

PIX/ASA 7.x VPN fácil con un ASA 5500 como el servidor y el PIX 506E como el ejemplo de configuración del cliente (NEM)

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Introducción

Este documento proporciona una configuración de ejemplo para IPsec entre un Cisco Adaptive Security Appliance (ASA) 5520 y un router Cisco PIX 506E que usa EasyVPN. El ASA 5520 actúa como servidor EasyVPN y el PIX 506E actúa como cliente remoto del EasyVPN. Mientras que esta configuración utiliza un dispositivo ASA 5520 que ejecuta la versión de software ASA 7.0(4), también puede utilizar esta configuración para los dispositivos de firewall PIX que ejecutan la versión del sistema operativo 7.0 del PIX y posterior.

Refiera al [PIX/ASA 7.x VPN fácil con un ASA 5500 como el servidor y Cisco 871 como el ejemplo de la configuración VNP remota sencilla](#) para más información sobre un escenario similar donde el Cisco 871 Router actúa como el Easy VPN Remote.

Refiera al [hardware cliente VPN en un dispositivo de seguridad de las 501/506 Series PIX con el ejemplo de configuración concentrador VPN 3000](#) para más información sobre un escenario similar donde el Cisco VPN 3000 Concentrator actúa como el Easy VPN Server.

Refiera al [Easy VPN Remote PIX 501/506 a un router IOS® en el modo de ampliación de la red con el ejemplo de configuración de la autenticación ampliada](#) para más información sobre un escenario similar donde el router del Cisco IOS actúa como el Easy VPN Server.

Refiera a PIX-a-[PIX 6.x: Ejemplo de configuración fácil VPN \(NEM\)](#) para más información sobre un escenario similar donde el PIX 506 6.x actúa como el Easy VPN Server.

prerrequisitos

Requisitos

Asegúrese de cumplir estos requisitos antes de intentar esta configuración:

- Asegúrese de que usted tenga una comprensión básica del IPSec y ASA/PIX los sistemas operativos 6.x y 7.x.

Componentes Utilizados

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

- El cliente del hardware remoto del EasyVPN es un PIX 506E que funciona con la versión 6.3(5).
- El servidor del EasyVPN es un ASA 5520 que funciona con la versión 7.0(4).

Nota: La versión 7.x de las 5500 Series ASA funciona con el mismo software considerado en la versión de PIX 7.x. Las configuraciones en este documento son aplicables a ambas líneas de producto.

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 Técnicos de Cisco](#) para obtener más información sobre las convenciones sobre documentos.

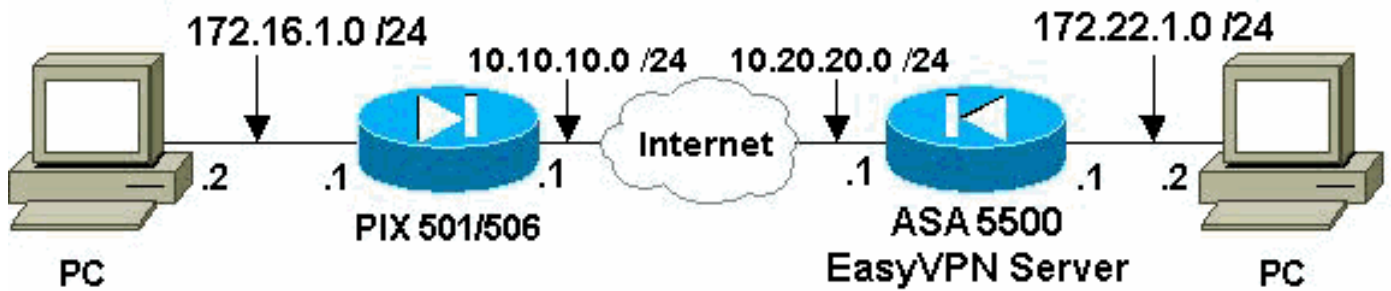
Configurar

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

En este documento, se utilizan estas configuraciones:

- [Easy VPN Server \(ASA 5520\)](#)
- [Hardware cliente del Easy VPN Remote](#)

Easy VPN Server (ASA 5520)

```
ASA5520-704#write terminal : Saved : ASA Version 7.0(4)
! hostname ASA5520-704 enable password 8Ry2YjIyt7RRXU24
encrypted names ! !--- Configure the outside and inside
interfaces. interface GigabitEthernet0/0 nameif outside
security-level 0 ip address 10.20.20.1 255.255.255.0 !
interface GigabitEthernet0/1 nameif inside security-
level 100 ip address 172.22.1.1 255.255.255.0 !
interface GigabitEthernet0/2 shutdown no nameif no
security-level no ip address ! interface
GigabitEthernet0/3 shutdown no nameif no security-level
no ip address ! interface Management0/0 shutdown no
nameif no security-level no ip address ! passwd
2KFQnbNIdI.2KYOU encrypted ftp mode passive !--- This
access list is used for a nat zero command that prevents
!--- traffic which matches the access list from
undergoing !--- network address translation (NAT).
access-list no-nat extended permit ip 172.22.1.0
255.255.255.0 172.16.1.0 255.255.255.0 !--- This access
list is used to define the traffic !--- that should pass
through the tunnel. !--- It is bound to the group policy
which defines !--- a dynamic crypto map. access-list
ezvpn1 extended permit ip 172.22.1.0 255.255.255.0
172.16.1.0 255.255.255.0 pager lines 24 mtu outside 1500
mtu inside 1500 no failover icmp permit any echo-reply
outside icmp permit any inside no asdm history enable
arp timeout 14400 !--- 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. global (outside) 1 interface nat
(inside) 0 access-list no-nat nat (inside) 1 0.0.0.0
0.0.0.0 route outside 0.0.0.0 0.0.0.0 10.20.20.2 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 timeout mgcp-pat
0:05:00 sip 0:30:00 sip_media 0:02:00 timeout uauth
0:05:00 absolute !--- This defines the group policy you
use with EasyVPN. !--- Specify the networks !--- that
should pass through the tunnel and that you want to !---
use network extension mode. group-policy myGROUP
internal group-policy myGROUP attributes split-tunnel-
policy tunnelspecified split-tunnel-network-list value
```

```

ezvpnl nem enable webvpn !--- Here the username and
password associated with !--- this VPN connection are
defined. You !--- can also use AAA for this function.
username cisco password 3USUCOPFUIMCO4Jk encrypted no
snmp-server location no snmp-server contact snmp-server
enable traps snmp authentication linkup linkdown
coldstart !--- PHASE 2 CONFIGURATION ---! !--- The
encryption types for Phase 2 are defined here. !--- A
single DES encryption with !--- the md5 hash algorithm
is used. crypto ipsec transform-set mySET esp-des esp-
md5-hmac !--- Defines a dynamic crypto map with !--- the
specified encryption settings. crypto dynamic-map myDYN-
MAP 5 set transform-set mySET !--- Binds the dynamic map
to the IPsec/ISAKMP process. crypto map myMAP 60 ipsec-
isakmp dynamic myDYN-MAP !--- Specifies the interface to
be used with !--- the settings defined in this
configuration. crypto map myMAP interface outside !---
PHASE 1 CONFIGURATION ---! !--- This configuration uses
isakmp policy 1. !--- Policy 65535 is included in the
default !--- configuration. The configuration commands
here define the Phase !--- 1 policies that are used.
isakmp enable outside isakmp policy 1 authentication
pre-share isakmp policy 1 encryption des isakmp policy 1
hash md5 isakmp policy 1 group 2 isakmp policy 1
lifetime 86400 isakmp policy 65535 authentication pre-
share isakmp policy 65535 encryption 3des isakmp policy
65535 hash sha isakmp policy 65535 group 2 isakmp policy
65535 lifetime 86400 !--- The tunnel-group commands bind
the configurations !--- defined in this configuration to
the tunnel that is !--- used for EasyVPN. This tunnel
name is the one specified on the remote side. tunnel-
group mytunnel type ipsec-ra tunnel-group mytunnel
general-attributes default-group-policy myGROUP tunnel-
group mytunnel ipsec-attributes !--- The pre-shared-key
used here is "cisco". pre-shared-key * telnet timeout 5
ssh timeout 5 console timeout 0 ! class-map
inspection_default match default-inspection-traffic ! !
policy-map global_policy class inspection_default
inspect dns maximum-length 512 inspect ftp inspect h323
h225 inspect h323 ras inspect netbios inspect rsh
inspect rtsp inspect skinny inspect esmtp inspect sqlnet
inspect sunrpc inspect tftp inspect sip inspect xdmcp !
service-policy global_policy global
Cryptochecksum:42123a94a33d8d10ae6a1505fb4ba653 : end
[OK] ASA5520-704#

```

Hardware cliente del Easy VPN Remote

```

pix506-635#write terminal Building configuration... :
Saved : PIX Version 6.3(5) !--- Brings the interfaces
out of a shutdown state. interface ethernet0 auto
interface ethernet1 auto !--- Assign the interface
names. nameif ethernet0 outside security0 nameif
ethernet1 inside security100 enable password
8Ry2YjIyt7RRXU24 encrypted passwd 2KFQnbNIdI.2KYOU
encrypted hostname pix506-635 domain-name cisco.com
fixup protocol dns maximum-length 512 fixup protocol ftp
21 fixup protocol h323 h225 1720 fixup protocol h323 ras
1718-1719 fixup protocol http 80 fixup protocol rsh 514
fixup protocol rtsp 554 fixup protocol sip 5060 fixup
protocol sip udp 5060 fixup protocol skinny 2000 fixup
protocol smtp 25 fixup protocol sqlnet 1521 fixup
protocol tftp 69 names pager lines 24 icmp permit any
outside mtu outside 1500 mtu inside 1500 !--- Assign the
interface IP addresses. ip address outside 10.10.10.1

```

```

255.255.255.0 ip address inside 172.16.1.1 255.255.255.0
ip audit info action alarm ip audit attack action alarm
pdm history enable arp timeout 14400 !--- Set the
standard NAT configuration. !--- EasyVPN provides the
NAT exceptions needed. global (outside) 1 interface nat
(inside) 1 0.0.0.0 0.0.0.0 0 0 !--- Specify the default
route. route outside 0.0.0.0 0.0.0.0 10.10.10.2 1
timeout xlate 3:00:00 timeout conn 1:00:00 half-closed
0:10:00 udp 0:02:00 rpc 0:10:00 h225 1:00:00 timeout
h323 0:05:00 mgcp 0:05:00 sip 0:30:00 sip_media 0:02:00
timeout sip-disconnect 0:02:00 sip-invite 0:03:00
timeout uauth 0:05:00 absolute aaa-server TACACS+
protocol tacacs+ aaa-server TACACS+ max-failed-attempts
3 aaa-server TACACS+ deadtime 10 aaa-server RADIUS
protocol radius aaa-server RADIUS max-failed-attempts 3
aaa-server RADIUS deadtime 10 aaa-server LOCAL protocol
local no snmp-server location no snmp-server contact
snmp-server community public no snmp-server enable traps
floodguard enable telnet timeout 5 ssh timeout 5 console
timeout 0 !--- EasyVPN Client Configuration ---! !---
Specify the IP address of the VPN server. vpnclient
server 10.20.20.1 !--- 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 ***** !---- After
you issue this command, the tunnel is established.
vpnclient enable terminal width 80
Cryptochecksum:1564fd62a9e4312020f51846bd1b3534 : end
[OK] pix506-635#

```

Verificación

Use esta sección para confirmar que su configuración funciona 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.

- [Comandos show del servidor del EasyVPN PIX y salida de muestra](#)
- [Comandos show del cliente del hardware remoto del EasyVPN PIX y salida de muestra](#)

Comandos show del servidor del EasyVPN PIX y salida de muestra

- **muestre isakmp crypto sa** — Visualiza todas las asociaciones de seguridad actuales del Internet Key Exchange (IKE) (SA) en un par.
ASA5520-704#**show 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: 10.10.10.1 Type : user Role : responder Rekey : no State : AM_ACTIVE ASA5520-704#
- **muestre IPsec crypto sa** — SA de IPsec de las visualizaciones construido entre los pares.
ASA5520-704#**show crypto ipsec sa** interface: outside Crypto map tag: myDYN-MAP, seq num: 5, local addr: 10.20.20.1 local ident (addr/mask/prot/port): (172.22.1.0/255.255.255.0/0/0) remote ident (addr/mask/prot/port): (172.16.1.0/255.255.255.0/0/0) current_peer: 10.10.10.1, username: cisco dynamic allocated peer ip: 0.0.0.0 #pkts encaps: 655, #pkts encrypt: 655, #pkts digest: 655 #pkts decaps: 706, #pkts decrypt: 706, #pkts verify: 706 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 655, #pkts comp failed: 0, #pkts decomp failed: 0 #send errors: 0, #recv errors: 0 local crypto endpt.: 10.20.20.1, remote crypto endpt.: 10.10.10.1 path mtu 1500, ipsec overhead 60, media mtu 1500 current outbound spi: 3EA12BBE inbound esp sas: spi: 0x9B94D824

```
(2610223140) transform: esp-des esp-md5-hmac in use settings ={RA, Tunnel, } slot: 0,
conn_id: 4, crypto-map: myDYN-MAP sa timing: remaining key lifetime (sec): 25015 IV size: 8
bytes replay detection support: Y outbound esp sas: spi: 0x3EA12BBE (1050749886) transform:
esp-des esp-md5-hmac in use settings ={RA, Tunnel, } slot: 0, conn_id: 4, crypto-map: myDYN-
MAP sa timing: remaining key lifetime (sec): 25011 IV size: 8 bytes replay detection
support: Y ASA5520-704#
```

Comandos show del cliente del hardware remoto del EasyVPN PIX y salida de muestra

- **permiso vpnclient** — Habilita una conexión remota del EasyVPN. En el Modo de ampliación de la red (NEM), el túnel está para arriba incluso cuando no hay tráfico interesante que se intercambiará por el servidor del EasyVPN del headend.`.pix506-635(config)#vpnclient enable`
- **show crypto isakmp policy** – Muestra los parámetros para cada política IKE.`.pix506-635#show crypto isakmp policy` Default protection suite encryption algorithm: DES - Data Encryption Standard (56 bit keys). hash algorithm: Secure Hash Standard authentication method: Rivest-Shamir-Adleman Signature Diffie-Hellman group: #1 (768 bit) lifetime: 86400 seconds, no volume limit Esta salida muestra el comando `show crypto isakmp policy` después de que habiliten al hardware cliente.`.pix506-635(config)#show crypto isakmp policy` Protection suite of priority 65001 encryption algorithm: AES - Advanced Encryption Standard (256 bit keys). hash algorithm: Secure Hash Standard authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65002 encryption algorithm: AES - Advanced Encryption Standard (256 bit keys). hash algorithm: Message Digest 5 authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65003 encryption algorithm: AES - Advanced Encryption Standard (192 bit keys). hash algorithm: Secure Hash Standard authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65004 encryption algorithm: AES - Advanced Encryption Standard (192 bit keys). hash algorithm: Message Digest 5 authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65005 encryption algorithm: AES - Advanced Encryption Standard (128 bit keys). hash algorithm: Secure Hash Standard authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65006 encryption algorithm: AES - Advanced Encryption Standard (128 bit keys). hash algorithm: Message Digest 5 authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65007 encryption algorithm: Three key triple DES hash algorithm: Secure Hash Standard authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65008 encryption algorithm: Three key triple DES hash algorithm: Message Digest 5 authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65009 encryption algorithm: DES - Data Encryption Standard (56 bit keys). hash algorithm: Message Digest 5 authentication method: Pre-Shared Key with XAUTH Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65010 encryption algorithm: AES - Advanced Encryption Standard (256 bit keys). hash algorithm: Secure Hash Standard authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65011 encryption algorithm: AES - Advanced Encryption Standard (256 bit keys). hash algorithm: Message Digest 5 authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65012 encryption algorithm: AES - Advanced Encryption Standard (192 bit keys). hash algorithm: Secure Hash Standard authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65013 encryption algorithm: AES - Advanced Encryption Standard (192 bit keys). hash algorithm: Message Digest 5 authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65014 encryption algorithm: AES - Advanced Encryption Standard (128 bit keys). hash algorithm: Secure Hash Standard authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65015 encryption algorithm: AES

- Advanced Encryption Standard (128 bit keys). hash algorithm: Message Digest 5 authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65016 encryption algorithm: Three key triple DES hash algorithm: Secure Hash Standard authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65017 encryption algorithm: Three key triple DES hash algorithm: Message Digest 5 authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit Protection suite of priority 65018 encryption algorithm: DES - Data Encryption Standard (56 bit keys). hash algorithm: Message Digest 5 authentication method: Pre-Shared Key Diffie-Hellman group: #2 (1024 bit) lifetime: 86400 seconds, no volume limit

• **show crypto isakmp sa** — Muestra todas las asociaciones actuales de seguridad (SA) IKE de un par.
`pix506-635#show crypto isakmp sa` Total : 1 Embryonic : 0 dst src state pending created 10.20.20.1 10.10.10.1 QM_IDLE 0 4 pix506-635#

• **muestre IPsec crypto sa** — SA de IPsec de las visualizaciones construido entre los pares.
`pix506-635#show crypto ipsec sa` interface: outside Crypto map tag: _vpnc_cm, local addr. 10.10.10.1 local ident (addr/mask/prot/port): (172.16.1.0/255.255.255.0/0/0) remote ident (addr/mask/prot/port): (172.22.1.0/255.255.255.0/0/0) current_peer: 10.20.20.1:500 PERMIT, flags={origin_is_acl,} #pkts encaps: 706, #pkts encrypt: 706, #pkts digest 706 #pkts decaps: 655, #pkts decrypt: 655, #pkts verify 655 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 0, #pkts compr. failed: 0, #pkts decompress failed: 0 #send errors 1, #recv errors 0 local crypto endpt.: 10.10.10.1, remote crypto endpt.: 10.20.20.1 path mtu 1500, ipsec overhead 56, media mtu 1500 current outbound spi: 9b94d824 inbound esp sas: spi: 0x3ea12bbe(1050749886) transform: esp-des esp-md5-hmac , in use settings = {Tunnel, } slot: 0, conn id: 3, crypto map: _vpnc_cm sa timing: remaining key lifetime (k/sec): (4607941/24712) IV size: 8 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp sas: spi: 0x9b94d824(2610223140) transform: esp-des esp-md5-hmac , in use settings = {Tunnel, } slot: 0, conn id: 4, crypto map: _vpnc_cm sa timing: remaining key lifetime (k/sec): (4607958/24712) IV size: 8 bytes replay detection support: Y outbound ah sas: outbound pcp sas:

• **show vpnclient** — Información de la configuración del dispositivo remoto del cliente VPN o del EasyVPN de las visualizaciones.
`pix506-635#show vpnclient` LOCAL CONFIGURATION vpnclient server 10.20.20.1 vpnclient mode network-extension-mode vpnclient vpngroup mytunnel password ***** vpnclient username cisco password ***** vpnclient enable DOWNLOADED DYNAMIC POLICY Current Server : 10.20.20.1 PFS Enabled : No Secure Unit Authentication Enabled : No User Authentication Enabled : No Split Networks : 172.22.1.0/255.255.255.0 Backup Servers : None pix506-635#

Troubleshooting

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

Si usted ha configurado el cliente del hardware remoto del EasyVPN y el servidor del EasyVPN como este documento todavía describe y usted experimenta los problemas, recolecte la **salida de los debugs de** cada PIX y la salida de los **comandos show** para el análisis por el Soporte técnico de Cisco. También refiera a [resolver problemas el PIX para pasar el tráfico de datos en un túnel de IPsec establecido](#) o el [Troubleshooting de IP Security - entendiendo y con los comandos debug](#). Habilite el debugging de IPsec en el PIX.

Estas secciones visualizan los comandos del PIX debug y la salida de muestra.

- [Comandos server del EasyVPN](#)
- [Comandos client del hardware remoto del EasyVPN](#)

[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.

Comandos server del EasyVPN

- **IPSec del debug crypto** — Visualiza los IPSec Negotiations de la fase 2.
- **debug crypto isakmp** — Muestra las negociaciones ISAKMP para la fase 1.

La salida de muestra se muestra aquí.

```
ASA5520-704#debug crypto ipsec 2 ASA5520-704#debug crypto isakmp 2 ASA5520-704# Sep 15 23:02:42
[IKEv1]: IP = 10.10.10.1, Connection landed on tunnel_group mytunnel Sep 15 23:02:43 [IKEv1]:
Group = mytunnel, Username = cisco, IP = 10.10.10.1, User (cisco) authenticated. Sep 15 23:02:48
[IKEv1]: Group = mytunnel, Username = cisco, IP = 10.10.10.1, PHASE 1 COMPLETED Sep 15 23:02:48
[IKEv1]: Group = mytunnel, Username = cisco, IP = 10.10.10.1, IKE: requesting SPI! Sep 15
23:02:48 [IKEv1]: Group = mytunnel, Username = cisco, IP = 10.10.10.1, Security negotiation
complete for User (cisco) Responder, Inbound SPI = 0x436fbef1, Outbound SPI = 0x5c6b5137 Sep 15
23:02:48 [IKEv1]: Group = mytunnel, Username = cisco, IP = 10.10.10.1, IKE: requesting SPI! Sep
15 23:02:48 [IKEv1]: Group = mytunnel, Username = cisco, IP = 10.10.10.1, Starting P2 Rekey
timer to expire in 27360 seconds Sep 15 23:02:48 [IKEv1]: Group = mytunnel, Username = cisco, IP
= 10.10.10.1, PHASE 2 COMPLETED (msgid=dc3aa1ef) Sep 15 23:02:48 [IKEv1]: Group = mytunnel,
Username = cisco, IP = 10.10.10.1, Security negotiation complete for User (cisco) Responder,
Inbound SPI = 0x69352d74, Outbound SPI = 0x4a7e47fc Sep 15 23:02:48 [IKEv1]: Group = mytunnel,
Username = cisco, IP = 10.10.10.1, Starting P2 Rekey timer to expire in 27360 seconds Sep 15
23:02:48 [IKEv1]: Group = mytunnel, Username = cisco, IP = 10.10.10.1, PHASE 2 COMPLETED
(msgid=58a397ad)
```

Comandos client del hardware remoto del EasyVPN

- **IPSec del debug crypto** — Visualiza los IPSec Negotiations de la fase 2.
- **debug crypto isakmp** — Muestra las negociaciones ISAKMP para la fase 1.

```
pix506-635(config)#vpnclient enable ISAKMP (0): ID payload next-payload : 13 type : 11 protocol :
17 port : 0 length : 12pix506-635(config)# ISAKMP (0): Total payload length: 16 ISAKMP
(0:0): sending NAT-T vendor ID - rev 2 & 3 ISAKMP (0): beginning Aggressive Mode exchange
crypto_isakmp_process_block:src:10.20.20.1, dest:10.10.10.1 spt:500 dpt:500 OAK_AG exchange
ISAKMP (0): processing SA payload. message ID = 0 ISAKMP (0): Checking ISAKMP transform 9
against priority 65001 policy ISAKMP: encryption DES-CBC ISAKMP: hash MD5 ISAKMP: default
group 2 ISAKMP: extended auth pre-share (init) ISAKMP: life type in seconds ISAKMP: life
duration (VPI) of 0x0 0x1 0x51 0x80 ISAKMP (0): atts are not acceptable. Next payload is 0
ISAKMP (0): Checking ISAKMP transform 9 against priority 65002 policy ISAKMP: encryption
DES-CBC ISAKMP: hash MD5 ISAKMP: default group 2 ISAKMP: extended auth pre-share (init)
ISAKMP: life type in seconds ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 ISAKMP (0):
atts are not acceptable. Next payload is 0 ISAKMP (0): Checking ISAKMP transform 9 against
priority 65003 policy ISAKMP: encryption DES-CBC ISAKMP: hash MD5 ISAKMP: default group 2
ISAKMP: extended auth pre-share (init) ISAKMP: life type in seconds ISAKMP: life duration
(VPI) of 0x0 0x1 0x51 0x80 ISAKMP (0): atts are not acceptable. Next payload is 0 ISAKMP
(0): Checking ISAKMP transform 9 against priority 65004 policy ISAKMP: encryption DES-CBC
ISAKMP: hash MD5 ISAKMP: default group 2 ISAKMP: extended auth pre-share (init) ISAKMP: life
type in seconds ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 ISAKMP (0): atts are not
acceptable. Next payload is 0 ISAKMP (0): Checking ISAKMP transform 9 against priority 65005
policy ISAKMP: encryption DES-CBC ISAKMP: hash MD5 ISAKMP: default group 2 ISAKMP: extended
auth pre-share (init) ISAKMP: life type in seconds ISAKMP: life duration (VPI) of 0x0 0x1
0x51 0x80 ISAKMP (0): atts are not acceptable. Next payload is 0 ISAKMP (0): Checking ISAKMP
transform 9 against priority 65006 policy ISAKMP: encryption DES-CBC ISAKMP: hash MD5
ISAKMP: default group 2 ISAKMP: extended auth pre-share (init) ISAKMP: life type in seconds
ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 ISAKMP (0): atts are not acceptable. Next
payload is 0 ISAKMP (0): Checking ISAKMP transform 9 against priority 65007 policy ISAKMP:
encryption DES-CBC ISAKMP: hash MD5 ISAKMP: default group 2 ISAKMP: extended auth pre-share
(init) ISAKMP: life type in seconds ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 ISAKMP
(0): atts are not acceptable. Next payload is 0 ISAKMP (0): Checking ISAKMP transform 9
against priority 65008 policy ISAKMP: encryption DES-CBC ISAKMP: hash MD5 ISAKMP: default
```


group 2 ISAKMP: extended auth pre-share (init) ISAKMP: life type in seconds ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 ISAKMP (0): atts are not acceptable. Next payload is 0
ISAKMP (0): Checking ISAKMP transform 9 against priority 65009 policy ISAKMP: encryption DES-CBC ISAKMP: hash MD5 ISAKMP: default group 2 ISAKMP: extended auth pre-share (init)
ISAKMP: life type in seconds ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 ISAKMP (0): atts are acceptable. Next payload is 0 ISAKMP (0): processing KE payload. message ID = 0
ISAKMP (0): processing NONCE payload. message ID = 0 ISAKMP (0): processing ID payload. message ID = 0 ISAKMP (0): processing HASH payload. message ID = 0
crypto_isakmp_process_block:src:10.20.20.1, dest:10.10.10.1 spt:500 dpt:500
crypto_isakmp_process_block:src:10.20.20.1, dest:10.10.10.1 spt:500 dpt:500 ISAKMP :
attributes being requested crypto_isakmp_process_block:src:10.20.20.1, dest:10.10.10.1
spt:500 dpt:500 ISAKMP (0): beginning Quick Mode exchange, M-ID of 1567562998:5d6f1cf6IPSEC
(key_engine): got a queue event... IPSEC(spi_response): getting spi 0x411cf95(68276117) for
SA from 10.20.20.1 to 10.10.10.1 for prot 3 crypto_isakmp_process_block:src:10.20.20.1,
dest:10.10.10.1 spt:500 dpt:500 OAK_QM exchange oakley_process_quick_mode: OAK_QM_IDLE
ISAKMP (0): processing SA payload. message ID = 1567562998 ISAKMP : Checking IPsec proposal
1 ISAKMP: transform 1, ESP_DES ISAKMP: attributes in transform: 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: encaps is 1 ISAKMP: authenticator is
HMAC-MD5 ISAKMP (0): atts are acceptable.IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) dest= 10.20.20.1, src= 10.10.10.1, dest_proxy= 172.22.1.0/255.255.255.0/0/0
(type=4), src_proxy= 10.10.10.1/255.255.255.255/0/0 (type=1), 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 = 1567562998 ISAKMP (0): processing ID
payload. message ID = 1567562998 ISAKMP (0): processing ID payload. message ID = 1567562998
ISAKMP (0): Creating IPsec SAs inbound SA from 10.20.20.1 to 10.10.10.1 (proxy 172.22.1.0 to
10.10.10.1) has spi 68276117 and conn_id 5 and flags 4 lifetime of 28800 seconds lifetime of
4608000 kilobytes outbound SA from 10.10.10.1 to 10.20.20.1 (proxy 10.10.10.1 to 172.22.1.0)
has spi 418090151 and conn_id 6 and flags 4 lifetime of 28800 seconds lifetime of 4608000
kilobytesIPSEC(key_engine): got a queue event... IPSEC(initialize_sas): , (key eng. msg.)
dest= 10.10.10.1, src= 10.20.20.1, dest_proxy= 10.10.10.1/255.255.255.255/0/0 (type=1),
src_proxy= 172.22.1.0/255.255.255.0/0/0 (type=4), protocol= ESP, transform= esp-des esp-md5-
hmac , lifedur= 28800s and 4608000kb, spi= 0x411cf95(68276117), conn_id= 5, keysize= 0,
flags= 0x4 IPSEC(initialize_sas): , (key eng. msg.) src= 10.10.10.1, dest= 10.20.20.1,
src_proxy= 10.10.10.1/255.255.255.255/0/0 (type=1), dest_proxy= 172.22.1.0/255.255.255.0/0/0
(type=4), protocol= ESP, transform= esp-des esp-md5-hmac , lifedur= 28800s and 4608000kb,
spi= 0x18eb8ca7(418090151), conn_id= 6, keysize= 0, flags= 0x4 VPN Peer: IPSEC: Peer
ip:10.20.20.1/500 Ref cnt incremented to:2 Total VPN Peers:1 VPN Peer: IPSEC: Peer
ip:10.20.20.1/500 Ref cnt incremented to:3 Total VPN Peers:1 return status is IKMP_NO_ERROR
ISAKMP (0): beginning Quick Mode exchange, M-ID of 43279810:29465c2IPSEC(key_engine): got a
queue event... IPSEC(spi_response): getting spi 0xal2022dd(2703237853) for SA from
10.20.20.1 to 10.10.10.1 for prot 3 crypto_isakmp_process_block:src:10.20.20.1,
dest:10.10.10.1 spt:500 dpt:500 OAK_QM exchange oakley_process_quick_mode: OAK_QM_IDLE
ISAKMP (0): processing SA payload. message ID = 43279810 ISAKMP : Checking IPsec proposal 1
ISAKMP: transform 1, ESP_DES ISAKMP: attributes in transform: 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: encaps is 1 ISAKMP: authenticator is
HMAC-MD5 ISAKMP (0): atts are acceptable.IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) dest= 10.20.20.1, src= 10.10.10.1, dest_proxy=
10.20.20.1/255.255.255.255/0/0 (type=1), src_proxy= 10.10.10.1/255.255.255.255/0/0 (type=1),
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 = 43279810 ISAKMP
(0): processing ID payload. message ID = 43279810 ISAKMP (0): processing ID payload. message
ID = 43279810 ISAKMP (0): Creating IPsec SAs inbound SA from 10.20.20.1 to 10.10.10.1 (proxy
10.20.20.1 to 10.10.10.1) has spi 2703237853 and conn_id 3 and flags 4 lifetime of 28800
seconds lifetime of 4608000 kilobytes outbound SA from 10.10.10.1 to 10.20.20.1 (proxy
10.10.10.1 to 10.20.20.1) has spi 1010314457 and conn_id 4 and flags 4 lifetime of 28800
seconds lifetime of 4608000 kilobytesIPSEC(key_engine): got a queue event...
IPSEC(initialize_sas): , (key eng. msg.) dest= 10.10.10.1, src= 10.20.20.1, dest_proxy=
10.10.10.1/255.255.255.255/0/0 (type=1), src_proxy= 10.20.20.1/255.255.255.255/0/0 (type=1),
protocol= ESP, transform= esp-des esp-md5-hmac , lifedur= 28800s and 4608000kb, spi=
0xal2022dd(2703237853), conn_id= 3, keysize= 0, flags= 0x4 IPSEC(initialize_sas): , (key
eng. msg.) src= 10.10.10.1, dest= 10.20.20.1, src_proxy= 10.10.10.1/255.255.255.255/0/0
(type=1), dest_proxy= 10.20.20.1/255.255.255.255/0/0 (type=1), protocol= ESP, transform=

```
esp-des esp-md5-hmac , lifedur= 28800s and 4608000kb, spi= 0x3c382cd9(1010314457), conn_id=
4, keysize= 0, flags= 0x4 VPN Peer: IPSEC: Peer ip:10.20.20.1/500 Ref cnt incremented to:4
Total VPN Peers:1 VPN Peer: IPSEC: Peer ip:10.20.20.1/500 Ref cnt incremented to:5 Total VPN
Peers:1 return status is IKMP_NO_ERROR ISAKMP (0): sending NOTIFY message 36136 protocol 1
crypto_isakmp_process_block:src:10.20.20.1, dest:10.10.10.1 spt:500 dpt:500 ISAKMP (0):
processing NOTIFY payload 36137 protocol 1 spi 0, message ID = 1608818011 ISAMKP (0):
received DPD_R_U_THERE_ACK from peer 10.20.20.1 return status is IKMP_NO_ERR_NO_TRANS
pix506-635(config)#
```

- **debug vpnclient** — Visualiza las negociaciones específicas al cliente VPN.

```
pix506-635(config)#vpnclient enable pix506-635(config)# 44: VPNC CFG: transform set unconfig
attempt done 45: VPNC CLI: no isakmp keepalive 10 5 46: VPNC CLI: no isakmp nat-traversal 20
47: VPNC CFG: IKE unconfig successful 48: VPNC CLI: no crypto map _vpnc_cm 49: VPNC CFG:
crypto map deletion attempt done 50: VPNC CFG: crypto unconfig successful 51: VPNC CLI: no
global (outside) 65001 52: VPNC CLI: no nat (inside) 0 access-list _vpnc_acl 53: VPNC CFG:
nat unconfig attempt failed 54: VPNC CLI: no http 172.16.1.1 255.255.255.0 inside 55: VPNC
CLI: no http server enable 56: VPNC CLI: no access-list _vpnc_acl 57: VPNC CFG: ACL deletion
attempt failed 58: VPNC CLI: no crypto map _vpnc_cm interface outside 59: VPNC CFG: crypto
map de/attach failed 60: VPNC CLI: no sysopt connection permit-ipsec 61: VPNC CLI: sysopt
connection permit-ipsec 62: VPNC CFG: transform sets configured 63: VPNC CFG: crypto config
successful 64: VPNC CLI: isakmp keepalive 10 5 65: VPNC CLI: isakmp nat-traversal 20 66:
VPNC CFG: IKE config successful 67: VPNC CLI: http 172.16.1.1 255.255.255.0 inside 68: VPNC
CLI: http server enable 69: VPNC CLI: aaa-server _vpnc_nwp_server protocol tacacs+ 70: VPNC
CLI: aaa-server _vpnc_nwp_server (outside) host 10.20.20.1 71: VPNC CLI: access-list
_vpnc_nwp_acl permit ip any 172.22.1.0 255.255.255.0 72: VPNC CLI: aaa authentication match
_vpnc_nwp_acl outbound _vpnc_nwp_server 73: VPNC CLI: no access-list _vpnc_acl 74: VPNC CFG:
ACL deletion attempt failed 75: VPNC CLI: access-list _vpnc_acl permit ip host 10.10.10.1
host 10.20.20.1 76: VPNC CLI: crypto map _vpnc_cm 10 match address _vpnc_acl 77: VPNC CFG:
crypto map acl update successful 78: VPNC CLI: no crypto map _vpnc_cm interface outside 79:
VPNC CLI: crypto map _vpnc_cm interface outside 80: VPNC INF: IKE trigger request done 81:
VPNC INF: Constructing policy download req 82: VPNC INF: Packing attributes for policy
request 83: VPNC INF: Attributes being requested 84: VPNC ATT: ALT_SPLIT_INCLUDE 85: VPNC
INF: 172.22.1.0/255.255.255.0 86: VPNC ATT: ALT_PFS: 0 87: VPNC INF: Received application
version 'Cisco Systems, Inc ASA5520 Version 7.0(4) built by builders on Thu 13-Oct-05 21:43'
88: VPNC ATT: ALT_CFG_SEC_UNIT: 0 89: VPNC ATT: ALT_CFG_USER_AUTH: 0 90: VPNC CLI: no aaa
authentication match _vpnc_nwp_acl outbound _vpnc_nwp_server 91: VPNC CLI: no access-list
_vpnc_nwp_acl permit ip any 172.22.1.0 255.255.255.0 92: VPNC CLI: no aaa-server
_vpnc_nwp_server 93: VPNC CLI: no access-list _vpnc_acl 94: VPNC CLI: access-list _vpnc_acl
permit ip 172.16.1.0 255.255.255.0 172.22.1.0 255.255.255.0 95: VPNC CLI: access-list
_vpnc_acl permit ip host 10.10.10.1 172.22.1.0 255.255.255.0 96: VPNC CLI: access-list
_vpnc_acl permit ip host 10.10.10.1 host 10.20.20.1 97: VPNC CFG: _vpnc_acl ST define done
98: VPNC CFG: Split DNS config attempt done 99: VPNC CLI: crypto map _vpnc_cm 10 match
address _vpnc_acl 100: VPNC CFG: crypto map acl update successful 101: VPNC CLI: no crypto
map _vpnc_cm interface outside 102: VPNC CLI: crypto map _vpnc_cm interface outside 103:
VPNC CLI: no global (outside) 65001 104: VPNC CLI: no nat (inside) 0 access-list _vpnc_acl
105: VPNC CFG: nat unconfig attempt failed 106: VPNC CLI: nat (inside) 0 access-list
_vpnc_acl 107: VPNC INF: IKE trigger request done 108: VPNC INF: IKE trigger request done
pix506-635(config)#
```

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- [Avisos de campos de productos de seguridad \(incluido PIX\)](#)
- [Solicitudes de Comentarios \(RFC\)](#)
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