Exemplo de configuração de ASA VPN com encenações de sobreposição

Índice

Introdução

Este documento descreve as etapas usadas para traduzir o tráfego VPN que viaja sobre um túnel de IPsec do LAN para LAN (L2L) entre duas ferramentas de segurança adaptáveis (ASA) em encenações e igualmente na tradução de endereço de porta (PAT) de sobreposição o tráfego do Internet.

Pré-requisitos

Requisitos

Certifique-se de você ter configurado a ferramenta de segurança adaptável de Cisco com endereços IP de Um ou Mais Servidores Cisco ICM NT nas relações, e tenha-se a conectividade básica antes que você continue com este exemplo de configuração.

Componentes Utilizados

As informações aqui são baseadas nesta versão de software:

- Versão de software adaptável 8.3 da ferramenta de segurança de Cisco e mais atrasado.

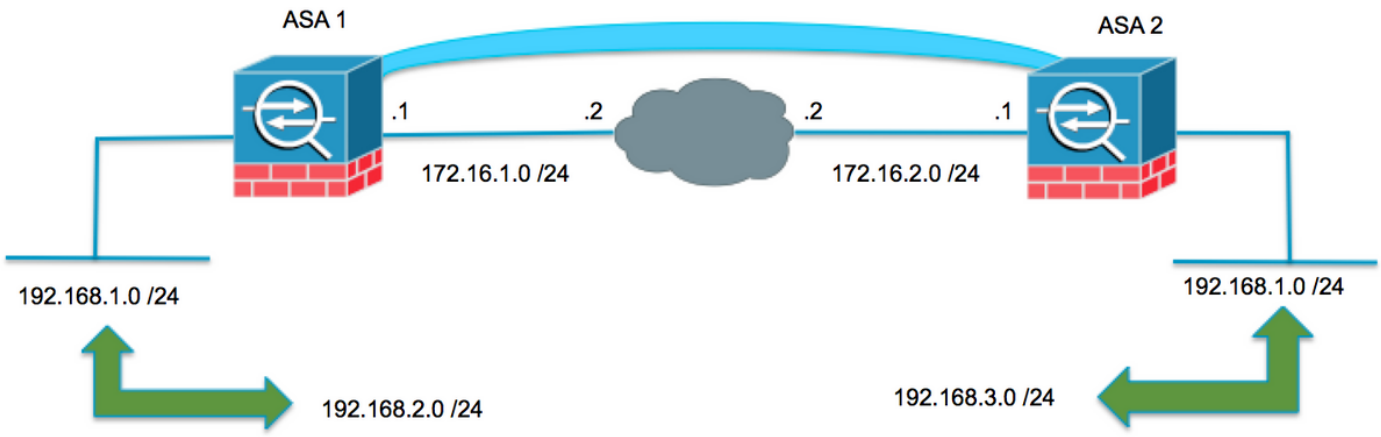
As informações neste documento foram criadas a partir de dispositivos em um ambiente de laboratório específico. Todos os dispositivos utilizados neste documento foram iniciados com uma configuração (padrão) inicial. Se a sua rede estiver ativa, certifique-se de que entende o impacto potencial de qualquer comando.

Informações de Apoio

Cada dispositivo tem um privado, rede protegida atrás dele. Em encenações de sobreposição, uma comunicação através do VPN nunca acontece porque os pacotes nunca saem da sub-rede local desde que o tráfego é enviado a um endereço IP de Um ou Mais Servidores Cisco ICM NT da mesma sub-rede. Isto pode ser realizado com o Network Address Translation (NAT) como explicado nas seguintes seções.

Tradução em ambos os pontos finais de VPN

Quando as redes protegidas VPN sobrepõem e a configuração pode ser alterada em ambos os valores-limite; O NAT pode ser usado para traduzir a rede local a uma sub-rede diferente ao ir ao telecontrole traduziu a sub-rede.



ASA 1

Crie os objetos necessários para as sub-redes no uso

```
object network LOCAL
 subnet 192.168.1.0 255.255.255.0
object network XLATED-LOCAL
 subnet 192.168.2.0 255.255.255.0
object network XLATED-REMOTE
 subnet 192.168.3.0 255.255.255.0
```

Configurar a declaração NAT

Crie uma indicação manual para traduzir a rede local a uma sub-rede diferente somente ao ir à sub-rede remota (igualmente traduzida)

```
nat (inside,outside) source static LOCAL XLATED-LOCAL destination static XLATED-REMOTE XLATED-
REMOTE
```

Configurar o ACL cripto com as sub-redes traduzidas

```
access-list VPN-TRAFFIC extended permit ip object XLATED-LOCAL object XLATED-REMOTE Rele
```

Configuração de criptografia relevante

```
crypto ikev1 enable outside
crypto ikev1 policy 1
 authentication pre-share
 encryption aes-256
 hash sha
 group 2
 lifetime 86400

crypto ipsec ikev1 transform-set AES256-SHA esp-aes-256 esp-sha-hmac
crypto ipsec security-association pmtu-aging infinite
crypto map MYMAP 10 match address VPN-TRAFFIC
crypto map MYMAP 10 set peer 172.16.2.1
crypto map MYMAP 10 set ikev1 transform-set AES256-SHA
crypto map MYMAP interface outside

tunnel-group 172.16.2.1 type ipsec-l2l
tunnel-group 172.16.2.1 ipsec-attributes
 ikev1 pre-shared-key secure_PSK
```

ASA 2

Crie os objetos necessários para as sub-redes no uso

```
object network LOCAL
 subnet 192.168.1.0 255.255.255.0
object network XLATED-LOCAL
 subnet 192.168.3.0 255.255.255.0
object network XLATED-REMOTE
 subnet 192.168.2.0 255.255.255.0
```

Configurar a declaração NAT

Crie uma indicação manual para traduzir a rede local a uma sub-rede diferente somente ao ir à sub-rede remota (igualmente traduzida)

```
nat (inside,outside) source static LOCAL XLATED-LOCAL destination static XLATED-REMOTE XLATED-
REMOTE
```

Configurar o ACL cripto com as sub-redes traduzidas

```
access-list VPN-TRAFFIC extended permit ip object XLATED-LOCAL object XLATED-REMOTE Rele
```

Configuração de criptografia relevante

```
crypto ikev1 enable outside
crypto ikev1 policy 1
 authentication pre-share
 encryption aes-256
 hash sha
 group 2
 lifetime 86400

crypto ipsec ikev1 transform-set AES256-SHA esp-aes-256 esp-sha-hmac
crypto ipsec security-association pmtu-aging infinite
crypto map MYMAP 10 match address VPN-TRAFFIC
crypto map MYMAP 10 set peer 172.16.1.1
crypto map MYMAP 10 set ikev1 transform-set AES256-SHA
crypto map MYMAP interface outside

tunnel-group 172.16.1.1 type ipsec-l2l
tunnel-group 172.16.1.1 ipsec-attributes
 ikev1 pre-shared-key secure_PSK
```

Verificar

Use esta seção para confirmar se a sua configuração funciona corretamente.

ASA 1

```
ASA1(config)# sh cry isa sa

IKEv1 SAs:

   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: 172.16.2.1
    Type    : L2L             Role    : initiator
    Rekey   : no              State   : MM_ACTIVE

There are no IKEv2 SAsASA1(config)# show crypto ipsec sa
```

```
interface: outside
    Crypto map tag: MYMAP, seq num: 10, local addr: 172.16.1.1

      access-list VPN-TRAFFIC extended permit ip 192.168.2.0 255.255.255.0 192.168.3.0
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): (192.168.3.0/255.255.255.0/0/0)
      current_peer: 172.16.2.1


      #pkts encaps: 9, #pkts encrypt: 9, #pkts digest: 9
      #pkts decaps: 9, #pkts decrypt: 9, #pkts verify: 9
      #pkts compressed: 0, #pkts decompressed: 0
      #pkts not compressed: 9, #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
      #TFC rcvd: 0, #TFC sent: 0
      #Valid ICMP Errors rcvd: 0, #Invalid ICMP Errors rcvd: 0
      #send errors: 0, #recv errors: 0

      local crypto endpt.: 172.16.1.1/0, remote crypto endpt.: 172.16.2.1/0
      path mtu 1500, ipsec overhead 74(44), media mtu 1500
      PMTU time remaining (sec): 0, DF policy: copy-df
      ICMP error validation: disabled, TFC packets: disabled
      current outbound spi: F90C149A
      current inbound spi : 6CE656C7

    inbound esp sas:
      spi: 0x6CE656C7 (1827034823)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 16384, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (3914999/28768)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
          0x00000000 0x000003FF
    outbound esp sas:
      spi: 0xF90C149A (4178318490)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 16384, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (3914999/28768)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
          0x00000000 0x00000001
```

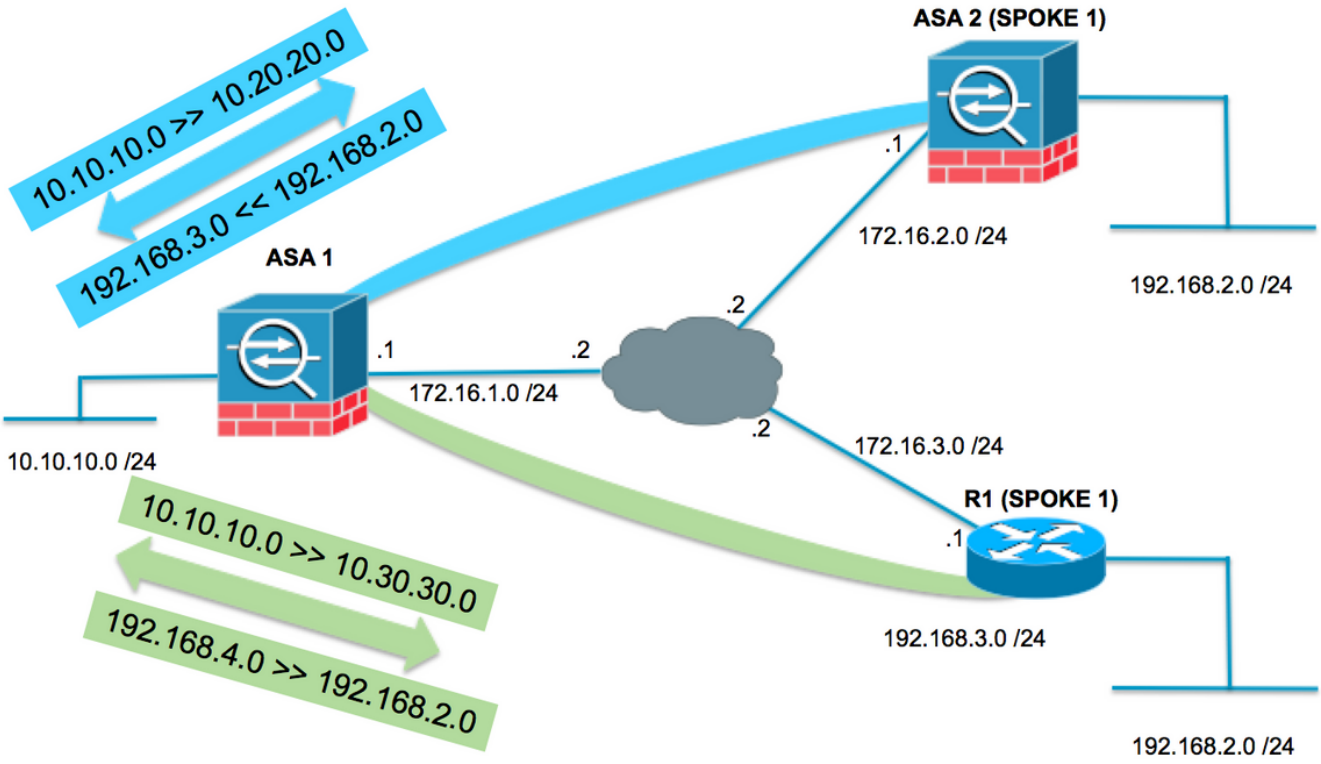
ASA 2

```
ASA2(config)# show crypto isa sa

IKEv1 SAs:

   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: 172.16.1.1
    Type    : L2L             Role    : responder
    Rekey   : no              State   : MM_ACTIVE

There are no IKEv2 SAsASA2(config)# show crypto ipsec sa
interface: outside
```

```
    Crypto map tag: MYMAP, seq num: 10, local addr: 172.16.2.1

      access-list VPN-TRAFFIC extended permit ip 192.168.3.0 255.255.255.0 192.168.2.0
255.255.255.0
      local ident (addr/mask/prot/port): (192.168.3.0/255.255.255.0/0/0)
      remote ident (addr/mask/prot/port): (192.168.2.0/255.255.255.0/0/0)
      current_peer: 172.16.1.1


      #pkts encaps: 9, #pkts encrypt: 9, #pkts digest: 9
      #pkts decaps: 9, #pkts decrypt: 9, #pkts verify: 9
      #pkts compressed: 0, #pkts decompressed: 0
      #pkts not compressed: 9, #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
      #TFC rcvd: 0, #TFC sent: 0
      #Valid ICMP Errors rcvd: 0, #Invalid ICMP Errors rcvd: 0
      #send errors: 0, #recv errors: 0

      local crypto endpt.: 172.16.2.1/0, remote crypto endpt.: 172.16.1.1/0
      path mtu 1500, ipsec overhead 74(44), media mtu 1500
      PMTU time remaining (sec): 0, DF policy: copy-df
      ICMP error validation: disabled, TFC packets: disabled
      current outbound spi: 6CE656C7
      current inbound spi : F90C149A

    inbound esp sas:
      spi: 0xF90C149A (4178318490)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 12288, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (4373999/28684)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
          0x00000000 0x000003FF
    outbound esp sas:
      spi: 0x6CE656C7 (1827034823)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 12288, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (4373999/28683)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
          0x00000000 0x00000001
```

Topologia de hub e spoke com spokes de sobreposição

Na topologia folloing, ambo o spokes tem a mesma sub-rede que precisa de ser protegida sobre o túnel de IPsec para o hub. Para facilitar o Gerenciamento no spokes a configuração de NAT à ação alternativa o problema de sobreposição é executada no hub somente.



ASA1

Crie os objetos necessários para as sub-redes no uso

```
object network LOCAL
 subnet 10.10.10.0 255.255.255.0
object network SPOKES-NETWORK
 subnet 192.168.2.0 255.255.255.0
object network LOCAL-XLATE-TO-SPOKE1
 subnet 10.20.20.0 255.255.255.0
object network LOCAL-XLATE-TO-SPOKE2
 subnet 10.30.30.0 255.255.255.0
object network REMOTE-XLATE-SPOKE1
 subnet 192.168.3.0 255.255.255.0
object network REMOTE-XLATE-SPOKE2
 subnet 192.168.4.0 255.255.255.0
```

Crie indicações manuais para traduzir:

- A rede local 10.10.10.0 /24 a 10.20.20.0 /24 ao ir a SPOKE1 (192.168.2.0 /24).
- A rede 192.168.2.0 /24 de SPOKE1 a 192.168.3.0 /24 ao vir a 10.20.20.0 /24.
- A rede local 10.10.10.0 /24 a 10.30.30.0 /24 ao ir ao SPOKE3 (192.168.2.0 /24).
- A rede 192.168.2.0 /24 de SPOKE2 a 192.168.4.0 /24 ao vir a 10.30.30.0 /24.

```
nat (inside,outside) source static LOCAL LOCAL-XLATE-SPOKE1 destination static REMOTE-XLATE-
SPOKE1 SPOKES-NETWORK
nat (inside,outside) source static LOCAL LOCAL-XLATE-SPOKE2 destination static REMOTE-XLATE-
SPOKE2 SPOKES-NETWORK
```

Configurar o ACL cripto com as sub-redes traduzidas

```
access-list VPN-to-SPOKE1 extended permit ip object LOCAL-XLATE-SPOKE1 object SPOKES-NETWORKS
```

```
access-list VPN-to-SPOKE2 extended permit ip object LOCAL-XLATE-SPOKE2 object SPOKES-NETWORKS
```

Configuração de criptografia relevante

```
crypto ikev1 enable outside
crypto ikev1 policy 1
 authentication pre-share
 encryption aes-256
 hash sha
 group 2
 lifetime 86400

crypto ipsec ikev1 transform-set AES256-SHA esp-aes-256 esp-sha-hmac
crypto ipsec security-association pmtu-aging infinite
crypto map MYMAP 10 match address VPN-to-SPOKE1
crypto map MYMAP 10 set peer 172.16.2.1
crypto map MYMAP 10 set ikev1 transform-set AES256-SHA
crypto map MYMAP 20 match address VPN-to-SPOKE2
crypto map MYMAP 20 set peer 172.16.3.1
crypto map MYMAP 20 set ikev1 transform-set AES256-SHA
crypto map MYMAP interface outside

tunnel-group 172.16.2.1 type ipsec-l2l
tunnel-group 172.16.2.1 ipsec-attributes
 ikev1 pre-shared-key secure_PSK
tunnel-group 172.16.3.1 type ipsec-l2l
tunnel-group 172.16.3.1 ipsec-attributes
 ikev1 pre-shared-key secure_PSK
```

ASA2 (SPOKE1)

Configurar o ACL cripto que vai à sub-rede traduzida (10.20.20.0 /24)

```
access-list VPN-TRAFFIC extended permit ip 192.168.2.0 255.255.255.0 10.20.20.0 255.255.255.0
```

Configuração de criptografia relevante

```
crypto ikev1 enable outside
crypto ikev1 policy 1
 authentication pre-share
 encryption aes-256
 hash sha
 group 2
 lifetime 86400

crypto ipsec ikev1 transform-set esp-aes-256 esp-sha-hmac
crypto ipsec security-association pmtu-aging infinite
crypto map MYMAP 10 match address VPN-TRAFFIC
crypto map MYMAP 10 set peer 172.16.1.1
crypto map MYMAP 10 set ikev1 transform-set AES256-SHA
crypto map MYMAP interface outside

tunnel-group 172.16.1.1 type ipsec-l2l
tunnel-group 172.16.1.1 ipsec-attributes
 ikev1 pre-shared-key secure_PSK
```

R1 (SPOKE2)

Configurar o ACL cripto que vai à sub-rede traduzida (10.30.30.0 /24)

```
ip access-list extended VPN-TRAFFIC
 permit ip 192.168.2.0 0.0.0.255 10.30.30.0 0.0.0.255
```

Configuração de criptografia relevante

```
crypto isakmp policy 1
 encr aes 256
 authentication pre-share
 group 2

crypto isakmp key secure_PSK address 172.16.1.1

crypto ipsec transform-set AES256-SHA esp-aes 256 esp-sha-hmac
 mode tunnel

crypto map MYMAP 10 ipsec-isakmp
 set peer 172.16.1.1
 set transform-set AES256-SHA
 match address VPN-TRAFFIC

interface GigabitEthernet0/1
 ip address 172.16.3.1 255.255.255.0
 duplex auto
 speed auto
 media-type rj45
 crypto map MYMAP
```

Verificar

ASA 1

```
ASA1(config)# show crypto isakmp sa

IKEv1 SAs:

   Active SA: 2
    Rekey SA: 0 (A tunnel will report 1 Active and 1 Rekey SA during rekey)
Total IKE SA: 2

1   IKE Peer: 172.16.3.1
    Type    : L2L             Role    : responder
    Rekey   : no              State   : MM_ACTIVE
2   IKE Peer: 172.16.2.1
    Type    : L2L             Role    : responder
    Rekey   : no              State   : MM_ACTIVE

There are no IKEv2 SAsASA1(config)# show crypto ipsec sa
interface: outside
    Crypto map tag: MYMAP, seq num: 10, local addr: 172.16.1.1

      access-list VPN-to-SPOKE1 extended permit ip 10.20.20.0 255.255.255.0 192.168.2.0
255.255.255.0
      local ident (addr/mask/prot/port): (10.20.20.0/255.255.255.0/0/0)
      remote ident (addr/mask/prot/port): (192.168.2.0/255.255.255.0/0/0)
      current_peer: 172.16.2.1


      #pkts encaps: 10, #pkts encrypt: 9, #pkts digest: 10
      #pkts decaps: 10, #pkts decrypt: 9, #pkts verify: 10
      #pkts compressed: 0, #pkts decompressed: 0
      #pkts not compressed: 9, #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
      #TFC rcvd: 0, #TFC sent: 0
      #Valid ICMP Errors rcvd: 0, #Invalid ICMP Errors rcvd: 0
```

```
      #send errors: 0, #recv errors: 0

      local crypto endpt.: 172.16.1.1/0, remote crypto endpt.: 172.16.2.1/0
      path mtu 1500, ipsec overhead 74(44), media mtu 1500
      PMTU time remaining (sec): 0, DF policy: copy-df
      ICMP error validation: disabled, TFC packets: disabled
      current outbound spi: 79384296
      current inbound spi : 2189BF7A

    inbound esp sas:
      spi: 0x2189BF7A (562675578)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 12288, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (3914999/28618)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
          0x00000000 0x000003FF
    outbound esp sas:
      spi: 0x79384296 (2033730198)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 12288, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (3914999/28618)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
          0x00000000 0x00000001

    Crypto map tag: MYMAP, seq num: 20, local addr: 172.16.1.1

      access-list VPN-to-SPOKE2 extended permit ip 10.30.30.0 255.255.255.0 192.168.2.0
255.255.255.0
      local ident (addr/mask/prot/port): (10.30.30.0/255.255.255.0/0/0)
      remote ident (addr/mask/prot/port): (192.168.2.0/255.255.255.0/0/0)
      current_peer: 172.16.3.1


      #pkts encaps: 10, #pkts encrypt: 10, #pkts digest: 10
      #pkts decaps: 10, #pkts decrypt: 10, #pkts verify: 10
      #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
      #TFC rcvd: 0, #TFC sent: 0
      #Valid ICMP Errors rcvd: 0, #Invalid ICMP Errors rcvd: 0
      #send errors: 0, #recv errors: 0

      local crypto endpt.: 172.16.1.1/0, remote crypto endpt.: 172.16.3.1/0
      path mtu 1500, ipsec overhead 74(44), media mtu 1500
      PMTU time remaining (sec): 0, DF policy: copy-df
      ICMP error validation: disabled, TFC packets: disabled
      current outbound spi: 65FDF4F5
      current inbound spi : 05B7155D

    inbound esp sas:
      spi: 0x05B7155D (95884637)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 8192, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (3914999/2883)
         IV size: 16 bytes
         replay detection support: Y
```

```
         Anti replay bitmap:
          0x00000000 0x0000001F
    outbound esp sas:
      spi: 0x65FDF4F5 (1711142133)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 8192, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (3914999/2883)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
          0x00000000 0x00000001
```

ASA2 (SPOKE1)

```
ASA2(config)# show crypto isakmp sa

IKEv1 SAs:

   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: 172.16.1.1
    Type    : L2L             Role    : initiator
    Rekey   : no              State   : MM_ACTIVE

There are no IKEv2 SAsASA2(config)# show crypto ipsec sa
interface: outside
    Crypto map tag: MYMAP, seq num: 10, local addr: 172.16.2.1

      access-list VPN-TRAFFIC extended permit ip 192.168.2.0 255.255.255.0 10.20.20.0
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): (10.20.20.0/255.255.255.0/0/0)
      current_peer: 172.16.1.1


      #pkts encaps: 10, #pkts encrypt: 10, #pkts digest: 10
      #pkts decaps: 10, #pkts decrypt: 10, #pkts verify: 10
      #pkts compressed: 0, #pkts decompressed: 0
      #pkts not compressed: 9, #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
      #TFC rcvd: 0, #TFC sent: 0
      #Valid ICMP Errors rcvd: 0, #Invalid ICMP Errors rcvd: 0
      #send errors: 0, #recv errors: 0

      local crypto endpt.: 172.16.2.1/0, remote crypto endpt.: 172.16.1.1/0
      path mtu 1500, ipsec overhead 74(44), media mtu 1500
      PMTU time remaining (sec): 0, DF policy: copy-df
      ICMP error validation: disabled, TFC packets: disabled
      current outbound spi: 2189BF7A
      current inbound spi : 79384296

    inbound esp sas:
      spi: 0x79384296 (2033730198)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 8192, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (4373999/28494)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
```

```
          0x00000000 0x000003FF
    outbound esp sas:
      spi: 0x2189BF7A (562675578)
         transform: esp-aes-256 esp-sha-hmac no compression
         in use settings ={L2L, Tunnel, IKEv1, }
         slot: 0, conn_id: 8192, crypto-map: MYMAP
         sa timing: remaining key lifetime (kB/sec): (4373999/28494)
         IV size: 16 bytes
         replay detection support: Y
         Anti replay bitmap:
          0x00000000 0x00000001
```

R1 (SPOKE2)

```
R31show crypto isakmp sa
IPv4 Crypto ISAKMP SA
dst             src             state          conn-id status
172.16.1.1      172.16.3.1      QM_IDLE           1001 ACTIVE

IPv6 Crypto ISAKMP SAR1#show crypto ipsec sa

interface: GigabitEthernet0/1
    Crypto map tag: MYMAP, local addr 172.16.3.1

   protected vrf: (none)
   local  ident (addr/mask/prot/port): (192.168.2.0/255.255.255.0/0/0)
   remote ident (addr/mask/prot/port): (10.30.30.0/255.255.255.0/0/0)
   current_peer 172.16.1.1 port 500
     PERMIT, flags={origin_is_acl,}
    #pkts encaps: 10, #pkts encrypt: 10, #pkts digest: 10
    #pkts decaps: 10, #pkts decrypt: 10, #pkts verify: 10
    #pkts compressed: 0, #pkts decompressed: 0
    #pkts not compressed: 0, #pkts compr. failed: 0
    #pkts not decompressed: 0, #pkts decompress failed: 0
    #send errors 0, #recv errors 0

     local crypto endpt.: 172.16.3.1, remote crypto endpt.: 172.16.1.1
     plaintext mtu 1438, path mtu 1500, ip mtu 1500, ip mtu idb GigabitEthernet0/1
     current outbound spi: 0x5B7155D(95884637)
     PFS (Y/N): N, DH group: none

     inbound esp sas:
      spi: 0x65FDF4F5(1711142133)
        transform: esp-256-aes esp-sha-hmac ,
        in use settings ={Tunnel, }
        conn id: 1, flow_id: SW:1, sibling_flags 80004040, crypto map: MYMAP
        sa timing: remaining key lifetime (k/sec): (4188495/2652)
        IV size: 16 bytes
        replay detection support: Y
        Status: ACTIVE(ACTIVE)

     inbound ah sas:

     inbound pcp sas:

     outbound esp sas:
      spi: 0x5B7155D(95884637)
        transform: esp-256-aes esp-sha-hmac ,
        in use settings ={Tunnel, }
        conn id: 2, flow_id: SW:2, sibling_flags 80004040, crypto map: MYMAP
        sa timing: remaining key lifetime (k/sec): (4188495/2652)
        IV size: 16 bytes
        replay detection support: Y
        Status: ACTIVE(ACTIVE)
```

```
outbound ah sas:

outbound pcp sas:
```

Troubleshooting

Esta seção fornece informações que podem ser usadas para o troubleshooting da sua configuração.

Cancele associações de segurança

Quando você pesquisa defeitos, seja certo cancelar SA existentes depois que você faz uma mudança. No modo privilegiado do PIX, use estes comandos:

- **clear crypto ipsec sa** - Suprime do IPSec ativo SA.
- **clear crypto isakmp sa** - Suprime do IKE ativo SA.

Configuração de NAT da revisão

- **mostre o detalhe nat** - Indica a configuração de NAT com os objetos/

Comandos para Troubleshooting

Use esta seção para confirmar se a sua configuração funciona corretamente.

O analisador do CLI Cisco (clientes registrados somente) apoia determinados comandos de exibição. Use o analisador do CLI Cisco a fim ver uma análise do emissor de comando de execução.

> Nota: Refira a informação importante em comandos Debug e em Troubleshooting de Segurança IP - compreendendo e usando comandos debug antes que você use **comandos debug**.

- **IPsec do debug crypto** - Indica as negociações de IPSEC de fase 2.
- debug crypto isakmp – Exibe as negociações ISAKMP da Fase 1.

Informações Relacionadas

- Guia de configuração de NAT
- A maioria de IPSec VPN comum L2L e de Acesso remoto que pesquisa defeitos soluções
- Negociação IPsec/Protocolos IKE
- Suporte Técnico e Documentação - Cisco Systems