Subject: Stop blaming the host for lag :)
Posted by Crimson on Tue, 10 Feb 2004 21:36:53 GMT
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There are four factors of lag. If you don't know this already (most do know), press F8 or ~ and type "fps" and press enter. Your FPS, SFPS, KBPS, and PING will appear on the screen.

FPS: A product of your own system. A combination of processor, RAM, and Video card. When there are more players in the game, there are more people to keep track of and even if your modem is downloading enough information, your computer still has to process it, store it in RAM, and your video card has to draw the screen.

Most players will find 20FPS or higher playable for Renegade. If you have an nVidia card, you'll want to download nvRefresh Tool at http://www.nvrt.org/ to increase your refresh rate in-game to 85 which will also move your FPS's maximum to 85.

SFPS: This is strictly a product of the server. The Renegade FDS has a maximum FPS of 60 though you will sometimes see 61 and 62. When there are a lot of players and vehicles, this number can drop, depending on the power of the system running the game. If it's a dedicated server (like fastc0nn and n00bsvrs) the RAM and CPU are the only factors. The FDS generates text only so the video card isn't a factor.

KBPS: This is a huge indicator of lag. This can be caused by the server OR the player. It's an indicator of how much information you are receiving from the server. If you don't receive enough updates from the server, you and other players will lag. You will "ice-skate" and players will run into walls, then warp back into their right location.

 Causes of KBPS lag:
  - The server isn't configured to send enough bandwidth out - Edit server.ini to either auto-detect or a fixed amount high enough. My 24 player server uses about 2300 kbps on average.
  - The server can't send enough data. Example, my cable modem at home is only allowed to send out 256 kbps. If I try to host 24 players at home, I won't be able to send out the 2300 that you need and you will warp.
  - WOL sucks and your bandwidth capability was auto-detected too low. Solutions: On the screen where it says "Quick Match" / "Advanced Game Listings", "Chat", move your mouse to the left and pick "My Information". Set your connection to something matching what you have instead of auto-detect. Usually this will stop any problems you have and your KBPS will be sufficient.
  --- Or, you can manually set your bandwidth budget in-game. Press F8 or ~ and type "sbbo <number>" where <number> is your bandwidth download capability. To find your best number, do this:
  * Go to http://www.dslreports.com/stest
  * Choose a location and follow the instructions to test your line speed.
  * Your results will read something like this (yours will probably be a lot less because I'm at work when I ran this):
  Your download speed : 5610362 bps, or 5610 kbps.
  A 684.8 KB/sec transfer rate.
  * The "bps" number is theoretically your maximum download rate. Remove the last digit and round it to a nice even number (I would use 550000 on my results). This is your optimum

bandwidth setting. Press F8 or ~, type "sbbo 550000" and press Enter. If your KBPS was too low before, you might see the KBPS increase each second up to the amount the server can send you.
  --- Just like a server, if you have a limit on your kbps (like 56k modem), you won't be able to pull down the necessary bandwidth for a lag-free game.

Now that you know this, you can now understand why 56k people don't lag a server. When you connect to the server, you tell it "hey, I can handle 150000 kbps so lay it on me" and the server says "ok dude". It puts together 150000 kb per second and sends it to you. The 56k guy comes on and he says "Go easy on me I can only get 54000 kbps" and the server says "ok dude". So the server puts together 54000 kb per second and sends it to him. The server doesn't have to wait for the 56k guy's updates before you are sent yours. He might warp on your screen as his updates come in late, but he won't make everyone lag, and he won't make you lag. You and the server deal with your lag independently of the other players.

PING: Ping is a pretty easy factor. Rarely is ping lag caused by you OR the server. It's usually some router between you and the server that's busy. Most players won't notice ping lag until it's about 350+. High ping is sometimes caused when your little brother is leeching on Kazaa and taking all your bandwidth, and could be caused by the server being too busy to respond to pings (which usually means the SFPS is extremely low as well). Determining the cause of ping lag is beyond the scope of this post, and usually there's nothing you can do except find another server to play on.

I hope this helps you understand lag and stop blaming it on the host when it's not warranted.