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

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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, those are specs you might have seen on a high-end Windows 98/ low-end WinXP computer, 10-15 years ago. It's 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.) or (b) to connect more than five devices simultaneously. If you are concerned with speed, you should avoid using a router-based VPN setup.

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

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] *A list of our servers
```

can be found here: