

Пример конфигурации LAN-LAN и клиента EzVPN на PIX с доступом клиента VPN Client к маршрутизатору узла с помощью профилей ISAKMP

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Введение

В настоящем документе представлен пример настройки для туннелей IPSec при помощи профилей ISAKMP в центральном маршрутизаторе с двумя удаленными узлами PIX. Один удаленный объект PIX представлен конфигурацией с соединением локальных сетей (LAN-LAN), второй — конфигурацией режима удаленного доступа EzVPN. Центральный маршрутизатор настроен на локальную аутентификацию для туннелей EzVPN и аутентификацию RADIUS для программного клиента VPN.

Предварительные условия

Требования

Для этого документа отсутствуют особые требования.

Используемые компоненты

Сведения, содержащиеся в данном документе, касаются следующих версий программного обеспечения и оборудования:

- Устройство защищенного межсетевого экрана Cisco PIX 501 с версией 6.3(3)
- Маршрутизатор Cisco 1750 с ПО Cisco IOS® версии 12.3.9a
- Устройство межсетевого экрана Cisco Secure PIX 506, который выполняется 6.3 (3)
- VPN-клиент Cisco с выпуском 4.0 (Rel) (аутентификация пользователя с использованием RADIUS-сервера)

Сведения, представленные в этом документе, были получены от устройств, работающих в специальной лабораторной среде. Все устройства, описанные в этом документе, были запущены с чистой (стандартной) конфигурацией. В рабочей сети необходимо изучить потенциальное воздействие всех команд до их использования.

Условные обозначения

[Более подробную информацию о применяемых в документе обозначениях см. в описании условных обозначений, используемых в технической документации Cisco.](#)

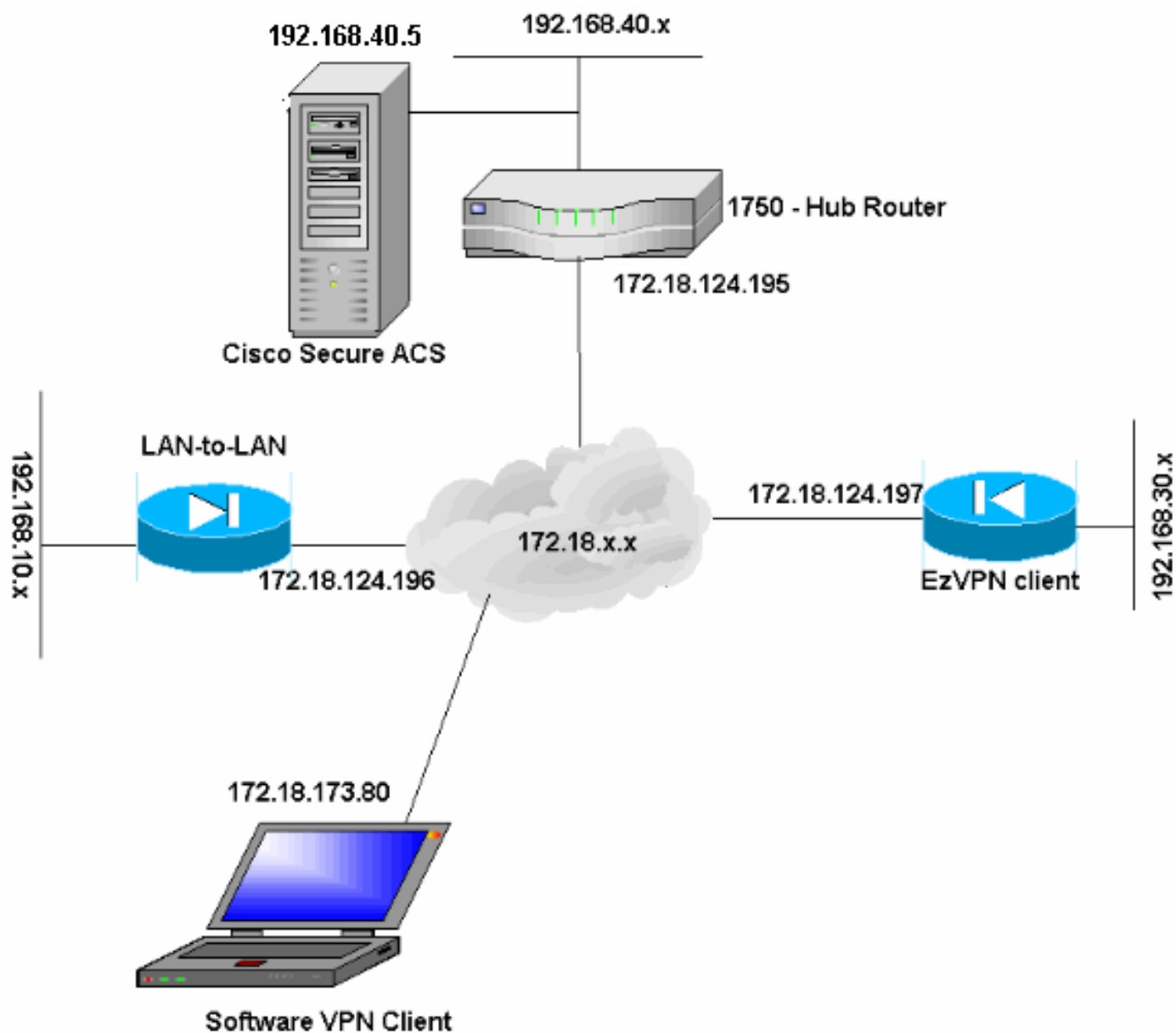
Настройка

В этом разделе содержатся сведения о настройке функций, описанных в этом документе.

Примечание: Используйте [Средство поиска команд Command Lookup Tool \(только зарегистрированные клиенты\)](#) для обнаружения дополнительных сведений о командах, используемыми в этом документе.

Схема сети

В настоящем документе используется следующая схема сети:



Конфигурации

Эти конфигурации используются в данном документе:

- [Центральный маршрутизатор VPN 1750](#)
- [PIX-501 – LAN-to-LAN](#)
- [PIX-506-B – EzVPN Client](#)
- [VPN-клиент](#)

Центральный маршрутизатор VPN 1750

```

version 12.3
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname VPN1750 !--- Local authentication username and
password, for EzVPN Client. username jerry password 0
wells123 username cisco password 0 letmein !--- Enable
AAA. aaa new-model ! ! !--- Default local login. aaa

```

```

authentication login default local !--- RADIUS
authentication for VPN Client. aaa authentication login
userauth group radius local !--- Local authentication
for EzVPN Client. aaa authentication login EZVPN local
aaa authorization exec default local !--- Local group
authorization for VPN Client. aaa authorization network
groupauthor local !--- Local authorization for EzVPN
Client. aaa authorization network EZVPN local aaa
session-id common ip subnet-zero ! ! ip domain name
cisco.com ! ip cef ip audit po max-events 100 !---
Keyring specification for Phase 1 authentication. crypto
keyring vpn pre-shared-key address 172.18.124.196 key
cisco123 ! !--- Specify ISAKMP policy. crypto isakmp
policy 20 encr 3des hash md5 authentication pre-share
group 2 ! !--- EzVPN Client configuration that specifies
the group, key and IP pool to use. crypto isakmp client
configuration group polo key mark123 pool ezpool ! !---
VPN Client configuration that specifies the group, key
and IP pool to use. crypto isakmp client configuration
group tennis key matchpoint domain cisco.com pool
vpnpool !--- ISAKMP profile specification for LAN-to-
LAN. crypto isakmp profile l2lvpn keyring vpn match
identity address 172.18.124.196 255.255.255.255 !---
ISAKMP profile specification for EzVPN Client. crypto
isakmp profile ezvpnprofile match identity group polo
client authentication list EZVPN isakmp authorization
list EZVPN client configuration address respond !---
ISAKMP profile specification for software VPN Client.
crypto isakmp profile softclient match identity group
tennis client authentication list userauth isakmp
authorization list groupauthor client configuration
address respond ! ! !--- Set tranform-set. crypto ipsec
transform-set pix501 esp-3des esp-sha-hmac crypto ipsec
transform-set vpnclient esp-3des esp-sha-hmac crypto
ipsec transform-set ezvpn esp-3des esp-md5-hmac ! !---
Specify crypto map set and ISAKMP profile for VPN
Client. crypto dynamic-map rtpmap 10 set transform-set
vpnclient set isakmp-profile softclient !--- Specify
crypto map set and ISAKMP profile for EzVPN Client.
crypto dynamic-map rtpmap 20 set transform-set ezvpn set
isakmp-profile ezvpnprofile ! ! crypto map rtp 5 ipsec-
isakmp dynamic rtpmap !--- Specify crypto map set and
ISAKMP profile for LAN-to-LAN. crypto map rtp 10 ipsec-
isakmp set peer 172.18.124.196 set transform-set pix501
set isakmp-profile l2lvpn match address 101 ! ! !
interface Ethernet0 ip address 192.168.40.1
255.255.255.0 ! interface FastEthernet0 ip address
172.18.124.195 255.255.255.0 speed auto !--- Apply
crypto map on the outside interface. crypto map rtp ! !-
-- VPN Client pool addresses. ip local pool vpnpool
10.50.50.1 10.50.50.10 !--- EzVPN Client pool addresses.
ip local pool ezpool 172.25.70.1 172.25.70.10 ip
classless ip route 0.0.0.0 0.0.0.0 172.18.124.1 ! !---
Encryption access-list applied to the crypto map.
access-list 101 permit ip 192.168.40.0 0.0.0.255
192.168.10.0 0.0.0.255 ! !--- Define ACS server for VPN
Client user authentication. radius-server host
192.168.40.5 auth-port 1645 acct-port 1646 key cisco123
! line con 0 exec-timeout 0 0 line aux 0 line vty 0 4 !
end

```

PIX-501 – LAN-to-LAN

```

PIX Version 6.3(3)
interface ethernet0 auto

```

```

interface ethernet1 100full
nameif ethernet0 outside security0
nameif ethernet1 inside security100
enable password 8Ry2YjIyt7RRXU24 encrypted
passwd 2KFQnbNIdI.2KYOU encrypted
hostname PIX-501 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 !--- Encryption access-list for interesting
traffic to be encrypted. access-list 101 permit ip
192.168.10.0 255.255.255.0 192.168.40.0 255.255.255.0 !-
-- NAT 0 access-list for encryption traffic to bypass
NAT process. access-list nonat permit ip 192.168.10.0
255.255.255.0 192.168.40.0 255.255.255.0 pager lines 24
mtu outside 1500 mtu inside 1500 ip address outside
172.18.124.196 255.255.255.0 ip address inside
192.168.10.1 255.255.255.0 ip audit info action alarm ip
audit attack action alarm pdm history enable arp timeout
14400 global (outside) 1 interface !--- Bypass NAT for
IPsec traffic. nat (inside) 0 access-list nonat nat
(inside) 1 192.168.10.0 255.255.255.0 0 0 route outside
0.0.0.0 0.0.0.0 172.18.124.1 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
floodguard enable !--- This command avoids applied ACLs
or conduits on encrypted packets. sysopt connection
permit-ipsec !--- Configuration of IPsec Phase 2. crypto
ipsec transform-set fox esp-3des esp-sha-hmac crypto map
fox 10 ipsec-isakmp crypto map fox 10 match address 101
crypto map fox 10 set peer 172.18.124.195 crypto map fox
10 set transform-set fox crypto map fox interface
outside !--- Configuration of IPsec Phase 1. isakmp
enable outside !--- IKE pre-shared key used by peers to
authenticate. isakmp key ***** address 172.18.124.195
netmask 255.255.255.255 isakmp identity address isakmp
policy 10 authentication pre-share isakmp policy 10
encryption 3des isakmp policy 10 hash md5 isakmp policy
10 group 2 isakmp policy 10 lifetime 86400 telnet
timeout 5 ssh timeout 5 console timeout 0 terminal width
80 Cryptochecksum:9e09996cdf390036841e71da006balf1 : end

```

PIX-506-B – EzVPN Client

```

PIX Version 6.3(3)
interface ethernet0 auto
interface ethernet1 auto
nameif ethernet0 outside security0
nameif ethernet1 inside security100
enable password 8Ry2YjIyt7RRXU24 encrypted
passwd 2KFQnbNIdI.2KYOU encrypted
hostname PIX-506-B 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 mtu outside 1500 mtu inside 1500 !--- Define IP

```

```
addresses for the PIX's inside and outside interfaces.
ip address outside 172.18.124.197 255.255.255.0 ip
address inside 192.168.30.1 255.255.255.0 ip audit info
action alarm ip audit attack action alarm pdm history
enable arp timeout 14400 global (outside) 1 interface
nat (inside) 1 192.168.30.0 255.255.255.0 0 0 route
outside 0.0.0.0 0.0.0.0 172.18.124.1 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 floodguard enable sysopt connection
permit-ipsec crypto ipsec transform-set tiger esp-3des
esp-md5-hmac telnet timeout 5 ssh timeout 5 console
timeout 0 !--- Define the EzVPN server IP address.
vpnclient server 172.18.124.195 !--- Specify the mode to
be used (client-mode or Network Extension Mode).
vpnclient mode client-mode !--- Define EzVPN connection
parameters. vpnclient vpngroup polo password *****
vpnclient username jerry password ***** !--- Enable
VPN Client on the PIX. vpnclient enable terminal width
80 Cryptochecksum:1bb41de13c5e15537a50cb1f39f131b9 : end
```

Конфигурация клиента VPN

Для настройки VPN-клиента выполните следующие шаги.

1. Запустите VPN-клиент и создайте новое подключение с необходимыми параметрами записи подключения.

VPN Client | Properties for "ISAKMP_Softclient"

Connection Entry: ISAKMP_Softclient

Description: ISAKMP Profile VPN Client

Host: 172.18.124.195

Authentication | Transport | Backup Servers | Dial-Up

Group Authentication

Name: tennis

Password: xxxxxxxx

Confirm Password: xxxxxxxx

Certificate Authentication

Name: [dropdown]

Send CA Certificate Chain

Erase User Password | Save | Cancel

2. После создания записи о подключении нажмите кнопку Connect (Подключить) и пройдите аутентификацию с параметрами пользователя, настроенными на сервере

VPN Client | User Authentication for "ISAKMP_Softclient"

CISCO SYSTEMS

Username: ggeorge

Password: xxxxxxxx

OK | Cancel

RADIUS.

Проверка

В этом разделе содержатся сведения, которые помогают убедиться в надлежащей работе конфигурации. [Дополнительные сведения о проверке и устранении неполадок см. в документе Устранение неполадок IP-безопасности — общие сведения и использование команд debug.](#) При возникновении проблем или ошибок с VPN-клиентом воспользуйтесь инструментом поиска ошибок графического интерфейса VPN-клиента.

Некоторые команды show поддерживаются Средством интерпретации выходных данных(только зарегистрированные клиенты), которое позволяет просматривать аналитику выходных данных команды show.

- **show crypto isakmp profile**— показывает все профили ISAKMP и их конфигурации на маршрутизаторе.
- **show crypto isakmp key**— отображает все наборы ключей и их предварительно согласованные ключи. Используйте эту команду, чтобы проверить конфигурацию криптографического ключа на маршрутизаторе.
- **debug crypto ipsec**— показывает сведения о согласовании ассоциаций безопасности IPsec на маршрутизаторе.
- **debug crypto isakmp**— показывает создаваемую ассоциацию безопасности ISAKMP и согласуемые атрибуты IPsec. При согласовании ассоциаций безопасности ISAKMP SA устройство PIX может отбросить несколько предложений как «неприемлемые», прежде чем принять одно из них. Как только ISAKMP SA согласовано, согласовываются атрибуты IPsec.

[Отладка LAN-LAN на центральном маршрутизаторе VPN 1750 посредством команд debug crypto isakmp и debug crypto ipsec](#)

```

May 11 20:44:51.370: ISAKMP (0:0): received packet
                        from 172.18.124.196 dport 500 sport 500 Global
                        (N) NEW SA
May 11 20:44:51.370: ISAKMP: local port 500, remote port 500
May 11 20:44:51.370: ISAKMP: insert sa successfully sa = 81789610
May 11 20:44:51.374: ISAKMP (0:1): Input = IKE_MSG_FROM_PEER, IKE_MM_EXCH
May 11 20:44:51.374: ISAKMP (0:1): Old State = IKE_READY New State = IKE_R_MM1

May 11 20:44:51.374: ISAKMP (0:1): processing SA payload. message ID = 0
May 11 20:44:51.374: ISAKMP: Looking for a matching key for 172.18.124.196
                        in default
May 11 20:44:51.374: ISAKMP: Looking for a matching key for 172.18.124.196
                        in vpn : success
May 11 20:44:51.374: ISAKMP (0:1): found peer pre-shared key matching
                        172.18.124.196
May 11 20:44:51.378: ISAKMP (0:1) local preshared key found
May 11 20:44:51.378: ISAKMP : Scanning profiles for xauth ... l2lvpn ezvpnprofile
May 11 20:44:51.378: ISAKMP (0:1) Authentication by xauth preshared
May 11 20:44:51.378: ISAKMP (0:1): Checking ISAKMP transform 1 against
                        priority 20 policy
May 11 20:44:51.378: ISAKMP: encryption 3DES-CBC
May 11 20:44:51.378: ISAKMP: hash MD5
May 11 20:44:51.378: ISAKMP: default group 2
May 11 20:44:51.378: ISAKMP: auth pre-share
May 11 20:44:51.378: ISAKMP: life type in seconds
May 11 20:44:51.378: ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80
May 11 20:44:51.382: ISAKMP (0:1): atts are acceptable. Next payload is 0 !--- Phase 1 proposal
accepted. May 11 20:44:51.598: ISAKMP (0:1): Input = IKE_MSG_INTERNAL, IKE_PROCESS_MAIN_MODE
May 11 20:44:51.598: ISAKMP (0:1): Old State = IKE_R_MM1 New State = IKE_R_MM1 May 11
20:44:51.602: ISAKMP (0:1): sending packet to 172.18.124.196 my_port 500 peer_port 500 (R)
MM_SA_SETUP May 11 20:44:51.602: ISAKMP (0:1): Input = IKE_MSG_INTERNAL, IKE_PROCESS_COMPLETE
May 11 20:44:51.602: ISAKMP (0:1): Old State = IKE_R_MM1 New State = IKE_R_MM2 May 11
20:44:52.130: ISAKMP (0:1): received packet from 172.18.124.196 dport 500 sport 500 Global (R)
MM_SA_SETUP May 11 20:44:52.130: ISAKMP (0:1): Input = IKE_MSG_FROM_PEER, IKE_MM_EXCH May 11
20:44:52.130: ISAKMP (0:1): Old State = IKE_R_MM2 New State = IKE_R_MM3 ..... May 11
20:44:52.954: ISAKMP (0:1): processing ID payload. message ID = 0 May 11 20:44:52.954: ISAKMP
(0:1): ID payload next-payload : 8 type : 1 address : 172.18.124.196 protocol : 17 port : 500
length : 12 May 11 20:44:52.958: ISAKMP (0:1): peer matches l2lvpn profile !--- ISAKMP profile
is matched in the router for LAN-to-LAN configuration. May 11 20:44:52.958: ISAKMP: Looking for
a matching key for 172.18.124.196 in default May 11 20:44:52.958: ISAKMP: Looking for a matching
key for 172.18.124.196 in vpn : success May 11 20:44:52.958: ISAKMP (0:1): Found ADDRESS key in
keyring vpn May 11 20:44:52.958: ISAKMP (0:1): processing HASH payload. message ID = 0 May 11

```


20:44:52.958: ISAKMP (0:1): **SA authentication status: authenticated !--- Security Associations are authenticated between the peers.** May 11 20:44:52.994: ISAKMP (0:1): Old State = IKE_P1_COMPLETE **New State = IKE_P1_COMPLETE !--- Phase 1 negotiations completed.** ... May 11 20:44:53.002: ISAKMP (0:1): Checking IPsec proposal 1 May 11 20:44:53.002: ISAKMP: transform 1, ESP_3DES May 11 20:44:53.002: ISAKMP: attributes in transform: May 11 20:44:53.002: ISAKMP: encaps is 1 (Tunnel) May 11 20:44:53.002: ISAKMP: SA life type in seconds May 11 20:44:53.002: ISAKMP: SA life duration (basic) of 28800 May 11 20:44:53.002: ISAKMP: SA life type in kilobytes May 11 20:44:53.002: ISAKMP: SA life duration (VPI) of 0x0 0x46 0x50 0x0 May 11 20:44:53.002: ISAKMP: authenticator is HMAC-SHA May 11 20:44:53.006: ISAKMP (0:1): **atts are acceptable. !--- Phase 2 proposal accepted.** May 11 20:44:53.006: IPSEC(validate_proposal_request): proposal part #1, (key eng. msg.) **INBOUND local= 172.18.124.195, remote= 172.18.124.196, local_proxy= 192.168.40.0/255.255.255.0/0/0 (type=4), remote_proxy= 192.168.10.0/255.255.255.0/0/0 (type=4), !--- Encryption access-list verification process.** protocol= ESP, transform= esp-3des esp-sha-hmac (Tunnel), lifedur= 0s and 0kb, spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2 ... **May 11 20:44:53.282: IPSEC(create_sa): sa created, (sa) sa_dest= 172.18.124.195, sa_prot= 50, sa_spi= 0xFBFA852C(4227499308), sa_trans= esp-3des esp-sha-hmac , sa_conn_id= 2000 May 11 20:44:53.282: IPSEC(create_sa): sa created, (sa) sa_dest= 172.18.124.196, sa_prot= 50, sa_spi= 0x79EFEFCE(2045767630), sa_trans= esp-3des esp-sha-hmac , sa_conn_id= 2001 !--- SAs are created with connection IDs.** May 11 20:44:53.290: ISAKMP (0:1): received packet from 172.18.124.196 dport 500 sport 500 Global (R) **QM_IDLE !--- Tunnel has been established.** May 11 20:44:53.294: ISAKMP (0:1): deleting node 156512779 error FALSE reason "quick mode done (await)" May 11 20:44:53.294: ISAKMP (0:1): Node 156512779, Input = IKE_MSG_FROM_PEER, IKE_QM_EXCH May 11 20:44:53.294: ISAKMP (0:1): Old State = IKE_QM_R_QM2 **New State = IKE_QM_PHASE2_COMPLETE !--- Phase 2 negotiations complete.**

[Отладка подключений клиентов EzVPN посредством команд debug crypto isakmp и debug crypto ipsec](#)

May 11 20:55:47.266: ISAKMP (0:0): received packet from 172.18.124.197
dport 500 sport 500 Global (N) NEW SA
May 11 20:55:47.266: ISAKMP: local port 500, remote port 500
May 11 20:55:47.270: ISAKMP: insert sa successfully sa = 81797590
May 11 20:55:47.270: ISAKMP (0:2): processing SA payload. message ID = 0
May 11 20:55:47.270: ISAKMP (0:2): processing ID payload. message ID = 0
May 11 20:55:47.274: ISAKMP (0:2): ID payload
next-payload : 13
type : 11
group id : polo protocol : 17 port : 0 length : 12 May 11 20:55:47.274: ISAKMP (0:2): **peer matches ezvpnprofile profile !--- Profile match for EzVPN Client connection.** May 11 20:55:47.274: ISAKMP: Looking for a matching key for 172.18.124.197 in default May 11 20:55:47.274: ISAKMP: Looking for a matching key for 172.18.124.197 in vpn May 11 20:55:47.274: ISAKMP: Created a peer struct for 172.18.124.197, peer port 500 May 11 20:55:47.274: ISAKMP: Locking peer struct 0x81791484, IKE refcount 1 for crypto_ikmp_config_initialize_sa ... May 11 20:55:47.282: ISAKMP (0:2): **Checking ISAKMP transform 1 against priority 20 policy !--- ISAKMP policies are checked.** May 11 20:55:47.282: ISAKMP: encryption AES-CBC May 11 20:55:47.282: ISAKMP: keylength of 256 May 11 20:55:47.282: ISAKMP: hash SHA May 11 20:55:47.282: ISAKMP: default group 2 May 11 20:55:47.282: ISAKMP: auth XAUTHInitPreShared May 11 20:55:47.282: ISAKMP: life type in seconds May 11 20:55:47.282: ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 May 11 20:55:47.282: ISAKMP (0:2): Encryption algorithm offered does not match policy! May 11 20:55:47.286: ISAKMP (0:2): atts are not acceptable. Next payload is 3 ... **May 11 20:55:47.306: ISAKMP (0:2): Checking ISAKMP transform 8 against priority 20 policy May 11 20:55:47.306: ISAKMP: encryption 3DES-CBC May 11 20:55:47.306: ISAKMP: hash MD5 May 11 20:55:47.306: ISAKMP: default group 2 May 11 20:55:47.306: ISAKMP: auth XAUTHInitPreShared May 11 20:55:47.306: ISAKMP: life type in seconds May 11 20:55:47.310: ISAKMP: life duration (VPI) of 0x0 0x1 0x51 0x80 May 11 20:55:47.310: ISAKMP (0:2): atts are acceptable. Next payload is 3 !--- Phase 1 attributes are validated.** May 11 20:55:47.530: ISAKMP (0:2): processing KE payload. message ID = 0 May 11 20:55:47.798: ISAKMP (0:2): processing NONCE payload. message ID = 0 May 11 20:55:47.802: ISAKMP (0:2): vendor ID is NAT-T v3 May 11 20:55:47.802: ISAKMP (0:2): vendor ID is NAT-T v2 May 11 20:55:47.802: ISAKMP (0:2): Input = IKE_MSG_FROM_PEER, IKE_AM_EXCH May 11 20:55:47.802: ISAKMP (0:2): Old State = IKE_READY New State = IKE_R_AM_AAA_AWAIT May 11 20:55:47.806: ISAKMP: got callback 1 May 11 20:55:47.810: ISAKMP (0:2): SKEYID state generated May 11 20:55:47.810: ISAKMP (0:2): constructed NAT-T vendor-03 ID May 11 20:55:47.810: ISAKMP (0:2): SA is doing pre-shared key authentication plus XAUTH using id type ID_IPV4_ADDR May 11

20:55:47.814: ISAKMP (0:2): ID payload next-payload : 10 type : 1 address : 172.18.124.195
protocol : 17 port : 0 length : 12 May 11 20:55:47.814: ISAKMP (2): Total payload length: 12 May
11 20:55:47.814: ISAKMP (0:2): sending packet to 172.18.124.197 my_port 500 peer_port 500 (R)
AG_INIT_EXCH May 11 20:55:47.814: ISAKMP (0:2): Input = IKE_MESG_FROM_AAA, PRESHARED_KEY_REPLY
May 11 20:55:47.818: ISAKMP (0:2): Old State = IKE_R_AM_AAA_AWAIT New State = IKE_R_AM2 May 11
20:55:49.114: ISAKMP (0:2): received packet from 172.18.124.197 dport 500 sport 500 Global (R)
AG_INIT_EXCH May 11 20:55:49.114: ISAKMP:received payload type 20 May 11 20:55:49.118:
ISAKMP:received payload type 20 May 11 20:55:49.118: ISAKMP (0:2): processing HASH payload.
message ID = 0 May 11 20:55:49.118: ISAKMP (0:2): processing NOTIFY INITIAL_CONTACT protocol 1
spi 0, message ID = 0, sa = 81797590 **May 11 20:55:49.118: ISAKMP (0:2): SA authentication
status: authenticated !--- Phase 1 has been authenticated.** May 11 20:55:49.118: ISAKMP (0:2):
Process initial contact, bring down existing phase 1 and 2 SA's with local 172.18.124.195 authentication status:
authenticated May 11 20:55:49.122: ISAKMP (0:2): SA has been authenticated with 172.18.124.197
May 11 20:55:49.122: ISAKMP: Trying to insert a peer 172.18.124.195/172.18.124.197/500/, and
inserted successfully. May 11 20:55:49.126: ISAKMP: **set new node 1554218001 to CONF_XAUTH !---
User authentication phase starts.** May 11 20:55:49.126: ISAKMP (0:2): sending packet to
172.18.124.197 my_port 500 peer_port 500 (R) QM_IDLE May 11 20:55:49.126: ISAKMP (0:2): purging
node 155421800118.124.195 remote 172.18.124.197 remote port 500 May 11 20:55:49.130: ISAKMP
(0:2): Input = IKE_MESG_FROM_PEER, IKE_AM_EXCH May 11 20:55:49.130: ISAKMP (0:2): Old State =
IKE_R_AM2 New State = IKE_P1_COMPLETE May 11 20:55:49.130: ISAKMP (0:2): **Need XAUTH** May 11
20:55:49.130: ISAKMP (0:2): FSM action returned error: 4 May 11 20:55:49.134: ISAKMP (0:2):
Input = IKE_MESG_INTERNAL, IKE_PHASE1_COMPLETE May 11 20:55:49.134: ISAKMP (0:2): Old State =
IKE_P1_COMPLETE New State = IKE_XAUTH_AAA_START_LOGIN_AWAIT May 11 20:55:49.134: ISAKMP: got
callback 1 May 11 20:55:49.134: ISAKMP: set new node -1233989434 to CONF_XAUTH May 11
20:55:49.134: ISAKMP/xauth: **request attribute XAUTH_USER_NAME_V2 !--- Username request.** May 11
20:55:49.134: ISAKMP/xauth: **request attribute XAUTH_USER_PASSWORD_V2 !--- Password request.** May
11 20:55:49.138: ISAKMP (0:2): initiating peer config to 172.18.124.197. ID = -1233989434 May 11
20:55:49.138: ISAKMP (0:2): sending packet to 172.18.124.197 my_port 500 peer_port 500 (R)
CONF_XAUTH ... May 11 20:55:51.278: ISAKMP: got callback 1 May 11 20:55:51.278: ISAKMP (0:2):
attributes sent in message: May 11 20:55:51.278: Address: 240.2.112.2 May 11 20:55:51.282:
ISAKMP (0:2): **allocating address 172.25.70.6 !--- IP address assigned to EzVPN Client from the
address pool.** May 11 20:55:51.282: ISAKMP: Sending private address: 172.25.70.6 May 11
20:55:51.286: ISAKMP: Sending APPLICATION_VERSION string: Cisco Internetwork Operating System
Software IOS (tm) C1700 Software (C1700-K9O3SY7-M), Version 12.3(9a), RELEASE SOFTWARE (fc4)
Copyright (c) 1986-2004 by cisco Systems, Inc. Compiled Fri 23-Jul-04 02:20 by kellythw May 11
20:55:51.286: ISAKMP (0:2): responding to peer config from 172.18.124.197. ID = -591421152 May
11 20:55:51.290: ISAKMP (0:2): sending packet to 172.18.124.197 my_port 500 peer_port 500 (R)
CONF_ADDR May 11 20:55:51.290: ISAKMP (0:2): deleting node -591421152 error FALSE reason "" May
11 20:55:51.290: ISAKMP (0:2): Input = IKE_MESG_FROM_AAA, IKE_AAA_GROUP_ATTR May 11
20:55:51.290: ISAKMP (0:2): Old State = IKE_CONFIG_AUTHOR_AAA_AWAIT New State = IKE_P1_COMPLETE
May 11 20:55:51.294: ISAKMP (0:2): Input = IKE_MESG_INTERNAL, IKE_PHASE1_COMPLETE May 11
20:55:51.294: ISAKMP (0:2): Old State = IKE_P1_COMPLETE New State = IKE_P1_COMPLETE May 11
20:55:53.102: ISAKMP (0:2): received packet from 172.18.124.197 dport 500 sport 500 Global (R)
QM_IDLE May 11 20:55:53.102: ISAKMP: set new node -183955662 to QM_IDLE ... May 11 20:55:53.178:
ISAKMP (0:2): IPsec policy invalidated proposal May 11 20:55:53.178: ISAKMP (0:2): Checking
IPsec proposal 8 May 11 20:55:53.178: ISAKMP: transform 1, ESP_3DES May 11 20:55:53.178: ISAKMP:
attributes in transform: May 11 20:55:53.178: ISAKMP: encaps is 1 (Tunnel) May 11 20:55:53.178:
ISAKMP: SA life type in seconds May 11 20:55:53.182: ISAKMP: SA life duration (basic) of 28800
May 11 20:55:53.182: ISAKMP: SA life type in kilobytes May 11 20:55:53.182: ISAKMP: SA life
duration (VPI) of 0x0 0x46 0x50 0x0 May 11 20:55:53.182: ISAKMP: authenticator is HMAC-MD5 May
11 20:55:53.182: ISAKMP (0:2): **atts are acceptable. !--- Proposals are validated.** May 11
20:55:53.182: IPSEC(validate_proposal_request): proposal part #1, (key eng. msg.) INBOUND local=
172.18.124.195, remote= 172.18.124.197, local_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4), remote_proxy=
172.25.70.6/255.255.255.255/0/0 (type=1), protocol= ESP, transform= esp-3des esp-md5-hmac
(Tunnel), lifedur= 0s and 0kb, spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2 ... local_proxy=
0.0.0.0/0.0.0.0/0/0 (type=4), remote_proxy= 172.25.70.6/0.0.0.0/0/0 (type=1), protocol= ESP,
transform= esp-3des esp-md5-hmac (Tunnel), lifedur= 28800s and 4608000kb, spi=
0x866452A1(2254721697), conn_id= 2002, keysize= 0, flags= 0x2 May 11 20:55:53.458:
IPSEC(initialize_sas): , (key eng. msg.) OUTBOUND local= 172.18.124.195, remote= 172.18.124.197,
local_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4), remote_proxy= 172.25.70.6/0.0.0.0/0/0 (type=1),
protocol= ESP, transform= esp-3des esp-md5-hmac (Tunnel), lifedur= 28800s and 4608000kb, spi=
0xCA8A5934(3398064436), conn_id= 2003, keysize= 0, flags= 0xA May 11 20:55:53.458:
IPSEC(kei_proxy): head = rtp, map->ivrf = , kei->ivrf = May 11 20:55:53.458: IPSEC(kei_proxy):
head = rtp, map->ivrf = , kei->ivrf = May 11 20:55:53.462: IPSEC(kei_proxy): head = rtp, map-

```
>ivrf = , kei->ivrf = May 11 20:55:53.462: IPSEC(add mtree): src 172.18.124.195, dest
172.25.70.6, dest_port 0 May 11 20:55:53.462: IPSEC(create_sa): sa created, (sa) sa_dest=
172.18.124.195, sa_prot= 50, sa_spi= 0x866452A1(2254721697), sa_trans= esp-3des esp-md5-hmac ,
sa_conn_id= 2002 May 11 20:55:53.462: IPSEC(create_sa): sa created, (sa) sa_dest=
172.18.124.197, sa_prot= 50, sa_spi= 0xCA8A5934(3398064436), sa_trans= esp-3des esp-md5-hmac ,
sa_conn_id= 2003 !--- Security Association Connection IDs. May 11 20:55:54.442: ISAKMP (0:2):
received packet from 172.18.124.197 dport 500 sport 500 Global (R) QM_IDLE May 11 20:55:54.446:
ISAKMP (0:2): deleting node -183955662 error FALSE reason "quick mode done (await)" May 11
20:55:54.446: ISAKMP (0:2): Node -183955662, Input = IKE_MSG_FROM_PEER, IKE_QM_EXCH May 11
20:55:54.446: ISAKMP (0:2): Old State = IKE_QM_R_QM2 New State = IKE_QM_PHASE2_COMPLETE May 11
20:55:54.446: IPSEC(key_engine): got a queue event... May 11 20:55:54.446:
IPSEC(key_engine_enable_outbound): rec'd enable notify from ISAKMP May 11 20:55:54.446:
IPSEC(key_engine_enable_outbound): enable SA with spi 3398064436/50 for 172.18.124.197 May 11
20:55:57.450: ISAKMP (0:2): received packet from 172.18.124.197 dport 500 sport 500 Global (R)
QM_IDLE May 11 20:55:57.450: ISAKMP: set new node -1115155724 to QM_IDLE May 11 20:55:57.454:
ISAKMP (0:2): processing HASH payload. message ID = -1115155724 May 11 20:55:57.458: ISAKMP
(0:2): processing SA payload. message ID = -1115155724 May 11 20:55:57.458: ISAKMP (0:2):
Checking IPsec proposal 1 May 11 20:55:57.458: ISAKMP: transform 1, ESP_AES May 11 20:55:57.458:
ISAKMP: attributes in transform: May 11 20:55:57.458: ISAKMP: encaps is 1 (Tunnel) May 11
20:55:57.458: ISAKMP: SA life type in seconds May 11 20:55:57.458: ISAKMP: SA life duration
(basic) of 28800 May 11 20:55:57.458: ISAKMP: SA life type in kilobytes May 11 20:55:57.458:
ISAKMP: SA life duration (VPI) of 0x0 0x46 0x50 0x0 May 11 20:55:57.458: ISAKMP: authenticator
is HMAC-SHA May 11 20:55:57.458: ISAKMP: key length is 256 May 11 20:55:57.462: ISAKMP (0:2):
atts are acceptable. May 11 20:55:57.462: IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) INBOUND local= 172.18.124.195, remote= 172.18.124.197, local_proxy=
0.0.0.0/0.0.0.0/0/0 (type=4), remote_proxy= 172.18.124.197/255.255.255.255/0/0 (type=1),
protocol= ESP, transform= esp-aes 256 esp-sha-hmac (Tunnel), lifedur= 0s and 0kb, spi= 0x0(0),
conn_id= 0, keysize= 256, flags= 0x2 ... May 11 20:55:58.362: ISAKMP (0:2): sending packet to
172.18.124.197 my_port 500 peer_port 500 (R) QM_IDLE !--- Confirmation of tunnel establishment.
May 11 20:55:58.362: ISAKMP (0:2): Node -1115155724, Input = IKE_MSG_FROM_IPSEC, IKE_SPI_REPLY
May 11 20:55:59.438: ISAKMP (0:2): received packet from 172.18.124.197 dport 500 sport 500
Global (R) QM_IDLE May 11 20:55:59.438: ISAKMP (0:2): deleting node -1115155724 error FALSE
reason "quick mode done (await)" May 11 20:55:59.442: ISAKMP (0:2): Node -1115155724, Input =
IKE_MSG_FROM_PEER, IKE_QM_EXCH May 11 20:55:59.442: ISAKMP (0:2): Old State = IKE_QM_R_QM2 New
State = IKE_QM_PHASE2_COMPLETE
```

[Отладка клиента VPN на стороне PIX посредством команд debug crypto isakmp и debug crypto ipsec](#)

```
May 11 21:16:52.154: ISAKMP (0:0): received packet from 172.18.173.80 dport 500
sport 500 Global (N) NEW SA
```

```
May 11 21:16:52.154: ISAKMP: local port 500, remote port 500
```

```
May 11 21:16:52.158: ISAKMP: insert sa successfully sa = 8179D054
```

```
May 11 21:16:52.158: ISAKMP (0:3): processing SA payload. message ID = 0
```

```
May 11 21:16:52.158: ISAKMP (0:3): processing ID payload. message ID = 0
```

```
May 11 21:16:52.158: ISAKMP (0:3): ID payload
```

```
next-payload : 13
```

```
type : 11
```

```
group id : tennis protocol : 17 port : 500 length : 14 May 11 21:16:52.158: ISAKMP (0:3): peer
matches softclient profile !--- ISAKMP profile match for VPN Software Clients. May 11
21:16:52.158: ISAKMP: Looking for a matching key for 172.18.173.80 in default May 11
21:16:52.158: ISAKMP: Looking for a matching key for 172.18.173.80 in vpn May 11 21:16:52.158:
ISAKMP: Created a peer struct for 172.18.173.80, peer port 500 May 11 21:16:52.162: ISAKMP:
Locking peer struct 0x81791484, IKE refcount 1 for crypto_ikmp_config_initialize_sa May 11
21:16:52.162: ISAKMP (0:3): Setting client config settings 81EEB340 May 11 21:16:52.162: ISAKMP
```

(0:3): (Re)Setting client xauth list and state May 11 21:16:52.162: ISAKMP (0:3): processing vendor id payload May 11 21:16:52.162: ISAKMP (0:3): vendor ID seems Unity/DPD but major 215 mismatch May 11 21:16:52.162: ISAKMP (0:3): vendor ID is XAUTH May 11 21:16:52.162: ISAKMP (0:3): processing vendor id payload May 11 21:16:52.162: ISAKMP (0:3): vendor ID is DPD May 11 21:16:52.162: ISAKMP (0:3): processing vendor id payload May 11 21:16:52.166: ISAKMP (0:3): vendor ID seems Unity/DPD but major 123 mismatch May 11 21:16:52.166: ISAKMP (0:3): vendor ID is NAT-T v2 May 11 21:16:52.166: ISAKMP (0:3): processing vendor id payload May 11 21:16:52.166: ISAKMP (0:3): vendor ID seems Unity/DPD but major 194 mismatch May 11 21:16:52.166: ISAKMP (0:3): processing vendor id payload May 11 21:16:52.166: ISAKMP (0:3): vendor ID is Unity May 11 21:16:52.166: ISAKMP (0:3) Authentication by xauth preshared May 11 21:16:52.166: ISAKMP (0:3): **Checking ISAKMP transform 1 against priority 20 policy !--- ISAKMP policy that matches against configured policy.** May 11 21:16:52.166: ISAKMP: encryption AES-CBC May 11 21:16:52.170: ISAKMP: hash SHA May 11 21:16:52.170: ISAKMP: default group 2 May 11 21:16:52.170: ISAKMP: auth XAUTHInitPreShared May 11 21:16:52.170: ISAKMP: life type in seconds May 11 21:16:52.170: ISAKMP: life duration (VPI) of 0x0 0x20 0xC4 0x9B May 11 21:16:52.170: ISAKMP: keylength of 256 May 11 21:16:52.170: ISAKMP (0:3): Encryption algorithm offered does not match policy! May 11 21:16:52.170: ISAKMP (0:3): atts are not acceptable. Next payload is 3 ... May 11 21:16:52.198: ISAKMP (0:3): Checking ISAKMP transform 10 against priority 20 policy May 11 21:16:52.198: ISAKMP: encryption 3DES-CBC May 11 21:16:52.202: ISAKMP: hash MD5 May 11 21:16:52.202: ISAKMP: default group 2 May 11 21:16:52.202: ISAKMP: auth XAUTHInitPreShared May 11 21:16:52.202: ISAKMP: life type in seconds May 11 21:16:52.202: ISAKMP: life duration (VPI) of 0x0 0x20 0xC4 0x9B May 11 21:16:52.202: ISAKMP (0:3): atts are acceptable. Next payload is 3 May 11 21:16:52.418: ISAKMP (0:3): processing KE payload. message ID = 0 May 11 21:16:52.686: ISAKMP (0:3): processing NONCE payload. message ID = 0 May 11 21:16:52.690: ISAKMP (0:3): vendor ID is NAT-T v2 May 11 21:16:52.690: ISAKMP (0:3): Input = IKE_MSG_FROM_PEER, IKE_AM_EXCH May 11 21:16:52.690: ISAKMP (0:3): Old State = IKE_READY New State = IKE_R_AM_AAA_AWAIT May 11 21:16:52.694: ISAKMP: got callback 1 May 11 21:16:52.698: ISAKMP (0:3): SKEYID state generated May 11 21:16:52.698: ISAKMP (0:3): constructed NAT-T vendor-02 ID May 11 21:16:52.702: ISAKMP (0:3): SA is doing pre-shared key authentication plus XAUTH using id type ID_IPV4_ADDR May 11 21:16:52.702: ISAKMP (0:3): ID payload next-payload : 10 type : 1 address : 172.18.124.195 protocol : 17 port : 0 length : 12 May 11 21:16:52.702: ISAKMP (3): Total payload length: 12 May 11 21:16:52.702: ISAKMP (0:3): sending packet to 172.18.173.80 my_port 500 peer_port 500 (R) AG_INIT_EXCH May 11 21:16:52.706: ISAKMP (0:3): Input = IKE_MSG_FROM_AAA, PRESHARED_KEY_REPLY May 11 21:16:52.706: ISAKMP (0:3): Old State = IKE_R_AM_AAA_AWAIT New State = IKE_R_AM2 May 11 21:16:52.746: ISAKMP (0:3): received packet from 172.18.173.80 dport 500 sport 500 Global (R) AG_INIT_EXCH May 11 21:16:52.750: ISAKMP (0:3): processing HASH payload. message ID = 0 May 11 21:16:52.750: ISAKMP (0:3): processing NOTIFY INITIAL_CONTACT protocol 1 spi 0, message ID = 0, sa = 8179D054 May 11 21:16:52.750: ISAKMP (0:3): **SA authentication status: authenticated !--- Phase 1 SAs are authenticated.** May 11 21:16:52.750: ISAKMP (0:3): Process initial contact, bring down existing phase 1 and 2 SA's with local 172.18.124.195 remote 172.18.173.80 remote port 500 May 11 21:16:52.750: ISAKMP (0:3): returning IP addr to the address pool May 11 21:16:52.754: ISAKMP:received payload type 20 May 11 21:16:52.754: ISAKMP:received payload type 20 May 11 21:16:52.754: ISAKMP (0:3): SA authentication status: authenticated May 11 21:16:52.754: ISAKMP (0:3): SA has been authenticated with 172.18.173.80 May 11 21:16:52.754: ISAKMP: Trying to insert a peer 172.18.124.195/172.18.173.80/500/, and inserted successfully. May 11 21:16:52.758: IPSEC(key_engine): got a queue event... May 11 21:16:52.758: ISAKMP: set new node -1991824466 to **CONF_XAUTH !--- User Authentication phase starts.** May 11 21:16:52.758: ISAKMP (0:3): sending packet to 172.18.173.80 my_port 500 peer_port 500 (R) QM_IDLE May 11 21:16:52.762: ISAKMP (0:3): purging node -1991824466 May 11 21:16:52.762: ISAKMP: Sending phase 1 responder lifetime 86400 May 11 21:16:52.762: ISAKMP (0:3): Input = IKE_MSG_FROM_PEER, IKE_AM_EXCH May 11 21:16:52.762: ISAKMP (0:3): Old State = IKE_R_AM2 New State = IKE_P1_COMPLETE May 11 21:16:52.762: ISAKMP (0:3): Need XAUTH May 11 21:16:52.762: ISAKMP (0:3): FSM action returned error: 4 May 11 21:16:52.766: ISAKMP (0:3): Input = IKE_MSG_INTERNAL, IKE_PHASE1_COMPLETE May 11 21:16:52.766: ISAKMP (0:3): Old State = IKE_P1_COMPLETE New State = IKE_XAUTH_AAA_START_LOGIN_AWAIT May 11 21:16:52.766: ISAKMP: got callback 1 May 11 21:16:52.766: ISAKMP: set new node -1773462433 to CONF_XAUTH May 11 21:16:52.766: ISAKMP/xauth: **request attribute XAUTH_USER_NAME_V2 !--- Requests user name.** May 11 21:16:52.770: ISAKMP/xauth: **request attribute XAUTH_USER_PASSWORD_V2 !--- Requests user password.** May 11 21:16:52.770: ISAKMP (0:3): initiating peer config to 172.18.173.80. ID = -1773462433 May 11 21:16:52.770: ISAKMP (0:3): sending packet to 172.18.173.80 my_port 500 peer_port 500 (R) CONF_XAUTH May 11 21:16:52.770: ISAKMP (0:3): Input = IKE_MSG_FROM_AAA, IKE_AAA_START_LOGIN ... May 11 21:17:00.350: ISAKMP (0:3): Input = IKE_MSG_FROM_PEER, IKE_CFG_REQUEST May 11 21:17:00.350: ISAKMP (0:3): Old State = IKE_P1_COMPLETE New State = IKE_CONFIG_AUTHOR_AAA_AWAIT May 11 21:17:00.434: ISAKMP: got callback 1 May 11 21:17:00.438: ISAKMP (0:3): attributes sent in message: May 11 21:17:00.438:

Address: 0.2.0.0 May 11 21:17:00.438: ISAKMP (0/3): **allocating address 10.50.50.2 !---** *Allocates the IP address for software VPN Client from the client IP pool.* May 11 21:17:00.438: ISAKMP: Sending private address: 10.50.50.2 May 11 21:17:00.442: ISAKMP: Sending ADDRESS_EXPIRY seconds left to use the address: 86391 May 11 21:17:00.442: ISAKMP: Sending APPLICATION_VERSION string: Cisco Internetwork Operating System Software IOS (tm) C1700 Software (C1700-K9O3SY7-M), Version 12.3(9a), RELEASE SOFTWARE (fc4) Copyright (c) 1986-2004 by cisco Systems, Inc. Compiled Fri 23-Jul-04 02:20 by kellythw May 11 21:17:00.442: ISAKMP (0/3): Unknown Attr: UNKNOWN (0x7008) May 11 21:17:00.446: ISAKMP (0/3): Unknown Attr: UNKNOWN (0x700A) May 11 21:17:00.446: ISAKMP (0/3): Unknown Attr: UNKNOWN (0x7005) May 11 21:17:00.446: ISAKMP (0/3): responding to peer config from 172.18.173.80. ID = 1330918554 May 11 21:17:00.450: ISAKMP (0/3): sending packet to 172.18.173.80 my_port 500 peer_port 500 (R) CONF_ADDR May 11 21:17:00.450: ISAKMP (0/3): deleting node 1330918554 error FALSE reason "" May 11 21:17:00.450: ISAKMP (0/3): Input = IKE_MSG_FROM_AAA, IKE_AAA_GROUP_ATTR May 11 21:17:00.450: ISAKMP (0/3): Old State = IKE_CONFIG_AUTHOR_AAA_AWAIT New State = IKE_P1_COMPLETE May 11 21:17:00.454: ISAKMP (0/3): Input = IKE_MSG_INTERNAL, IKE_PHASE1_COMPLETE May 11 21:17:00.454: ISAKMP (0/3): Old State = IKE_P1_COMPLETE New State = IKE_P1_COMPLETE ... May 11 21:17:01.474: ISAKMP (0/3): **Creating IPsec SAs !---** *Creation of IPsec Security Associations.* May 11 21:17:01.474: inbound SA from 172.18.173.80 to 172.18.124.195 (f/i) 0/ 0 (proxy 10.50.50.2 to 0.0.0.0) May 11 21:17:01.474: has spi 0x1B139B2F and conn_id 2000 and flags 2 May 11 21:17:01.474: lifetime of 2147483 seconds May 11 21:17:01.474: has client flags 0x0 May 11 21:17:01.474: outbound SA from 172.18.124.195 to 172.18.173.80 (f/i) 0/ 0 (proxy 0.0.0.0 to 10.50.50.2) May 11 21:17:01.474: has spi - 895677582 and conn_id 2001 and flags A May 11 21:17:01.474: lifetime of 2147483 seconds May 11 21:17:01.474: has client flags 0x0 May 11 21:17:01.478: ISAKMP (0/3): sending packet to 172.18.173.80 my_port 500 peer_port 500 (R) QM_IDLE May 11 21:17:01.478: ISAKMP (0/3): Node 896912581, Input = IKE_MSG_FROM_IPSEC, IKE_SPI_REPLY May 11 21:17:01.478: ISAKMP (0/3): Old State = IKE_QM_SPI_STARVE New State = IKE_QM_R_QM2 May 11 21:17:01.482: IPSEC(key_engine): got a queue event... May 11 21:17:01.482: IPSEC(initialize_sas): , (key eng. msg.) INBOUND local= 172.18.124.195, remote= 172.18.173.80, local_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4), remote_proxy= 10.50.50.2/0.0.0.0/0/0 (type=1), protocol= ESP, transform= esp-3des esp-sha-hmac (Tunnel), lifedur= 2147483s and 0kb, spi= 0x1B139B2F(454269743), conn_id= 2000, keysize= 0, flags= 0x2 May 11 21:17:01.482: IPSEC(initialize_sas): , (key eng. msg.) OUTBOUND local= 172.18.124.195, remote= 172.18.173.80, local_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4), remote_proxy= 10.50.50.2/0.0.0.0/0/0 (type=1), protocol= ESP, transform= esp-3des esp-sha-hmac (Tunnel), lifedur= 2147483s and 0kb, spi= 0xCA9D0B72(3399289714), conn_id= 2001, keysize= 0, flags= 0xA May 11 21:17:01.486: IPSEC(kei_proxy): head = rtp, map->ivrf = , kei->ivrf = May 11 21:17:01.486: IPSEC(kei_proxy): head = rtp, map->ivrf = , kei->ivrf = May 11 21:17:01.486: IPSEC(add mtree): src 172.18.124.195, dest 10.50.50.2, dest_port 0 **May 11 21:17:01.486: IPSEC(create_sa): sa created, (sa) sa_dest= 172.18.124.195, sa_prot= 50, sa_spi= 0x1B139B2F(454269743), sa_trans= esp-3des esp-sha-hmac , sa_conn_id= 2000** May 11 21:17:01.490: **IPSEC(create_sa): sa created, (sa) sa_dest= 172.18.173.80, sa_prot= 50, sa_spi= 0xCA9D0B72(3399289714), sa_trans= esp-3des esp-sha-hmac , sa_conn_id= 2001 !---** *Security Association connection IDs created.* May 11 21:17:01.742: ISAKMP (0/3): received packet from 172.18.173.80 dport 500 sport 500 Global (R) QM_IDLE !--- *Successful tunnel established.* May 11 21:17:01.746: ISAKMP (0/3): deleting node 896912581 error FALSE reason "quick mode done (await)" May 11 21:17:01.746: ISAKMP (0/3): Node 896912581, Input = IKE_MSG_FROM_PEER, IKE_QM_EXCH May 11 21:17:01.746: ISAKMP (0/3): Old State = IKE_QM_R_QM2 New State = **IKE_QM_PHASE2_COMPLETE** May 11 21:17:01.746: IPSEC(key_engine): got a queue event... May 11 21:17:01.746: IPSEC(key_engine_enable_outbound): rec'd enable notify from ISAKMP May 11 21:17:01.746: IPSEC(key_engine_enable_outbound): enable SA with spi 3399289714/50 for 172.18.173.80

Отладка PIX 501 (соединение LAN-LAN)

PIX-501#

ISAKMP (0): beginning Main Mode exchange

crypto_isakmp_process_block:src:172.18.124.195, dest:172.18.124.196

spt:500 dpt:500

OAK_MM exchange

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

ISAKMP (0): **Checking ISAKMP transform 1 against priority 10 policy !---** *ISAKMP attributes check in process.* ISAKMP: encryption 3DES-CBC 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 acceptable.** Next payload is 0 ISAKMP (0): SA is doing pre-shared key

```
authentication using id type ID_IPV4_ADDR return status is IKMP_NO_ERROR
crypto_isakmp_process_block:src:172.18.124.195, dest:172.18.124.196 spt:500 dpt:500 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): 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 ISAKMP (0):
received xauth v6 vendor id ISAKMP (0): ID payload next-payload : 8 type : 1 protocol : 17 port
: 500 length : 8 ISAKMP (0): Total payload length: 12 return status is IKMP_NO_ERROR
crypto_isakmp_process_block:src:172.18.124.195, dest:172.18.124.196 spt:500 dpt:500 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 156512779:954320bIPSEC (key_engine): got a queue event... IPSEC(spi_response): getting
spi 0x79efefce(2045767630) for SA from 172.18.124.195 to 172.18.124.196 for prot 3 return status
is IKMP_NO_ERROR ISAKMP (0): sending INITIAL_CONTACT notify ISAKMP (0): sending NOTIFY message
24578 protocol 1 VPN Peer: ISAKMP: Added new peer: ip:172.18.124.195/500 Total VPN Peers:1 VPN
Peer: ISAKMP: Peer ip:172.18.124.195/500 Ref cnt incremented to:1 Total VPN Peers:1
crypto_isakmp_process_block:src:172.18.124.195, dest:172.18.124.196 spt:500 dpt:500 OAK_QM
exchange oakley_process_quick_mode: OAK_QM_IDLE ISAKMP (0): processing SA payload. message ID =
156512779 ISAKMP : Checking IPsec proposal 1 ISAKMP: transform 1, ESP_3DES 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 (0): atts are acceptable. !--- Phase 1 attributes are
negotiated. IPSEC(validate_proposal_request): proposal part #1, (key eng. msg.) dest=
172.18.124.195, src= 172.18.124.196, dest_proxy= 192.168.40.0/255.255.255.0/0/0 (type=4),
src_proxy= 192.168.10.0/255.255.255.0/0/0 (type=4), protocol= ESP, transform= esp-3des esp-sha-
hmac , lifedur= 0s and 0kb, spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4 ISAKMP (0):
processing NONCE payload. message ID = 156512779 ISAKMP (0): processing ID payload. message ID =
156512779 ISAKMP (0): processing ID payload. message ID = 156512779 ISAKMP (0): processing
NOTIFY payload 24576 protocol 3 spi 4227499308, message ID = 156512779 ISAKMP (0): processing
responder lifetime ISAKMP (0): responder lifetime of 3600s ISAKMP (0): Creating IPsec SAs
inbound SA from 172.18.124.195 to 172.18.124.196 (proxy 192.168.40.0 to 192.168.10.0) has spi
2045767630 and conn_id 1 and flags 4 lifetime of 3600 seconds lifetime of 4608000 kilobytes
outbound SA from 172.18.124.196 to 172.18.124.195 (proxy 192.168.10.0 to 192.168.40.0) has spi
4227499308 and conn_id 2 and flags 4 lifetime of 3600 seconds lifetime of 4608000
kilobytesIPSEC(key_engine): got a queue event... IPSEC(initialize_sas): , (key eng. msg.) dest=
172.18.124.196, src= 172.18.124.195, dest_proxy= 192.168.10.0/255.255.255.0/0/0 (type=4),
src_proxy= 192.168.40.0/255.255.255.0/0/0 (type=4), protocol= ESP, transform= esp-3des esp-sha-
hmac , lifedur= 3600s and 4608000kb, spi= 0x79efefce(2045767630), conn_id= 1, keysize= 0, flags=
0x4 IPSEC(initialize_sas): , (key eng. msg.) src= 172.18.124.196, dest= 172.18.124.195,
src_proxy= 192.168.10.0/255.255.255.0/0/0 (type=4), dest_proxy= 192.168.40.0/255.255.255.0/0/0
(type=4), protocol= ESP, transform= esp-3des esp-sha-hmac , lifedur= 3600s and 4608000kb, spi=
0xfbfa852c(4227499308), conn_id= 2, keysize= 0, flags= 0x4 !--- Phase 2 tunnel establishment.
```

[Отладка на PIX-506-B \(подключение клиента EzVPN\)](#)

```
ISAKMP (0): ID payload
next-payload : 13
type : 11
protocol : 17
port : 0
length : 8
ISAKMP (0): Total payload length: 12
ISAKMP (0:0): sending NAT-T vendor ID - rev 2 & 3
ISAKMP (0): beginning Aggressive Mode exchange
crypto_isakmp_process_block:src:172.18.124.195, dest:172.18.124.197
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 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 0
...
ISAKMP (0): Checking ISAKMP transform 1 against priority 65008 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 acceptable. Next payload is 0 !--- Phase 1 attributes are accepted.** ISAKMP
(0): processing vendor id payload 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 ISAKMP (0): received xauth v6
vendor id ISAKMP (0): processing vendor id payload ISAKMP (0:0): vendor ID is NAT-T ISAKMP (0):
processing KE payload. message ID = 0 ISAKMP (0): processing ID payload. message ID = 0 ISAKMP
(0): processing NONCE payload. message ID = 0 ISAKMP (0): processing HASH payload. message ID =
0 ISAKMP (0:0): Detected NAT-D payload ISAKMP (0:0): recalc my hash for NAT-D ISAKMP (0:0): NAT
match MINE hash ISAKMP (0:0): Detected NAT-D payload ISAKMP (0:0): recalc his hash for NAT-D
ISAKMP (0:0): NAT match HIS hash ISAKMP (0): **SA has been authenticated !--- SAs have been
authenticated.** crypto_isakmp_process_block:src:172.18.124.195, dest:172.18.124.197 spt:500
dpt:500 ISAKMP (0): processing NOTIFY payload 24576 protocol 1 spi 0, message ID = 1554218001
ISAKMP (0): processing responder lifetime ISAKMP (0): phase 1 responder lifetime of 86400s
ISAKMP (0): not overriding 86400s return status is IKMP_NO_ERR_NO_TRANS
crypto_isakmp_process_block:src:172.18.124.195, dest:172.18.124.197 spt:500 dpt:500
ISAKMP_TRANSACTION exchange ISAKMP (0:0): processing transaction payload from 172.18.124.195.
message ID = 15250780 ISAKMP: Config payload CFG_REQUEST ISAKMP (0:0): **checking request: !---
Extended authentication process check. ISAKMP: attribute XAUTH_USER_NAME (16521) ISAKMP:
attribute XAUTH_USER_PASSWORD (16522)** ISAKMP (0:0): responding to peer config from
172.18.124.195. ID = 3060977862 return status is IKMP_NO_ERROR
crypto_isakmp_process_block:src:172.18.124.195, dest:172.18.124.197 spt:500 dpt:500
ISAKMP_TRANSACTION exchange ISAKMP (0:0): processing transaction payload from 172.18.124.195.
message ID = 15250780 ISAKMP: Config payload CFG_SET ISAKMP (0:0): checking SET: ISAKMP:
XAUTH_STATUS XAUTH-OK !--- Extended authentication checked. ISAKMP (0:0): attributes sent in
message: Status: 1 return status is IKMP_NO_ERROR ISAKMP : attributes being requested
INTERNAL_IPV_ADDRESS ALT_DEF_DOMAIN INTERNAL_IPV_NBNS INTERNAL_IPV_DNS ALT_SPLIT_INCLUDE
ALT_SPLITDNS_NAME ALT_PFS ALT_CFG_SEC_UNIT ALT_CFG_USER_AUTH ALT_CFG_IDLE_TIME ALT_CFG_IP_TEL
ALT_CFG_AUTH_SRVNAME ALT_CFG_AUTH_SRVPORT ALT_CFG_AUTH_SRVSEC ALT_BACKUP_SERVERS ... ISAKMP :
Checking IPsec proposal 1 ISAKMP: transform 1, ESP_3DES 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 proposal accepted.**
IPSEC(validate_proposal_request): proposal part #1, (key eng. msg.) dest= 172.18.124.195, src=
172.18.124.197, dest_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4), src_proxy=
172.25.70.6/255.255.255.255/0/0 (type=1), protocol= ESP, transform= esp-3des esp-md5-hmac ,
lifedur= 0s and 0kb, spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4 ISAKMP (0): processing
NONCE payload. message ID = 4111011634 ISAKMP (0): processing ID payload. message ID =
4111011634 ISAKMP (0): processing ID payload. message ID = 4111011634 ISAKMP (0): processing
NOTIFY payload 24576 protocol 3 spi 2254721697, message ID = 4111011634 ISAKMP (0): processing
responder lifetime ISAKMP (0): responder lifetime of 3600s ISAKMP (0): Creating IPsec SAs
inbound SA from 172.18.124.195 to 172.18.124.197 (proxy 0.0.0.0 to 172.25.70.6) has spi
3398064436 and conn_id 2 and flags 4 lifetime of 3600 seconds lifetime of 4608000 kilobytes
outbound SA from 172.18.124.197 to 172.18.124.195 (proxy 172.25.70.6 to 0.0.0.0) has spi
2254721697 and conn_id 1 and flags 4 lifetime of 3600 seconds lifetime of 4608000
kilobytes IPSEC(key_engine): got a queue event... IPSEC(initialize_sas): , (key eng. msg.) dest=
172.18.124.197, src= 172.18.124.195, **dest_proxy= 172.25.70.6/255.255.255.255/0/0 (type=1),
src_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4)**, protocol= ESP, transform= esp-3des esp-md5-hmac ,
lifedur= 3600s and 4608000kb, spi= 0xca8a5934(3398064436), conn_id= 2, keysize= 0, flags= 0x4
IPSEC(initialize_sas): , (key eng. msg.) src= 172.18.124.197, dest= 172.18.124.195, **src_proxy=
172.25.70.6/255.255.255.255/0/0 (type=1), dest_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4)**, **!--- IPsec
SAs created.** protocol= ESP, transform= esp-3des esp-md5-hmac , lifedur= 3600s and 4608000kb,
spi= 0x866452a1(2254721697), conn_id= 1, keysize= 0, flags= 0x4

Отладка на VPN-клиенте

Выберите Start > Programs > Cisco VPN Client > Log Viewer (Пуск > Программы > Cisco VPN Client > Средство просмотра журналов).

Cisco Systems VPN Client Version 4.0 (Rel)
Copyright (C) 1998-2003 Cisco Systems, Inc. All Rights Reserved.
Client Type(s): Windows, WinNT
Running on: 5.1.2600

```
1 15:47:01.430 08/19/04 Sev=Info/6 IKE/0x6300003B
Attempting to establish a connection with 172.18.124.195.

2 15:47:01.460 08/19/04 Sev=Info/4 IKE/0x63000013
SENDING >>> ISAKMP OAK AG (SA, KE, NON, ID, VID(Xauth), VID(dpd),
VID(Nat-T), VID(Frag), VID(Unity)) to 172.18.124.195

3 15:47:01.947 08/19/04 Sev=Info/5 IKE/0x6300002F
Received ISAKMP packet: peer = 172.18.124.195

4 15:47:01.947 08/19/04 Sev=Info/4 IKE/0x63000014
RECEIVING <<< ISAKMP OAK AG (SA, VID(Unity), VID(dpd), VID(?), VID(Xauth),
VID(Nat-T), KE, ID, NON, HASH, NAT-D, NAT-D) from 172.18.124.195

5 15:47:01.947 08/19/04 Sev=Info/5 IKE/0x63000001
Peer is a Cisco-Unity compliant peer

6 15:47:01.947 08/19/04 Sev=Info/5 IKE/0x63000001
Peer supports DPD

7 15:47:01.947 08/19/04 Sev=Info/5 IKE/0x63000001
Peer supports DWR Code and DWR Text

8 15:47:01.947 08/19/04 Sev=Info/5 IKE/0x63000001
Peer supports XAUTH

9 15:47:01.947 08/19/04 Sev=Info/5 IKE/0x63000001
Peer supports NAT-T

10 15:47:01.977 08/19/04 Sev=Info/6 IKE/0x63000001
IOS Vendor ID Contruction successful

11 15:47:01.977 08/19/04 Sev=Info/4 IKE/0x63000013
SENDING >>> ISAKMP OAK AG *(HASH, NOTIFY:STATUS_INITIAL_CONTACT,
NAT-D, NAT-D, VID(?), VID(Unity)) to 172.18.124.195

12 15:47:01.977 08/19/04 Sev=Info/4 IKE/0x63000082
IKE Port in use - Local Port = 0x01F4, Remote Port = 0x01F4

13 15:47:01.977 08/19/04 Sev=Info/5 IKE/0x63000071
Automatic NAT Detection Status: Remote end is NOT behind a NAT device This end is NOT behind a
NAT device !--- NAT device detection process. 14 15:47:01.986 08/19/04 Sev=Info/5 IKE/0x6300002F
Received ISAKMP packet: peer = 172.18.124.195 15 15:47:01.986 08/19/04 Sev=Info/4 IKE/0x63000014
RECEIVING <<< ISAKMP OAK INFO *(HASH, NOTIFY:STATUS_RESP_LIFETIME) from 172.18.124.195 16
15:47:01.986 08/19/04 Sev=Info/5 IKE/0x63000044 RESPONDER-LIFETIME notify has value of 86400
seconds 17 15:47:01.986 08/19/04 Sev=Info/5 IKE/0x63000046 This SA has already been alive for 0
seconds, setting expiry to 86400 seconds from now 18 15:47:01.996 08/19/04 Sev=Info/5
IKE/0x6300002F Received ISAKMP packet: peer = 172.18.124.195 19 15:47:01.996 08/19/04 Sev=Info/4
IKE/0x63000014 RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 172.18.124.195 20 15:47:02.689
08/19/04 Sev=Info/4 IPSEC/0x63700008 IPsec driver successfully started 21 15:47:02.689 08/19/04
Sev=Info/4 IPSEC/0x63700014 Deleted all keys 22 15:47:02.689 08/19/04 Sev=Info/6
IPSEC/0x6370002B Sent 85 packets, 0 were fragmented. 23 15:47:06.044 08/19/04 Sev=Info/4
```



```
IKE/0x63000013 SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 172.18.124.195 24 15:47:06.064
08/19/04 Sev=Info/5 IKE/0x6300002F Received ISAKMP packet: peer = 172.18.124.195 25 15:47:06.064
08/19/04 Sev=Info/4 IKE/0x63000014 RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from
172.18.124.195 26 15:47:06.064 08/19/04 Sev=Info/4 IKE/0x63000013 SENDING >>> ISAKMP OAK TRANS
*(HASH, ATTR) to 172.18.124.195 27 15:47:06.103 08/19/04 Sev=Info/5 IKE/0x6300005D Client
sending a firewall request to concentrator 28 15:47:06.103 08/19/04 Sev=Info/5 IKE/0x6300005C
Firewall Policy: Product=Cisco Systems Integrated Client, Capability= (Centralized Protection
Policy). 29 15:47:06.113 08/19/04 Sev=Info/4 IKE/0x63000013 SENDING >>> ISAKMP OAK TRANS *(HASH,
ATTR) to 172.18.124.195 30 15:47:06.132 08/19/04 Sev=Info/5 IKE/0x6300002F Received ISAKMP
packet: peer = 172.18.124.195 31 15:47:06.132 08/19/04 Sev=Info/4 IKE/0x63000014 RECEIVING <<<
ISAKMP OAK TRANS *(HASH, ATTR) from 172.18.124.195 32 15:47:06.132 08/19/04 Sev=Info/5
IKE/0x63000010 MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_ADDRESS: , value = 10.50.50.2 !---
Assigned IP address for the VPN Client. 33 15:47:06.132 08/19/04 Sev=Info/5 IKE/0xA3000017
MODE_CFG_REPLY: The received (INTERNAL_ADDRESS_EXPIRY) attribute and value (842150403) is not
supported 34 15:47:06.132 08/19/04 Sev=Info/5 IKE/0x6300000E MODE_CFG_REPLY: Attribute =
MODECFG_UNITY_DEFDOMAIN: , value = cisco.com 35 15:47:06.132 08/19/04 Sev=Info/5 IKE/0x6300000E
MODE_CFG_REPLY: Attribute = APPLICATION_VERSION, value = Cisco Internetwork Operating System
Software IOS (tm) C1700 Software (C1700-K9O3SY7-M), Version 12.3(9a), RELEASE SOFTWARE (fc4)
Copyright (c) 1986-2004 by cisco Systems, Inc. Compiled Fri 23-Jul-04 02:20 by kellythw 37
15:47:06.171 08/19/04 Sev=Info/4 IKE/0x63000013 SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID,
ID) to 172.18.124.195 38 15:47:06.444 08/19/04 Sev=Info/5 IKE/0x6300002F Received ISAKMP packet:
peer = 172.18.124.195 39 15:47:06.454 08/19/04 Sev=Info/4 IKE/0x63000014 RECEIVING <<< ISAKMP
OAK QM *(HASH, SA, NON, ID, ID, NOTIFY:STATUS_RESP_LIFETIME from 172.18.124.195 40 15:47:06.454
08/19/04 Sev=Info/5 IKE/0x63000044 RESPONDER-LIFETIME notify has value of 3600 seconds 41
15:47:06.454 08/19/04 Sev=Info/5 IKE/0x63000045 RESPONDER-LIFETIME notify has value of 4608000
kb 42 15:47:06.454 08/19/04 Sev=Info/4 IKE/0x63000013 SENDING >>> ISAKMP OAK QM *(HASH) to
172.18.124.195 43 15:47:06.454 08/19/04 Sev=Info/5 IKE/0x63000058 Loading IPsec SA
(MsgID=83D109EC OUTBOUND SPI = 0x422186D5 INBOUND SPI = 0x5D94CB41) 44 15:47:06.454 08/19/04
Sev=Info/5 IKE/0x63000025 Loaded OUTBOUND ESP SPI: 0x422186D5 45 15:47:06.454 08/19/04
Sev=Info/5 IKE/0x63000026 Loaded INBOUND ESP SPI: 0x5D94CB41 46 15:47:09.307 08/19/04 Sev=Info/4
IPSEC/0x63700014 Deleted all keys 47 15:47:09.307 08/19/04 Sev=Info/4 IPSEC/0x63700010 Created a
new key structure 48 15:47:09.307 08/19/04 Sev=Info/4 IPSEC/0x6370000F Added key with
SPI=0xd5862142 into key list 49 15:47:09.307 08/19/04 Sev=Info/4 IPSEC/0x63700010 Created a new
key structure 50 15:47:09.307 08/19/04 Sev=Info/4 IPSEC/0x6370000F Added key with SPI=0x41cb945d
into key list 51 15:47:09.307 08/19/04 Sev=Info/4 IPSEC/0x6370002E Assigned VA private interface
addr 10.50.50.2 52 15:47:16.568 08/19/04 Sev=Info/6 IKE/0x6300003D Sending DPD request to
172.18.124.195, seq# = 2346900535 53 15:47:16.568 08/19/04 Sev=Info/4 IKE/0x63000013 SENDING >>>
ISAKMP OAK INFO *(HASH, NOTIFY:DPD_REQUEST) to 172.18.124.195 54 15:47:16.578 08/19/04
Sev=Info/5 IKE/0x6300002F Received ISAKMP packet: peer = 172.18.124.195 55 15:47:16.578 08/19/04
Sev=Info/4 IKE/0x63000014 RECEIVING <<< ISAKMP OAK INFO *(HASH, NOTIFY:DPD_ACK) from
172.18.124.195 56 15:47:16.578 08/19/04 Sev=Info/5 IKE/0x6300003F Received DPD ACK from
172.18.124.195, seq# received = 2346900536, seq# expected = 2346900536
```

Устранение неполадок

В этом разделе описывается процесс устранения неполадок конфигурации.

Команды для устранения неполадок

Некоторые команды `show` поддерживаются Средством интерпретации выходных данных(только зарегистрированные клиенты), которое позволяет просматривать аналитику выходных данных команды `show`.

Примечание: [Обратитесь к документу Важная информация о командах отладки, прежде чем использовать команды debug.](#)

- `show crypto isakmp sa`— показывает все текущие ассоциации безопасности протокола IKE (Internet Key Exchange, обмен ключами в Интернете) на одноранговом узле.
`VPN1750#show crypto isakmp sa dst src state conn-id slot 172.18.124.195 172.18.173.80`

QM_IDLE 3 0 !--- VPN Client. 172.18.124.195 172.18.124.197 QM_IDLE 2 0 !--- EzVPN between hub router and PIX-506-B. 172.18.124.195 172.18.124.196 QM_IDLE 1 0 !--- EzVPN between hub router and PIX-501.

- **show crypto ipsec sa** — отображает настройки, используемые текущими SA.
VPN1750#**show crypto ipsec sa** interface: FastEthernet0 Crypto map tag: rtp, local addr. 172.18.124.195 protected vrf: local ident (addr/mask/prot/port): (192.168.40.0/255.255.255.0/0/0) remote ident (addr/mask/prot/port): (192.168.10.0/255.255.255.0/0/0) current_peer: 172.18.124.196:500 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 not decompressed: 0, #pkts decompress failed: 0 #send errors 0, #recv errors 0 local crypto endpt.: 172.18.124.195, remote crypto endpt.: 172.18.124.196 path mtu 1500, ip mtu 1500, ip mtu idb FastEthernet0 current outbound spi: DB79E16D inbound esp sas: spi: 0xAF634F08(2942521096) transform: esp-3des esp-sha-hmac , in use settings ={Tunnel, } slot: 0, conn id: 2000, flow_id: 1, crypto map: rtp sa timing: remaining key lifetime (k/sec): (4433404/3282) IV size: 8 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp sas: spi: 0xDB79E16D(3682197869) transform: esp-3des esp-sha-hmac , in use settings ={Tunnel, } slot: 0, conn id: 2001, flow_id: 2, crypto map: rtp sa timing: remaining key lifetime (k/sec): (4433404/3282) IV size: 8 bytes replay detection support: Y outbound ah sas: outbound pcp sas: protected vrf: local ident (addr/mask/prot/port): (172.18.124.195/0.0.0.0/0/0) remote ident (addr/mask/prot/port): (50.50.50.7/255.255.255.255/0/0) current_peer: 172.18.173.80:500 PERMIT, flags={} #pkts encaps: 6, #pkts encrypt: 6, #pkts digest 6 #pkts decaps: 47, #pkts decrypt: 47, #pkts verify 47 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 0, #pkts compr. failed: 0 #pkts not decompressed: 0, #pkts decompress failed: 0 #send errors 0, #recv errors 0 local crypto endpt.: 172.18.124.195, remote crypto endpt.: 172.18.173.80 path mtu 1500, ip mtu 1500, ip mtu idb FastEthernet0 current outbound spi: 72149A7D inbound esp sas: spi: 0x3467B12A(879210794) transform: esp-3des esp-sha-hmac , in use settings ={Tunnel, } slot: 0, conn id: 2006, flow_id: 7, crypto map: rtp sa timing: remaining key lifetime (k/sec): (4381078/3577) IV size: 8 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp sas: spi: 0x72149A7D(1913952893) transform: esp-3des esp-sha-hmac , in use settings ={Tunnel, } slot: 0, conn id: 2007, flow_id: 8, crypto map: rtp sa timing: remaining key lifetime (k/sec): (4381086/3577) IV size: 8 bytes replay detection support: Y outbound ah sas: outbound pcp sas: protected vrf: local ident (addr/mask/prot/port): (172.18.124.195/0.0.0.0/0/0) remote ident (addr/mask/prot/port): (172.25.70.8/255.255.255.255/0/0) current_peer: 172.18.124.197:500 PERMIT, flags={} #pkts encaps: 3, #pkts encrypt: 3, #pkts digest 3 #pkts decaps: 3, #pkts decrypt: 3, #pkts verify 3 #pkts compressed: 0, #pkts decompressed: 0 #pkts not compressed: 0, #pkts compr. failed: 0 #pkts not decompressed: 0, #pkts decompress failed: 0 #send errors 0, #recv errors 0 local crypto endpt.: 172.18.124.195, remote crypto endpt.: 172.18.124.197 path mtu 1500, ip mtu 1500, ip mtu idb FastEthernet0 current outbound spi: 2DE8E3C9 inbound esp sas: spi: 0xED6381E5(3982721509) transform: esp-3des esp-md5-hmac , in use settings ={Tunnel, } slot: 0, conn id: 2002, flow_id: 3, crypto map: rtp sa timing: remaining key lifetime (k/sec): (4561846/3283) IV size: 8 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp sas: spi: 0x2DE8E3C9(770237385) transform: esp-3des esp-md5-hmac , in use settings ={Tunnel, } slot: 0, conn id: 2003, flow_id: 4, crypto map: rtp sa timing: remaining key lifetime (k/sec): (4561846/3281) IV size: 8 bytes replay detection support: Y outbound ah sas: outbound pcp sas: protected vrf: local ident (addr/mask/prot/port): (172.18.124.195/0.0.0.0/0/0) remote ident (addr/mask/prot/port): (172.18.124.197/255.255.255.255/0/0) current_peer: 172.18.124.197:500 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 not decompressed: 0, #pkts decompress failed: 0 #send errors 0, #recv errors 0 local crypto endpt.: 172.18.124.195, remote crypto endpt.: 172.18.124.197 path mtu 1500, ip mtu 1500, ip mtu idb FastEthernet0 current outbound spi: 87066AED inbound esp sas: spi: 0x8C8106A4(2357266084) transform: esp-3des esp-md5-hmac , in use settings ={Tunnel, } slot: 0, conn id: 2004, flow_id: 5, crypto map: rtp sa timing: remaining key lifetime (k/sec): (4525643/3285) IV size: 8 bytes replay detection support: Y inbound ah sas: inbound pcp sas: outbound esp sas: spi: 0x87066AED(2265344749) transform: esp-3des esp-md5-hmac , in use settings ={Tunnel, } slot: 0, conn id: 2005, flow_id: 6, crypto map: rtp sa timing: remaining key lifetime (k/sec): (4525643/3285) IV size: 8 bytes replay detection support: Y outbound ah sas: outbound pcp sas:

Дополнительные сведения

- [Устранение неполадок PIX при передаче трафика по установленному туннелю IPSec](#)
- [Устранение проблем IPSec — общие сведения и использование команд debug](#)
- [Страницы поддержки межсетевых экранов PIX серии 500](#)
- [Страницы поддержки технологии IPSec](#)
- [Страница поддержки Cisco VPN Client](#)
- [Справочник по командам PIX](#)
- [Запросы комментариев \(RFC\)](#)
- [Страница поддержки RADIUS](#)
- [Cisco Systems – техническая поддержка и документация](#)