**What is an IPsec Tunnel?**

An IPsec Tunnel not only encrypts and authenticates the packets flowing through it, but it encapsulates each packet into an entirely new one, with a new header. This enables the creation of Virtual Private Networks (VPNs), which depend on IPsec tunnels for network-to-network, host-to-network and host-to-host communications.

## What is a Virtual Tunnel Interface?

**Quick Definition:** A Virtual Tunnel Interface (VTI) is a logical interface supported by Cisco Adaptive Security Appliances (ASAs). A VTI uses IPsec profiles attached to both ends of a tunnel to change the behavior of virtual routing and allows greater flexibility, control and security in creating virtualized networks.

Because IPsec profiles are attached to [both ASAs](https://www.cbtnuggets.com/blog/certifications/cisco/cisco-asa-versus-palo-alto-networks-firewalls) involved in an encrypted transmission, dynamic or static routes can be used. Static crypto access lists do not have to be mapped to interfaces that use VTIs, and remote subnets don't have to be manually tracked and included. All of which is to say that VTIs make deploying and operating VPNs significantly easier.

A site-to-site virtual private network (VPN) is a connection between two or more networks, such as a corporate network and a [branch office network](https://www.paloaltonetworks.com/cyberpedia/what-is-branch-office-network-security).

Site-to-site VPNs are frequently used by companies with multiple offices in different geographic locations that need to access and use the corporate network on an ongoing basis.

Site-to-site VPNs and remote access VPNs may sound similar, but they serve entirely different purposes.

* **A site-to-site VPN** is a permanent connection designed to function as an encrypted link between offices (i.e., “sites”). This is typically set up as an IPsec network connection between networking equipment.
* **A remote access VPN** is a temporary connection between users and headquarters, typically used for access to data center applications. This connection could use IPsec, but it is also common to use an SSL VPN to set up a connection between a user’s endpoint and a VPN gateway.