Configuración PIX a PIX IPSec Dinámico-a-Estático con cliente VPN de Cisco y NAT

Contenido

Introducción

En esta configuración de ejemplo, un PIX remoto recibe una dirección IP a través del Protocolo de configuración de host dinámico (DHCP) y se conecta con un PIX central. Esta configuración permite que el PIX central acepte conexiones IPSec dinámicas. El PIX remoto utiliza traducción de la dirección de red (NAT) para "unir" los dispositivos con dirección privada de detrás con la red de dirección privada que se encuentra tras el PIX central. El PIX remoto puede iniciar conexiones con el PIX central (sabe cuál es el punto de finalización), aunque el PIX central no puede iniciar conexiones con el PIX remoto (no sabe cuál es el punto de finalización).

En esta configuración de ejemplo, Tigre es el PIX remoto y León es el PIX central. No se sabe la dirección IP de qué tigre va a ser, así que usted debe configurar el león para validar dinámicamente las conexiones dondequiera de conocer el wild-card, pre-shared key. El tigre sabe qué tráfico debe ser cifrado (porque es especificado por la lista de acceso) y dónde se localiza el punto extremo del león. Tiger debe iniciar la conexión. Los ambos lados hacen el NAT y 0 nacional para desviar el NAT para el tráfico IPSec.

Además, el usuario remoto en esta configuración se conecta con el PIX (Lion) central mediante el Cisco VPN Client 3.x. El usuario remoto no puede conectar con el PIX remoto (tigre) puesto que los ambos lados tendrían dinámicamente IP Address asignados y no sabría dónde enviar la petición.

Refiera al PIX/ASA 7.x PIX-a-PIX IPSec dinámico a estático con el NAT y el ejemplo de configuración del cliente VPN para aprender un escenario más casi igual en el PIX/ASA 7.x con el Cliente Cisco VPN 4.x.

prerrequisitos

Requisitos

No hay requisitos específicos para este documento.

Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- Versión de Software Cisco PIX Firewall 6.0(1) (o mayor para el Cliente Cisco VPN 3.x)
- Versión de Software Cisco PIX Firewall 5.3.1 (PIX remoto)
- Versión 3.x del cliente VPN de Cisco

La información que contiene este documento se creó a partir de los dispositivos en un ambiente de laboratorio específico. Todos los dispositivos que se utilizan en este documento se pusieron en funcionamiento con una configuración verificada (predeterminada). Si la red está funcionando, asegúrese de haber comprendido el impacto que puede tener cualquier comando.

Convenciones

Consulte Convenciones de Consejos TécnicosCisco para obtener más información sobre las convenciones del documento.

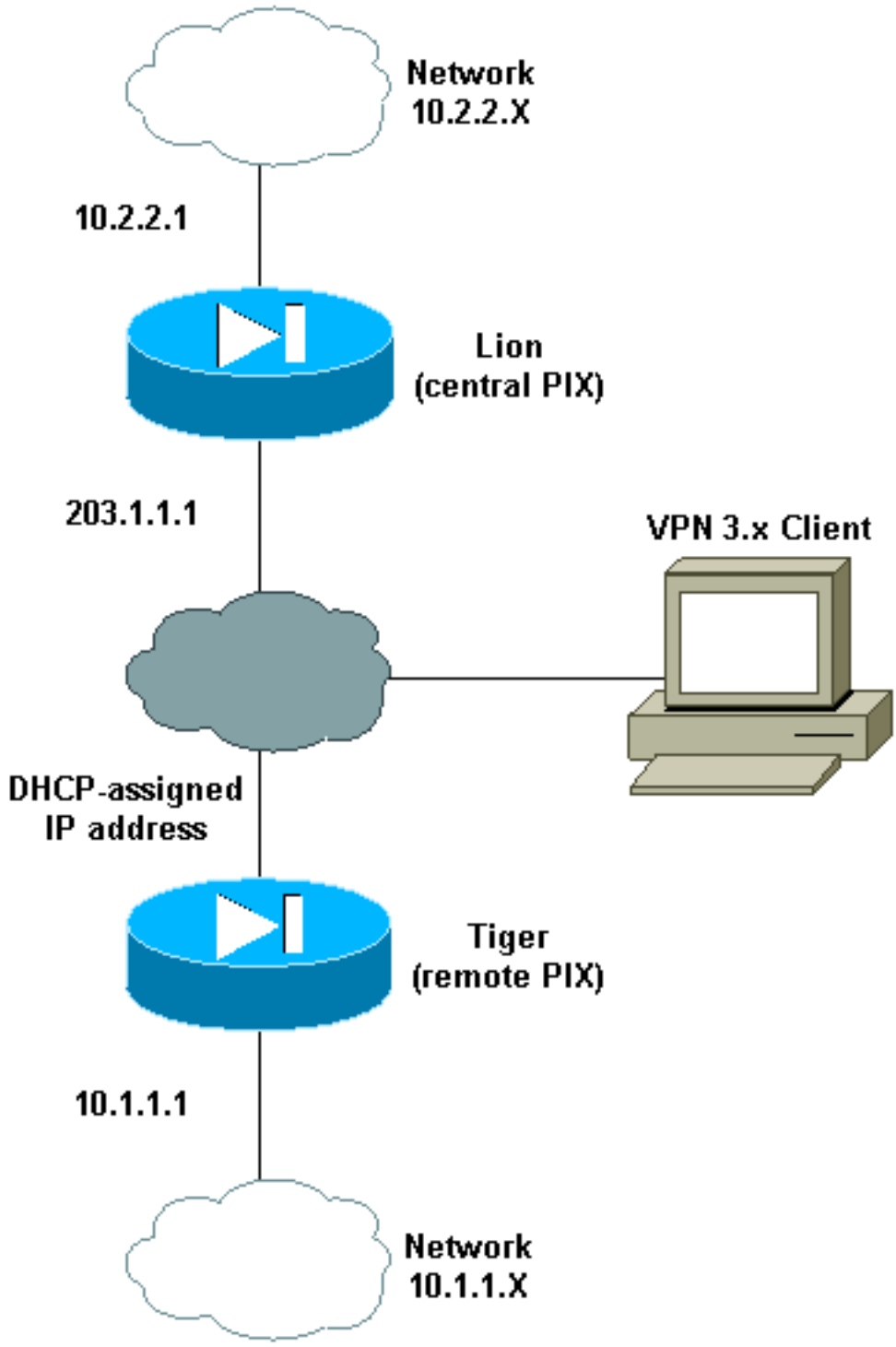
Configurar

En esta sección encontrará la información para configurar las funciones descritas en este documento.

Nota: Utilice la herramienta Command Lookup Tool (clientes registrados solamente) para obtener más información sobre los comandos utilizados en esta sección.

Diagrama de la red

En este documento, se utiliza esta configuración de red:



Configuraciones

Configuración de León
Building configuration... : Saved : PIX Version 6.0(1) nameif gb-ethernet0 spare1 security10 nameif gb-ethernet1 spare2 security15 nameif ethernet0 outside security0 nameif ethernet1 inside security100 enable password 8Ry2YjIyt7RRXU24 encrypted passwd 2KFQnbNIdI.2KYOU encrypted hostname lion domain-name cisco.com

```
fixup protocol ftp 21
fixup protocol http 80
fixup protocol h323 1720
fixup protocol rsh 514
fixup protocol smtp 25
fixup protocol sqlnet 1521
fixup protocol sip 5060
fixup protocol skinny 2000
names
!
!--- ACL to avoid Network Address Translation (NAT) on
the IPsec packets. access-list 100 permit ip 10.2.2.0
255.255.255.0 10.1.1.0 255.255.255.0 access-list 100
permit ip 10.2.2.0 255.255.255.0 10.3.3.0 255.255.255.0
! pager lines 24 logging buffered debugging interface
gb-ethernet0 1000auto shutdown interface gb-ethernet1
1000auto shutdown interface ethernet0 10baset interface
ethernet1 10baset mtu spare1 1500 mtu spare2 1500 mtu
outside 1500 mtu inside 1500 ip address spare1 127.0.0.1
255.255.255.255 ip address spare2 127.0.0.1
255.255.255.255 ! !--- IP addresses on the interfaces ip
address outside 203.1.1.1 255.255.255.0 ip address
inside 10.2.2.1 255.255.255.0 ! ip audit info action
alarm ip audit attack action alarm ip local pool
clientpool 10.3.3.1-10.3.3.10 no failover failover
timeout 0:00:00 failover poll 15 failover ip address
spare1 0.0.0.0 failover ip address spare2 0.0.0.0
failover ip address outside 0.0.0.0 failover ip address
inside 0.0.0.0 pdm history enable arp timeout 14400 !---
global (outside) 1 203.1.1.10-203.1.1.15 !--- Change
from NAT to PAT on the DHCP interface. global (outside)
1 interface ! !--- Binding ACL 100 to the NAT statement
to avoid NAT on the IPsec packets. nat (inside) 0
access-list 100 ! nat (inside) 1 0.0.0.0 0.0.0.0 0 0
conduit permit icmp any any ! !--- Default route to the
Internet route outside 0.0.0.0 0.0.0.0 203.1.1.2 1 !
timeout xlate 3:00:00 timeout conn 1:00:00 half-closed
0:10:00 udp 0:02:00 rpc 0:10:00 h323 0:05:00 sip 0:30:00
sip_media 0:02:00 timeout uauth 0:05:00 absolute aaa-
server TACACS+ protocol tacacs+ aaa-server RADIUS
protocol radius no snmp-server location no snmp-server
contact snmp-server community public no snmp-server
enable traps floodguard enable ! !--- The sysopt command
avoids conduit on the IPsec encrypted traffic. sysopt
connection permit-ipsec ! no sysopt route dnat ! !---
Phase 2 encryption type crypto ipsec transform-set myset
esp-des esp-md5-hmac crypto dynamic-map cisco 1 set
transform-set myset crypto map dyn-map 20 ipsec-isakmp
dynamic cisco ! !--- Binds the IPsec engine on the
outside interface. crypto map dyn-map interface outside
! !--- Enables ISAKMP key-exchange. isakmp enable
outside ! !--- ISAKMP policy for accepting dynamic
connections from the remote PIX. isakmp key ********
address 0.0.0.0 netmask 0.0.0.0 !--- ISAKMP policy for
Cisco VPN Client 2.x isakmp policy 10 authentication
pre-share isakmp policy 10 encryption des isakmp policy
10 hash md5 isakmp policy 10 group 1 isakmp policy 10
lifetime 1000 ! !--- ISAKMP policy for Cisco VPN Client
3.x isakmp policy 20 authentication pre-share isakmp
policy 20 encryption des isakmp policy 20 hash sha
isakmp policy 20 group 2 isakmp policy 20 lifetime 86400
! !--- IPsec group configuration for either client
vpngroup unityclient address-pool clientpool vpngroup
unityclient dns-server 10.1.1.3 vpngroup unityclient
```

```
wins-server 10.1.1.3 vpngroup unityclient default-domain
cisco.com vpngroup unityclient idle-time 1800 vpngroup
unityclient password ******** ! telnet timeout 5 ssh
timeout 5 terminal width 80
Cryptochecksum:d6fe92db883a052c5765be21a74e7c8d : end
[OK]
```

Configuración de Tigre

```
Building configuration...
: Saved
:
PIX Version 5.3(1)
nameif gb-ethernet0 spare1 security10
nameif gb-ethernet1 spare2 security15
nameif ethernet0 outside security0
nameif ethernet1 inside security100
enable password 8Ry2YjIyt7RRXU24 encrypted
passwd 2KFQnbNIdI.2KYOU encrypted
hostname tiger
fixup protocol ftp 21
fixup protocol http 80
fixup protocol h323 1720
fixup protocol rsh 514
fixup protocol smtp 25
fixup protocol sqlnet 1521
fixup protocol sip 5060
names
!
!--- ACL to avoid NAT on the IPsec packets access-list
101 permit ip 10.1.1.0 255.255.255.0 10.2.2.0
255.255.255.0 ! pager lines 24 logging on no logging
timestamp no logging standby no logging console no
logging monitor logging buffered debugging no logging
trap no logging history logging facility 20 logging
queue 512 interface gb-ethernet0 1000auto shutdown
interface gb-ethernet1 1000auto shutdown interface
ethernet0 10baset interface ethernet1 10baset mtu spare1
1500 mtu spare2 1500 mtu outside 1500 mtu inside 1500 ip
address spare1 127.0.0.1 255.255.255.255 ip address
spare2 127.0.0.1 255.255.255.255 ! ip address outside
dhcp ip address inside 10.1.1.1 255.255.255.0 ! ip audit
info action alarm ip audit attack action alarm no
failover failover timeout 0:00:00 failover poll 15
failover ip address spare1 0.0.0.0 failover ip address
spare2 0.0.0.0 failover ip address outside 0.0.0.0
failover ip address inside 0.0.0.0 arp timeout 14400
global (outside) 1 204.1.1.10-204.1.1.15 ! !--- Binds
ACL 101 to the NAT statement to avoid NAT on the IPsec
packets. nat (inside) 0 access-list 101 ! nat (inside) 1
0.0.0.0 0.0.0.0 0 0 conduit permit icmp any any route
outside 0.0.0.0 0.0.0.0 204.1.1.2 1 timeout xlate
3:00:00 timeout conn 1:00:00 half-closed 0:10:00 udp
0:02:00 rpc 0:10:00 h323 0:05:00 sip 0:30:00 sip_media
0:02:00 timeout uauth 0:05:00 absolute aaa-server
TACACS+ protocol tacacs+ aaa-server RADIUS protocol
radius no snmp-server location no snmp-server contact
snmp-server community public no snmp-server enable traps
floodguard enable ! !--- The sysopt command avoids
conduit on the IPsec encrypted traffic. sysopt
connection permit-ipsec ! no sysopt route dnat ! !---
Phase 2 encryption type crypto ipsec transform-set myset
esp-des esp-md5-hmac crypto map newmap 10 ipsec-isakmp
crypto map newmap 10 match address 101 crypto map newmap
10 set peer 203.1.1.1 crypto map newmap 10 set
```

```
transform-set myset ! !--- Binds the IPsec engine on the
outside interface. crypto map newmap interface outside !
!--- Enables ISAKMP key-exchange isakmp enable outside !
!--- ISAKMP policy for connecting to the central PIX.
isakmp key ******** address 203.1.1.1 netmask
255.255.255.255 isakmp identity hostname isakmp policy
10 authentication pre-share isakmp policy 10 encryption
des isakmp policy 10 hash md5 isakmp policy 10 group 1
isakmp policy 10 lifetime 1000 ! telnet timeout 5 ssh
timeout 5 terminal width 80
Cryptochecksum:6743b7bf9476590ecd1a1a8c6d75245b : end
[OK]
```

Verificación

En esta sección encontrará información que puede utilizar para comprobar que su configuración funcione correctamente.

La herramienta Output Interpreter Tool (clientes registrados solamente) (OIT) soporta ciertos comandos show. Utilice la OIT para ver un análisis del resultado del comando show.

Nota: Los comandos clear deben ejecutarse en modo config.

- **clear crypto ipsec sa** — Reajusta las asociaciones del IPSec después de los intentos fallidos de negociar un túnel VPN.
- **clear crypto isakmp sa** — Reajusta las asociaciones de seguridad del Internet Security Association and Key Management Protocol (ISAKMP) después de los intentos fallidos de negociar un túnel VPN.
- **show crypto engine ipsec** — Visualiza a las sesiones encriptadas.

Troubleshooting

En esta sección encontrará información que puede utilizar para solucionar problemas de configuración.

Comandos para resolución de problemas

La herramienta Output Interpreter Tool (clientes registrados solamente) (OIT) soporta ciertos comandos show. Utilice la OIT para ver un análisis del resultado del comando show.

Nota: Consulte Información Importante sobre Comandos de Debug antes de usar un **comando debug**.

- **IPSec del debug crypto** — Utilizado para ver si un cliente negocia porción IPSec de la conexión VPN.
- **debug crypto isakmp connection** — Utilizado para ver si los pares están negociando la porción ISAKMP del VPN.

Ejemplo de resultado “favorable” de depuración

- Depuraciones Centrales PIX
- Depuraciones de PIX remoto
- Depuración del cliente

Debugs centrales de Pix

```
crypto_isakmp_process_block: src 204.1.1.1, dest 203.1.1.1
OAK_MM exchange
ISAKMP (0): processing SA payload. message ID = 0

ISAKMP (0): Checking ISAKMP transform 1 against priority 10 policy
ISAKMP:      encryption DES-CBC
ISAKMP:      hash MD5
ISAKMP:      default group 1
ISAKMP:      auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (basic) of 1000
ISAKMP (0): atts are acceptable. Next payload is 0
ISAKMP (0): SA is doing pre-shared key authentication using id type ID_FQDN
return status is IKMP_NO_ERROR
crypto_isakmp_process_block: src 204.1.1.1, dest 203.1.1.1
OAK_MM exchange
ISAKMP (0): processing KE payload. message ID = 0

ISAKMP (0): processing NONCE payload. message ID = 0

ISAKMP (0): processing vendor id payload

ISAKMP (0): processing vendor id payload

ISAKMP (0): processing vendor id payload

ISAKMP (0): speaking to another IOS box!

return status is IKMP_NO_ERROR
crypto_isakmp_process_block: src 204.1.1.1, dest 203.1.1.1
OAK_MM exchange
ISAKMP (0): processing ID payload. message ID = 0
ISAKMP (0): processing HASH payload. message ID = 0
ISAKMP (0): SA has been authenticated

ISAKMP (0): ID payload
        next-payload : 8
        type         : 2
        protocol     : 17
        port         : 500
        length       : 10
ISAKMP (0): Total payload length: 14
return status is IKMP_NO_ERROR
crypto_isakmp_process_block: src 204.1.1.1, dest 203.1.1.1
OAK_QM exchange
oakley_process_quick_mode:
OAK_QM_IDLE
ISAKMP (0): processing SA payload. message ID = 1223411072

ISAKMP : Checking IPSec proposal 1

ISAKMP: transform 1, ESP_DES
ISAKMP:   attributes in transform:
ISAKMP:      encaps is 1
ISAKMP:      SA life type in seconds
```

```
ISAKMP:      SA life duration (basic) of 28800
ISAKMP:      SA life type in kilobytes
ISAKMP:      SA life duration (VPI) of  0x0 0x46 0x50 0x0
ISAKMP:      authenticator is HMAC-MD5
ISAKMP (0): atts are acceptable.IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) dest= 203.1.1.1, src= 204.1.1.1,
    dest_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4),
    src_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    protocol= ESP, transform= esp-des esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4

ISAKMP (0): processing NONCE payload. message ID = 1223411072

ISAKMP (0): processing ID payload. message ID = 1223411072
ISAKMP (0): ID_IPV4_ADDR_SUBNET src 10.2.2.0/255.255.255.0 prot 0 port 0
ISAKMP (0): processing ID payload. message ID = 1223411072
ISAKMP (0): ID_IPV4_ADDR_SUBNET dst 10.1.1.0/255.255.255.0 prot 0 port
   0IPSEC(key_engine): got a queue event...
IPSEC(spi_response): getting spi 0xd0e27cb6(3504503990) for SA from 204.1.1.1
   to 203.1.1.1 for prot 3

return status is IKMP_NO_ERROR
crypto_isakmp_process_block: src 204.1.1.1, dest 203.1.1.1
OAK_QM exchange
oakley_process_quick_mode:
OAK_QM_AUTH_AWAIT
ISAKMP (0): Creating IPSec SAs
        inbound SA from 204.1.1.1 to 203.1.1.1 proxy 10.2.2.0 to 10.1.1.0)
        has spi 3504503990 and conn_id 4 and flags 4
        lifetime of 28800 seconds
        lifetime of 4608000 kilobytes
        outbound SA from 203.1.1.1 to 204.1.1.1(proxy 10.1.1.0 to 10.2.2.0)
        has spi 2729504033 and conn_id 3 and flags 4
        lifetime of 28800 seconds
        lifetime of 4608000 kilobytesIPSEC(key_engine): got a queue event...
IPSEC(initialize_sas): ,
  (key eng. msg.) dest= 203.1.1.1, src= 204.1.1.1,
    dest_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4),
    src_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    protocol= ESP, transform= esp-des esp-md5-hmac ,
    lifedur= 28800s and 4608000kb,
    spi= 0xd0e27cb6(3504503990), conn_id= 4, keysize= 0, flags= 0x4
IPSEC(initialize_sas): ,
  (key eng. msg.) src= 203.1.1.1, dest= 204.1.1.1,
    src_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4),
    dest_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    protocol= ESP, transform= esp-des esp-md5-hmac ,
    lifedur= 28800s and 4608000kb,
    spi= 0xa2b0ed21(2729504033), conn_id= 3, keysize= 0, flags= 0x4

return status is IKMP_NO_ERROR
```

Depuraciones de PIX remoto

```
ISAKMP (0): beginning Main Mode exchange

crypto_isakmp_process_block: src 203.1.1.1, dest 204.1.1.1
OAK_MM exchange
ISAKMP (0): processing SA payload. message ID = 0

ISAKMP (0): Checking ISAKMP transform 1 against priority 10 policy
ISAKMP:      encryption DES-CBC
ISAKMP:      hash MD5
```

```
ISAKMP:      default group 1
ISAKMP:      auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (basic) of 1000
ISAKMP (0): atts are acceptable. Next payload is 0
ISAKMP (0): SA is doing pre-shared key authentication using id type ID_FQDN
return status is IKMP_NO_ERROR
crypto_isakmp_process_block: src 203.1.1.1, dest 204.1.1.1
OAK_MM exchange
ISAKMP (0): processing KE payload. message ID = 0

ISAKMP (0): processing NONCE payload. message ID = 0

ISAKMP (0): processing vendor id payload

ISAKMP (0): speaking to another IOS box!

ISAKMP (0): ID payload
        next-payload : 8
        type         : 2
        protocol     : 17
        port         : 500
        length       : 18
ISAKMP (0): Total payload length: 22
return status is IKMP_NO_ERROR
crypto_isakmp_process_block: src 203.1.1.1, dest 204.1.1.1
OAK_MM exchange
ISAKMP (0): processing ID payload. message ID = 0
ISAKMP (0): processing HASH payload. message ID = 0
ISAKMP (0): SA has been authenticated

ISAKMP (0): beginning Quick Mode exchange, M-ID of
   1223411072:48ebc580IPSEC(key_engine):got a queue event...
IPSEC(spi_response): getting spi 0xa2b0ed21(2729504033) for SA
        from       203.1.1.1 to       204.1.1.1 for prot 3

return status is IKMP_NO_ERROR
crypto_isakmp_process_block: src 203.1.1.1, dest 204.1.1.1
OAK_QM exchange
oakley_process_quick_mode:
OAK_QM_IDLE
ISAKMP (0): processing SA payload. message ID = 1223411072

ISAKMP : Checking IPSec proposal 1

ISAKMP: transform 1, ESP_DES
ISAKMP:   attributes in transform:
ISAKMP:      encaps is 1
ISAKMP:      SA life type in seconds
ISAKMP:      SA life duration (basic) of 28800
ISAKMP:      SA life type in kilobytes
ISAKMP:      SA life duration (VPI) of  0x0 0x46 0x50 0x0
ISAKMP:      authenticator is HMAC-MD5
ISAKMP (0): atts are acceptable.IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) dest= 203.1.1.1, src= 204.1.1.1,
    dest_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4),
    src_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    protocol= ESP, transform= esp-des esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4

ISAKMP (0): processing NONCE payload. message ID = 1223411072

ISAKMP (0): processing ID payload. message ID = 1223411072
```

```
ISAKMP (0): processing ID payload. message ID = 1223411072
ISAKMP (0): Creating IPSec SAs
        inbound SA from 203.1.1.1 to 204.1.1.1 (proxy 10.1.1.0 to 10.2.2.0)
        has spi 2729504033 and conn_id 4 and flags 4
        lifetime of 28800 seconds
        lifetime of 4608000 kilobytes
        outbound SA from 204.1.1.1 to 203.1.1.1 (proxy 10.2.2.0 to 10.1.1.0)
        has spi 3504503990 and conn_id 3 and flags 4
        lifetime of 28800 seconds
        lifetime of 4608000 kilobytesIPSEC(key_engine): got a queue event...
IPSEC(initialize_sas): ,
  (key eng. msg.) dest= 204.1.1.1, src= 203.1.1.1,
    dest_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    src_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4),
    protocol= ESP, transform= esp-des esp-md5-hmac ,
    lifedur= 28800s and 4608000kb,
    spi= 0xa2b0ed21(2729504033), conn_id= 4, keysize= 0, flags= 0x4
IPSEC(initialize_sas): ,
  (key eng. msg.) src= 204.1.1.1, dest= 203.1.1.1,
    src_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    dest_proxy= 10.1.1.0/255.255.255.0/0/0 (type=4),
    protocol= ESP, transform= esp-des esp-md5-hmac ,
    lifedur= 28800s and 4608000kb,
    spi= 0xd0e27cb6(3504503990), conn_id= 3, keysize= 0, flags= 0x4

return status is IKMP_NO_ERROR
```

Depuración del cliente

```
19     16:43:20.402  06/28/01  Sev=Info/4       CM/0x63100004
Establish secure connection using Ethernet

20     16:43:20.402  06/28/01  Sev=Info/4       CM/0x63100025
Attempt connection with server "203.1.1.1"

21     16:43:20.402  06/28/01  Sev=Info/6       IKE/0x6300003B
Attempting to establish a connection with 203.1.1.1.

22     16:43:20.442  06/28/01  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK AG (SA, KE, NON, ID, VID, VID, VID) to 203.1.1.1

23     16:43:20.452  06/28/01  Sev=Info/4       IPSEC/0x63700014
Deleted all keys

24     16:43:20.492  06/28/01  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 203.1.1.1

25     16:43:20.492  06/28/01  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK AG (SA, VID, VID, VID, KE, ID, NON, HASH) from 203.1.1.1

26     16:43:20.492  06/28/01  Sev=Info/5       IKE/0x63000059
Vendor ID payload = 12F5F28C457168A9702D9FE274CC0100


27     16:43:20.492  06/28/01  Sev=Info/5       IKE/0x63000001
Peer is a Cisco-Unity compliant peer

28     16:43:20.492  06/28/01  Sev=Info/5       IKE/0x63000059
Vendor ID payload = AFCAD71368A1F1C96B8696FC77570100


29     16:43:20.492  06/28/01  Sev=Info/5       IKE/0x63000001
Peer supports DPD
```

```
30     16:43:20.492  06/28/01  Sev=Info/5       IKE/0x63000059
Vendor ID payload = A0EB477E6627B406AA10F958254B3517


31     16:43:20.542  06/28/01  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK AG *(HASH, NOTIFY:STATUS_INITIAL_CONTACT) to 203.1.1.1

32     16:43:20.542  06/28/01  Sev=Info/4       CM/0x6310000E
Established Phase 1 SA.  1 Phase 1 SA in the system

33     16:43:21.143  06/28/01  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 203.1.1.1

34     16:43:24.067  06/28/01  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 203.1.1.1

35     16:43:24.067  06/28/01  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 203.1.1.1

36     16:43:24.067  06/28/01  Sev=Info/5       IKE/0x63000010
MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_ADDRESS: , value = 10.3.3.1


37     16:43:24.067  06/28/01  Sev=Info/5       IKE/0x63000010
MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_DNS(1): , value = 10.1.1.3


38     16:43:24.067  06/28/01  Sev=Info/5       IKE/0x63000010
MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_NBNS(1) (a.k.a. WINS) : , value = 10.1.1.3


39     16:43:24.067  06/28/01  Sev=Info/5       IKE/0x6300000E
MODE_CFG_REPLY: Attribute = MODECFG_UNITY_DEFDOMAIN: , value = cisco.com


40     16:43:24.067  06/28/01  Sev=Info/4       CM/0x63100018
Mode Config data received

41     16:43:24.668  06/28/01  Sev=Info/5       IKE/0x63000055
Received a key request from Driver for IP address 203.1.1.1, GW IP = 203.1.1.1


42     16:43:24.668  06/28/01  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID, ID) to 203.1.1.1

43     16:43:24.668  06/28/01  Sev=Info/5       IKE/0x63000055
Received a key request from Driver for IP address 10.10.10.255, GW IP = 203.1.1.1

44     16:43:24.668  06/28/01  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID, ID) to 203.1.1.1

45     16:43:24.668  06/28/01  Sev=Info/4       IPSEC/0x63700014
Deleted all keys

46     16:43:25.619  06/28/01  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 203.1.1.1

47     16:43:25.619  06/28/01  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK QM *(HASH, SA, NON, ID, ID, NOTIFY:STATUS_RESP_LIFETIME) from 203.1.1.1

48     16:43:25.619  06/28/01  Sev=Info/5       IKE/0x63000044
RESPONDER-LIFETIME notify has value of 28800 seconds

49     16:43:25.619  06/28/01  Sev=Info/5       IKE/0x63000045
```

```
RESPONDER-LIFETIME notify has value of 4608000 kb

50     16:43:25.619  06/28/01  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH) to 203.1.1.1

51     16:43:25.619  06/28/01  Sev=Info/5       IKE/0x63000058
Loading IPsec SA (Message ID = 0x59515364 OUTBOUND SPI = 0xB24CDB55 INBOUND SPI = 0x83AA0042)

52     16:43:25.619  06/28/01  Sev=Info/5       IKE/0x63000025
Loaded OUTBOUND ESP SPI: 0xB24CDB55

53     16:43:25.619  06/28/01  Sev=Info/5       IKE/0x63000026
Loaded INBOUND ESP SPI: 0x83AA0042

54     16:43:25.619  06/28/01  Sev=Info/4       CM/0x63100019
One secure connection established

55     16:43:25.629  06/28/01  Sev=Info/6       DIALER/0x63300003
Connection established.

56     16:43:25.669  06/28/01  Sev=Info/6       DIALER/0x63300008
MAPI32 Information - Outlook not default mail client

57     16:43:25.960  06/28/01  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 203.1.1.1

58     16:43:25.960  06/28/01  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK QM *(HASH, SA, NON, ID, ID, NOTIFY:STATUS_RESP_LIFETIME) from 203.1.1.1

59     16:43:25.960  06/28/01  Sev=Info/5       IKE/0x63000044
RESPONDER-LIFETIME notify has value of 28800 seconds

60     16:43:25.960  06/28/01  Sev=Info/5       IKE/0x63000045
RESPONDER-LIFETIME notify has value of 4608000 kb

61     16:43:25.960  06/28/01  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH) to 203.1.1.1

62     16:43:25.960  06/28/01  Sev=Info/5       IKE/0x63000058
Loading IPsec SA (Message ID = 0x23A23005 OUTBOUND SPI = 0xAD0599DB INBOUND SPI = 0x2B74D4A4)

63     16:43:25.960  06/28/01  Sev=Info/5       IKE/0x63000025
Loaded OUTBOUND ESP SPI: 0xAD0599DB

64     16:43:25.960  06/28/01  Sev=Info/5       IKE/0x63000026
Loaded INBOUND ESP SPI: 0x2B74D4A4

65     16:43:25.960  06/28/01  Sev=Info/4       CM/0x63100021
Additional Phase 2 SA established.

66     16:43:25.960  06/28/01  Sev=Info/4       IPSEC/0x63700010
Created a new key structure

67     16:43:25.960  06/28/01  Sev=Info/4       IPSEC/0x6370000F
Added key with SPI=0x55db4cb2 into key list

68     16:43:25.960  06/28/01  Sev=Info/4       IPSEC/0x63700010
Created a new key structure

69     16:43:25.960  06/28/01  Sev=Info/4       IPSEC/0x6370000F
Added key with SPI=0x4200aa83 into key list

70     16:43:25.960  06/28/01  Sev=Info/4       IPSEC/0x63700010
Created a new key structure
```

```
71     16:43:25.960  06/28/01  Sev=Info/4       IPSEC/0x6370000F
Added key with SPI=0xdb9905ad into key list

72     16:43:25.960  06/28/01  Sev=Info/4       IPSEC/0x63700010
Created a new key structure

73     16:43:25.960  06/28/01  Sev=Info/4       IPSEC/0x6370000F
Added key with SPI=0xa4d4742b into key list

74     16:43:35.173  06/28/01  Sev=Info/6       IKE/0x6300003D
Sending DPD request to 203.1.1.1, seq# = 1856135987

75     16:43:35.173  06/28/01  Sev=Info/4       IKE/0x63000013
SENDING >>> ISAKMP OAK INFO *(HASH, NOTIFY:DPD_REQUEST) to 203.1.1.1

76     16:43:35.173  06/28/01  Sev=Info/5       IKE/0x6300002F
Received ISAKMP packet: peer = 203.1.1.1

77     16:43:35.173  06/28/01  Sev=Info/4       IKE/0x63000014
RECEIVING <<< ISAKMP OAK INFO *(HASH, NOTIFY:DPD_ACK) from 203.1.1.1

78     16:43:35.173  06/28/01  Sev=Info/5       IKE/0x6300003F
Received DPD ACK from 203.1.1.1, seq# received = 1856135987, seq# expected = 1856135987
```

Información Relacionada

- Página de Soporte de PIX
- Referencias de Comando PIX
- Configuración de seguridad de red IPSec
- Páginas de soporte de productos de seguridad IP (IPSec)
- Soporte Técnico y Documentación - Cisco Systems