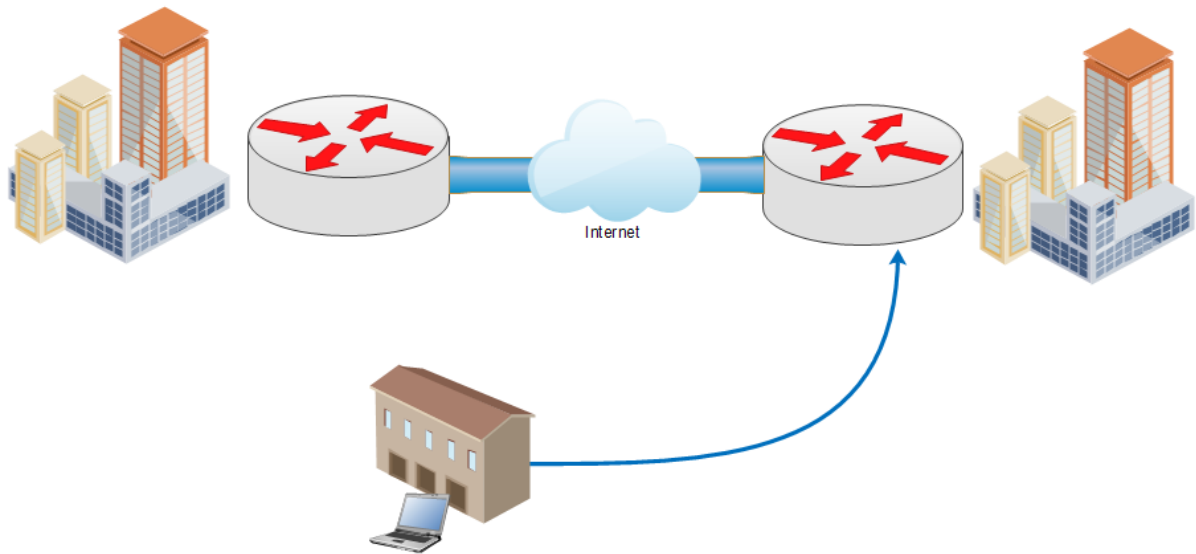


VPN

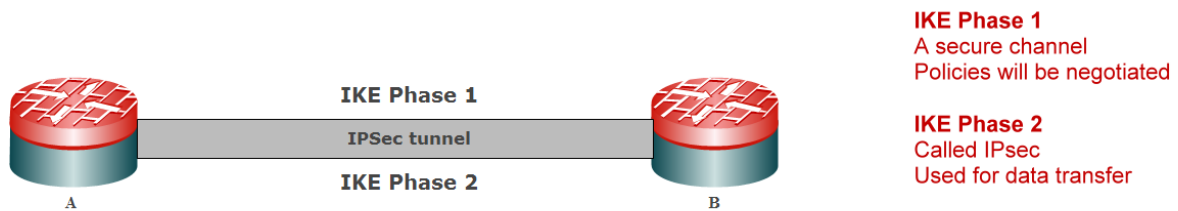
Virtual Private Network



itexampractice.net

IPsec

Internet Protocol Security (IPsec) is a set of protocols used for securing our networks by authenticating and encrypting IP packets.



Read more:

<http://packetlife.net/media/library/6/IPsec.pdf>

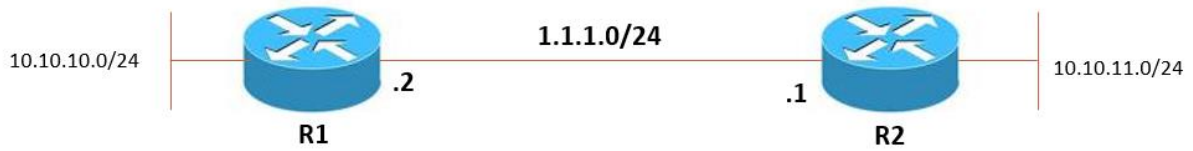
Types of VPNs

- ✓ Site-to-site (Lan-to-lan)
- ✓ Remote-access

Popular Protocols

	PPTP	L2TP/IPsec	Open VPN™
VPN Encryption	128 - bit	256 – bit	• 160 – bit • 256 – bit
Platforms	• Windows • Mac OS X • Linux • iOS • Android • DD-WRT	• Windows • Mac OS X • Linux • iOS • Android	• Windows • Mac OS X • Linux • Android
VPN Security	Basic encryption	Excellent encryption	Excellent encryption.
VPN Speed	Fast	Fast	Medium

Cisco Lab



Create a S2S IPSEC crypto map VPN between two Cisco Routers

IKE Phase1:

3des/ sha1

DH 5

Pre shared key: cisco

IKE Phase 2:

3des

sha1

Lab Answer

!R1

```
crypto isakmp policy 1
  encr 3des
  authentication pre-share
  group 5
crypto isakmp key cisco address 1.1.1.1
crypto ipsec transform-set VPN esp-aes esp-sha-hmac
crypto map VPN 10 ipsec-isakmp
  set peer 1.1.1.1
  set transform-set VPN
  match address 101
access-list 101 permit ip 10.10.10.0 0.0.0.255 10.10.11.0 0.0.0.255
interface FastEthernet0
crypto map VPN
```

!R2

```
crypto isakmp policy 1
  encr 3des
  authentication pre-share
  group 5
crypto isakmp key cisco address 1.1.1.2
crypto ipsec transform-set VPN esp-3des esp-sha-hmac
crypto map VPN 10 ipsec-isakmp
  set peer 1.1.1.2
  set transform-set VPN
  match address 101
access-list 101 permit ip 10.10.11.0 0.0.0.255 10.10.10.0 0.0.0.255
interface FastEthernet0/0
crypto map VPN
```