Remote Access Protocols

DIAL UP

**PPP** Point to Point Protocol: Adds layer 2 framing for WAN connections. For Security, PPP uses

Encryption: MPPE (Microsoft Point to Point encryption)

Authentication:

* PAP (Password Authentication Protocol) Passwords in clear text. BAD!
* CHAP (Challenge Handshake Authentication Protocol) Doesn’t send password in clear text, which is good, but it can only use passwords for authentication
* EAP (Extensible Authentication Protocol) Extends authentication beyond passwords. So if you’re using Smart Cards, Certificates, Biometrics, etc EAP must be used.

VPN

**PPTP** used for VPN connections. Based on PPP, only worked across IP networks like the internet. I couldn’t have a PPTP VPN across a Frame Relay network

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**L2TP:** VPN protocol Without ANY security. **Must** be used with IPSEC to be secure.

**IPSec:** In tunnel mode can also be used to create VPN connections