IPSec - PIX к Wild-card Cisco VPN Client, Pre-shared, Конфигурации режима с расширенной проверкой подлинности

Содержание

Введение

Этот пример конфигурации демонстрирует, как подключить клиента VPN к брэндмауэру PIX, используя специальные символы, режим настройки, команду sysopt connection permit-ipsec и расширенную проверку подлинности (XAUTH).

Для наблюдения TACACS + и Конфигурация RADIUS для PIX 6.3 и позже, обратитесь к TACACS + и RADIUS для PIX 6.3 и PIX/ASA 7.x Пример конфигурации.

Клиент VPN поддерживает Расширенный стандарт шифрования (AES) как алгоритм шифрования в выпуске 3.6.1 Cisco VPN Client и позже и с Межсетевым экраном PIX 6.3. Клиент VPN поддерживает размеры ключа 128 битов и 256 битов только. Для получения дополнительной информации о том, как настроить AES, обратитесь к тому, Как Настроить Cisco VPN Client к PIX с AES.

См. PIX/ASA 7.x и Cisco VPN Client 4.x для Windows с Microsoft Windows 2003 Примера настройки аутентификации RADIUS IAS для устанавливания соединения VPN для удаленного доступа между Cisco VPN Client (4.x для Windows) и устройством защиты PIX 500 Series 7.x использование сервера RADIUS Интернет-сервиса проверки подлинности

(IAS) Microsoft Windows 2003 года.

См. IPsec Между VPN 3000 Concentrator и Клиентом VPN 4.x для Windows с помощью RADIUS для Проверки подлинности пользователя и Считая Пример конфигурации для установления Туннеля IPSec между Cisco VPN 3000 Concentrator и Cisco VPN Client 4.x для Windows с помощью RADIUS для проверки подлинности пользователя и учета.

См. IPsec Настройки Между маршрутизатором Cisco IOS и Cisco VPN Client 4.x для Windows Using RADIUS для Проверки подлинности пользователя для настройки соединения между маршрутизатором и Cisco VPN Client 4.x использование RADIUS для проверки подлинности пользователя.

Предварительные условия

Требования

Для этого документа отсутствуют особые требования.

Используемые компоненты

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

- Cisco VPN Client 4. x. Данный продукт,, в отличие от клиента Cisco Secure VPN 1.x характеризуется расширенными возможностями VPN.
- Межсетевой экран PIX 515E версия 6.3 (3).

Примечание: Технология шифрования подлежит экспортному контролю. Это - ваша обязанность знать законы относительно экспорта технологии шифрования. Для получения дополнительной информации обратитесь к веб-сайту Бюро экспортной администрации. Все вопросы, касающиеся экспортного контроля, можно присылать по электронной почте на адрес export@cisco.com.

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

Дополнительные сведения об условных обозначениях см. в документе Условные обозначения технических терминов Cisco.

Общие сведения

Команда **sysopt connection permit-ipsec** неявно разрешает любой пакет, который прибывает из Туннеля IPSec для обхода проверки связанного **access-list**, **conduit** или **команды access-group** для IP - безопасных соединений. Xauth выполняет аутентификацию пользователя IPSec для внешнего сервера TACACS+ или RADIUS. В дополнение к предварительному совместно используемому подстановочному ключу пользователь должен ввести имя

пользователя.

Пользователь с Клиентом VPN получает IP-адрес от их интернет-провайдера. Это заменено IP-адресом от пула IP-адреса на PIX. Пользователь имеет доступ ко всем объектам с внутренней стороны межсетевого экрана, включая сети. Пользователи, которые не выполняют Клиент VPN, могут соединиться только с Web-сервером с помощью внешнего адреса, предоставленного статическим назначением.

Настройка

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

Примечание: Чтобы получить подробные сведения о командах в данном документе, используйте Средство поиска команд (только для зарегистрированных клиентов).

Схема сети

В настоящем документе используется следующая схема сети:

Примечания к сетевым диаграммам

- Узлы в Интернете которые достигают веб-сервера, используя глобальный IP-адрес 192.168.1.1, проходят проверку подлинности, даже если подключение VPN не установлено. Этот трафик *не* зашифрован.
- Клиенты VPN в состоянии обратиться ко всем хостам на внутренней сети (10.89.129.128 / 25), как только установлен их Туннель IPSec. Весь трафик от Клиента VPN к Межсетевому экрану PIX зашифрован. Без Туннеля IPSec они только в состоянии обратиться к Web-серверу через его глобальный IP-адрес, но все еще обязаны аутентифицироваться.
- Клиенты VPN принадлежат сети Интернет, и их IP-адреса заранее неизвестны.

Конфигурации

Эти конфигурации используются в данном документе.

- Конфигурация PIX 6.3 (3)
- Клиент VPN 4.0.5 конфигурации
- Конфигурация VPN Client 3.5
- Клиент VPN 1.1 конфигурации

Конфигурация PIX 6.3 (3)

```
pixfirewall#show run
: Saved
:
PIX Version 6.3(3)
interface ethernet0 100full
interface ethernet1 100full
nameif ethernet0 outside security0
nameif ethernet1 inside security100
enable password 8Ry2YjIyt7RRXU24 encrypted
```

```
passwd 2KFQnbNIdI.2KYOU encrypted
hostname pixfirewall
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
!--- Do not use Network Address Translation (NAT) for
inside-to-pool !--- traffic. This should not go through
NAT. access-list 101 permit ip 10.89.129.128
255.255.255.240 10.89.129.192 255.255.255.240 !---
Permits Internet Control Message Protocol (ICMP) !---
Transmission Control Protocol (TCP) and User Datagram
Protocol (UDP) !--- traffic from any host on the
Internet (non-VPN) to the web server. access-list 120
permit icmp any host 10.89.129.131 access-list 120
permit tcp any host 10.89.129.131 access-list 120 permit
udp any host 10.89.129.131 pager lines 24 mtu outside
1500 mtu inside 1500 ip address outside 192.168.1.1
255.255.255.0 ip address inside 10.89.129.194
255.255.255.240 ip audit info action alarm ip audit
attack action alarm !--- Specifies the inside IP address
range to be assigned !--- to the VPN Clients. ip local
pool VPNpool 10.89.129.200-10.89.129.204 no failover
failover timeout 0:00:00 failover poll 15 no failover ip
address outside no failover ip address inside pdm
history enable arp timeout 14400 !--- Defines a pool of
global addresses to be used by NAT. global (outside) 1
192.168.1.6-192.168.1.10 nat (inside) 0 access-list 101
nat (inside) 1 0.0.0.0 0.0.0.0 0 0 !--- Specifies which
outside IP address to apply to the web server. static
(inside,outside) 192.168.1.11 10.89.129.131 netmask
255.255.255.255 0 0 !--- Apply ACL 120 to the outside
interface in the inbound direction. access-group 120 in
interface outside !--- Defines a default route for the
PIX. route outside 0.0.0.0 0.0.0.0 192.168.1.3 1 !---
Defines a route for traffic within the PIX's !--- subnet
to reach other inside hosts. route inside 10.89.129.128
255.255.255.128 10.89.129.193 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
!--- Authentication, authorization, and accounting (AAA)
statements !--- for authentication. !--- Use either of
these statements to define the protocol of the group
AuthInbound. !--- You cannot use both.
aaa-server AuthInbound protocol tacacs+

!--- OR aaa-server AuthInbound protocol radius !---
After you define the protocol of the group AuthInbound,
define !--- a server of the same type. !--- In this case
we specify the TACACS+ server and key of "secretkey".
aaa-server AuthInbound (inside) host 10.89.129.134
```

```
secretkey timeout 10 !--- Authenticate HTTP, FTP, and
Telnet traffic to the web server. aaa authentication
include http outside 10.89.129.131 255.255.255.255
0.0.0.0 0.0.0.0 AuthInbound aaa authentication include
ftp outside 10.89.129.131 255.255.255.255 0.0.0.0
0.0.0.0 AuthInbound aaa authentication include telnet
outside 10.89.129.131 255.255.255.255 0.0.0.0 0.0.0.0
AuthInbound no snmp-server location no snmp-server
contact snmp-server community public no snmp-server
enable traps floodguard enable !--- Trust IPsec traffic
and avoid going through ACLs/NAT. sysopt connection
permit-ipsec !--- IPsec and dynamic map configuration.
crypto ipsec transform-set myset esp-des esp-md5-hmac
crypto dynamic-map dynmap 10 set transform-set myset
crypto map mymap 10 ipsec-isakmp dynamic dynmap !---
Assign IP address for VPN 1.1 Clients. crypto map mymap
client configuration address initiate crypto map mymap
client configuration address respond !--- Use the AAA
server for authentication (AuthInbound). crypto map
mymap client authentication AuthInbound !--- Apply the
IPsec/AAA/ISAKMP configuration to the outside interface.
crypto map mymap interface outside isakmp enable outside
!--- Pre-shared key for VPN 1.1 Clients. isakmp key
******** address 0.0.0.0 netmask 0.0.0.0 isakmp identity
address !--- Assign address from "VPNpool" pool for VPN
1.1 Clients. isakmp client configuration address-pool
local VPNpool outside !--- ISAKMP configuration for VPN
Client 3.x/4.x. isakmp policy 10 authentication pre-
share isakmp policy 10 encryption des isakmp policy 10
hash md5 isakmp policy 10 group 2 isakmp policy 10
lifetime 86400 !--- ISAKMP configuration for VPN Client
1.x. isakmp policy 20 authentication pre-share isakmp
policy 20 encryption des isakmp policy 20 hash md5
isakmp policy 20 group 1 isakmp policy 20 lifetime 86400
!--- Assign addresses from "VPNpool" for VPN Client
3.x/4.x. vpngroup vpn3000 address-pool VPNpool vpngroup
vpn3000 idle-time 1800 !--- Group password for VPN
Client 3.x/4.x (not shown in configuration). vpngroup
vpn3000 password ******** telnet timeout 5 ssh timeout 5
console timeout 0 terminal width 80
Cryptochecksum:ba54c063d94989cbd79076955dbfeefc : end
pixfirewall#
```

Клиент VPN 4.0.5 конфигурации

Выполните эти шаги для настройки Клиента VPN 4.0.5.

1. Выберите **Start> Programs> Cisco Systems VPN Client> VPN Client**.
2. **Нажмите кнопку New (Создать), чтобы открыть окно Create New VPN Connection Entry (Создание записи нового VPN-подключения).**
3. Введите имя записи и описание подключения. Введите внешний IP-адрес PIX firewall в поле Host. **Затем введите имя группы VPN и нажмите кнопку Save (Сохранить).**
4. **В главном окне VPN Client щелкните на соединение, которое вы хотели бы использовать, и щелкните кнопку Connect.**
5. **При появлении соответствующего запроса введите имя пользователя и пароль для аутентификации Xauth и нажмите OK для подключения к удаленной сети.**

Конфигурация VPN Client 3.5

Выполните эти шаги для настройки Клиента VPN 3.5 конфигурации.

1. Выберите **Start> Programs> Cisco Systems VPN Client> VPN Dialer**.
2. **Щелкните New, чтобы запустить мастера создания подключения (New Connection Entry Wizard).**
3. **Введите имя нового подключения и нажмите кнопку "Next".**
4. Введите имя хоста или IP-адрес сервера, который используется, чтобы соединиться с удаленным сервером и нажать **Next**.
5. Выберите **Group Access Information** и введите Имя и пароль, которое используется для аутентификации доступа к удаленному серверу. **Нажмите кнопку Next.**
6. **Щелкните "Завершить", чтобы сохранить новую запись.**
7. **Выберите подключение в программе дозвона и щелкните "Подключить".**
8. **При появлении соответствующего запроса введите имя пользователя и пароль для аутентификации Xauth и нажмите ОК для подключения к удаленной сети.**

Клиент VPN 1.1 конфигурации

```
pixfirewall#show run
: Saved
:
PIX Version 6.3(3)
interface ethernet0 100full
interface ethernet1 100full
nameif ethernet0 outside security0
nameif ethernet1 inside security100
enable password 8Ry2YjIyt7RRXU24 encrypted
passwd 2KFQnbNIdI.2KYOU encrypted
hostname pixfirewall
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
!--- Do not use Network Address Translation (NAT) for
inside-to-pool !--- traffic. This should not go through
NAT. access-list 101 permit ip 10.89.129.128
255.255.255.240 10.89.129.192 255.255.255.240 !---
Permits Internet Control Message Protocol (ICMP) !---
Transmission Control Protocol (TCP) and User Datagram
Protocol (UDP) !--- traffic from any host on the
Internet (non-VPN) to the web server. access-list 120
permit icmp any host 10.89.129.131 access-list 120
permit tcp any host 10.89.129.131 access-list 120 permit
udp any host 10.89.129.131 pager lines 24 mtu outside
1500 mtu inside 1500 ip address outside 192.168.1.1
255.255.255.0 ip address inside 10.89.129.194
255.255.255.240 ip audit info action alarm ip audit
attack action alarm !--- Specifies the inside IP address
range to be assigned !--- to the VPN Clients. ip local
pool VPNpool 10.89.129.200-10.89.129.204 no failover
```

```
failover timeout 0:00:00 failover poll 15 no failover ip
address outside no failover ip address inside pdm
history enable arp timeout 14400 !--- Defines a pool of
global addresses to be used by NAT. global (outside) 1
192.168.1.6-192.168.1.10 nat (inside) 0 access-list 101
nat (inside) 1 0.0.0.0 0.0.0.0 0 0 !--- Specifies which
outside IP address to apply to the web server. static
(inside,outside) 192.168.1.11 10.89.129.131 netmask
255.255.255.255 0 0 !--- Apply ACL 120 to the outside
interface in the inbound direction. access-group 120 in
interface outside !--- Defines a default route for the
PIX. route outside 0.0.0.0 0.0.0.0 192.168.1.3 1 !---
Defines a route for traffic within the PIX's !--- subnet
to reach other inside hosts. route inside 10.89.129.128
255.255.255.128 10.89.129.193 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
!--- Authentication, authorization, and accounting (AAA)
statements !--- for authentication. !--- Use either of
these statements to define the protocol of the group
AuthInbound. !--- You cannot use both.
aaa-server AuthInbound protocol tacacs+

!--- OR aaa-server AuthInbound protocol radius !---
After you define the protocol of the group AuthInbound,
define !--- a server of the same type. !--- In this case
we specify the TACACS+ server and key of "secretkey".
aaa-server AuthInbound (inside) host 10.89.129.134
secretkey timeout 10 !--- Authenticate HTTP, FTP, and
Telnet traffic to the web server. aaa authentication
include http outside 10.89.129.131 255.255.255.255
0.0.0.0 0.0.0.0 AuthInbound aaa authentication include
ftp outside 10.89.129.131 255.255.255.255 0.0.0.0
0.0.0.0 AuthInbound aaa authentication include telnet
outside 10.89.129.131 255.255.255.255 0.0.0.0 0.0.0.0
AuthInbound no snmp-server location no snmp-server
contact snmp-server community public no snmp-server
enable traps floodguard enable !--- Trust IPsec traffic
and avoid going through ACLs/NAT. sysopt connection
permit-ipsec !--- IPsec and dynamic map configuration.
crypto ipsec transform-set myset esp-des esp-md5-hmac
crypto dynamic-map dynmap 10 set transform-set myset
crypto map mymap 10 ipsec-isakmp dynamic dynmap !---
Assign IP address for VPN 1.1 Clients. crypto map mymap
client configuration address initiate crypto map mymap
client configuration address respond !--- Use the AAA
server for authentication (AuthInbound). crypto map
mymap client authentication AuthInbound !--- Apply the
IPsec/AAA/ISAKMP configuration to the outside interface.
crypto map mymap interface outside isakmp enable outside
!--- Pre-shared key for VPN 1.1 Clients. isakmp key
******** address 0.0.0.0 netmask 0.0.0.0 isakmp identity
address !--- Assign address from "VPNpool" pool for VPN
1.1 Clients. isakmp client configuration address-pool
local VPNpool outside !--- ISAKMP configuration for VPN
Client 3.x/4.x. isakmp policy 10 authentication pre-
share isakmp policy 10 encryption des isakmp policy 10
hash md5 isakmp policy 10 group 2 isakmp policy 10
lifetime 86400 !--- ISAKMP configuration for VPN Client
1.x. isakmp policy 20 authentication pre-share isakmp
policy 20 encryption des isakmp policy 20 hash md5
```

```
isakmp policy 20 group 1 isakmp policy 20 lifetime 86400
!--- Assign addresses from "VPNpool" for VPN Client
3.x/4.x. vpngroup vpn3000 address-pool VPNpool vpngroup
vpn3000 idle-time 1800 !--- Group password for VPN
Client 3.x/4.x (not shown in configuration). vpngroup
vpn3000 password ******** telnet timeout 5 ssh timeout 5
console timeout 0 terminal width 80
Cryptochecksum:ba54c063d94989cbd79076955dbfeefc : end
pixfirewall#
```

Добавление учета

Синтаксис команды добавления учета таков:

aaa accounting include *acctg_service* **inbound|outbound** *l_ip l_mask [f_ip f_mask] server_tag*

Например, в конфигурации PIX, эта команда добавлена:

```
aaa accounting include any inbound
0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 AuthInbound
```

Примечание: Команда "sysopt connection permit-ipsec", не совместимая с командой "sysopt ipsec pl-compatible", необходима для функционирования учета Xauth. При использовании команды sysopt ipsec pl-compatible учет Xauth не работает. Учет Xauth допустим для TCP - подключений, не ICMP или UDP.

Эти выходные данные являются примером TACACS + учетные записи:

```
aaa accounting include any inbound
0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 AuthInbound
```

Проверка

Этот раздел позволяет убедиться, что конфигурация работает правильно.

Средство Output Interpreter (OIT) (только для зарегистрированных клиентов) поддерживает определенные команды show. **Посредством OIT можно анализировать выходные данные команд show.**

Примечание: Прежде чем выполнять какие-либо команды отладки , ознакомьтесь с документом "Важные сведения о командах отладки".

Включите Служебной программе просмотра журнала Cisco Secure для наблюдения отладок на стороне клиента.

- **debug crypto ipsec - используется для просмотра сеансов согласования протокола IPSec в фазе 2.**
- **debug crypto isakmp - используется для вывода данных о согласовании ISAKMP в фазе 1.**

Устранение неполадок

В этом разделе описывается процесс устранения неполадок конфигурации. Также показан пример выходных данных команды debug.

Команды для устранения неполадок

Средство Output Interpreter (OIT) (только для зарегистрированных клиентов) поддерживает определенные команды show. **Посредством OIT можно анализировать выходные данные команд show.**

Примечание: Прежде чем выполнять какие-либо команды отладки , ознакомьтесь с документом "Важные сведения о командах отладки".

- **debug crypto engine - используется для отладки процесса модуля криптографии.**

Пример отладки PIX

```
pixfirewall#show debug
debug crypto ipsec 1
debug crypto isakmp 1
debug crypto engine
debug fover status
     tx      Off
     rx      Off
     open    Off
     cable   Off
     txdmp   Off
     rxdmp   Off
     ifc     Off
     rxip    Off
     txip    Off
     get     Off
     put     Off
     verify  Off
     switch  Off
     fail    Off
     fmsg    Off
```

Отладки с клиентом VPN 4. x

```
pixfirewall#
crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1
VPN Peer: ISAKMP: Added new peer: ip:192.168.1.2
Total VPN Peers:1
VPN Peer: ISAKMP: Peer ip:192.168.1.2 Ref cnt incremented
to:1 Total VPN Peers:1
OAK_AG exchange
ISAKMP (0): processing SA payload. message ID = 0

ISAKMP (0): Checking ISAKMP transform 1 against priority 10 policy
ISAKMP:    encryption 3DES-CBC
ISAKMP:      hash SHA
ISAKMP:      default group 2
ISAKMP:      extended auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 2 against priority 10 policy
ISAKMP:      encryption 3DES-CBC
ISAKMP:      hash MD5
```

```
ISAKMP:      default group 2
ISAKMP:      extended auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 3 against priority 10 policy
ISAKMP:      encryption 3DES-CBC
ISAKMP:      hash SHA
ISAKMP:      default group 2
ISAKMP:      auth pre-shared
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 4 against priority 10 policy
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 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 5 against priority 10 policy
ISAKMP:      encryption DES-CBC
ISAKMP:      hash SHA
ISAKMP:      default group 2
ISAKMP:      extended auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 6 against priority 10 policy
ISAKMP:      encryption DES-CBC
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      extended auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are acceptable. Next payload is 3
```

!--- Attributes offered by the VPN Client are accepted by the PIX. ISAKMP (0): processing KE payload. message ID = 0 ISAKMP (0): processing NONCE payload. message ID = 0 ISAKMP (0): processing ID payload. message ID = 0 ISAKMP (0): processing 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 a Unity client ISAKMP (0): ID payload next-payload: 10 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 192.168.1.2, dest 192.168.1.1 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_CONTACT IPSEC(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 192.168.1.2 ISAKMP (0): SA has been authenticated return status is IKMP_NO_ERROR ISAKMP/xauth: request attribute XAUTH_TYPE ISAKMP/xauth: request attribute XAUTH_USER_NAME ISAKMP/xauth: request attribute XAUTH_USER_PASSWORD ISAKMP (0:0): initiating peer config to 192.168.1.2. ID = 1623347510 (0x60c25136) crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 ISAKMP_TRANSACTION exchange ISAKMP (0:0): processing transaction payload from 192.168.1.2. message ID = 84 ISAKMP: Config payload CFG_REPLY return status is IKMP_ERR_NO_RETRANS ISAKMP (0:0): initiating peer config to 192.168.1.2. ID = 2620656926 (0x9c340d1e) crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 ISAKMP_TRANSACTION exchange ISAKMP (0:0): processing transaction payload from 192.168.1.2. message ID = 60 ISAKMP: Config payload CFG_ACK return status is IKMP_NO_ERROR crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 ISAKMP_TRANSACTION exchange ISAKMP (0:0): processing transaction payload from 192.168.1.2. message ID = 0 ISAKMP: Config payload CFG_REQUEST ISAKMP (0:0): checking request: ISAKMP: attribute IP4_ADDRESS (1) ISAKMP: attribute IP4_NETMASK (2) ISAKMP: attribute IP4_DNS (3) ISAKMP: attribute IP4_NBNS (4) ISAKMP: attribute ADDRESS_EXPIRY (5) Unsupported Attr: 5 ISAKMP: attribute APPLICATION_VERSION (7) Unsupported Attr: 7 ISAKMP: attribute UNKNOWN (28672) Unsupported Attr: 28672 ISAKMP: attribute UNKNOWN (28673) Unsupported Attr: 28673 ISAKMP:

attribute UNKNOWN (28674) ISAKMP: attribute UNKNOWN (28676) ISAKMP: attribute UNKNOWN (28679) Unsupported Attr: 28679 ISAKMP: attribute UNKNOWN (28680) Unsupported Attr: 28680 ISAKMP: attribute UNKNOWN (28677) Unsupported Attr: 28677 ISAKMP (0:0): responding to peer config from 192.168.1.2. ID = 177917346 return status is IKMP_NO_ERROR crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 OAK_QM exchange oakley_process_quick_mode: OAK_QM_IDLE ISAKMP (0): processing SA payload. message ID = 942875080 ISAKMP : Checking IPSec proposal 1 ISAKMP: transform 1, ESP_3DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-MD5 ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 1) not supported ISAKMP (0): atts not acceptable. Next payload is 0 ISAKMP (0): skipping next ANDed proposal (1) ISAKMP : Checking IPSec proposal 2 ISAKMP: transform 1, ESP_3DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-SHA ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 2) not supported ISAKMP (0): atts not acceptable. Next payload is 0 ISAKMP (0): skipping next ANDed proposal (2) ISAKMP: Checking IPSec proposal 3 ISAKMP: transform 1, ESP_3DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-MD5 ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 1) not supported ISAKMP (0): atts not acceptable. Next payload is 0 ISAKMP: Checking IPSec proposal 4 ISAKMP: transform 1, ESP_3DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-SHA ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 2) not supported ISAKMP (0): atts not acceptable. Next payload is 0 ISAKMP : Checking IPSec proposal 5 ISAKMP: transform 1, ESP_DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-MD5 ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b ISAKMP (0): atts are acceptable. ISAKMP (0): bad SPI size of 2 octets! ISAKMP: Checking IPSec proposal 6 ISAKMP: transform 1, ESP_DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-SHA ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b IPSEC(validate_proposal): transform proposal (prot 3, trans 2, hmac_alg 2) not supported ISAKMP (0): atts not acceptable. Next payload is 0 ISAKMP (0): skipping next ANDed proposal (6) ISAKMP : Checking IPSec proposal 7 ISAKMP: transform 1, ESP_DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-MD5 ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b ISAKMP (0): atts are acceptable.IPSEC(validate_proposal_request): proposal part #1, (key eng. msg.) dest= 192.168.1.1, src= 192.168.1.2, dest_proxy= 192.168.1.1/255.255.255.255/0/0 (type=1), src_proxy= 10.89.129.200/255.255.255.255/0/0 (type=1), protocol= ESP, transform= esp-des esp-md5-hmac , lifedur= 0s and 0kb, spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4 ISAKMP (0): processing NONCE payload. message ID = 942875080 ISAKMP (0): processing ID payload. message ID = 942875080 ISAKMP (0): ID_IPV4_ADDR src 10.89.129.200 prot 0 port 0 ISAKMP (0): processing ID payload. message ID = 942875080 ISAKMP (0): ID_IPV4_ADDR dst 192.168.1.1 prot 0 port 0IPSEC(key_engine): got a queue event... IPSEC(spi_response): getting spi 0x64d7a518(1691854104) for SA from 192.168.1.2 to 192.168.1.1 for prot 3 return status is IKMP_NO_ERROR crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 OAK_QM exchange oakley_process_quick_mode: OAK_QM_IDLE ISAKMP (0): processing SA payload. message ID = 3008609960 ISAKMP: Checking IPSec proposal 1 ISAKMP: transform 1, ESP_3DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-MD5 crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 OAK_QM exchange oakley_process_quick_mode: OAK_QM_AUTH_AWAITmap_alloc_entry: allocating entry 2 map_alloc_entry: allocating entry 1 ISAKMP (0): Creating IPSec SAs inbound SA from 192.168.1.2 to 192.168.1.1 (proxy 10.89.129.200 to 192.168.1.1) has spi 1691854104 and conn_id 2 and flags 4 lifetime of 2147483 seconds outbound SA from 192.168.1.1 to 192.168.1.2 (proxy 192.168.1.1 to 10.89.129.200) has spi 1025193431 and conn_id 1 and flags 4 lifetime of 2147483 seconds IPSEC(key_engine): got a queue event... IPSEC(initialize_sas): ,(key eng. msg.) dest= 192.168.1.1, src= 192.168.1.2, dest_proxy= 192.168.1.1/0.0.0.0/0/0 (type=1), src_proxy= 10.89.129.200/0.0.0.0/0/0 (type=1), protocol= ESP, transform= esp-des esp-md5-hmac , lifedur= 2147483s and 0kb, spi= 0x64d7a518(1691854104),conn_id= 2, keysize= 0, flags= 0x4 IPSEC(initialize_sas): , (key eng. msg.) src= 192.168.1.1, dest=192.168.1.2, src_proxy= 192.168.1.1/0.0.0.0/0/0 (type=1), dest_proxy= 10.89.129.200/0.0.0.0/0/0 (type=1), protocol= ESP, transform=esp-des esp-md5-hmac , lifedur= 2147483s and 0kb, spi= 0x3d1b35d7(1025193431),conn_id= 1, keysize= 0, flags= 0x4 VPN Peer: IPSEC: Peer ip:192.168.1.2 Ref cnt incremented to:2 Total VPN Peers:1 VPN Peer: IPSEC: Peer ip:192.168.1.2 Ref cnt incremented to:3 Total VPN Peers:1 return status is IKMP_NO_ERROR crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 OAK_QM exchange oakley_process_quick_mode: OAK_QM_AUTH_AWAITmap_alloc_entry: allocating entry 4 map_alloc_entry: allocating entry 3 ISAKMP (0): Creating IPSec SAs inbound SA from 192.168.1.2 to 192.168.1.1 (proxy 10.89.129.200 to 0.0.0.0) has spi 3415657865 and conn_id 4 and flags 4

```
lifetime of 2147483 seconds outbound SA from 192.168.1.1 to 192.168.1.2 (proxy 0.0.0.0 to
10.89.129.200) has spi 2383969893 and conn_id 3 and flags 4 lifetime of 2147483
secondsIPSEC(key_engine): got a queue event... IPSEC(initialize_sas): , (key eng. msg.) dest=
192.168.1.1, src=192.168.1.2, dest_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4), src_proxy=
10.89.129.200/0.0.0.0/0/0 (type=1), protocol= ESP, transform=esp-des esp-md5-hmac , lifedur=
2147483s and 0kb, spi= 0xcb96cd89(3415657865),conn_id= 4, keysize= 0, flags= 0x4
IPSEC(initialize_sas): , (key eng. msg.) src= 192.168.1.1, dest=192.168.1.2, src_proxy=
0.0.0.0/0.0.0.0/0/0 (type=4), dest_proxy= 10.89.129.200/0.0.0.0/0/0 (type=1), protocol= ESP,
transform=esp-des esp-md5-hmac , lifedur= 2147483s and 0kb, spi= 0x8e187e65(2383969893),conn_id=
3, keysize= 0, flags= 0x4 VPN Peer: IPSEC: Peer ip:192.168.1.2 Ref cnt incremented to:4 Total
VPN Peers:1 VPN Peer: IPSEC: Peer ip:192.168.1.2 Ref cnt incremented to:5 Total VPN Peers:1
return status is IKMP_NO_ERROR pixfirewall#show uauth
Current      Most Seen
Authenticated Users
1              1
Authen In Progress
0              1
ipsec user 'cisco_customer' at 10.89.129.200, authenticated
pixfirewall#
```

Отладка в клиенте VPN 1.1

```
pixfirewall#
crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1
VPN Peer: ISAKMP: Added new peer: ip:192.168.1.2
Total VPN Peers:1
VPN Peer: ISAKMP: Peer ip:192.168.1.2 Ref cnt incremented
to:1 Total VPN Peers:1
OAK_AG exchange
ISAKMP (0): processing SA payload. message ID = 0

ISAKMP (0): Checking ISAKMP transform 1 against priority 10 policy
ISAKMP:    encryption 3DES-CBC
ISAKMP:      hash SHA
ISAKMP:      default group 2
ISAKMP:      extended auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 2 against priority 10 policy
ISAKMP:      encryption 3DES-CBC
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      extended auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 3 against priority 10 policy
ISAKMP:      encryption 3DES-CBC
ISAKMP:      hash SHA
ISAKMP:      default group 2
ISAKMP:      auth pre-shared
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 4 against priority 10 policy
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 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 5 against priority 10 policy
```

```
ISAKMP:      encryption DES-CBC
ISAKMP:      hash SHA
ISAKMP:      default group 2
ISAKMP:      extended auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are not acceptable. Next payload is 3
ISAKMP (0): Checking ISAKMP transform 6 against priority 10 policy
ISAKMP:      encryption DES-CBC
ISAKMP:      hash MD5
ISAKMP:      default group 2
ISAKMP:      extended auth pre-share
ISAKMP:      life type in seconds
ISAKMP:      life duration (VPI) of 0x0 0x20 0xc4 0x9b
ISAKMP (0): atts are acceptable. Next payload is 3
!--- Attributes offered by the VPN Client are accepted by the PIX. ISAKMP (0): processing KE
payload. message ID = 0 ISAKMP (0): processing NONCE payload. message ID = 0 ISAKMP (0):
processing ID payload. message ID = 0 ISAKMP (0): processing 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 a Unity client ISAKMP (0): ID payload next-
payload: 10 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 192.168.1.2, dest 192.168.1.1
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_CONTACT IPSEC(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 192.168.1.2
ISAKMP (0): SA has been authenticated return status is IKMP_NO_ERROR ISAKMP/xauth: request
attribute XAUTH_TYPE ISAKMP/xauth: request attribute XAUTH_USER_NAME ISAKMP/xauth: request
attribute XAUTH_USER_PASSWORD ISAKMP (0:0): initiating peer config to 192.168.1.2. ID =
1623347510 (0x60c25136) crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1
ISAKMP_TRANSACTION exchange ISAKMP (0:0): processing transaction payload from 192.168.1.2.
message ID = 84 ISAKMP: Config payload CFG_REPLY return status is IKMP_ERR_NO_RETRANS ISAKMP
(0:0): initiating peer config to 192.168.1.2. ID = 2620656926 (0x9c340d1e)
crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 ISAKMP_TRANSACTION exchange
ISAKMP (0:0): processing transaction payload from 192.168.1.2. message ID = 60 ISAKMP: Config
payload CFG_ACK return status is IKMP_NO_ERROR crypto_isakmp_process_block: src 192.168.1.2,
dest 192.168.1.1 ISAKMP_TRANSACTION exchange ISAKMP (0:0): processing transaction payload from
192.168.1.2. message ID = 0 ISAKMP: Config payload CFG_REQUEST ISAKMP (0:0): checking request:
ISAKMP: attribute IP4_ADDRESS (1) ISAKMP: attribute IP4_NETMASK (2) ISAKMP: attribute IP4_DNS
(3) ISAKMP: attribute IP4_NBNS (4) ISAKMP: attribute ADDRESS_EXPIRY (5) Unsupported Attr: 5
ISAKMP: attribute APPLICATION_VERSION (7) Unsupported Attr: 7 ISAKMP: attribute UNKNOWN (28672)
Unsupported Attr: 28672 ISAKMP: attribute UNKNOWN (28673) Unsupported Attr: 28673 ISAKMP:
attribute UNKNOWN (28674) ISAKMP: attribute UNKNOWN (28676) ISAKMP: attribute UNKNOWN (28679)
Unsupported Attr: 28679 ISAKMP: attribute UNKNOWN (28680) Unsupported Attr: 28680 ISAKMP:
attribute UNKNOWN (28677) Unsupported Attr: 28677 ISAKMP (0:0): responding to peer config from
192.168.1.2. ID = 177917346 return status is IKMP_NO_ERROR crypto_isakmp_process_block: src
192.168.1.2, dest 192.168.1.1 OAK_QM exchange oakley_process_quick_mode: OAK_QM_IDLE ISAKMP (0):
processing SA payload. message ID = 942875080 ISAKMP : Checking IPSec proposal 1 ISAKMP:
transform 1, ESP_3DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-MD5 ISAKMP:
encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b
IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 1) not supported ISAKMP
(0): atts not acceptable. Next payload is 0 ISAKMP (0): skipping next ANDed proposal (1) ISAKMP
: Checking IPSec proposal 2 ISAKMP: transform 1, ESP_3DES ISAKMP: attributes in transform:
ISAKMP: authenticator is HMAC-SHA ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA
life duration (VPI) of 0x0 0x20 0xc4 0x9b IPSEC(validate_proposal): transform proposal (prot 3,
trans 3, hmac_alg 2) not supported ISAKMP (0): atts not acceptable. Next payload is 0 ISAKMP
(0): skipping next ANDed proposal (2) ISAKMP: Checking IPSec proposal 3 ISAKMP: transform 1,
ESP_3DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-MD5 ISAKMP: encaps is 1
ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b
IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 1) not supported ISAKMP
(0): atts not acceptable. Next payload is 0 ISAKMP: Checking IPSec proposal 4 ISAKMP: transform
1, ESP_3DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-SHA ISAKMP: encaps is
1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b
IPSEC(validate_proposal): transform proposal (prot 3, trans 3, hmac_alg 2) not supported ISAKMP
```

```
(0): atts not acceptable. Next payload is 0 ISAKMP : Checking IPSec proposal 5 ISAKMP: transform
1, ESP_DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-MD5 ISAKMP: encaps is
1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b ISAKMP
(0): atts are acceptable. ISAKMP (0): bad SPI size of 2 octets! ISAKMP: Checking IPSec proposal
6 ISAKMP: transform 1, ESP_DES ISAKMP: attributes in transform: ISAKMP: authenticator is HMAC-
SHA ISAKMP: encaps is 1 ISAKMP: SA life type in seconds ISAKMP: SA life duration (VPI) of 0x0
0x20 0xc4 0x9b IPSEC(validate_proposal): transform proposal (prot 3, trans 2, hmac_alg 2) not
supported ISAKMP (0): atts not acceptable. Next payload is 0 ISAKMP (0): skipping next ANDed
proposal (6) ISAKMP : Checking IPSec proposal 7 ISAKMP: transform 1, ESP_DES ISAKMP: attributes
in transform: ISAKMP: authenticator is HMAC-MD5 ISAKMP: encaps is 1 ISAKMP: SA life type in
seconds ISAKMP: SA life duration (VPI) of 0x0 0x20 0xc4 0x9b ISAKMP (0): atts are
acceptable.IPSEC(validate_proposal_request): proposal part #1, (key eng. msg.) dest=
192.168.1.1, src= 192.168.1.2, dest_proxy= 192.168.1.1/255.255.255.255/0/0 (type=1), src_proxy=
10.89.129.200/255.255.255.255/0/0 (type=1), protocol= ESP, transform= esp-des esp-md5-hmac ,
lifedur= 0s and 0kb, spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x4 ISAKMP (0): processing
NONCE payload. message ID = 942875080 ISAKMP (0): processing ID payload. message ID = 942875080
ISAKMP (0): ID_IPV4_ADDR src 10.89.129.200 prot 0 port 0 ISAKMP (0): processing ID payload.
message ID = 942875080 ISAKMP (0): ID_IPV4_ADDR dst 192.168.1.1 prot 0 port 0IPSEC(key_engine):
got a queue event... IPSEC(spi_response): getting spi 0x64d7a518(1691854104) for SA from
192.168.1.2 to 192.168.1.1 for prot 3 return status is IKMP_NO_ERROR
crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1 OAK_QM exchange
oakley_process_quick_mode: OAK_QM_IDLE ISAKMP (0): processing SA payload. message ID =
3008609960 ISAKMP: Checking IPSec proposal 1 ISAKMP: transform 1, ESP_3DES ISAKMP: attributes in
transform: ISAKMP: authenticator is HMAC-MD5 crypto_isakmp_process_block: src 192.168.1.2, dest
192.168.1.1 OAK_QM exchange oakley_process_quick_mode: OAK_QM_AUTH_AWAITmap_alloc_entry:
allocating entry 2 map_alloc_entry: allocating entry 1 ISAKMP (0): Creating IPSec SAs inbound SA
from 192.168.1.2 to 192.168.1.1 (proxy 10.89.129.200 to 192.168.1.1) has spi 1691854104 and
conn_id 2 and flags 4 lifetime of 2147483 seconds outbound SA from 192.168.1.1 to 192.168.1.2
(proxy 192.168.1.1 to 10.89.129.200) has spi 1025193431 and conn_id 1 and flags 4 lifetime of
2147483 seconds IPSEC(key_engine): got a queue event... IPSEC(initialize_sas): ,(key eng. msg.)
dest= 192.168.1.1, src= 192.168.1.2, dest_proxy= 192.168.1.1/0.0.0.0/0/0 (type=1), src_proxy=
10.89.129.200/0.0.0.0/0/0 (type=1), protocol= ESP, transform= esp-des esp-md5-hmac , lifedur=
2147483s and 0kb, spi= 0x64d7a518(1691854104),conn_id= 2, keysize= 0, flags= 0x4
IPSEC(initialize_sas): , (key eng. msg.) src= 192.168.1.1, dest=192.168.1.2, src_proxy=
192.168.1.1/0.0.0.0/0/0 (type=1), dest_proxy= 10.89.129.200/0.0.0.0/0/0 (type=1), protocol= ESP,
transform=esp-des esp-md5-hmac , lifedur= 2147483s and 0kb, spi= 0x3d1b35d7(1025193431),conn_id=
1, keysize= 0, flags= 0x4 VPN Peer: IPSEC: Peer ip:192.168.1.2 Ref cnt incremented to:2 Total
VPN Peers:1 VPN Peer: IPSEC: Peer ip:192.168.1.2 Ref cnt incremented to:3 Total VPN Peers:1
return status is IKMP_NO_ERROR crypto_isakmp_process_block: src 192.168.1.2, dest 192.168.1.1
OAK_QM exchange oakley_process_quick_mode: OAK_QM_AUTH_AWAITmap_alloc_entry: allocating entry 4
map_alloc_entry: allocating entry 3 ISAKMP (0): Creating IPSec SAs inbound SA from 192.168.1.2
to 192.168.1.1 (proxy 10.89.129.200 to 0.0.0.0) has spi 3415657865 and conn_id 4 and flags 4
lifetime of 2147483 seconds outbound SA from 192.168.1.1 to 192.168.1.2 (proxy 0.0.0.0 to
10.89.129.200) has spi 2383969893 and conn_id 3 and flags 4 lifetime of 2147483
secondsIPSEC(key_engine): got a queue event... IPSEC(initialize_sas): , (key eng. msg.) dest=
192.168.1.1, src=192.168.1.2, dest_proxy= 0.0.0.0/0.0.0.0/0/0 (type=4), src_proxy=
10.89.129.200/0.0.0.0/0/0 (type=1), protocol= ESP, transform=esp-des esp-md5-hmac , lifedur=
2147483s and 0kb, spi= 0xcb96cd89(3415657865),conn_id= 4, keysize= 0, flags= 0x4
IPSEC(initialize_sas): , (key eng. msg.) src= 192.168.1.1, dest=192.168.1.2, src_proxy=
0.0.0.0/0.0.0.0/0/0 (type=4), dest_proxy= 10.89.129.200/0.0.0.0/0/0 (type=1), protocol= ESP,
transform=esp-des esp-md5-hmac , lifedur= 2147483s and 0kb, spi= 0x8e187e65(2383969893),conn_id=
3, keysize= 0, flags= 0x4 VPN Peer: IPSEC: Peer ip:192.168.1.2 Ref cnt incremented to:4 Total
VPN Peers:1 VPN Peer: IPSEC: Peer ip:192.168.1.2 Ref cnt incremented to:5 Total VPN Peers:1
return status is IKMP_NO_ERROR pixfirewall#show uauth
Current      Most Seen
Authenticated Users
1              1
Authen In Progress
0              1
ipsec user 'cisco_customer' at 10.89.129.200, authenticated
pixfirewall#
```

Дополнительные сведения

- Устройства защиты PIX серии 500
- Справочник по командам PIX
- Согласование IPsec/Протоколы IKE
- Введение в протокол IPSec
- Организация связи через межсетевые экраны Cisco PIX
- Запросы комментариев (RFC)
- Cisco Systems – техническая поддержка и документация