Configuring a "Wolfenstein: Enemy Territory" Server for Online Play

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Abstract - **This technical report describes how to configure a "Wolfenstein: Enemy Territory" server so that people will want to play on it online.**

Keywords- Enemy Territory, Configuration, Server

I. INTRODUCTION

We want to analyze traffic generated by an online game of "Wolfenstein: Enemy Territory" (ET). To do so, we need to set up an online ET server. Obviously, interest from the gaming public is also required, in order to generate traffic. This technical report covers the process of configuring the server in such a way that gamers will play on the online server.

Server configuration is always a hotly debated topic. Although we are new to ET, and the configuration of ET servers, we found, through communicating with other ET players and reading various server related web pages, that the settings described in this technical report are commonly used among the ET gaming community. Also, many of the most popular online servers were configured similarly.

II. CONFIGURATION

A. Installation

Enemy Territory has the capability to be installed on various platforms. In our case, we will perform installation on FreeBSD 4.10-Release, prompting us to download the ET Linux installation files [1]. This includes the game installation file and its point release (update or patch). Refer to Appendix B if problems arise during installation.

B. Game type

The most popular and arguably the most enjoyable game type within ET is the campaign game type. There are six maps that come with ET, and two campaigns that each have three maps in them. However the most popular campaign is one that includes all 6 standard maps. Unfortunately, the game does not come with this option, it must be installed separately, The modification that allows such functionality is called "ETPro" [2], so installing this is the first step. The six map campaign package file, "et6mapcycle.pk3" [3], is also necessary.

C. server.cfg

There is a default configuration file called "server.cfg", located in the <install path>/enemy-territory/etmain directory. This file should be modified before you start your server, as this is where most of the settings are located.

Configuration files use the symbol "//" to denote comments for the designated line. These lines are overlooked by the program; they are just there to be read by humans. Settings of note include:

```
set sv_privateclients
```

This parameter should be set to "0". If it is less than 0, the browsers on some servers will give the impression that there is a password on the server.

```
set rconpassword ""
```

Insert the password you wish to use for the remote console access in the inverted commas.

```
set sv_hostname ""
```

This parameter should be set to something relevant, so that people can identify the server on the internet. Our server hostname was set to:

```
set sv_hostname "CAIA ETPro 6 Map
Campaign"
```

The lines that follow this above setting contain MOTD's (messages of the day), which may include miscellaneous text, such as CAIA's website for example.

```
set g_heavyweaponrestriction
```

This parameter should be set to about 20 - 30. If there is no restriction, there may be a lot of "spamming", making the game unenjoyable.

Under the "MAP ROTATION" section, the line with "objectivecycle" should be commented out, and the line containing "campaigncycle" should be uncommented. This will call the enemy-territory/etmain/campaigncycle.cfg file, which means that the server will run the campaign game type.

Other game type options are also available, such as "Last Man Standing", "Stopwatch" and "Objective" modes. The primary aim of "Objective" mode is to complete various objectives in a given time limit. Campaign mode is similar, while competing in a series of maps. Any experience points gained will be carried over into the next map until the campaign is over. This differs from objective mode, where experience points are reset after every map. When a campaign is over, the

teams are shuffled, all experience points are reset, and a new campaign begins. "Last Man Standing" is another popular choice, which is a form of team death match, where players must eliminate the opposing team. More information on game types can be obtained from the ET manual [5].

In order to change game modes, the respective configuration file must be executed. For example, if you wanted the server to run "Last Man Standing", you would comment out the campaigncycle.cfg line, and execute the lmscycle.cfg instead.

D. campaigncycle.cfg

To set the server to use the six map campaign script, and hence run the six map campaign, enemy-territory/etmain/campaigncycle.cfg must also be modified.

In the first two lines, the words "northafrica" and "centraleurope" should both be replaced with "complete". This will make the server run the "complete" campaign, which includes the six most popular maps in a single campaign. Additionally, the initial map must be set to "battery", not "oasis" or any other map, as "battery" is the first map of the "complete" campaign. For example, an extract of the respective line reads:

```
set d_initial "set g_gametype 4 ;
map battery ; ...
```

E. etded

The file called "etded", found in the base directory, (default name is enemy-territory), is the executable file that starts the ET server. When running this program, execution must be coupled with certain parameters. The following is an example of the usage of a etded command:

```
etded +set dedicated 2 +set fs_game
etpro +set sv_punkbuster 1 +set
net_port 27960 +exec server.cfg +set
fs_homepath 27960
```

A dedicated mode of 2 will mean that your server will be advertised to the master server. As a result, those browsing for online games from their client will be able to see your server in the list. This can also be set to 1 (LAN) or 0 (listener server). The "+set fs_game" parameter will enable the server to run the modification of the users specification. We are running the ETPro modification discussed earlier.

The Punkbuster parameter will set the server to use Punkbuster. Punkbuster is provided as an option within ET that, when switched on, can identify and kick cheaters off game servers. For this reason, it is very popular amongst the ET community, as it minimises the number of cheaters, and provides for a much more enjoyable gaming experience. If you wish to run an online ET server, it is recommended to have Punkbuster enabled.

The netport parameter will set the port that your server will run on. The default port is 27960. If you want to run multiple servers from the same IP address, you will need to make sure that each server is running off different ports. "+exec server.cfg" will make the server use the enemy-territory/etmain/server.cfg configuration file, previously discussed.

"+set fs_homepath 27960" sets the home path to 27960. If you are running multiple servers from the same installation of ET, different home paths are required for each server. We found it convenient to set the different home paths to the port numbers of their respective servers. The home path is where server log files are saved. The running mod (in our case ETPro) as well as Punkbuster, will create its own folder within the home path, saving its log files there. By default, the log files are saved in the <install path>/.etwolf hidden directory. If the above fs_homepath is set, this will change to <install path>/enemy-territory/27960.

In order to stop the server remotely, you will need to issue a simple "quit" command to the server. This is possible by using Remote Console (rcon). Rcon enables the client to control the game server through a console interface. The console window inside the ET game client can be accessed by hitting the tilde key(~). Other ways to access the server using rcon would be to use a program such as Gamespy for Windows, or xqf for *nix. There are also various rcon client programs that can be used from the *nix command line command line, such as KKrcon[4]. These can be downloaded from the internet.

III. CONCLUSION

Using these settings should ensure that you have a server that players will want to play on.

APPENDIX

A. The etctl script

A program called "etctl" is used to run the ET server at CAIA. This is an alternative to running etded. Etctl is a script co-written by CAIA staff Grenville Armitage and Sebastian Zander. With this program you can start, stop, and restart the server using different parameters. The primary reason for this script is to simplify the restarting of the server, and to rotate log files each time of execution. To start a server using etctl, type:

```
etctl start -c <config file>
-o <offset> -p <server params> -d
```

The config file parameter should not include the ".cfg" extension, as the script inserts this.

The default port that ET runs on is 27960. If you want to run the server on, say, port 27961, use the offset parameter to reflect this modification. For example, include the following in the command line: "-o 1". Server parameters may follow the -p switch. For example, it is a good idea to run Punkbuster, so you would type '-p "+set sv_punkbuster 1". The -d switch

enables verbose debugging output to the screen, which assists comprehension of what the etctl script is doing.

To stop a server, all that is required is the offset parameter, to distinguish which port you would like to stop the server on, for example:

```
etctl stop -o 1
```

For a server on 27960, the offset parameter may be disregarded. Restarting the server is similar, with the "restart" command replacing the "stop" command.

An important file etctl creates and uses is "automated-begin-flags". This file stores the settings of servers currently running. For example, the file stores the dns name of the server, the port the server is running on, the configuration file used as the input for the etctl script, the remote console password for the server, and the actual configuration file that the server is using. An extract of a line in the file is as follows:

```
gs.caia.swin.edu.au 27961 server
password gja_260704_1818_366_27961.cfg
```

This file is used so that etctl can keep track of the servers that are running. Etctl uses this file when it restarts a server, taking the information from the file and putting it into the configuration file that it builds.

B. Running Enemy Territory under FreeBSD 4.10-RELEASE

The Linux version of Enemy Territory and its patch were installed on a 1.6GHz P4 Compaq Evo machine. Upon installation of these files, in our case, it was necessary to append an additional parameter. The "target" parameter was used to extract the files into a specified directory. This was necessary as the installation attempts to extract itself into the /tmp directory, which has insufficient capacity to accommodate the extracted files. The following is the syntax used to install the ET game file, which extracts into the current directory relative to where the command is issued:

```
./et-linux-2.56-2.x6.run --target .
```

Following the installation of the both the game and patch, ETPro should be installed. The ETPro file is usually downloaded as a zip file. This should be extracted to the base "enemy-territory" directory using the "unzip" command. This is important as programs look for ETPro files in this specific directory. If ETPro is extracted elsewhere, Sys_LoadDll errors may be generated. After the installation of ETPro, the downloaded 6 map campaign file (et6mapcycle.pk3) was added to the <install path>/enemy-territory/etmain directory.

The Enemy Territory install files seen in the preceding process can be used to run both client and/or server. ET requires no separate server installation file. You can run the ET client if you wish to test the functionality of the server. The file to get the client up and running is <install path>/enemy-territory/et. However, it may be necessary prior to testing, to install the FreeBSD driver for the nVidia graphics card (if applicable). A Sys_Error stating the failed loading of OpenGL subsystem may result if improperly neglected. The majority of this installation procedure can be extracted from CAIA Technical Report 030722A [6].

REFERENCES

[1] Enemy Territory installation files for Linux, http://www.planetwolfenstein.com/files/files.shtml (viewed July 2004)

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[3] et6mapcycle.pk3 - 6 map campaign file, http://games.bigpond.com/pc/game/et/files.php (viewed July 2004)

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[5] Enemy Territory online manual, http://ftp.freenet.de/pub/4players/hosted/et/manual/Manual/Default.htm (viewed July 2004)

[6] G. Armitage, "Playing Quake 3 under FreeBSD 4.8 with an nVidia Graphics Card", July 2003, http://caia.swin.edu.au/reports/030722A/