

FAME-FTPd

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Chapter 1

FAME-FTPd

1.1 FAME-FTPd - English documentation

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iS pROUD tO pRESENT in 2004:
FTP-Server for FAME Systems V2.x
written & (c) by Sascha 'SieGeL' Pfalz of (tRSi-iNNOVATIOnS)

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FAME is © 1993-2001 by David 'Strider/tRSi' Wettig
MUI is © 1993-99 by Stefan Stuntz
Document last updated: 24-Apr-2004
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1.2 FAME-FTPd - Introduction or why I wrote this tool.

INTRODUCTION

FAME-FTPd is a very small FTP server written for FAME BBS Systems. It is not a FTP server in the traditional way: There is no access to the file-system, there is no separate user database etc. The whole server system is fully integrated in FAME and therefore won't work without a running FAME system.

FAME-FTPd uses FAME V2.x features like shared structures, Semaphores etc. This allows a very efficient usage of your resources, as the FTP server interacts with FAME via shared memory structures and so there is no double allocations of FAME data structures. This, however, requires also that FAME is RUNNING if you want to use FTP. Without a started FAME System you won't be able to use the FTP service.

If you wonder why I choose to write the server as inetd() driven application instead of stand-alone server...well ever tried to write multi-threaded programs on AmigaOS? It's a pain, you have to manage the whole thread control yourself, which is really too much work these days. Maybe AmigaOS 4.x has a working fork() implementation which allows to write a stand-alone server, but for now this works via inetd and reduces the complexity to a minimum as also can seen in the codesize of the server.

As I have no plans to develop anymore on Classic Amiga Systems I've decided to release the c-sources together with this server, so if anyone is interested one can continue writing on this tool.

See ya all on AmigaOS 4.0 PPC powered!

1.3 FAME-FTPd - Requirements to use FAME-FTPd

REQUIREMENTS

- AmigaOS V3.x required (Usage of Memory pools to avoid fragmentation)
 - FAME V2.x is required, earlier versions WON'T WORK!
 - MUI 3.x required for Configuration Tool
 - A TCP/IP stack up and running. I've developed and tested the server with MiamiDX V1.0, but as I only use bsdsocket.library functions it should work with all other Amiga TCP/IP stacks, too.
 - 68040 or better CPU required! Uploading is a cpu-consuming task, older CPU's simply have not enough power for highspeed FTP !:
-

1.4 FAME-FTPd - Key Features of FAME-FTPd

FEATURES

Key features are of course the minimal resource usage and ease of use.

Here are some of the key features listed:

- AmigaOS 3.x only as memory pools are used. Currently requires about ~10kb memory per instance plus the size of the server (22kb)
- Full native AmigaOS code, no ANSI code or other emulation layers used.
- MUI driven configuration program
- Easy installation/usage, just follow the installation chapter and your FTP Server should be running in a couple of minutes!
- Virtual Filesystem, no user has access to your Harddisks, everything is done in memory to maximize security
- Fully RFC 959 compliant, parts of RFC 2389 (FEAT) are also implemented
- Passive Mode support with enhanced features (external IP address, configurable port ranges)
- Supplied FIM Door which allows to monitor the server from FAME
- FAME user access is fully supported, no special settings required

Features that won't go into the server:

- SSL support

Reason: The current classic Amigas are really too slow to allow SSL encryption.

Maybe on the NG Amigas equipped with PPC cpu's this would be an option, but on 68k no way!

1.5 FAME-FTPd: Compatibility with other clients

COMPATIBILITY

a) Clients

The server was tested against many different FTP client applications, all working fine no matter what platform I used. I'm using the following clients for general function tests:

AmigaOS:

MiamiFTP -> Works fine.

AmFTP -> Works fine except local usage. Anyway you should no longer use this client, it is really not RFC aware...

mFTP -> Works fine.

DOPus 5.x FTP -> Works fine.

Windows XP:

DOS ftp -> Works fine.

Total Commander -> Works fine.

FlashFXP -> Works fine.

Opera 7.11 -> works fine.

Linux x86/PPC:

ftp command -> Works fine.

ncftp -> Works fine.

Midnight Commander -> Works fine.

Konqueror -> Works fine.

gFTP -> Works fine but seems to forgot to close his control connections after an upload.

pftp -> Works fine.

If you have tested with a client not listed here please let me know so I can update this list.

b) Commands

The following FTP commands are implemented:

USER PASS TYPE LIST CWD QUIT

RETR STOR PORT NLST PWD XPWD

MODE PASV SYST NOOP XCWD CDUP

SIZE STRU ABOR FEAT CLNT HELP

STAT

You may issue a HELP command when connected to see that list and you can also get basic help for all commands with HELP <command>.

1.6 FAME-FTPd: How to install the Server to your System

INSTALLATION

Copy the executable FAME-FTPd to FAME:Modules/. You may also choose a different location, but as all FAME support tools are placed here

I would recommend to put the FTP Server also in this location.

Copy the supplied FTPDoor.FIM to FAME:Doors or any other place you want.

Copy the MUI executable FAME-FTPdCFG to a directory of your choice, FAME:Modules would be a nice place, too.

Copy the Documentation you are currently reading to FAME:Documentation if you want to have online help available inside the Config Tool.

Now open your inetd configuration of your TCP/IP stack and enter the following line to activate the server:

Service: ftp

Socket: stream

Protocol: tcp

Wait: nowait

User: root

Server: FAME:Modules/FAME-FTPd

Name: FAME-FTPd

Arguments:

No arguments are required. If you have installed the executable in a different location you have to specify of course the correct path as Server: config option.

If you want to use the FTP server on a different port than the standard port 21, edit or add your port in your services entry and give it a useful name (i.e. FAMEFTPd), then enter this service name instead of 'ftp' in your inetd db.

Next start the FAME SystemEditor and create a new Door Command (BBSCMD) called FTPWHO. Please note that this command must be exactly named FTPWHO, else the door won't work, as it determines the running mode from the door calling name.

Finally you should start first the Configuration tool and configure the server before trying to use it.

Now see chapter **CONFIGURATION** for all configurable options in FAME-FTPd.

1.7 FAME-FTPd: How to configure the Server to your needs

CONFIGURATION

FAME-FTPd can be configured only via the supplied MUI tool. The following options can be set within the configuration tool:

Page PATHES:

Login ASCII - Enter here the full path to a textfile which should be displayed before the user enters his logindata. Useful to display a short BBS ascii or some other informations. Leave blank if you won't want such a file to be displayed.

Upload Description File - Enter here the full path to a small textfile which explains how to upload with FAME-FTPd.

I highly recommend the usage of this option to avoid useless transfers. The file you are giving here will be shown in every conference

the user has access to.

Leaving this field blank results in actually NO file in your conferences.

Temporary Upload Path - Enter here a path where pending uploads should be placed. A good choice is RAM: (which is also the default) to avoid disc fragmentation. But remember that you require enough free space to hold all temporary uploads, so if you expect many simultaneous uploads I would suggest to use a disbased temporary path instead!

Use passive IP from File - If you are inside an IP-Nat'ed network and your Amiga is not connected directly to the internet but connected to an IP-Nat router/firewall passive connections from outside won't work as the Server will return it's LAN address instead of the correct IP address used on your router. To support passive anyway you have to create a textfile containing either the hostname (bla.dyndns.org) or your real IP address to use and enter here the full filename to this file (i.e. ENV:ip).

Logfile - Here you can specify a complete filename where the Server should write the logging file. If you leave this setting empty the server defaults to the path RAM:ftpd_debug.log for writing the log.

Page OPTIONS:

Use Debug-Window - As FAME-FTPd is currently under development it may be useful to see all logged actions immediatly on screen. To support this activate this option, as soon as someone connects to your server a console window opens and you will see all actions performed on your server. Actually the contents are a exact mirror of the debug log file. If you disable this setting the server only loggs important actions, not the whole communication between server and client.

Resolve Hostnames - If you wish to have stored hostnames instead of IP addresses activate this option. Please note however that it may take some time until the ip address is resolved, if this is a problem for you just disable this feature.

Max. Filename Length - Here you can adjust how many characters are allowed at maximum for uploaded files. Ranges from 12-107 characters, but be warned that there are some doors out there which completely get mad when you use filenames above 28 characters! Defaults to 12 chars.

Filecopy Buffer Size - Specifies how many bytes should be used to move uploaded files. Ranges from 256kb - 1024kb with 512kb being the default value.

Timeout in Minutes - Specifies how long the server should wait for idle connections before dropping the connection. Ranges from 1-15 minutes with 10 minutes being the default.

Passive Port range - Here you can specify which ports should be used when a passive command is received. Normally the TCP stack itself chooses a port number which is then used inside the reply. However if your Amiga is behind a firewall you can run into trouble if the Amiga chooses a port number your firewall denies. To avoid troubles in these scenarios the server can use a specific port range for passive responses. You can enter here the start- and endvalue for the range of ports to be used, but to avoid major trouble with no free ports the config tool allows only to save the prefs when your given range is greater than 500, else an error is displayed and saving is aborted.

If this all does not make any sense to you (maybe you are not behind NAT/Firewall/whatever) you can simply let both numbers be defined as 0 (default) and the TCP stack will handle port allocation itself.

Max Users - Here you can enter a maximum count of simultaneous online users. If set to 0 no check is performed, the server allows every connection.

If set to > 0 the server checks if this number of connections is exceeded, if this is the case all new logins are rejected with an appropriate message.

Page TASK-MONITOR:

Here you can see all currently active connections on your server.

This is an exact representation of the FAME-door command 'FTPWHO' but allows you to control the connections without being logged into FAME.

Use R-Amiga U to update the display.

1.8 FAME-FTPd: How it works

How the FTP Server works

When an user logs into the FTP Server, FAME-FTPd tries to get the user data from FAME. If this fails, login will be denied. This means for you as sysop that you have to enter ALL users first in your BBS before they can actually use the FTP service!

FAME-FTPd respects of course all user-security settings like Disabled, New user or upload denied etc. So all you have to do is to make sure that your BBS access rights are correctly defined, FAME-FTPd takes advantage of these settings and use them just like FAME does.

After logging in the user will get a list of all conferences he has access to. This list is also called the "Root directory". In reality the user only sees a memory dump of your conference list. As long as the user has not joined any conference (by CWD'ing to the according directory) neither Uploading nor Downloading is allowed.

After joining a conference the user will see the special HowToUpload.txt file if you have that configured. This file should be used to give new users a small help how to use the FAME FTPd Server.

If the user has already uploaded some files they will be displayed, too. But please remember that a) the files you are viewing are "virtual" and b) the server is session-based, meaning that you will see only files uploaded in your current session. If you are logged in more than once via FTP, other sessions from you won't know anything from your current session.

When you upload files, the following rules apply:

- Aborting the Filetransfer results in removal of the temporary file
- Resuming cannot work because of virtual filesystem, so you have to upload the whole file again (sorry)
- After uploading the file will be moved to the conference LostCarrier directory. It still shows up in the directory view, but it is no longer accessible by you (Rename / Delete)!
- The FTP Server accounts your credits and you can finish then your upload(s) by logging into FAME and enter the filedescriptions of all files prompted to you by FAME.

All actions an user performs inside the FTP Server will be tracked by an external statistics file which can be read and displayed by the FIM Door in FTPWHO mode or by using the MUI Config tool (page Task Monitor).

1.9 Things that have not been implemented yet

TO-DO LIST

The following things are currently not implemented:

- Online users cannot use the FTPd Server while still logged into FAME.

This is mainly because of a major bug in FAME V2.x config system.

Normally the config system should handle online users transparently for any FAME app, so that you can change things and the online user will be changed immediatly, too.

However this does not work, so if you are currently logged into FAME and try to connect to FTPd the FTP Server won't let you connect until you first logout from FAME. Maybe I can change this behaviour in future versions by updating online user.data via the FAME Semaphore, if this is supported. Until this has been fixed connecting to FAME AND the FTPd server at once is forbidden.

- Downloading of FAME files via FTP is not supported.

Currently I have no idea how to make the Filelists available to the FTPd.

Maybe this can be handled by the additional FAME door, but this requires extensively testing before I can implemented this (key problem is the calculation of Bytes for users, so that they cannot download more files than their current ratio allows).

- WeekTop is not updated for files uploaded via FTPd.

Another FAME bug hits me when I implemented the uploading. All uploaded files will be put as "LostCarrier" Files to FAME, so that you only have to enter the filedescriptions and the files will be posted afterwards.

However FAME seems to forget to execute the ULSTAT syscmd's for all uploaded files.

When uploading these files as PartUploads FAME prompts you for every file to resume (!!) the upload, which is really not the way you want to use FAME...but for these files the ULSTATs commands are executed.

My planned workaround is to put a special file somewhere used as indicator for the FAME door to execute the ULSTAT command with the correct args so that FTP uploads will be counted correctly.

- Binary uploads in ASCII mode result in FTPd does not function any more.

If you upload a binary file in ASCII mode the FTPd gets somehow confused and you have to relogin. I have to check out why this happens, for now please make sure that you use the BINARY mode when transferring BINARY data :)

1.10 The well-known Greetings :)

GREETINGS

First of all I have to thank Joran Jessurun <nl0jor@nl0jor.nl.cbpr.org> for his JorNFTPd which inspires me to write my own Server. Parts of JorNFTPd have been taken and modified, so: **BIG THANK YOU FOR YOUR WORK !**

Next is Andreas 'Bysis' Lorenz for his help finding the TCP/IP problems in the early development phase of FAME-FTPd.

Regards must also go to my Beta-Testers:

aRGON/tRSi, dIGIMAn/tRSi, eXON, Elvin

Of course a big greeting goes to the whole TRSI crew, which is by far the best group on this planet.

1.11 About the MUI-System

This application uses

MUI - MagicUserInterface

(c) Copyright 1993-98 by Stefan Stuntz

MUI is a system to generate and maintain graphical user interfaces. With the aid of a preferences program, the user of an application has the ability to customize the outfit according to his personal taste.

MUI is distributed as shareware. To obtain a complete package containing lots of examples and more information about registration please look for a file called "muiXXusr.lha" (XX means the latest version number) on your local bulletin boards or on public domain disks.

If you want to register directly, feel free to send

DM 30.- or US\$ 20.-

to

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