How can I improve speeds for a router-based VPN?

Travis - 2023-03-16 - Speed

About Router Speeds:

Router-based VPN setups are by nature considerably slower than computer-based ones due to the encryption that secure VPN services utilize. Routers typically lack the hardware capability to process the encryption in real time, causing connection lag.

For example, you may be using a router that's considered a reasonably good router by today's standards. However, even with a 700mhz processor, and 256mb of RAM on a Router, (those are specs you might have seen on a high-end Windows 98/ low-end WinXP computer, 10-15 years ago). Would be trying to run modern technology on hardware that can barely support it.

The only reason one should use a router-based VPN setup is:

A: To connect devices that do not support VPN installation (SmartTVs, gaming consoles, Android TV Boxes, etc.)

B: If you wish to connect a large number of devices simultaneously.

(Note: Our application supports an unlimited number of simultaneous connects on a single subscription)

If you are concerned with speed, you should avoid using a router-based VPN setup.

Ways to Help:

That said, there are a few options you can input that may help with speeds somewhat.

OpenVPN Options

First, these should be input into the OpenVPN options field in your device. Depending on your firmware, this will likely be called Custom Configuration, Additional Config, or Custom Options:

`fast-io`

`sndbuf 300000`

`rcvbuf 300000`

Note fast-io improves CPU efficiency by 5-10%, but will only help if you're connecting using UDP.

OpenVPN Buffer values

Next, OpenVPN defaults to a buffer value of 65536 bytes, which was the ultimate result of some cross-platform buffer size issues very early on in the protocol's development. While this was fine in 2004, it is quite low by modern standards, and increasing send/receive buffer values can provide much better speeds. The optimal value depends on the latency to the server you're connecting to — you might try starting out around 300000 and experimenting with higher values from there.

Use an IP instead of a Hostname

Finally, try using an IP instead of a hostname in the Server Address field, to avoid any DNS resolution issues. To obtain an IP address from our servers, please open Command Prompt or a Terminal Window and type:

ping [hostname of the server you want IPs for] *You can find the hostname of a server by looking at the **remote** line in one of our configuration files.

Then press Enter. You should get an IP address for the hostname you put in.

A reboot of the router may be necessary to activate any changes made to your router settings.

If you have any questions or issues please contact our support team here.