PIX到PIX 6.x ：Easy VPN (NEM)配置示例

目录

简介

本文档提供了 PIX Easy VPN 远程硬件客户端和 PIX Easy VPN 服务器之间的 IPSec 的示例配置。PIX的Easy VPN Remote功能被引入PIX版本6.2，也请参见硬件客户端/EzVPN客户端。PIX 软件版本 6.0 及更高版本支持 Cisco Easy VPN 服务器。

要了解有关安全设备使用软件版本7.x运行的相同场景的详细信息，请参阅PIX/ASA 7.x Easy VPN(ASA 5500作为服务器，PIX 506E作为客户端(NEM))配置示例。

有关将 Cisco 871 路由器用作 Easy VPN Remote 的类似方案的详细信息，请参阅将 ASA 5500 用作服务器，将 Cisco 871 用作 Easy VPN Remote 的 PIX/ASA 7.x Easy VPN 配置示例。

有关 Cisco VPN 3000 集中器充当 Easy VPN Server 的类似方案的详细信息，请参阅使用 VPN 3000 集中器配置 PIX 501/506 系列安全设备上的 VPN 硬件客户端的示例。

有关Cisco IOS®路由器充当Easy VPN服务器的类似场景的详细信息，请参阅PIX 501/506 Easy VPN Remote到IOS路由器的网络扩展模式和扩展身份验证配置示例。

先决条件

要求

尝试进行此配置之前，请确保满足以下要求：

- 确保PIX Easy VPN远程硬件客户端是运行PIX软件版本6.2或更高版本的PIX 501或PIX 506/506E。
- 确保您的 Easy VPN 服务器是运行 PIX 软件版本 6.0 或更高版本的 PIX 防火墙。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- PIX Easy VPN远程硬件客户端是运行PIX软件版本6.3(1)的PIX 501。
- Easy VPN 服务器是运行 PIX 软件版本 6.3(1) 的 PIX 515。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档约定的更多信息，请参考 Cisco 技术提示约定。

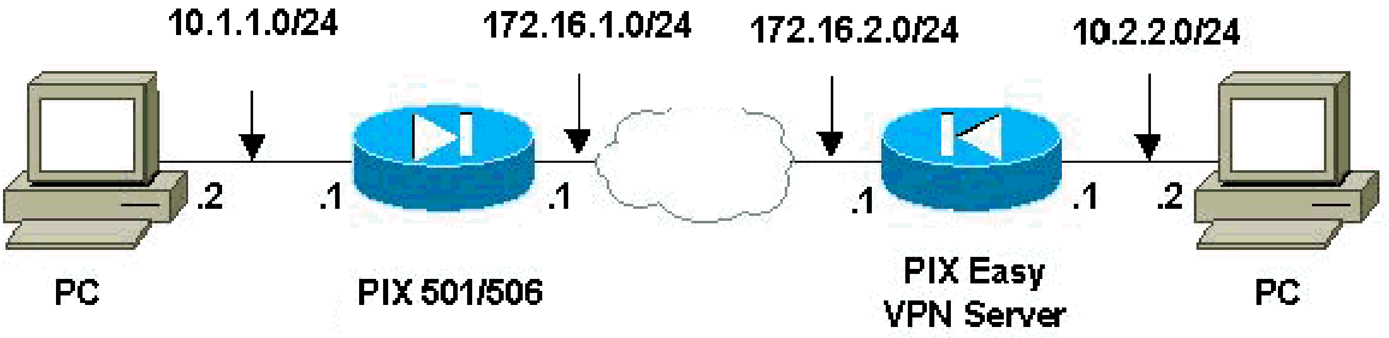
配置

本部分提供有关如何配置本文档所述功能的信息。

注意：使用命令查找工具(仅限注册客户)可获取有关本节中使用的命令的详细信息。

网络图

本文档使用以下网络设置：



配置

本文档使用以下配置：

- PIX Easy VPN 服务器
- PIX Easy VPN远程硬件客户端

PIX Easy VPN 服务器

```
pix515#write terminal
Building configuration...
: Saved
```

```
:
PIX Version 6.3(1)
!--- Specify speed and duplex settings. interface
ethernet0 auto interface ethernet1 auto interface
ethernet2 auto shutdown interface ethernet3 auto
shutdown interface ethernet4 auto shutdown interface
ethernet5 auto shutdown nameif ethernet0 outside
security0 nameif ethernet1 inside security100 nameif
ethernet2 intf2 security4 nameif ethernet3 intf3
security6 nameif ethernet4 intf4 security8 nameif
ethernet5 intf5 security10 enable password
8Ry2YjIyt7RRXU24 encrypted passwd 2KFQnbNIdI.2KYOU
encrypted hostname pix515 fixup protocol ftp 21 fixup
protocol h323 h225 1720 fixup protocol h323 ras 1718-
1719 fixup protocol http 80 fixup protocol ils 389 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 names !--- Specify split tunnelling access list and
"nonat" access list. access-list 101 permit ip 10.2.2.0
255.255.255.0 10.1.1.0 255.255.255.0 pager lines 24 mtu
outside 1500 mtu inside 1500 mtu intf2 1500 mtu intf3
1500 mtu intf4 1500 mtu intf5 1500 !--- Define IP
address for the PIX's inside and outside interfaces. ip
address outside 172.16.2.1 255.255.255.0 ip address
inside 10.2.2.1 255.255.255.0 no ip address intf2 no ip
address intf3 no ip address intf4 no ip address intf5 ip
audit info action alarm ip audit attack action alarm ip
local pool ippool 10.3.3.1-10.3.3.254 no failover
failover timeout 0:00:00 failover poll 15 no failover ip
address outside no failover ip address inside no
failover ip address intf2 no failover ip address intf3
no failover ip address intf4 no failover ip address
intf5 pdm history enable arp timeout 14400 !---
Configure Network Address Translation (NAT)/ !--- Port
Address Translation (PAT) for regular traffic, !--- as
well as NAT for IPsec traffic. global (outside) 1
interface nat (inside) 0 access-list 101 nat (inside) 1
0.0.0.0 0.0.0.0 0 0 !--- Define the outside router as
the default gateway. !--- Typically this is the IP
address of your !--- Internet service provider's (ISP)
router. route outside 0.0.0.0 0.0.0.0 172.16.2.2 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 uauth 0:05:00 absolute aaa-server TACACS+
protocol tacacs+ aaa-server RADIUS protocol radius aaa-
server LOCAL protocol local no snmp-server location no
snmp-server contact snmp-server community public no
snmp-server enable traps floodguard enable sysopt
connection permit-ipsec !--- Configure IPsec transform
set and dynamic crypto map. crypto ipsec transform-set
myset esp-aes esp-md5-hmac crypto dynamic-map dynmap 10
set transform-set myset crypto map mymap 10 ipsec-isakmp
dynamic dynmap !--- Apply crypto map to the outside
interface. crypto map mymap interface outside !---
Configure Phase 1 Internet Security Association !-- and
Key Management Protocol (ISAKMP) parameters. isakmp
enable outside isakmp identity address isakmp policy 10
authentication pre-share isakmp policy 10 encryption aes
isakmp policy 10 hash md5 isakmp policy 10 group 2
isakmp policy 10 lifetime 86400 !--- Configure VPNGroup
parameters, to be sent down to the client. vpngroup
mygroup address-pool ippool vpngroup mygroup dns-server
```

```
10.2.2.2 vpngroup mygroup wins-server 10.2.2.2 vpngroup
mygroup default-domain cisco.com vpngroup mygroup split-
tunnel 101 vpngroup mygroup idle-time 1800 vpngroup
mygroup password ******** vpngroup idle-time idle-time
1800 telnet timeout 5 ssh timeout 5 console timeout 0
terminal width 80
Cryptochecksum:67106d7a5a3aa3da0caaeea93b9fc8d6 : end
[OK] pix515#
```

PIX Easy VPN远程硬件客户端

```

pix501#write terminal
Building configuration...
: Saved
:
PIX Version 6.3(1)
!--- Specify speed and duplex settings. interface
ethernet0 auto interface ethernet1 100full nameif
ethernet0 outside security0 nameif ethernet1 inside
security100 enable password 8Ry2YjIyt7RRXU24 encrypted
passwd 2KFQnbNIdI.2KYOU encrypted hostname pix501 fixup
protocol ftp 21 fixup protocol h323 h225 1720 fixup
protocol h323 ras 1718-1719 fixup protocol http 80 fixup
protocol ils 389 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 names pager lines 24 mtu
outside 1500 mtu inside 1500 !--- Define IP address for
the PIX's inside and outside interfaces. ip address
outside 172.16.1.1 255.255.255.0 ip address inside
10.1.1.1 255.255.255.0 ip audit info action alarm ip
audit attack action alarm pdm history enable arp timeout
14400 !--- Configure NAT for traffic that is not
encrypted. global (outside) 1 interface nat (inside) 1
0.0.0.0 0.0.0.0 0 0 !--- Define the outside router as
the default gateway. !--- Typically this is the IP
address of your ISP's router. route outside 0.0.0.0
0.0.0.0 172.16.1.2 1 timeout xlate 3:00:00 timeout conn
1:00:00 half-closed 0:10:00 udp 0:02:00 rpc 0:10:00 h225
1:00:00 timeout h323 0:05:00 mgcp 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 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
!--- Define Easy VPN Remote parameters. vpnclient server
172.16.2.1 vpnclient mode network-extension-mode
vpnclient vpngroup mygroup password ******** !--- Enable
the VPN Client. !--- (This automatically initiates the
IPSec tunnel to the server.) vpnclient enable terminal
width 80 Cryptochecksum:b8242b410ad8e3b372018cd1cff77f91
: end [OK]
```

验证

使用本部分可确认配置能否正常运行。

命令输出解释程序（仅限注册用户）(OIT) 支持某些 show 命令。使用 OIT 可查看对 show 命令输出的分析。

PIX Easy VPN 服务器 show 命令和示例输出

- **show crypto isakmp sa - 显示对等体上的所有当前 Internet 密钥交换 (IKE) 安全关联 (SA)。**

  ```
  pix515#show crypto isakmp sa
  Total     : 1
  Embryonic : 0
          dst               src        state     pending     created
       172.16.2.1      172.16.1.1    QM_IDLE         0           2
  pix515#
  ```

- **show crypto ipsec sa - 显示对等体之间构建的 IPSec SA。**

  ```
  pix515#show crypto ipsec sa
  !--- This command was issued after a ping !--- was attempted from the PC behind the !---
  Easy VPN Client to the PC !--- behind the server. interface: outside Crypto map tag: mymap,
  local addr. 172.16.2.1 local ident (addr/mask/prot/port): (10.2.2.0/255.255.255.0/0/0)
  remote ident (addr/mask/prot/port): (10.1.1.0/255.255.255.0/0/0) current_peer:
  172.16.1.1:500 dynamic allocated peer ip: 0.0.0.0 PERMIT, flags={} #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 compr. failed: 0, #pkts
  decompress failed: 0 #send errors 0, #recv errors 0 !--- Ping packets !--- were successfully
  exchanged between the !--- Easy VPN Remote Hardware Client !--- and the Easy VPN Server.
  local crypto endpt.: 172.16.2.1, remote crypto endpt.: 172.16.1.1 path mtu 1500, ipsec
  overhead 64, media mtu 1500 current outbound spi: 3a5a28e4 inbound esp sas: spi:
  0x505c96c6(1348245190) transform: esp-aes esp-md5-hmac , in use settings ={Tunnel, } slot:
  0, conn id: 2, crypto map: mymap sa timing: remaining key lifetime (k/sec): (4607999/28471)
  IV size: 16 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp
  sas: spi: 0x3a5a28e4(978987236) transform: esp-aes esp-md5-hmac , in use settings ={Tunnel,
  } slot: 0, conn id: 1, crypto map: mymap sa timing: remaining key lifetime (k/sec):
  (4607999/28471) IV size: 16 bytes replay detection support: Y outbound ah sas: outbound pcp
  sas: local ident (addr/mask/prot/port): (10.2.2.0/255.255.255.0/0/0) remote ident
  (addr/mask/prot/port): (172.16.1.1/255.255.255.255/0/0) current_peer: 172.16.1.1:500 dynamic
  allocated peer ip: 0.0.0.0 PERMIT, flags={} #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 compr. failed: 0, #pkts decompress failed: 0 #send errors
  0, #recv errors 0 local crypto endpt.: 172.16.2.1, remote crypto endpt.: 172.16.1.1 path mtu
  1500, ipsec overhead 64, media mtu 1500 current outbound spi: 27f378f9 inbound esp sas: spi:
  0xf2bb4f00(4072361728) transform: esp-aes esp-md5-hmac , in use settings ={Tunnel, } slot:
  0, conn id: 3, crypto map: mymap sa timing: remaining key lifetime (k/sec): (4608000/27796)
  IV size: 16 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp
  sas: spi: 0x27f378f9(670267641) transform: esp-aes esp-md5-hmac , in use settings ={Tunnel,
  } slot: 0, conn id: 4, crypto map: mymap sa timing: remaining key lifetime (k/sec):
  (4608000/27787) IV size: 16 bytes replay detection support: Y outbound ah sas: outbound pcp
  sas: pix515#
  ```

PIX Easy VPN 远程硬件客户端 show 命令和示例输出

- **vpnclient enable** — 启用Easy VPN Remote连接。(在网络扩展模式(NEM）中，即使没有与数据转发器Easy VPN服务器交换的触发数据流，隧道也在运行。)

  ```
  pix501(config)#vpnclient enable
  ```

- **show crypto isakmp policy - 显示适用于每个 IKE 策略的参数。**

  ```
  pix501#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
  ```

  启用硬件客户**端后，show crypto isakmp policy命令的输出如下所示。**

```
pix501(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 - 显示对等体上的所有当前 IKE SA。**

```
pix501(config)#show crypto isakmp sa
Total      : 1
Embryonic : 0
        dst               src        state     pending     created
     172.16.2.1      172.16.1.1    QM_IDLE         0           1
```

- **show crypto ipsec sa - 显示对等体之间构建的 IPSec SA。**

```
pix501(config)#show crypto ipsec sa
!--- This command was issued after a ping !--- was attempted from the PC behind the !---
Easy VPN client to the PC !--- behind the server. interface: outside Crypto map tag:
_vpnc_cm, local addr. 172.16.1.1 local ident (addr/mask/prot/port):
(10.1.1.0/255.255.255.0/0/0) remote ident (addr/mask/prot/port):
(10.2.2.0/255.255.255.0/0/0) current_peer: 172.16.2.1:500 PERMIT, flags={origin_is_acl,}
#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 compr.
failed: 0, #pkts decompress failed: 0 #send errors 1, #recv errors 0 !--- Ping packets !---
were successfully exchanged between !--- the Easy VPN Remote Hardware Client !--- and the
```

```
Easy VPN Server. local crypto endpt.: 172.16.1.1, remote crypto endpt.: 172.16.2.1 path mtu
1500, ipsec overhead 64, media mtu 1500 current outbound spi: 505c96c6 inbound esp sas: spi:
0x3a5a28e4(978987236) transform: esp-aes esp-md5-hmac , in use settings ={Tunnel, } slot: 0,
conn id: 4, crypto map: _vpnc_cm sa timing: remaining key lifetime (k/sec): (4607999/28745)
IV size: 16 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp
sas: spi: 0x505c96c6(1348245190) transform: esp-aes esp-md5-hmac , in use settings ={Tunnel,
} slot: 0, conn id: 3, crypto map: _vpnc_cm sa timing: remaining key lifetime (k/sec):
(4607999/28745) IV size: 16 bytes replay detection support: Y outbound ah sas: outbound pcp
sas: local ident (addr/mask/prot/port): (172.16.1.1/255.255.255.255/0/0) remote ident
(addr/mask/prot/port): (10.2.2.0/255.255.255.0/0/0) current_peer: 172.16.2.1:500 PERMIT,
flags={origin_is_acl,} #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 compr. failed: 0, #pkts decompress failed: 0 #send errors 0, #recv
errors 0 local crypto endpt.: 172.16.1.1, remote crypto endpt.: 172.16.2.1 path mtu 1500,
ipsec overhead 64, media mtu 1500 current outbound spi: f2bb4f00 inbound esp sas: spi:
0x27f378f9(670267641) transform: esp-aes esp-md5-hmac , in use settings ={Tunnel, } slot: 0,
conn id: 1, crypto map: _vpnc_cm sa timing: remaining key lifetime (k/sec): (4608000/28125)
IV size: 16 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp
sas: spi: 0xf2bb4f00(4072361728) transform: esp-aes esp-md5-hmac , in use settings ={Tunnel,
} slot: 0, conn id: 2, crypto map: _vpnc_cm sa timing: remaining key lifetime (k/sec):
(4608000/28125) IV size: 16 bytes replay detection support: Y outbound ah sas: outbound pcp
sas: pix501(config)#
```

- **show vpnclient - 显示 VPN 客户端或 Easy VPN Remote 设备的配置信息。**

```
pix501(config)#show vpnclient
LOCAL CONFIGURATION
vpnclient server 172.16.2.1
vpnclient mode network-extension-mode
vpnclient vpngroup mygroup password ********
vpnclient enable

DOWNLOADED DYNAMIC POLICY
Current Server                     : 172.16.2.1
Primary DNS                        : 10.2.2.2
Primary WINS                       : 10.2.2.2
Default Domain                     : cisco.com
PFS Enabled                        : No
Secure Unit Authentication Enabled : No
User Authentication Enabled        : No
Split Networks                     : 10.2.2.0/255.255.255.0
Backup Servers                     : None

pix501(config)#
```

故障排除

本部分提供的信息可用于对配置进行故障排除。

如果您已按照本文档所述设置Easy VPN远程硬件客户端和Easy VPN服务器，但仍然遇到问题，请收集每个PIX的调试输出和**show**命令的输出，以便思科技术支持中心(TAC)进行分析。 另请参阅排除 PIX 故障以在已建立的 IPSec 隧道上传输数据流或 IP 安全故障排除 - 了解和使用 debug 命令。在 PIX 上启用 IPsec 调试。

PIX **debug**命令和输出示例如下所示。

- Easy VPN 服务器命令
- Easy VPN 远程硬件客户端命令

注意：在使用debug命令之前，请参阅有关Debug命令**的**重要信息。

Easy VPN 服务器命令

- debug crypto ipsec - 显示第 2 阶段的 IPsec 协商。
- debug crypto isakmp - 显示第 1 阶段的 ISAKMP 协商。

以下是示例输出。

```
pix515(config)#
!--- As soon as the vpnclient enable command !--- is issued on the remote client PIX, !--- the
server receives an IKE negotiation request.

crypto_isakmp_process_block:src:172.16.1.1,
   dest:172.16.2.1 spt:500 dpt:500
OAK_AG exchange
ISAKMP (0): processing SA payload. message ID = 0

ISAKMP (0): Checking ISAKMP transform 1 against priority 10 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 256
ISAKMP:      hash SHA
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 3
ISAKMP (0): Checking ISAKMP transform 2 against priority 10 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 256
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 3
ISAKMP (0): Checking ISAKMP transform 3 against priority 10 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 192
ISAKMP:      hash SHA
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 3
ISAKMP (0): Checking ISAKMP transform 4 against priority 10 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 192
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 3
ISAKMP (0): Checking ISAKMP transform 5 against priority 10 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash SHA
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 3
ISAKMP (0): Checking ISAKMP transform 6 against priority 10 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
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 3
ISAKMP (0): Checking ISAKMP transform 7 against priority 10 policy
ISAKMP:      encryption 3DES-CBC
ISAKMP:      hash SHA
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 3
ISAKMP (0): Checking ISAKMP transform 8 against priority 10 policy
ISAKMP:      encryption 3DES-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 3
ISAKMP (0): Checking ISAKMP transform 9 against priority 10 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 3
ISAKMP (0): Checking ISAKMP transform 10 against priority 10 policy
crypto_isakmp_process_block:src:172.16.1.1,
   dest:172.16.2.1 spt:500 dpt:500
OAK_AG exchange
ISAKMP (0): processing HASH payload. message ID = 0
ISAKMP (0): processing NOTIFY payload 24578 protocol 1
        spi 0, message ID = 0
ISAKMP (0): processing notify INITIAL_CONTACTIPSEC(key_engine):
   got a queue event...
IPSEC(key_engine_delete_sas): rec'd delete notify from ISAKMP
IPSEC(key_engine_delete_sas): delete all SAs shared with 172.16.1.1

ISAKMP (0): processing vendor id payload

ISAKMP (0): received xauth v6 vendor id

ISAKMP (0): processing vendor id payload

ISAKMP (0): remote peer supports dead peer detection

ISAKMP (0): processing vendor id payload

ISAKMP (0): speaking to another IOS box!

ISAKMP (0): processing vendor id payload

crypto_isakmp_process_block:src:172.16.1.1,
   dest:172.16.2.1 spt:500 dpt:500
ISAKMP_TRANSACTION exchange
crypto_isakmp_process_block:src:172.16.1.1,
   dest:172.16.2.1 spt:500 dpt:500
```

```
OAK_QM exchange
oakley_process_quick_mode:
OAK_QM_IDLE
ISAKMP (0): processing SA payload. message ID = 4788683

ISAKMP : Checking IPSec proposal 1

ISAKMP: transform 1, ESP_AES
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-SHA
ISAKMP:      key length is 256IPSEC(validate_proposal):
   transform proposal (prot 3, trans 12, hmac_alg 2) not supported

ISAKMP (0): atts not acceptable. Next payload is 0
ISAKMP : Checking IPSec proposal 2

ISAKMP: transform 1, ESP_AES
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:      key length is 256IPSEC(validate_proposal):
   transform proposal (prot 3, trans 12, hmac_alg 1) not supported

ISAKMP (0): atts not acceptable. Next payload is 0
ISAKMP : Checking IPSec proposal 3

ISAKMP: transform 1, ESP_AES
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-SHA
ISAKMP:      key length is 192IPSEC(validate_proposal):
   transform proposal (prot 3, trans 12, hmac_alg 2) not supported

ISAKMP (0): atts not acceptable. Next payload is 0
ISAKMP : Checking IPSec proposal 4

ISAKMP: transform 1, ESP_AES
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:      key length is 192IPSEC(validate_proposal):
   transform proposal (prot 3, trans 12, hmac_alg 1) not supported

ISAKMP (0): atts not acceptable. Next payload is 0
ISAKMP : Checking IPSec proposal 5

ISAKMP: transform 1, ESP_AES
```

```
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-SHA
ISAKMP:      key length is 128IPSEC(validate_proposal):
   transform proposal (prot 3, trans 12, hmac_alg 2) not supported

ISAKMP (0): atts not acceptable. Next payload is 0
ISAKMP : Checking IPSec proposal 6

ISAKMP: transform 1, ESP_AES
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:      key length is 128
ISAKMP (0): atts are acceptable.IPSEC(validate_proposal_request):
   proposal part #1,
  (key eng. msg.) dest= 172.16.2.1, src= 172.16.1.1,
    dest_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    src_proxy= 172.16.1.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x4
!--- Both PIXes accept the policy for IPsec. ISAKMP (0): processing NONCE payload. message ID =
4788683 ISAKMP (0): processing ID payload. message ID = 4788683 ISAKMP (0): ID_IPV4_ADDR src
172.16.1.1 prot 0 port 0 ISAKMP (0): processing ID payload. message ID = 4788683 ISAKMP (0):
ID_IPV4_ADDR_SUBNET dst 10.2.2.0/255.255.255.0 prot 0 port 0IPSEC(key_engine): got a queue
event... IPSEC(spi_response): getting spi 0xf5720496(4117890198) for SA from 172.16.1.1 to
172.16.2.1 for prot 3 return status is IKMP_NO_ERROR crypto_isakmp_process_block:src:172.16.1.1,
dest:172.16.2.1 spt:500 dpt:500 OAK_QM exchange oakley_process_quick_mode: OAK_QM_AUTH_AWAIT
ISAKMP (0): Creating IPSec SAs inbound SA from 172.16.1.1 to 172.16.2.1 (proxy 172.16.1.1 to
10.2.2.0) has spi 4117890198 and conn_id 3 and flags 4 lifetime of 28800 seconds
crypto_isakmp_process_block:src:172.16.1.1, dest:172.16.2.1 spt:500 dpt:500 ISAKMP (0):
processing NOTIFY payload 36136 protocol 1 spi 0, message ID = 843197376 ISAMKP (0): received
DPD_R_U_THERE from peer 172.16.1.1 ISAKMP (0): sending NOTIFY message 36137 protocol 1 return
status is IKMP_NO_ERR_NO_TRANS crypto_isakmp_process_block:src:172.16.1.1, dest:172.16.2.1
spt:500 dpt:500 ISAKMP (0): processing NOTIFY payload 36136 protocol 1 spi 0, message ID =
1985282089 ISAMKP (0): received DPD_R_U_THERE from peer 172.16.1.1 ISAKMP (0): sending NOTIFY
message 36137 protocol 1 return status is IKMP_NO_ERR_NO_TRANS
crypto_isakmp_process_block:src:172.16.1.1, dest:172.16.2.1 spt:500 dpt:500 ISAKMP (0):
processing NOTIFY payload 36136 protocol 1 spi 0, message ID = 1510977390 ISAMKP (0): received
DPD_R_U_THERE from peer 172.16.1.1 ISAKMP (0): sending NOTIFY message 36137 protocol 1 return
status is IKMP_NO_ERR_NO_TRANS
```

Easy VPN 远程硬件客户端命令

- **debug crypto ipsec - 显示第 2 阶段的 IPsec 协商。**
- **debug crypto isakmp - 显示第 1 阶段的 ISAKMP 协商。**

```
pix501(config)#vpnclient enable
 (cIoSnAfKigM)P#  (0): ID payload
        next-payload : 13
        type         : 11
        protocol     : 17
        port         : 0
        length       : 11
ISAKMP (0): Total payload length: 15
ISAKMP (0:0): sending NAT-T vendor ID - rev 2 & 3
ISAKMP (0): beginning Aggressive Mode exchange
crypto_isakmp_process_block:src:172.16.2.1,
   dest:172.16.1.1 spt:500 dpt:500
OAK_AG exchange
ISAKMP (0): processing SA payload. message ID = 0

ISAKMP (0): Checking ISAKMP transform 1 against priority 65001 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
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 1 against priority 65002 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
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 1 against priority 65003 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
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 1 against priority 65004 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
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 1 against priority 65005 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
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 1 against priority 65006 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
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 1 against priority 65007 policy
```

```
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
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 1 against priority 65008 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
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 1 against priority 65009 policy
ISAKMP:      encryption AES-CBC
ISAKMP:      keylength of 128
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of  0x0 0x1 0x51 0x80
ISAKMP : attributes being requested

crypto_isakmp_process_block:src:172.16.2.1,
   dest:172.16.1.1 spt:500 dpt:500
ISAKMP (0): beginning Quick Mode exchange,
   M-ID of 1112046058:424879eaIPSEC(key_engine): got a queue event...
IPSEC(spi_response): getting spi 0x274d3063(659370083) for SA
        from     172.16.2.1 to     172.16.1.1 for prot 3

crypto_isakmp_process_block:src:172.16.2.1,
   dest:172.16.1.1 spt:500 dpt:500
OAK_QM exchange
oakley_process_quick_mode:
OAK_QM_IDLE
ISAKMP (0): processing SA payload. message ID = 1112046058

ISAKMP : Checking IPSec proposal 1

ISAKMP: transform 1, ESP_AES
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:      key length is 128
ISAKMP (0): atts are acceptable.IPSEC(validate_proposal_request):
   proposal part #1,
  (key eng. msg.) dest= 172.16.2.1, src= 172.16.1.1,
    dest_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    src_proxy= 172.16.1.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x4

ISAKMP (0): processing NONCE payload. message ID = 1112046058

ISAKMP (0): processing ID payload. message ID = 1112046058
ISAKMP (0): processing ID payload. message ID = 1112046058
ISAKMP (0): Creating IPSec SAs
        inbound SA from 172.16.2.1 to 172.16.1.1
   (proxy 10.2.2.0 to 172.16.1.1)
        has spi 659370083 and conn_id 2 and flags 4
        lifetime of 28800 seconds
        lifetime of 4608000 kilobytes
        outbound SA from 172.16.1.1 to 172.16.2.1
   (proxy 172.16.1.1 to 10.2.2.0)
        has spi 264316759 and conn_id 1 and flags 4
        lifetime of 28800 seconds
        lifetime of 4608000 kilobytesIPSEC(key_engine):
   got a queue event...
IPSEC(initialize_sas): ,
  (key eng. msg.) dest= 172.16.1.1, src= 172.16.2.1,
    dest_proxy= 172.16.1.1/255.255.255.255/0/0 (type=1),
    src_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 28800s and 4608000kb,
    spi= 0x274d3063(659370083), conn_id= 2, keysize= 128, flags= 0x4
IPSEC(initialize_sas): ,
  (key eng. msg.) src= 172.16.1.1, dest= 172.16.2.1,
    src_proxy= 172.16.1.1/255.255.255.255/0/0 (type=1),
    dest_proxy= 10.2.2.0/255.255.255.0/0/0 (type=4),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 28800s and 4608000kb,
    spi= 0xfc12757(264316759), conn_id= 1, keysize= 128, flags= 0x4

VPN Peer: IPSEC: Peer ip:172.16.2.1/500 Ref cnt incremented to:2
   Total VPN Peers:1
VPN Peer: IPSEC: Peer ip:172.16.2.1/500 Ref cnt incremented to:3
   Total VPN Peers:1
return status is IKMP_NO_ERROR
pix501(config)#
pix501(config)#
ISAKMP (0): sending NOTIFY message 36136 protocol 1
crypto_isakmp_process_block:src:172.16.2.1,
   dest:172.16.1.1 spt:500 dpt:500
ISAKMP (0): processing NOTIFY payload 36137 protocol 1
        spi 0, message ID = 136860646n
ISAMKP (0): received DPD_R_U_THERE_ACK from peer 172.16.2.1
```

- **debug vpnclient** — 显示特定于VPN客户端的协商。

```
pix501(config)#vpnclient enable
pix501(config)# 505: VPNC CFG: transform set unconfig attempt done
506: VPNC CLI: no isakmp keepalive 10
507: VPNC CLI: no isakmp nat-traversal 20
508: VPNC CFG: IKE unconfig successful
509: VPNC CLI: no crypto map _vpnc_cm
510: VPNC CFG: crypto map deletion attempt done
511: VPNC CFG: crypto unconfig successful
512: VPNC CLI: no global (outside) 65001
513: VPNC CLI: no nat (inside) 0 access-list _vpnc_acl
514: VPNC CFG: nat unconfig attempt failed
515: VPNC CLI: no http 10.1.1.1 255.255.255.0 inside
516: VPNC CLI: no http server enable
517: VPNC CLI: no access-list _vpnc_acl
518: VPNC CFG: ACL deletion attempt failed
519: VPNC CLI: no crypto map _vpnc_cm interface outside
520: VPNC CFG: crypto map de/attach failed
521: VPNC CLI: no sysopt connection permit-ipsec
522: VPNC CLI: sysopt connection permit-ipsec
```

```
523: VPNC CFG: transform sets configured
524: VPNC CFG: crypto config successful
525: VPNC CLI: isakmp keepalive 10
526: VPNC CLI: isakmp nat-traversal 20
527: VPNC CFG: IKE config successful
528: VPNC CLI: http 10.1.1.1 255.255.255.0 inside
529: VPNC CLI: http server enable
530: VPNC CLI: no access-list _vpnc_acl
531: VPNC CFG: ACL deletion attempt failed
532: VPNC CLI: access-list _vpnc_acl
   permit ip host 172.16.1.1 host 172.16.2.1
533: VPNC CLI: crypto map _vpnc_cm 10 match address _vpnc_acl
534: VPNC CFG: crypto map acl update successful
535: VPNC CLI: no crypto map _vpnc_cm interface outside
536: VPNC CLI: crypto map _vpnc_cm interface outside
537: VPNC INF: IKE trigger request done
538: VPNC INF: Constructing policy download req
539: VPNC INF: Packing attributes for policy request
540: VPNC INF: Attributes being requested
541: VPNC ATT: ALT_DEF_DOMAIN: cisco.com
542: VPNC ATT: INTERNAL_IP4_NBNS: 10.2.2.2
543: VPNC ATT: INTERNAL_IP4_DNS: 10.2.2.2
544: VPNC ATT: ALT_SPLIT_INCLUDE
545: VPNC INF:  10.2.2.0/255.255.255.0
546: VPNC ATT: ALT_PFS: 0
547: VPNC ATT: ALT_CFG_SEC_UNIT: 0
548: VPNC ATT: ALT_CFG_USER_AUTH: 0
549: VPNC CLI: no access-list _vpnc_acl
550: VPNC CLI: access-list _vpnc_acl
   permit ip 10.1.1.0 255.255.255.0 10.2.2.0 255.255.255.0
551: VPNC CLI: access-list _vpnc_acl
   permit ip host 172.16.1.1 10.2.2.0 255.255.255.0
552: VPNC CFG: _vpnc_acl ST define done
553: VPNC CFG: Split DNS config attempt done
554: VPNC CLI: crypto map _vpnc_cm 10 match address _vpnc_acl
555: VPNC CFG: crypto map acl update successful
556: VPNC CLI: no crypto map _vpnc_cm interface outside
557: VPNC CLI: crypto map _vpnc_cm interface outside
558: VPNC CLI: no global (outside) 65001
559: VPNC CLI: no nat (inside) 0 access-list _vpnc_acl
560: VPNC CFG: nat unconfig attempt failed
561: VPNC CLI: nat (inside) 0 access-list _vpnc_acl
562: VPNC INF: IKE trigger request done
```

相关信息

- PIX 支持页
- PIX 命令参考
- IPsec协商/IKE协议支持页
- 请求注解 (RFC)
- 技术支持 - Cisco Systems