Exemple de configuration d'un VPN entre produits Sonicwall et dispositifs de sécurité Cisco

Contenu

Introduction

Ce document explique comment configurer un tunnel IPsec avec des clés pré-partagées pour communiquer entre deux réseaux privés utilisant des modes agressifs et principaux. Dans cet exemple, les réseaux de communication sont le réseau privé 192.168.1.x à l'intérieur du dispositif de sécurité Cisco (PIX/ASA) et le réseau privé 172.22.1.x à l'intérieur du pare-feu SonicwallTM TZ170.

Conditions préalables

Conditions requises

Assurez-vous que vous répondez à ces exigences avant d'essayer cette configuration :

- Le trafic provenant de l'intérieur du dispositif de sécurité Cisco et de l'intérieur du Sonicwall TZ170 doit être acheminé vers Internet (représenté ici par les réseaux 10.x.x.x) avant de commencer cette configuration.
- Les utilisateurs doivent être familiarisés avec la négociation IPsec. Ce processus peut être divisé en cinq étapes comprenant deux phases IKE (Internet Key Exchange).Un tunnel IPSec est lancé par un trafic intéressant. Le trafic est considéré comme intéressant quand il transite entre les homologues IPSec.Dans la phase 1 d'IKE, les homologues IPSec négocient la

stratégie d'association de sécurité IKE. Une fois que les homologues sont authentifiés, un tunnel sécurisé est créé en utilisant Internet Security Association and Key Management Protocol (ISAKMP).Dans la phase 2 d'IKE, les homologues IPSec utilisent le tunnel authentifié et sécurisé pour négocier des transformations d'association de sécurité IPSec. La négociation de la stratégie partagée détermine comment le tunnel IPSec est établi.Le tunnel IPSec est créé et les données sont transférées entre les homologues IPSec en fonction des paramètres IPSec configurés dans les jeux de transformations IPSec.Le tunnel IPSec se termine quand les associations de sécurité IPSec sont supprimées ou quand leur durée de vie expire.

Components Used

Les informations contenues dans ce document sont basées sur les versions de matériel et de logiciel suivantes :

- Cisco PIX 515E version 6.3(5)
- Cisco PIX 515 version 7.0(2)
- Sonicwall TZ170, SonicOS Standard 2.2.0.1

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Produits connexes

Cette configuration peut également être utilisée avec les versions de matériel et de logiciel suivantes :

- La configuration PIX 6.3(5) peut être utilisée avec tous les autres produits de pare-feu Cisco PIX qui exécutent cette version du logiciel (PIX 501, 506, etc.)
- La configuration PIX/ASA 7.0(2) ne peut être utilisée que sur les périphériques qui exécutent la série de logiciels PIX 7.0 (excluant les 501, 506 et peut-être certains anciens 515) ainsi que les ASA de la gamme Cisco 5500.

Conventions

Pour plus d'informations sur les conventions utilisées dans ce document, reportez-vous à Conventions relatives aux conseils techniques Cisco.

Configuration

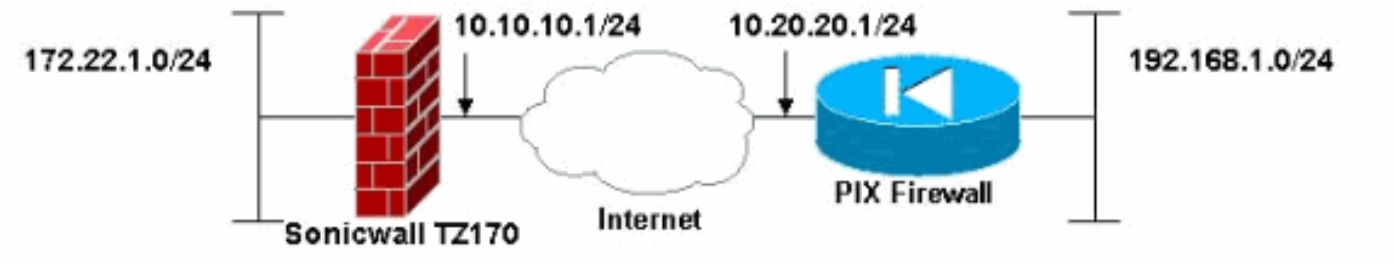
Cette section vous fournit des informations pour configurer les fonctionnalités décrites dans ce document.

Remarque : utilisez l'outil de recherche de commandes (clients enregistrés uniquement) pour obtenir plus d'informations sur les commandes utilisées dans cette section.

Remarque : En mode agressif IPsec, il est nécessaire que Sonicwall lance le tunnel IPsec vers le PIX. Vous pouvez le voir lorsque vous analysez les débogages de cette configuration. Cela est inhérent au mode de fonctionnement du mode agressif IPsec.

Diagramme du réseau

Ce document utilise la configuration réseau suivante :



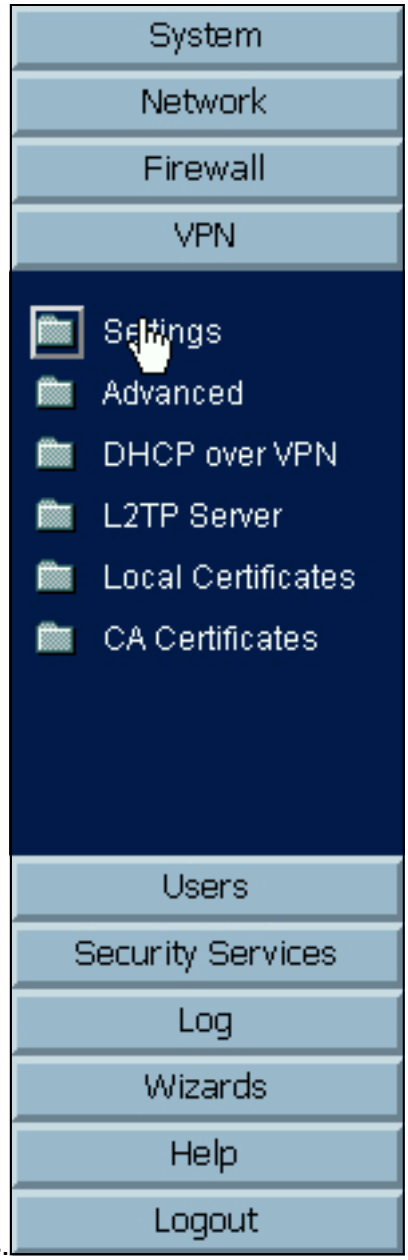
Configuration de Sonicwall

La configuration du Sonicwall TZ170 est effectuée via une interface Web.

Procédez comme suit :

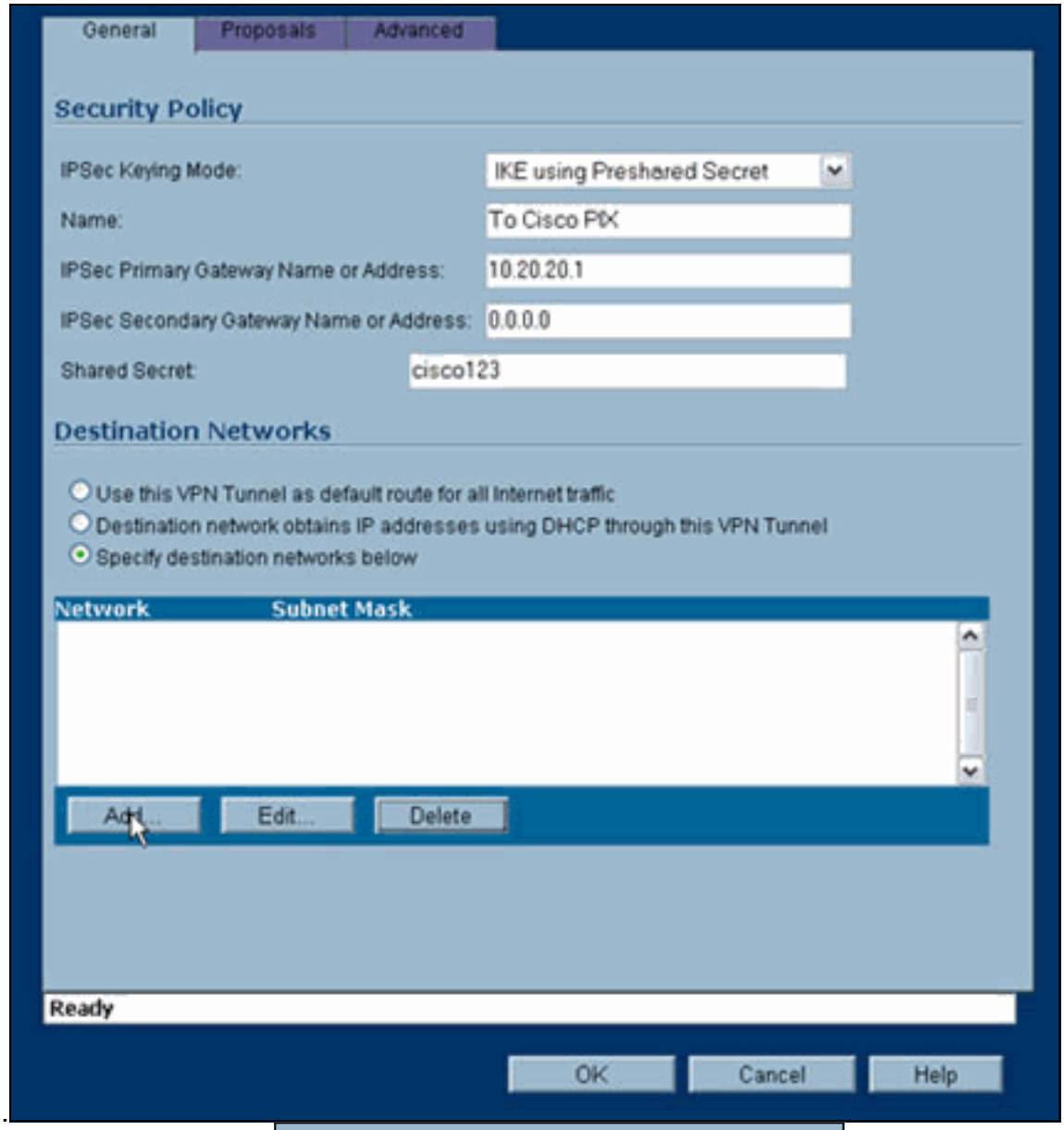
1. Connectez-vous à l'adresse IP du routeur sur l'une des interfaces internes à l'aide d'un navigateur Web standard.La fenêtre de connexion s'affiche.

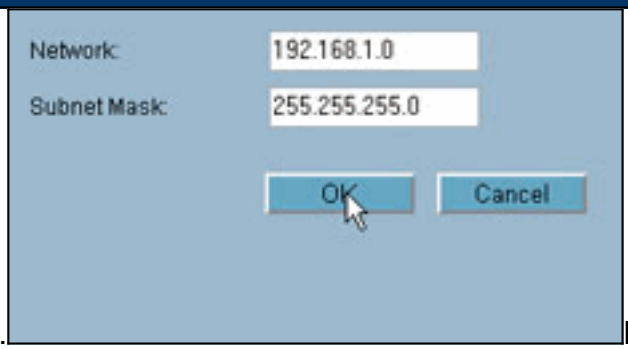
2. Connectez-vous au périphérique Sonicwall et sélectionnez **VPN >**



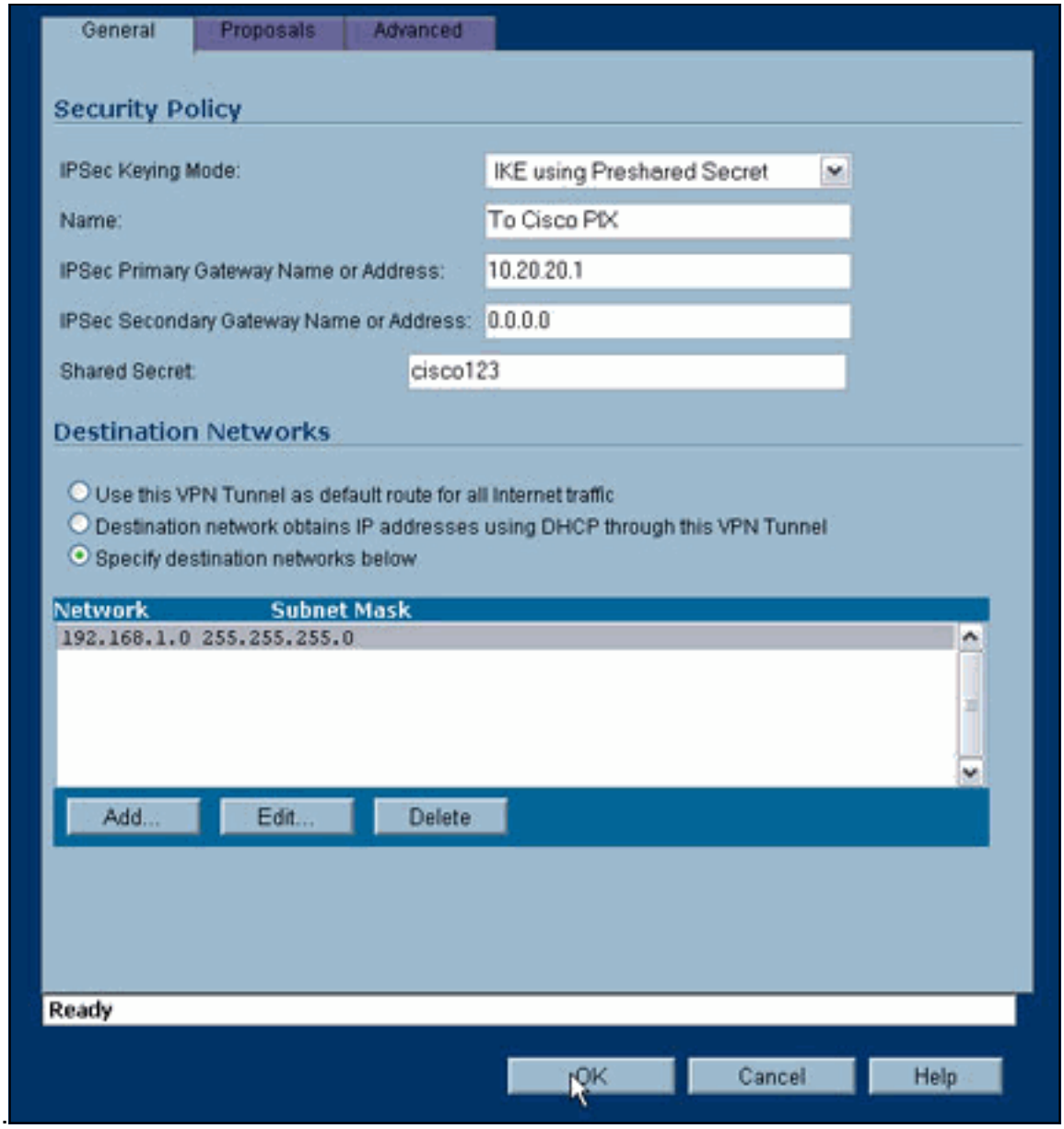
Settings.

3. Saisissez l'adresse IP de l'homologue VPN et le secret pré-partagé qui sera utilisé. Cliquez sur **Ajouter** sous Réseaux de

destination. 

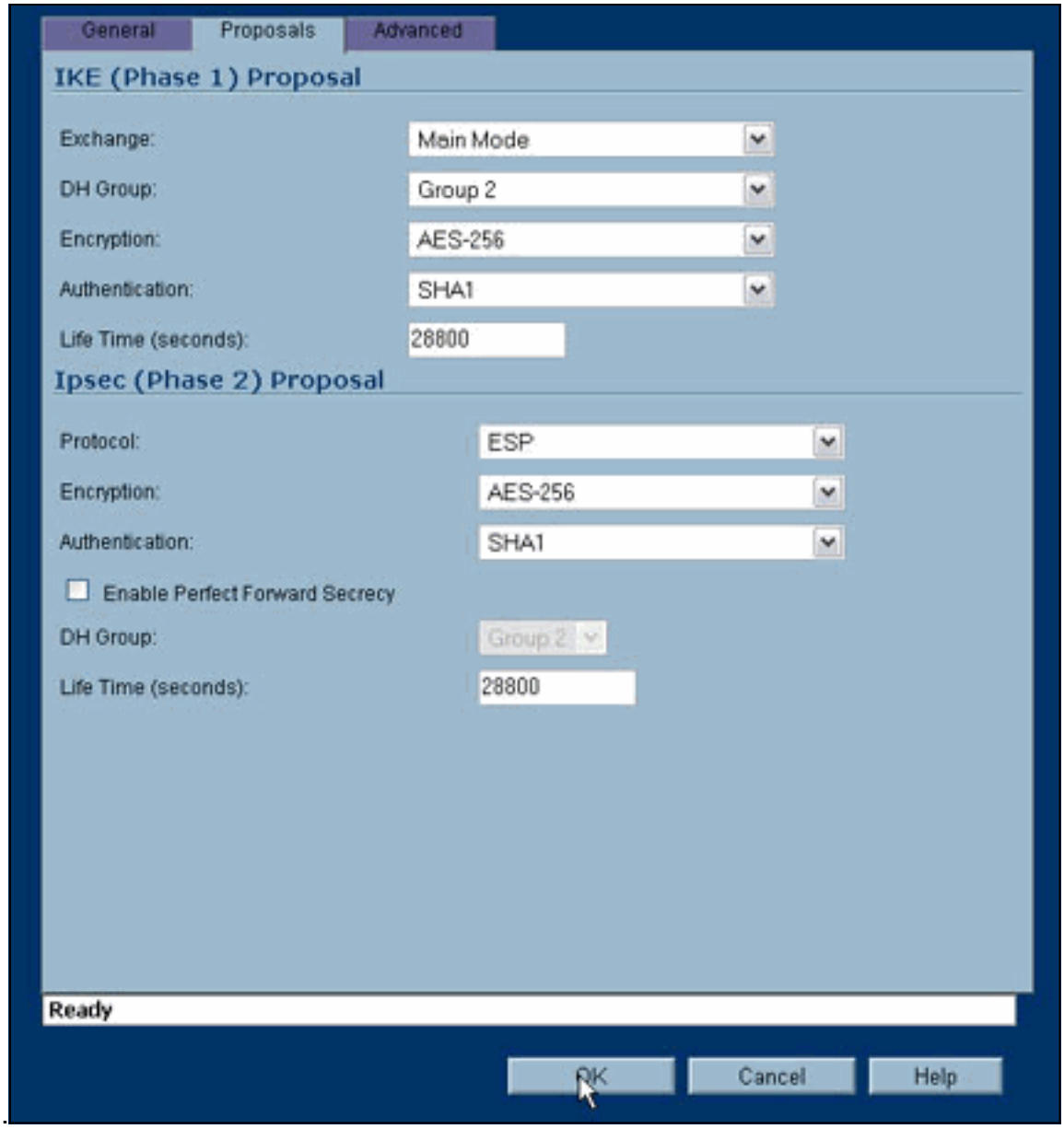
4. Entrez le réseau de destination. 

La fenêtre Paramètres



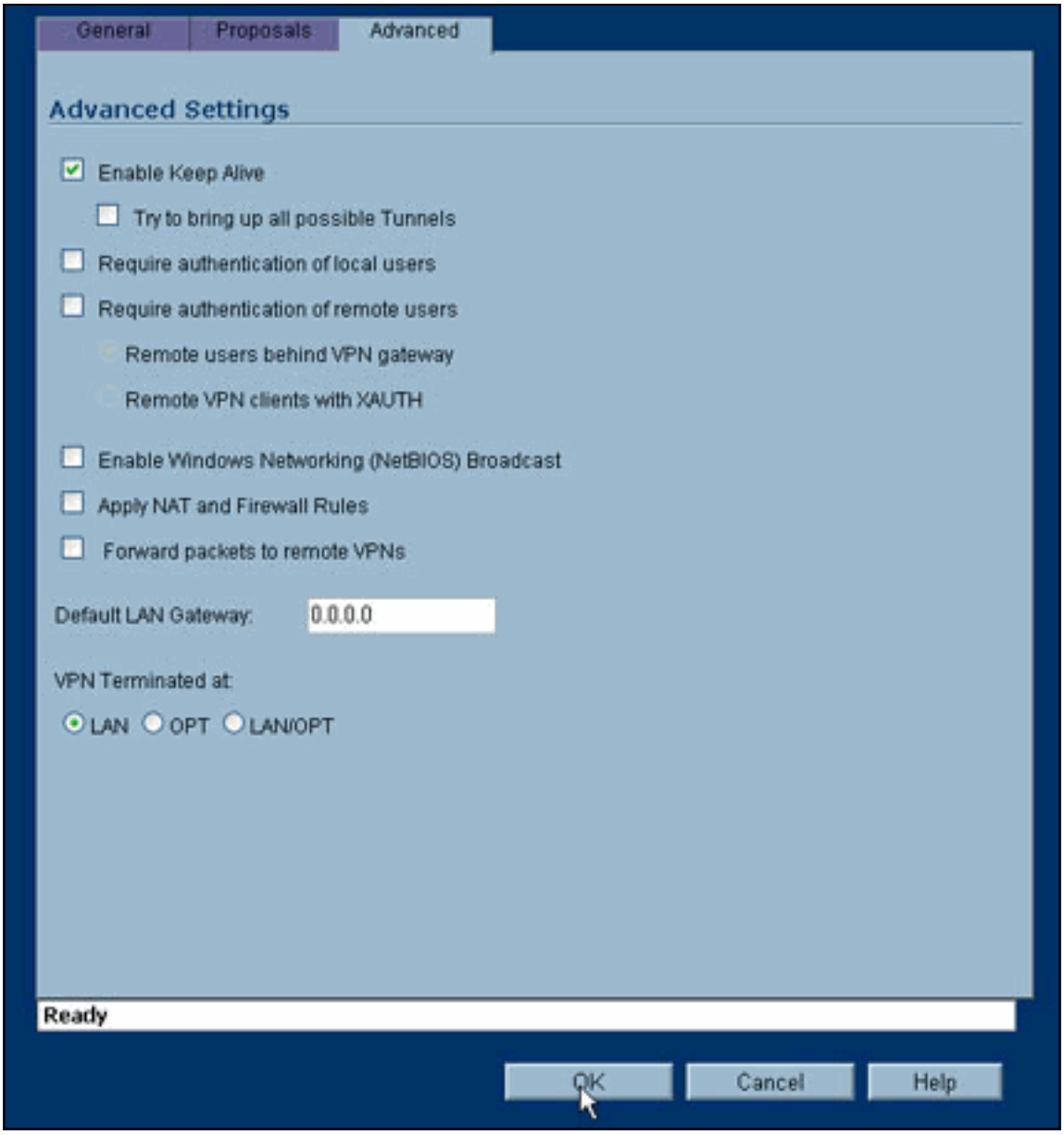
s'affiche.

5. Cliquez sur l'onglet Propositions en haut de la fenêtre Paramètres.
6. Sélectionnez l'échange que vous comptez utiliser pour cette configuration (mode principal ou mode agressif), ainsi que les autres paramètres des phases 1 et 2.Cet exemple de configuration utilise le cryptage AES-256 pour les deux phases avec l'algorithme de hachage SHA1 pour l'authentification et la stratégie Diffie-Hellman Group 2 1024 bits pour

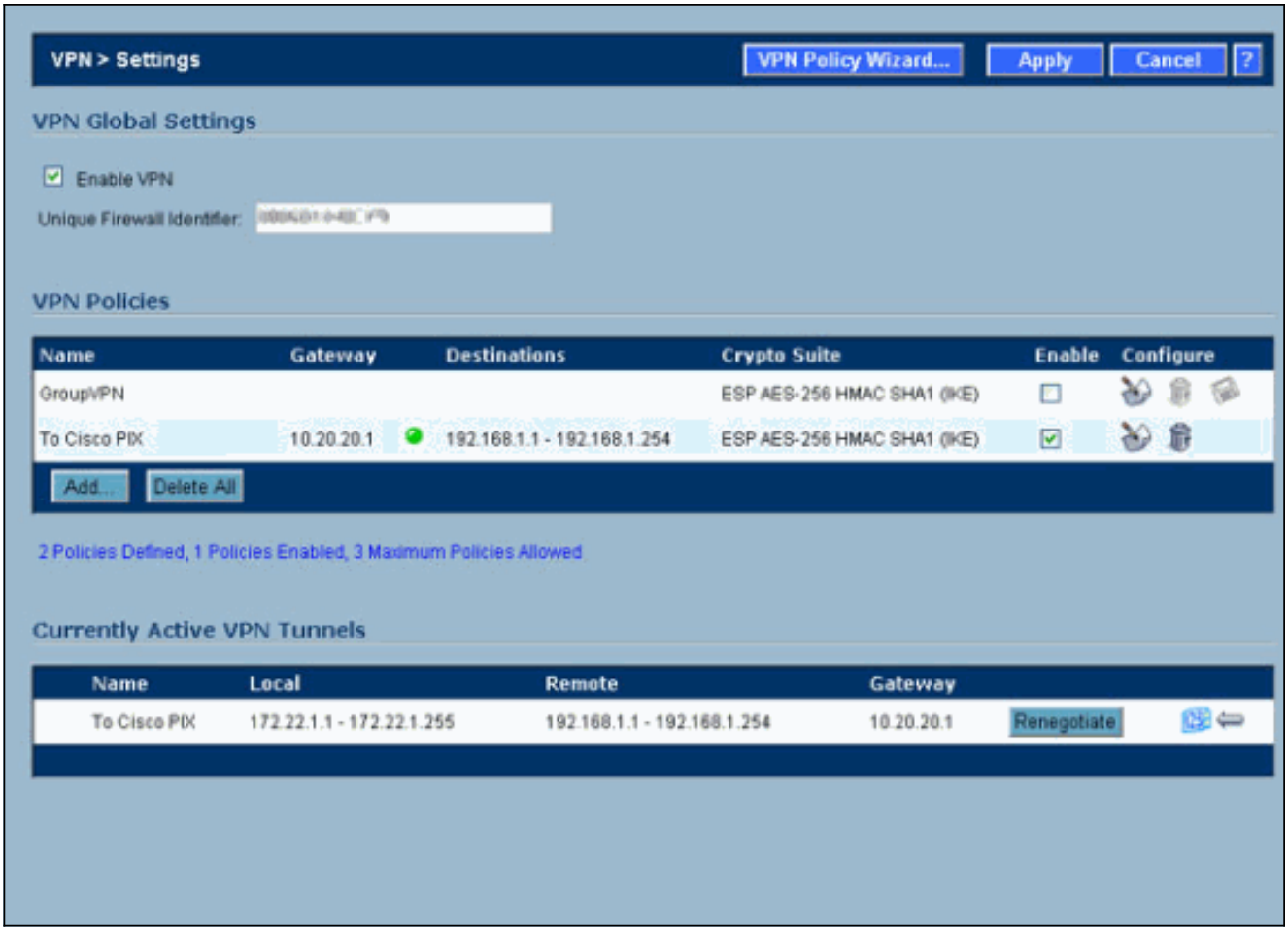


IKE.

7. Cliquez sur l'onglet Advanced.Vous pouvez configurer d'autres options dans cet onglet. Voici les paramètres utilisés pour cet exemple de configuration.



8. Click OK.Une fois cette configuration terminée et la configuration du PIX distant, la fenêtre Paramètres doit être similaire à celle de cet exemple de fenêtre Paramètres.



Configuration du mode principal IPsec

Cette section utilise ces configurations :

- Cisco PIX 515e version 6.3(5)
- Cisco PIX 515 version 7.0(2)

Cisco PIX 515e version 6.3(5)

```
pix515e-635#show running-config
: Saved
:
PIX Version 6.3(5)
!--- Sets the hardware speed to auto on both interfaces.
interface ethernet0 auto interface ethernet1 auto !---
Specifies the inside and outside interfaces. nameif
ethernet0 outside security0 nameif ethernet1 inside
security100 enable password 8Ry2YjIyt7RRXU24 encrypted
passwd 2KFQnbNIdI.2KYOU encrypted hostname pix515e-635
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 !--- Specifies the traffic that
can pass through the IPsec tunnel. access-list pixtosw
permit ip 192.168.1.0 255.255.255.0 172.22.1.0
255.255.255.0 pager lines 24 mtu outside 1500 mtu inside
1500 !--- Sets the inside and outside IP addresses and
```

```
subnet masks. ip address outside 10.20.20.1
255.255.255.0 ip address inside 192.168.1.1
255.255.255.0 ip audit info action alarm ip audit attack
action alarm pdm history enable arp timeout 14400 !---
Instructs PIX to perform PAT on the IP address on the
outside interface. global (outside) 1 interface !---
Specifies addresses to be exempt from NAT (traffic to be
tunneled). nat (inside) 0 access-list pixtosw !---
Specifies which addresses should use NAT (all except
those exempted). nat (inside) 1 0.0.0.0 0.0.0.0 0 0 !---
Specifies the default route on the outside interface.
route outside 0.0.0.0 0.0.0.0 10.20.20.2 1 timeout xlate
3:00:00 timeout conn 1:00:00 half-closed 0:10:00 udp
0:02:00 rpc 0:10:00 h225 1:00:00 timeout h323 0:05:00
mgcp 0:05:00 sip 0:30:00 sip_media 0:02:00 timeout sip-
disconnect 0:02:00 sip-invite 0:03:00 timeout uauth
0:05:00 absolute aaa-server TACACS+ protocol tacacs+
aaa-server TACACS+ max-failed-attempts 3 aaa-server
TACACS+ deadtime 10 aaa-server RADIUS protocol radius
aaa-server RADIUS max-failed-attempts 3 aaa-server
RADIUS deadtime 10 aaa-server LOCAL protocol local no
snmp-server location no snmp-server contact snmp-server
community public no snmp-server enable traps floodguard
enable !--- Implicit permit for all packets that come
from IPsec tunnels. sysopt connection permit-ipsec !---
PHASE 2 CONFIGURATION: !--- Defines the transform set
for Phase 2 encryption and authentication. !---
Austinlab is the name of the transform set that uses
aes-256 encryption !--- as well as the SHA1 hash
algorithm for authentication.

crypto ipsec transform-set austinlab esp-aes-256 esp-
sha-hmac

!--- Specifies IKE is used to establish the IPsec SAs
for the map "maptosw". crypto map maptosw 67 ipsec-
isakmp !--- Specifies the ACL "pixtosw" to use with this
map . crypto map maptosw 67 match address pixtosw !---
Specifies the IPsec peer for this map. crypto map
maptosw 67 set peer 10.10.10.1 !--- Specifies the
transform set to use. crypto map maptosw 67 set
transform-set austinlab !--- Specifies the interface to
use with this map. crypto map maptosw interface outside
!--- PHASE 1 CONFIGURATION !--- Specifies the interface
to use for the IPsec tunnel.

isakmp enable outside

!--- Specifies the preshared key and the addresses to
use with that key. !--- In this case only one address is
used with the preshared key cisco123. isakmp key
******** address 10.10.10.1 netmask 255.255.255.255 !---
Defines how the PIX identifies itself in !--- IKE
negotiations (IP address in this case). isakmp identity
address !--- These five commands specify the Phase 1
configuration settings !--- specific to this sample
configuration. isakmp policy 13 authentication pre-share
isakmp policy 13 encryption aes-256 isakmp policy 13
hash sha isakmp policy 13 group 2 isakmp policy 13
lifetime 28800 telnet timeout 5 ssh timeout 5 console
timeout 0 terminal width 80
Cryptochecksum:07a3815d59db9965b72c7d8a7aaf7f5f : end
pix515e-635#
```

Cisco PIX 515 version 7.0(2)

```
pix515-702#show running-config
: Saved
:
PIX Version 7.0(2)
names
!

!--- PIX 7 uses an interface configuration mode similar
to Cisco IOS®. !--- This output configures the IP
address, interface name, !--- and security level for
interfaces Ethernet0 and Ethernet1. interface Ethernet0
nameif outside security-level 0 ip address 10.20.20.1
255.255.255.0 ! interface Ethernet1 nameif inside
security-level 100 ip address 192.168.1.1 255.255.255.0
! interface Ethernet2 shutdown no nameif no security-
level no ip address ! interface Ethernet3 shutdown no
nameif no security-level no ip address ! interface
Ethernet4 shutdown no nameif no security-level no ip
address ! interface Ethernet5 shutdown no nameif no
security-level no ip address ! enable password
8Ry2YjIyt7RRXU24 encrypted passwd 2KFQnbNIdI.2KYOU
encrypted hostname pix515-702 domain-name cisco.com ftp
mode passive !--- Specifies the traffic that can pass
through the IPsec tunnel. access-list pixtosw extended
permit ip 192.168.1.0 255.255.255.0 172.22.1.0
255.255.255.0 pager lines 24 mtu inside 1500 mtu outside
1500 no failover monitor-interface inside monitor-
interface outside no asdm history enable arp timeout
14400 !--- Instructs PIX to perform PAT on the IP
address on the outside interface. global (outside) 1
interface !--- Specifies addresses to be exempt from NAT
(traffic to be tunneled). nat (inside) 0 access-list
pixtosw !--- Specifies which addresses should use NAT
(all except those exempted). nat (inside) 1 0.0.0.0
0.0.0.0 !--- Specifies the default route on the outside
interface. route outside 0.0.0.0 0.0.0.0 10.20.20.2 1
timeout xlate 3:00:00 timeout conn 1:00:00 half-closed
0:10:00 udp 0:02:00 icmp 0:00:02 timeout sunrpc 0:10:00
h323 0:05:00 h225 1:00:00 mgcp 0:05:00 timeout mgcp-pat
0:05:00 sip 0:30:00 sip_media 0:02:00 timeout uauth
0:05:00 absolute no snmp-server location no snmp-server
contact snmp-server enable traps snmp !--- Implicit
permit for all packets that come from IPsec tunnels.
sysopt connection permit-ipsec !--- PHASE 2
CONFIGURATION !--- Defines the transform set for Phase 2
encryption and authentication. !--- Austinlab is the
name of the transform set that uses aes-256 encryption
!--- as well as the SHA1 hash algorithm for
authentication.

crypto ipsec transform-set austinlab esp-aes-256 esp-
sha-hmac

!--- Specifies the ACL pixtosw to use with this map.
crypto map maptosw 67 match address pixtosw !---
Specifies the IPsec peer for this map. crypto map
maptosw 67 set peer 10.10.10.1 !--- Specifies the
transform set to use. crypto map maptosw 67 set
transform-set austinlab !--- Specifies the interface to
use with this map . crypto map maptosw interface outside
!--- PHASE 1 CONFIGURATION !--- Defines how the PIX
```

```
identifies itself in !--- IKE negotiations (IP address
in this case).

isakmp identity address

!--- Specifies the interface to use for the IPsec
tunnel. isakmp enable outside !--- These five commands
specify the Phase 1 configuration !--- settings specific
to this sample configuration. isakmp policy 13
authentication pre-share isakmp policy 13 encryption
aes-256 isakmp policy 13 hash sha isakmp policy 13 group
2 isakmp policy 13 lifetime 28800 telnet timeout 5 ssh
timeout 5 console timeout 0 !--- These three lines set
the IPsec attributes for the tunnel to the !--- remote
peer. This is where the preshared key is defined for
Phase 1 and the !--- IPsec tunnel type is set to site-
to-site. tunnel-group 10.10.10.1 type ipsec-l2l tunnel-
group 10.10.10.1 ipsec-attributes pre-shared-key *
Cryptochecksum:092b6fc5370e2ef0cf07c2bc10f1d44a : end
pix515-702#
```

Configuration du mode agressif IPsec

Cette section utilise ces configurations :

- Cisco PIX 515e version 6.3(5)
- Cisco PIX 515 version 7.0(2)

Cisco PIX 515e version 6.3(5)

```
pix515e-635#show running-config
: Saved
:
PIX Version 6.3(5)
!--- Sets the hardware speed to auto on both interfaces.
interface ethernet0 auto interface ethernet1 auto !---
Specifies the inside and outside interfaces. nameif
ethernet0 outside security0 nameif ethernet1 inside
security100 enable password 8Ry2YjIyt7RRXU24 encrypted
passwd 2KFQnbNIdI.2KYOU encrypted hostname pix515e-635
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 !--- Specifies the traffic that
can pass through the IPsec tunnel. access-list pixtosw
permit ip 192.168.1.0 255.255.255.0 172.22.1.0
255.255.255.0 pager lines 24 mtu outside 1500 mtu inside
1500 !--- Sets the inside and outside IP addresses and
subnet masks. ip address outside 10.20.20.1
255.255.255.0 ip address inside 192.168.1.1
255.255.255.0 ip audit info action alarm ip audit attack
action alarm pdm history enable arp timeout 14400 !---
Instructs PIX to perform PAT on the IP address on the
outside interface. global (outside) 1 interface !---
Specifies addresses to be exempt from NAT (traffic to be
tunneled). nat (inside) 0 access-list pixtosw !---
Specifies which addresses should use NAT (all except
```

```
those exempted). nat (inside) 1 0.0.0.0 0.0.0.0 0 0 !---
Specifies the default route on the outside interface.
route outside 0.0.0.0 0.0.0.0 10.20.20.2 1 timeout xlate
3:00:00 timeout conn 1:00:00 half-closed 0:10:00 udp
0:02:00 rpc 0:10:00 h225 1:00:00 timeout h323 0:05:00
mgcp 0:05:00 sip 0:30:00 sip_media 0:02:00 timeout sip-
disconnect 0:02:00 sip-invite 0:03:00 timeout uauth
0:05:00 absolute aaa-server TACACS+ protocol tacacs+
aaa-server TACACS+ max-failed-attempts 3 aaa-server
TACACS+ deadtime 10 aaa-server RADIUS protocol radius
aaa-server RADIUS max-failed-attempts 3 aaa-server
RADIUS deadtime 10 aaa-server LOCAL protocol local no
snmp-server location no snmp-server contact snmp-server
community public no snmp-server enable traps floodguard
enable !--- Implicit permit for all packets that come
from IPsec tunnels. sysopt connection permit-ipsec !---
PHASE 2 CONFIGURATION !--- Defines the transform set for
Phase 2 encryption and authentication. !--- Austinlab is
the name of the transform set that uses aes-256
encryption !--- as well as the SHA1 hash algorithm for
authentication.

crypto ipsec transform-set austinlab esp-aes-256 esp-
sha-hmac

!--- Creates the dynamic map ciscopix for the transform
set. crypto dynamic-map ciscopix 1 set transform-set
austinlab !--- Specifies the IKE that should be used to
establish SAs !--- for the dynamic map. crypto map
dynmaptosw 66 ipsec-isakmp dynamic ciscopix !--- Applies
the settings above to the outside interface. crypto map
dynmaptosw interface outside !--- PHASE 1 CONFIGURATION
!--- Specifies the interface to use for the IPsec tunnel
.
isakmp enable outside

!--- Specifies the preshared key and the addresses to
use with that key. !--- In this case only one address is
used as the preshared key "cisco123". isakmp key
******** address 10.10.10.1 netmask 255.255.255.255 !---
Defines how the PIX identifies itself in !--- IKE
negotiations (IP address in this case). isakmp identity
address !--- These five commands specify the Phase 1
configuration settings !--- specific to this sample
configuration. isakmp policy 13 authentication pre-share
isakmp policy 13 encryption aes-256 isakmp policy 13
hash sha isakmp policy 13 group 2 isakmp policy 13
lifetime 28800 telnet timeout 5 ssh timeout 5 console
timeout 0 terminal width 80
Cryptochecksum:07a3815d59db9965b72c7d8a7aaf7f5f : end
pix515e-635#
```

Cisco PIX 515 version 7.0(2)

```
pix515-702#show running-config
: Saved
:
PIX Version 7.0(2)
names
!

!--- PIX 7 uses an interface configuration mode similar
to Cisco IOS. !--- This output configures the IP
```

```
address, interface name, and security level for !---
interfaces Ethernet0 and Ethernet1. interface Ethernet0
nameif outside security-level 0 ip address 10.20.20.1
255.255.255.0 ! interface Ethernet1 nameif inside
security-level 100 ip address 192.168.1.1 255.255.255.0
! interface Ethernet2 shutdown no nameif no security-
level no ip address ! interface Ethernet3 shutdown no
nameif no security-level no ip address ! interface
Ethernet4 shutdown no nameif no security-level no ip
address ! interface Ethernet5 shutdown no nameif no
security-level no ip address ! enable password
8Ry2YjIyt7RRXU24 encrypted passwd 2KFQnbNIdI.2KYOU
encrypted hostname pix515-702 domain-name cisco.com ftp
mode passive !--- Specifies the traffic that can pass
through the IPsec tunnel. access-list pixtosw extended
permit ip 192.168.1.0 255.255.255.0 172.22.1.0
255.255.255.0 pager lines 24 mtu inside 1500 mtu outside
1500 no failover monitor-interface inside monitor-
interface outside no asdm history enable arp timeout
14400 !--- Instructs PIX to perform PAT on the IP
address on the outside interface. global (outside) 1
interface !--- Specifies addresses to be exempt from NAT
(traffic to be tunneled). nat (inside) 0 access-list
pixtosw !--- Specifies which addresses should use NAT
(all except those exempted). nat (inside) 1 0.0.0.0
0.0.0.0 !--- Specifies the default route on the outside
interface. route outside 0.0.0.0 0.0.0.0 10.20.20.2 1
timeout xlate 3:00:00 timeout conn 1:00:00 half-closed
0:10:00 udp 0:02:00 icmp 0:00:02 timeout sunrpc 0:10:00
h323 0:05:00 h225 1:00:00 mgcp 0:05:00 timeout mgcp-pat
0:05:00 sip 0:30:00 sip_media 0:02:00 timeout uauth
0:05:00 absolute no snmp-server location no snmp-server
contact snmp-server enable traps snmp !--- Implicit
permit for all packets that come from IPsec tunnels.
sysopt connection permit-ipsec !--- PHASE 2
CONFIGURATION !--- Defines the transform set for Phase 2
encryption and authentication. !--- Austinlab is the
name of the transform set that uses aes-256 encryption
!--- as well as the SHA1 hash algorithm for
authentication.

crypto ipsec transform-set austinlab esp-aes-256 esp-
sha-hmac

!--- Creates the dynamic map "ciscopix" for the defined
transform set. crypto dynamic-map ciscopix 1 set
transform-set austinlab !--- Specifies that IKE should
be used to establish SAs !--- for the defined dynamic
map. crypto map dynmaptosw 66 ipsec-isakmp dynamic
ciscopix !--- Applies the settings to the outside
interface. crypto map dynmaptosw interface outside !---
PHASE 1 CONFIGURATION !--- Defines how the PIX
identifies itself in !--- IKE negotiations (IP address
in this case).

isakmp identity address

!--- Specifies the interface to use for the IPsec
tunnel. isakmp enable outside !--- These five commands
specify the Phase 1 configuration settings !--- specific
to this sample configuration. isakmp policy 13
authentication pre-share isakmp policy 13 encryption
aes-256 isakmp policy 13 hash sha isakmp policy 13 group
2 isakmp policy 13 lifetime 28800 telnet timeout 5 ssh
```

```
timeout 5 console timeout 0 !--- These three lines set
the IPsec attributes for the tunnel to the !--- remote
peer. This is where the preshared key is defined for
Phase 1 and the !--- IPsec tunnel type is set to site-
to-site. tunnel-group 10.10.10.1 type ipsec-l2l tunnel-
group 10.10.10.1 ipsec-attributes pre-shared-key *
Cryptochecksum:092b6fc5370e2ef0cf07c2bc10f1d44a : end
pix515-702#
```

Vérification

Référez-vous à cette section pour vous assurer du bon fonctionnement de votre configuration.

L'Outil Interpréteur de sortie (clients enregistrés uniquement) (OIT) prend en charge certaines commandes show. Utilisez l'OIT pour afficher une analyse de la sortie de la commande **show .**

- **show crypto isakmp sa—Affiche toutes les IKE SA actuelles chez un homologue.**
- **show crypto ipsec sa — Affiche les paramètres utilisés par les SA.**

Ces tableaux montrent les sorties de certains débogages en mode Principal et Agressif dans PIX 6.3(5) et PIX 7.0(2) après l'établissement complet du tunnel.

Remarque : ceci doit être suffisant pour obtenir un tunnel IPsec établi entre ces deux types de matériel. Si vous avez des commentaires, utilisez le formulaire de commentaires à gauche de ce document.

- Cisco PIX 515e version 6.3(5) - Mode principal
- Cisco PIX 515 version 7.0(2) - Mode principal
- Cisco PIX 515e version 6.3(5) - Mode agressif
- Cisco PIX 515 version 7.0(2) - Mode agressif

Cisco PIX 515e version 6.3(5) - Mode principal

```
pix515e-635#show crypto isakmp sa
Total     : 1
Embryonic : 0
        dst               src         state     pending
created
      10.10.10.1       10.20.20.1    QM_IDLE          0
1
pix515e-635#



pix515e-635#show crypto ipsec sa


           interface: outside
           Crypto map tag: maptosw, local addr.
10.20.20.1

 local ident (addr/mask/prot/port):
(192.168.1.0/255.255.255.0/0/0)
           remote ident (addr/mask/prot/port):
(172.22.1.0/255.255.255.0/0/0)
           current_peer: 10.10.10.1:500
           PERMIT, flags={origin_is_acl,}
```

```
           #pkts encaps: 4, #pkts encrypt: 4, #pkts
digest 4
           #pkts decaps: 4, #pkts decrypt: 4, #pkts
verify 4
           #pkts compressed: 0, #pkts decompressed: 0
           #pkts not compressed: 0, #pkts compr. failed:
0, #pkts decompress failed: 0
           #send errors 1, #recv errors 0

 local crypto endpt.: 10.20.20.1, remote crypto endpt.:
10.10.10.1
           path mtu 1500, ipsec overhead 72, media mtu
1500
           current outbound spi: ed0afa33

 inbound esp sas:
           spi: 0xac624692(2892121746)
           transform: esp-aes-256 esp-sha-hmac ,
           in use settings ={Tunnel, }
           slot: 0, conn id: 1, crypto map: maptosw
           sa timing: remaining key lifetime (k/sec):
(4607999/28718)
           IV size: 16 bytes
           replay detection support: Y


           inbound ah sas:


           inbound pcp sas:


           outbound esp sas:
           spi: 0xed0afa33(3976919603)
           transform: esp-aes-256 esp-sha-hmac ,
           in use settings ={Tunnel, }
           slot: 0, conn id: 2, crypto map: maptosw
           sa timing: remaining key lifetime (k/sec):
(4607999/28718)
           IV size: 16 bytes
           replay detection support: Y


           outbound ah sas:


           outbound pcp sas:

pix515e-635#
```

Cisco PIX 515 version 7.0(2) - Mode principal

```
pix515-702#show crypto isakmp sa

 Active SA: 1
           Rekey SA: 0 (A tunnel will report 1 Active
and 1 Rekey SA during rekey)
           Total IKE SA: 1

1 IKE Peer: 10.10.10.1
           Type : L2L Role : initiator
           Rekey : no State : MM_ACTIVE
           pix515-702#
```

```
pix515-702#show crypto ipsec sa
interface: outside
    Crypto map tag: maptosw, local addr: 10.20.20.1

 local ident (addr/mask/prot/port):
(192.168.1.0/255.255.255.0/0/0)
           remote ident (addr/mask/prot/port):
(172.22.1.0/255.255.255.0/0/0)
           current_peer: 10.10.10.1

 #pkts encaps: 5, #pkts encrypt: 5, #pkts digest: 5
           #pkts decaps: 5, #pkts decrypt: 5, #pkts
verify: 5
           #pkts compressed: 0, #pkts decompressed: 0
           #pkts not compressed: 5, #pkts comp failed:
0, #pkts decomp failed: 0
           #send errors: 0, #recv errors: 0

 local crypto endpt.: 10.20.20.1, remote crypto endpt.:
10.10.10.1

 path mtu 1500, ipsec overhead 76, media mtu 1500
           current outbound spi: 2D006547

 inbound esp sas:
           spi: 0x309F7A33 (815757875)
           transform: esp-aes-256 esp-sha-hmac
           in use settings ={L2L, Tunnel, }
           slot: 0, conn_id: 1, crypto-map: maptosw
           sa timing: remaining key lifetime (kB/sec):
(4274999/28739)
           IV size: 16 bytes
           replay detection support: Y
           outbound esp sas:
           spi: 0x2D006547 (755000647)
           transform: esp-aes-256 esp-sha-hmac
           in use settings ={L2L, Tunnel, }
           slot: 0, conn_id: 1, crypto-map: maptosw
           sa timing: remaining key lifetime (kB/sec):
(4274999/28737)
           IV size: 16 bytes
           replay detection support: Y

pix515-702#
```

Cisco PIX 515e version 6.3(5) - Mode agressif

```
pix515e-635#show crypto isakmp sa
Total     : 1
Embryonic : 0
        dst               src        state     pending
created
      10.20.20.1       10.10.10.1    QM_IDLE         0
1

pix515e-635#show crypto ipsec sa



           interface: outside
           Crypto map tag: dynmaptosw, local addr.
10.20.20.1
```

```
 local ident (addr/mask/prot/port):
(192.168.1.0/255.255.255.0/0/0)
           remote ident (addr/mask/prot/port):
(172.22.1.0/255.255.255.0/0/0)
           current_peer: 10.10.10.1:500
           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 decompress failed: 0
           #send errors 0, #recv errors 0

 local crypto endpt.: 10.20.20.1, remote crypto endpt.:
10.10.10.1
           path mtu 1500, ipsec overhead 72, media mtu
1500
           current outbound spi: efb1149d

 inbound esp sas:
           spi: 0x2ad2c13c(718455100)
           transform: esp-aes-256 esp-sha-hmac ,
           in use settings ={Tunnel, }
           slot: 0, conn id: 2, crypto map: dynmaptosw
           sa timing: remaining key lifetime (k/sec):
(4608000/28736)
           IV size: 16 bytes
           replay detection support: Y


           inbound ah sas:


           inbound pcp sas:


           outbound esp sas:
           spi: 0xefb1149d(4021359773)
           transform: esp-aes-256 esp-sha-hmac ,
           in use settings ={Tunnel, }
           slot: 0, conn id: 1, crypto map: dynmaptosw
           sa timing: remaining key lifetime (k/sec):
(4608000/28727)
           IV size: 16 bytes
           replay detection support: Y


           outbound ah sas:


           outbound pcp sas:

pix515e-635#
```

Cisco PIX 515 version 7.0(2) - Mode agressif

```
pix515-702#show crypto isakmp sa

 Active SA: 1
           Rekey SA: 0 (A tunnel will report 1 Active
and 1 Rekey SA during rekey)
```

```
            Total IKE SA: 1

1 IKE Peer: 10.10.10.1
            Type : L2L Role : responder
            Rekey : no State : AM_ACTIVE
            pix515-702#

pix515-702#show crypto ipsec sa
            interface: outside
            Crypto map tag: ciscopix, local addr:
10.20.20.1

 local ident (addr/mask/prot/port):
(192.168.1.0/255.255.255.0/0/0)
            remote ident (addr/mask/prot/port):
(172.22.1.0/255.255.255.0/0/0)
            current_peer: 10.10.10.1

 #pkts encaps: 5, #pkts encrypt: 5, #pkts digest: 5
            #pkts decaps: 5, #pkts decrypt: 5, #pkts
verify: 5
            #pkts compressed: 0, #pkts decompressed: 0
            #pkts not compressed: 5, #pkts comp failed:
0, #pkts decomp failed: 0
            #send errors: 0, #recv errors: 0

 local crypto endpt.: 10.20.20.1, remote crypto endpt.:
10.10.10.1

 path mtu 1500, ipsec overhead 76, media mtu 1500
            current outbound spi: D7E2F5FD

 inbound esp sas:
            spi: 0xDCBF6AD3 (3703532243)
            transform: esp-aes-256 esp-sha-hmac
            in use settings ={L2L, Tunnel, }
            slot: 0, conn_id: 1, crypto-map: ciscopix
            sa timing: remaining key lifetime (sec):
28703
            IV size: 16 bytes
            replay detection support: Y
            outbound esp sas:
            spi: 0xD7E2F5FD (3621975549)
            transform: esp-aes-256 esp-sha-hmac
            in use settings ={L2L, Tunnel, }
            slot: 0, conn_id: 1, crypto-map: ciscopix
            sa timing: remaining key lifetime (sec):
28701
            IV size: 16 bytes
            replay detection support: Y

pix515-702#
```

Dépannage

Il n'existe actuellement aucune information de dépannage spécifique pour cette configuration.

Informations connexes

- Logiciels pare-feu Cisco PIX
- Références des commandes du pare-feu Cisco Secure PIX
- Notices de champs relatives aux produits de sécurité (y compris PIX)
- Demandes de commentaires (RFC)
- Support et documentation techniques - Cisco Systems