

# IPsec configureren tussen een Cisco IOS-router en een Cisco VPN-client 4.x voor Windows met RADIUS voor gebruikersverificatie

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## Inleiding

Dit document demonstreert hoe u een verbinding tussen een router en Cisco VPN-client 4.x kunt configureren met behulp van afstandsverificatie, inbel-gebruikersservice (RADIUS) voor gebruikersverificatie. Cisco IOS®-software-releases 12.2(8)T en latere ondersteuningsverbindingen van Cisco VPN-client 4.x. De VPN Clients 3.x en 4.x gebruiken Diffie Hellman (DH) groep 2 beleid. De opdracht **isakmp beleid # groep 2** stelt de VPN-clients in staat om verbinding te maken.

Dit document toont verificatie op de RADIUS-server en autorisatie (zoals het toewijzen van de Windows Internet Naming Service (WINS) en Domain Naming Service (DNS)) lokaal door de router. Als u geïnteresseerd bent in zowel verificatie als autorisatie via de RADIUS-server, raadpleeg [IPSec configureren tussen een Cisco IOS-router en een Cisco VPN-client 4.x voor Windows met RADIUS](#).

**Opmerking:** Er is nu accounting voor IPSec VPN beschikbaar. Raadpleeg [IPSec VPN-accounting](#) voor meer informatie en voorbeeldconfiguraties.

Raadpleeg [IPsec-tunnelheid tussen IOS-router en Cisco VPN-client 4.x voor Windows met configuratiescherm voor TACACS+ gebruikersverificatie](#) voor meer informatie over het scenario waarin de gebruikersverificatie extern plaatsvindt met het TACACS+-protocol.

Raadpleeg [Cisco VPN-client 3.x configureren voor Windows om lokale uitgebreide verificatie te gebruiken](#) voor meer informatie over het scenario waarin de gebruikersverificatie lokaal plaatsvindt in de Cisco IOS-router.

Raadpleeg [PIX/ASA 7.x en Cisco VPN-client 4.x voor Windows met Microsoft Windows 2003 IAS RADIUS-verificatie Configuratievoorbeeld](#) voor informatie over het instellen van de VPN-verbinding voor externe toegang tussen een Cisco VPN-client (4.x voor Windows) en PIX 500 Series security applicatie 7.x met behulp van een Microsoft Windows 2003 Internet-verificatieservice (IAS) US server.

Raadpleeg [IPSec - PIX naar een VPN-client, joch-kaart, voorgedeeld, mode-configuratie met uitgebreide verificatie](#) voor informatie over de manier waarop u een VPN-client met een PIX-firewall kunt aansluiten via kaarten, mode-configuratie, de opdracht **snelverbinding** en uitgebreide verificatie (Xauth).

Raadpleeg [IPsec tussen een VPN 3000 Concentrator en een VPN-client 4.x voor Windows met RADIUS voor gebruikersverificatie en -accounting Configuratievoorbeeld](#) voor informatie over het maken van een IPsec-tunnel tussen een Cisco VPN 3000 Concentrator en een Cisco VPN-client 4.x voor Windows met RADIUS voor gebruikersverificatie en -accounting.

## Voorwaarden

### Vereisten

Zorg ervoor dat u aan deze vereisten voldoet voordat u deze configuratie probeert:

- Een pool van adressen die voor IPsec moet worden toegewezen
- Een groep genaamd "3000clients" met een wachtwoord van "cisco123"
- Gebruikersverificatie op een RADIUS-server

### Gebruikte componenten

De informatie in dit document is gebaseerd op de volgende software- en hardware-versies:

- Een 2621XM router die Cisco IOS-software release 12.2(15)T2 draait
- Cisco Secure ACS voor Windows 2000 versie 4.2 (een RADIUS-server moet werken)
- Cisco VPN-client voor Windows versie 4.8 (een VPN-client 4.x en hoger moet werken)

De informatie in dit document is gebaseerd op de apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als uw netwerk live is, moet u de potentiële impact van elke opdracht begrijpen.

Dit wordt uitgevoerd vanuit het commando van de **show versie** op de router:

```
vpn2621#show version  
Cisco Internetwork Operating System Software
```

IOS (tm) C2600 Software (C2600-IK9S-M), Version 12.2(15)T2, RELEASE SOFTWARE (fc2)  
TAC Support: <http://www.cisco.com/tac>  
Copyright (c) 1986-2003 by cisco Systems, Inc.  
Compiled Thu 01-May-03 10:39 by nmasa  
Image text-base: 0x80008098, data-base: 0x81BBB0BC

ROM: System Bootstrap, Version 12.2(7r) [cmong 7r], RELEASE SOFTWARE (fc1)

vpn2621 uptime is 1 hour, 34 minutes  
System returned to ROM by reload  
System image file is "flash:c2600-ik9s-mz.122-15.T2.bin"

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:  
<http://www.cisco.com/wvl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to [export@cisco.com](mailto:export@cisco.com).

cisco 2621XM (MPC860P) processor (revision 0x100) with 125952K/5120K bytes of memory.  
Processor board ID JAD064503FK (64188517)  
M860 processor: part number 5, mask 2  
Bridging software.  
X.25 software, Version 3.0.0.  
2 FastEthernet/IEEE 802.3 interface(s)  
2 Serial(sync/async) network interface(s)  
1 terminal line(s)  
1 Virtual Private Network (VPN) Module(s)  
1 cisco content engine(s)  
32K bytes of non-volatile configuration memory.  
32768K bytes of processor board System flash (Read/Write)

Configuration register is 0x2102

## [Conventies](#)

Raadpleeg [Cisco Technical Tips Conventions \(Conventies voor technische tips van Cisco\) voor meer informatie over documentconventies.](#)

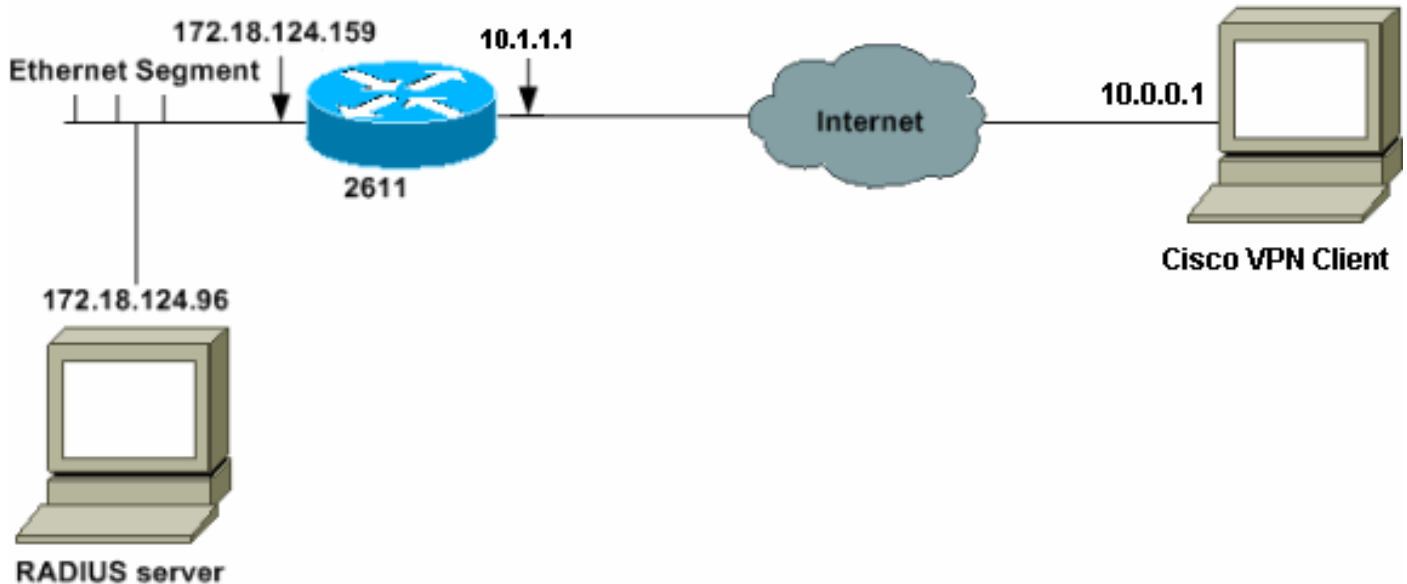
## [Configureren](#)

Deze sectie bevat informatie over het configureren van de functies die in dit document worden beschreven.

**N.B.:** Gebruik het [Opdrachtupgereedschap \(alleen geregistreeerde klanten\)](#) om meer informatie te vinden over de opdrachten die in dit document worden gebruikt.

## [Netwerkdigram](#)

Het netwerk in dit document is als volgt opgebouwd:



## De 2621XM router configureren

### 2621XM router

```

!--- Enable authentication, authorization and accounting
(AAA) !--- for user authentication and group
authorization. aaa new-model
!
!--- In order to enable extended authentication (Xauth)
for user authentication, !--- enable the aaa
authentication commands. !--- "Group radius local"
specifies RADIUS user authentication !--- to be used by
default and to use local database if RADIUS server is
not reachable.

aaa authentication login userauthen group radius local

!--- In order to enable group authorization, !--- enable
the aaa authorization commands.

aaa authorization network groupauthor local
!--- Create an Internet Security Association and !---
Key Management Protocol (ISAKMP) policy for Phase 1
negotiations. crypto isakmp policy 3
encr 3des
authentication pre-share
group 2
!

!--- Create a group that will be used to specify the !--
- Windows Internet Naming Service (WINS) and Domain
Naming Service (DNS) server !--- addresses to the
client, along with the pre-shared key for
authentication. crypto isakmp client configuration group
3000client
key cisco123
dns 10.1.1.10
wins 10.1.1.20

```

```

domain cisco.com
pool ippool
!
!--- Create the Phase 2 policy for actual data
encryption. crypto ipsec transform-set myset esp-3des
esp-sha-hmac
!
!--- Create a dynamic map and !--- apply the transform
set that was created. crypto dynamic-map dynmap 10
set transform-set myset
!
!--- Create the actual crypto map, !--- and apply the
AAA lists that were created earlier. crypto map
clientmap client authentication list userauthen
crypto map clientmap isakmp authorization list
groupauthor
crypto map clientmap client configuration address
respond
crypto map clientmap 10 ipsec-isakmp dynamic dynmap
!--- Apply the crypto map on the outside interface.
interface Ethernet0/0
ip address 10.1.1.1 255.255.255.0
half-duplex
crypto map clientmap
interface Ethernet0/1

ip address 172.18.124.159 255.255.255.0
half-duplex
!
!--- Create a pool of addresses to be assigned to the
VPN Clients. ip local pool ippool 10.16.20.1
10.16.20.200
ip classless
ip route 0.0.0.0 0.0.0.0 10.1.1.2
ip http server
ip pim bidir-enable
!
!
!
!--- Specify the IP address of the RADIUS server, !---
along with the RADIUS shared secret key. radius-server
host 172.18.124.96 auth-port 1645 acct-port 1646 key
cisco123
radius-server retransmit 3

```

## [Configuratie van RADIUS-servers](#)

### [De RADIUS-server voor gebruikersverificatie configureren](#)

Volg deze stappen om de RADIUS-server te configureren:

1. Voeg een Ingang voor de router in het de servergegevensbestand van de RADIUS toe.

AAA Client Hostname	AAA Client IP Address	Authenticate Using
<a href="#">340</a>	172.18.124.151	RADIUS (Cisco Aironet)
<a href="#">Aironet-340-Lab</a>	14.36.1.99	RADIUS (Cisco Aironet)
<a href="#">glenntest</a>	172.18.124.120	RADIUS (Cisco IOS/PIX)
<a href="#">router</a>	172.18.124.150	TACACS+ (Cisco IOS)

[Add Entry](#)

- [Network Device Groups](#)
- [Adding a Network Device Group](#)
- [Renaming a Network Device Group](#)
- [Deleting a Network Device Group](#)
- [AAA Clients](#)
- [Adding a AAA Client](#)
- [Editing a AAA Client](#)
- [Deleting a AAA Client](#)
- [AAA Servers](#)
- [Adding a AAA Server](#)
- [Editing a AAA Server](#)
- [Deleting a AAA Server](#)
- [Proxy Distribution Table](#)
- [Adding a Proxy Distribution Table Entry](#)
- [Sorting Proxy Distribution Table Entries](#)

2. Specificeer het IP-adres van de router "172.18.124.159" samen met de gedeelde geheime sleutel "cisco123". Kies **RADIUS** in het vervolgkeuzevenster voor Verificatie.

**Add AAA Client**

AAA Client Hostname:

AAA Client IP Address:

Key:

Authenticate Using:

Single Connect TACACS+ AAA Client (Record stop in accounting on failure).

Log Update/Watchdog Packets from this AAA Client

Log RADIUS Tunneling Packets from this AAA Client

[Submit](#) [Submit + Restart](#) [Cancel](#)

- [AAA Client Hostname](#)
- [AAA Client IP Address](#)
- [Key](#)
- [Network Device Group](#)
- [Authenticate Using](#)
- [Single Connect TACACS+ AAA Client](#)
- [Log Update/Watchdog Packets from this AAA Client](#)
- [Log RADIUS Tunneling Packets from this AAA Client](#)

**AAA Client Hostname**

The AAA Client Hostname is the name assigned to the AAA client.

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**AAA Client IP Address**

3. Voeg de gebruikersnaam voor de VPN-gebruiker toe in de Cisco Secure-database. In het voorbeeld is de gebruikersnaam cisco.

User:  [Find](#) [Add/Edit](#)

List users beginning with letter/number:

A B C D E F G H I J K L M  
 N O P Q R S T U V W X Y Z  
 0 1 2 3 4 5 6 7 8 9

[List All Users](#)

[Back to Help](#)

- [User Setup and External User Databases](#)
- [Finding a Specific User in the CiscoSecure User Database](#)
- [Adding a User to the CiscoSecure User Database](#)
- [Listing Usernames that Begin with a Particular Character](#)
- [Listing All Usernames in the CiscoSecure User Database](#)
- [Changing a Username in the CiscoSecure User Database](#)

User Setup enables you to configure individual user information, add users, and delete users in the database.

4. Specificeer in het volgende venster het wachtwoord voor Cisco-gebruiker. In dit voorbeeld is het wachtwoord ook cisco. U kunt de gebruikersaccount in een groep indelen. Klik op **Inzenden** nadat u klaar bent.



**Supplementary User Info**

Real Name   
 Description

**User Setup**

Password Authentication:  
 CiscoSecure Database  
 CiscoSecure PAP (Also used for CHAP/MS-CHAP/ARAP, if the Separate field is not checked.)

Password   
 Confirm Password

Separate (CHAP/MS-CHAP/ARAP)  
 Password   
 Confirm Password

When using a Token Card server for authentication, supplying a separate CHAP password for a token card user allows CHAP authentication. This is especially useful when token caching is enabled.

Group to which the user is assigned:  
 Group 19

Submit Cancel

- [Account Disabled](#)
- [Deleting a Username](#)
- [Supplementary User Info](#)
- [Password Authentication](#)
- [Group to which the user is assigned](#)
- [Callback](#)
- [Client IP Address Assignment](#)
- [Advanced Settings](#)
- [Network Access Restrictions](#)
- [Max Sessions](#)
- [Usage Quotas](#)
- [Account Disable](#)
- [Downloadable ACLs](#)
- [Advanced TACACS+ Settings](#)
- [TACACS+ Enable Control](#)
- [TACACS+ Enable Password](#)
- [TACACS+ Outbound Password](#)
- [TACACS+ Shell Command Authorization](#)
- [TACACS+ Unknown Services](#)
- [IETF RADIUS Attributes](#)
- [RADIUS Vendor-Specific Attributes](#)

**Account Disabled Status**

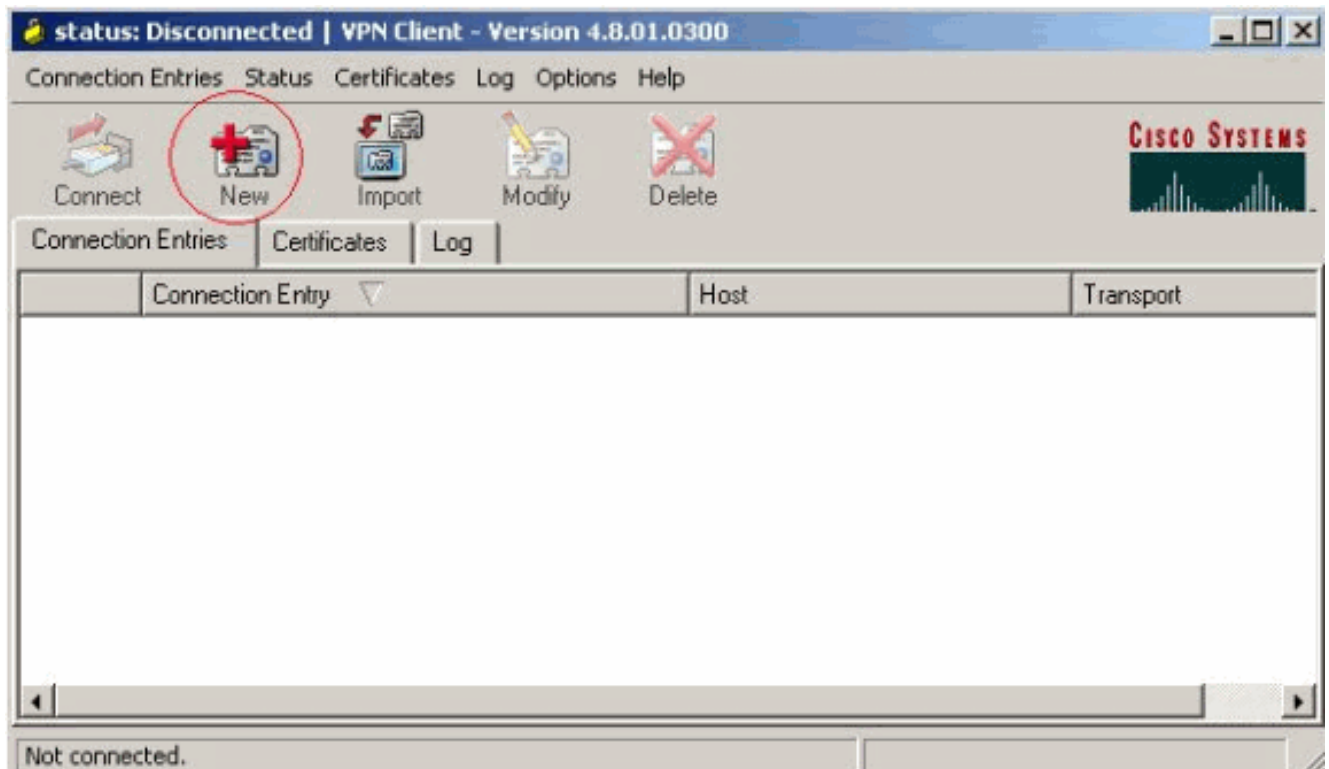
Select the Account Disabled check box to disable this account; clear the check box to enable the account.

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## Configuratie van VPN-client 4.8

Voltooi deze stappen om de VPN-client 4.8 te configureren:

1. Kies **Start > Programma's > Cisco Systems VPN-client > VPN-client**.
2. Klik op **New** om het venster Nieuwe VPN-verbinding maken te starten.



3. Voer de naam van de verbindingsbocht in samen met een beschrijving. Voer het externe IP-adres van de router in het host-venster in. Typ vervolgens de naam en het wachtwoord van

VPN-groep en klik op

VPN Client | Properties for "vpn"

Connection Entry: vpn

Description:

Host: 10.1.1.1

Authentication | Transport | Backup Servers | Dial-Up

Group Authentication  Mutual Group Authentication

Name: 3000client

Password: xxxxxxxx

Confirm Password: xxxxxxxx

Certificate Authentication

Name:

Send CA Certificate Chain

Erase User Password Save Cancel

Opslaan.

4. Klik op de verbinding die u wilt gebruiken en klik op **Connect** vanuit het hoofdvenster van VPN-client.

status: Disconnected | VPN Client - Version 4.0.01.0300

Connection Entries Status Certificates Log Options Help

Connect New Import Modify Delete

Connection Entries Certificates Log

Connection Entry	Host	Transport
vpn	10.1.1.1	IPSec/UDP

Not connected.

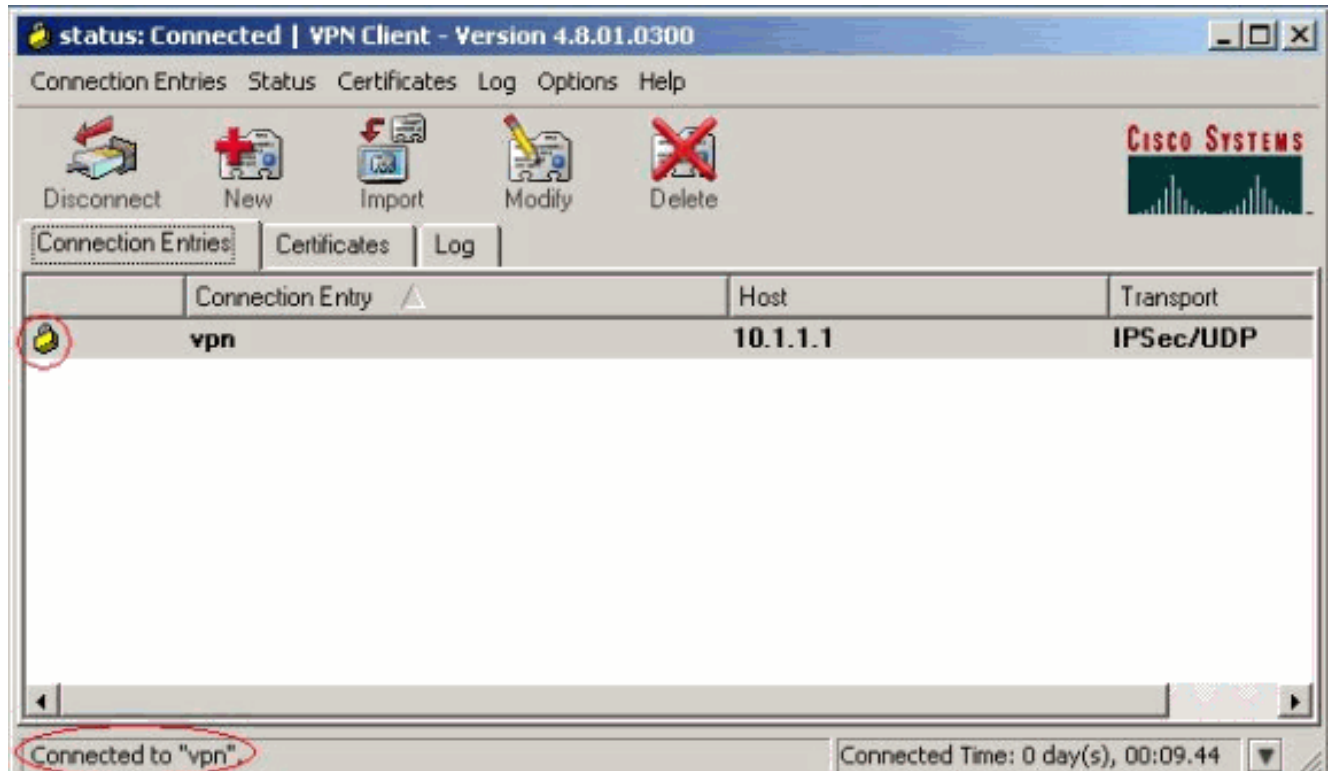
5. Voer desgevraagd de informatie over de naam van de gebruiker en het wachtwoord in en klik



vervolgens op **OK** om verbinding te maken met het externe netwerk.



De VPN client wordt verbonden met de router op de centrale site.



## [Split-tunneling mogelijk maken](#)

Om gesplitste tunneling voor de VPN-verbindingen mogelijk te maken, moet u een toegangscontrolelijst (ACL) instellen op de router. In dit voorbeeld wordt de opdracht **toegangslijst 108** geassocieerd met de groep voor het splitsen-tunneling, en de tunnel gevormd naar het 14.38.X.X /16 netwerk. Verkeersstromen niet versleuteld met apparaten die niet in ACL 108 (bijvoorbeeld het internet) zijn uitgevoerd.

```
access-list 108 permit ip 172.18.124.0 0.0.255.255 10.16.20.0 0.0.0.255
```

Pas ACL op de groepeigenschappen toe.

```
crypto isakmp client configuration group 3000client
key cisco123
dns 10.1.1.10
wins 10.1.1.20
domain cisco.com
pool ippool
acl 108
```

## [RADIUS-serverback-upfunctie configureren](#)

Wanneer de primaire RADIUS-server niet beschikbaar wordt, zal de router uitvallen op de volgende actieve RADIUS-server. De router zal de server van de secundaire RADIUS altijd blijven gebruiken, zelfs als de primaire server beschikbaar is. De primaire server heeft meestal hoge prestaties en de voorkeursserver. Als de secundaire server niet beschikbaar is, kan de lokale database gebruikt worden voor authenticatie met behulp van de [Aa authenticatie inloggebruikersautori](#) opdracht.

## [Verifiëren](#)

Gebruik dit gedeelte om te bevestigen dat de configuratie correct werkt.

Het [Uitvoer Tolk \(uitsluitend geregistreeerde klanten\)](#) (OIT) ondersteunt bepaalde **show** opdrachten. Gebruik de OIT om een analyse van **tonen** opdrachtoutput te bekijken.

Dit wordt uitgevoerd van relevante **show** opdrachten:

```
vpn2621#show crypto isakmp sa
dst          src          state          conn-id  slot
10.1.1.1    10.0.0.1    QM_IDLE        3        0

vpn2621#show crypto ipsec sa interface: Ethernet0/0
Crypto map tag: clientmap, local addr. 10.1.1.1

local ident (addr/mask/prot/port): (10.1.1.1/255.255.255.255/0/0)
remote ident (addr/mask/prot/port): (10.16.20.2/255.255.255.255/0/0)
current_peer: 10.0.0.1
  PERMIT, flags={}
#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: 0, #pkts compr. failed: 0, #pkts decompress failed: 0
#send errors 0, #recv errors 0

local crypto endpt.: 10.1.1.1, remote crypto endpt.: 10.0.0.1
path mtu 1500, media mtu 1500
current outbound spi: 77AFCCFA
```

inbound esp sas:  
spi: 0xC7AC22AB(3349947051)  
transform: esp-3des esp-sha-hmac ,  
in use settings ={Tunnel, }  
slot: 0, conn id: 2000, flow\_id: 1, crypto map: clientmap  
sa timing: remaining key lifetime (k/sec): (4608000/3444)  
IV size: 8 bytes  
replay detection support: Y

inbound ah sas:

inbound pcp sas:

outbound esp sas:  
spi: 0x77AFCCFA(2008009978)  
transform: esp-3des esp-sha-hmac ,  
in use settings ={Tunnel, }  
slot: 0, conn id: 2001, flow\_id: 2, crypto map: clientmap  
sa timing: remaining key lifetime (k/sec): (4608000/3444)  
IV size: 8 bytes  
replay detection support: Y

outbound ah sas:

outbound pcp sas:

local ident (addr/mask/prot/port): (172.18.124.0/255.255.255.0/0/0)  
remote ident (addr/mask/prot/port): (10.16.20.2/255.255.255.255/0/0)

**current\_peer: 10.0.0.1**

PERMIT, flags={}

**#pkts encaps: 4, #pkts encrypt: 4, #pkts digest 4**

**#pkts decaps: 6, #pkts decrypt: 6, #pkts verify 6**

#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.: 10.1.1.1, remote crypto endpt.: 10.0.0.1  
path mtu 1500, media mtu 1500  
current outbound spi: 2EE5BF09

inbound esp sas:  
spi: 0x3565451F(895829279)  
transform: esp-3des esp-sha-hmac ,  
in use settings ={Tunnel, }  
slot: 0, conn id: 2002, flow\_id: 3, crypto map: clientmap  
sa timing: remaining key lifetime (k/sec): (4607999/3469)  
IV size: 8 bytes  
replay detection support: Y

inbound ah sas:

inbound pcp sas:

outbound esp sas:  
spi: 0x2EE5BF09(786808585)  
transform: esp-3des esp-sha-hmac ,  
in use settings ={Tunnel, }  
slot: 0, conn id: 2003, flow\_id: 4, crypto map: clientmap  
sa timing: remaining key lifetime (k/sec): (4607999/3469)  
IV size: 8 bytes  
replay detection support: Y

outbound ah sas:

outbound pcg sas:

vpn2621#show crypto engine connections active

ID	Interface	IP-Address	State	Algorithm	Encrypt	Decrypt
3	Ethernet0/0	10.1.1.1	set	HMAC_SHA+3DES_56_C	0	0
2000	Ethernet0/0	10.1.1.1	set	HMAC_SHA+3DES_56_C	0	5
2001	Ethernet0/0	10.1.1.1	set	HMAC_SHA+3DES_56_C	5	0
2002	Ethernet0/0	10.1.1.1	set	HMAC_SHA+3DES_56_C	0	6
2003	Ethernet0/0	10.1.1.1	set	HMAC_SHA+3DES_56_C	4	0

vpn2621#show crypto engine accelerator statistic

Virtual Private Network (VPN) Module in aim slot : 0

Statistics for Hardware VPN Module since the last clear

of counters 5570 seconds ago

14 packets in	14 packets out
0 packet overruns	0 output packets dropped
0 packets decompressed	0 packets compressed
0 compressed bytes in	0 uncompressed bytes in
0 decompressed bytes out	0 compressed bytes out
0 packets bypass compression	0 packets abort compression
0 packets fail decompression	0 packets fail compression
7 packets decrypted	7 packets encrypted
532 bytes decrypted	532 bytes encrypted
784 bytes before decrypt	19200 bytes after encrypt
0 paks/sec in	0 paks/sec out
0 Kbits/sec decrypted	0 Kbits/sec encrypted

Last 5 minutes:

14 packets in	14 packets out
7 packets decrypted	7 packets encrypted
532 bytes decrypted	420 bytes encrypted
784 bytes before decrypt	672 bytes after encrypt
0 paks/sec in	0 paks/sec out
0 Kbits/sec decrypted	0 Kbits/sec encrypted

rx_no_endp:	0	rx_hi_discards:	0	fw_failure:	0
invalid_sa:	0	invalid_flow:	0	cgx_errors	0
fw_qs_filled:	0	fw_resource_lock:	0	lotx_full_err:	0
null_ip_error:	0	pad_size_error:	0	out_bound_dh_acc:	0
esp_auth_fail:	0	ah_auth_failure:	0	crypto_pad_error:	0
ah_prot_absent:	0	ah_seq_failure:	0	ah_spi_failure:	0
esp_prot_absent:	0	esp_seq_fail:	0	esp_spi_failure:	0
obound_sa_acc:	0	invalid_sa:	0	out_bound_sa_flow:	0
invalid_dh:	0	bad_keygroup:	0	out_of_memory:	0
no_sh_secret:	0	no_keys:	0	invalid_cmd:	0
dsp_coproc_err:	0	comp_unsupported:	0	pak_too_big:	0
null packets:	0				
pak_mp_length_spec_fault:	0	cmd queue errors:	0		
tx_lo_queue_size_max	0	cmd_unimplemented:	0		
Interrupts:	439	Immed:	0	HiPri ints:	14
LoPri ints:	425	POST Errs:	0	Alerts:	0
Unk Cmds:	0	UnexpCmds:	0		
cgx_cmd_pending:	0	packet_loop_max:	0	packet_loop_limit:	0

vpn2621#sh crypto engine configuration

crypto engine name: Virtual Private Network (VPN) Module  
crypto engine type: hardware

```
Product Name: AIM-VPN/BP
Configuration: 0x000109010F00F00784000000
               : 0x995FB1441BA279D5BD46CF6C
               : 0xECE77614C30835CB0A000300
               : 0x000000000000000000000000
CryptIC Version: 001.000
CGX Version: 001.009
CGX Reserved: 0x000F
PCDB info: 0x07F0 0x0084 0x0000
Serial Number: 0x5F9944B1A21BD57946BD
               : 0x6CCFE7EC14768C3CB35
DSP firmware version: 000.010
DSP Bootstrap Version: 000.003
DSP Bootstrap Info: 0x0000
```

```
Compression: Yes
DES: Yes
3 DES: Yes
AES CBC: No
AES CNTR: No
Maximum buffer length: 4096
Maximum DH index: 0210
Maximum SA index: 0420
Maximum Flow index: 0840
Maximum RSA key size: 0000
crypto engine in slot: 0
platform: VPN hardware accelerator
```

```
Crypto Adjacency Counts:
Lock Count: 0
Unlock Count: 0
crypto lib version: 16.0.0
ipsec lib version: 2.0.0
```

## Problemen oplossen

Gebruik dit gedeelte om de configuratie van het probleem op te lossen.

### Opdrachten voor troubleshooting

Het [Uitvoer Tolk](#) ([uitsluitend geregistreeerde](#) klanten) (OIT) ondersteunt bepaalde **show** opdrachten. Gebruik de OIT om een analyse van **tonen** opdrachtoutput te bekijken.

**Opmerking:** Raadpleeg [Belangrijke informatie over debug Commands](#) voordat u **debug**-opdrachten gebruikt.

- **debug van crypto ipsec**-displays debug informatie over IPSec-verbindingen.
- **debug van crypto isakmp**-displays debug informatie over IPSec connecties, en toont de eerste set eigenschappen die wordt ontkend als gevolg van onverenigbaarheden op beide eindpunten.
- **debug van crypto motor**—informatie van de crypto motor.
- **debug van verificatie**—informatie over AAA/Terminal Access Control System Plus (TACACS+)-verificatie.
- **debug van autorisatie**—informatie over AAA/TACACS+ licentie.
- **bug straal**-informatie van displays bij het oplossen van de communicatie tussen de RADIUS-server en de router.

## Debug Uitvoer

Deze sectie verschaft debug informatie van de router die u kunt gebruiken om uw configuratie problemen op te lossen.

## Routerkaarten

```
vpn2621#show debug
```

```
General OS:
```

```
AAA Authentication debugging is on
AAA Authorization debugging is on
```

```
Radius protocol debugging is on
```

```
Radius packet protocol debugging is on
```

```
Cryptographic Subsystem:
```

```
Crypto ISAKMP debugging is on
Crypto Engine debugging is on
Crypto IPSEC debugging is on
```

```
vpn2621#
```

```
*ISAKMP (0:0): received packet from 10.0.0.1 dport 500 sport 500 Global (N) NEW SA
```

```
*ISAKMP: Created a peer struct for 10.0.0.1, peer port 500
```

```
*ISAKMP: Locking peer struct 0x83166B20, IKE refcount 1 for
crypto_ikmp_config_initialize_sa
```

```
*ISAKMP (0:0): Setting client config settings 82F0F82C
```

```
*ISAKMP (0:0): (Re)Setting client xauth list and state
```

```
*ISAKMP: local port 500, remote port 500
```

```
*ISAKMP: insert sa successfully sa = 83165694
```

```
*ISAKMP (0:1): processing SA payload. message ID = 0
```

```
*ISAKMP (0:1): processing ID payload. message ID = 0
```

```
*ISAKMP (0:1): peer matches *none* of the profiles
```

```
*ISAKMP (0:1): processing vendor id payload
```

```
*ISAKMP (0:1): vendor ID seems Unity/DPD but major 215 mismatch
```

```
*ISAKMP (0:1): vendor ID is XAUTH
```

```
*ISAKMP (0:1): processing vendor id payload
```

```
*ISAKMP (0:1): vendor ID is DPD
```

```
*ISAKMP (0:1): processing vendor id payload
```

```
*ISAKMP (0:1): vendor ID seems Unity/DPD but major 123 mismatch
```

```
*ISAKMP (0:1): vendor ID is NAT-T v2
```

```
*ISAKMP (0:1): processing vendor id payload
```

```
*ISAKMP (0:1): vendor ID seems Unity/DPD but major 194 mismatch
```

```
*ISAKMP (0:1): processing vendor id payload
```

```
*ISAKMP (0:1): vendor ID is Unity
```

```
*ISAKMP (0:1) Authentication by xauth preshared
```

```
*ISAKMP (0:1): Checking ISAKMP transform 1 against priority 3 policy
```

```
*ISAKMP: encryption AES-CBC
```

```
*ISAKMP: hash SHA
```

```
*ISAKMP: default group 2
```

```
*ISAKMP: auth XAUTHInitPreShared
```

```
*ISAKMP: life type in seconds
```

```
*ISAKMP: life duration (VPI) of 0x0 0x20 0xC4 0x9B
```

```
*ISAKMP: keylength of 256
```

```
*ISAKMP (0:1): Encryption algorithm offered does not match policy!
```

```
/en/US/docs/net_mgmt/wan_service_administrator/1.1/administrator/guide/getstart.html
```

```
-snip/en/US/docs/net_mgmt/wan_service_administrator/1.1/administrator/guide/getstart.html
```

```
/en/US/docs/net_mgmt/wan_service_administrator/1.1/administrator/guide/getstart.html
```

```
/en/US/docs/net_mgmt/wan_service_administrator/1.1/administrator/guide/getstart.html
```



```
!--- ISAKMP values are acceptable and then the router continues with the !--- ISAKMP negotiation
process. *ISAKMP (0:1): Checking ISAKMP transform 9 against priority 3 policy
*ISAKMP:      encryption 3DES-CBC
*ISAKMP:      hash SHA
*ISAKMP:      default group 2
*ISAKMP:      auth XAUTHInitPreShared
*ISAKMP:      life type in seconds
*ISAKMP:      life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable. Next payload is 3
*CryptoEngine0: generate alg parameter
*CryptoEngine0: CRYPTO_ISA_DH_CREATE(hw)(ipsec)
*CRYPTO_ENGINE: Dh phase 1 status: 0
*ISAKMP (0:1): processing KE payload. message ID = 0
*CryptoEngine0: generate alg parameter
*CryptoEngine0: CRYPTO_ISA_DH_SHARE_SECRET(hw)(ipsec)
*ISAKMP (0:1): processing NONCE payload. message ID = 0
*ISAKMP (0:1): vendor ID is NAT-T v2
*AAA: parse name=ISAKMP-ID-AUTH idb type=-1 tty=-1
*AAA/MEMORY: create_user (0x830E12E8) user='3000client' ruser='NULL' ds0=0
  port='ISAKMP-ID-AUTH' rem_addr='10.0.0.1' authen_type=NONE service=LOGIN
  priv=0 initial_task_id='0', vrf= (id=0)
*ISAKMP (0:1): Input = IKE_MSG_FROM_PEER, IKE_AM_EXCH
*ISAKMP (0:1): Old State = IKE_READY  New State = IKE_R_AM_AAA_AWAIT

*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): Port='ISAKMP-ID-AUTH'
  list='groupauthor' service=NET
*AAA/AUTHOR/CRYPTO AAA: ISAKMP-ID-AUTH(54534875) user='3000client'
*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): send AV service=ike
*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): send AV protocol=ipsec
*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): found list "groupauthor"
*ISAKMP-ID-AUTH AAA/AUTHOR/CRYPTO AAA(54534875): Method=LOCAL
*AAA/AUTHOR (54534875): Post authorization status = PASS_ADD
*ISAKMP: got callback 1
*
AAA/AUTHOR/IKE: Processing AV service=ike
*
AAA/AUTHOR/IKE: Processing AV protocol=ipsec
*
AAA/AUTHOR/IKE: Processing AV tunnel-password=cisco123
*
AAA/AUTHOR/IKE: Processing AV default-domain*cisco.com
*
AAA/AUTHOR/IKE: Processing AV addr-pool*ippool
*
AAA/AUTHOR/IKE: Processing AV key-exchange=ike
*
AAA/AUTHOR/IKE: Processing AV group-lock*0
*
AAA/AUTHOR/IKE: Processing AV timeout*0
*
AAA/AUTHOR/IKE: Processing AV idletime*0
*
AAA/AUTHOR/IKE: Processing AV inacl*108
*
AAA/AUTHOR/IKE: Processing AV dns-servers*10.1.1.10 0.0.0.0
*
AAA/AUTHOR/IKE: Processing AV wins-servers*10.1.1.20 0.0.0.0
*CryptoEngine0: create ISAKMP SKEYID for conn id 1
*CryptoEngine0: CRYPTO_ISA_SA_CREATE(hw)(ipsec)
*ISAKMP (0:1): SKEYID state generated
*ISAKMP (0:1): constructed NAT-T vendor-02 ID
*ISAKMP (0:1): SA is doing pre-shared key authentication plus XAUTH using
  id type ID_IPV4_ADDR
```

```
*ISAKMP (1): ID payload
  next-payload : 10
  type         : 1
  addr         : 10.1.1.1
  protocol     : 17
  port         : 0
  length       : 8
*ISAKMP (1): Toine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*ISAKMP (0:1): processing HASH payload. message ID = 0
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)tal payload length: 12
*CryptoEngine0: generate hmac conte
*ISAKMP (0:1): processing NOTIFY INITIAL_CONTACT protocol 1
  spi 0, message ID = 0, sa = 83165694
*ISAKMP (0:1): Process initial contact,
bring down existing phase 1 and 2 SA's with local 10.1.1.1 remote
10.0.0.1 remote port 500
*ISAKMP (0:1): returning IP addr to the address pool
*ISAKMP:received payload type 17
*ISAKMP (0:1): Detected NAT-D payload
*ISAKMP (0:1): recalc my hash for NAT-D
*ISAKMP (0:1): NAT match MINE hash
*ISAKMP:received payload type 17xt for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): constructed HIS NAT-D
*ISAKMP (0:1): constructed MINE NAT-D
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) AG_INIT_EXCH
*ISAKMP (0:1): Input = IKE_MSG_FROM_AAA, PRESHARED_KEY_REPLY
*ISAKMP (0:1): Old State = IKE_R_AM_AAA_AWAIT New State = IKE_R_AM2

*AAA/MEMORY: free_user (0x830E12E8) user='3000client' ruser='NULL' port='ISAKMP-ID-AUTH'
  rem_addr='10.0.0.1' authen_type=NONE service=LOGIN priv=0 vrf= (id=0)
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) AG_INIT_EXCH
*CryptoEng
*ISAKMP (0:1): Detected NAT-D payload
*ISAKMP (0:1): recalc his hash for NAT-D
*ISAKMP (0:1): NAT match HIS hash
*ISAKMP (0:1): SA has been authenticated with 10.0.0.1
*CryptoEngine0: clear dh number for conn id 1
*ISAKMP: Trying to insert a peer 10.0.0.1/500/, and inserted successfully.
*ISAKMP (0:1): IKE_DPD is enabled, initializing timers
*ISAKMP: set new node 2011892843 to CONF_XAUTH
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*IPSEC(key_engine): got a queue event...
*CryptoEngine0: CRYPTO_ISA_DH_DELETE(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) QM_IDLE
*ISAKMP (0:1): purging node 2011892843
*ISAKMP: Sending phase 1 responder lifetime 86400

*ISAKMP (0:1): peer matches *none* of the profiles
*ISAKMP (0:1): Input = IKE_MSG_FROM_PEER, IKE_AM_EXCH
*ISAKMP (0:1): Old State = IKE_R_AM2 New State = IKE_P1_COMPLETE

*ISAKMP (0:1): Need XAUTH
*AAA: parse name=ISAKMP idb type=-1 tty=-1
*AAA/MEMORY: create_user (0x830DE43C) user='NULL' ruser='NULL' ds0=0 port='ISAKMP'
  rem_addr='10.0.0.1' authen_type=ASCII service=LOGIN priv=0 initial_task_id='0',
  vrf= (id=0)
*ISAKMP (0:1): Input = IKE_MSG_INTERNAL, IKE_PHASE1_COMPLETE
*ISAKMP (0:1): Old State = IKE_P1_COMPLETE New State = IKE_XAUTH_AAA_START_LOGIN_AWAIT

*AAA/AUTHEN/START (992119247): port='ISAKMP' list='userauthen' action=LOGIN service=LOGIN
```

```

*AAA/AUTHEN/START (992119247): found list userauthen
*AAA/AUTHEN/START (992119247): Method=radius (radius)
*AAA/AUTHEN(992119247): Status=GETUSER
*ISAKMP: got callback 1
*ISAKMP: set new node -883516238 to CONF_XAUTH
*ISAKMP/xauth: request attribute XAUTH_USER_NAME_V2
*ISAKMP/xauth: request attribute XAUTH_USER_PASSWORD_V2
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): initiating peer config to 10.0.0.1. ID = -883516238
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) CONF_XAUTH
*ISAKMP (0:1): Input = IKE_MESG_FROM_AAA, IKE_AAA_START_LOGIN
*ISAKMP (0:1): Old State = IKE_XAUTH_AAA_START_LOGIN_AWAIT New State = IKE_XAUTH_REQ_SENT

*ISAKMP (0:1): retransmitting phase 2 CONF_XAUTH -883516238 ...
*ISAKMP (0:1): incrementing error counter on sa: retransmit phase 2
*ISAKMP (0:1): incrementing error counter on sa: retransmit phase 2
*ISAKMP (0:1): retransmitting phase 2 -883516238 CONF_XAUTH
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) CONF_XAUTH
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) CONF_XAUTH
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*ISAKMP (0:1): processing transaction payload from 10.0.0.1. message ID = -883516238
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP: Config payload REPLY
*ISAKMP/xauth: reply attribute XAUTH_USER_NAME_V2
*ISAKMP/xauth: reply attribute XAUTH_USER_PASSWORD_V2
*ISAKMP (0:1): deleting node -883516238 error FALSE reason
        "done with xauth request/reply exchange"
*ISAKMP (0:1): Input = IKE_MESG_FROM_PEER, IKE_CFG_REPLY
*ISAKMP (0:1): Old State = IKE_XAUTH_REQ_SENT New State = IKE_XAUTH_AAA_CONT_LOGIN_AWAIT

*AAA/AUTHEN/CONT (992119247): continue_login (user='(undef)')
*AAA/AUTHEN(992119247): Status=GETUSER
*AAA/AUTHEN(992119247): Method=radius (radius)
*AAA/AUTHEN(992119247): Status=GETPASS
*AAA/AUTHEN/CONT (992119247): continue_login (user='cisco')
*AAA/AUTHEN(992119247): Status=GETPASS
*AAA/AUTHEN(992119247): Method=radius (radius)
*RADIUS: Pick NAS IP for u=0x830DE43C tableid=0 cfg_addr=0.0.0.0 best_addr=10.1.1.1
*RADIUS: ustruct sharecount=2
*Radius: radius_port_info() success=0 radius_nas_port=1
*RADIUS(00000000): Send Access-Request to 172.18.124.96:1645 id 21645/4, len 72
*RADIUS: authenticator F2 7F ED 86 2B D9 80 1F - 74 D7 8F 90 3B EF F0 D5
*RADIUS: NAS-IP-Address [4] 6 10.1.1.1
*RADIUS: NAS-Port-Type [61] 6 Async [0]
*RADIUS: User-Name [1] 9 "cisco"
*RADIUS: Calling-Station-Id [31] 13 "10.0.0.1"
*RADIUS: User-Password [2] 18 *
*RADIUS: Retransmit to (172.18.124.96:1645,1646) for id 21645/4
*RADIUS: Received from id 21645/4 172.18.124.96:1645, Access-Accept, len 62
*RADIUS: authenticator 97 DF CB C8 74 AC 92 D6 - 3B D8 D9 DC 9E 85 94 35
*RADIUS: Framed-IP-Address [8] 6 172.17.8.123
*RADIUS: Class [25] 36
*RADIUS: 43 49 53 43 4F 41 43 53 3A 30 30 30 30 31 38 32 [CISCOACS:0000182]
*RADIUS: 62 2F 61 63 31 32 37 63 39 66 2F 74 6E 65 75 62 [b/ac127c9f/cisco]
*RADIUS: 65 72
*RADIUS: saved authorization data for user 830DE43C at 830DB5FC
*AAA/AUTHEN(992119247): Status=PASS
*ISAKMP: got callback 1
*ISAKMP: set new node -1874799558 to CONF_XAUTH
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)

```

```
*ISAKMP (0:1): initiating peer config to 10.0.0.1. ID = -1874799558
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) CONF_XAUTH
*ISAKMP (0:1): Input = IKE_MESG_FROM_AAA, IKE_AAA_CONT_LOGIN
*ISAKMP (0:1): Old State = IKE_XAUTH_AAA_CONT_LOGIN_AWAIT New State = IKE_XAUTH_SET_SENT

*AAA/MEMORY: free_user (0x830DE43C) user='cisco' ruser='NULL' port='ISAKMP'
rem_addr='10.0.0.1' authen_type=ASCII service=LOGIN priv=0 vrf= (id=0)
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) CONF_XAUTH
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*ISAKMP (0:1): processing transaction payload from 10.0.0.1. message ID = -1874799558
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP: Config payload ACK
*ISAKMP (0:1): XAUTH ACK Processed
*ISAKMP (0:1): deleting node -1874799558 error FALSE reason "done with transaction"
*ISAKMP (0:1): Input = IKE_MESG_FROM_PEER, IKE_CFG_ACK
*ISAKMP (0:1): Old State = IKE_XAUTH_SET_SENT New State = IKE_P1_COMPLETE

*ISAKMP (0:1): Input = IKE_MESG_INTERNAL, IKE_PHASE1_COMPLETE
*ISAKMP (0:1): Old State = IKE_P1_COMPLETE New State = IKE_P1_COMPLETE

*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*ISAKMP: set new node -1474156599 to QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*ISAKMP (0:1): processing transaction payload from 10.0.0.1. message ID = -1474156599
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP: Config payload REQUEST
*ISAKMP (0:1): checking request:
*ISAKMP: IP4_ADDRESS
*ISAKMP: IP4_NETMASK
*ISAKMP: IP4_DNS
*ISAKMP: IP4_NBNS
*ISAKMP: ADDRESS_EXPIRY
*ISAKMP: APPLICATION_VERSION
*ISAKMP: UNKNOWN Unknown Attr: 0x7000
*ISAKMP: UNKNOWN Unknown Attr: 0x7001
*ISAKMP: DEFAULT_DOMAIN
*ISAKMP: SPLIT_INCLUDE
*ISAKMP: UNKNOWN Unknown Attr: 0x7003
*ISAKMP: UNKNOWN Unknown Attr: 0x7007
*ISAKMP: UNKNOWN Unknown Attr: 0x7008
*ISAKMP: UNKNOWN Unknown Attr: 0x7009
*ISAKMP: UNKNOWN Unknown Attr: 0x700A
*ISAKMP: UNKNOWN Unknown Attr: 0x7005
*AAA: parse name=ISAKMP-GROUP-AUTH idb type=-1 tty=-1
*AAA/MEMORY: create_user (0x831663A0) user='3000client' ruser='NULL' ds0=0
port='ISAKMP-GROUP-AUTH' rem_addr='10.0.0.1' authen_type=NONE service=LOGIN
priv=0 initial_task_id='0', vrf= (id=0)
*ISAKMP (0:1): Input = IKE_MESG_FROM_PEER, IKE_CFG_REQUEST
*ISAKMP (0:1): Old State = IKE_P1_COMPLETE New State = IKE_CONFIG_AUTHOR_AAA_AWAIT

*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): Port='ISAKMP-GROUP-AUTH'
list='groupauthor' service=NET
*AAA/AUTHOR/CRYPTO AAA: ISAKMP-GROUP-AUTH(3136771130) user='3000client'
*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): send AV service=ike
*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): send AV protocol=ipsec
*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): found list "groupauthor"
*ISAKMP-GROUP-AUTH AAA/AUTHOR/CRYPTO AAA(3136771130): Method=LOCAL
*AAA/AUTHOR (3136771130): Post authorization status = PASS_ADD
*ISAKMP: got callback 1
* AAA/AUTHOR/IKE: Processing AV service=ike
* AAA/AUTHOR/IKE: Processing AV protocol=ipsec
```

```

*
AAA/AUTHOR/IKE: Processing AV tunnel-password=cisco123
*
AAA/AUTHOR/IKE: Processing AV default-domain*cisco.com
*
AAA/AUTHOR/IKE: Processing AV addr-pool*ippool
*
AAA/AUTHOR/IKE: Processing AV key-exchange=ike
*
AAA/AUTHOR/IKE: Processing AV group-lock*0
*
AAA/AUTHOR/IKE: Processing AV timeout*0
*
AAA/AUTHOR/IKE: Processing AV idletime*0
*
AAA/AUTHOR/IKE: Processing AV inacl*108
*
AAA/AUTHOR/IKE: Processing AV dns-servers*10.1.1.10 0.0.0.0
*
AAA/AUTHOR/IKE: Processing AV wins-servers*10.1.1.20 0.0.0.0
*ISAKMP (0:1): attributes sent in message:
*   Address: 0.2.0.0
*ISAKMP (0:1): allocating address 10.16.20.1
*ISAKMP: Sending private address: 10.16.20.1
*ISAKMP: Sending IP4_DNS server address: 10.1.1.10
*ISAKMP: Sending IP4_NBNS server address: 10.1.1.20
*ISAKMP: Sending ADDRESS_EXPIRY seconds left to use the address: 86388
*ISAKMP: Sending APPLICATION_VERSION string: Cisco Internetwork Operating System Software
IOS (tm) C2600 Software (C2600-IK9S-M), Version 12.2(15)T2,  RELEASE SOFTWARE (fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Thu 01-May-03 10:39 by nmasa
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7000)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7001)
*ISAKMP: Sending DEFAULT_DOMAIN default domain name: cisco.com
*ISAKMP: Sending split include name 108 network 172.18.124.0 mask 255.255.255.0
  protocol 0, src port 0, dst port 0

*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7003)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7007)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7008)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7009)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x700A)
*ISAKMP (0/1): Unknown Attr: UNKNOWN (0x7005)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): responding to peer config from 10.0.0.1. ID = -1474156599
*CryptoEngi*ISAKMP (0:1): deleting node -1474156599 error FALSE reason
  "ne0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_por231
*ISAKMP (0:1): processing SA payload. message ID = 2058744231
*ISAKMP (0:1): Checking IPsec proposal 1
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:     authenticator is HMAC-MD5
*ISAKMP:     encaps is 1
*ISAKMP:     key length is 256t 500 peer_port 500 (R) CONF_ADDR

*ISAKMP (0:1): Input = IKE_MSG_FROM_AAA, IKE_AAA_GROUP_ATTR
*ISAKMP (0:1): Old State = IKE_CONFIG_AUTHOR_AAA_AWAIT  New State = IKE_P1_COMPLETE

*AAA/MEMORY: free_user (0x831663A0) user='3000client' ruser='NULL' port='ISAKMP-GROUP-AUTH'
  rem_addr='10.0.0.1' authen_type=NONE service=LOGIN priv=0 vrf= (id=0)
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE

```

```
*ISAKMP: set new node 2058744231 to QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): processing HASH payload. message ID = 2058744
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 1
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:  attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= ESP, transform= esp-aes 256 esp-md5-hmac ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= PCP, transform= comp-lzs ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
{esp-aes 256 esp-md5-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 2
*ISAKMP: transform 1, ESP_AES
*ISAKMP:  attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 2
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:  attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= ESP, transform= esp-aes 256 esp-sha-hmac ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= PCP, transform= comp-lzs ,
```



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lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-sha-hmac comp-lzs }
*ISAKMP (0:1): IPsec policy invalidated proposal
*ISAKMP (0:1): Checking IPsec proposal 3
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:     authenticator is HMAC-MD5
*ISAKMP:     encaps is 1
*ISAKMP:     key length is 128
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPsec proposal 3
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:     encaps is 1
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= ESP, transform= esp-aes esp-md5-hmac ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= PCP, transform= comp-lzs ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-md5-hmac comp-lzs }
*ISAKMP (0:1): IPsec policy invalidated proposal
*ISAKMP (0:1): Checking IPsec proposal 4
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:     authenticator is HMAC-SHA
*ISAKMP:     encaps is 1
*ISAKMP:     key length is 128
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPsec proposal 4
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:     encaps is 1
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
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protocol= ESP, transform= esp-aes esp-sha-hmac ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= PCP, transform= comp-lzs ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
{esp-aes esp-sha-hmac comp-lzs }
*ISAKMP (0:1): IPsec policy invalidated proposal
*ISAKMP (0:1): Checking IPsec proposal 5
*ISAKMP: transform 1, ESP_AES
*ISAKMP: attributes in transform:
*ISAKMP: authenticator is HMAC-MD5
*ISAKMP: encaps is 1
*ISAKMP: key length is 256
*ISAKMP: SA life type in seconds
*ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= ESP, transform= esp-aes 256 esp-md5-hmac ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
{esp-aes 256 esp-md5-hmac }
*ISAKMP (0:1): IPsec policy invalidated proposal
*ISAKMP (0:1): Checking IPsec proposal 6
*ISAKMP: transform 1, ESP_AES
*ISAKMP: attributes in transform:
*ISAKMP: authenticator is HMAC-SHA
*ISAKMP: encaps is 1
*ISAKMP: key length is 256
*ISAKMP: SA life type in seconds
*ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
(key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
protocol= ESP, transform= esp-aes 256 esp-sha-hmac ,
lifedur= 0s and 0kb,
spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
{esp-aes 256 esp-sha-hmac }
*ISAKMP (0:1): IPsec policy invalidated proposal
*ISAKMP (0:1): Checking IPsec proposal 7
*ISAKMP: transform 1, ESP_AES
*ISAKMP: attributes in transform:
*ISAKMP: authenticator is HMAC-MD5
*ISAKMP: encaps is 1
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*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
  remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
  protocol= ESP, transform= esp-aes esp-md5-hmac ,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
  {esp-aes esp-md5-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 8
*ISAKMP: transform 1, ESP_AES
*ISAKMP:  attributes in transform:
*ISAKMP:      authenticator is HMAC-SHA
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 10.1.1.1/255.255.255.255/0/0 (type=1),
  remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
  protocol= ESP, transform= esp-aes esp-sha-hmac ,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
  {esp-aes esp-sha-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 9
*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
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 9
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:  attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*IPSEC(spi_response): getting spi 3233689542 for SA
  from 10.1.1.1 to 10.0.0.1 for prot 3
*ISAKMP: received ke message (2/1)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)
*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) QM_IDLE
*ISAKMP (0:1): Node 2058744231, Input = IKE_MSG_FROM_IPSEC, IKE_SPI_REPLY
*ISAKMP (0:1): Old State = IKE_QM_SPI_STARVE New State = IKE_QM_R_QM2
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
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*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*CryptoEngine0: ipsec allocate flow
*CryptoEngine0: ipsec allocate flow
*CryptoEngine0: CRYPTO_ISA_IPSEC_KEY_CREATE(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IPSEC_KEY_CREATE(hw)(ipsec)
*ISAKMP: Locking peer struct 0x83166B20, IPSEC refcount 1 for for stuff_ke
  !--- A matching IPsec policy has been negotiated and authenticated. !--- Next, the SA's are set
up. *ISAKMP (0:1): Creating IPsec SAs
*
  inbound SA from 10.0.0.1 to 10.1.1.1 (f/i) 0/ 0
  (proxy 10.16.20.1 to 10.1.1.1)
*
  has spi 0xC0BE2FC6 and conn_id 420 and flags 2
*
  lifetime of 2147483 seconds
*
  has client flags 0x0
*
  outbound SA from 10.1.1.1 to 10.0.0.1 (f/i) 0/ 0
  (proxy 10.1.1.1 to 10.16.20.1 )
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*ISAKMP: set new node 1101355775 to QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*ISAKMP (0:1): processing HASH payload. message ID = 1101355775
*ISAKMP (0:1): processing SA payload. message ID = 1101355775
*ISAKMP (0:1): Checking IPsec proposal 1
*ISAKMP: transform 1, ESP_AES
*ISAKMP: attributes in transform:
*ISAKMP: authenticator is HMAC-MD5
*ISAKMP: encaps is 1
*ISAKMP: key length is 256
*ISAKMP: SA life type in seconds
*ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPsec proposal 1
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP: attributes in transform:
*ISAKMP: encaps is 1
*ISAKMP: SA life type in seconds
*ISAKMP: SA life duration (VPI) of 0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
  remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
  protocol= ESP, transform= esp-aes 256 esp-md5-hmac ,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
  remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
  protocol= PCP, transform= comp-lzs ,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
  {esp-aes 256 esp-md5-hmac comp-lzs }
*ISAKMP (0:1): IPsec policy invalidated proposal
*ISAKMP (0:1): Checking IPsec proposal 2
*ISAKMP: transform 1, ESP_AES
*ISAKMP: attributes in transform:
*ISAKMP: authenticator is HMAC-SHA

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*ISAKMP:      encaps is 1
*ISAKMP:      key length is 256
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPsec proposal 2
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:      attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
  remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
  protocol= ESP, transform= esp-aes 256 esp-sha-hmac ,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
  remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
  protocol= PCP, transform= comp-lzs ,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
  {esp-aes 256 esp-sha-hmac comp-lzs }
*ISAKMP (0:1): IPsec policy invalidated proposal
*ISAKMP (0:1): Checking IPsec proposal 3
*ISAKMP: transform 1, ESP_AES
*ISAKMP:      attributes in transform:
*ISAKMP:      authenticator is HMAC-MD5
*ISAKMP:      encaps is 1
*ISAKMP:      key length is 128
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPsec proposal 3
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:      attributes in transform:
*ISAKMP:      encaps is 1
*ISAKMP:      SA life type in seconds
*ISAKMP:      SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
  remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
  protocol= ESP, transform= esp-aes esp-md5-hmac ,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
  (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
  local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
  remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
  protocol= PCP, transform= comp-lzs ,
  lifedur= 0s and 0kb,
  spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
```

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*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-md5-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 4
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:     authenticator is HMAC-SHA
*ISAKMP:     encaps is 1
*ISAKMP:     key length is 128
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*ISAKMP (0:1): Checking IPSec proposal 4
*ISAKMP (0:1): transform 1, IPPCP LZS
*ISAKMP:   attributes in transform:
*ISAKMP:     encaps is 1
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
    (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*IPSEC(validate_proposal_request): proposal part #2,
    (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= PCP, transform= comp-lzs ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 0, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-sha-hmac comp-lzs }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 5
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:     authenticator is HMAC-MD5
*ISAKMP:     encaps is 1
*ISAKMP:     key length is 256
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
    (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
```



```

    {esp-aes 256 esp-md5-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 6
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:     authenticator is HMAC-SHA
*ISAKMP:     encaps is 1
*ISAKMP:     key length is 256
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
    (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes 256 esp-sha-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 256, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes 256 esp-sha-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 7
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:     authenticator is HMAC-MD5
*ISAKMP:     encaps is 1
*ISAKMP:     key length is 128
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(validate_proposal_request): proposal part #1,
    (key eng. msg.) INBOUND local= 10.1.1.1, remote= 10.0.0.1,
    local_proxy= 172.18.124.0/255.255.255.0/0/0 (type=4),
    remote_proxy= 10.16.20.1/255.255.255.255/0/0 (type=1),
    protocol= ESP, transform= esp-aes esp-md5-hmac ,
    lifedur= 0s and 0kb,
    spi= 0x0(0), conn_id= 0, keysize= 128, flags= 0x2
*CryptoEngine0: validate proposal request
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(kei_proxy): head = clientmap, map->ivrf = , kei->ivrf =
*IPSEC(validate_transform_proposal): transform proposal not supported for identity:
    {esp-aes esp-md5-hmac }
*ISAKMP (0:1): IPSec policy invalidated proposal
*ISAKMP (0:1): Checking IPSec proposal 8
*ISAKMP: transform 1, ESP_AES
*ISAKMP:   attributes in transform:
*ISAKMP:     authenticator is HMAC-SHA
*ISAKMP:     encaps is 1
*ISAKMP:     key length is 128
*ISAKMP:     SA life type in seconds
*ISAKMP:     SA life duration (VPI) of  0x0 0x20 0xC4 0x9B
*CryptoEngine0: validate proposal
*ISAKMP (0:1): atts are acceptable.
*IPSEC(spi_response): getting spi 3438126624 for SA
    from 10.1.1.1 to 10.0.0.1 for prot 3
*ISAKMP: received ke message (2/1)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IKE_ENCRYPT(hw)(ipsec)

```

```

*ISAKMP (0:1): sending packet to 10.0.0.1 my_port 500 peer_port 500 (R) QM_IDLE
*ISAKMP (0:1): Node 1101355775, Input = IKE_MSG_FROM_IPSEC, IKE_SPI_REPLY
*ISAKMP (0:1): Old State = IKE_QM_SPI_STARVE New State = IKE_QM_R_QM2
*ISAKMP (0:1): received packet from 10.0.0.1 dport 500 sport 500 Global (R) QM_IDLE
*CryptoEngine0: CRYPTO_ISA_IKE_DECRYPT(hw)(ipsec)
*CryptoEngine0: generate hmac context for conn id 1
*CryptoEngine0: CRYPTO_ISA_IKE_HMAC(hw)(ipsec)
*CryptoEngine0: ipsec allocate flow
*CryptoEngine0: ipsec allocate flow
*CryptoEngine0: CRYPTO_ISA_IPSEC_KEY_CREATE(hw)(ipsec)
*CryptoEngine0: CRYPTO_ISA_IPSEC_KEY_CREATE(hw)(ipsec)
*ISAKMP: Locking peer struct 0x83166B20, IPSEC refcount 2 for for stuff_ke
*ISAKMP (0:1): Creating IPSec SAs
*
  inbound SA from 10.0.0.1 to 10.1.1.1 (f/i)  0/ 0
(proxy 10.16.20.1 to 172.18.124.0)
*
  has spi 0xCCEDA620 and conn_id 422 and flags 2
*
  lifetime of 2147483 seconds
*
  has client flags 0x0
*
  outbound SA from 10.1.1.1 to 10.0.0.1      (f/i)  0/ 0
(proxy 172.18.124.0          to 10.16.20.1    )

```

## Clientvastlegging

Start het LogViewer op de VPN-client om de logbestanden te bekijken. Zorg dat het filter voor alle geconfigureerde klassen op Hoog is ingesteld. Dit is een voorbeeldloguitvoer:

```

1      16:52:27.031 06/18/03 Sev=Info/6      DIALER/0x63300002
Initiating connection.

2      16:52:27.041 06/18/03 Sev=Info/4      CM/0x63100002
Begin connection process

3      16:52:27.051 06/18/03 Sev=Info/4      CM/0x63100004
Establish secure connection using Ethernet

4      16:52:27.051 06/18/03 Sev=Info/4      CM/0x63100024
Attempt connection with server "10.1.1.1"

5      16:52:27.101 06/18/03 Sev=Info/6      IKE/0x6300003B
Attempting to establish a connection with 10.1.1.1.

6      16:52:27.481 06/18/03 Sev=Info/4      IKE/0x63000013
SENDING >>> ISAKMP OAK AG (SA, KE, NON, ID, VID, VID, VID, VID, VID)
to 10.1.1.1

7      16:52:27.612 06/18/03 Sev=Info/4      IPSEC/0x63700014
Deleted all keys

8      16:52:27.722 06/18/03 Sev=Info/5      IKE/0x6300002F
Received ISAKMP packet: peer = 10.1.1.1

9      16:52:27.722 06/18/03 Sev=Info/4      IKE/0x63000014
RECEIVING <<< ISAKMP OAK AG (SA, VID, VID, VID, VID, VID, KE, ID, NON, HASH, NAT-D, NAT-D)
from 10.1.1.1

10     16:52:27.722 06/18/03 Sev=Info/5      IKE/0x63000059
Vendor ID payload = 12F5F28C457168A9702D9FE274CC0100

11     16:52:27.722 06/18/03 Sev=Info/5      IKE/0x63000001
Peer is a Cisco-Unity compliant peer

12     16:52:27.722 06/18/03 Sev=Info/5      IKE/0x63000059

```

Vendor ID payload = AFCAD71368A1F1C96B8696FC77570100

13 16:52:27.722 06/18/03 Sev=Info/5 IKE/0x63000001  
Peer supports DPD

14 16:52:27.722 06/18/03 Sev=Info/5 IKE/0x63000059  
Vendor ID payload = 4F6CF9393C7749D894C6C92D2131AE04

15 16:52:27.722 06/18/03 Sev=Info/5 IKE/0x63000059  
Vendor ID payload = 09002689DFD6B712

16 16:52:27.722 06/18/03 Sev=Info/5 IKE/0x63000001  
Peer supports XAUTH

17 16:52:27.722 06/18/03 Sev=Info/5 IKE/0x63000059  
Vendor ID payload = 90CB80913EBB696E086381B5EC427B1F

18 16:52:27.722 06/18/03 Sev=Info/5 IKE/0x63000001  
Peer supports NAT-T

19 16:52:27.782 06/18/03 Sev=Info/4 IKE/0x63000013  
SENDING >>> ISAKMP OAK AG \*(HASH, NOTIFY:STATUS\_INITIAL\_CONTACT, NAT-D, NAT-D)  
to 10.1.1.1

20 16:52:27.822 06/18/03 Sev=Info/5 IKE/0x6300002F  
Received ISAKMP packet: peer = 10.1.1.1

21 16:52:27.822 06/18/03 Sev=Info/4 IKE/0x63000014  
RECEIVING <<< ISAKMP OAK INFO \*(HASH, NOTIFY:STATUS\_RESP\_LIFETIME)  
from 10.1.1.1

22 16:52:27.822 06/18/03 Sev=Info/5 IKE/0x63000044  
RESPONDER-LIFETIME notify has value of 86400 seconds

23 16:52:27.822 06/18/03 Sev=Info/5 IKE/0x63000046  
This SA has already been alive for 0 seconds, setting expiry to 86400 seconds from now

24 16:52:27.842 06/18/03 Sev=Info/5 IKE/0x6300002F  
Received ISAKMP packet: peer = 10.1.1.1

25 16:52:27.842 06/18/03 Sev=Info/4 IKE/0x63000014  
RECEIVING <<< ISAKMP OAK TRANS \*(HASH, ATTR) from 10.1.1.1

26 16:52:27.842 06/18/03 Sev=Info/4 CM/0x63100015  
Launch xAuth application

27 16:52:32.449 06/18/03 Sev=Info/5 IKE/0x6300002F  
Received ISAKMP packet: peer = 10.1.1.1

28 16:52:32.449 06/18/03 Sev=Info/4 IKE/0x63000014  
RECEIVING <<< ISAKMP OAK TRANS \*(Retransmission) from 10.1.1.1

29 16:52:32.809 06/18/03 Sev=Info/4 CM/0x63100017  
xAuth application returned

30 16:52:32.809 06/18/03 Sev=Info/4 IKE/0x63000013  
SENDING >>> ISAKMP OAK TRANS \*(HASH, ATTR) to 10.1.1.1

31 16:52:37.626 06/18/03 Sev=Info/5 IKE/0x6300002F  
Received ISAKMP packet: peer = 10.1.1.1

32 16:52:37.636 06/18/03 Sev=Info/4 IKE/0x63000014  
RECEIVING <<< ISAKMP OAK TRANS \*(HASH, ATTR) from 10.1.1.1

33 16:52:37.636 06/18/03 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

34 16:52:37.636 06/18/03 Sev=Info/4 CM/0x6310000E  
Established Phase 1 SA. 1 Phase 1 SA in the system

35 16:52:37.656 06/18/03 Sev=Info/4 IKE/0x63000013  
SENDING >>> ISAKMP OAK TRANS \*(HASH, ATTR) to 10.1.1.1

36 16:52:37.987 06/18/03 Sev=Info/5 IKE/0x6300005D  
Client sending a firewall request to concentrator

37 16:52:37.987 06/18/03 Sev=Info/5 IKE/0x6300005C  
Firewall Policy: Product=Cisco Integrated Client, Capability=  
(Centralized Protection Policy).

38 16:52:38.007 06/18/03 Sev=Info/4 IKE/0x63000013  
SENDING >>> ISAKMP OAK TRANS \*(HASH, ATTR) to 10.1.1.1

39 16:52:38.087 06/18/03 Sev=Info/5 IKE/0x6300002F  
Received ISAKMP packet: peer = 10.1.1.1

40 16:52:38.087 06/18/03 Sev=Info/4 IKE/0x63000014  
RECEIVING <<< ISAKMP OAK TRANS \*(HASH, ATTR) from 10.1.1.1

41 16:52:38.097 06/18/03 Sev=Info/5 IKE/0x63000010  
MODE\_CFG\_REPLY: Attribute = INTERNAL\_IPV4\_ADDRESS: , value = 10.16.20.1

42 16:52:38.097 06/18/03 Sev=Info/5 IKE/0x63000010  
MODE\_CFG\_REPLY: Attribute = INTERNAL\_IPV4\_DNS(1): , value = 10.1.1.10

43 16:52:38.097 06/18/03 Sev=Info/5 IKE/0x63000010  
MODE\_CFG\_REPLY: Attribute = INTERNAL\_IPV4\_NBNS(1) (a.k.a. WINS) : , value = 10.1.1.20

44 16:52:38.097 06/18/03 Sev=Info/5 IKE/0xA3000017  
MODE\_CFG\_REPLY: The received (INTERNAL\_ADDRESS\_EXPIRY) attribute and value (86388)  
is not supported

45 16:52:38.097 06/18/03 Sev=Info/5 IKE/0x6300000E  
MODE\_CFG\_REPLY: Attribute = APPLICATION\_VERSION, value = Cisco Internetwork  
Operating System Software IOS (tm) C2600 Software (C2600-IK9S-M), Version 12.2(15)T2,  
RELEASE SOFTWARE (fc2)  
TAC Support: <http://www.cisco.com/tac>  
Copyright (c) 1986-2003 by cisco Systems, Inc.  
Compiled Thu 01-May-03 10:39 by nmasa

46 16:52:38.097 06/18/03 Sev=Info/5 IKE/0x6300000E  
MODE\_CFG\_REPLY: Attribute = MODECFG\_UNITY\_DEFDOMAIN: , value = cisco.com

47 16:52:38.097 06/18/03 Sev=Info/5 IKE/0x6300000D  
MODE\_CFG\_REPLY: Attribute = MODECFG\_UNITY\_SPLIT\_INCLUDE (# of split\_nets),  
value = 0x00000001

48 16:52:38.097 06/18/03 Sev=Info/5 IKE/0x6300000F  
SPLIT\_NET #1  
subnet = 172.18.124.0  
mask = 255.255.255.0  
protocol = 0  
src port = 0  
dest port=0

49 16:52:38.097 06/18/03 Sev=Info/4 CM/0x63100019

Mode Config data received

50 16:52:38.347 06/18/03 Sev=Info/5 IKE/0x63000055  
Received a key request from Driver for IP address 10.1.1.1,  
GW IP = 10.1.1.1

51 16:52:38.347 06/18/03 Sev=Info/4 IKE/0x63000013  
SENDING >>> ISAKMP OAK QM \*(HASH, SA, NON, ID, ID) to 10.1.1.1

52 16:52:38.728 06/18/03 Sev=Info/5 IKE/0x6300002F  
Received ISAKMP packet: peer = 10.1.1.1

53 16:52:38.728 06/18/03 Sev=Info/4 IKE/0x63000014  
RECEIVING <<< ISAKMP OAK QM \*(HASH, SA, NON, ID, ID, NOTIFY:STATUS\_RESP\_LIFETIME)  
from 10.1.1.1

54 16:52:38.738 06/18/03 Sev=Info/5 IKE/0x63000044  
RESPONDER-LIFETIME notify has value of 3600 seconds

55 16:52:38.738 06/18/03 Sev=Info/5 IKE/0x63000045  
RESPONDER-LIFETIME notify has value of 4608000 kb

56 16:52:38.738 06/18/03 Sev=Info/4 IKE/0x63000013  
SENDING >>> ISAKMP OAK QM \*(HASH) to 10.1.1.1

57 16:52:38.738 06/18/03 Sev=Info/5 IKE/0x63000058  
Loading IPsec SA (Message ID = 0x7AB5F1A7 OUTBOUND SPI = 0xC0BE2FC6  
INBOUND SPI = 0x56FFC535)

58 16:52:38.788 06/18/03 Sev=Info/5 IKE/0x63000025  
Loaded OUTBOUND ESP SPI: 0xC0BE2FC6

59 16:52:38.798 06/18/03 Sev=Info/5 IKE/0x63000026  
Loaded INBOUND ESP SPI: 0x56FFC535

60 16:52:38.798 06/18/03 Sev=Info/4 CM/0x6310001A  
One secure connection established

61 16:52:38.828 06/18/03 Sev=Info/6 DIALER/0x63300003  
Connection established.

62 16:52:38.868 06/18/03 Sev=Info/6 CVPND/0x63400011  
Found matching adapter

63 16:52:38.968 06/18/03 Sev=Info/6 CVPND/0x63400011  
Found matching adapter

64 16:52:39.819 06/18/03 Sev=Info/4 CM/0x63100037  
Address watch added for 10.0.0.1. Current address(es): 10.0.0.1.

65 16:52:40.280 06/18/03 Sev=Info/4 IPSEC/0x63700014  
Deleted all keys

66 16:52:40.280 06/18/03 Sev=Info/4 IPSEC/0x63700010  
Created a new key structure

67 16:52:40.290 06/18/03 Sev=Info/4 IPSEC/0x6370000F  
Added key with SPI=0xc62fbec0 into key list

68 16:52:40.290 06/18/03 Sev=Info/4 IPSEC/0x63700010  
Created a new key structure

69 16:52:40.290 06/18/03 Sev=Info/4 IPSEC/0x6370000F  
Added key with SPI=0x35c5ff56 into key list

70 16:52:41.562 06/18/03 Sev=Info/6 DIALER/0x63300008  
MAPI32 Information - Outlook not default mail client

71 16:52:54.230 06/18/03 Sev=Info/5 IKE/0x63000055  
Received a key request from Driver for IP address 1.1.1.2, GW IP = 10.1.1.1

72 16:52:54.250 06/18/03 Sev=Info/4 IKE/0x63000013  
SENDING >>> ISAKMP OAK QM \*(HASH, SA, NON, ID, ID) to 10.1.1.1

73 16:52:54.731 06/18/03 Sev=Info/5 IKE/0x6300002F  
Received ISAKMP packet: peer = 10.1.1.1

74 16:52:54.731 06/18/03 Sev=Info/4 IKE/0x63000014  
RECEIVING <<< ISAKMP OAK QM \*(HASH, SA, NON, ID, ID, NOTIFY:STATUS\_RESP\_LIFETIME)  
from 10.1.1.1

75 16:52:54.741 06/18/03 Sev=Info/5 IKE/0x63000044  
RESPONDER-LIFETIME notify has value of 3600 seconds

76 16:52:54.741 06/18/03 Sev=Info/5 IKE/0x63000045  
RESPONDER-LIFETIME notify has value of 4608000 kb

77 16:52:54.741 06/18/03 Sev=Info/4 IKE/0x63000013  
SENDING >>> ISAKMP OAK QM \*(HASH) to 10.1.1.1

78 16:52:54.741 06/18/03 Sev=Info/5 IKE/0x63000058  
Loading IPsec SA (Message ID = 0x41A55AFF OUTBOUND SPI = 0xCCEDA620  
INBOUND SPI = 0x0C5B3DB2)

79 16:52:54.771 06/18/03 Sev=Info/5 IKE/0x63000025  
Loaded OUTBOUND ESP SPI: 0xCCEDA620

80 16:52:54.781 06/18/03 Sev=Info/5 IKE/0x63000026  
Loaded INBOUND ESP SPI: 0x0C5B3DB2

81 16:52:54.781 06/18/03 Sev=Info/4 CM/0x63100021  
Additional Phase 2 SA established.

82 16:52:55.472 06/18/03 Sev=Info/4 IPSEC/0x63700010  
Created a new key structure

83 16:52:55.472 06/18/03 Sev=Info/4 IPSEC/0x6370000F  
Added key with SPI=0x20a6edcc into key list

84 16:52:55.472 06/18/03 Sev=Info/4 IPSEC/0x63700010  
Created a new key structure

85 16:52:55.472 06/18/03 Sev=Info/4 IPSEC/0x6370000F  
Added key with SPI=0xb23d5b0c into key list

86 16:52:55.472 06/18/03 Sev=Info/4 IPSEC/0x63700019  
Activate outbound key with SPI=0x20a6edcc for inbound key with SPI=0xb23d5b0c

## [Gerelateerde informatie](#)

- [Ondersteuning voor RADIUS-technologie](#)
- [Ondersteuning van IPsec-onderhandeling/IKE-protocollen](#)
- [Cisco VPN-clientondersteuningspagina](#)
- [Verzoek om opmerkingen \(RFC's\)](#)
- [Technische ondersteuning en documentatie – Cisco Systems](#)