

The need for VPN Registration and IP Whitelisting

The fifth episode for the topic revolved around the discussion on the need and misconceptions around the VPN registration and IP whitelisting made mandatory by the Pakistan Telecommunication Authority (PTA). The session was moderated by **Mujeeb Zahur, MD S&P Global & VC P@SHA** and the panelists included:

- **Taimur Arshad - Director Cyber Security, PTA**
- **Bilal Mahmood - VP, Contour Software**
- **Jamsahid Mustafa - CTO, TRG Pakistan**
- **Shamoon Haider - CTO, Sybrid (Pvt.) Ltd**

The recently announced deadline by PTA for the registration of all Virtual Private Networks (VPNs) in Pakistan sent a wave of alarm throughout the entire IT industry as well the other stakeholders like freelancers and independent workers. While this initiative intends to promote legal ICT services / business in Pakistan and safety of telecom users, it has not been well received by many companies who believe that such a step would compromise the growth of a booming, billion-dollar industry.

A committee consisting of Chairman P@SHA - Shahzad Shahid, Vice Chairman - Mujeeb Zahur, Acting Secretary General - Talha Bin Afzal along with representatives from PSEB met with Director Cyber Security at PTA, Mr. Taimur Arshad a week prior to this panel discussion and communicated the concerns of the industry along with the request for extension of the deadline, which is currently June 30th, 2020. The points raised by the parties have also been included in this summary.

What is the need for VPN Registration and IP Whitelisting?

VPN registration and IP whitelisting are not present-day initiatives and have been worked on for the last ten years. Pakistan has faced the issue of grey traffic for two decades now and the internet has been widely used to generate VoIP traffic without appropriate licensing or authorization from PTA because of its cost effectiveness. Unlike many Middle Eastern countries that have blocked all such traffic, PTA has come up with the solution of IP whitelisting where companies can inform the Authority about the nature of their businesses and get themselves authorized and registered so their voice traffic is not interrupted. PTA's aim here is to facilitate the industry and not cause a setback to the businesses.

Similarly, according to the Telecommunications Act of 1996, traffic is not allowed to be encrypted unless in a situation where the business/ organization is authorized to do so. Here too, the businesses are encouraged by PTA to share their valid reasons for using VPN and on the basis of that, receive licenses so their VPNs do not get blocked. Processes for both IP whitelisting and VPN registration are simple and have been shared [here](#).

Suggestions made by the Panelists

- **Deferral of the VPN registration & IP whitelisting**

In times of the COVID-19 pandemic where the businesses are already facing losses and instability, it is best to defer or extend the deadline for the IP & VPN registration until the situation is stabilized. SMEs and startups, along with large businesses, are going to be heavily affected by the implementation and may not be able to handle the complexities right away. As a response to this, the Director of Cyber Security at PTA has asked P@SHA to get a formal letter issued from MoITT to PTA requesting the extension.

- **Phased Implementation**

The filtration of IPs should be implemented in phases. Sudden blocking of IPs which was done by PTA earlier in March 2020 and then temporarily whitelisted can cause major impediment to the growth of the businesses and puts out a bad image of Pakistan in the international market. It is also important for PTA to research and inform on the level of impact this security will have if implemented compared to if it is not implemented.

- **Industry PoCs**

A few representatives from the industry should be connected to PTA who can observe all the initiatives first hand, predict their impact and can help PTA and the industry prepare accordingly.

- **Facilitation of Freelancers**

One of the important stakeholders in this situation is the Freelance community of Pakistan which currently does not have representation from bodies like P@SHA and PSEB. This will prove to be very damaging for them once the IP whitelisting is implemented so they need to have a specific framework and policy in place soon so their growth is not dwarfed.

- **Online Registrations**

Creating a portal for the companies to register online and automating the system so the process can be completed in a few hours will be of great value to the companies in avoiding delays. A ticketing system can also be introduced for the purpose.

- **Educate the ISPs**

One of the hurdles that are being faced by the companies trying to register their IPs and VPNs is the lack of sufficient knowledge at the end of ISPs. The ISPs do not have complete clarity on the initiative which is causing more panic and confusion among the registrants. PTA needs to ensure that the ISPs have complete command on the topic and are able to facilitate the registration process thoroughly.

- **Frequently Updated FAQs**

Considering the large number of queries received by PTA on a daily basis as well as the ones collected during this panel discussion, a detailed and regularly updated FAQs section can be formed on the PTA website to provide quick answers for several repetitive questions that are not being clarified by the ISPs.

- **Include Registration in IVR facility**

Another way to fast track the registration process could be to include the specific option of VPN registration and IP whitelisting in PTA's IVR facility. The applicant can use the facility to understand the process and the list of requirements for the registration.

Questions & Answers

Q1. Is VoIP not allowed by PTA? Not allowing it can greatly affect the businesses providing outsourcing/ offshoring services that require VPNs and VoVPN.

A: PTA does allow VoVPN and the process of application is similar to IP registration. Although the process of registration of Data VPN is much simpler than VoVPN as the latter is highly used to originate grey traffic, the authorization can

still be granted if the reasons of use mentioned in the application are authentic and valid.

Q2: Because of the COVID-19 pandemic, a huge percentage of people are working from home. It will be difficult for people to connect with VPNs for working with foreign clients without having to invest in different kinds of internet connections or getting approvals from PTA which will cause delays. Home based connections have dynamic IPs and how can those be registered for connecting to a VPN?

A: Ever since the process of VPN registration has started, a flexibility offered by PTA is that the ***businesses only need to share 1 IP address with them.*** PTA acknowledges that home based connections have dynamic IPs and that employees cannot provide static IPs while working from home. There are three options available in the registration form so you can provide the IP address(es) based on your circumstance:

- 1. Share the Source IP and Destination IP (Server to server)*
- 2. Share Source IP only*
- 3. In rare conditions, you only know your own and do not know which IP will be used to make a VPN.*

Q3: All the Internet Service Providers (ISPs) are not being made aware of the above mentioned options by PTA and do not have complete clarity on the matter. The ISPs knowing about the options claim they will only work on the IP that is from them. So if in case businesses want to whitelist their destination IP which the employees are using from their homes to connect to VPNs, who will be able to help?

A: PTA acknowledges that ISPs have shown negligence during this time and are not taking ownership of the tasks assigned to them. However, PTA has issued advisories to all of its licensees and has communicated all FAQs to them well in advance. As far as whitelisting foreign VPNs is concerned, the ISPs are hesitant to provide the guarantee because they do not trust it. The solution PTA has offered is that the ISP can share the undertaking with them on the letterhead of the customer company, confirming that the said company is a client of theirs and intends to register VPN with their static IP(s).

Q4: If we have an IoT network of 200 devices installed across Pakistan all connecting to a single VPN server, do we register all 200 of these devices or just one server?

A: You only have to share the IP of the one AWS server.

Q5: Some companies use software based VPN services which they use to generate a dynamic VPN connection, what will be the case in this scenario since these services are used globally?

A: These companies still have the VANIP that basically receives the heads and port numbers. If they are not using default ports for their VPN, then they have to provide their specific data ports which need to be authorized.

Q6: We have a software based VPN which is a paid service. We connect it to browse websites and do the clients' work. How do we register it?

A: You can register the single source at the client's end to solve the problem. IPs used for legitimate businesses will be whitelisted, However, IPs violating/ bypassing the policy of Pakistan which includes pornography, anti-state and blasphemous content will be banned.

Q7: What about freelancers? Normally they get international clients on Fiverr and Upwork and get VPN from foreign clients within an hour. How can they register in such a short time?

A: PTA is in discussion with PSEB to register freelancers and has asked P@SHA to see how they can facilitate the process. One immediate solution is getting a static IP in Pakistan and registering it with the PTA.

Q8: While talking to our ISP, the answer from PTA on VoIP whitelisting and the VoVPN IP was that you can register one IP only for either VoIP or VPN. Instead of increasing our overheads, can we use one IP for external communication of VoIP and incoming VPNs with which our agents will be connected?

A: Using a data VPN is much easier and you need special permissions for VoIP. If your IP is whitelisted for voice and then it is also used for VPN then it can be thought of as an encrypted voice. However, it can be facilitated depending on the nature of the case.

Q9: What if both Source IP and Destination IP are dynamic?

A: In this case, there are complications. The classification is made on pre-shared keys which are not to be shared with anyone including PTA so they will keep falling into filtration. There needs to be at least one static IP.

Q10: Why do ISPs block voice traffic to a whitelisted IP registered from PTA, on home networks/ consumer networks? There must be a policy to enforce networks/ consumer network ISPs to allow whitelisted VoIPs.

A: If you are a user of a home network and are planning to use it domestically for commercial purposes then this might not be facilitated by your ISP. If you need to use an IP for a commercial purpose then it is often directed to a premium offer/

other subsidiary by the ISP. Some requests are also received by individuals who are using specific foreign devices that cannot terminate their traffic through a proper channel in Pakistan, which is why it might be getting blocked.

The session proved to be quite productive in terms of answering the questions put forward by the audience & panelists and cleared out several misconceptions about the initiative. PTA has ensured complete facilitation in the process of IP Whitelisting and VPN registration, especially for P@SHA and PSEB members and is looking forward to suggestions and feedback from the companies and other stakeholders. To watch the complete panel discussion, please view the links below:

YouTube: <https://www.youtube.com/watch?v=ovEP8OSyllw&t=1646s>

Facebook: <https://www.facebook.com/watch/?v=567442147249197>