

# Toewijzing van RADIUS-kenmerken configureren voor FlexVPN-externe gebruikers

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## Inleiding

Dit document beschrijft hoe u FlexVPN kunt configureren met Cisco Identity Services Engine (ISE) om identiteiten te verifiëren en kenmerkende groepstoewijzing uit te voeren.

## Voorwaarden

### Vereisten

Cisco raadt kennis van de volgende onderwerpen aan:

- Remote Access Virtual Private Network (RAVPN) met configuratie van IKEV2/IPsec op een Cisco IOS® XE-router via CLI
- Configuratie van Cisco Identity Services Engine (ISE)
- Cisco Secure-client (CSC)
- RADIUS-protocol

### Gebruikte componenten

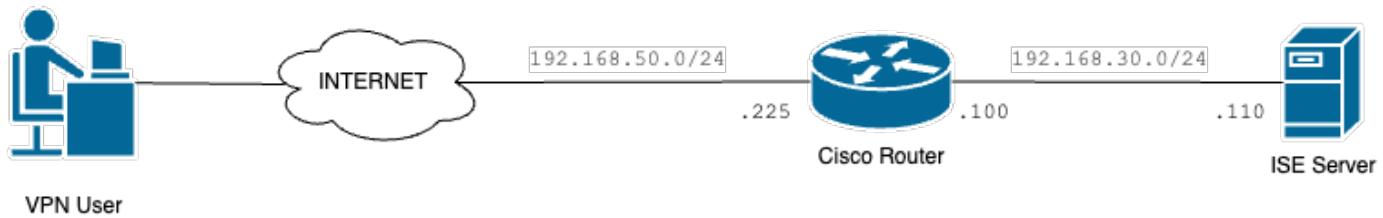
Dit document is gebaseerd op deze software- en hardwareversies:

- Cisco CRS-1000V (VXE) - versie 17.03.04a
- Cisco Identity Services Engine (ISE) - 3.1
- Cisco Secure Client (CSC) - versie 5.0.05040
- Windows 11

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 zorgen dat u de potentiële impact van elke opdracht begrijpt.

## Configureren

### Netwerkdiagram



Basis netwerkdiagram

## Configuraties

### Routerconfiguratie

Stap 1. Een RADIUS-server configureren voor verificatie en lokale autorisatie op het apparaat:

```

aaa new-model
aaa group server radius FlexVPN-Authentication-Server
server-private 192.168.30.110 key Cisco123
aaa authentication login FlexVPN-Authentication-List group FlexVPN-Authentication-Server
aaa authorization network FlexVPN-Authorization-List local
  
```

De opdracht aaa authentication login <list\_name> verwijst naar de groep verificatie, autorisatie en accounting (AAA) (die de RADIUS-server definieert).

In het lokale opdrachtnetwerk <list\_name> staat dat lokaal gedefinieerde gebruikers/groepen moeten worden gebruikt.

Stap 2. Configureer een trustpoint om het routercertificaat op te slaan. Aangezien de lokale verificatie van de router het type RSA is, vereist het apparaat dat de server zichzelf verifieert met behulp van een certificaat:

```
crypto pki trustpoint FlexVPN-TP
enrollment url http://192.168.50.230:80
subject-name CN=192.168.50.225
revocation-check none
rsakeypair FlexVPN_KEY
```

Stap 3. Definieer een lokale IP-pool voor elke verschillende gebruikersgroep:

```
ip local pool group1 172.16.10.1 172.16.10.50
ip local pool group2 172.16.20.1 172.16.20.50
```

Stap 4. Configureer het lokale autorisatiebeleid:

```
crypto ikev2 authorization policy FlexVPN-Local-Policy
```

Er is geen configuratie vereist in het autorisatiebeleid, aangezien de verificatieserver verantwoordelijk is voor het verzenden van de relevante waarden (DNS, pool, beschermd routes, enzovoort) die zijn gebaseerd op de groep waartoe de gebruiker behoort. Echter, het moet worden geconfigureerd om de gebruikersnaam te definiëren in onze lokale autorisatiedatabank.

Stap 5 (optioneel). Een IKEv2-voorstel en -beleid maken (als deze niet zijn geconfigureerd, worden slimme standaardwaarden gebruikt):

```
crypto ikev2 proposal IKEv2-prop
  encryption aes-cbc-256
  integrity sha256
  group 14
```

```
crypto ikev2 policy IKEv2-pol
  proposal IKEv2-prop
```

Stap 6 (optioneel). Configureer de transformatie-set (indien niet geconfigureerd, worden slimme standaardwaarden gebruikt):

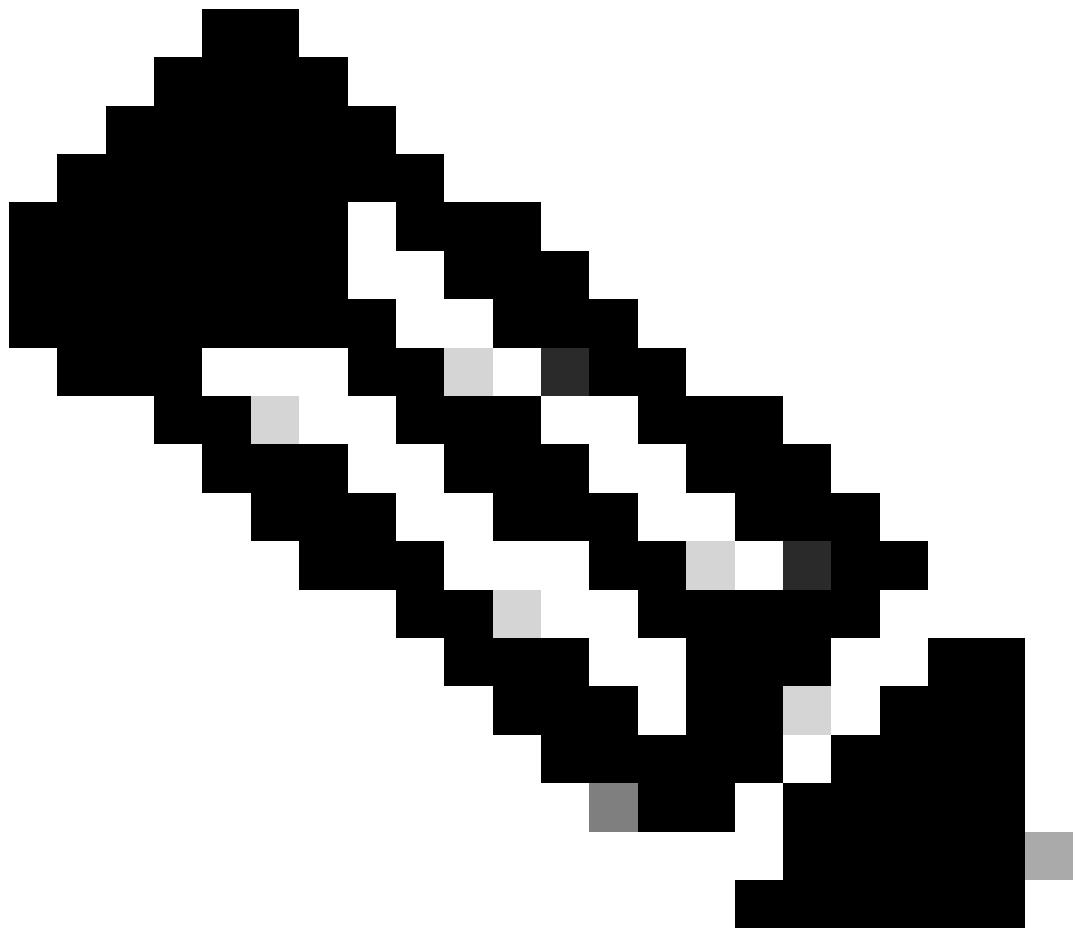
```
crypto ipsec transform-set TS esp-aes 256 esp-sha256-hmac
  mode tunnel
```

Stap 7. Configureer een IKEv2-profiel met de juiste lokale en externe identiteiten,

verificatiemethoden (lokaal en extern), trustpoint, AAA en de virtuele sjablooninterface die voor de verbindingen wordt gebruikt:

```
crypto ikev2 profile FlexVPN-IKEv2-Profile
match identity remote key-id cisco.example
identity local dn
authentication local rsa-sig
authentication remote eap query-identity
pki trustpoint FlexVPN-TP
aaa authentication eap FlexVPN-Authentication-List
aaa authorization group eap list FlexVPN-Authorization-List FlexVPN-Local-Policy
aaa authorization user eap cached
virtual-template 100
```

De opdracht aaa autorisatiegebruiker eap cached specificeert dat de attributen die tijdens EAP-verificatie worden ontvangen, moeten worden gecached. Deze opdracht is essentieel voor de configuratie omdat zonder deze opdracht de gegevens die door de verificatieserver worden verzonden niet worden gebruikt, wat leidt tot een mislukte verbinding.



Opmerking: de externe key-id moet overeenkomen met de key-id waarde in het XML-bestand. Als de standaard waarde (\*\$AnyConnectClient\$\*) niet wordt aangepast in het XML-bestand, wordt deze gebruikt en moet deze worden geconfigureerd in het IKEv2-profiel.

Stap 8. Configureer een IPsec-profiel en wijs de transformatie-set en het IKEv2-profiel toe:

```
crypto ipsec profile FlexVPN-IPsec-Profile
set transform-set TS
set ikev2-profile FlexVPN-IKEv2-Profile
```

Stap 9. Configureer een loopback-interface. De Virtual-Access interfaces lenen het IP-adres uit:

```
interface Loopback100
```

```
ip address 10.0.0.1 255.255.255.255
```

Stap 10. Maak de virtuele sjabloon die gebruikt gaat worden om de verschillende virtuele toegangsinterfaces te maken en koppel het IPSec-profiel dat bij stap 8 gemaakt wordt:

```
interface Virtual-Template100 type tunnel
ip unnumbered Loopback100
tunnel mode ipsec ipv4
tunnel protection ipsec profile FlexVPN-IPsec-Profile-1
```

Stap 11. Schakel op HTTP-URL gebaseerde certificaat lookup en HTTP-server op de router uit:

```
no crypto ikev2 http-url cert
no ip http server
no ip http secure-server
```

## Configuratie van Identity Services Engine (ISE)

Stap 1. Log in op de ISE-server en navigeer naar Beheer > Netwerkbronnen > Netwerkapparaten:

The screenshot shows the Cisco ISE Administration interface. The top navigation bar has tabs for Dashboard, Context Visibility, Operations, Policy, Administration (which is highlighted with a red box), and Work Centers. On the left, there's a sidebar with Recent Pages (Identities, Groups, Authorization Profiles, Results, Network Devices, Policy Sets) and Shortcuts (Expand menu, Collapse menu). The main content area is divided into several sections: System (Deployment, Licensing, Certificates, Logging, Maintenance, Upgrade, Health Checks, Backup & Restore, Admin Access, Settings), Network Resources (Network Devices, Network Device Groups, Network Device Profiles, External RADIUS Servers, RADIUS Server Sequences, NAC Managers, External MDM, Location Services), pxGrid Services (Summary, Client Management, Diagnostics, Settings), Feed Service (Profiler), Device Portal Management (Blocked List, BYOD, Certificate Provisioning, Client Provisioning, Mobile Device Management, My Devices, Custom Portal Files, Settings), and Threat Centric NAC (Third Party Vendors). A search bar at the top says "What page are you looking for?" and a "Make a wish" button is at the bottom.

Algemene menu ISE

Stap 2. Klik op Add om de router als AAA-client te configureren:

The screenshot shows the 'Network Devices' section of a network management interface. At the top, there are tabs for 'Network Devices', 'Network Device Groups', 'Network Device Profiles', 'External RADIUS Servers', 'RADIUS Server Sequences', and 'More'. The 'Network Devices' tab is selected. On the left, there's a sidebar with 'Network Devices' (highlighted with a red box), 'Default Device', and 'Device Security Settings'. The main area is titled 'Network Devices' and contains a table with columns: Name, IP/Mask, Profile Name, Location, Type, and Description. A single row is visible, showing 'CISCO\_ROU...' as the name, 'Cisco' as the profile, 'All Locations' as the location, and 'All Device Types' as the type. Below the table are buttons for Edit, Add (highlighted with a red box), Duplicate, Import, Export, Generate PAC, Delete, and filters for All and Selection.

Een nieuw netwerkapparaat toevoegen

Voer in de velden Naam netwerkapparaat en IP-adres in en controleer vervolgens het vakje RADIUS-verificatie-instellingen en voeg het gedeelde geheim toe, deze waarde moet dezelfde zijn als die werd gebruikt toen het RADIUS-serverobject op de router werd gemaakt.

## Network Devices

The screenshot shows the 'Add Network Device' form. It has fields for 'Name' (set to 'CISCO\_ROUTER'), 'Description' (empty), 'IP Address' (set to '192.168.30.110'), and 'Subnet Mask' (set to '32'). The 'IP Address' field is highlighted with a red box. There are dropdown menus for 'Profile Name' (set to 'Cisco') and 'Location' (set to 'All Locations'). A gear icon is available for configuration.

Naam en IP-adres



## ✓ RADIUS Authentication Settings

### RADIUS UDP Settings

Protocol RADIUS

Shared Secret ..... [Show](#)

Use Second Shared Secret [i](#)

networkDevices.secondSharedSecret

[Show](#)

RADIUS-wachtwoord

Klik op Save (Opslaan).

Stap 3. Ga naar Beheer > Identity Management > Groepen:

The screenshot shows the Cisco ISE Administration interface. The top navigation bar has tabs: Dashboard, Context Visibility, Operations, Policy, Administration (which is highlighted with a red box), and Work Centers. On the left, there's a sidebar with 'Recent Pages' (Identities, Groups, Authorization Profiles, Results, Policy Sets) and 'Shortcuts' (+ / - Expand menu, esc - Collapse menu). The main content area is divided into several sections: 'System' (Deployment, Licensing, Certificates, Logging, Maintenance, Upgrade, Health Checks, Backup & Restore, Admin Access, Settings), 'Network Resources' (Network Devices, Network Device Groups, Network Device Profiles, External RADIUS Servers, RADIUS Server Sequences, NAC Managers, External MDM, Location Services), 'pxGrid Services' (Summary, Client Management, Diagnostics, Settings), 'Feed Service' (Profiler), 'Device Portal Management' (Blocked List, BYOD, Certificate Provisioning, Client Provisioning, Mobile Device Management..., My Devices, Custom Portal Files, Settings), and 'Threat Centric NAC' (Third Party Vendors). A red box highlights the 'Groups' link under the 'Identity Management' section of the navigation tree.

Algemene menu ISE

Stap 4. Klik op Gebruikersidentiteitsgroepen en klik vervolgens op Toevoegen:

Identity Groups

<

>  Endpoint Identity Groups

>  User Identity Groups

### User Identity Groups

Selected 0 Total 10

All

Name	Description
<input type="checkbox"/> ALL_ACCOUNTS (default)	Default ALL_ACCOUNTS (default) User Group
<input type="checkbox"/> Employee	Default Employee User Group
<input type="checkbox"/> GROUP_ACCOUNTS (default)	Default GROUP_ACCOUNTS (default) User Group

Een nieuwe groep toevoegen

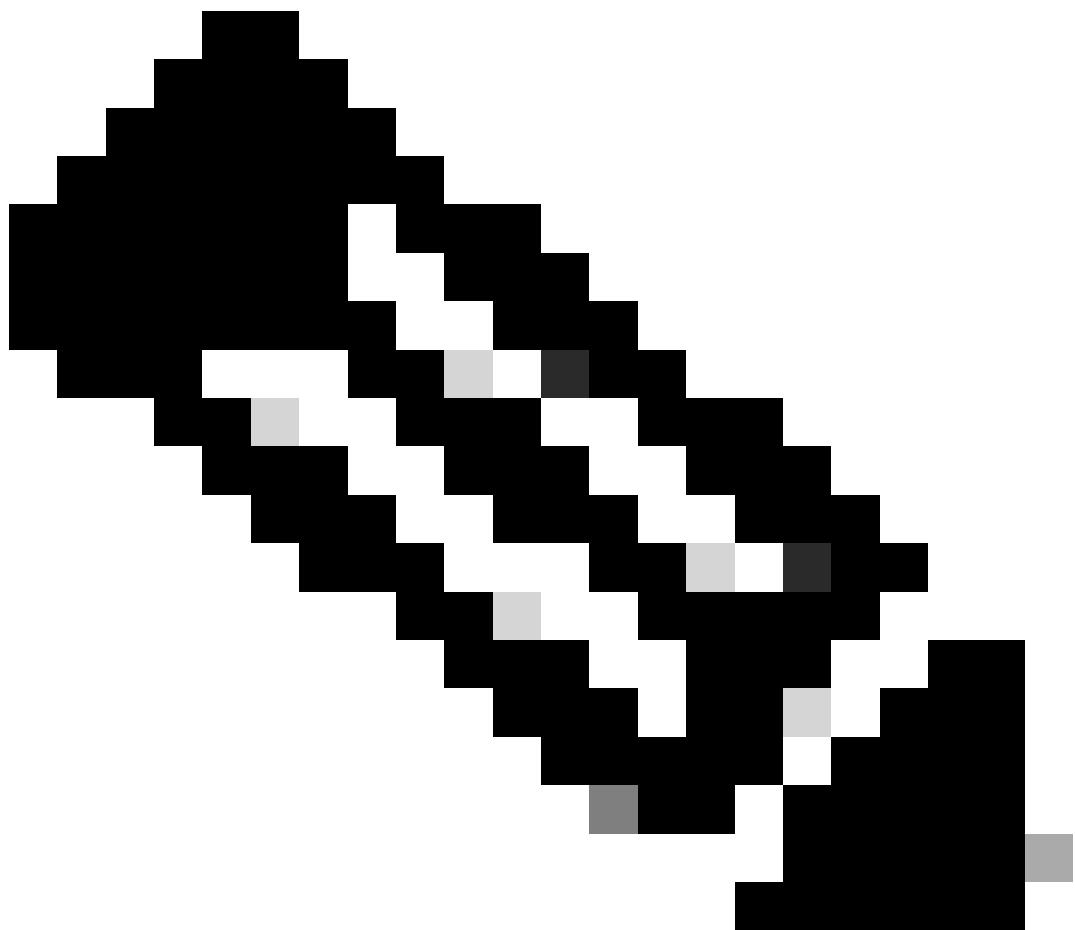
Voer de naam van de groep in en klik op Indienen.

#### Identity Group

\* Name

Description

Groepsinformatie



Opmerking: Herhaal stap 3 en 4 om zo veel groepen te maken als nodig is.

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Stap 5. Navigeren naar Administratie > Identiteitsbeheer > Identiteiten:

The screenshot shows the Cisco ISE Administration interface. The top navigation bar includes tabs for Dashboard, Context Visibility, Operations, Policy, Administration (which is highlighted with a red box), and Work Centers. Below the navigation is a search bar with placeholder text 'What page are you looking for?'. On the left, there's a sidebar with 'Recent Pages' (Groups, Network Devices, Authorization Profiles, Results, Policy Sets) and 'Shortcuts' (Expand menu, Collapse menu). The main content area is divided into several sections: 'System' (Deployment, Licensing, Certificates, Logging, Maintenance, Upgrade, Health Checks, Backup & Restore, Admin Access, Settings), 'Network Resources' (Network Devices, Network Device Groups, Network Device Profiles, External RADIUS Servers, RADIUS Server Sequences, NAC Managers, External MDM, Location Services), 'pxGrid Services' (Summary, Client Management, Diagnostics, Settings), 'Feed Service' (Profiler), 'Device Portal Management' (Blocked List, BYOD, Certificate Provisioning, Client Provisioning, Mobile Device Manageme...), and 'Threat Centric NAC' (Third Party Vendors). A red box highlights the 'Identity Management' section under 'System', which contains 'Identities' (Groups, External Identity Sources, Identity Source Sequences, Settings). A large blue circular icon with a fingerprint pattern is on the right.

Algemene menu ISE

Stap 6. Klik op Add om een nieuwe gebruiker te maken in de lokale database van de server:

The screenshot shows the 'Network Access Users' page. At the top, there are tabs for Identities, Groups, External Identity Sources, Identity Source Sequences, and Settings. A red box highlights the 'Users' link in the sidebar. The main area has a title 'Network Access Users' and a toolbar with buttons for Edit, Add (highlighted with a red box), Change Status, Import, Export, Delete, and Duplicate. There are also filters for All and a refresh/cog icon. The table header includes columns for Status, Username, Description, First Name, Last Name, Email Address, User Identity Grou..., and Admin. Below the table, it says 'No data available'.

Een gebruiker toevoegen

Voer de gebruikersnaam en het inlogwachtwoord in. Blader vervolgens naar het einde van deze pagina en selecteer de Gebruikersgroep:

## ✓ Network Access User

* Username	user1
Status	<input checked="" type="checkbox"/> Enabled
Email	

## ✓ Passwords

Password Type:	Internal Users
Password	Re-Enter Password
* Login Password	.....
Enable Password	

**Generate Password** (i)

**Generate Password** (i)

Gebruikersnaam en wachtwoord

## ✓ Account Options

Description	
Change password on next login	<input type="checkbox"/>
✓ Account Disable Policy	
<input type="checkbox"/> Disable account if date exceeds	20
✓ User Groups	
<input type="button" value="Select an item"/>	<div style="border: 1px solid #ccc; padding: 5px; width: 200px;"><p>User Groups</p><p>EQ</p><p>&lt;   </p><ul style="list-style-type: none"><li> ALL_ACCOUNTS (default)</li><li> Employee</li><li> Group1</li><li> Group2</li><li> GROUP_ACCOUNTS (default)</li></ul><p>- +</p></div>

De juiste groep toewijzen aan de gebruiker

Klik op Save (Opslaan).



Opmerking: Herhaal stap 5 en 6 om de gewenste gebruikers te maken en ze toe te wijzen aan de corresponderende groep.

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Stap 7. Ga naar Policy > Policy Sets:

The screenshot shows the Cisco ISE dashboard with the 'Policy' tab highlighted by a red box. The left sidebar includes 'Recent Pages' with links to Groups, Network Devices, Authorization Profiles, Results, and Policy Sets. The main area has sections for 'Policy Sets' (also highlighted with a red box), 'Posture', 'Profiling', 'Client Provisioning', and 'Policy Elements' (Dictionaries, Conditions, Results). A 'Shortcuts' section at the bottom left provides keyboard shortcuts: ⌘ + / - Expand menu and esc - Collapse menu. A 'Make a wish' button is also present.

Algemene menu ISE

Selecteer het standaard autorisatiebeleid door op de pijl rechts op het scherm te klikken:

The screenshot shows the 'Policy Sets' page. At the top right are buttons for 'Reset', 'Reset Policyset Hitcounts', and 'Save'. Below is a table with columns: Status, Policy Set Name, Description, Conditions, Allowed Protocols / Server Sequence, Hits, Actions, and View. A search bar is at the top. A row for 'Default' is selected, indicated by a green checkmark. To the right of the row are buttons for 'Default Network Access' (with icons for edit, delete, and add), hits (35), settings, and a red-bordered 'More' button.

Selecteer het autorisatiebeleid

Stap 8. Klik op het pijltje van het vervolgekeuzemenu naast Autorisatiebeleid om dit uit te vouwen. Klik vervolgens op het pictogram Add (+) om een nieuwe regel toe te voegen:

The screenshot shows the 'Rules' page. At the top right are buttons for 'Results', 'Profiles', 'Security Groups', 'Hits', and 'Actions'. Below is a table with columns: Status, Rule Name, Conditions, and a red-bordered '+' icon under the 'Conditions' column. A search bar is at the top. A new row is being added, indicated by the '+' icon.

Een nieuwe autorisatieregel toevoegen

Voer de naam voor de regel in en selecteer het pictogram Add (+) onder de kolom Voorwaarden:

The screenshot shows the 'Rule Editor' interface. At the top, there are tabs for 'Status', 'Rule Name' (highlighted with a red box), 'Conditions' (also highlighted with a red box), 'Profiles', 'Security Groups', 'Hits', and 'Actions'. Below the tabs is a search bar with the placeholder 'Search'. Under the 'Rule Name' tab, the rule name 'Group1\_AuthZ\_Rule' is displayed. To the right of the rule name is a red-bordered '+' button. Further right are two dropdown menus labeled 'Select from list' with up and down arrows, and a gear icon.

Een voorwaarde toevoegen

Stap 9. Klik in het tekstvak Attributededitor en klik op het pictogram Identity group. Selecteer het kenmerk Identiteitsgroep - Naam:

## Conditions Studio

The screenshot shows the 'Conditions Studio' interface. On the left is a 'Library' panel with a search bar and a list of various attributes. On the right is the 'Editor' panel, which has a button 'Click to add an attribute' (highlighted with a red box). A modal window titled 'Select attribute for condition' is open, showing a list of attributes categorized by dictionary. The 'IdentityGroup' icon is highlighted with a blue box. A red box highlights the 'Name' attribute under the 'IdentityGroup' row.

Dictionary	Attribute	ID	Info
All Dictionaries	Attribute	ID	
CWA	CWA_ExternalGroups		
IdentityGroup	Description		
<b>IdentityGroup</b>	<b>Name</b>		
InternalUser	IdentityGroup		
PassiveID	PassiveID_Groups		

Selecteer de voorwaarde

Selecteer Gelijk aan de operator en klik vervolgens op het pijltje van het vervolkeuzemenu om de beschikbare opties weer te geven en selecteer Gebruikersidentiteitsgroepen:<GROUP\_NAME>.

## Editor

The screenshot shows the configuration of a rule condition for 'IdentityGroup·Name'. The condition is set to 'Equals' and is configured to 'User Identity Groups:GROUP\_ACCOUNTS (default)'. A red box highlights the list item 'User Identity Groups:Group1'. A red box also highlights the 'Save' button in the top right corner of the dropdown menu.

IdentityGroup·Name

Equals

User Identity Groups:GROUP\_ACCOUNTS (default)

User Identity Groups:Group1

User Identity Groups:Group2

User Identity Groups:GuestType\_Contractor (default)

User Identity Groups:GuestType\_Daily (default)

Save

Selecteer de groep

Klik op Save (Opslaan).

Stap 10. Klik in de kolom Profielen op het pictogram Toevoegen (+) en kies Een nieuw autorisatieprofiel maken:

The screenshot shows the 'Results' page with a table of rules. The 'Profiles' tab is selected. In the second row, under the 'Profiles' column, there is a dropdown menu with the option 'Create a New Authorization Profile' highlighted by a red box.

Status	Rule Name	Conditions	Profiles	Security Groups	Hits	Actions
✓	Group1_AuthZ_Rule	IdentityGroup-Name EQUALS User Identity Groups:Group1	Select from list	Select from list	10	
✓	Wireless Black List Default	AND IdentityGroup-Name EQUALS Endpoint Identity Groups:Blacklist	Create a New Authorization Profile	Select from list	0	

Het autorisatieprofiel maken

Voer de naam van het profiel in

# Add New Standard Profile

## Authorization Profile

\* Name

Description

\* Access Type

Network Device Profile    

Service Template

Track Movement  

Agentless Posture  

Passive Identity Tracking  

## Profielinformatie

Navigeer naar het einde van deze pagina naar Advanced Attribute Settings en klik op het pijltje van het vervolgkeuzemenu. Klik vervolgens op Cisco en selecteer cisco-av-pair—[1]:

Advanced Attributes Settings

Select an item  =  

Cisco

cisco-abort-cause--[21]  
cisco-account-info--[250]  
cisco-assign-ip-pool--[218]  
**cisco-av-pair--[1]**  
cisco-call-filter--[243]  
cisco-call-id--[141]

Attributes Details  
Access Type = ACCESS\_ACCEPT

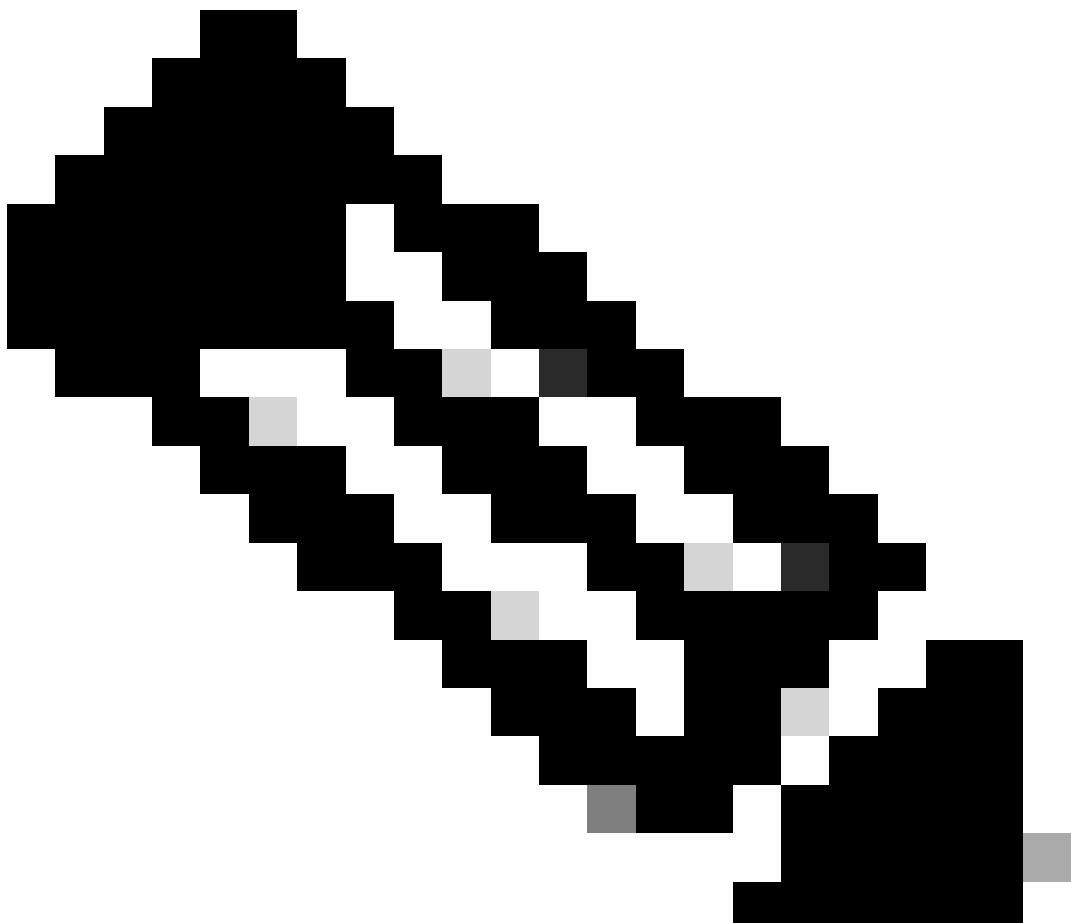
Selecteer het type kenmerk

Voeg het cisco-av-paar attribuut toe dat u wilt configureren en klik op het pictogram Add (+) om een ander attribuut toe te voegen:

Advanced Attributes Settings

Cisco:cisco-av-pair = ipsec:dns-servers=10.0.50.10 

Het kenmerk configureren



Opmerking: Raadpleeg voor specificaties van kenmerken (naam, syntaxis, beschrijving, voorbeeld, enz.) de configuratiehandleiding van FlexVPN RADIUS-kenmerken:

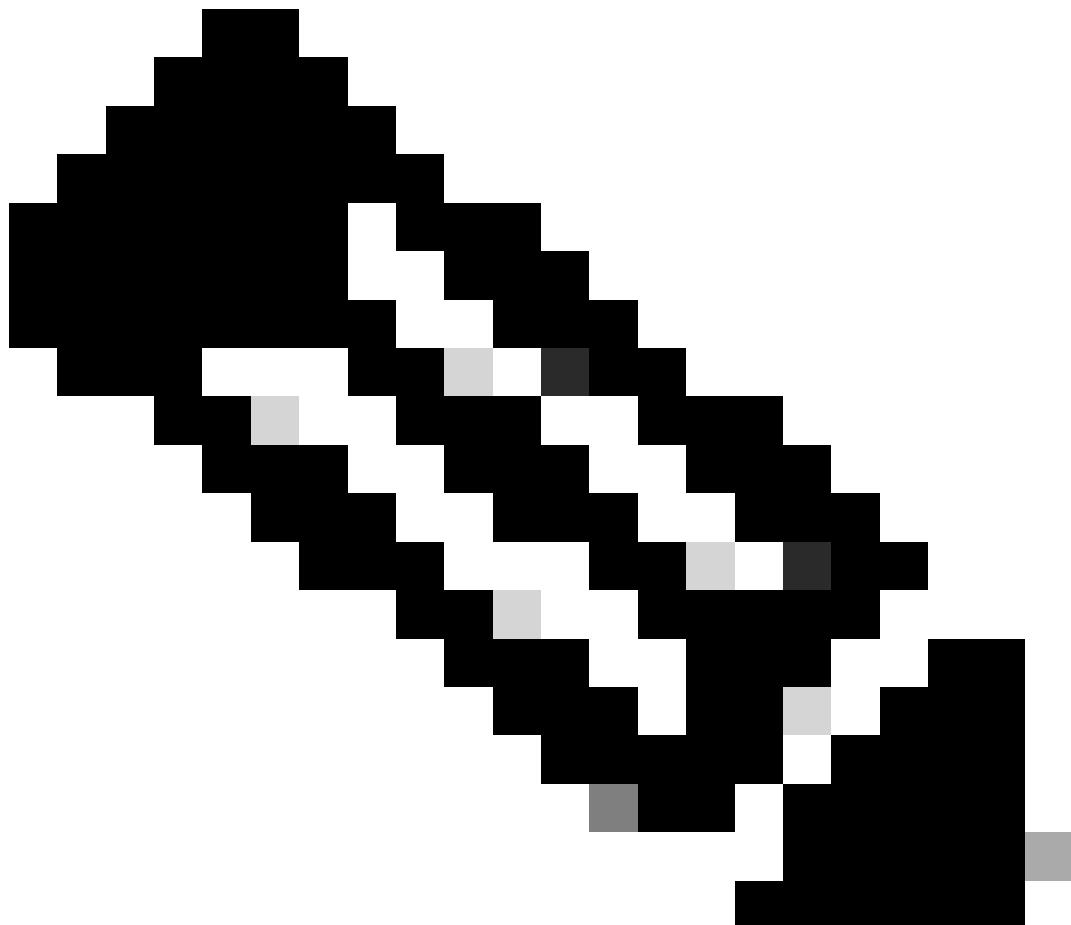
[Configuratiehandleiding voor FlexVPN en Internet Key Exchange versie 2, Cisco IOS XE](#)

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[Fuji 16.9.x - ondersteunde RADIUS-kenmerken](#)

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N.B.: Herhaal de vorige stap om de benodigde kenmerken te maken.

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Klik op Save (Opslaan).

De volgende attributen werden toegewezen aan elke groep:

- Eigenschappen van groep 1:

✓ Advanced Attributes Settings

⋮ Cisco:cisco-av-pair	▼	=	ipsec:dns-servers=10.0.50.10	▼	—
⋮ Cisco:cisco-av-pair	▼	=	ipsec:route-set=prefix 192.168.100.0/24	▼	—
⋮ Cisco:cisco-av-pair	▼	=	ipsec:addr-pool=group1	▼	— +

✓ Attributes Details

```
Access Type = ACCESS_ACCEPT
cisco-av-pair = ipsec:dns-servers=10.0.50.101
cisco-av-pair = ipsec:route-set=prefix 192.168.100.0/24
cisco-av-pair = ipsec:addr-pool=group1
```

Groep1-kenmerk

• Eigenschappen groep 2:

✓ Advanced Attributes Settings

⋮ Cisco:cisco-av-pair	▼	=	ipsec:dns-servers=10.0.50.20	▼	—
⋮ Cisco:cisco-av-pair	▼	=	ipsec:route-set=prefix 192.168.200.0/24	▼	—
⋮ Cisco:cisco-av-pair	▼	=	ipsec:addr-pool=group2	▼	— +

✓ Attributes Details

```
Access Type = ACCESS_ACCEPT
cisco-av-pair = ipsec:dns-servers=10.0.50.202
cisco-av-pair = ipsec:route-set=prefix 192.168.200.0/24
cisco-av-pair = ipsec:addr-pool=group2
```

Groep2-kenmerken

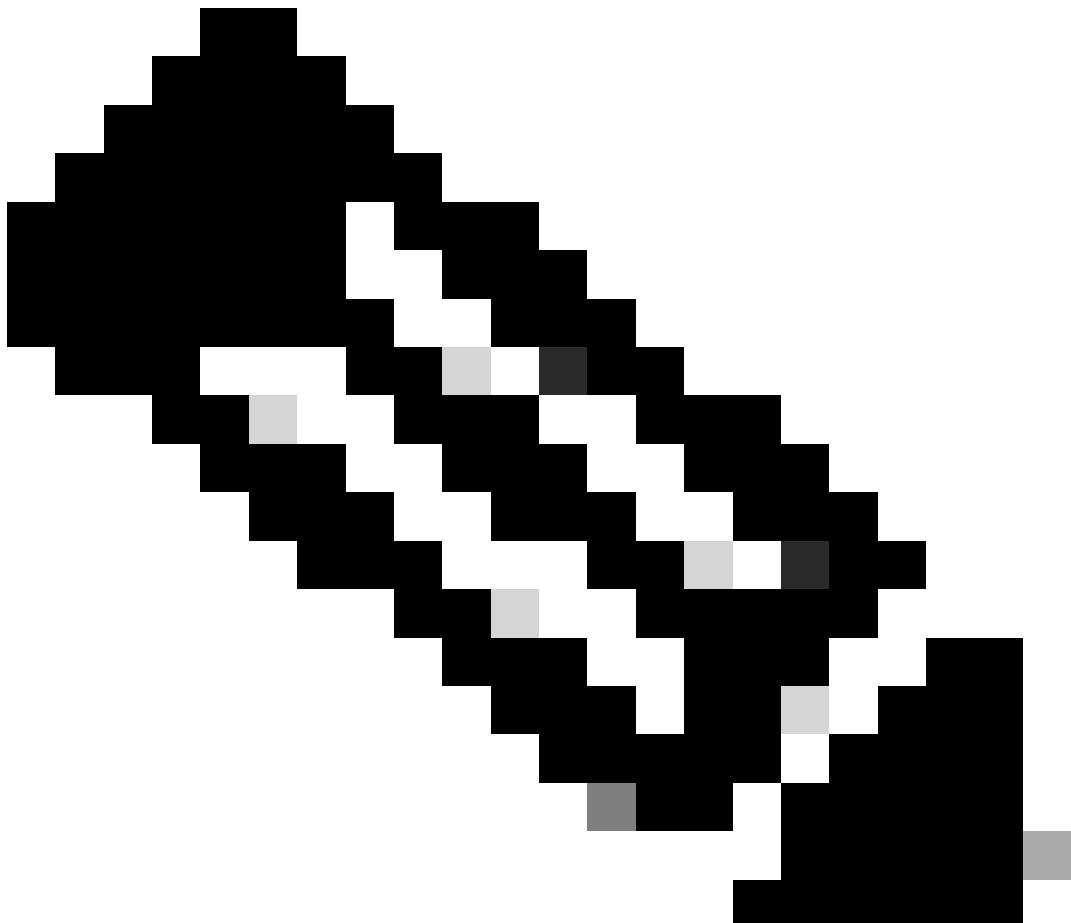
Stap 1. Klik op de pijl van het vervolgkeuzemenu en selecteer het autorisatieprofiel dat is gemaakt in stap 10:

Status Rule Name		Conditions	Profiles	Security Groups	Hits	Actions
<input type="text"/> Search						
<input checked="" type="checkbox"/>	Group1_AuthZ_Rule	<input type="text"/> IdentityGroup-Name EQUALS User Identity Groups:Group1	Select from list <input type="button" value="^"/> <input type="button" value="+"/>	Select from list <input type="button" value="^"/> <input type="button" value="+"/> 10 <input type="button" value="gear"/>		
<input checked="" type="checkbox"/>	Wireless Black List Default	AND <input type="text"/> Wireless_Access <input type="text"/> IdentityGroup-Name EQUALS Endpoint Identity Groups:Blacklist	DenyAccess NSP_Onboard Non_Cisco_IP_Phones PermitAccess <input type="text"/> Profile_group1	Select from list <input type="button" value="^"/> <input type="button" value="+"/> 0 <input type="button" value="gear"/>		
<input checked="" type="checkbox"/>	Profiled Cisco IP Phones	<input type="text"/> IdentityGroup-Name EQUALS Endpoint Identity Groups:Profiled:Cisco-IP-Phone		Select from list <input type="button" value="^"/> <input type="button" value="+"/> 0 <input type="button" value="gear"/>		
<input checked="" type="checkbox"/>	Profiled Non Cisco IP Phones	<input type="text"/> Non_Cisco_Profiled_Phones	Non_Cisco_IP_Phones <input type="button" value="x"/> <input type="button" value="+"/>	Select from list <input type="button" value="^"/> <input type="button" value="+"/> 0 <input type="button" value="gear"/>		

Vergunningsprofiel toewijzen

Klik op Save (Opslaan).

---



Opmerking: Herhaal stap 8 t/m 11 om voor elke groep de benodigde autorisatieregels te maken.

---

Stap 12 (facultatief). Als u het autorisatieprofiel wilt bewerken, gaat u naar Policy > Results:

The screenshot shows the Cisco ISE dashboard with the following navigation bar:

- Dashboard
- Context Visibility
- Operations
- Policy** (highlighted with a red box)
- Administration
- Work Centers

In the main content area, there are three main sections:

- Recent Pages**: Authorization Profiles, Results, Identities, Groups, Network Devices.
- Policy Sets**: Profiling
- Policy Elements**: Dictionaries, Conditions, **Results** (highlighted with a red box)

Shortcuts at the bottom left:

- [⌘] + [/] - Expand menu
- [esc] - Collapse menu

Bottom right corner: Make a wish

Algemene menu ISE

Ga naar Autorisatie > Autorisatieprofielen. Klik op het aanvinkvakje van het profiel dat u wilt wijzigen en klik vervolgens op Bewerken:

The screenshot shows the "Standard Authorization Profiles" page in Cisco ISE. The left sidebar shows categories: Authentication, Profiling, Posture, Client Provisioning. Under Authentication, Authorization and Authorization Profiles are selected. The main table lists profiles:

<input type="checkbox"/>	Name	Profile	Description
<input type="checkbox"/>	Blackhole_Wireless_Access	Cisco	Default profile used to blacklist wireless devices. Ensure that you correctly map this profile to the appropriate user role.
<input type="checkbox"/>	Cisco_IP_Phones	Cisco	Default profile used for Cisco Phones.
<input type="checkbox"/>	Cisco_Temporal_Onboard	Cisco	Onboard the device with Cisco temporal agent
<input type="checkbox"/>	Cisco_WebAuth	Cisco	Default Profile used to redirect users to the CWA portal.
<input type="checkbox"/>	NSP_Onboard	Cisco	Onboard the device with Native Suplicant Provisioning
<input type="checkbox"/>	Non_Cisco_IP_Phones	Cisco	Default Profile used for Non Cisco Phones.
<input checked="" type="checkbox"/>	Profile_group1	Cisco	Default profile used for UDN.
<input type="checkbox"/>	Profile_group2	Cisco	
<input type="checkbox"/>	UDN	Cisco	Default profile used for UDN.
<input type="checkbox"/>	DenyAccess		Default Profile with access type as Access-Reject
<input type="checkbox"/>	PermitAccess		Default Profile with access type as Access-Accept

Het autorisatieprofiel bewerken

## Clientconfiguratie

Stap 1. Maak een XML-profiel met de XML-profileditor. Dit voorbeeld wordt gebruikt voor het maken van dit document:

```
<#root>
```

```
<AnyConnectProfile xmlns="http://schemas.xmlsoap.org/encoding/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<ClientInitialization>
<UseStartBeforeLogon UserControllable="true">true</UseStartBeforeLogon>
<AutomaticCertSelection UserControllable="false">true</AutomaticCertSelection>
<ShowPreConnectMessage>false</ShowPreConnectMessage>
<CertificateStore>All</CertificateStore>
<CertificateStoreMac>All</CertificateStoreMac>
<CertificateStoreLinux>All</CertificateStoreLinux>
<CertificateStoreOverride>true</CertificateStoreOverride>
<ProxySettings>Native</ProxySettings>
<AllowLocalProxyConnections>true</AllowLocalProxyConnections>
<AuthenticationTimeout>30</AuthenticationTimeout>
<AutoConnectOnStart UserControllable="true">false</AutoConnectOnStart>
<MinimizeOnConnect UserControllable="true">true</MinimizeOnConnect>
<LocalLanAccess UserControllable="true">false</LocalLanAccess>
<DisableCaptivePortalDetection UserControllable="true">false</DisableCaptivePortalDetection>
<ClearSmartcardPin UserControllable="false">true</ClearSmartcardPin>
<IPProtocolSupport>IPv4,IPv6</IPProtocolSupport>
<AutoReconnect UserControllable="false">
    true
    <AutoReconnectBehavior UserControllable="false">ReconnectAfterResume</AutoReconnectBehavior>
</AutoReconnect>
<SuspendOnConnectedStandby>false</SuspendOnConnectedStandby>
<AutoUpdate UserControllable="false">true</AutoUpdate>
<RSASecurIDIntegration UserControllable="false">Automatic</RSASecurIDIntegration>
<WindowsLogonEnforcement>SingleLocalLogon</WindowsLogonEnforcement>
<LinuxLogonEnforcement>SingleLocalLogon</LinuxLogonEnforcement>
<WindowsVPNEstablishment>AllowRemoteUsers</WindowsVPNEstablishment>
<LinuxVPNEstablishment>LocalUsersOnly</LinuxVPNEstablishment>
<AutomaticVPNPolicy>false</AutomaticVPNPolicy>
<PPPExclusion UserControllable="false">
    Disable
    <PPPExclusionServerIP UserControllable="false"/>
</PPPExclusion>
<EnableScripting UserControllable="false">false</EnableScripting>
<EnableAutomaticServerSelection UserControllable="false">
    false
    <AutoServerSelectionImprovement>20</AutoServerSelectionImprovement>
    <AutoServerSelectionSuspendTime>4</AutoServerSelectionSuspendTime>
</EnableAutomaticServerSelection>
<RetainVpnOnLogoff>false </RetainVpnOnLogoff>
<CaptivePortalRemediationBrowserFailover>false</CaptivePortalRemediationBrowserFailover>
<AllowManualHostInput>true</AllowManualHostInput>
</ClientInitialization>
<ServerList>
<HostEntry>
<HostName>
    FlexVPN HUB
</HostName>
<HostAddress>

```

192.168.50.225

```
</HostAddress>
<PrimaryProtocol>

IPsec

<StandardAuthenticationOnly>
true
<AuthMethodDuringIKENegotiation>

EAP-MD5

</AuthMethodDuringIKENegotiation>
<IKEIdentity>

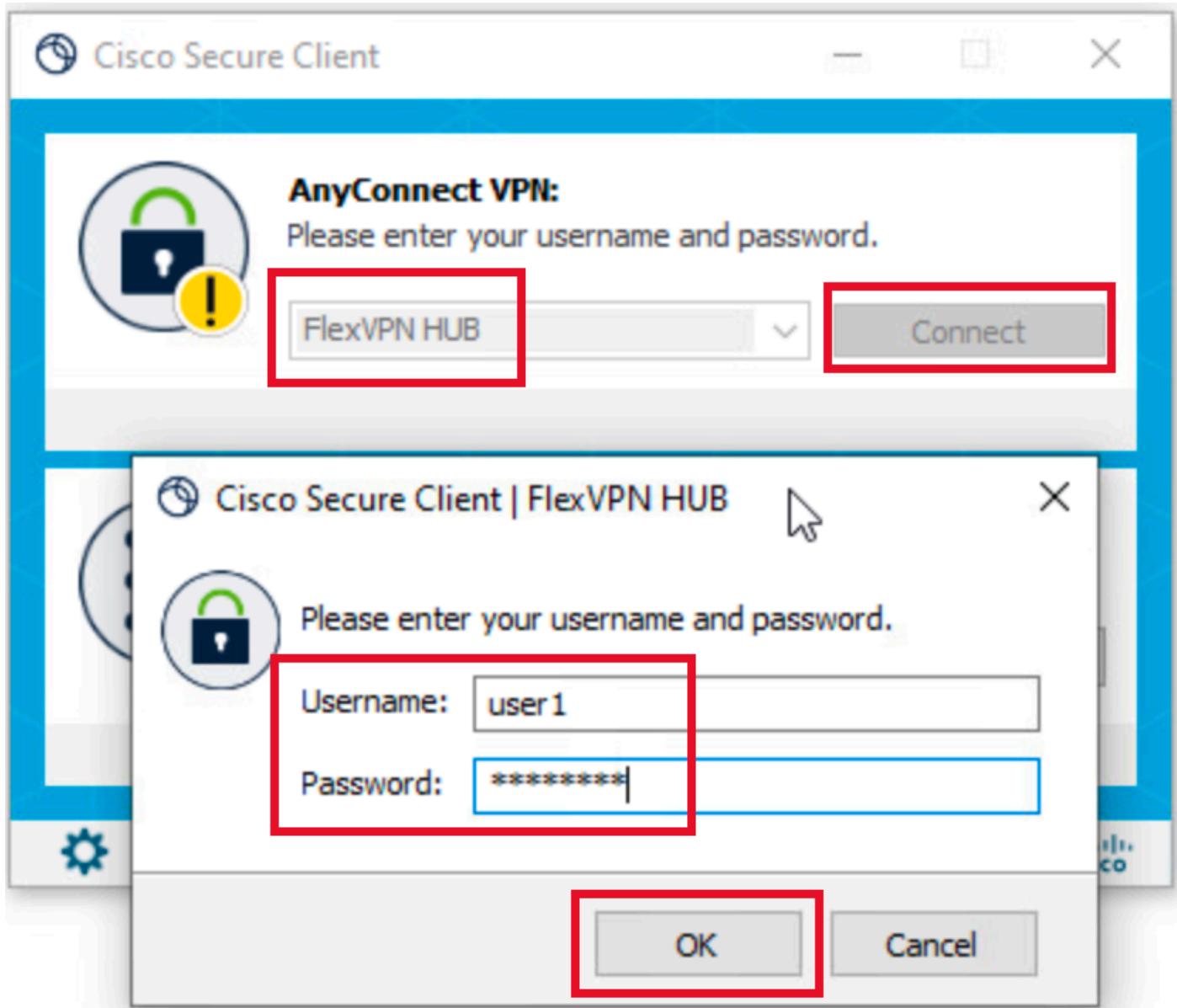
cisco.example

</IKEIdentity>
</StandardAuthenticationOnly>
</PrimaryProtocol>
</HostEntry>
</ServerList>
</AnyConnectProfile>
```

- <HostName> - De alias die wordt gebruikt om te verwijzen naar de host, IP-adres of Full-Qualified Domain Name (FQDN). Dit wordt weergegeven in het vak CSC.
- <HostAddress> - IP-adres of FQDN van de FlexVPN-hub.
- <Primary Protocol> - Moet worden ingesteld op IPsec om de client te dwingen IKEv2/IPsec te gebruiken in plaats van SSL.
- <AuthMethodDuringIKENegotiation> - Moet worden ingesteld om EAP-MD5 te gebruiken binnen EAP. Dit is vereist voor verificatie op de ISE-server.
- <IKEIdentity> - Deze string wordt door de client verzonden als de payload van de ID\_GROUP type-id. Dit kan worden gebruikt om de client aan te passen aan een specifiek IKEv2-profiel op de hub.

## Verifiëren

Stap 1. Navigeer naar de clientmachine waar CSC is geïnstalleerd. Maak verbinding met de FlexVPN-hub en voer de user1-referenties in:



Gebruikersreferenties1

Stap 2. Wanneer de verbinding tot stand is gebracht, klikt u op het tandwielpictogram (linker benedenhoek) en navigeert u naar AnyConnectVPN > Statistics. Bevestig in het gedeelte Adres Information dat het toegewezen IP-adres behoort tot de pool die voor groep1 is geconfigureerd:

Cisco Secure Client

# Secure Client

Status Overview

AnyConnect VPN >

Secure Endpoint

Virtual Private Network (VPN)

Preferences Statistics Route Details Firewall Message History

Connection Information

State:	Connected
Tunnel Mode (IPv4):	Split Include
Tunnel Mode (IPv6):	Drop All Traffic
Dynamic Tunnel Exclusion:	None
Dynamic Tunnel Inclusion:	None
Duration:	00:00:22
Session Disconnect:	None
Management Connection State:	Disconnected (user tunnel active)

Address Information

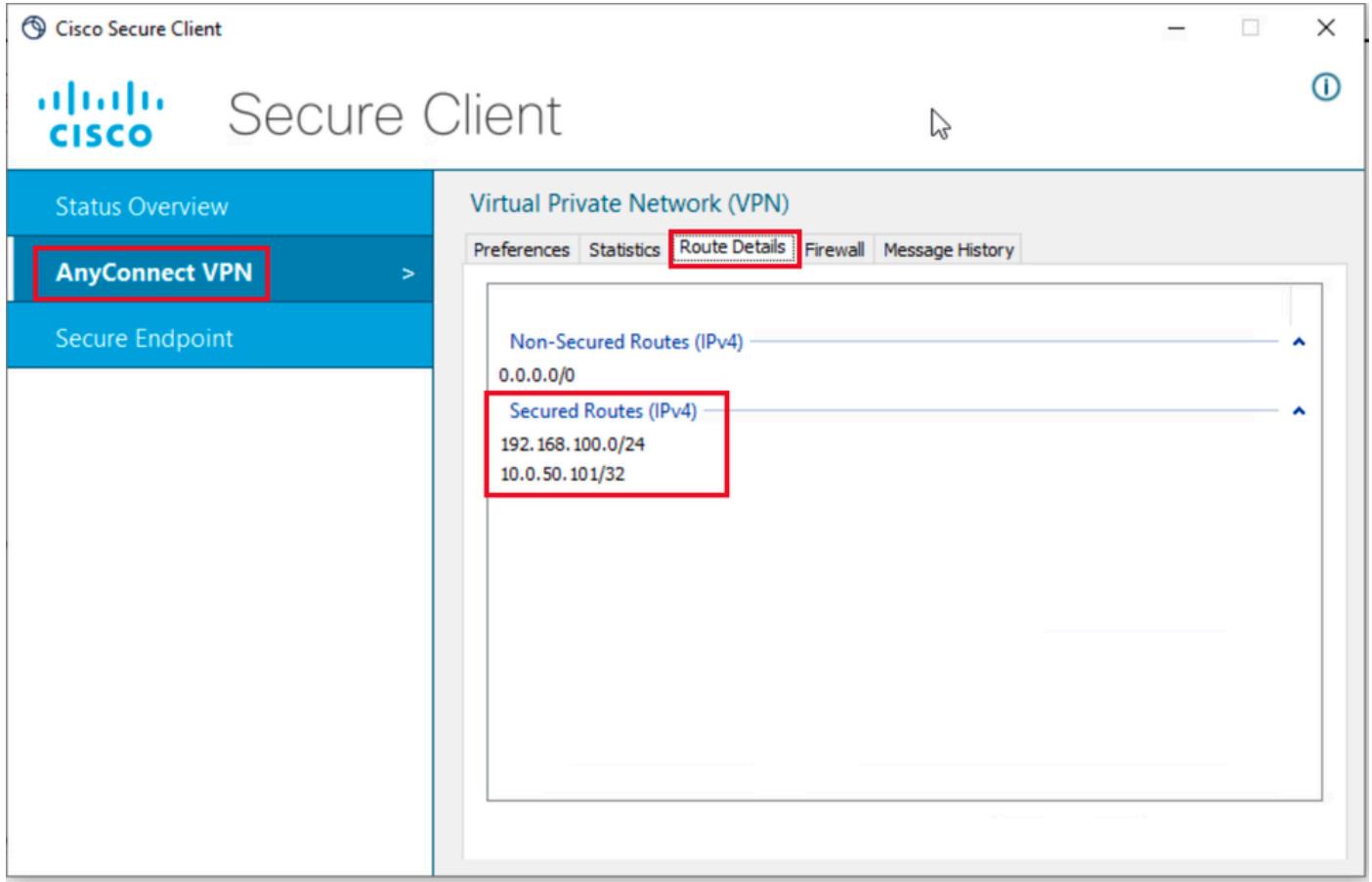
Client (IPv4):	172.16.10.5
Client (IPv6):	Not Available
Server:	[REDACTED]
Bytes	---

Reset Export Stats

The screenshot shows the Cisco AnyConnect Secure Client interface. The left sidebar has 'Status Overview' at the top, followed by a red-bordered 'AnyConnect VPN' link, and 'Secure Endpoint' below it. The main content area is titled 'Virtual Private Network (VPN)' and contains tabs for 'Preferences', 'Statistics' (which is selected and highlighted with a red border), 'Route Details', 'Firewall', and 'Message History'. Under 'Statistics', there are two sections: 'Connection Information' and 'Address Information'. 'Connection Information' lists various connection parameters like state, tunnel modes, and session duration. 'Address Information' shows the client's IPv4 address (172.16.10.5) and notes that the IPv6 address is not available. At the bottom right of the stats section are 'Reset' and 'Export Stats' buttons.

Statistieken gebruiker1

Navigeer naar AnyConnectVPN > Routegegevens en bevestig dat de weergegeven informatie overeenkomt met de beveiligde routes en DNS die zijn geconfigureerd voor groep1:



Gebruiker1-routegegevens

Stap 3. Herhaal stap 1 en 2 met user2-referenties om te controleren of de informatie overeenkomt met de waarden die zijn geconfigureerd in het ISE-autorisatiebeleid voor deze groep:



Cisco Secure Client



### AnyConnect VPN:

Please enter your username and password.

FlexVPN HUB

Connect



Cisco Secure Client | FlexVPN HUB



Please enter your username and password.

Username: user2

Password: \*\*\*\*\*

OK

Cancel

Gebruikersreferenties2

Cisco Secure Client

# Secure Client

Status Overview

AnyConnect VPN >

Secure Endpoint

Virtual Private Network (VPN)

Preferences Statistics Route Details Firewall Message History

Connection Information

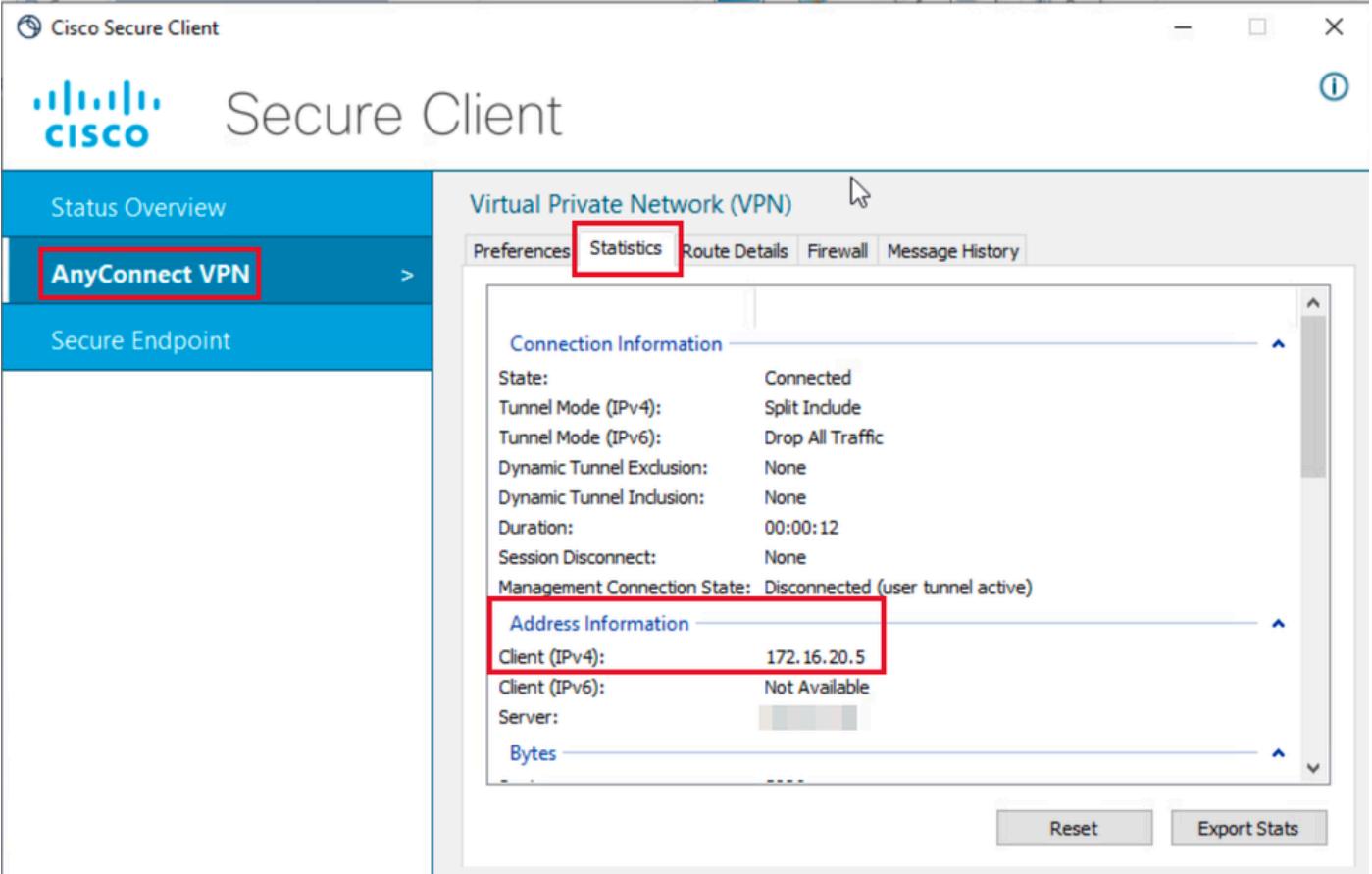
State:	Connected
Tunnel Mode (IPv4):	Split Include
Tunnel Mode (IPv6):	Drop All Traffic
Dynamic Tunnel Exclusion:	None
Dynamic Tunnel Inclusion:	None
Duration:	00:00:12
Session Disconnect:	None
Management Connection State:	Disconnected (user tunnel active)

Address Information

Client (IPv4):	172.16.20.5
Client (IPv6):	Not Available
Server:	[REDACTED]

Bytes

Reset Export Stats



Gebruiker2 Statistieken

Cisco Secure Client

# Secure Client

Status Overview

AnyConnect VPN >

Secure Endpoint

Virtual Private Network (VPN)

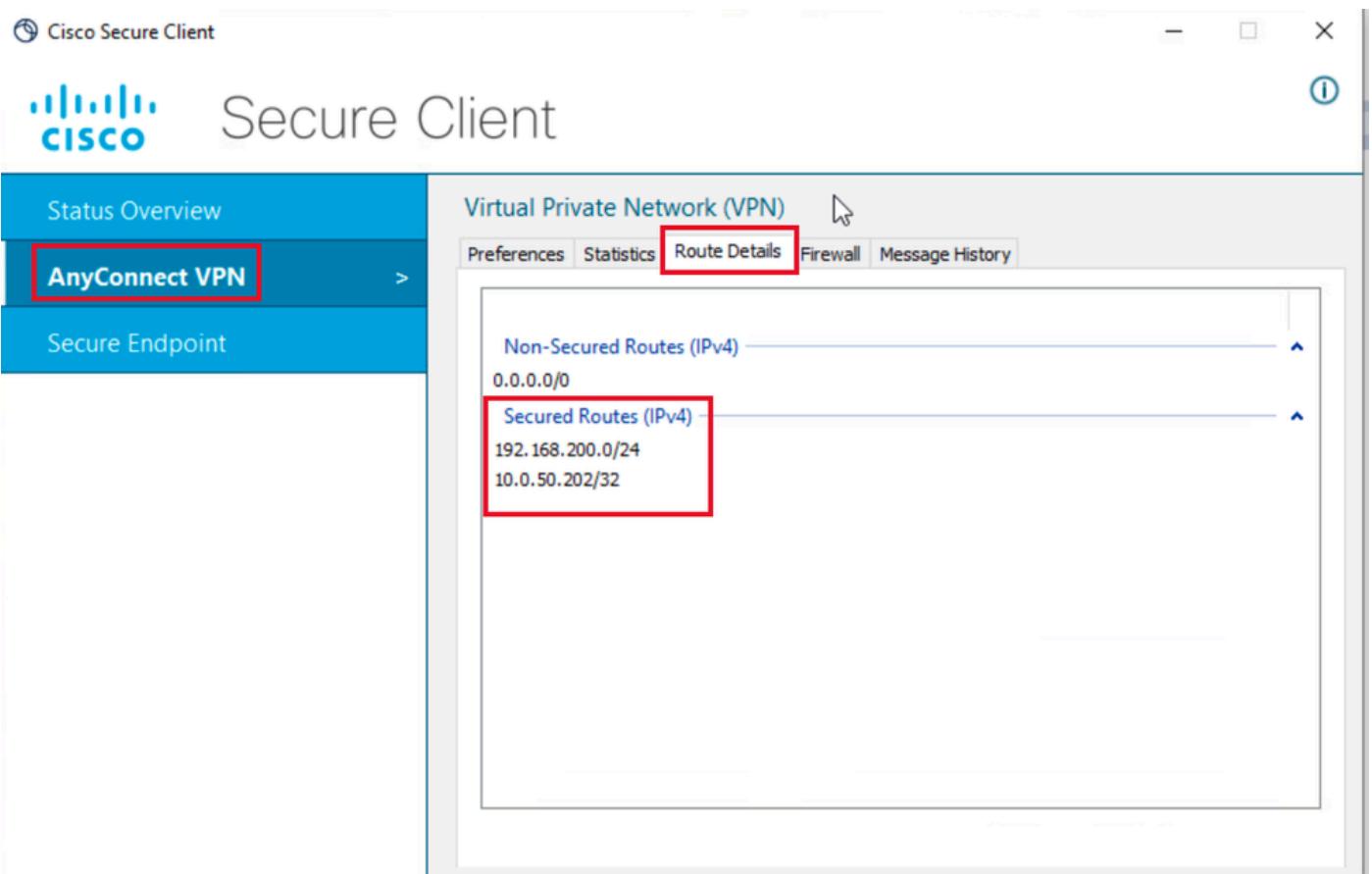
Preferences Statistics Route Details Firewall Message History

Non-Secured Routes (IPv4)

0.0.0.0/0

Secured Routes (IPv4)

192.168.200.0/24
10.0.50.202/32



Gebruiker2-routegegevens

# Problemen oplossen

## Debugs en logbestanden

Op Cisco router:

1. Gebruik de debug van IKEv2 en IPSec om de onderhandeling tussen de head-end en de client te verifiëren:

```
debug crypto ikev2
debug crypto ikev2 packet
debug crypto ikev2 error
debug crypto ikev2 internal
debug crypto ipsec
debug crypto ipsec error
```

2. Gebruik AAA-debugs om de toewijzing van lokale en/of externe kenmerken te verifiëren:

```
debug aaa authorization
debug aaa authentication
debug radius authentication
```

ISE:

- Live RADIUS-logbestanden

## Werkscenario

De volgende uitgangen zijn voorbeelden van de succesvolle verbindingen:

- Gebruiker1 debug-uitvoer:

```
<#root>
```

```
Jan 30 02:57:21.088: AAA/BIND(000000FF): Bind i/f
Jan 30 02:57:21.088: AAA/AUTHEN/LOGIN (000000FF):
Pick method list 'FlexVPN-Authentication-List'
```

```
Jan 30 02:57:21.088: RADIUS/ENCODE(000000FF):Orig. component type = VPN IPSEC
Jan 30 02:57:21.088: RADIUS/ENCODE(000000FF): dropping service type, "radius-server attribute 6 on-for-
Jan 30 02:57:21.088: RADIUS(000000FF): Config NAS IP: 0.0.0.0
Jan 30 02:57:21.088: vrfid: [65535] ipv6 tableid : [0]
Jan 30 02:57:21.088: idb is NULL
Jan 30 02:57:21.088: RADIUS(000000FF): Config NAS IPv6: ::
```

```
Jan 30 02:57:21.089: RADIUS/ENCODE(000000FF): acct_session_id: 4245
Jan 30 02:57:21.089: RADIUS(000000FF): sending
Jan 30 02:57:21.089: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 02:57:21.089: RADIUS: Message Authenticator encoded
Jan 30 02:57:21.089: RADIUS(000000FF):
```

```
Send Access-Request to 192.168.30.110:1645 id 1645/85, len 229
```

```
RADIUS: authenticator C9 82 15 29 AF 4B 17 61 - 27 F4 5C 27 C2 C3 50 34
Jan 30 02:57:21.089: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 02:57:21.089: RADIUS: Vendor, Cisco [26] 26
Jan 30 02:57:21.089: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 02:57:21.089: RADIUS: Vendor, Cisco [26] 36
Jan 30 02:57:21.089: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 02:57:21.089: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 02:57:21.089: RADIUS: Vendor, Cisco [26] 64
Jan 30 02:57:21.089: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194CAE2Z"
Jan 30 02:57:21.089: RADIUS: User-Name [1] 7
```

```
"user1"
```

```
Jan 30 02:57:21.089: RADIUS: Vendor, Cisco [26] 21
Jan 30 02:57:21.089: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 02:57:21.089: RADIUS: EAP-Message [79] 12
RADIUS: 02 3B 00 0A 01 75 73 65 72 31 [ ;user1]
Jan 30 02:57:21.089: RADIUS: Message-Authenticato[80] 18
RADIUS: E7 22 65 E0 DC 03 3A 49 0B 01 49 2A D5 3F AD 4F [ "e:II*?0"]
Jan 30 02:57:21.089: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 02:57:21.089: RADIUS(000000FF): Sending a IPv4 Radius Packet
Jan 30 02:57:21.090: RADIUS(000000FF): Started 5 sec timeout
Jan 30 02:57:21.094: RADIUS:
```

```
Received from id 1645/85 192.168.30.110:1645, Access-Challenge, len 137
```

```
RADIUS: authenticator 67 2B 9D 9C 4D 1F F3 E8 - F6 EC 9B EB 8E 49 C8 A5
Jan 30 02:57:21.094: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 43 41 [2F2F016FZH1194CA]
RADIUS: 45 32 5A 4E 31 46 3B 33 31 53 65 73 73 69 6F 6E [E2ZN1F;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 32 39 3B [ 80018/29;]
Jan 30 02:57:21.094: RADIUS: EAP-Message [79] 8
RADIUS: 01 52 00 06 0D 20 [ R ]
Jan 30 02:57:21.094: RADIUS: Message-Authenticato[80] 18
RADIUS: 38 8A B1 31 72 62 06 40 4F D4 58 48 E8 36 E7 80 [ 81rb@0XH6]
Jan 30 02:57:21.094: RADIUS(000000FF): Received from id 1645/85
RADIUS/DECODE: EAP-Message fragments, 6, total 6 bytes
Jan 30 02:57:21.097: AAA/AUTHEN/LOGIN (000000FF):
```

```
Pick method list 'FlexVPN-Authentication-List'
```

```
Jan 30 02:57:21.097: RADIUS/ENCODE(000000FF):Orig. component type = VPN IPSEC
Jan 30 02:57:21.097: RADIUS/ENCODE(000000FF): dropping service type, "radius-server attribute 6 on-for-
Jan 30 02:57:21.097: RADIUS(000000FF): Config NAS IP: 0.0.0.0
Jan 30 02:57:21.097: vrfid: [65535] ipv6 tableid : [0]
Jan 30 02:57:21.097: idb is NULL
```

```
Jan 30 02:57:21.097: RADIUS(000000FF): Config NAS IPv6: ::  
Jan 30 02:57:21.097: RADIUS/ENCODE(000000FF): acct_session_id: 4245  
Jan 30 02:57:21.097: RADIUS(000000FF): sending  
Jan 30 02:57:21.097: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.100  
Jan 30 02:57:21.097: RADIUS: Message Authenticator encoded  
Jan 30 02:57:21.097: RADIUS(000000FF):  
  
Send Access-Request to 192.168.30.110:1645 id 1645/86, len 316  
  
RADIUS: authenticator 93 07 42 CC D1 90 31 68 - 56 D0 D0 5A 35 C3 67 BC  
Jan 30 02:57:21.097: RADIUS: Service-Type [6] 6 Login [1]  
Jan 30 02:57:21.097: RADIUS: Vendor, Cisco [26] 26  
Jan 30 02:57:21.098: RADIUS: Cisco AVpair [1] 20 "service-type=Login"  
Jan 30 02:57:21.098: RADIUS: Vendor, Cisco [26] 36  
Jan 30 02:57:21.098: RADIUS: Cisco AVpair [1] 30  
  
"isakmp-phase1-id=cisco.example"  
  
Jan 30 02:57:21.098: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"  
Jan 30 02:57:21.098: RADIUS: Vendor, Cisco [26] 64  
Jan 30 02:57:21.098: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194CAE2Z"  
Jan 30 02:57:21.098: RADIUS: User-Name [1] 7  
  
"user1"  
  
Jan 30 02:57:21.098: RADIUS: Vendor, Cisco [26] 21  
Jan 30 02:57:21.098: RADIUS: Cisco AVpair [1] 15 "coa-push=true"  
Jan 30 02:57:21.098: RADIUS: EAP-Message [79] 8  
RADIUS: 02 52 00 06 03 04 [ R ]  
Jan 30 02:57:21.098: RADIUS: Message-Authenticato[80] 18  
RADIUS: E0 67 24 D3 BB CF D9 E0 EE 44 98 8A 26 64 AC C9 [ g$D&d ]  
Jan 30 02:57:21.098: RADIUS: State [24] 91  
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]  
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]  
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 43 41 [2F2F016FZH1194CA]  
RADIUS: 45 32 5A 4E 31 46 3B 33 31 53 65 73 73 69 6F 6E [E2ZN1F;31Session]  
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]  
RADIUS: 38 30 30 31 38 2F 32 39 3B [ 80018/29; ]  
Jan 30 02:57:21.098: RADIUS: NAS-IP-Address [4] 6 192.168.30.100  
Jan 30 02:57:21.098: RADIUS(000000FF): Sending a IPv4 Radius Packet  
Jan 30 02:57:21.099: RADIUS(000000FF): Started 5 sec timeout  
Jan 30 02:57:21.101: RADIUS:  
  
Received from id 1645/86 192.168.30.110:1645, Access-Challenge, len 161  
  
RADIUS: authenticator 42 A3 5F E0 92 13 51 13 - B2 80 56 A3 91 36 BD A1  
Jan 30 02:57:21.101: RADIUS: State [24] 91  
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]  
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]  
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 43 41 [2F2F016FZH1194CA]  
RADIUS: 45 32 5A 4E 31 46 3B 33 31 53 65 73 73 69 6F 6E [E2ZN1F;31Session]  
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]  
RADIUS: 38 30 30 31 38 2F 32 39 3B [ 80018/29; ]  
Jan 30 02:57:21.101: RADIUS: EAP-Message [79] 32  
RADIUS: 01 53 00 1E 04 10 D7 61 AE 69 3B 88 A1 83 E4 EC OF B6 EF 68 58 16 49 53 45 2D 44 49 41 4E [ Sai  
Jan 30 02:57:21.101: RADIUS: Message-Authenticato[80] 18  
RADIUS: 3E C9 C1 E1 F2 3B 4E 4C DF CF AC 21 AA E9 C3 F0 [ >;NL! ]  
Jan 30 02:57:21.101: RADIUS(000000FF): Received from id 1645/86  
RADIUS/DECODE: EAP-Message fragments, 30, total 30 bytes  
Jan 30 02:57:21.103: AAA/AUTHEN/LOGIN (000000FF):
```

```
Pick method list 'FlexVPN-Authentication-List'
```

```
Jan 30 02:57:21.103: RADIUS/ENCODE(000000FF):Orig. component type = VPN IPSEC
Jan 30 02:57:21.103: RADIUS/ENCODE(000000FF): dropping service type, "radius-server attribute 6 on-for-
Jan 30 02:57:21.103: RADIUS(000000FF): Config NAS IP: 0.0.0.0
Jan 30 02:57:21.103: vrfid: [65535] ipv6 tableid : [0]
Jan 30 02:57:21.104: idb is NULL
Jan 30 02:57:21.104: RADIUS(000000FF): Config NAS IPv6: :: 
Jan 30 02:57:21.104: RADIUS/ENCODE(000000FF): acct_session_id: 4245
Jan 30 02:57:21.104: RADIUS(000000FF): sending
Jan 30 02:57:21.104: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 02:57:21.104: RADIUS: Message Authenticator encoded
Jan 30 02:57:21.104: RADIUS(000000FF):
```

```
Send Access-Request to 192.168.30.110:1645 id 1645/87, len 332
```

```
RADIUS: authenticator 89 35 9C C5 06 FB 04 B7 - 4E A3 B2 5F 2B 15 4F 46
Jan 30 02:57:21.104: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 02:57:21.104: RADIUS: Vendor, Cisco [26] 26
Jan 30 02:57:21.104: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 02:57:21.104: RADIUS: Vendor, Cisco [26] 36
Jan 30 02:57:21.104: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 02:57:21.104: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 02:57:21.104: RADIUS: Vendor, Cisco [26] 64
Jan 30 02:57:21.104: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194CAE2Z"
Jan 30 02:57:21.104: RADIUS: User-Name [1] 7
```

```
"user1"
```

```
Jan 30 02:57:21.104: RADIUS: Vendor, Cisco [26] 21
Jan 30 02:57:21.104: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 02:57:21.104: RADIUS: EAP-Message [79] 24
RADIUS: 02 53 00 16 04 10 B0 BB 3E D5 B1 D6 01 FC 9A B7 4A DB AB F7 2F B6 [ S>J/]
Jan 30 02:57:21.104: RADIUS: Message-Authenticato[80] 18
RADIUS: 79 43 97 A7 26 17 3E 3B 54 B4 90 D4 76 0F E0 14 [ yC&>;Tv]
Jan 30 02:57:21.104: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 43 41 [2F2F016FZH1194CA]
RADIUS: 45 32 5A 4E 31 46 3B 33 31 53 65 73 73 69 6F 6E [E2ZN1F;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 32 39 3B [ 80018/29;]
Jan 30 02:57:21.104: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 02:57:21.105: RADIUS(000000FF): Sending a IPv4 Radius Packet
Jan 30 02:57:21.105: RADIUS(000000FF): Started 5 sec timeout
Jan 30 02:57:21.170: RADIUS:
```

```
Received from id 1645/87 192.168.30.110:1645, Access-Accept, len 233
```

```
RADIUS: authenticator 75 F6 05 85 1D A0 C3 EE - F8 81 F9 02 38 AC C1 B6
Jan 30 02:57:21.170: RADIUS: User-Name [1] 7
```

```
"user1"
```

```
Jan 30 02:57:21.170: RADIUS: Class [25] 68
RADIUS: 43 41 43 53 3A 4C 32 4C 34 32 46 32 46 30 31 31 [CACS:L2L42F2F011]
```

```

RADIUS: 36 5A 4F 32 4C 34 32 46 32 46 30 31 36 46 5A 48 [6Z02L42F2F016FZH]
RADIUS: 31 31 39 34 43 41 45 32 5A 4E 31 46 3A 49 53 45 [1194CAE2ZN1F:ISE]
RADIUS: 2D 44 49 41 4E 2F 34 39 33 30 38 30 30 31 38 2F [-DIAN/493080018/]
RADIUS: 32 39 [ 29]
Jan 30 02:57:21.170: RADIUS: EAP-Message [79] 6
RADIUS: 03 53 00 04 [ S]
Jan 30 02:57:21.170: RADIUS: Message-Authenticato[80] 18
RADIUS: 8A A9 CC 07 61 A2 6D BA E4 EB B5 B7 73 0E EC 28 [ ams()]
Jan 30 02:57:21.170: RADIUS: Vendor, Cisco [26] 37
Jan 30 02:57:21.170: RADIUS: Cisco AVpair [1] 31

"ipsec:dns-servers=10.0.50.101"

Jan 30 02:57:21.170: RADIUS: Vendor, Cisco [26] 47
Jan 30 02:57:21.170: RADIUS: Cisco AVpair [1] 41

"ipsec:route-set=prefix 192.168.100.0/24"

Jan 30 02:57:21.170: RADIUS: Vendor, Cisco [26] 30
Jan 30 02:57:21.170: RADIUS: Cisco AVpair [1] 24

"ipsec:addr-pool=group1"

Jan 30 02:57:21.171: RADIUS(000000FF): Received from id 1645/87
RADIUS/DECODE: EAP-Message fragments, 4, total 4 bytes
Jan 30 02:57:21.175: AAA/BIND(00000100): Bind i/f
Jan 30 02:57:21.175: AAA/AUTHOR (0x100):

Pick method list 'FlexVPN-Authorization-List'

Jan 30 02:57:21.176: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access1, changed state to up
Jan 30 02:57:21.192: %SYS-5-CONFIG_P: Configured programmatically by process Crypto INT from console as
Jan 30 02:57:21.376: %LINEPROTO-5-UPDOWN:

Line protocol on Interface Virtual-Access1, changed state to up

```

- Gebruiker2 debug uitvoer:

```

<#root>

Jan 30 03:28:58.102: AAA/BIND(00000103): Bind i/f
Jan 30 03:28:58.102: AAA/AUTHEN/LOGIN (00000103):

Pick method list 'FlexVPN-Authentication-List'

Jan 30 03:28:58.103: RADIUS/ENCODE(00000103):Orig. component type = VPN IPSEC
Jan 30 03:28:58.103: RADIUS/ENCODE(00000103): dropping service type, "radius-server attribute 6 on-for-
Jan 30 03:28:58.103: RADIUS(00000103): Config NAS IP: 0.0.0.0
Jan 30 03:28:58.103: vrfid: [65535] ipv6 tableid : [0]
Jan 30 03:28:58.103: idb is NULL
Jan 30 03:28:58.103: RADIUS(00000103): Config NAS IPv6: :::
Jan 30 03:28:58.103: RADIUS/ENCODE(00000103): acct_session_id: 4249
Jan 30 03:28:58.103: RADIUS(00000103): sending
Jan 30 03:28:58.103: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 03:28:58.103: RADIUS: Message Authenticator encoded
Jan 30 03:28:58.103: RADIUS(00000103):

```

```
Send Access-Request to 192.168.30.110:1645 id 1645/88, len 229
```

```
RADIUS: authenticator 71 99 09 63 19 F7 D7 0B - 1D A9 4E 64 28 6F A5 64
Jan 30 03:28:58.103: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 03:28:58.103: RADIUS: Vendor, Cisco [26] 26
Jan 30 03:28:58.103: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 03:28:58.103: RADIUS: Vendor, Cisco [26] 36
Jan 30 03:28:58.104: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 03:28:58.104: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 03:28:58.104: RADIUS: Vendor, Cisco [26] 64
Jan 30 03:28:58.104: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194E444Z"
Jan 30 03:28:58.104: RADIUS: User-Name [1] 7
```

```
"user2"
```

```
Jan 30 03:28:58.104: RADIUS: Vendor, Cisco [26] 21
Jan 30 03:28:58.104: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 03:28:58.104: RADIUS: EAP-Message [79] 12
RADIUS: 02 3B 00 0A 01 75 73 65 72 32 [ ;user2]
Jan 30 03:28:58.104: RADIUS: Message-Authenticato[80] 18
RADIUS: 12 62 2F 51 12 FC F7 EC F0 87 E0 34 1E F1 AD E5 [ b/Q4]
Jan 30 03:28:58.104: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 03:28:58.104: RADIUS(00000103): Sending a IPv4 Radius Packet
Jan 30 03:28:58.105: RADIUS(00000103): Started 5 sec timeout
Jan 30 03:28:58.109: RADIUS:
```

```
Received from id 1645/88 192.168.30.110:1645, Access-Challenge, len 137
```

```
RADIUS: authenticator 98 04 01 EA CD 9B 1E A9 - DC 6F 2F 17 1F 2A 5F 43
Jan 30 03:28:58.109: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 45 34 [2F2F016FZH1194E4]
RADIUS: 34 34 5A 4E 32 30 3B 33 31 53 65 73 73 69 6F 6E [44ZN20;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 33 30 3B [ 80018/30;]
Jan 30 03:28:58.110: RADIUS: EAP-Message [79] 8
RADIUS: 01 35 00 06 0D 20 [ 5 ]
Jan 30 03:28:58.110: RADIUS: Message-Authenticato[80] 18
RADIUS: E3 A6 88 B1 B6 3D 93 1F 39 B3 AE 9E EA 1D BB 15 [ =9]
Jan 30 03:28:58.110: RADIUS(00000103): Received from id 1645/88
RADIUS/DECODE: EAP-Message fragments, 6, total 6 bytes
Jan 30 03:28:58.112: AAA/AUTHEN/LOGIN (00000103):
```

```
Pick method list 'FlexVPN-Authentication-List'
```

```
Jan 30 03:28:58.112: RADIUS/ENCODE(00000103):Orig. component type = VPN IPSEC
Jan 30 03:28:58.112: RADIUS/ENCODE(00000103): dropping service type, "radius-server attribute 6 on-for-"
Jan 30 03:28:58.112: RADIUS(00000103): Config NAS IP: 0.0.0.0
Jan 30 03:28:58.112: vrfid: [65535] ipv6 tableid : [0]
Jan 30 03:28:58.113: idb is NULL
Jan 30 03:28:58.113: RADIUS(00000103): Config NAS IPv6: :::
Jan 30 03:28:58.113: RADIUS/ENCODE(00000103): acct_session_id: 4249
Jan 30 03:28:58.113: RADIUS(00000103): sending
Jan 30 03:28:58.113: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 03:28:58.113: RADIUS: Message Authenticator encoded
Jan 30 03:28:58.113: RADIUS(00000103):
```

```
Send Access-Request to 192.168.30.110:1645 id 1645/89, len 316
```

```
RADIUS: authenticator 56 BD F0 9A 4B 16 5C 6C - 4E 41 00 56 8D C0 3A 8C
Jan 30 03:28:58.113: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 03:28:58.113: RADIUS: Vendor, Cisco [26] 26
Jan 30 03:28:58.113: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 03:28:58.113: RADIUS: Vendor, Cisco [26] 36
Jan 30 03:28:58.113: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 03:28:58.113: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 03:28:58.113: RADIUS: Vendor, Cisco [26] 64
Jan 30 03:28:58.113: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194E444Z"
Jan 30 03:28:58.113: RADIUS: User-Name [1] 7
```

```
"user2"
```

```
Jan 30 03:28:58.113: RADIUS: Vendor, Cisco [26] 21
Jan 30 03:28:58.113: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 03:28:58.113: RADIUS: EAP-Message [79] 8
RADIUS: 02 35 00 06 03 04 [ 5]
Jan 30 03:28:58.113: RADIUS: Message-Authenticato[80] 18
RADIUS: 47 1F 36 A7 C3 9B 90 6E 03 2C B8 D7 FE A7 13 44 [ G6n,D]
Jan 30 03:28:58.113: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 45 34 [2F2F016FZH1194E4]
RADIUS: 34 34 5A 4E 32 30 3B 33 31 53 65 73 73 69 6F 6E [44ZN20;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 33 30 3B [ 80018/30;]
Jan 30 03:28:58.114: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 03:28:58.114: RADIUS(00000103): Sending a IPv4 Radius Packet
Jan 30 03:28:58.114: RADIUS(00000103): Started 5 sec timeout
Jan 30 03:28:58.116: RADIUS:
```

```
Received from id 1645/89 192.168.30.110:1645, Access-Challenge, len 161
```

```
RADIUS: authenticator 84 A3 30 3D 80 BC 71 42 - 1B 9B 49 EF 0B 1B 02 02
Jan 30 03:28:58.116: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 45 34 [2F2F016FZH1194E4]
RADIUS: 34 34 5A 4E 32 30 3B 33 31 53 65 73 73 69 6F 6E [44ZN20;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 33 30 3B [ 80018/30;]
Jan 30 03:28:58.116: RADIUS: EAP-Message [79] 32
RADIUS: 01 36 00 1E 04 10 EB 9F A5 AC 70 1F 4D D6 48 05 9D EC 1F 29 67 AE 49 53 45 2D 44 49 41 4E [ 6pM]
Jan 30 03:28:58.116: RADIUS: Message-Authenticato[80] 18
RADIUS: 08 5E BC EF E5 38 50 CD FB 3C B3 E9 99 0A 51 B3 [ ^8P<Q]
Jan 30 03:28:58.116: RADIUS(00000103): Received from id 1645/89
RADIUS/DECODE: EAP-Message fragments, 30, total 30 bytes
Jan 30 03:28:58.118: AAA/AUTHEN/LOGIN (00000103):
```

```
Pick method list 'FlexVPN-Authentication-List'
```

```
Jan 30 03:28:58.118: RADIUS/ENCODE(00000103):Orig. component type = VPN IPSEC
Jan 30 03:28:58.118: RADIUS/ENCODE(00000103): dropping service type, "radius-server attribute 6 on-for-
Jan 30 03:28:58.118: RADIUS(00000103): Config NAS IP: 0.0.0.0
Jan 30 03:28:58.118: vrfid: [65535] ipv6 tableid : [0]
```

```
Jan 30 03:28:58.118: idb is NULL
Jan 30 03:28:58.118: RADIUS(00000103): Config NAS IPv6: :: 
Jan 30 03:28:58.118: RADIUS/ENCODE(00000103): acct_session_id: 4249
Jan 30 03:28:58.118: RADIUS(00000103): sending
Jan 30 03:28:58.118: RADIUS/ENCODE: Best Local IP-Address 192.168.30.100 for Radius-Server 192.168.30.1
Jan 30 03:28:58.119: RADIUS: Message Authenticator encoded
Jan 30 03:28:58.119: RADIUS(00000103):
```

```
Send Access-Request to 192.168.30.110:1645 id 1645/90, len 332
```

```
RADIUS: authenticator A1 62 1A FB 18 58 7B 47 - 5C 8A 64 FA B7 23 9B BE
Jan 30 03:28:58.119: RADIUS: Service-Type [6] 6 Login [1]
Jan 30 03:28:58.119: RADIUS: Vendor, Cisco [26] 26
Jan 30 03:28:58.119: RADIUS: Cisco AVpair [1] 20 "service-type=Login"
Jan 30 03:28:58.119: RADIUS: Vendor, Cisco [26] 36
Jan 30 03:28:58.119: RADIUS: Cisco AVpair [1] 30
```

```
"isakmp-phase1-id=cisco.example"
```

```
Jan 30 03:28:58.119: RADIUS: Calling-Station-Id [31] 13 "192.168.50.130"
Jan 30 03:28:58.119: RADIUS: Vendor, Cisco [26] 64
Jan 30 03:28:58.119: RADIUS: Cisco AVpair [1] 58 "audit-session-id=L2L42F2F0116Z02L42F2F016FZH1194E444Z"
Jan 30 03:28:58.119: RADIUS: User-Name [1] 7
```

```
"user2"
```

```
Jan 30 03:28:58.119: RADIUS: Vendor, Cisco [26] 21
Jan 30 03:28:58.119: RADIUS: Cisco AVpair [1] 15 "coa-push=true"
Jan 30 03:28:58.119: RADIUS: EAP-Message [79] 24
RADIUS: 02 36 00 16 04 10 73 B7 F2 42 09 5B AB 21 D8 77 96 A2 F7 C7 83 AD [ 6sB[!w]
Jan 30 03:28:58.119: RADIUS: Message-Authenticato[80] 18
RADIUS: B1 68 3C 25 9E FE 52 13 10 69 E6 BB 17 67 6F 18 [ h<?Rigo]
Jan 30 03:28:58.119: RADIUS: State [24] 91
RADIUS: 35 32 43 50 4D 53 65 73 73 69 6F 6E 49 44 3D 4C [52CPMSessionID=L]
RADIUS: 32 4C 34 32 46 32 46 30 31 31 36 5A 4F 32 4C 34 [2L42F2F0116Z02L4]
RADIUS: 32 46 32 46 30 31 36 46 5A 48 31 31 39 34 45 34 [2F2F016FZH1194E4]
RADIUS: 34 34 5A 4E 32 30 3B 33 31 53 65 73 73 69 6F 6E [44ZN20;31Session]
RADIUS: 49 44 3D 49 53 45 2D 44 49 41 4E 2F 34 39 33 30 [ID=ISE-SERVER/4930]
RADIUS: 38 30 30 31 38 2F 33 30 3B [ 80018/30;]
Jan 30 03:28:58.119: RADIUS: NAS-IP-Address [4] 6 192.168.30.100
Jan 30 03:28:58.119: RADIUS(00000103): Sending a IPv4 Radius Packet
Jan 30 03:28:58.119: RADIUS(00000103): Started 5 sec timeout
Jan 30 03:28:58.186: RADIUS: Received from id 1645/90 192.168.30.110:1645, Access-Accept, len 233
RADIUS: authenticator 48 A5 A0 11 ED B8 C2 87 - 35 30 17 D5 6D D7 B4 FD
Jan 30 03:28:58.186: RADIUS: User-Name [1] 7
```

```
"user2"
```

```
Jan 30 03:28:58.186: RADIUS: Class [25] 68
RADIUS: 43 41 43 53 3A 4C 32 4C 34 32 46 32 46 30 31 31 [CACS:L2L42F2F011]
RADIUS: 36 5A 4F 32 4C 34 32 46 32 46 30 31 36 46 5A 48 [6Z02L42F2F016FZH]
RADIUS: 31 31 39 34 45 34 34 34 5A 4E 32 30 3A 49 53 45 [1194E444ZN20:ISE]
RADIUS: 2D 44 49 41 4E 2F 34 39 33 30 38 30 30 31 38 2F [-DIAN/493080018/]
RADIUS: 33 30 [ 30]
Jan 30 03:28:58.186: RADIUS: EAP-Message [79] 6
RADIUS: 03 36 00 04 [ 6]
Jan 30 03:28:58.186: RADIUS: Message-Authenticato[80] 18
RADIUS: 9E A6 D9 56 40 C8 EB 08 69 8C E1 35 35 53 18 83 [ V@i55S]
Jan 30 03:28:58.187: RADIUS: Vendor, Cisco [26] 37
Jan 30 03:28:58.187: RADIUS: Cisco AVpair [1] 31
```

```
"ipsec:dns-servers=10.0.50.202"

Jan 30 03:28:58.187: RADIUS: Vendor, Cisco [26] 47
Jan 30 03:28:58.187: RADIUS: Cisco AVpair [1] 41

"ipsec:route-set=prefix 192.168.200.0/24"

Jan 30 03:28:58.187: RADIUS: Vendor, Cisco [26] 30
Jan 30 03:28:58.187: RADIUS: Cisco AVpair [1] 24

"ipsec:addr-pool=group2"

Jan 30 03:28:58.187: RADIUS(00000103): Received from id 1645/90
RADIUS/DECODE: EAP-Message fragments, 4, total 4 bytes
Jan 30 03:28:58.190: AAA/BIND(00000104): Bind i/f
Jan 30 03:28:58.190: AAA/AUTHOR (0x104):

Pick method list 'FlexVPN-Authorization-List'

Jan 30 03:28:58.192: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access2, changed state to up
Jan 30 03:28:58.209: %SYS-5-CONFIG_P: Configured programmatically by process Crypto INT from console as
Jan 30 03:28:58.398: %LINEPROTO-5-UPDOWN:

Line protocol on Interface Virtual-Access2, changed state to up
```

## Gerelateerde informatie

- [Cisco Technical Support en downloads](#)

## Over deze vertaling

Cisco heeft dit document vertaald via een combinatie van machine- en menselijke technologie om onze gebruikers wereldwijd ondersteuningscontent te bieden in hun eigen taal. Houd er rekening mee dat zelfs de beste machinevertaling niet net zo nauwkeurig is als die van een professionele vertaler. Cisco Systems, Inc. is niet aansprakelijk voor de nauwkeurigheid van deze vertalingen en raadt aan altijd het oorspronkelijke Engelstalige document ([link](#)) te raadplegen.