

Secure VPN Technologies

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What this short talk will cover

- What constitutes a secure VPN technology
- The parts of a secure VPN

The main secure VPN technologies

- **IPsec** is by far the most common
- **SSL** (also known as **TLS**) is catching up because of ease-of-use
- **L2TP-with-IPsec** has IPsec's security with additional features for remote access
- **PPTP** is an old protocol that isn't used much any more

IPsec for VPNs

- The main method is to build a “tunnel” for your network using the Internet as backbone
- No attacker can look in a tunnel: it would cost literally *trillions of dollars* and take years just to be able to start reading
- Even then, they could only see one day’s worth of messages

SSL/TLS for secure remote access

- Everyone has a web browser (and most folks are running IE on Windows)
- SSL VPNs are really not very different from using SSL to buy things on the web
- The big advantage: nothing for the user to set up
- The big disadvantage: it isn't really a network (but that's OK for many companies)

Lesser-used secure VPN technologies

- L2TP-with-IPsec was developed by Microsoft to give the benefits of IPsec with more traditional PPP access control
- PPTP was developed earlier by Microsoft, but it never took off (and many security flaws were discovered over time)

The parts of a site-to-site IPsec VPN

- The basic ingredient is two (or more!) gateways connected to the Internet acting as secure routers
- The admin for each gateway specifies what network is “behind” that gateway, and what networks is “behind” the other gateway
- The admin must also must specify the crypto protocols to be used

The parts of a SSL/TLS remote access VPN

- The basic ingredient is one SSL-accelerated box that acts as a router
- Of course, there is also the users: folks with SSL-enabled browsers on the PCs (and maybe Macs)
- The accelerated box knows how to proxy for interesting services on the corporate net

And now on to trusted VPNs!

- Please ask questions later