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Virtual Private Networking

Lopes Manufacturing is looking to add a VPN, virtual private network, on to their network that currently exists. A few good options would include Cisco AnyConnect, Pritunl, and WatchGuard’s Mobile VPN.

All three of these services come with benefits and draw backs. Firstly, Cisco AnyConnect offers multiple different features in addition to what you would normally expect with a VPN. They offer the normal security to your endpoint devices, allow for remote access, and offer web security. Beyond that, AnyConnect can be used on mobile devices and can be used when not on the company’s network (Cisco, n.d.). While Pritunl is a more flexible service that makes use of multi-cloud VPC Peering (Pritunl, n.d.). By making use of AWS servers, Google’s cloud, Azure, and Oracle they can work with any cloud system that the company currently uses without forcing them to switch. In addition, it allows for quick scalability do to how its infrastructure is set up without the need for extra hardware (Pritunl, n.d.). Lastly, it supports OpenVPN as well as many official clients further improving its flexibility. The last of the three is WatchGuard’s Mobile VPN whose main benefit is that it is highly compatible and highly modular with the firewall that was selected. This VPN service offers four main versions, one that supports SSL, another that is IPsec, then two more with one being IKEv2 and L2TP (WatchGuard, n.d.). There are only slight variations between each version with it mostly just boiling down to which is slightly faster, more secure, or easy to use. However, all three of the products do security in their own way.

Cisco AnyConnect has the most security features out of the three do to it heavily specializing in that sole area. By offering seven additional security measure in addition to the basic VPN services. Those include unified endpoint compliance, threat protection, network visibility, roaming protection, cloud web security services, advanced malware protection, and umbrella services (Cisco, n.d.). All these additions allow for Cisco AnyConnect to provide security in any way shape or form on you the end devices that it is used on. Pritunl applies a strategy of using “five layers of authentication” (Pritunl, n.d.). “A user certificate, six digit user pin, two-factor authenticator, single sign-on, and mobile push authentication” (Pritunl, n.d.). Those are the five different layers that Pritunl offers but that is the major of their security. The only other ways they secure your devices is through having their source code audited as to make sure it is full proof and having SELinux support (Pritunl, n.d.). This puts Pritunl in a vastly different spot then that of Cisco as instead of multiple security services to rely on they instead fall back on their source code being as hard to crack as possible. WatchGuard takes even different approach then the other two however by first tying it to their hardware. The VPN service they offer requires you to have one of their firewalls no matter which of the four versions you select. With that said, the IKEv2 and L2TP versions are easily superior then the other two versions when it comes to security. IKEv2 and L2TP both offer multi-layered security and have a pre-shared key that must given (WatchGuard, n.d.). While the IPSec offer the multi-layered security as well, WatchGuard acknowledges that there is vulnerability present will not affect the IKEv2 and L2TP versions (WatchGuard, n.d.). Then between the IKEv2 and L2TP versions, they are generally the same except the IKEv2 version accepts a different encryption, AES-GCM encryption, and certificates, ECDSA (WatchGuard, n.d.). Of the three one does stand out as a good candidate to use for the company.

All three of the VPNs are good services however, Cisco AnyConnect would probably be the best one to use. For one, they have the most robust and shapable security within their VPN. The fact that it protects the company is so many ways and areas is ideal. From being able to work as any other VPN to addition security when on the web and even protect from malware and viruses while it is turned off with roaming protection. In addition to this, being able to use it on mobile devices offers a level of accessibility that could become handy if the situation where it needs to be used ever arises.

Cisco AnyConnect, Pritunl, and WatchGuard Mobile VPN were all quality options for a VPN service but because of Cisco’s customizable security and accessibility over the other two brands, it is the VPN I would recommend to use for Lopes Manufacturing.

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