RuggedVPN Firmware Release 2021121570/2022011150 for Viprinet and Wantastic products; January 2022

With this firmware release the support of our new 5G products is finalized, fixing a couple of bugs in this area.

Another area of focus has been the performance of VPN Hubs, especially in a situation of flapping channels or redundancy Hub takeover. Also we have improved scalability for Virtual VPN Hubs with a high number of CPU cores.

In addition to this, the release once again is bringing minor speed/throughput improvements for all models.

Important pre-installation instructions:

- **Protect the Elderly:** Very old routers (6+ years), especially Multichannel VPN Router 300 units that have been operated at sub-optimal temperature ranges often will have a faulty/very aged flash memory, and sometimes drained batteries or capacitors. Quite often they still work absolutely normally, but as soon as the flash is written, it fails. For those old routers installing this firmware update may cause the flash to finally die, with the router no longer starting.

  Therefore when updating those routers, please take extra care. Make sure you have taken a config backup, and have a replacement device in case something goes wrong.

  Please consider retiring old 300 Routers soon. Our VLM Support system allows your for very cost-efficient upgrades to the current 310 model.

- This firmware release is backward-compatible to old releases, including the ones from back in 2018. This means you can first upgrade the Hub, and then upgrade the Node router at a later point. Please note however that all performance enhancements will only be seen once both sides are updated.

Changes compared to the November 2021 (2021083070/2021101150) Release:

- On VPN Hubs, due to the TLS security exchange, channels connecting cause very high load, which, when lots of channels are connecting at the same time, could have overwhelmed the VPN Hub's CPU.

  There now is a lot of logic to make sure that a huge number of channel connections coming in at the same time don't eat 100% of the CPU, making these connections stall during the TLS handshake, making the web interface unreachable etc. This is done by actively rejecting and delaying incoming channel connections in situations of high load.

  Also, the TLS handshake of the channels no longer is bound to a single CPU core, all CPU cores are now used. Due to this, VPN Hubs are now also scaling much better on Virtual VPN Hubs running with more than 4 assigned cores.

- On 5G modules, the online LED did not work properly. It now does.

- On 5G modules, only the first of the three SIM card holders could be used. Now all three SIM card holders work correctly.

- A code optimization should provide a 5% speed-up in maximum bonding capacity for all devices by lowering the general CPU load a bit.

- The following routers have received a slight boost in maximum bonding throughput: 310, 2620, 2030, 5010. The 310 is now reaching up to 170 Mbit/s of throughput in real-life use cases.