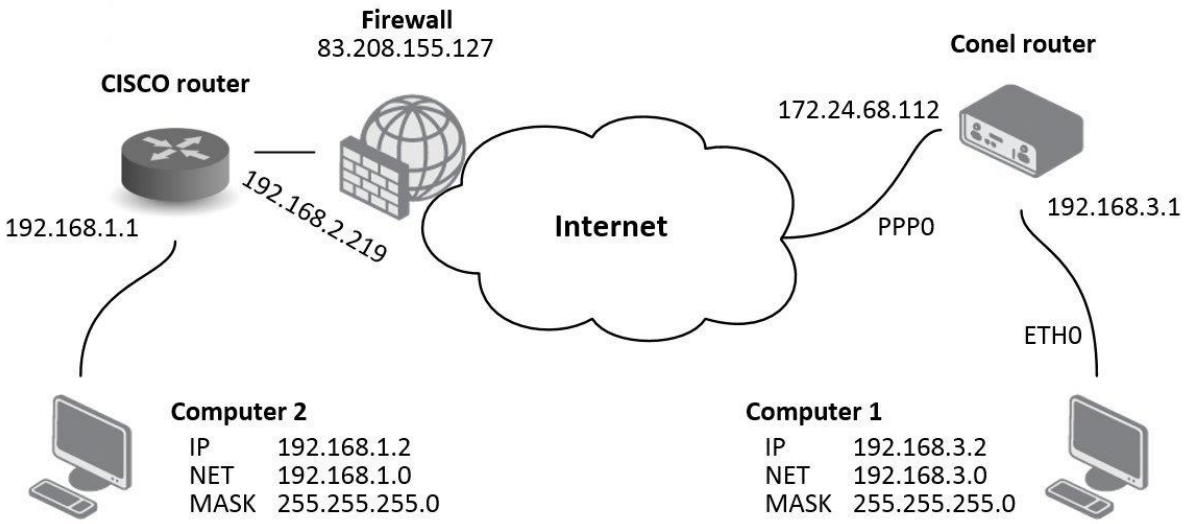
IPsec tunnel – CISCO router

! Please note that CISCO routers support IPsec protocol since IOS version no. 7.1.



Configuration – initiator on the router

```
ASA Version 7.2(3)
!
hostname ciscoasa
domain-name default.domain
!
interface Vlan1
nameif inside
security-level 100
ip address 192.168.1.1 255.255.255.0
!
interface Vlan2
nameif outside
security-level 100
ip address 192.168.2.219 255.255.255.0
!
interface Ethernet0/0
switchport access vlan 2
!
interface Ethernet0/1
!
```

```
interface Ethernet0/2
!
interface Ethernet0/3
!
interface Ethernet0/4
!
interface Ethernet0/5
!
interface Ethernet0/6
!
interface Ethernet0/7
!
passwd 2KFQnbNIdI.2KYOU encrypted
ftp mode passive
dns server-group DefaultDNS
domain-name default.domain
same-security-traffic permit inter-interface
access-list outside_access_in extended permit ip any any
access-list outside_access_out extended permit ip any any
access-list inside_access_in extended permit ip any any
access-list inside_access_out extended permit ip any any
access-list outside_2_cryptomap extended permit ip 192.168.1.0
255.255.255.0 192.168.3.0 255.255.255.0
pager lines 24
logging enable
logging asdm informational
logging class auth asdm emergencies
logging class ip asdm critical
mtu inside 1500
mtu outside 1500
icmp unreachable rate-limit 1 burst-size 1
asdm image disk0:/asdm-523.bin
no asdm history enable
arp timeout 14400
global (outside) 1 interface
access-group inside_access_in in interface inside
access-group inside_access_out out interface inside
access-group outside_access_in in interface outside
access-group outside_access_out out interface outside
route outside 0.0.0.0 0.0.0.0 192.168.2.27 1
timeout xlate 3:00:00
timeout conn 1:00:00 half-closed 0:10:00 udp 0:02:00 icmp 0:00:02
timeout sunrpc 0:10:00 h323 0:05:00 h225 1:00:00 mgcp 0:05:00 mgcp-pat
0:05:00
timeout sip 0:30:00 sip_media 0:02:00 sip-invite 0:03:00 sip-disconnect
0:02:00
timeout uauth 0:05:00 absolute
http server enable
```

```
http 192.168.1.0 255.255.255.0 inside
no snmp-server location
no snmp-server contact
snmp-server enable traps snmp authentication linkup linkdown coldstart
crypto ipsec transform-set ESP-DES-MD5 esp-des esp-md5-hmac
crypto ipsec transform-set ESP-DES-SHA esp-des esp-sha-hmac
crypto ipsec transform-set ESP-3DES-SHA esp-3des esp-sha-hmac
crypto ipsec transform-set ESP-AES-128-SHA esp-aes esp-sha-hmac
crypto ipsec transform-set ESP-AES-256-MD5 esp-aes-256 esp-md5-hmac
crypto ipsec transform-set ESP-AES-256-SHA esp-aes-256 esp-sha-hmac
crypto ipsec transform-set ESP-AES-128-MD5 esp-aes esp-md5-hmac
crypto ipsec transform-set ESP-AES-192-MD5 esp-aes-192 esp-md5-hmac
crypto ipsec transform-set ESP-AES-192-SHA esp-aes-192 esp-sha-hmac
crypto ipsec transform-set UR1 esp-3des esp-none
crypto ipsec transform-set UR2 esp-des esp-none
crypto ipsec transform-set ESP-3DES-MD5 esp-3des esp-md5-hmac
crypto map outside_map 1 match address outside_2_cryptomap
crypto map outside_map 1 set connection-type answer-only
crypto map outside_map 1 set peer 172.24.68.112
crypto map outside_map 1 set transform-set ESP-3DES-MD5
crypto map outside_map interface outside
crypto isakmp identity hostname
crypto isakmp enable outside
crypto isakmp policy 10
authentication pre-share
encryption 3des
hash md5
group 2
lifetime 3600
crypto isakmp nat-traversal 20
vpn-sessiondb max-session-limit 1
telnet timeout 5
ssh timeout 5
console timeout 0
l2tp tunnel hello 300
dhcpd auto_config outside
!
dhcpd address 192.168.1.2-192.168.1.33 inside
dhcpd enable inside
!
!
class-map inspection_default

match default-inspection-traffic
!
!
policy-map type inspect dns preset_dns_map
parameters
```

```
message-length maximum 512
policy-map global_policy
class inspection_default
inspect dns preset_dns_map
inspect ftp
inspect h323 h225
inspect h323 ras
inspect rsh
inspect rtsp
inspect esmtp
inspect sqlnet
inspect skinny
inspect sunrpc
inspect xdmcp
inspect sip
inspect netbios
inspect tftp
inspect icmp
inspect icmp error
inspect ipsec-pass-thru
!
service-policy global_policy global
ssl encryption 3des-sha1 aes128-sha1 aes256-sha1 des-sha1 rc4-md5
group-policy DfltGrpPolicy attributes
banner none
wins-server none
dns-server none
dhcp-network-scope none
vpn-access-hours none
vpn-simultaneous-logins 3
vpn-idle-timeout none
vpn-session-timeout none
vpn-filter none
vpn-tunnel-protocol IPSec l2tp-ipsec webvpn
password-storage disable
ip-comp disable
re-xauth disable
group-lock none
pfs disable
ipsec-udp enable
```

```
ipsec-udp-port 10000
split-tunnel-policy tunnelall
split-tunnel-network-list none
default-domain none
split-dns none
intercept-dhcp 255.255.255.255 disable
secure-unit-authentication disable
user-authentication disable
user-authentication-idle-timeout none
ip-phone-bypass disable
leap-bypass disable
nem disable
backup-servers keep-client-config
msie-proxy server none
msie-proxy method no-modify
msie-proxy except-list none
msie-proxy local-bypass disable
nac disable
nac-sq-period 300
nac-reval-period 36000
nac-default-acl none
address-pools none
smartcard-removal-disconnect enable
client-firewall none
client-access-rule none
webvpn
functions none

html-content-filter none
homepage none

keep-alive-ignore 4

http-comp gzip

filter none

url-list none

customization value DfltCustomization

port-forward none

port-forward-name value Application Access

sso-server none

deny-message value Login was successful, but because certain criteria have
not been met or due to some specific group policy, you do not have permission
to use any of the VPN features. Contact your IT administrator for more
information

svc none
```

```
svc keep-installer installed
svc keepalive none
svc rekey time none
svc rekey method none
svc dpd-interval client none
svc dpd-interval gateway none
svc compression deflate
tunnel-group DefaultL2LGroup ipsec-attributes
pre-shared-key *
isakmp keepalive threshold 20 retry 10
tunnel-group 172.24.68.112 type ipsec-l2l
tunnel-group 172.24.68.112 ipsec-attributes
pre-shared-key *
tunnel-group-map enable rules
tunnel-group-map default-group DefaultL2LGroup
prompt hostname context
no compression svc http-comp
zonelabs-integrity fail-timeout 20
Cryptochecksum:57784235ddef16872374b10e67a1415d
: end
```

Configuration – responder on the router

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switchport access vlan 2
!
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interface Ethernet0/2
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interface Ethernet0/3
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ftp mode passive
dns server-group DefaultDNS
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0:05:00
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crypto ipsec transform-set ESP-AES-256-MD5 esp-aes-256 esp-md5-hmac
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vpn-idle-timeout none
vpn-session-timeout none
vpn-filter none
vpn-tunnel-protocol IPSec l2tp-ipsec webvpn
password-storage disable
ip-comp disable
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re-xauth disable
group-lock none
pfs disable
ipsec-udp enable
ipsec-udp-port 10000
split-tunnel-policy tunnelall
split-tunnel-network-list none
default-domain none
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secure-unit-authentication disable
user-authentication disable
user-authentication-idle-timeout none
ip-phone-bypass disable
leap-bypass disable
nem disable
backup-servers keep-client-config
msie-proxy server none
msie-proxy method no-modify
msie-proxy except-list none
msie-proxy local-bypass disable
nac disable
nac-sq-period 300
nac-reval-period 36000
nac-default-acl none
address-pools none
smartcard-removal-disconnect enable
client-firewall none
client-access-rule none
webvpn
functions none

html-content-filter none
homepage none

keep-alive-ignore 4

http-comp gzip

filter none

url-list none

customization value DfltCustomization

port-forward none

port-forward-name value Application Access

sso-server none

deny-message value Login was successful, but because certain criteria have not been met or due to some specific group policy, you do not have permission

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to use any of the VPN features. Contact your IT administrator for more
information

svc none

svc keep-installer installed

svc keepalive none

svc rekey time none

svc rekey method none

svc dpd-interval client none

svc dpd-interval gateway none

svc compression deflate

tunnel-group DefaultL2LGroup ipsec-attributes
pre-shared-key *
isakmp keepalive threshold 20 retry 10
tunnel-group 172.24.68.112 type ipsec-l2l
tunnel-group 172.24.68.112 ipsec-attributes
pre-shared-key *
tunnel-group-map enable rules
tunnel-group-map default-group DefaultL2LGroup
prompt hostname context
no compression svc http-comp
zonelabs-integrity fail-timeout 20
Cryptochecksum:3745a840258fc10269e066655f5b252e
: end
```