DRAFT. EXPECT SOME OMISSIONS AND INACCURACIES

NFTP : New File Transfer Protocol Client Version 0.60
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Home page of NFTP. Check it for new versions, updates etc.

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INTRODUCTION

NFTP is a text-mode ftp client for OS/2. Comparing to popular ncftp, it has a number of enhancements:

- remote directory view is fully scrollable with minimum keystrokes required;
- remote directory contents is cached during one session - you'll never have to wait for retrieving the same listing;
- marking files for download/upload: you don't need to type filenames at all;
- remote file viewing is more simple and intelligent;
- you can see client-server negotiation (even complete history during all run);
- NFTP has batch progress indicator (you see how long will take entire operation if more than one

file was selected to transfer);

- file selection is simple and allows to view remote files while marking others to transfer;
- one can skip files during transfer while continuing to download/upload the rest;
- sorting remote directories by name, size, date/time.

The biggest advantages over majority of PM ftp clients (like FTP-PM, sftp etc.) are the ability to 'reget' (continue transfer after interruption), speed of simple and effective text-mode interface, small memory requirements.

In my opinion, LW-FTP while being very elegant is useless due to big overhead of Workplace Shell object creation/deletion (I haven't found it usable on my 486DX4/100, 32MB system with Matrox Millennium).

The drawback, however, is that NFTP isn't free as ncftp although registration fee is only US$ 20 -- and you'll get support by e-mail at this price!

INSTALLATION

1. Requirements are
   - OS/2 2.x or later;
   - TCP/IP stack: IBM TCP/IP 2.0 for OS/2, OS/2 Warp Connect, OS/2 Warp Internet Access Kit;
   - HPFS formatted drive to be able to download files which are not 8.3-compliant.
   - In addition, you also have to install emx runtime package. If you don't have it installed, file "emx.dll" is supplied with this version of NFTP. Copy it into any directory listed in your LIBPATH. The latest version of emx runtime support package can be found at the following ftp servers:
     ftp.uni-stuttgart.de:/pub/systems/os2/emx-0.9b/emxrt.zip
     ftp.sai.msu.su:/pub/os2/programming/emx-0.9b/emxrt.zip
     Instructions on installing it can be found in emxrt.zip archive.
2. Installation.

   Unpack archive nftp*.zip into some directory and run `install.cmd`. After answering some question necessary files will be copied to the directory you specified and your WPS desktop will hold two new objects -- "NFTP" (executable) and "NFTP Manual". You probably already done that because you're reading that "NFTP Manual"!

   If you want to install NFTP by hand (without `install.cmd`), copy all files into the directory of your choice (eg, "d:\apps\tcpip\nftp"), load nftp.ini into your favourite ASCII text editor (eg, TEDIT shipped with Warp) and insert your e-mail address (it will be used as a password for anonymous logins) at the appropriate place (line

   ```
   anonymous-password="your-e-mail-address"
   ```

). I also suggest to decide where you will keep your bookmarks and transfer history and set corresponding variables accordingly. If you like to launch programs from desktop, create program object for NFTP. Put supplied nftp.mrk file into the directory which you've chosen in nftp.ini.

`install.cmd` creates Workplace shell object to run NFTP. This feature can be useful even you die-hard command-line user. NFTP can run in a fullscreen session or in a VIO window. Installation script sets it to run in a window, and window will not be closed automatically after exit -- this can help to diagnose problems. Turn it off when everything works as expected.

QUICK START

After installation, run `nftp.exe` (from command line or WPS object). If you're launching NFTP from WPS object created by installation script you will be asked to enter "FTP server to log in"; simply press `ENTER` now. You should see list of bookmarks on the screen. Use cursor keys to select one of them and press `ENTER`. If everything is set up right, you'll see client-server negotiation and then finally list of files and directories on the ftp server you've chosen. Hit `SPACE` to view control connection window (and it is scrollable!), `TAB` to view local files/directories. Return to remote directory view by pressing space/tab another time. Move pointer with cursor keys, press `ENTER` on a directory to enter it. Select files to download with `INSERT` or simply press `F5` to transfer single file. To upload file to server, switch to local files view (with `TAB`), select file(s) and press `SHIFT+F5`. To view local or remote file, move pointer to it and press `F3` (of course, remote file will be downloaded first -- that will probably take some time). Navigating in the viewer is simple and intuitive: scroll file with cursor keys. Press `F10` to log off and exit NFTP.

USAGE: LAUNCHING NFTP

You often already know where the file you need right now is located. Let's suppose, say, you want to retrieve *RFC 959* from

```
src.doc.ic.ac.uk:/pub/rfc/
```

Launch nftp in the following fashion:

```
nftp  src.doc.ic.ac.uk:/pub/rfc
```

or

```
nftp  src.doc.ic.ac.uk/pub/rfc
```

After logging in into src.doc.ic.ac.uk nftp will change directory for you to `/pub/rfc`. You will then locate required file and download it.

The command line format for NFTP is:

```
nftp [hostname[[:[port]]directory]   [userid]
```

"hostname" is the name of ftp server ('src.doc.ic.ac.uk' in the above example), ":" can be omitted, "directory" is remote directory ('`/pub/rfc`' in the above example), "port" is port number (don't use it if you don't know what's it). If you have an account on ftp server (i.e. you're not anonymous user), you can specify your userid in the command line. You will be asked for a password. An important note -- there shouldn't be any spaces between hostname and directory! Another examples are:

```
nftp private.crlf.net:7500/users    (nonstandard port)
nftp ftp/pub                        (domain suffix omitted)
nftp 128.128.128.128:/mydir         (IP number instead of host name)
nftp lnfm1.sai.msu.su/home/asv asv  (login with explicit directory)
```

Specifying directories in a command line is a pretty useful feature: when you've found some reference, paste it directly into the command line (e.g., *File Commander/2 1.4* allows this) and you'll get right into the place without typing anything except 'Ctrl-Ins' and 'Shift-Ins'! Note that it's impossible to specify *filename* on the command line -- use directory name, not file name (i.e. `/pub/rfc` instead of `pub/rfc/rfc959.txt.gz` in the above example).

NFTP will try to use any text mode you have set before starting it. Modes with 80 columns work rather good, but do not expect this from 132-col or other modes.

USAGE: LOGGING IN AND OUT

NFTP has several ways to choose ftp server. First of all, you can specify it on the command line as an argument (see previous chapter, "USAGE: LAUNCHING NFTP"). Second, you can put server's hostname into the bookmark list if you frequent this site. Third, you can open it manually -- press `Ctrl-L` (for anonymous login) or `Ctrl-N` (for named login). *to be continued*

USAGE: NAVIGATING REMOTE SITE AND LOCAL DIRECTORIES

USAGE: TRANSFERRING FILES

KEYBOARD COMMANDS SUMMARY

All interaction with NFTP is keyboard-based; there's no mouse support (and I am not going to implement it -- at least now). This approach is somewhat tough for novice user, but after some learning it gives the best results in terms of usability and interaction speed. Here is the list of keystrokes ("hot keys"); it's divided into several sections each pertaining to specific mode of operation or action classification.

GENERAL KEYBOARD COMMANDS	
Key	**Meaning**
Shift+F1	program information and general keyboard commands
F1	brings context sensitive help
F10	logoff from site and quit NFTP
Ctrl-K	logoff from site
Ctrl-B	open bookmark list and log to site from it
Ctrl-L	login as anonymous into new site
Ctrl-N	login with userid/password into new site
Ctrl-V	display version information
Ctrl-A	toggle state of autocontrol flag
Ctrl-T	toggle ASCII/BINARY mode
Ctrl-D	redraw screen (do not re-read remote dir)
Alt-N	send NO OPERATION command (verify connection aliveness)
Alt-F	use/inhibit NLST with flags (default is on). Some servers do not like `NLST -lLa`. Try if you see strange messages from server when retrieving directory listing. NOT RECOMMENDED.

Note that these commands are available almost always.
However, in many modes other keystrokes are also in play.

CONTROL CONNECTION WINDOW	
Key	**Meaning**
arrow keys	move viewpoint
Esc	bring you back to the end of history (same as End)
Space	switches to directory view
Alt-Q	send any string to server verbatim (quote)
Alt-C	change to arbitrary directory

FILE LISTING VIEW (REMOTE OR LOCAL)	
Key	**Meaning**
Navigating	
arrow keys	move cursor around
Ctrl-\	change to root directory
Ctrl-PgUp	goto the directory level higher ("cd ..")
Ctrl-PgDn	chdir to directory under cursor
Enter	same as above
Alt-C	change to arbitrary directory

Space	switch to control connection
F2	select drive letter -- *local view only*
Sorting file listing	
Ctrl-F3	sort directory by name, dirs first
Ctrl-F5	sort directory by time, then name, dirs first
Ctrl-F6	sort directory by size, then name, dirs first
Ctrl-F7	remove sorting, return to original state
Ctrl-F8	reverse current sort order
Marking/unmarking	
Ctrl-num+	mark all files in current directory
Ctrl-num-	unmark all files in current directory
Insert	mark/unmark file under cursor. Directory cannot be marked
Transferring files	
F5	download file under cursor or marked files (if any) -- *remote view only*
Shift+F5	upload file under cursor or marked files (if any) -- *local view only*
Viewing files	
F3	view file under cursor, use fast internal viewer
Alt-F3	view file under cursor, use external viewer
Creating/deleting files/directories	
F7	make directory (you have to have permissions on remote)
F8	delete file or directory under cursor
Ctrl-R	re-read directory (refresh file list)
Miscellaneous	
F4	save this place as a bookmark

ENTRY FIELDS	
Key	**Meaning**
Esc/Enter	abandon/confirm
Left, Right, Home, End	move cursor around
Tab, Shift-Tab	move to next/previous field (if any)
Del, Backspace	delete characters

Pressing any keys different from Left, Right, Home, End will clear the initial string.
Password is not displayed (masked by asterisks).

BOOKMARK LIST	
Key	**Meaning**
arrow keys	move cursor
Enter	select bookmark
Esc	abort (leave bookmark list)
Del	delete bookmark
Insert	create new bookmark

BUILT-IN FILE VIEWER	
Key	**Meaning**
arrow keys	scroll (note that you can scroll horizontally also)
Ctrl-Left/Right	scroll by 10 symbols horizontally
Esc	exit viewer

KNOWN BUGS AND LIMITATIONS

1. Only UNIX ftp servers and ftp servers with UNIX-like output are supported. E.g., Penguin FTPD is supported while Neologic Netsuite ftpd isn't. Other unsupported ftp servers include Windows NT ftpd, VMS servers, IBM TCP/IP for OS/2 ftpd. Most ftp servers in the world use wu-ftpd as their server software, so you shouldn't experience this trouble too often. Support for other servers will be added later.
2. When running with 'debug=1', your password will be recorded in debug tracefile -- beware!
3. When running with 'debug=1', run nftp off HPFS partition - debug file has long filename with two dots.
4. Performance with 10 Mb/sec Ethernet local transfers isn't spectacular. The programs wasn't tuned for this. I usually get about 250 Kb/sec on files large enough (say, 1-2 megs).
5. Error handling is still pretty primitive

TROUBLESHOOTING

Q: nftp says "emx not found".

A: You don't have emx runtime package installed. Read INSTALLATION section again.

Q: nftp crashes, saying "core dumped".

A: If you can repeat situation, please send me details of your setup (nftp.ini, nftp.mrk, keystrokes which caused fault).

LICENSING INFORMATION

NFTP comes without any warranty, express or implied.

REGISTRATION

Registration fee will be US$ 20. For people living in Former Soviet countries registration will cost only one postcard. For this price you'll get free updates (i.e. all future versions of NFTP) and support from author by e-mail. If you think that price is too high for this small utility, simply don't use NFTP.

Nothing else here at the moment. The program isn't complete, so there's nothing yet to pay for. Version 0.60 is free but time-limited (it will work until July 1, 1996).

CONTACTING THE AUTHOR

You can reach me at asv@sai.msu.su.

Where to find new versions:

1. anonymous ftp: ftp.sai.msu.su:/pub/os2/internet/ftp/
2. WWW: http://crydee.sai.msu.su/nftp
3. ftp-os2.cdrom.com, hobbes.nmsu.edu, ftp.leo.org

Note that first site is managed by myself so it always contains the latest version while Hobbes and cdrom archives often become outdated.

Sorry for my English. I will gladly accept any corrections to this short manual.

Sergey Ayukov (asv@sai.msu.su)

Version history

Version 0.1 (preview)
: First usable version. Used FTPAPI calls. Very slow; control connection messages cannot be seen. Wasn't exposed to public, although available.

Version 0.2 (preview)
: Got rid of FTPAPI. Full-scale socket programming of ftp control connection and data transfers. Introduced bookmarks.

Version 0.3 (preview)
: Never showed to public. The last version compiled with IBM CSet++. See 0.4.

Version 0.4 (preview)
: Nearly the same as 0.3, but compiled with emx 0.9a + gcc 2.6.3. A handful of new features:
  - logging in and out without restarting entire program;
  - passworded entries in bookmark file;

  - quick directory change: if you know where to go, you won’t need to traverse all intermediate dirs;
  - various bug fixes.

Version 0.5 (preview; close the beta stage)

Bugfixes plus

  - ability to work in any 80xXX mode (25 <= XX)
  - online context sensitive help (press F1, Shift+F1)
  - code reorganization
  - some errors are handled (mostly login errors)
  - directory sorting by name, size, date/time
  - create directory on the remote, remove file(s) on the remote
  - preserving date/time of files downloaded
  - fast built-in file viewer
  - ability to invoke any ftp server command
  - better socket selecting scheme

Will not work after 31 Dec 1995

Version 0.51 (preview; close the beta stage)

I am sorry for releasing 0.5 so full of bugs... There was a lot of...

  - fixed couple of awful bugs (memory corruption) resulting in core dumps etc;
  - got rid of malloc (goodbye, flat memory space! welcome, 32-bit segments and memory protection!)
  - you can set nonstandard port in nftp.ini

Version 0.52

Same as 0.51 but without 31 Dec limitation. Only to be distributed by SAMS Publishing.

Version 0.53

Nearly the same as 0.52 but limited to 30 March 1996.

Version 0.60

I am a bit short on time; 0.53 expires today, so some new features weren’t tested much. Bugfixes and small improvements plus:

  - reget (restarting transfers)
  - uploading
  - IP numbers can be used instead of host names
  - "Q" and "S" work! you can skip files during transfer or stop download/upload
  - more intelligent networking (fixes some problems with dynamic IP)
  - changing local directory, viewing list of local files etc.
  - ability to specify arbitrary port (not in bookmarks though)
  - new bookmarks can be created with Insert key
  - installation program
  - documentation

Planned for next version:

- remappable keys
- more error recovery
- more multithreading (view file while downloading etc)
- improved installation/setup routines
- bookmarks in the form of standard URLs

- something else I haven’t realized yet

Anyone needs PM version?

Last updated: 2:54pm on 3/31/96
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