# My Server Is "Lagging" - Why This Term Doesn't Help Us

Take a moment to think about this term. Stating "My server is lagging" or "laggy" doesn't help anybody trying to help you. Use better language than "lag" as that makes you come across as a 10 year old server owner asking how much dedicated RAM is needed for their Minecraft server. Jokes aside, there's two different types of **lag.**

> You will be ignored if this document has been read through properly and you keep repeating "lag" or "laggy". This doesn't help anyone and you will not receive support until you do your own recon, meaning investigation, first.

**High Ping Lag**

High ping is caused by the poor connection of the player to the server or by the server being in a location not suitable for the current player base. Changing location such as moving from the EU parts of the world to the US like Canada and New York will drastically improve "ping" connections.

The reason this is called **lag** is due to the players "suttering" around meaning that they are randomly jumping around in place like a teleport on your screen or getting "slingshotted"/"lagged back"/"pulled back" to their original location if their ping is over 300+.

Remember that if you are using a service like TCPShield, NeoProtect, Papyrus or other such DDoS provider, they use anycasting to optimise the route the player uses to connect to your server and not jumping around 10+ countries and providers to get to you, as shown by doing a MTR.

This issue can be looked into by us and supported as migrating to a new system can be done relatively quickly and only minimal downtime is needed realistically. This is obviously dependent on your size of your servers and network operations.

> Do not mistake this type of lag for being in game lag as we've seen this many times by upgrading to a different host or location does **nothing** to aid your lag issues. Keep reading to find out more about in game lag and actually finding a solution as to whether it is player "connection" or server "performance".

## In Game Lag

In game lag is caused by many different aspects and features of your server such as many worlds, plugins, players or features thrashing the server performance and "tanking" the TPS to below 20 TPS. As we are aware, Minecraft uses 20 TPS by default to keep up with server actions and is applicable to all server operations at 20 ticks per second, such as redstone, mob AI movements, block interactions, crate key openings and much more.

To first work out if your server is lagging, download the plugin Essentials or other plugin like Spark and run /tps. This will give you a simplified notice if the server isn't on 20 TPS. You can then run spark profiles and heap dumps to hopefully share with optimisation specialists to locate the cause of the significant lag on your server.

> Do not get either of these confused. Do your own diagnosis and find out if you need to ask yourself "Does my server need optimisation rather than changing host?" or "The location in which my server is in is not optimal for my player base."

Remember, both types of lag can cause the same symptoms and issues for players. Locate which one it is first then ask for assistance with either us for high ping lag or other people for in game lag as we are not your developers of your network, we don't know how you put it together and don't want to modify anything to reduce the risk of breaking something. We will not be supporting diagnosing in game lag and we will look in our free time if it is something we are capable of doing.

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