Meervoudige VPN-clients configureren naar een Cisco VPN-Concentrator 3000 met NAT-traversal

Inhoud

Inleiding

Dit document toont hoe u een netwerkadresomzetting (NAT-T) tussen Cisco VPN-clients die zich achter een poortadresomzetting (PAT)/NAT-apparaat en een externe Cisco VPN-concentratie bevinden, kunt configureren. NAT-T kan worden gebruikt tussen VPN-clients en een VPN-concentratie, of tussen concentrators achter een NAT/PAT-apparaat. NAT-T kan ook worden gebruikt bij de aansluiting op een Cisco-router die Cisco IOS-software en PIX-firewall gebruikt; deze configuraties worden echter niet in dit document besproken .

Voorwaarden

Vereisten

Er zijn geen specifieke vereisten van toepassing op dit document.

Gebruikte componenten

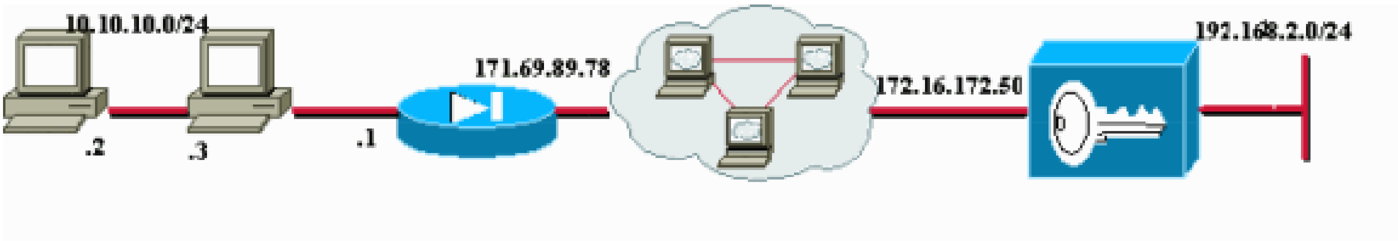
De informatie in dit document is gebaseerd op de volgende software- en hardware-versies:

- Cisco VPN 3000 Concentrator 4.0(1)B
- Cisco VPN-clients: 3.6.1 en 4.0(3) Rel
- Cisco PIX Firewall (PAT-apparaat) versie 6.3(3)

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.

Netwerkdiagram

Het netwerk in dit document is als volgt opgebouwd:



Er zijn VPN-clients op de twee pc’s (10.10.10.2 en 10.10.10.3) achter de PIX-firewall. De PIX in dit scenario wordt eenvoudigweg gebruikt als PAT-apparaat en voert PAT op deze adressen naar 171.69.89.78 uit. Elk apparaat dat meerdere interne verbindingen kan PAT kunnen PAT gebruiken kan hier worden gebruikt. Het openbare adres van VPN 3000 Concentrator is 172.16.172.50. Het volgende voorbeeld toont aan hoe de klanten en de concentrator te configureren zodat NAT-T tijdens de IKE-onderhandeling wordt gebruikt.

Conventies

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

Achtergrondinformatie

Nadat de NAT-T onderhandeling is voltooid, kan de initiatiefnemer elke willekeurige User Datagram Protocol (UDP) poort (Y) gebruiken. De doelpoort moet UDP 4500 zijn, zoals in UDP (Y, 4500) en de responder gebruikt UDP (4500, Y). Alle latere onderhandelingen over internet Key Exchange (IKE) en het opnieuw opstarten van dergelijke transacties vinden in deze havens plaats. Tijdens NAT-T onderhandelingen, onderhandelen zowel de IPSec-peers over de UDP-poorten en bepalen zij ook of ze achter een NAT/PAT-apparaat staan. De IPSec peer achter het NAT/PAT apparaat verstuurt het IPsec-over-UDP NAT Keeplevingspakket naar de IPSec peer die niet achter een NAT/PAT apparaat zit. NAT-T kapselt IPSec-verkeer in UDP-datagrammen in, die poort 4500 gebruiken, waarbij NAT-apparaten poortinformatie krijgen. NAT-T automatisch detecteert NAT-apparaten en kapselt alleen IPSec-verkeer in wanneer dit nodig is.

Wanneer het implementeren van IPSec over NAT-vertaling op de VPN 3000 Concentrator, neemt IPSec over TCP eerst voorrang, dan NAT-T, en dan IPSec over UDP. Standaard wordt NAT-T uitgeschakeld. U moet NAT-T mogelijk maken door gebruik te maken van een selectieteken die zich in NAT-transparantie bevinden, onder de IPSec-configuratie die zich onder Tunneling-protocollen bevindt. Ook moet u voor een LAN-to-LAN tunnel NAT-T inschakelen onder het veld LAN-to-LAN configuraties IPSec NAT-T.

U moet de volgende stappen uitvoeren om NAT-T te gebruiken:

1. Open poort 4500 op elke firewall die u hebt ingesteld voor een VPN-centrator.
2. Herstel vorige IPSec/UDP configuraties met behulp van poort 4500 naar een andere poort.
3. Kies **Configuration > Interfaces > Ethernet** en kies de tweede of derde opties voor de Fragmentation Policy parameter.Deze opties staan verkeer over NAT-apparaten toe die IP-fragmentatie niet ondersteunen; zij belemmeren de werking van NAT-apparaten die IP-fragmentatie ondersteunen niet.

PIX configureren

De relevante configuratie-uitvoer voor de PIX wordt hier weergegeven:

PIX-firewall

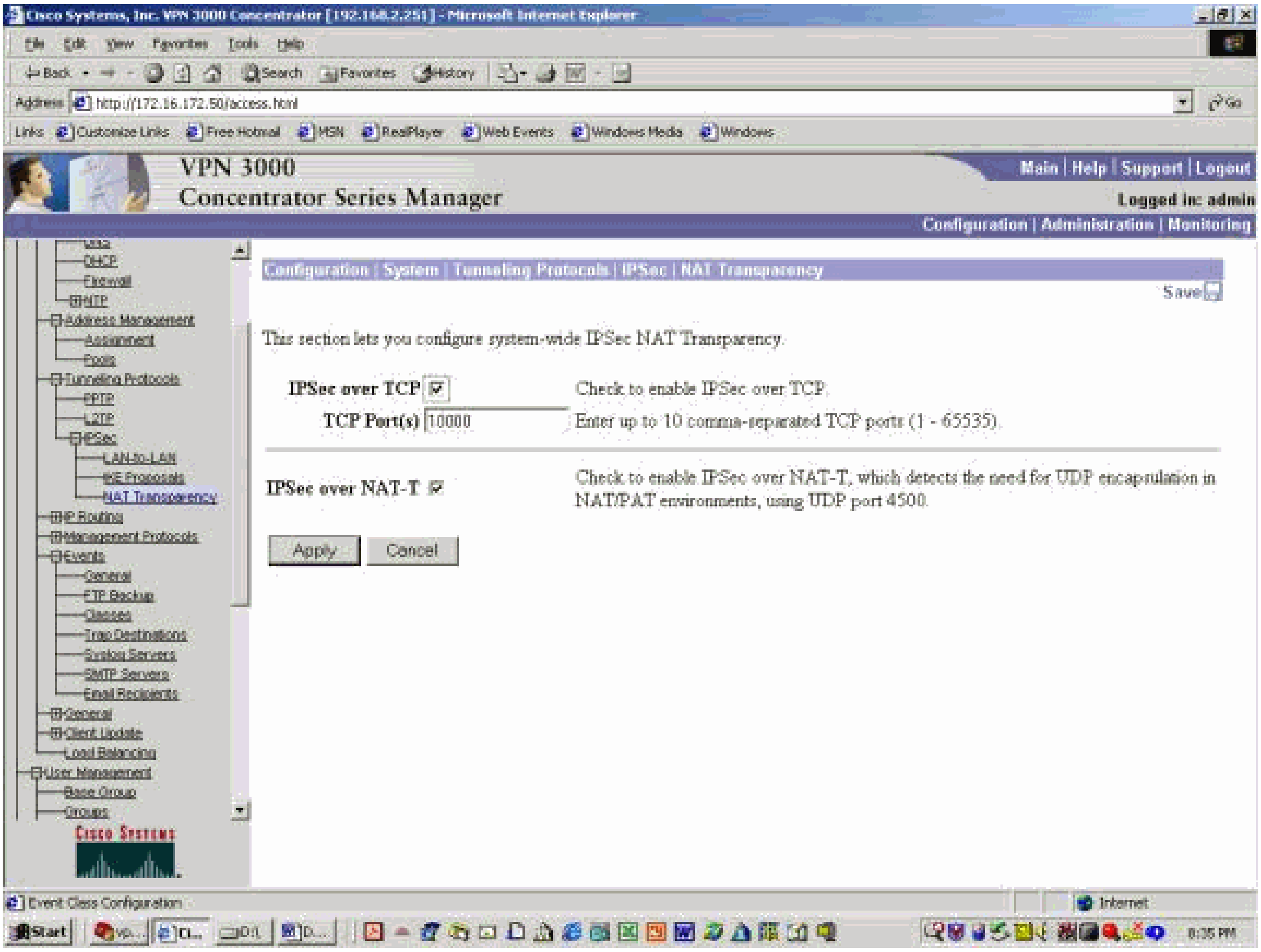
```
pix501(config)#
: Saved
:
PIX Version 6.3(3)
nameif ethernet0 outside security0
nameif ethernet1 inside security100
ip address outside 171.69.89.78 255.255.254.0
ip address inside 10.10.10.1 255.255.255.0
...
global (outside) 1 interface
nat (inside) 1 0.0.0.0 0.0.0.0 0 0
...
route outside 0.0.0.0 0.0.0.0 171.69.88.1 1
http server enable
http 10.10.10.2 255.255.255.255 inside
...
Cryptochecksum:6990adf6e0e2800ed409ae7364eecc9d
: end

[OK]
```

De VPN 3000-concentratie configureren

Deze voorbeeldconfiguratie gaat ervan uit dat de VPN 3000 Concentrator al is geconfigureerd voor IP-connectiviteit en dat de standaard (niet-NAT-T) VPN-verbindingen al zijn gerealiseerd.

Om NAT-T op een VPN 3000 Concentrator-release eerder dan versie 4.1 in te schakelen, kiest u **Configuraties > System > Tunneling-protocollen > IPSec > NAT-transparantie** en controleert u vervolgens de **IPSec-over-NAT** optie op de concentrator zoals in het onderstaande voorbeeld wordt getoond. De NAT-T optie is standaard uitgeschakeld.

Om NAT-T op een VPN-Concentrator versie 4.1 en hoger in te schakelen, navigeer dan naar hetzelfde NAT-venster door **Configuration > Tunneling en Security > IPSec > NAT Transparency** te kiezen.



Cisco Systems, Inc. VPN 3000 Concentrator [192.168.2.251] - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites History
Address http://172.16.172.50/access.html
Links Customize Links Free Hotmail MSN RealPlayer Web Events Windows Media Windows
VPN 3000
Concentrator Series Manager
Main | Help | Support | Logout
Logged in: admin
Configuration | Administration | Monitoring
DHCP
Firewall
NTP
Address Management
Assignment
Pools
Tunneling Protocols
PPTP
L2TP
IPSec
LAN-to-LAN
IKE Proposals
NAT Transparency
IP Routing
Management Protocols
Events
General
FTP Backup
Classes
Trap Destinations
Syslog Servers
SMTP Servers
Email Recipients
General
Client Update
Load Balancing
User Management
Base Group
Groups
Cisco Systems
Save
Event Class Configuration
Internet
Start
8:35 PM

Configuration | System | Tunneling Protocols | IPSec | NAT Transparency

This section lets you configure system-wide IPSec NAT Transparency.

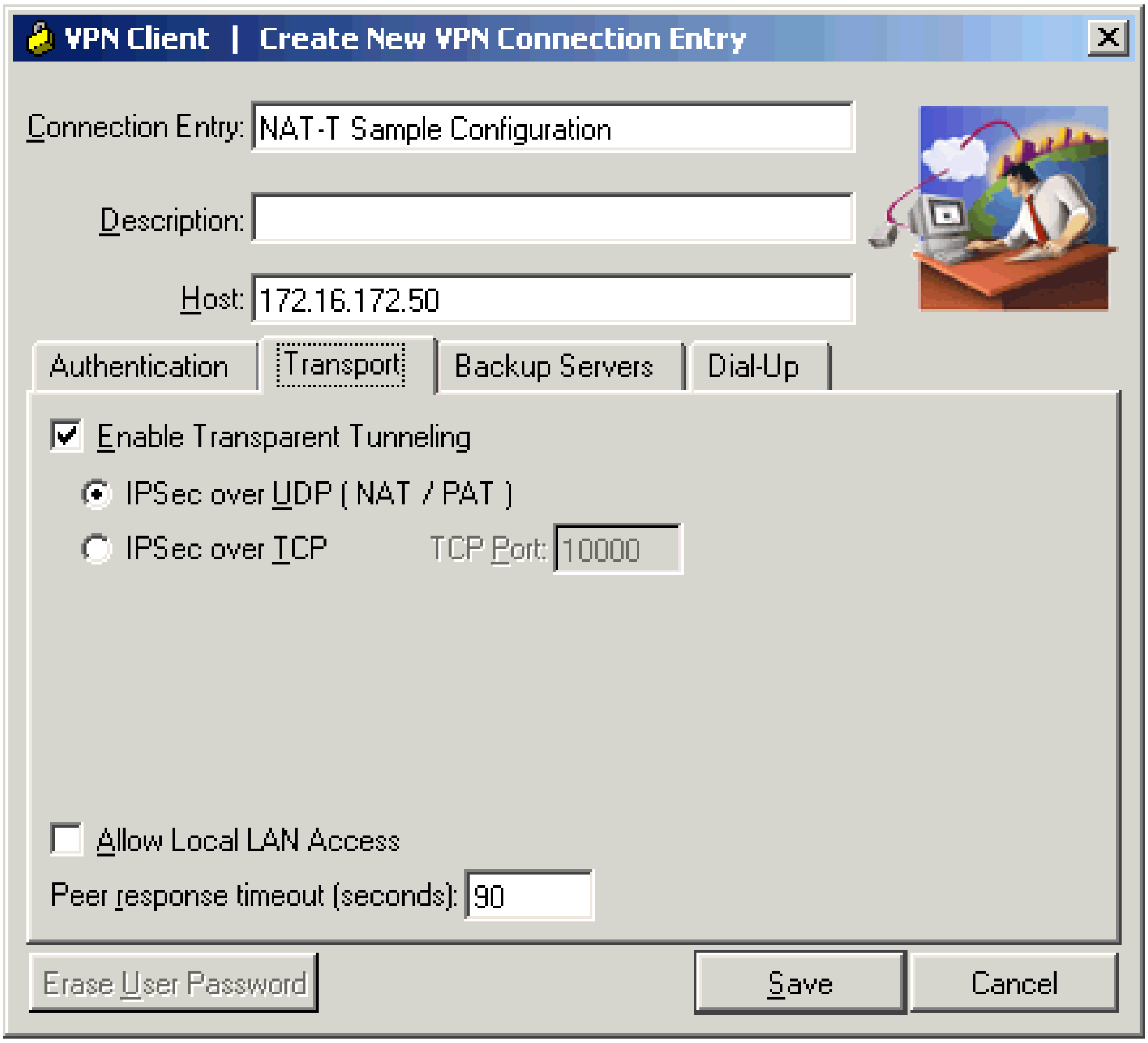
IPSec over TCP ☑	Check to enable IPSec over TCP.
TCP Port(s) 10000	Enter up to 10 comma-separated TCP ports (1 - 65535).
IPSec over NAT-T ☑	Check to enable IPSec over NAT-T, which detects the need for UDP encapsulation in NAT/PAT environments, using UDP port 4500.

Apply Cancel

VPN-client configureren

Als u NAT-T wilt gebruiken, controleert u **Transparante tunneling inschakelen**. Het volgende voorbeeld toont dit aan op een VPN-client later dan versie 4.0.

Opmerking: Dezelfde configuratie optie is beschikbaar voor VPN-clientversie 3.x.



Connection Entry: NAT-T Sample Configuration

Description:

Host: 172.16.172.50

☑ Enable Transparent Tunneling

● IPSec over UDP (NAT / PAT)

○ IPSec over TCP   TCP Port: 10000

□ Allow Local LAN Access

Peer response timeout (seconds): 90

Verifiëren

Deze sectie verschaft informatie die u kunt gebruiken om te bevestigen dat uw configuratie correct werkt.

Bepaalde opdrachten met **show worden ondersteund door de tool** Output Interpreter (alleen voor geregistreerde klanten). Hiermee kunt u een analyse van de output van opdrachten met **show genereren.**

Aanvullende informatie over probleemoplossing kan worden gevonden bij IP-beveiligingsprobleemoplossing - Opdrachten begrijpen en gebruiken van debug.

Controleer de PIX-configuratie

Deze opdrachten worden gebruikt om de PIX-configuratie te controleren:

- **laat zien** —Zoals in de onderstaande uitvoer wordt aangegeven, gebruikt PIX verschillende bronpoorten voor de twee VPN-clients, maar de doelpoorten zijn hetzelfde. Alle IPSec gegevenspakketten worden verpakt van UDP haven 4500. De daaropvolgende wederkerende onderhandelingen gebruiken ook dezelfde bron- en doelpoorten.

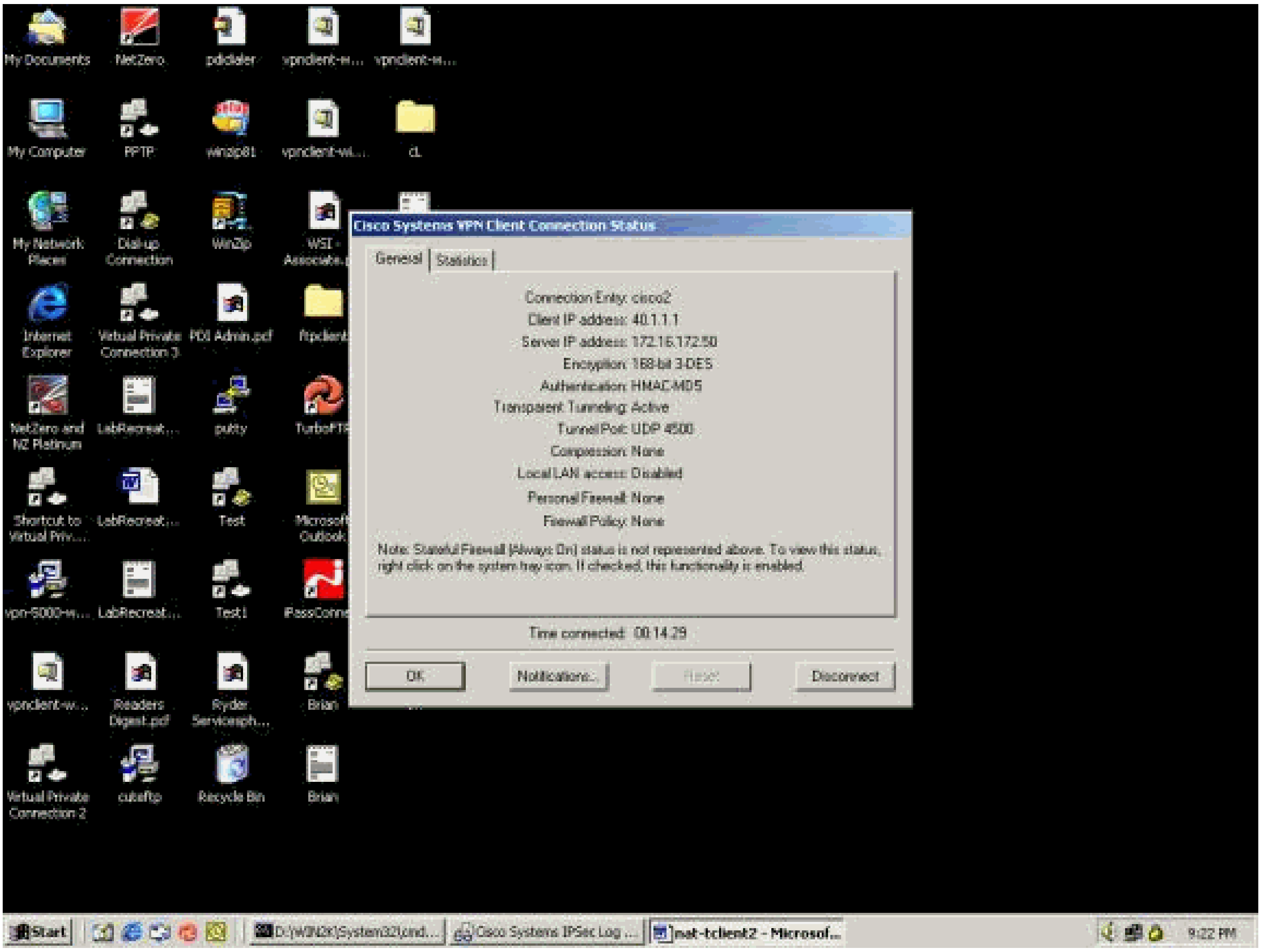
```
pix501(config)# show xlate
3 in use, 4 most used
PAT Global 171.69.89.78(1025) Local 10.10.10.3(4500)
PAT Global 171.69.89.78(1026) Local 10.10.10.2(4500)
PAT Global 171.69.89.78(4) Local 10.10.10.2(500)
```

- **toon arp**-gebruik deze opdracht om de tabel Adres Resolutie Protocol (ARP) weer te geven en om te bepalen of ARP-verzoeken worden verwerkt.

```
pix501(config)# show arp
        outside 171.69.88.3 00d0.0132.e40a
        outside 171.69.88.2 00d0.0133.3c0a
        outside 171.69.88.1 0000.0c07.ac7b
        inside 10.10.10.3 0050.dabb.f093
        inside 10.10.10.2 0001.0267.55cc
pix501(config)#
```

VPN-clientstatistieken

Zodra de VPN-tunnel is ingericht, klikt u met de rechtermuisknop op het gele slot en kiest u **Status**. Hieronder verschijnt een soortgelijk venster. Merk op dat de tunnelpoort UDP 4500 is, wat bewijst dat je NAT-T gebruikt.



Connection Entry: cisco2
Client IP address: 40.1.1.1
Server IP address: 172.16.172.50
Encryption: 168-bit 3-DES
Authentication: HMAC-MD5
Transparent Tunneling: Active
Tunnel Port: UDP 4500
Compression: None
Local LAN access: Disabled
Personal Firewall: None
Firewall Policy: None

Note: Stateful Firewall (Always On) status is not represented above. To view this status, right click on the system tray icon. If checked, this functionality is enabled.

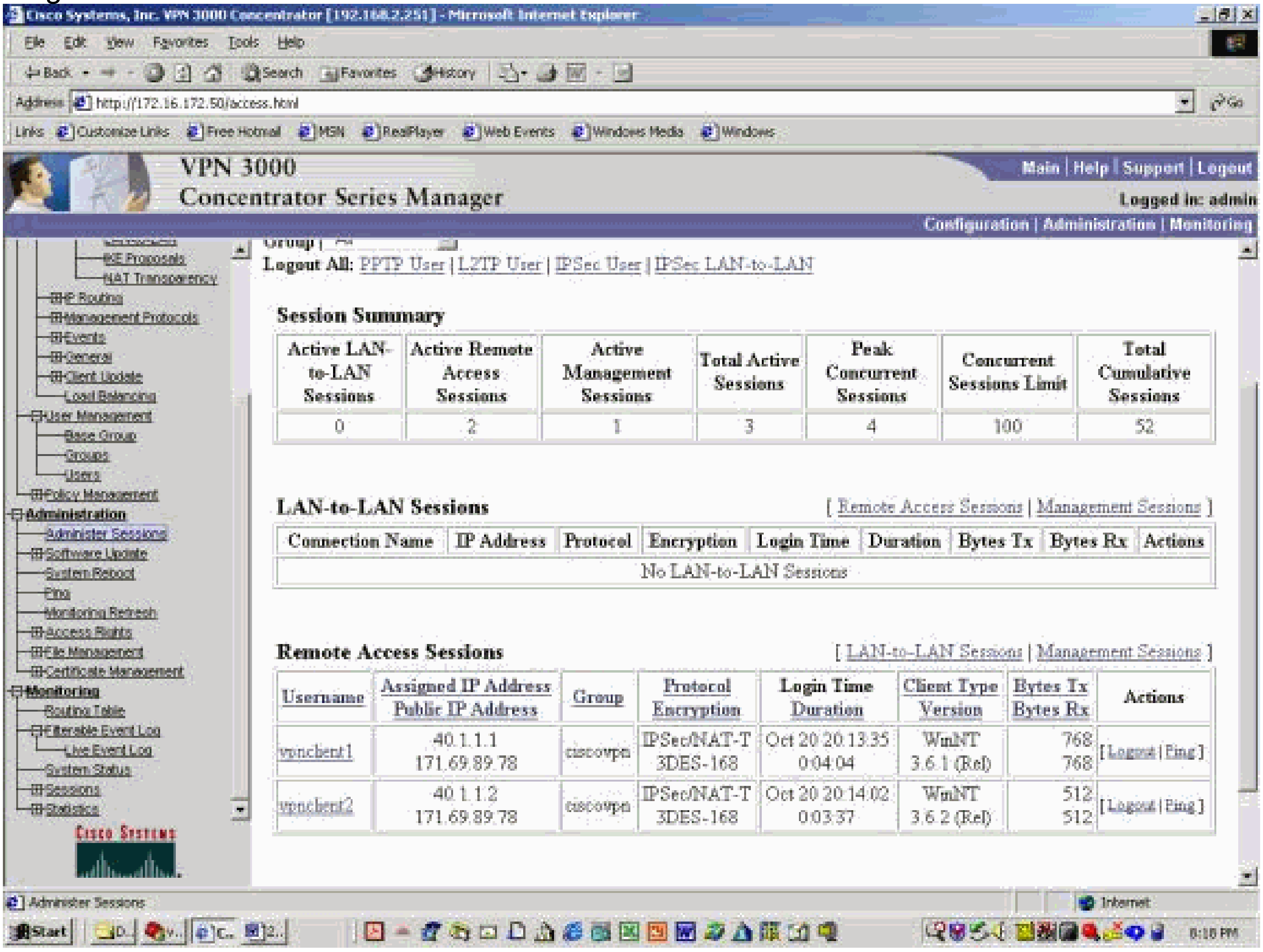
Time connected: 00:14:29

Statistieken van VPN-Concentrator

Voer de volgende stappen uit:

1. Selecteer in VPN Concentrator de optie **Administratie > Administrator-sessie**.De VPN-clientsessie kan worden gezien onder sessies van externe toegang. Het onderstaande voorbeeld toont de sessies van de twee klanten nadat zij een IPSec-tunnel aan de VPN

Concentrator hebben opgezet. Ze gebruiken allebei het openbare IP-adres 171.69.89.78 en kregen respectievelijk 40.1.1.1 en 40.1.1.2 toegewezen.



Cisco Systems, Inc. VPN 3000 Concentrator [192.168.2.251] - Microsoft Internet Explorer
http://172.16.172.50/access.html
VPN 3000
Concentrator Series Manager
Main | Help | Support | Logout
Logged in: admin
Configuration | Administration | Monitoring
Administer Sessions

Logout All: PPTP User | L2TP User | IPSec User | IPSec LAN-to-LAN

Session Summary

Active LAN-to-LAN Sessions	Active Remote Access Sessions	Active Management Sessions	Total Active Sessions	Peak Concurrent Sessions	Concurrent Sessions Limit	Total Cumulative Sessions
0	2	1	3	4	100	52

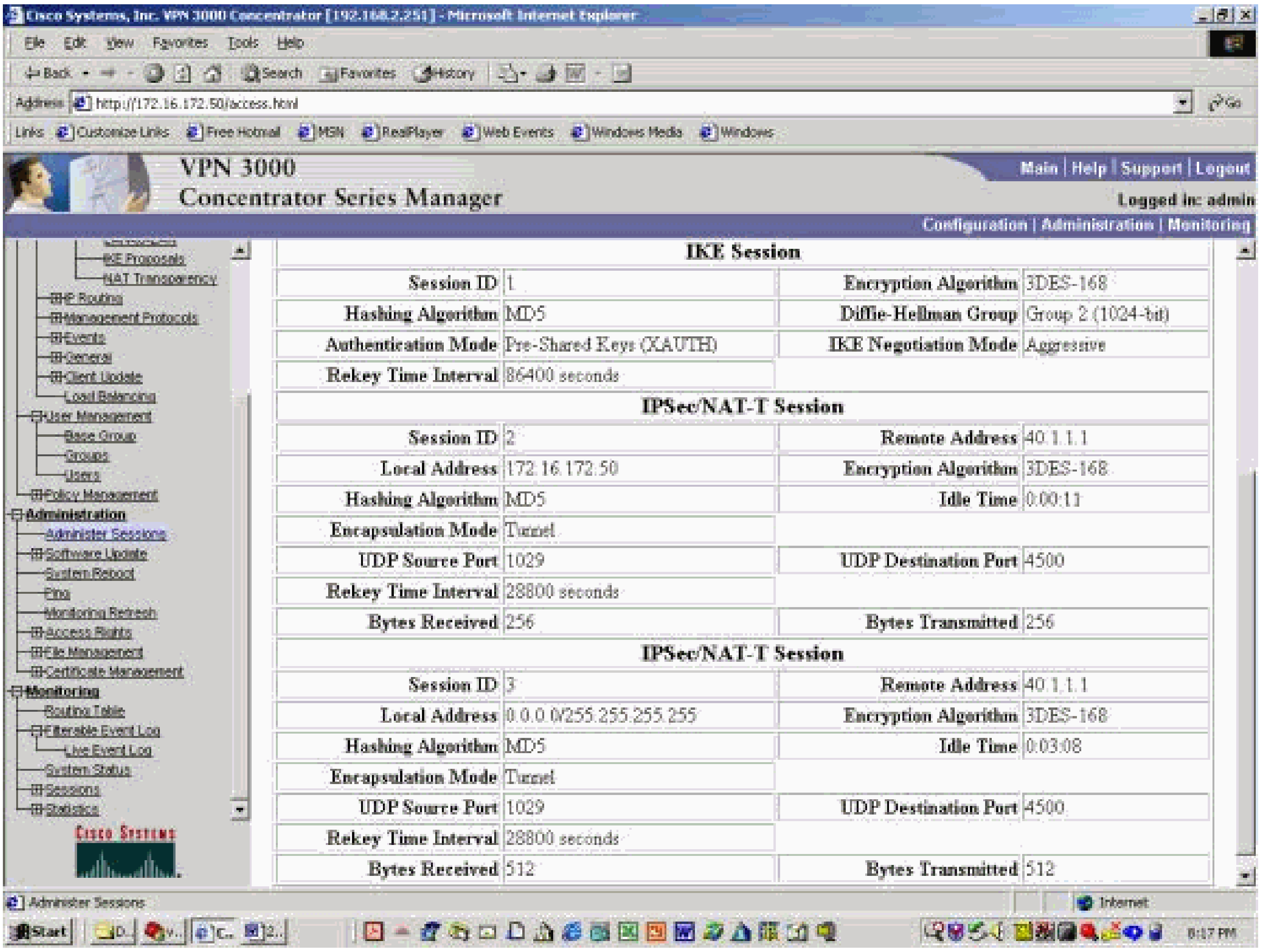
LAN-to-LAN Sessions [Remote Access Sessions | Management Sessions]

Connection Name	IP Address	Protocol	Encryption	Login Time	Duration	Bytes Tx	Bytes Rx	Actions
No LAN-to-LAN Sessions								

Remote Access Sessions [LAN-to-LAN Sessions | Management Sessions]

Username	Assigned IP Address Public IP Address	Group	Protocol Encryption	Login Time Duration	Client Type Version	Bytes Tx Bytes Rx	Actions
vpnclient1	40.1.1.1 171.69.89.78	ciscovpn	IPSec/NAT-T 3DES-168	Oct 20 20:13:35 0:04:04	WinNT 3.6.1 (Rel)	768 768	[Logout | Ping]
vpnclient2	40.1.1.2 171.69.89.78	ciscovpn	IPSec/NAT-T 3DES-168	Oct 20 20:14:02 0:03:37	WinNT 3.6.2 (Rel)	512 512	[Logout | Ping]

2. Dubbelklik op een clientnaam.De statistieken van IPSec/IKE worden getoond, zoals in het voorbeeld hieronder getoond. De UDP bronpoort die door de client gebruikt wordt, is 1029 en de bestemming poort is 4500.



IKE Session			
Session ID	1	Encryption Algorithm	3DES-168
Hashing Algorithm	MD5	Diffie-Hellman Group	Group 2 (1024-bit)
Authentication Mode	Pre-Shared Keys (XAUTH)	IKE Negotiation Mode	Aggressive
Rekey Time Interval	86400 seconds		
IPSec/NAT-T Session			
Session ID	2	Remote Address	40.1.1.1
Local Address	172.16.172.50	Encryption Algorithm	3DES-168
Hashing Algorithm	MD5	Idle Time	0:00:11
Encapsulation Mode	Tunnel		
UDP Source Port	1029	UDP Destination Port	4500
Rekey Time Interval	28800 seconds		
Bytes Received	256	Bytes Transmitted	256
IPSec/NAT-T Session			
Session ID	3	Remote Address	40.1.1.1
Local Address	0.0.0.0/255.255.255.255	Encryption Algorithm	3DES-168
Hashing Algorithm	MD5	Idle Time	0:03:08
Encapsulation Mode	Tunnel		
UDP Source Port	1029	UDP Destination Port	4500
Rekey Time Interval	28800 seconds		
Bytes Received	512	Bytes Transmitted	512

Problemen oplossen

Deze sectie bevat informatie waarmee u problemen met de configuratie kunt oplossen.

Opmerking: Voordat u **debug**-opdrachten afgeeft, raadpleegt u Belangrijke informatie over Debug Commands.

Opmerking: Aanvullende informatie over probleemoplossing bij PIX kan worden gevonden bij IP-beveiligingsprobleemoplossing - Meer begrip en gebruik van debug-opdrachten.

VPN-clientvastlegging

Op de PC waarop de VPN-client is geïnstalleerd, opent u het logvenster voordat u een verbinding met de VPN-Concentrator maakt. Deze loguitvoer benadrukt de NAT-T-specifieke berichten:

```
1      21:06:48.208  10/18/02  Sev=Info/6   DIALER/0x63300002
Initiating connection.
2      21:06:48.218  10/18/02  Sev=Info/4   CM/0x63100002
Begin connection process
3      21:06:48.218  10/18/02  Sev=Info/4   CM/0x63100004
Establish secure connection using Ethernet
4      21:06:48.218  10/18/02  Sev=Info/4   CM/0x63100026
Attempt connection with server "172.16.172.50"
42     21:07:42.326  10/18/02  Sev=Info/6  IKE/0x6300003B
Attempting to establish a connection with 172.16.172.50.
43     21:07:42.366  10/18/02  Sev=Info/4  IKE/0x63000013
```

```
SENDING >>> ISAKMP OAK AG (SA, KE, NON, ID, VID, VID, VID, VID, VID)
 to 172.16.172.50
44      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x6300002F
Received ISAKMP packet: peer = 172.16.172.50
45      21:07:42.716  10/18/02  Sev=Info/4  IKE/0x63000014
RECEIVING <<< ISAKMP OAK AG (SA, KE, NON, ID, HASH, VID, VID, VID,
 VID, NAT-D, NAT-D, VID, VID) from 172.16.172.50
46      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000059
Vendor ID payload = 12F5F28C457168A9702D9FE274CC0100
47      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000001
Peer is a Cisco-Unity compliant peer
48      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000059
Vendor ID payload = 09002689DFD6B712
49      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000001
Peer supports XAUTH
50      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000059
Vendor ID payload = AFCAD71368A1F1C96B8696FC77570100
51      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000001
Peer supports DPD
52      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000059
Vendor ID payload = 90CB80913EBB696E086381B5EC427B1F
53      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000001
Peer supports NAT-T
54      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000059
Vendor ID payload = 4048B7D56EBCE88525E7DE7F00D6C2D3C0000000
55      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000001
Peer supports IKE fragmentation payloads
56      21:07:42.716  10/18/02  Sev=Info/5  IKE/0x63000059
Vendor ID payload = 1F07F70EAA6514D3B0FA96542A500306
57      21:07:42.757  10/18/02  Sev=Info/4  IKE/0x63000013
SENDING >>> ISAKMP OAK AG *(HASH, NOTIFY:STATUS_INITIAL_CONTACT, NAT-D,
 NAT-D) to 172.16.172.50
58      21:07:42.767  10/18/02  Sev=Info/5  IKE/0x6300002F
Received ISAKMP packet: peer = 172.16.172.50
59      21:07:42.767  10/18/02  Sev=Info/4  IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 172.16.172.50
60      21:07:42.767  10/18/02  Sev=Info/4  CM/0x63100015
Launch xAuth application
61      21:07:42.967  10/18/02  Sev=Info/4  IPSEC/0x63700014
Deleted all keys
62      21:07:59.801  10/18/02  Sev=Info/4  CM/0x63100017
xAuth application returned
63      21:07:59.801  10/18/02  Sev=Info/4  IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 172.16.172.50
64      21:08:00.101  10/18/02  Sev=Info/5  IKE/0x6300002F
Received ISAKMP packet: peer = 172.16.172.50
65      21:08:00.101  10/18/02  Sev=Info/4  IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 172.16.172.50
66      21:08:00.101  10/18/02  Sev=Info/5  IKE/0x63000071
Automatic NAT Detection Status:
   Remote end is NOT behind a NAT device
   This end IS behind a NAT device
67      21:08:00.101  10/18/02  Sev=Info/4  CM/0x6310000E
Established Phase 1 SA.  1 Phase 1 SA in the system
68      21:08:00.111  10/18/02  Sev=Info/4  IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 172.16.172.50
69      21:08:00.111  10/18/02  Sev=Info/5  IKE/0x6300005D
Client sending a firewall request to concentrator
70      21:08:00.111  10/18/02  Sev=Info/5  IKE/0x6300005C
Firewall Policy: Product=Cisco Integrated Client, Capability=
(Centralized Protection Policy).
71      21:08:00.111  10/18/02  Sev=Info/4  IKE/0x63000013
SENDING >>> ISAKMP OAK TRANS *(HASH, ATTR) to 172.16.172.50
72      21:08:00.122  10/18/02  Sev=Info/5  IKE/0x6300002F
```

```
Received ISAKMP packet: peer = 172.16.172.50
73      21:08:00.122  10/18/02  Sev=Info/4  IKE/0x63000014
RECEIVING <<< ISAKMP OAK TRANS *(HASH, ATTR) from 172.16.172.50
74      21:08:00.122  10/18/02  Sev=Info/5  IKE/0x63000010
MODE_CFG_REPLY: Attribute = INTERNAL_IPV4_ADDRESS: , value = 40.1.1.1
75      21:08:00.122  10/18/02  Sev=Info/5  IKE/0x6300000D
MODE_CFG_REPLY: Attribute = MODECFG_UNITY_SAVEPWD: , value = 0x00000000
76      21:08:00.122  10/18/02  Sev=Info/5  IKE/0x6300000D
MODE_CFG_REPLY: Attribute = MODECFG_UNITY_PFS: , value = 0x00000000
77      21:08:00.122  10/18/02  Sev=Info/5  IKE/0x6300000E
MODE_CFG_REPLY: Attribute = APPLICATION_VERSION, value = Cisco Systems, Inc.
/VPN 3000 Concentrator Version 3.6.1.Rel built by vmurphy on Aug 29 2002
 18:34:44
78      21:08:00.122  10/18/02  Sev=Info/5  IKE/0x6300000D
MODE_CFG_REPLY: Attribute = Recieved and using NAT-T port number , value =
0x00001194
79      21:08:00.132  10/18/02  Sev=Info/4  CM/0x63100019
Mode Config data received
80      21:08:00.142  10/18/02  Sev=Info/5  IKE/0x63000055
Received a key request from Driver for IP address 172.16.172.50, GW IP =
172.16.172.50
81      21:08:00.142  10/18/02  Sev=Info/4  IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID, ID) to 172.16.172.50
82      21:08:00.142  10/18/02  Sev=Info/5  IKE/0x63000055
Received a key request from Driver for IP address 10.10.10.255, GW IP =
172.16.172.50
83      21:08:00.142  10/18/02  Sev=Info/4  IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH, SA, NON, ID, ID) to 172.16.172.50
84      21:08:00.172  10/18/02  Sev=Info/5  IKE/0x6300002F
Received ISAKMP packet: peer = 172.16.172.50
85      21:08:00.172  10/18/02  Sev=Info/4  IKE/0x63000014
RECEIVING <<< ISAKMP OAK INFO *(HASH, NOTIFY:STATUS_RESP_LIFETIME) from
172.16.172.50
86      21:08:00.172  10/18/02  Sev=Info/5  IKE/0x63000044
RESPONDER-LIFETIME notify has value of 86400 seconds
87      21:08:00.172  10/18/02  Sev=Info/5  IKE/0x63000046
This SA has already been alive for 18 seconds, setting expiry to 86382
seconds from now
88      21:08:00.182  10/18/02  Sev=Info/5  IKE/0x6300002F
Received ISAKMP packet: peer = 172.16.172.50
89      21:08:00.182  10/18/02  Sev=Info/4  IKE/0x63000014
RECEIVING <<< ISAKMP OAK QM *(HASH, SA, NON, ID, ID, NOTIFY:STATUS_RESP_LIFETIME)
 from 172.16.172.50
90      21:08:00.182  10/18/02  Sev=Info/5  IKE/0x63000044
RESPONDER-LIFETIME notify has value of 28800 seconds
91      21:08:00.182  10/18/02  Sev=Info/4  IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH) to 172.16.172.50
92      21:08:00.182  10/18/02  Sev=Info/5  IKE/0x63000058
Loading IPsec SA (Message ID = 0x347A7363 OUTBOUND SPI = 0x02CC3526 INBOUND
 SPI = 0x5BEEBB4C)
93      21:08:00.182  10/18/02  Sev=Info/5  IKE/0x63000025
Loaded OUTBOUND ESP SPI: 0x02CC3526
94      21:08:00.182  10/18/02  Sev=Info/5  IKE/0x63000026
Loaded INBOUND ESP SPI: 0x5BEEBB4C
95      21:08:00.182  10/18/02  Sev=Info/4  CM/0x6310001A
One secure connection established
96      21:08:00.192  10/18/02  Sev=Info/6  DIALER/0x63300003
Connection established.
97      21:08:00.332  10/18/02  Sev=Info/5  IKE/0x6300002F
Received ISAKMP packet: peer = 172.16.172.50
98      21:08:00.332  10/18/02  Sev=Info/4  IKE/0x63000014
RECEIVING <<< ISAKMP OAK QM *(HASH, SA, NON, ID, ID, NOTIFY:STATUS_RESP_LIFETIME)
 from 172.16.172.50
99      21:08:00.332  10/18/02  Sev=Info/5  IKE/0x63000044
```

```
RESPONDER-LIFETIME notify has value of 28800 seconds
100    21:08:00.332  10/18/02  Sev=Info/4           IKE/0x63000013
SENDING >>> ISAKMP OAK QM *(HASH) to 172.16.172.50
101    21:08:00.342  10/18/02  Sev=Info/5           IKE/0x63000058
Loading IPsec SA (Message ID = 0x2F81FB2D OUTBOUND SPI = 0x3316C6C9 INBOUND
SPI = 0x6B96ED76)
102    21:08:00.342  10/18/02  Sev=Info/5           IKE/0x63000025
Loaded OUTBOUND ESP SPI: 0x3316C6C9
103    21:08:00.342  10/18/02  Sev=Info/5           IKE/0x63000026
Loaded INBOUND ESP SPI: 0x6B96ED76
104    21:08:00.342  10/18/02  Sev=Info/4           CM/0x63100022
Additional Phase 2 SA established.
105    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x63700014
Deleted all keys
106    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x63700010
Created a new key structure
107    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x6370000F
Added key with SPI=0x2635cc02 into key list
108    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x63700010
Created a new key structure
109    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x6370000F
Added key with SPI=0x4cbbee5b into key list
110    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x63700010
Created a new key structure
111    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x6370000F
Added key with SPI=0xc9c61633 into key list
112    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x63700010
Created a new key structure
113    21:08:01.203  10/18/02  Sev=Info/4           IPSEC/0x6370000F
Added key with SPI=0x76ed966b into key list
114    21:08:10.216  10/18/02  Sev=Info/6           IKE/0x63000054
Sent a ping on the Public IPSec SA
115    21:08:20.381  10/18/02  Sev=Info/4           IKE/0x63000013
SENDING >>> ISAKMP OAK INFO *(HASH, NOTIFY:HEARTBEAT) to 172.16.172.50
116    21:08:20.381  10/18/02  Sev=Info/6           IKE/0x63000052
Sent a ping on the IKE SA
```

Vastlegging VPN-Concentrator

Als u de logbestanden op de VPN-concentrator wilt weergeven, kiest u **Monitoring > Filterable Event Log** en vervolgens selecteert u **Event Classes IKE, IKEDBG, IKEDECODE** en **IPSECDBG** met ernst 1 tot en met 13.

```
2835 10/20/2002 20:22:42.390 SEV=8 IKEDECODE/0 RPT=8190 171.69.89.78
  Exchange Type :Oakley Quick Mode
  Flags         :1   (ENCRYPT )
  Message ID    : 1b050792
  Length        : 52
 2838 10/20/2002 20:22:42.390 SEV=8 IKEDBG/0 RPT=9197 171.69.89.78
RECEIVED Message (msgid=1b050792) with payloads :
HDR + HASH (8) + NONE (0)
total length : 48
2840 10/20/2002 20:22:42.390 SEV=9 IKEDBG/0 RPT=9198 171.69.89.78
Group [ciscovpn] User [vpnclient2]
processing hash
2841 10/20/2002 20:22:42.390 SEV=9 IKEDBG/0 RPT=9199 171.69.89.78
Group [ciscovpn] User [vpnclient2]
loading all IPSEC SAs
 2842 10/20/2002 20:22:42.390 SEV=9 IKEDBG/1 RPT=793 171.69.89.78
```

```
Group [ciscovpn] User [vpnclient2]
Generating Quick Mode Key!
2843 10/20/2002 20:22:42.390 SEV=9 IKEDBG/1 RPT=794 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Generating Quick Mode Key!
2844 10/20/2002 20:22:42.400 SEV=4 IKE/173 RPT=41 171.69.89.78
Group [ciscovpn] User [vpnclient2]
NAT-Traversal successfully negotiated!
IPSec traffic will be encapsulated to pass through NAT devices.
2847 10/20/2002 20:22:42.400 SEV=7 IKEDBG/0 RPT=9200 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Loading host:
  Dst: 172.16.172.50
  Src: 40.1.1.2
2849 10/20/2002 20:22:42.400 SEV=4 IKE/49 RPT=63 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Security negotiation complete for User (vpnclient2)
Responder, Inbound SPI = 0x350f3cb1, Outbound SPI = 0xc74e30e5
2852 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/6 RPT=309
IPSEC key message parse - msgtype 1, Len 704, vers 1, pid 00000000, seq 0, err 0
, type 2, mode 1, state 320, label 0, pad 0, spi c74e30e5, encrKeyLen 24, hashKe
yLen 16, ivlen 8, alg 2, hmacAlg 3, lifetype 0, lifetime1 21, lifetime2 0, dsId
0
2856 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/1 RPT=1137
Processing KEY_ADD msg!
2857 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/1 RPT=1138
key_msghdr2secassoc(): Enter
2858 10/20/2002 20:22:42.400 SEV=7 IPSECDBG/1 RPT=1139
No USER filter configured
2859 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/1 RPT=1140
KeyProcessAdd: Enter
2860 10/20/2002 20:22:42.400 SEV=8 IPSECDBG/1 RPT=1141
KeyProcessAdd: Adding outbound SA
2861 10/20/2002 20:22:42.400 SEV=8 IPSECDBG/1 RPT=1142
KeyProcessAdd: src 172.16.172.50 mask 0.0.0.0, DST 40.1.1.2 mask 0.0.0.0
2862 10/20/2002 20:22:42.400 SEV=8 IPSECDBG/1 RPT=1143
KeyProcessAdd: FilterIpsecAddIkeSa success
2863 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/6 RPT=310
IPSEC key message parse - msgtype 3, Len 376, vers 1, pid 00000000, seq 0, err 0
, type 2, mode 1, state 32, label 0, pad 0, spi 350f3cb1, encrKeyLen 24, hashKey
Len 16, ivlen 8, alg 2, hmacAlg 3, lifetype 0, lifetime1 21, lifetime2 0, dsId 0
2866 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/1 RPT=1144
Processing KEY_UPDATE MSG!
2867 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/1 RPT=1145
Update inbound SA addresses
2868 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/1 RPT=1146
key_msghdr2secassoc(): Enter
2869 10/20/2002 20:22:42.400 SEV=7 IPSECDBG/1 RPT=1147
No USER filter configured
2870 10/20/2002 20:22:42.400 SEV=9 IPSECDBG/1 RPT=1148
KeyProcessUpdate: Enter
2871 10/20/2002 20:22:42.400 SEV=8 IPSECDBG/1 RPT=1149
KeyProcessUpdate: success
2872 10/20/2002 20:22:42.400 SEV=8 IKEDBG/7 RPT=63
IKE got a KEY_ADD MSG for SA: SPI = 0xc74e30e5
2873 10/20/2002 20:22:42.400 SEV=8 IKEDBG/0 RPT=9201
pitcher: rcv KEY_UPDATE, spi 0x350f3cb1
2874 10/20/2002 20:22:42.400 SEV=4 IKE/120 RPT=63 171.69.89.78
Group [ciscovpn] User [vpnclient2]
PHASE 2 COMPLETED (msgid=1b050792)
2875 10/20/2002 20:22:42.430 SEV=8 IKEDECODE/0 RPT=8191 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): C5 A0 F0 8B 69 60 D7 47
  Responder Cookie(8): 48 65 B1 6F 36 1F 9D 3A
  Next Payload  :HASH (8)
  Exchange Type :Oakley Quick Mode
  Flags         :1   (ENCRYPT )
  Message ID    : cf9d1420
  Length        : 52
2882 10/20/2002 20:22:42.430 SEV=8 IKEDBG/0 RPT=9202 171.69.89.78
RECEIVED Message (msgid=cf9d1420) with payloads :
HDR + HASH (8) + NONE (0)
total length : 48
2884 10/20/2002 20:22:42.430 SEV=9 IKEDBG/0 RPT=9203 171.69.89.78
Group [ciscovpn] User [vpnclient2]
processing hash

2885 10/20/2002 20:22:42.430 SEV=9 IKEDBG/0 RPT=9204 171.69.89.78
Group [ciscovpn] User [vpnclient2]
loading all IPSEC SAs
2886 10/20/2002 20:22:42.430 SEV=9 IKEDBG/1 RPT=795 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Generating Quick Mode Key!
2887 10/20/2002 20:22:42.440 SEV=9 IKEDBG/1 RPT=796 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Generating Quick Mode Key!
2888 10/20/2002 20:22:42.440 SEV=4 IKE/173 RPT=42 171.69.89.78
```

Group [ciscovpn] User [vpnclient2]
NAT-Traversal successfully negotiated!
IPSec traffic will be encapsulated to pass through NAT devices.

```
2891 10/20/2002 20:22:42.440 SEV=7 IKEDBG/0 RPT=9205 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Loading subnet:
  DST: 0.0.0.0  mask: 0.0.0.0
  Src: 40.1.1.2
2893 10/20/2002 20:22:42.440 SEV=4 IKE/49 RPT=64 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Security negotiation complete for User (vpnclient2)
Responder, Inbound SPI = 0x2a2e2dcd, Outbound SPI = 0xf1f4d328
2896 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/6 RPT=311
IPSEC key message parse - msgtype 1, Len 704, vers 1, pid 00000000, seq 0, err 0
, type 2, mode 1, state 320, label 0, pad 0, spi f1f4d328, encrKeyLen 24, hashKe
yLen 16, ivlen 8, alg 2, hmacAlg 3, lifetype 0, lifetime1 21, lifetime2 0, dsId
0
2900 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/1 RPT=1150
Processing KEY_ADD MSG!
2901 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/1 RPT=1151
key_msghdr2secassoc(): Enter
2902 10/20/2002 20:22:42.440 SEV=7 IPSECDBG/1 RPT=1152
No USER filter configured
2903 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/1 RPT=1153
KeyProcessAdd: Enter
2904 10/20/2002 20:22:42.440 SEV=8 IPSECDBG/1 RPT=1154
KeyProcessAdd: Adding outbound SA
2905 10/20/2002 20:22:42.440 SEV=8 IPSECDBG/1 RPT=1155
KeyProcessAdd: src 0.0.0.0 mask 255.255.255.255, DST 40.1.1.2 mask 0.0.0.0
2906 10/20/2002 20:22:42.440 SEV=8 IPSECDBG/1 RPT=1156
KeyProcessAdd: FilterIpsecAddIkeSa success
2907 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/6 RPT=312
IPSEC key message parse - msgtype 3, Len 376, vers 1, pid 00000000, seq 0, err 0
, type 2, mode 1, state 32, label 0, pad 0, spi 2a2e2dcd, encrKeyLen 24, hashKey
Len 16, ivlen 8, alg 2, hmacAlg 3, lifetype 0, lifetime1 21, lifetime2 0, dsId 0
2910 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/1 RPT=1157
Processing KEY_UPDATE MSG!
2911 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/1 RPT=1158
Update inbound SA addresses
2912 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/1 RPT=1159
key_msghdr2secassoc(): Enter
```

```
2913 10/20/2002 20:22:42.440 SEV=7 IPSECDBG/1 RPT=1160
No USER filter configured
2914 10/20/2002 20:22:42.440 SEV=9 IPSECDBG/1 RPT=1161
KeyProcessUpdate: Enter
2915 10/20/2002 20:22:42.440 SEV=8 IPSECDBG/1 RPT=1162
KeyProcessUpdate: success
2916 10/20/2002 20:22:42.440 SEV=8 IKEDBG/7 RPT=64
IKE got a KEY_ADD MSG for SA: SPI = 0xf1f4d328
2917 10/20/2002 20:22:42.440 SEV=8 IKEDBG/0 RPT=9206
pitcher: rcv KEY_UPDATE, spi 0x2a2e2dcd
2918 10/20/2002 20:22:42.440 SEV=4 IKE/120 RPT=64 171.69.89.78
Group [ciscovpn] User [vpnclient2]
PHASE 2 COMPLETED (msgid=cf9d1420)
2919 10/20/2002 20:22:44.680 SEV=7 IPSECDBG/1 RPT=1163
IPSec Inbound SA has received data!
2920 10/20/2002 20:22:44.680 SEV=8 IKEDBG/0 RPT=9207
pitcher: recv KEY_SA_ACTIVE spi 0x2a2e2dcd
2921 10/20/2002 20:22:44.680 SEV=8 IKEDBG/0 RPT=9208
KEY_SA_ACTIVE no old rekey centry found with new spi 0x2a2e2dcd, mess_id 0x0
2922 10/20/2002 20:22:47.530 SEV=9 IPSECDBG/18 RPT=828 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
2923 10/20/2002 20:22:47.530 SEV=9 IPSECDBG/18 RPT=829 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
2924 10/20/2002 20:22:48.280 SEV=9 IPSECDBG/17 RPT=668
Received an IPSEC-over-NAT-T NAT keepalive packet
2925 10/20/2002 20:22:52.390 SEV=9 IPSECDBG/17 RPT=669
Received an IPSEC-over-NAT-T NAT keepalive packet
2926 10/20/2002 20:22:52.720 SEV=7 IPSECDBG/1 RPT=1164
IPSec Inbound SA has received data!
2927 10/20/2002 20:22:52.720 SEV=8 IKEDBG/0 RPT=9209
pitcher: recv KEY_SA_ACTIVE spi 0x19fb2d12
2928 10/20/2002 20:22:52.720 SEV=8 IKEDBG/0 RPT=9210
KEY_SA_ACTIVE no old rekey centry found with new spi 0x19fb2d12, mess_id 0x0
2929 10/20/2002 20:22:56.530 SEV=9 IPSECDBG/18 RPT=830 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
2930 10/20/2002 20:22:56.530 SEV=9 IPSECDBG/18 RPT=831 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
2931 10/20/2002 20:22:58.300 SEV=8 IKEDECODE/0 RPT=8192 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): B6 92 24 F4 96 0A 2D 9E
  Responder Cookie(8): 76 FE F6 55 1F 9D 49 F3
  Next Payload  :HASH (8)
  Exchange Type :Oakley Informational
  Flags         :1   (ENCRYPT )
  Message ID    : d4a0ec25
  Length        : 76
2938 10/20/2002 20:22:58.300 SEV=8 IKEDBG/0 RPT=9211 171.69.89.78
RECEIVED Message (msgid=d4a0ec25) with payloads :
HDR + HASH (8) + NOTIFY (11) + NONE (0)
total length : 76
2940 10/20/2002 20:22:58.300 SEV=9 IKEDBG/0 RPT=9212 171.69.89.78
Group [ciscovpn] User [vpnclient1]
processing hash
2941 10/20/2002 20:22:58.300 SEV=9 IKEDBG/0 RPT=9213 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Processing Notify payload
2942 10/20/2002 20:22:58.300 SEV=8 IKEDECODE/0 RPT=8193 171.69.89.78
Notify Payload Decode :
  DOI           :IPSEC (1)
  Protocol      :ISAKMP (1)
  Message       :Altiga keep-alive (40500)
  Spi           :B6 92 24 F4 96 0A 2D 9E 76 FE F6 55 1F 9D 49 F3
  Length        :28
2948 10/20/2002 20:22:58.300 SEV=9 IKEDBG/41 RPT=336 171.69.89.78
```

```
Group [ciscovpn] User [vpnclient1]
Received keep-alive of type Altiga keep-alive, not the negotiated type
2950 10/20/2002 20:22:58.310 SEV=8 IKEDECODE/0 RPT=8194 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): B6 92 24 F4 96 0A 2D 9E
  Responder Cookie(8): 76 FE F6 55 1F 9D 49 F3
  Next Payload  :HASH (8)
  Exchange Type :Oakley Informational
  Flags         :1   (ENCRYPT )
  Message ID    : d196c721
  Length        : 84
2957 10/20/2002 20:22:58.310 SEV=8 IKEDBG/0 RPT=9214 171.69.89.78
RECEIVED Message (msgid=d196c721) with payloads :
HDR + HASH (8) + NOTIFY (11) + NONE (0)
total length : 80
2959 10/20/2002 20:22:58.310 SEV=9 IKEDBG/0 RPT=9215 171.69.89.78
Group [ciscovpn] User [vpnclient1]
processing hash
2960 10/20/2002 20:22:58.310 SEV=9 IKEDBG/0 RPT=9216 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Processing Notify payload
2961 10/20/2002 20:22:58.310 SEV=8 IKEDECODE/0 RPT=8195 171.69.89.78
Notify Payload Decode :
  DOI           :IPSEC (1)
  Protocol      :ISAKMP (1)
  Message       :DPD R-U-THERE (36136)
  Spi           :B6 92 24 F4 96 0A 2D 9E 76 FE F6 55 1F 9D 49 F3
  Length        :32
2967 10/20/2002 20:22:58.310 SEV=9 IKEDBG/36 RPT=92 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Sending keep-alive of type DPD R-U-THERE-ACK (seq number 0x2d932552)
2969 10/20/2002 20:22:58.310 SEV=9 IKEDBG/0 RPT=9217 171.69.89.78
Group [ciscovpn] User [vpnclient1]
constructing blank hash
2970 10/20/2002 20:22:58.310 SEV=9 IKEDBG/0 RPT=9218 171.69.89.78
Group [ciscovpn] User [vpnclient1]
constructing qm hash
2971 10/20/2002 20:22:58.310 SEV=8 IKEDBG/0 RPT=9219 171.69.89.78
SENDING Message (msgid=d678099) with payloads :
HDR + HASH (8) + NOTIFY (11)
total length : 80
2973 10/20/2002 20:23:02.400 SEV=8 IKEDECODE/0 RPT=8196 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): C5 A0 F0 8B 69 60 D7 47
  Responder Cookie(8): 48 65 B1 6F 36 1F 9D 3A
  Next Payload  :HASH (8)
  Exchange Type :Oakley Informational
  Flags         :1   (ENCRYPT )
  Message ID    : 317b646a
  Length        : 76
2980 10/20/2002 20:23:02.400 SEV=8 IKEDBG/0 RPT=9220 171.69.89.78
RECEIVED Message (msgid=317b646a) with payloads :
HDR + HASH (8) + NOTIFY (11) + NONE (0)
total length : 76
2982 10/20/2002 20:23:02.400 SEV=9 IKEDBG/0 RPT=9221 171.69.89.78
Group [ciscovpn] User [vpnclient2]
processing hash
2983 10/20/2002 20:23:02.400 SEV=9 IKEDBG/0 RPT=9222 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Processing Notify payload
2984 10/20/2002 20:23:02.400 SEV=8 IKEDECODE/0 RPT=8197 171.69.89.78
Notify Payload Decode :
  DOI           :IPSEC (1)
  Protocol      :ISAKMP (1)
  Message       :Altiga keep-alive (40500)
  Spi           :C5 A0 F0 8B 69 60 D7 47 48 65 B1 6F 36 1F 9D 3A
  Length        :28
2990 10/20/2002 20:23:02.400 SEV=9 IKEDBG/41 RPT=337 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Received keep-alive of type Altiga keep-alive, not the negotiated type
2992 10/20/2002 20:23:02.410 SEV=9 IPSECDBG/17 RPT=670
Received an IPSEC-over-NAT-T NAT keepalive packet
2993 10/20/2002 20:23:05.530 SEV=9 IPSECDBG/18 RPT=832 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
2994 10/20/2002 20:23:05.530 SEV=9 IPSECDBG/18 RPT=833 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
2995 10/20/2002 20:23:08.310 SEV=9 IPSECDBG/17 RPT=671
Received an IPSEC-over-NAT-T NAT keepalive packet
2996 10/20/2002 20:23:12.420 SEV=9 IPSECDBG/17 RPT=672
Received an IPSEC-over-NAT-T NAT keepalive packet
2997 10/20/2002 20:23:14.530 SEV=9 IPSECDBG/18 RPT=834 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
2998 10/20/2002 20:23:14.530 SEV=9 IPSECDBG/18 RPT=835 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
2999 10/20/2002 20:23:18.330 SEV=8 IKEDECODE/0 RPT=8198 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): B6 92 24 F4 96 0A 2D 9E
  Responder Cookie(8): 76 FE F6 55 1F 9D 49 F3
  Next Payload  :HASH (8)
  Exchange Type :Oakley Informational
  Flags         :1   (ENCRYPT )
  Message ID    : f6457474
  Length        : 76
3006 10/20/2002 20:23:18.330 SEV=8 IKEDBG/0 RPT=9223 171.69.89.78
RECEIVED Message (msgid=f6457474) with payloads :
HDR + HASH (8) + NOTIFY (11) + NONE (0)
total length : 76
3008 10/20/2002 20:23:18.330 SEV=9 IKEDBG/0 RPT=9224 171.69.89.78
Group [ciscovpn] User [vpnclient1]
processing hash
3009 10/20/2002 20:23:18.330 SEV=9 IKEDBG/0 RPT=9225 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Processing Notify payload
3010 10/20/2002 20:23:18.330 SEV=8 IKEDECODE/0 RPT=8199 171.69.89.78
Notify Payload Decode :
  DOI           :IPSEC (1)
  Protocol      :ISAKMP (1)
  Message       :Altiga keep-alive (40500)
  Spi           :B6 92 24 F4 96 0A 2D 9E 76 FE F6 55 1F 9D 49 F3
  Length        :28
3016 10/20/2002 20:23:18.330 SEV=9 IKEDBG/41 RPT=338 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Received keep-alive of type Altiga keep-alive, not the negotiated type
3018 10/20/2002 20:23:18.330 SEV=9 IPSECDBG/17 RPT=673
Received an IPSEC-over-NAT-T NAT keepalive packet
3019 10/20/2002 20:23:22.430 SEV=8 IKEDECODE/0 RPT=8200 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): C5 A0 F0 8B 69 60 D7 47
  Responder Cookie(8): 48 65 B1 6F 36 1F 9D 3A
  Next Payload  :HASH (8)
  Exchange Type :Oakley Informational
  Flags         :1   (ENCRYPT )
  Message ID    : 358ae39e
  Length        : 76
3026 10/20/2002 20:23:22.430 SEV=8 IKEDBG/0 RPT=9226 171.69.89.78
RECEIVED Message (msgid=358ae39e) with payloads :
HDR + HASH (8) + NOTIFY (11) + NONE (0)
total length : 76
```

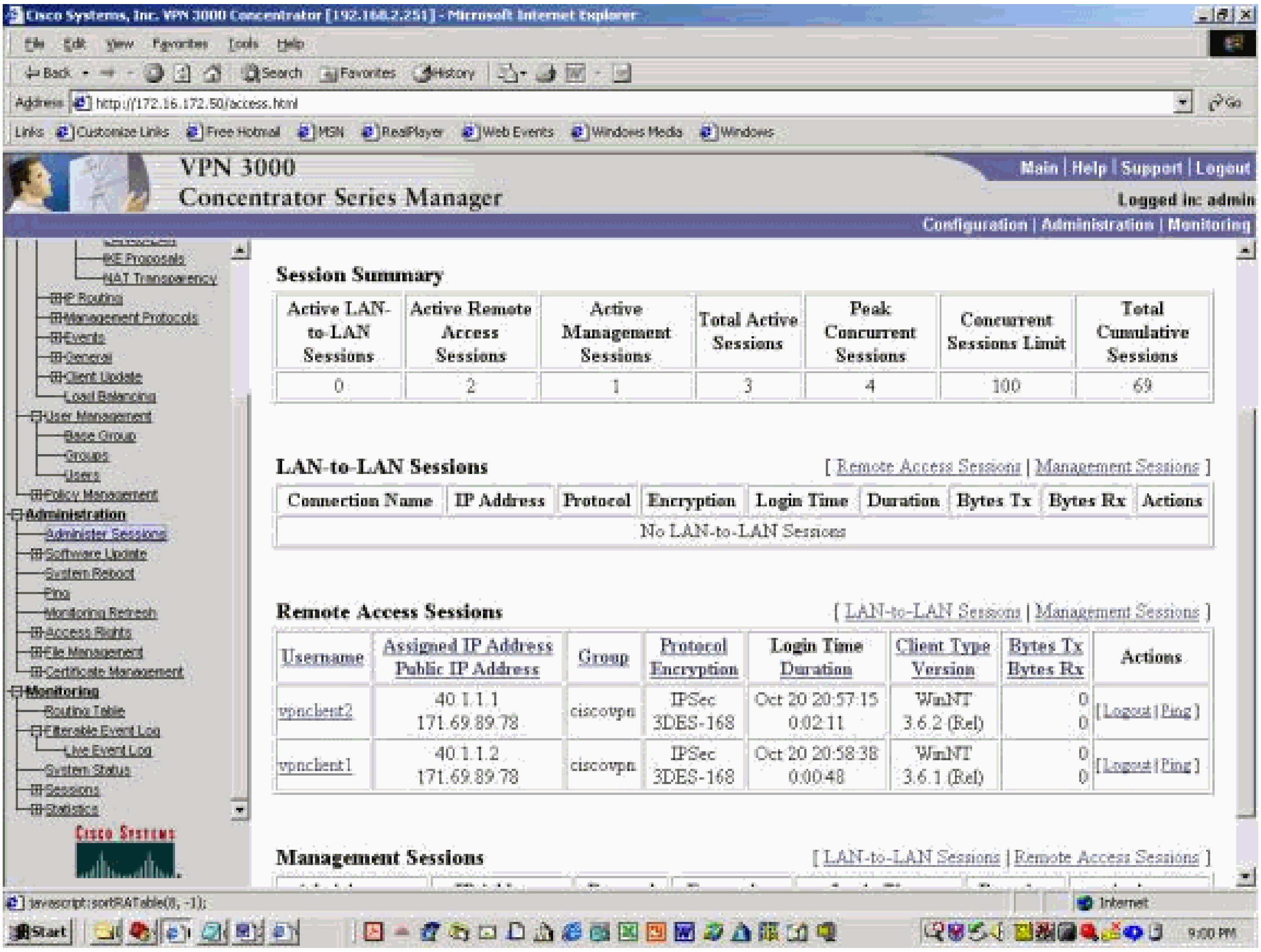
```
3028 10/20/2002 20:23:22.430 SEV=9 IKEDBG/0 RPT=9227 171.69.89.78
Group [ciscovpn] User [vpnclient2]
processing hash
3029 10/20/2002 20:23:22.430 SEV=9 IKEDBG/0 RPT=9228 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Processing Notify payload
3030 10/20/2002 20:23:22.430 SEV=8 IKEDECODE/0 RPT=8201 171.69.89.78
Notify Payload Decode :
  DOI           :IPSEC (1)
  Protocol      :ISAKMP (1)
  Message       :Altiga keep-alive (40500)
  Spi           :C5 A0 F0 8B 69 60 D7 47 48 65 B1 6F 36 1F 9D 3A
  Length        :28
3036 10/20/2002 20:23:22.430 SEV=9 IKEDBG/41 RPT=339 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Received keep-alive of type Altiga keep-alive, not the negotiated type
3038 10/20/2002 20:23:22.430 SEV=9 IPSECDBG/17 RPT=674
Received an IPSEC-over-NAT-T NAT keepalive packet
3039 10/20/2002 20:23:23.530 SEV=9 IPSECDBG/18 RPT=836 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
3040 10/20/2002 20:23:23.530 SEV=9 IPSECDBG/18 RPT=837 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
3041 10/20/2002 20:23:28.340 SEV=9 IPSECDBG/17 RPT=675
Received an IPSEC-over-NAT-T NAT keepalive packet
3042 10/20/2002 20:23:32.440 SEV=9 IPSECDBG/17 RPT=676
Received an IPSEC-over-NAT-T NAT keepalive packet
3043 10/20/2002 20:23:32.530 SEV=9 IPSECDBG/18 RPT=838 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
3044 10/20/2002 20:23:32.530 SEV=9 IPSECDBG/18 RPT=839 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
3045 10/20/2002 20:23:38.360 SEV=8 IKEDECODE/0 RPT=8202 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): B6 92 24 F4 96 0A 2D 9E
  Responder Cookie(8): 76 FE F6 55 1F 9D 49 F3
  Next Payload  :HASH (8)
  Exchange Type :Oakley Informational
  Flags         :1   (ENCRYPT )
  Message ID    : fa8597e6
  Length        : 76
3052 10/20/2002 20:23:38.360 SEV=8 IKEDBG/0 RPT=9229 171.69.89.78
RECEIVED Message (msgid=fa8597e6) with payloads :
HDR + HASH (8) + NOTIFY (11) + NONE (0)
total length : 76
3054 10/20/2002 20:23:38.360 SEV=9 IKEDBG/0 RPT=9230 171.69.89.78
Group [ciscovpn] User [vpnclient1]
processing hash
3055 10/20/2002 20:23:38.360 SEV=9 IKEDBG/0 RPT=9231 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Processing Notify payload
3056 10/20/2002 20:23:38.360 SEV=8 IKEDECODE/0 RPT=8203 171.69.89.78
Notify Payload Decode :
  DOI           :IPSEC (1)
  Protocol      :ISAKMP (1)
  Message       :Altiga keep-alive (40500)
  Spi           :B6 92 24 F4 96 0A 2D 9E 76 FE F6 55 1F 9D 49 F3
  Length        :28
3062 10/20/2002 20:23:38.360 SEV=9 IKEDBG/41 RPT=340 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Received keep-alive of type Altiga keep-alive, not the negotiated type
3064 10/20/2002 20:23:38.360 SEV=9 IPSECDBG/17 RPT=677
Received an IPSEC-over-NAT-T NAT keepalive packet
3065 10/20/2002 20:23:41.530 SEV=9 IPSECDBG/18 RPT=840 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
3066 10/20/2002 20:23:41.530 SEV=9 IPSECDBG/18 RPT=841 171.69.89.78
```

```
Xmit IPSEC-over-UDP NAT keepalive packet: success
3067 10/20/2002 20:23:42.470 SEV=8 IKEDECODE/0 RPT=8204 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): C5 A0 F0 8B 69 60 D7 47
  Responder Cookie(8): 48 65 B1 6F 36 1F 9D 3A
  Next Payload  :HASH (8)
  Exchange Type :Oakley Informational
  Flags         :1   (ENCRYPT )
3073 10/20/2002 20:23:42.470 SEV=8 IKEDECODE/0 RPT=8204 171.69.89.78
  Message ID    : c892dd4c
  Length        : 76
RECEIVED Message (msgid=c892dd4c) with payloads :
HDR + HASH (8) + NOTIFY (11) + NONE (0)
total length : 76
3076 10/20/2002 20:23:42.470 SEV=9 IKEDBG/0 RPT=9233 171.69.89.78
Group [ciscovpn] User [vpnclient2]
processing hash
3077 10/20/2002 20:23:42.470 SEV=9 IKEDBG/0 RPT=9234 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Processing Notify payload
3078 10/20/2002 20:23:42.470 SEV=8 IKEDECODE/0 RPT=8205 171.69.89.78
Notify Payload Decode :
  DOI           :IPSEC (1)
  Protocol      :ISAKMP (1)
  Message       :Altiga keep-alive (40500)
  Spi           :C5 A0 F0 8B 69 60 D7 47 48 65 B1 6F 36 1F 9D 3A
  Length        :28
3084 10/20/2002 20:23:42.470 SEV=9 IKEDBG/41 RPT=341 171.69.89.78
Group [ciscovpn] User [vpnclient2]
Received keep-alive of type Altiga keep-alive, not the negotiated type
3086 10/20/2002 20:23:42.470 SEV=9 IPSECDBG/17 RPT=678
Received an IPSEC-over-NAT-T NAT keepalive packet
3087 10/20/2002 20:23:48.370 SEV=9 IPSECDBG/17 RPT=679
Received an IPSEC-over-NAT-T NAT keepalive packet
3088 10/20/2002 20:23:50.530 SEV=9 IPSECDBG/18 RPT=842 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
3089 10/20/2002 20:23:50.530 SEV=9 IPSECDBG/18 RPT=843 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
3090 10/20/2002 20:23:52.470 SEV=9 IPSECDBG/17 RPT=680
Received an IPSEC-over-NAT-T NAT keepalive packet
3091 10/20/2002 20:23:58.380 SEV=8 IKEDECODE/0 RPT=8206 171.69.89.78
ISAKMP HEADER : ( Version 1.0 )
  Initiator Cookie(8): B6 92 24 F4 96 0A 2D 9E
  Responder Cookie(8): 76 FE F6 55 1F 9D 49 F3
  Next Payload  :HASH (8)
  Exchange Type :Oakley Informational
  Flags         :1   (ENCRYPT )
  Message ID    : 943c7d99
  Length        : 76
3098 10/20/2002 20:23:58.390 SEV=8 IKEDBG/0 RPT=9235 171.69.89.78
RECEIVED Message (msgid=943c7d99) with payloads :
HDR + HASH (8) + NOTIFY (11) + NONE (0)
total length : 76
3100 10/20/2002 20:23:58.390 SEV=9 IKEDBG/0 RPT=9236 171.69.89.78
Group [ciscovpn] User [vpnclient1]
processing hash
3101 10/20/2002 20:23:58.390 SEV=9 IKEDBG/0 RPT=9237 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Processing Notify payload
3102 10/20/2002 20:23:58.390 SEV=8 IKEDECODE/0 RPT=8207 171.69.89.78
Notify Payload Decode :
  DOI           :IPSEC (1)
  Protocol      :ISAKMP (1)
  Message       :Altiga keep-alive (40500)
  Spi            :B6 92 24 F4 96 0A 2D 9E 76 FE F6 55 1F 9D 49 F3
  Length         :28
3108 10/20/2002 20:23:58.390 SEV=9 IKEDBG/41 RPT=342 171.69.89.78
Group [ciscovpn] User [vpnclient1]
Received keep-alive of type Altiga keep-alive, not the negotiated type
3110 10/20/2002 20:23:58.390 SEV=9 IPSECDBG/17 RPT=681
Received an IPSEC-over-NAT-T NAT keepalive packet
3111 10/20/2002 20:23:59.530 SEV=9 IPSECDBG/18 RPT=844 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
3112 10/20/2002 20:23:59.530 SEV=9 IPSECDBG/18 RPT=845 171.69.89.78
Xmit IPSEC-over-UDP NAT keepalive packet: success
```

Aanvullende probleemoplossing

NAT-T kapselt IPSec-verkeer in UDP-datagrammen in met behulp van poort 4500. Als NAT-T niet op de VPN-centrator is gecontroleerd of als NAT-transparantie niet op de VPN-client is gecontroleerd, wordt de IPSec-tunnel tot stand gebracht; u kunt echter geen gegevens doorgeven . Om NAT-T te kunnen werken, moet u de NAT-T op de concentrator laten controleren en NAT transparantie (via UDP) op de client.

Het onderstaande voorbeeld toont een dergelijk geval waarin NAT-T niet op de concentrator werd gecontroleerd. Op de client is Transparent Tunneling ingeschakeld. In dit geval wordt een IPSec-tunnel tot stand gebracht tussen de cliënt en de concentrator. Aangezien de onderhandelingen over de tunnelpoort van IPSec mislukten, gaan er echter geen gegevens tussen de cliënt en de concentrator. Als zodanig zijn de bytes die worden verzonden en ontvangen 0 voor de externe toegangssessies.



Session Summary

Active LAN-to-LAN Sessions	Active Remote Access Sessions	Active Management Sessions	Total Active Sessions	Peak Concurrent Sessions	Concurrent Sessions Limit	Total Cumulative Sessions
0	2	1	3	4	100	69

LAN-to-LAN Sessions [Remote Access Sessions | Management Sessions]

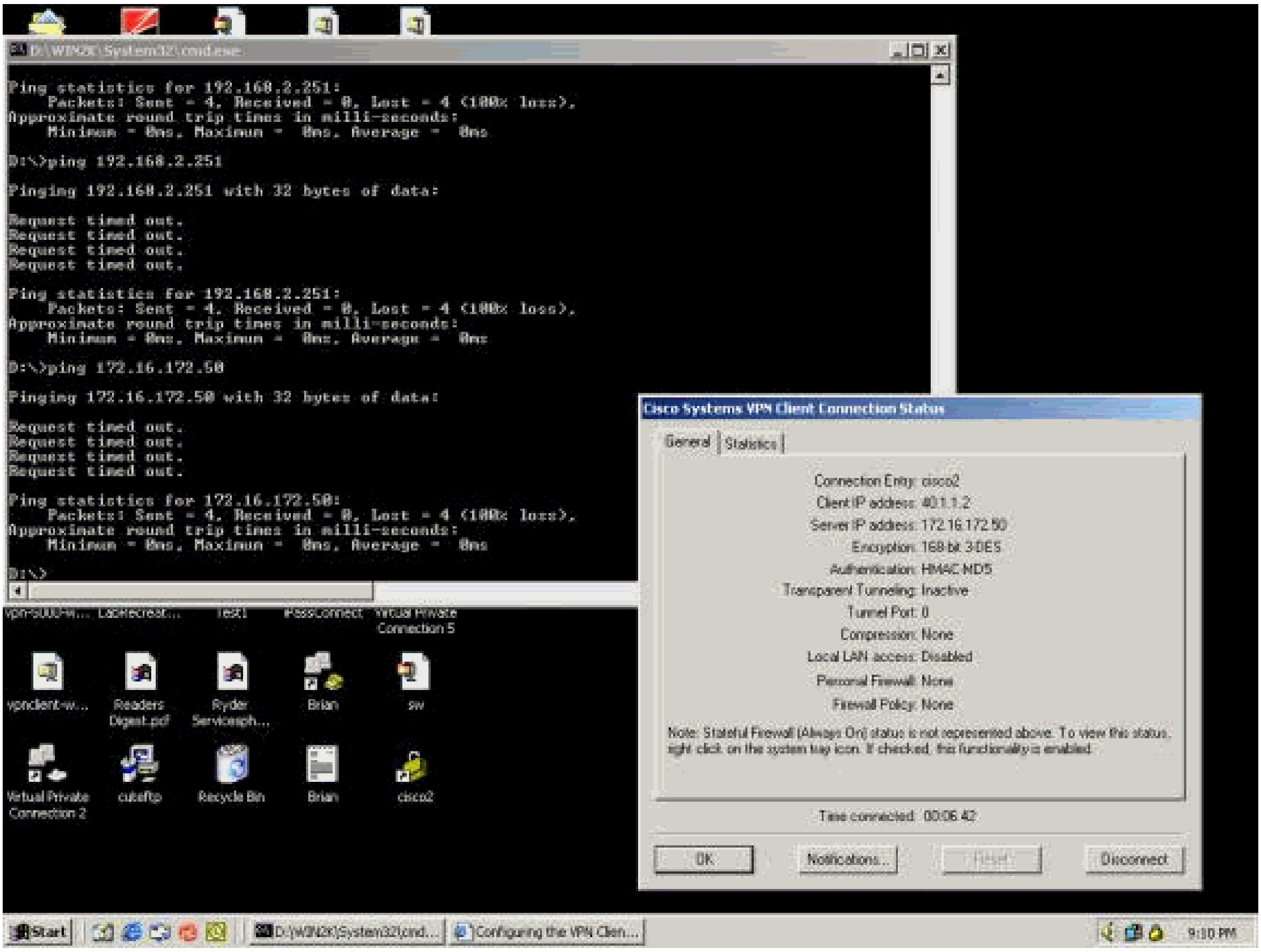
Connection Name	IP Address	Protocol	Encryption	Login Time	Duration	Bytes Tx	Bytes Rx	Actions
No LAN-to-LAN Sessions								

Remote Access Sessions [LAN-to-LAN Sessions | Management Sessions]

Username	Assigned IP Address Public IP Address	Group	Protocol Encryption	Login Time Duration	Client Type Version	Bytes Tx Bytes Rx	Actions
vpnclient2	40.1.1.1 171.69.89.78	ciscovpn	IPSec 3DES-168	Oct 20 20:57:15 0:02:11	WinNT 3.6.2 (Rel)	0 0	[Logout | Ping]
vpnclient1	40.1.1.2 171.69.89.78	ciscovpn	IPSec 3DES-168	Oct 20 20:58:38 0:00:48	WinNT 3.6.1 (Rel)	0 0	[Logout | Ping]

Management Sessions [LAN-to-LAN Sessions | Remote Access Sessions]

Het onderstaande voorbeeld toont de statistieken van de VPN-client. Merk op dat de tunnelpoort die is onderhandeld 0 is. Er is een poging om 192.168.2.251 (particuliere interface van VPN 3000 Concentrator) en 172.16.172.50 te pingelen vanaf een DOS-melding. Deze pings faalt echter omdat er geen tunnelpoort is onderhandeld en dus worden de IPSec gegevens op de externe VPN-server verwijderd.



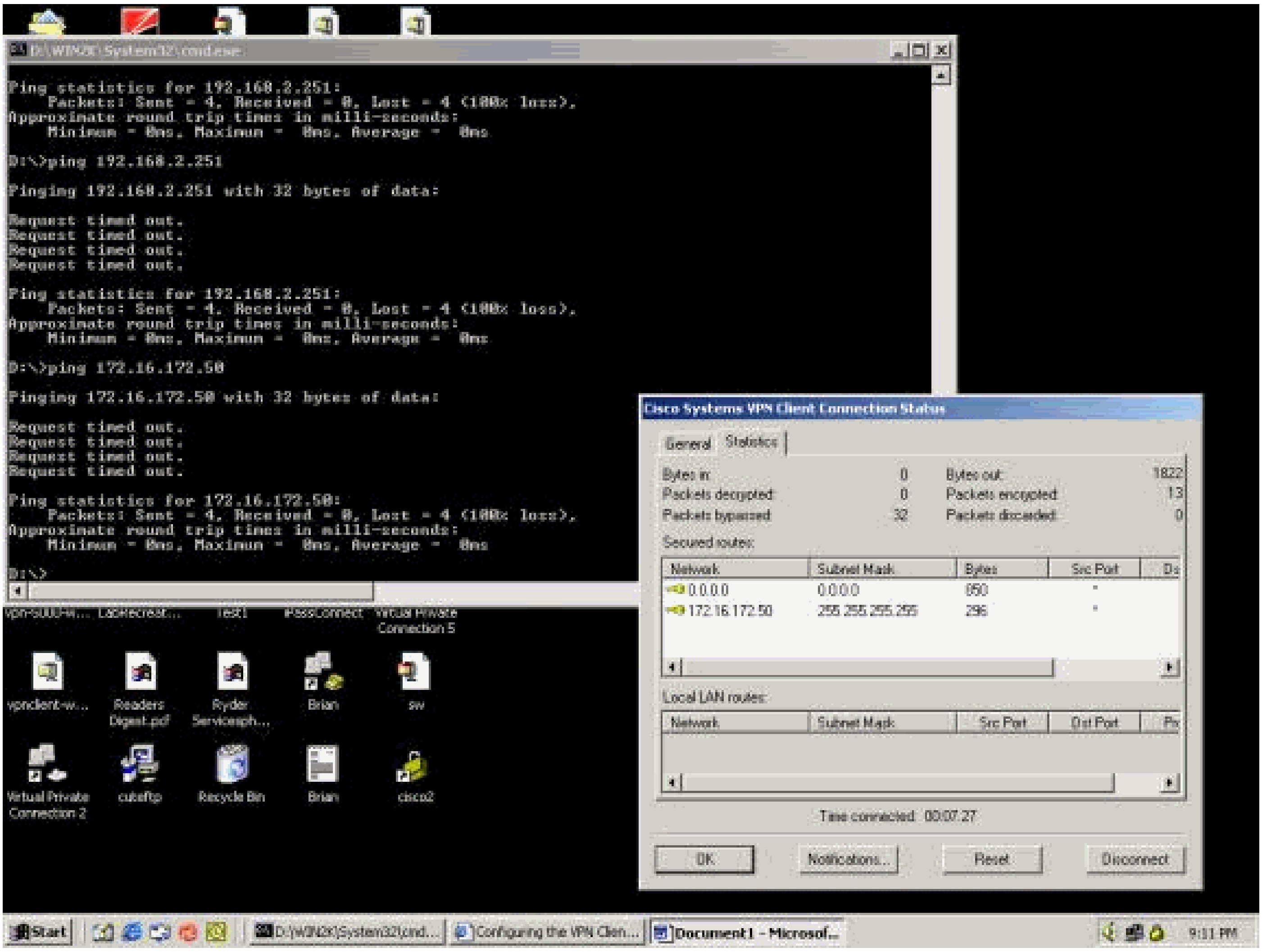
```
Ping statistics for 192.168.2.251:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms

D:\>ping 192.168.2.251

Pinging 192.168.2.251 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.2.251:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms

D:\>ping 172.16.172.50

Pinging 172.16.172.50 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.16.172.50:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms

D:\>
```

Connection Entry: cisco2
Client IP address: 40.1.1.2
Server IP address: 172.16.172.50
Encryption: 168-bit 3-DES
Authentication: HMAC-MD5
Transparent Tunneling: Inactive
Tunnel Port: 0
Compression: None
Local LAN access: Disabled
Personal Firewall: None
Firewall Policy: None

Note: Stateful Firewall (Always On) status is not represented above. To view this status, right click on the system tray icon. If checked, this functionality is enabled.

Time connected: 00:06.42

Het onderstaande voorbeeld toont dat de VPN-client versleutelde gegevens verzonden (13 pakketten). Maar het aantal gedecrypteerde pakketten is nul voor de verre server van VPN, en het heeft geen gecodeerde data terug gestuurd. Aangezien geen tunnelpoort is gesloten, wordt de externe VPN-server de pakketten verworpen en worden er geen antwoordgegevens verzonden.



```
Ping statistics for 192.168.2.251:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms

D:\>ping 192.168.2.251

Pinging 192.168.2.251 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.2.251:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms

D:\>ping 172.16.172.50

Pinging 172.16.172.50 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.16.172.50:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms

D:\>
```

Cisco Systems VPN Client Connection Status

Bytes in:	0	Bytes out:	1822
Packets decrypted:	0	Packets encrypted:	13
Packets bypassed:	32	Packets discarded:	0

Secured routes:

Network	Subnet Mask	Bytes	Src Port	Ds
0.0.0.0	0.0.0.0	850	*	
172.16.172.50	255.255.255.255	296	*	

Local LAN routes:

Network	Subnet Mask	Src Port	Dst Port	Pr

Time connected: 00:07:27

Gerelateerde informatie

- Ondersteuning van Cisco VPN 3000 Series Concentrator-pagina
- Cisco VPN 3000 Series clientondersteuningspagina
- IPsec-ondersteuningspagina
- Technische ondersteuning en documentatie – Cisco Systems