ASA/PIX 7.x and later: LAN-to-LAN and EasyVPN IPsec Tunnels Terminate on Same Interface Configuration Example

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Introduction

This document provides a sample configuration for how to enable the HUB ASA to accept the Site to Site Tunnel and Easy VPN IPsec Connections at the same interface. The IPsec between a Cisco ASA 5520 and Cisco Adaptive Security Appliance (ASA) 5505 uses Easy VPN with Network Extension Mode (NEM).

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- ASA 5500 Series that runs version 7.x and later (Hub)**Note:** The HUB ASA configuration can also be used with PIX Security Appliance 515, 515E, 525, and 535 that runs version 7.x and later
- Easy VPN ASA 5505 that runs version 7.x and later
- PIX Security Appliance 515, 515E, 525, and 535 that runs version 7.x and later

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to the Cisco Technical Tips Conventions for more information on document conventions.

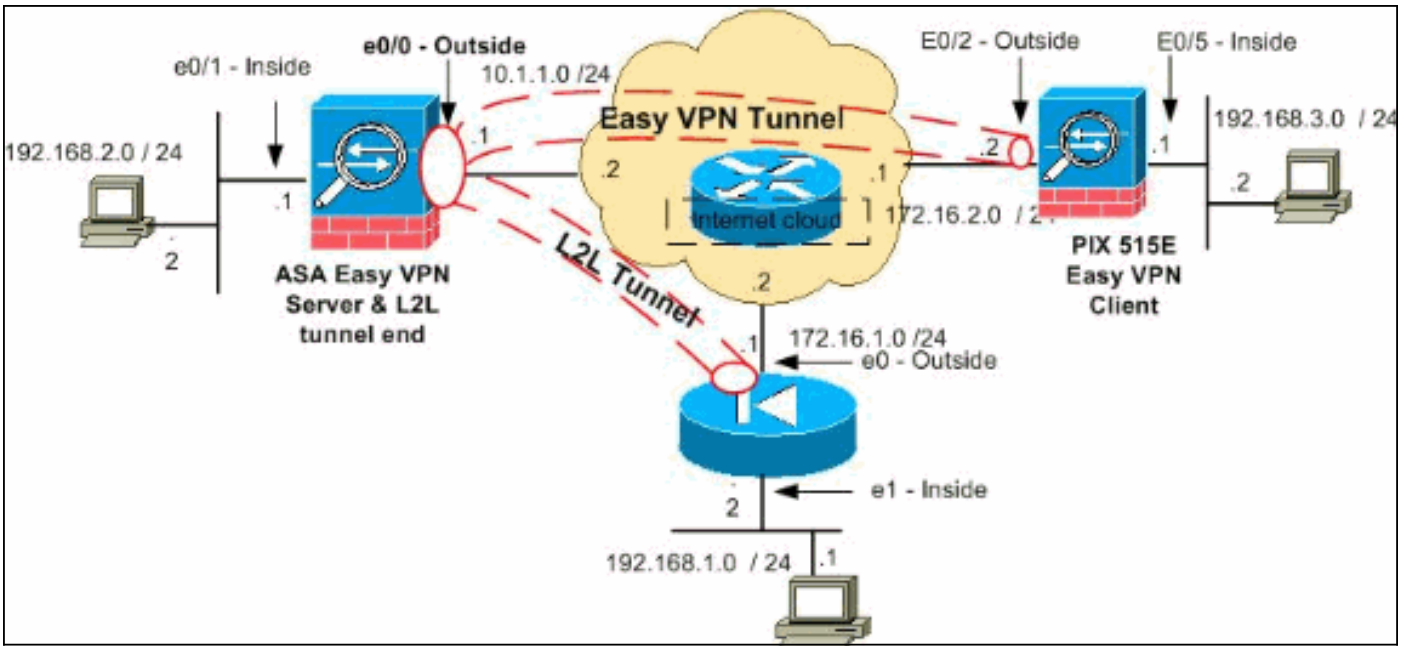
Configure

This section presents you with the information you can use in order to configure the features this document describes.

Note: Use the Command Lookup Tool (registered customers only) in order to obtain more information on the commands used in this section.

Network Diagram

This document uses this network setup:



Note: The IP addressing schemes used in this configuration are not legally routable on the Internet. They are RFC 1918 addresses which are used in a lab environment.

Configurations

This document uses these configurations:

- HUB ASA
- Easy VPN Client ASA 5505
- PIX

HUB ASA

```
ASA Version 8.0(2)
!
hostname ciscoasa
enable password 8Ry2YjIyt7RRXU24 encrypted
names
```

```
!
interface Ethernet0/0
 nameif outside
 security-level 0
 ip address 10.1.1.1 255.255.255.0
!
interface Ethernet0/1
 nameif inside
 security-level 100
 ip address 192.168.2.1 255.255.255.0
!
!--- Output Suppressed. !--- Access-list for interesting
traffic (Site to Site) to be !--- encrypted between hub ASA
and spoke (PIX) networks. access-list outside_cryptomap_20
extended permit ip 192.168.2.0 255.255.255.0 192.168.1.0
255.255.255.0 !--- Access-list for interesting traffic to be
!--- encrypted between hub ASA and spoke easy vpn client ASA
networks. access-list ezvpn1 extended permit ip 192.168.2.0
255.255.255.0 192.168.3.0 255.255.255.0 !--- Access-list for
traffic to bypass the network address !--- translation (NAT)
process. access-list nonat extended permit ip 192.168.2.0
255.255.255.0 192.168.1.0 255.255.255.0 access-list nonat
extended permit ip 192.168.2.0 255.255.255.0 192.168.3.0
255.255.255.0 !--- Output Suppressed. !--- Specify the NAT
configuration. !--- NAT 0 prevents NAT for the ACL defined in
this configuration. !--- The nat 1 command specifies NAT for
all other traffic. nat-control global (outside) 1 interface
nat (inside) 0 access-list nonat nat (inside) 1 0.0.0.0
0.0.0.0 route outside 0.0.0.0 0.0.0.0 10.1.1.2 1 !--- Output
Suppressed. !--- Configuration of IPsec Phase 2 crypto ipsec
transform-set myset esp-3des esp-sha-hmac !--- IPsec
configuration for the dynamic LAN-to-LAN tunnel crypto
dynamic-map ezvpn 30 set transform-set myset !--- IPsec
configuration for the static LAN-to-LAN tunnel crypto map
outside_map 20 match address outside_cryptomap_20 crypto map
outside_map 20 set peer 172.16.1.1 crypto map outside_map 20
set transform-set myset !--- IPsec configuration that binds
dynamic map to crypto map crypto map outside_map 65535 ipsec-
isakmp dynamic ezvpn !--- Crypto map applied to the outside
interface of the ASA crypto map outside_map interface outside
isakmp enable outside !--- PHASE 1 CONFIGURATION ---! !---
This configuration uses isakmp policy 1. !--- These
configuration commands !--- define the Phase 1 policies that
are used. crypto isakmp policy 10 authentication pre-share
encryption 3des hash sha group 2 lifetime 86400 !--- Output
Suppressed. !--- This defines the group policy you use with
Easy VPN. !--- Specify the networks that can pass through !--
- the tunnel and that you want to !--- use network extension
mode. group-policy tunnel internal group-policy tunnel
attributes nem enable !--- The username and password
associated with !--- this VPN connection are defined here.
You !--- can also use AAA for this function. username cisco
password ffIRPGpDSOJh9YLq encrypted tunnel-group 172.16.1.1
type ipsec-l2l tunnel-group 172.16.1.1 ipsec-attributes pre-
shared-key * !--- The tunnel-group commands bind the
configurations !--- defined in this configuration to the
tunnel that is !--- used for Easy VPN. This tunnel name is
the one !--- specified on the remote side. tunnel-group
mytunnel type remote-access tunnel-group mytunnel general-
attributes default-group-policy tunnel !--- Defines the pre-
shared key used for !--- IKE authentication for the dynamic
tunnel. tunnel-group mytunnel ipsec-attributes pre-shared-key
* prompt hostname context
Cryptochecksum:e148bf43d04906f5db41fc6f90c52d34 : end
```

Easy VPN Client - ASA 5505

```
ASA Version 7.2(2)
!
hostname ciscoasa
domain-name default.domain.invalid
enable password 8Ry2YjIyt7RRXU24 encrypted
names
!
interface Vlan1
 nameif outside
 security-level 0
 ip address 172.16.2.2 255.255.255.0
!
interface Vlan2
 nameif inside
 security-level 100
 ip address 192.168.3.1 255.255.255.0
!
interface Ethernet0/0
!
interface Ethernet0/1
 shutdown
!
interface Ethernet0/2
!
interface Ethernet0/3
!
interface Ethernet0/4
 switchport access vlan 2

!--- Output Suppressed. ! route outside 0.0.0.0 0.0.0.0
172.16.2.1 1 !--- Output Suppressed. !--- Easy VPN Client
Configuration ---! !--- Specify the IP address of the VPN
server. vpnclient server 10.1.1.1 !--- This example uses
network extension mode. vpnclient mode network-extension-mode
!--- Specify the group name and the pre-shared key. vpnclient
vpngroup mytunnel password ******** !--- Specify the
authentication username and password. vpnclient username
cisco password ******** !--- In order to enable the device as
hardware vpnclient, use this command. vpnclient enable ! !---
Output Suppressed.
Cryptochecksum:0458ce7a08e6b7f9417b17bc254eb4e2 : end
```

PIX

```
PIX Version 8.0(2)
!
hostname pixfirewall
enable password 8Ry2YjIyt7RRXU24 encrypted
names
!
interface Ethernet0
 nameif outside
 security-level 0
 ip address 172.16.1.1 255.255.255.0
!
interface Ethernet1
 nameif inside
 security-level 100
 ip address 192.168.1.2 255.255.255.0
!
passwd 2KFQnbNIdI.2KYOU encrypted
ftp mode passive
!--- This access list (inside_nat0_outbound) is used with the
```

```
nat zero command. !--- This prevents traffic which matches
the access list from undergoing !--- network address
translation (NAT). access-list inside_nat0_outbound extended
permit ip 192.168.1.0 255.255.255.0 192.168.2.0 255.255.255.0
!--- The traffic specified by this ACL is !--- traffic that
is to be encrypted and !--- sent across the VPN tunnel. This
ACL is intentionally !--- the same as (inside_nat0_outbound).
!--- Two separate access lists must always be used in this
configuration. access-list outside_cryptomap_20 extended
permit ip 192.168.1.0 255.255.255.0 192.168.2.0 255.255.255.0
!--- NAT 0 prevents NAT for networks specified in the ACL
inside_nat0_outbound. nat (inside) 0 access-list
inside_nat0_outbound !--- Output Suppressed. route outside
0.0.0.0 0.0.0.0 172.16.1.2 1 !--- Output Suppressed. !---
PHASE 2 CONFIGURATION ---! !--- The encryption types for
Phase 2 are defined here. !--- Define the transform set for
Phase 2. crypto ipsec transform-set myset esp-3des esp-sha-
hmac !--- Define which traffic can be sent to the IPsec peer.
crypto map outside_map 20 match address outside_cryptomap_20
!--- Sets the IPsec peer. crypto map outside_map 20 set peer
10.1.1.1 !--- Sets the IPsec transform set "myset" !--- to be
used with the crypto map entry "outside_map". crypto map
outside_map 20 set transform-set myset !--- Specifies the
interface to be used with !--- the settings defined in this
configuration. crypto map outside_map interface outside !---
PHASE 1 CONFIGURATION ---! !--- This configuration uses
isakmp policy 10. !--- Policy 65535 is included in the config
by default. !--- The configuration commands here define the
Phase !--- 1 policy parameters that are used. crypto isakmp
enable outside crypto isakmp policy 10 authentication pre-
share encryption 3des hash sha group 2 lifetime 86400 crypto
isakmp policy 65535 authentication pre-share encryption 3des
hash sha group 2 lifetime 86400 !--- Output Suppressed. !---
In order to create and manage the database of connection-
specific records !--- for ipsec-l2l–IPsec (LAN-to-LAN)
tunnels, use the tunnel-group !--- command in global
configuration mode. !--- For L2L connections the name of the
tunnel group MUST be the IP !--- address of the IPsec peer.
tunnel-group 10.1.1.1 type ipsec-l2l !--- Enter the pre-
shared-key in order to configure the authentication method.
tunnel-group 10.1.1.1 ipsec-attributes pre-shared-key *
prompt hostname context
Cryptochecksum:4a2c70f2102113315de795f13f25c2aa : end
```

Verify

This section provides information you can use in order to confirm your configuration works properly.

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

- **show crypto isakmp sa**—Displays all current IKE security associations (SAs) at a peer.
- **show crypto ipsec sa**—Displays all current SAs.

This section shows example verification configurations for:

- HUB ASA
- Easy VPN Client ASA 5505

- PIX

HUB ASA

```
ciscoasa #show crypto isakmp sa Active SA: 2 Rekey SA: 0 (A
tunnel will report 1 Active and 1 Rekey SA during rekey)
Total IKE SA: 2 !--- Dynamic LAN-to-LAN tunnel establishment
1 IKE Peer: 172.16.2.2 Type : user Role : responder Rekey :
no State : AM_ACTIVE !--- Static LAN-to-LAN tunnel
establishment 2 IKE Peer: 172.16.1.1 Type : L2L Role :
initiator Rekey : no State : MM_ACTIVE ciscoasa #show crypto
ipsec sa ciscoasa(config)#sh crypto ipsec sa interface:
outside Crypto map tag: outside_map, seq num: 20, local addr:
10.1.1.1 access-list outside_cryptomap_20 permit ip
192.168.2.0 255.255.255.0 192.168.1.0 255.255.255.0 local
ident (addr/mask/prot/port): (192.168.2.0/255.255.255.0/0/0)
remote ident (addr/mask/prot/port):
(192.168.1.0/255.255.255.0/0/0) current_peer: 172.16.1.1
#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: 4,
#pkts comp failed: 0, #pkts decomp failed: 0 #pre-frag
successes: 0, #pre-frag failures: 0, #fragments created: 0
#PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing
reassembly: 0 #send errors: 0, #recv errors: 0 local crypto
endpt.: 10.1.1.1, remote crypto endpt.: 172.16.1.1 path mtu
1500, ipsec overhead 58, media mtu 1500 current outbound spi:
E4312E13 inbound esp sas: spi: 0x9ABAC3DD (2595931101)
transform: esp-3des esp-sha-hmac none in use settings ={L2L,
Tunnel, } slot: 0, conn_id: 741376, crypto-map: outside_map
sa timing: remaining key lifetime (kB/sec): (4274999/28783)
IV size: 8 bytes replay detection support: Y outbound esp
sas: spi: 0xE4312E13 (3828428307) transform: esp-3des esp-
sha-hmac none in use settings ={L2L, Tunnel, } slot: 0,
conn_id: 741376, crypto-map: outside_map sa timing: remaining
key lifetime (kB/sec): (4274999/28783) IV size: 8 bytes
replay detection support: Y Crypto map tag: ezvpn, seq num:
30, local addr: 10.1.1.1 local ident (addr/mask/prot/port):
(10.1.1.1/255.255.255.255/0/0) remote ident
(addr/mask/prot/port): (172.16.2.2/255.255.255.255/0/0)
current_peer: 172.16.2.2, username: cisco dynamic allocated
peer ip: 0.0.0.0 #pkts encaps: 0, #pkts encrypt: 0, #pkts
digest: 0 #pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0
#pkts compressed: 0, #pkts decompressed: 0 #pkts not
compressed: 0, #pkts comp failed: 0, #pkts decomp failed: 0
#pre-frag successes: 0, #pre-frag failures: 0, #fragments
created: 0 #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs
needing reassembly: 0 #send errors: 0, #recv errors: 0 local
crypto endpt.: 10.1.1.1, remote crypto endpt.: 172.16.2.2
path mtu 1500, ipsec overhead 58, media mtu 1500 current
outbound spi: 2647B59C inbound esp sas: spi: 0x21685AF8
(560487160) transform: esp-3des esp-sha-hmac none in use
settings ={RA, Tunnel, } slot: 0, conn_id: 737280, crypto-
map: ezvpn sa timing: remaining key lifetime (sec): 28146 IV
size: 8 bytes replay detection support: Y outbound esp sas:
spi: 0x2647B59C (642233756) transform: esp-3des esp-sha-hmac
none in use settings ={RA, Tunnel, } slot: 0, conn_id:
737280, crypto-map: ezvpn sa timing: remaining key lifetime
(sec): 28146 IV size: 8 bytes replay detection support: Y
Crypto map tag: ezvpn, seq num: 30, local addr: 10.1.1.1
local ident (addr/mask/prot/port): (0.0.0.0/0.0.0.0/0/0)
remote ident (addr/mask/prot/port):
(192.168.3.0/255.255.255.0/0/0) current_peer: 172.16.2.2,
username: cisco dynamic allocated peer ip: 0.0.0.0 #pkts
```

encaps: 5, #pkts encrypt: 5, #pkts digest: 5 #pkts decaps: 5, #pkts decrypt: 5, #pkts verify: 5 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 5, #pkts comp failed: 0, #pkts decomp failed: 0 #pre-frag successes: 0, #pre-frag failures: 0, #fragments created: 0 #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing reassembly: 0 #send errors: 0, #recv errors: 0 local crypto endpt.: 10.1.1.1, remote crypto endpt.: 172.16.2.2 path mtu 1500, ipsec overhead 58, media mtu 1500 current outbound spi: 07997B21 inbound esp sas: spi: 0xB5B6013D (3048603965) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 737280, crypto-map: ezvpn sa timing: remaining key lifetime (sec): 28145 IV size: 8 bytes replay detection support: Y outbound esp sas: spi: 0x07997B21 (127499041) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 737280, crypto-map: ezvpn sa timing: remaining key lifetime (sec): 28145 IV size: 8 bytes replay detection support: Y Crypto map tag: ezvpn, seq num: 30, local addr: 10.1.1.1 local ident (addr/mask/prot/port): (0.0.0.0/0.0.0.0/0/0) remote ident (addr/mask/prot/port): (172.16.2.2/255.255.255.255/0/0) current_peer: 172.16.2.2, username: cisco dynamic allocated peer ip: 0.0.0.0 #pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0 #pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 0, #pkts comp failed: 0, #pkts decomp failed: 0 #pre-frag successes: 0, #pre-frag failures: 0, #fragments created: 0 #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing reassembly: 0 #send errors: 0, #recv errors: 0 local crypto endpt.: 10.1.1.1, remote crypto endpt.: 172.16.2.2 path mtu 1500, ipsec overhead 58, media mtu 1500 current outbound spi: 0F0B1A75 inbound esp sas: spi: 0x68B0EA75 (1756424821) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 737280, crypto-map: ezvpn sa timing: remaining key lifetime (sec): 28143 IV size: 8 bytes replay detection support: Y outbound esp sas: spi: 0x0F0B1A75 (252385909) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 737280, crypto-map: ezvpn sa timing: remaining key lifetime (sec): 28143 IV size: 8 bytes replay detection support: Y

Easy VPN Client ASA 5505

ciscoasa(config)# sh crypto isakmp sa Active SA: 1 Rekey SA: 0 (A tunnel will report 1 Active and 1 Rekey SA during rekey) Total IKE SA: 1 1 IKE Peer: 10.1.1.1 Type : user Role : initiator Rekey : no State : **AM_ACTIVE ciscoasa(config)# sh crypto ipsec sa** interface: outside Crypto map tag: _vpnc_cm, seq num: 10, local addr: 172.16.2.2 access-list _vpnc_acl permit ip host 172.16.2.2 host 10.1.1.1 local ident (addr/mask/prot/port): (172.16.2.2/255.255.255.255/0/0) remote ident (addr/mask/prot/port): (10.1.1.1/255.255.255.255/0/0) current_peer: 10.1.1.1, username: 10.1.1.1 dynamic allocated peer ip: 0.0.0.0 #pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0 #pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 0, #pkts comp failed: 0, #pkts decomp failed: 0 #pre-frag successes: 0, #pre-frag failures: 0, #fragments created: 0 #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing reassembly: 0 #send errors: 0, #recv errors: 0 local crypto endpt.: 172.16.2.2, remote crypto endpt.: 10.1.1.1 path mtu 1500, ipsec overhead 58, media mtu 1500 current outbound spi: 21685AF8 inbound esp sas: spi: 0x2647B59C (642233756) transform: esp-3des esp-sha-

hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 178, crypto-map: _vpnc_cm sa timing: remaining key lifetime (sec): 28298 IV size: 8 bytes replay detection support: Y outbound esp sas: spi: 0x21685AF8 (560487160) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 178, crypto-map: _vpnc_cm sa timing: remaining key lifetime (sec): 28298 IV size: 8 bytes replay detection support: Y Crypto map tag: _vpnc_cm, seq num: 10, local addr: 172.16.2.2 access-list _vpnc_acl permit ip host 172.16.2.2 any local ident (addr/mask/prot/port): (172.16.2.2/255.255.255.255/0/0) remote ident (addr/mask/prot/port): (0.0.0.0/0.0.0.0/0/0) current_peer: 10.1.1.1, username: 10.1.1.1 dynamic allocated peer ip: 0.0.0.0 #pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0 #pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 0, #pkts comp failed: 0, #pkts decomp failed: 0 #pre-frag successes: 0, #pre-frag failures: 0, #fragments created: 0 #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing reassembly: 0 #send errors: 0, #recv errors: 0 local crypto endpt.: 172.16.2.2, remote crypto endpt.: 10.1.1.1 path mtu 1500, ipsec overhead 58, media mtu 1500 current outbound spi: 68B0EA75 inbound esp sas: spi: 0x0F0B1A75 (252385909) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 178, crypto-map: _vpnc_cm sa timing: remaining key lifetime (sec): 28298 IV size: 8 bytes replay detection support: Y outbound esp sas: spi: 0x68B0EA75 (1756424821) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 178, crypto-map: _vpnc_cm sa timing: remaining key lifetime (sec): 28298 IV size: 8 bytes replay detection support: Y Crypto map tag: _vpnc_cm, seq num: 10, local addr: 172.16.2.2 **access-list _vpnc_acl permit ip 192.168.3.0 255.255.255.0 any local ident (addr/mask/prot/port): (192.168.3.0/255.255.255.0/0/0)** remote ident (addr/mask/prot/port): (0.0.0.0/0.0.0.0/0/0) current_peer: 10.1.1.1, username: 10.1.1.1 dynamic allocated peer ip: 0.0.0.0 **#pkts encaps: 5, #pkts encrypt: 5, #pkts digest: 5 #pkts decaps: 5, #pkts decrypt: 5, #pkts verify: 5** #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 0, #pkts comp failed: 0, #pkts decomp failed: 0 #pre-frag successes: 0, #pre-frag failures: 0, #fragments created: 0 #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs needing reassembly: 0 #send errors: 0, #recv errors: 0 local crypto endpt.: 172.16.2.2, remote crypto endpt.: 10.1.1.1 path mtu 1500, ipsec overhead 58, media mtu 1500 current outbound spi: B5B6013D inbound esp sas: spi: 0x07997B21 (127499041) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 178, crypto-map: _vpnc_cm sa timing: remaining key lifetime (sec): 28294 IV size: 8 bytes replay detection support: Y outbound esp sas: spi: 0xB5B6013D (3048603965) transform: esp-3des esp-sha-hmac none in use settings ={RA, Tunnel, } slot: 0, conn_id: 178, crypto-map: _vpnc_cm sa timing: remaining key lifetime (sec): 28294 IV size: 8 bytes replay detection support: Y

PIX

pixfirewall(config)#**sh crypto isakmp sa** Active SA: 1 Rekey SA: 0 (A tunnel will report 1 Active and 1 Rekey SA during rekey) Total IKE SA: 1 1 IKE Peer: 10.1.1.1 Type : L2L Role : responder Rekey : no State : MM_ACTIVE pixfirewall(config)# **sh crypto ipsec sa** interface: outside **Crypto map tag: outside_map, seq num: 20, local addr: 172.16.1.1 access-list outside_cryptomap_20 permit ip 192.168.1.0 255.255.255.0 192.168.2.0 255.255.255.0 local ident (addr/mask/prot/port):**

```
(192.168.1.0/255.255.255.0/0/0) remote ident
(addr/mask/prot/port): (192.168.2.0/255.255.255.0/0/0)
current_peer: 10.1.1.1 #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 comp failed: 0, #pkts decomp failed:
0 #pre-frag successes: 0, #pre-frag failures: 0, #fragments
created: 0 #PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs
needing reassembly: 0 #send errors: 0, #recv errors: 0 local
crypto endpt.: 172.16.1.1, remote crypto endpt.: 10.1.1.1
path mtu 1500, ipsec overhead 58, media mtu 1500 current
outbound spi: 9ABAC3DD inbound esp sas: spi: 0xE4312E13
(3828428307) transform: esp-3des esp-sha-hmac none in use
settings ={L2L, Tunnel, } slot: 0, conn_id: 12288, crypto-
map: outside_map sa timing: remaining key lifetime (kB/sec):
(3824999/28628) IV size: 8 bytes replay detection support: Y
outbound esp sas: spi: 0x9ABAC3DD (2595931101) transform:
esp-3des esp-sha-hmac none in use settings ={L2L, Tunnel, }
slot: 0, conn_id: 12288, crypto-map: outside_map sa timing:
remaining key lifetime (kB/sec): (3824999/28628) IV size: 8
bytes replay detection support: Y
```

Troubleshoot

This section provides information you can use in order to troubleshoot your configuration.

Troubleshooting Commands

Certain **show** commands are supported by the Output Interpreter Tool (registered customers only) , which allows you to view an analysis of **show** command output.

Note: Refer to Important Information on Debug Commands before you issue **debug** commands.

Issue PIX commands in configuration mode:

- **clear crypto isakmp sa**—Clears the Phase 1 SAs
- **clear crypto ipsec sa** —Clears the Phase 2 SAs

The **debug** commands for VPN tunnels:

- **debug crypto isakmp sa**—Debugs ISAKMP SA negotiations
- **debug crypto ipsec sa**—Debugs IPSec SA negotiations

Related Information

- **Cisco PIX 500 Series Security Appliances - Introduction**
- **Most Common L2L and Remote Access IPSec VPN Troubleshooting Solutions**
- **Cisco ASA 5500 Series Adaptive Security Appliances - Product Support**
- **IPsec Negotiation/IKE Protocols**
- **Technical Support & Documentation - Cisco Systems**