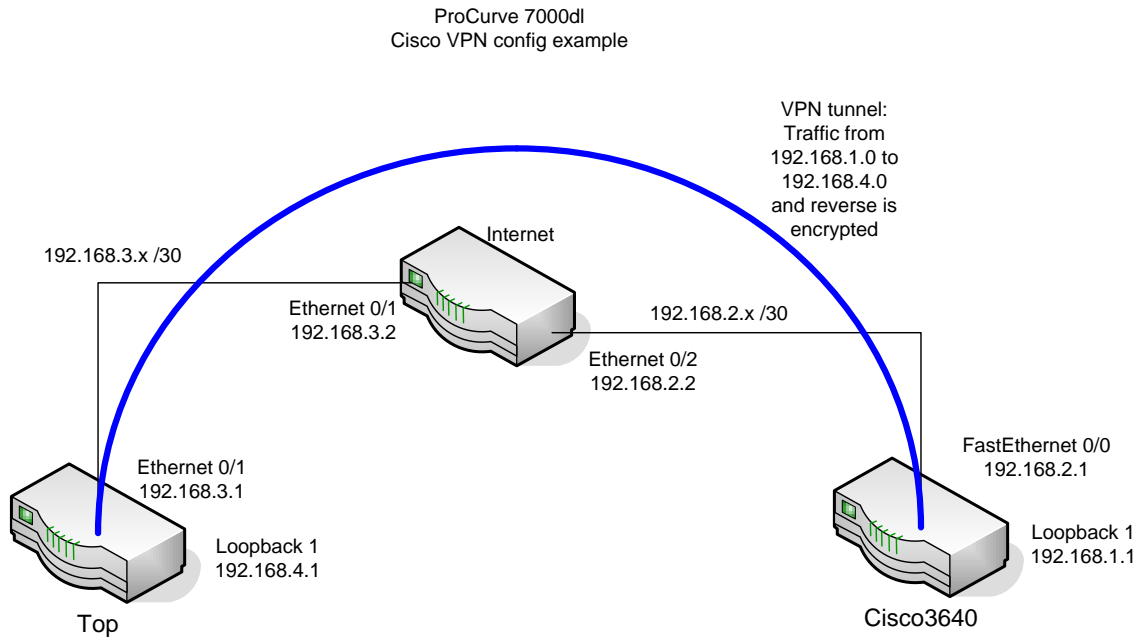


HP ProCurve 7000dl and Cisco VPN tunnel configuration example

Topology:



Configurations:

Router Top:

<pre>TOP#sh run Building configuration... ! ! hostname "TOP" no enable password ! ! ip subnet-zero ip classless ip routing ! ! ! ip crypto ! crypto ike policy 10 initiate main respond main local-id address 192.168.3.1 peer 192.168.2.1 attribute 1 encryption 3des hash md5 authentication pre-share group 2 ! crypto ike remote-id address 192.168.2.1 preshared-key bpetest01# ike-policy 10 crypto map HPQ 10 no-mode-config no-xauth ! crypto ipsec transform-set HPQTRANSmd5 esp-3des esp- md5-hmac mode tunnel ! crypto map HPQ 10 ipsec-ike match address labtest-acl1 set peer 192.168.2.1 set transform-set HPQTRANSmd5 ike-policy 10 ! ! !</pre>	<pre>interface loop 1 ip address 192.168.4.1 255.255.255.0 no shutdown ! interface eth 0/1 ip address 192.168.3.1 255.255.255.0 crypto map HPQ no shutdown ! interface eth 0/2 no ip address shutdown ! ! ! ip access-list extended labtest-acl1 permit ip 192.168.4.0 0.0.0.255 192.168.1.0 0.0.0.255 ! ! ! ip route 192.168.1.0 255.255.255.0 192.168.3.2 ip route 192.168.2.0 255.255.255.252 192.168.3.2 ! ! End</pre>
--	--

Router Internet:

```
Internet#sh run
Building configuration...
!
!
hostname "Internet"
no enable password
!

ip subnet-zero
ip classless
ip routing
!
!
!
interface eth 0/1
 ip address 192.168.3.2 255.255.255.252
 no shutdown
!
interface eth 0/2
 ip address 192.168.2.2 255.255.255.252
 no shutdown
!
!
ip route 192.168.1.0 255.255.255.0 192.168.2.1
ip route 192.168.4.0 255.255.255.0 192.168.3.1
!
End
```

Router Cisco3640:

<pre>Cisco3640#sh run Building configuration... Current configuration: ! version 12.0 no service password-encryption ! hostname Cisco3640 ! ip subnet-zero ! ! crypto isakmp policy 10 encr 3des hash md5 authentication pre-share group 2 lifetime 28800 crypto isakmp key bptest01# address 192.168.3.1 ! ! crypto ipsec transform-set HPQTRANSmd5 esp-3des esp- md5-hmac ! ! crypto map HPQ 20 ipsec-isakmp set peer 192.168.3.1 set transform-set HPQTRANSmd5 match address labtest-acl1 ! ! !</pre>	<pre>! ! ! interface Loopback1 ip address 192.168.1.1 255.255.255.0 no ip directed-broadcast ! interface FastEthernet0/0 ip address 192.168.2.1 255.255.255.248 no ip directed-broadcast duplex auto speed auto crypto map HPQ ! ip classless ip route 192.168.3.0 255.255.255.248 192.168.2.2 ip route 192.168.4.0 255.255.255.0 192.168.2.2 ! ip access-list extended labtest-acl1 permit ip 192.168.1.0 0.0.0.255 192.168.4.0 0.0.0.255 ! End</pre>
---	--

Verification:

```
Cisco3640#sh crypto isakmp sa
  dst      src      state      conn-id  slot
192.168.2.1 192.168.3.1 QM_IDLE    1        0
```

```
Cisco3640#sh crypto ipsec sa
```

```
interface: FastEthernet0/0
  Crypto map tag: HPQ, local addr. 192.168.2.1
```

```
local ident (addr/mask/prot/port): (192.168.1.0/255.255.255.0/0/0)
remote ident (addr/mask/prot/port): (192.168.4.0/255.255.255.0/0/0)
current_peer: 192.168.3.1
  PERMIT, flags={origin_is_acl,}
#pkts encaps: 4, #pkts encrypt: 4, #pkts digest 4
#pkts decaps: 4, #pkts decrypt: 4, #pkts verify 4
#pkts compressed: 0, #pkts decompressed: 0
#pkts not compressed: 0, #pkts compr. failed: 0, #pkts decompress failed: 0
#send errors 1, #rcv errors 0
```

```
local crypto endpt.: 192.168.2.1, remote crypto endpt.: 192.168.3.1
path mtu 1500, media mtu 1500
current outbound spi: BB6F0B0A
```

```
inbound esp sas:
spi: 0x23C61490(600183952)
  transform: esp-3des esp-md5-hmac ,
  in use settings =(Tunnel, )
  slot: 0, conn id: 2000, flow_id: 1, crypto map: HPQ
  sa timing: remaining key lifetime (k/sec): (4607999/2071)
  IV size: 8 bytes
  replay detection support: Y
```

```
inbound ah sas:
```

```
inbound pcp sas:
```

```
outbound esp sas:
spi: 0xBB6F0B0A(3144616714)
  transform: esp-3des esp-md5-hmac ,
  in use settings =(Tunnel, )
  slot: 0, conn id: 2001, flow_id: 2, crypto map: HPQ
  sa timing: remaining key lifetime (k/sec): (4607999/2071)
  IV size: 8 bytes
  replay detection support: Y
```

```
outbound ah sas:
```

```
outbound pcp sas:
```

```
TOP#sh crypto ike sa
IKE Security Associations
Total IKE SAs: 1
```

```
Peer IP Address: 192.168.2.1
Remote ID: 192.168.2.1
Lifetime: 25541
Status: SA_MATURE
IKE Policy: 10
```

NAT-traversal: None
Detected NAT: No
Dead Peer Detection: No

TOP#sh cry
TOP#sh crypto ike sa
IKE Security Associations
Total IKE SAs: 1

Peer IP Address: 192.168.2.1
Remote ID: 192.168.2.1
Lifetime: 25541
Status: SA_MATURE
IKE Policy: 10
NAT-traversal: None
Detected NAT: No
Dead Peer Detection: No

TOP#sh cry
TOP#sh crypto ipsec sa
IPSec Security Associations: Total IPSec SAs: 2

Peer IP Address: 192.168.3.1
Direction: Inbound
SPI: 0xBB6F0B0A (3144616714)
Encapsulation: ESP
RX Bytes: 400
Selectors: Src:192.168.1.0/255.255.255.0 Port:ANY Proto:ALL IP
 Dst:192.168.4.0/255.255.255.0 Port:ANY Proto:ALL IP
Hard Lifetime: 1920
Soft Lifetime: 0
Crypto Map: HPQ 10

Peer IP Address: 192.168.2.1
Direction: Outbound
SPI: 0x23C61490 (600183952)
Encapsulation: ESP
TX Bytes: 400
Selectors: Src:192.168.4.0/255.255.255.0 Port:ANY Proto:ALL IP
 Dst:192.168.1.0/255.255.255.0 Port:ANY Proto:ALL IP
Hard Lifetime: 1920
Soft Lifetime: 1890
Crypto Map: HPQ 10