTP code (ie 200) or a FTP4W error code (FTPERR_NOREPLY, FTPERR_SENDREFUSED, ...).
If szReplyBuf is not NULL, The reply (if any) is copied into a user's buffer.

Syntax FtpQuote (LPSTR szCmd, LPSTR szReplyBuf, UINT uBufSize);

Arguments: szCmd   The command to be sent
            szReplyBuf The buffer to copy the answer
            uBufSize   The size of the user's buffer

Return Codes: A Ftp4w's error code
                       or a 3 digits number between 100 and 699.

FTPRECVFILE

Note : Since FtpAppendToLocalFile uses exactly the same syntax, only FtpRecvFile will be described. The only difference between them occurs when the local file already exists, in which case the Append function appends the remote file onto it, whereas the Recv function simply over-writes it.

This function copies a remote file to a local file. In the asynchronous mode, the function returns immediatly, then the application will receive a message when the transfer is completed with wParam=TRUE (transfer completed), lParam=return code. In the synchronous mode, the function returns when the transfer is completed.

In the notification mode, the application will receive a message each time some data has been received. The same message as above is used but wParam will be FALSE, lParam will be the current position in the file (it is also the number of bytes which have been received).

In synchronous mode, if bNotify has not been set, the final arguments hParentWnd and wMsg are not used.

If the local file already exists, The function FtpRecvFile over-writes it, whereas FtpAppendToLocalFile appends the remote file at the end of the file.

If the file does not exists, it is created in any case.

Syntax:
FtpRecvFile (LPSTR szRemote, LPSTR szLocal,
                char cType, BOOL bNotify,
                HWND hParentWnd, UINT wMsg)
FtpAppendToLocalFile (LPSTR szRemote, LPSTR szLocal,
                            char cType, BOOL bNotify,
                            HWND hParentWnd, UINT wMsg)

Arguments: szRemote   Remote file specification
            szLocal   The file where to write the data.
            cType   TYPE_A for ASCII, TYPE_B for binary
            bNotify   A message should be sent by to the application each time a frame
                        has been received.
            hWnd   the handler of the windows to which the message is to be passed
            wMsg   the application-defined message to be passed to the application

Return Codes:
    FTPERR_OK   File received
    FTPERR_PASVCMDNOTIMPL   Server does not support passive mode
    FTPERR_NOTINITIALIZED   Session has not been initialized by FtpInit
    FTPERR_NOTCONNECTED   User is not connected to a remote host
    FTPERR_SENDREFUSED   FTP4W can not send the data (network is down)
    FTPERR_CANNOTCHANGETYPE   The server has rejected the command TYPE
    FTPERR_CANTOPENFILE   Local file can not been open
    FTPERR_CANTWRITE   FTP4W can not write in local file (disk full)
    FTPERR_CANTCREATESOCKET   No more free sockets (Two sockets are needed)
    FTPERR_TRANSFERREFUSED   the server refused the Retrieve command
    FTPERR_NOREPLY   FTP4W has received no reply. FTP4W does not close the

	connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

FTPRELEASE

FtpRelease must be called before the application exits. It frees all resources taken by FtpInit.
The function requires no arguments.

Syntax: FtpRelease ()

return codes:

    FTPERR_OK   Resources have been released
    FTPERR_STILLCONNECTED   The connection is still active. Nothing has been done.

FTPRESTART

This command makes the server to begin the next file transfer at the specified position. This command should be issued just prior a file transfer request, which is not possible with the high-level transfer functions. Therefore this is mostly an internal command.
It has been exported since some servers does not support this command. Thus it is an easy way to check the server before starting any file transfer.

Syntax: FtpRestart (long lByteTransfer)

Argument :   lByteTransfer   Position of the next file transfer. If this value is negative or 0, the function does nothing and returns FTPERR_RESTARTOK

return codes:

FTPERR_RESTARTOK	The command successful but it has no effect.
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection
FTPERR_CMDNOTIMPLEMENTED	Command not implemented

FTPRESTARTRECVFILE

This command starts a file transfer from a specified position. Please refer to the FtpRecvFile command to have more info concerning file transfers.
This command should be used only in binary mode, since the position in a text file has little meaning.

Syntax: FtpRestartRecvFile   (LPSTR szRemote, HFILE hLocal, char cType,
                         BOOL bNotify, long lByteCount,
                              HWND hParentWnd, UINT wMsg);

Arguments : szRemote The remote file to be received
             hLocal   A Windows handler to an opened file which is to be written
             cType   TYPE_A for ASCII, TYPE_B for binary
             bNotify   A message should be sent by to the application each time a frame
                       has been received.
             lByteCount Starting position of the transfer
             hWnd   the handler of the windows to which to pass the message
             wMsg   the application-defined message to pass to the application

Syntax: FtpRestartSendFile   (HFILE hLocal, LPSTR szRemote, char cType,
                         BOOL bNotify, long lByteCount,
                              HWND hParentWnd, UINT wMsg);

Return Codes:
    FTPERR_OK   File received
    FTPERR_PASVCMDNOTIMPL   Server does not support passive mode
    FTPERR_NOTINITIALIZED   Session has not been initialized by FtpInit
    FTPERR_NOTCONNECTED   User is not connected to a remote host
    FTPERR_SENDREFUSED   FTP4W can not send the data (network is down)
    FTPERR_CANNOTCHANGETYPE   The server has rejected the command TYPE
    FTPERR_CANTOPENFILE   Local file can not been open
    FTPERR_CANTWRITE   FTP4W can not write in local file (disk full)
    FTPERR_CANTCREATESOCKET   No more free sockets (Two sockets are needed)
    FTPERR_TRANSFERREFUSED   the server refused the Retrieve command
    FTPERR_NOREPLY   FTP4W has received no reply. FTP4W does not close the
                                    connection socket (use FtpLocalClose).
    FTPERR_UNEXPECTEDANSWER   FTP4W has received a reply. But this reply is not a valid FTP
                                    answer. FTP4W does not close the connection.

FTPRESTARTSENDFILE

This command starts a file transfer from a specified position. Please refer to the FtpSendFile command to have more info concerning file transfers.
This command should be used only in binary mode, since the position in a text file has little meaning.

Syntax: FtpRestartSendFile   (HFILE hLocal, LPSTR szRemote, char cType,
                          BOOL bNotify, long lByteCount,
                              HWND hParentWnd, UINT wMsg);

Arguments : hLocal   A Windows handler to an opened file which is to be read. Ftp4w
                       starts reading this file from the current position.
           szRemote   The remote file to be written from the position lByteCount.
           cType   TYPE_A for ASCII, TYPE_B for binary
           bNotify   A message should be sent by to the application each time a frame
                      has been received.
           lByteCount Starting position of the transfer
           hWnd   the handler of the windows to which to pass the message
           wMsg   the application-defined message to pass to the application

Syntax: FtpRestartSendFile   (HFILE hLocal, LPSTR szRemote, char cType,
                          BOOL bNotify, long lByteCount,
                              HWND hParentWnd, UINT wMsg);

Return Codes:
    FTPERR_OK   File has been sent
    FTPERR_PASVCMDNOTIMPL   Server does not support passive mode
    FTPERR_NOTINITIALIZED   Session has not been initialized by FtpInit
    FTPERR_NOTCONNECTED   User is not connected to a remote host
    FTPERR_SENDREFUSED   FTP4W can not send the data (network is down)
    FTPERR_CANNOTCHANGETYPE   The server rejects the command TYPE ASCII
    FTPERR_CANTOPENFILE   Local file can not been open
    FTPERR_CANTWRITE   FTP4W can not write in local file (disk full)
    FTPERR_CANTCREATESOCKET   No more free sockets (Two sockets are needed)
    FTPERR_TRANSFERREFUSED   the server refused the STOR command
    FTPERR_NOREPLY   FTP4W has received no reply. FTP4W does not close the
                                connection socket (use FtpLocalClose).
    FTPERR_UNEXPECTEDANSWER   FTP4W has received a reply. But this reply is not a valid FTP
                                answer. FTP4W does not close the connection

FTPRMD

This function removes a directory from the remote server.

Syntax: FtpRMD (LPSTR szPath)

Argument: szPath: name of the directory to be deleted

Return Codes:
FTPERR_OK	Directory has been removed
FTPERR_SERVERCANTEXECUTE	RMD has failed (directory is not empty)
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

FTPSENDACCOUNT

This function sends the account to the server.   This function should be used when FtpLogin or FtpSendPasswd return FTP_ENTERACCOUNT.

Syntax: FtpSendAccount (LPSTR szAccount)

Argument: szAccount: Account information

Return Codes:
FTPERR_OK	User is logged on
FTPERR_LOGINREFUSED	The USER/PASSWD/ACCOUNT has been rejected
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_NOTINITIALIZED	session has not been initialized by FtpInit
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection.

FTPSENDFILE

Note : Since FtpAppendToRemoteFile uses exactly the same syntax, only FtpSendFile will be described. The only difference between them occurs when the remote already exists, in which case the Append function appends the local file onto it, whereas the Send function simply over-writes it.

This function copies a local file to a remote file.
The application will receive a message when the transfer is completed with wParam=TRUE (transfer completed), lParam=return code. In the synchronous mode, the function returns only after the transfer has been completed.

In the notification mode, the application will receive a message each time some data has been sent. The same message as above is used but wParam will be FALSE, lParam will be the current position in the file (it is also the number of bytes which have been sent).

In synchronous mode, if bNotify has not been set, the final arguments (hParentWnd and wMsg) are not used.

Syntax:

FtpSendFile (LPSTR szLocal, LPSTR szRemote,
                    char cType, BOOL bNotify,
                    HWND hParentWnd, UINT wMsg)
FtpAppendToRemoteFile (LPSTR szLocal, LPSTR szRemote,
                    char cType, BOOL bNotify,
                    HWND hParentWnd, UINT wMsg)

Arguments: szLocal   The file to be sent
             szRemote   Remote file specification
             cType   TYPE_A for ASCII, TYPE_B for binary
             bNotify   A message should be sent by to the application each time a frame
                          has been received.
             hWnd   the handler of the windows to which to pass the message
             wMsg   the application-defined message to pass to the application

Return Codes:
    FTPERR_OK   File has been sent
    FTPERR_PASVCMDNOTIMPL   Server does not support passive mode
    FTPERR_NOTINITIALIZED   Session has not been initialized by FtpInit
    FTPERR_NOTCONNECTED   User is not connected to a remote host
    FTPERR_SENDREFUSED   FTP4W can not send the data (network is down)
    FTPERR_CANNOTCHANGETYPE   The server rejects the command TYPE ASCII
    FTPERR_CANTOPENFILE   Local file can not been open
    FTPERR_CANTWRITE   FTP4W can not write in local file (disk full)
    FTPERR_CANTCREATESOCKET   No more free sockets (Two sockets are needed)
    FTPERR_TRANSFERREFUSED   the server refused the STOR command
    FTPERR_NOREPLY   FTP4W has received no reply. FTP4W does not close the
                                 connection socket (use FtpLocalClose).
    FTPERR_UNEXPECTEDANSWER   FTP4W has received a reply. But this reply is not a valid FTP
                                 answer. FTP4W does not close the connection

FTPSENDPASSWD

This function sends the password to the server.

Syntax: FtpSendPasswd (LPSTR szPasswd)

Argument: szPasswd: Password of the user

Return Codes:

FTPERR_OK	User is logged on
FTPERR_ENTERACCOUNT	Successful function but server awaits an account name.
FTPERR_LOGINREFUSED	The USER/PASSWD has been rejected
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_NOTINITIALIZED	session has not been initialized by FtpInit
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection.

FTPSENDUSERNAME

This function sends the user's name to the server. This authentification is necessary to begin a file transfer.
This function will usually return the "error-like" return value: FTPERR_ENTERPASSWORD (Successful function but server awaits a password). It means only that everything is just fine, it is simply reminding them that it still needs the password.>

Syntax: FtpSendUserName (LPSTR szUserName)

Argument: szUserName: Name of the user

Return Codes:
FTPERR_OK	User is logged on
FTPERR_ENTERPASSWORD	Successful function but server awaits a password.
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection.

FTPSETDEFAULTPORT
FTPSETDEFAULTTIMEOUT

Syntax:
int FtpSetDefaultPort (int nDefPort)
int FtpSetDefaultTimeOut (int nTimeOutInSeconds)

These functions are used to change either the FTP-control port (21 by default) or the timeout (30 seconds by default).
Note that the FTP-data potr can not be changed.

The new timeout is given in seconds.

FTPSETNEWDELAY
FTPSETNEWSLICES

Syntax:
int   FtpSetNewDelay   (int nNewDelayInMilliseconds)
int   FtpSetNewSlices (int nSliceAlone, int nSliceMultiUser)

When a given number of frames has been received during a data transfer, FTP4W will wait for a while in order to let other tasks run.

FtpSetNewDelay allows the application to change the length of the pause. The argument is the length of the pause to be applied in milliseconds.

FtpSetNewSlices is used to change the number of frames which will cause a pause. The first argument is the number of frames when one FTP session are active, the second argument is used when two or more sessions are active.
Both arguments should not be set to zero.

FTPSETPASSIVEMODE

Syntax:
void FtpSetPassiveMode (BOOL bPassif)

These command requests the FTP-server to "listen" on a data port and to wait for a connection rather than initiate one upon receipt of a transfer command.

These command is not implemented on all FTP-server, and thus the application must check the return code of the next data-transfer (FtpRecvFile, FtpSendFile, FtpDir).

Note: If FtpInit has not been called, these calls will cause a GPF.

Arguments: bPassif   TRUE if the application wants to switch to passive
                            mode, FALSE if it wants to reset the default mode.

Return codes:
  FTPERR_OK   Mode has been changed

FTPSETTYPE

This function changes the default transfer type.

Syntax: FtpSetType (char cType)

Argument: cType: new default transfer mode (either TYPE_A or TYPE_I)

Return Codes:
FTPERR_OK	Type has been changed
FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

If a programmer needs to have a look on each frame sent by the server, he uses this function. He will get a message (by the **SendMessage** function) each time a frame has been received. The argument wParam is TRUE, lParam points to the frame. It is NULL-terminated but can contain p more than one line (a line is ended with <CR><LF>).

Note that the frame will be overwritten by the next reply from the server.

Syntax: FtpSetVerboseMode (BOOL bVerboseMode, WND hWnd, WMSG wMsg)

Arguments: bVerboseMode TRUE if the application wants to watch incoming messages,
                          FALSE to end a previous FtpSetVerboseMode
            hWnd   the handler of the window to which the message is to be passed
            wMsg   the application-defined message to be passed to the application each time a
                          frame has been received.

Return codes
    FTPERR_OK   Mode has been changed
    FTPERR_NOTINITIALIZED   session has not been initialized by FtpInit

FTPSYST

This command asks to the server the system on which it is running.

The return code is either a FTP4W error code (FTPERR_NOREPLY, FTPERR_SENDREFUSED, ...). or the index into the array of strings passed as an argument.

The argument given is an array of pointers to string. Each string should contain a possible system name. The final pointer must be NULL The function returns the index of the string whose contents matches the answer returned by the server. If no system name has been found, FTPERR_SYSTUNKNOWN is returned.

In the given strings, upper and lower case characters are to be treated identically.

Since the position of the system's name in the host's answer is unknown, it can not be returned in a buffer. If the application wants to have the full host's answer, it must either use the verbose mode (FtpsetVerboseMode) or use the FtpQuote command.

Syntax FtpSyst (LPSTR FAR *szSystStr)

Arguments: szSystStr   An array of strings that contains the system names to be checked.

Return Codes:
    The index of the array of strings

FTPERR_NOTINITIALIZED	Session has not been initialized by FtpInit
FTPERR_SYSTUNKNOWN	The server has returned a string, but its answer does not match with the array of strings given as argument.
FTPERR_NOTCONNECTED	User is not connected to a remote host
FTPERR_SENDREFUSED	FTP4W can not send the data (network is down)
FTPERR_NOREPLY	FTP4W has received no reply. FTP4W does not close the connection socket (use FtpLocalClose).
FTPERR_UNEXPECTEDANSWER	FTP4W has received a reply. But this reply is not a valid FTP answer. FTP4W does not close the connection

Example:

```
static char *szSystem[] = { "Unix", "VMS", "Dos", NULL };

Rc=FtpSyst (szSystem);
printf ("System %s", Rc==FTPERR_SYSTUNKNOWN ? "Unknown": szSystem[Rc]);
```