Configuración de Secure Client IKEv2/ASA en ASDM con AAA & Cert Auth

Contenido

Introducción

Este documento describe los pasos necesarios para configurar el cliente seguro sobre IKEv2 en ASA usando ASDM con AAA y autenticación de certificado.

Prerequisites

Requirements

Cisco recomienda que tenga conocimiento sobre estos temas:

- Configuración de Cisco Identity Services Engine (ISE)
- Configuración de Cisco Adaptive Security Virtual Appliance (ASAv)
- Configuración de Cisco Adaptive Security Device Manager (ASDM)
- Flujo de autenticación VPN

Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- parche 1 de Identity Services Engine Virtual 3.3
- Adaptive Security Virtual Appliance 9.20(2)21
- Adaptive Security Device Manager 7.20(2)
- Cisco Secure Client 5.1.3.62
- Windows Server 2016
- Windows 10

La información que contiene este documento se creó a partir de los dispositivos en un ambiente de laboratorio específico. Todos los dispositivos que se utilizan en este documento se pusieron en funcionamiento con una configuración verificada (predeterminada). Si tiene una red en vivo, asegúrese de entender el posible impacto de cualquier comando.

Diagrama de la red

Esta imagen muestra la topología utilizada para el ejemplo de este documento.

El nombre de dominio configurado en Windows Server 2016 es ad.rem-system.com, que se utiliza como ejemplo en este documento.

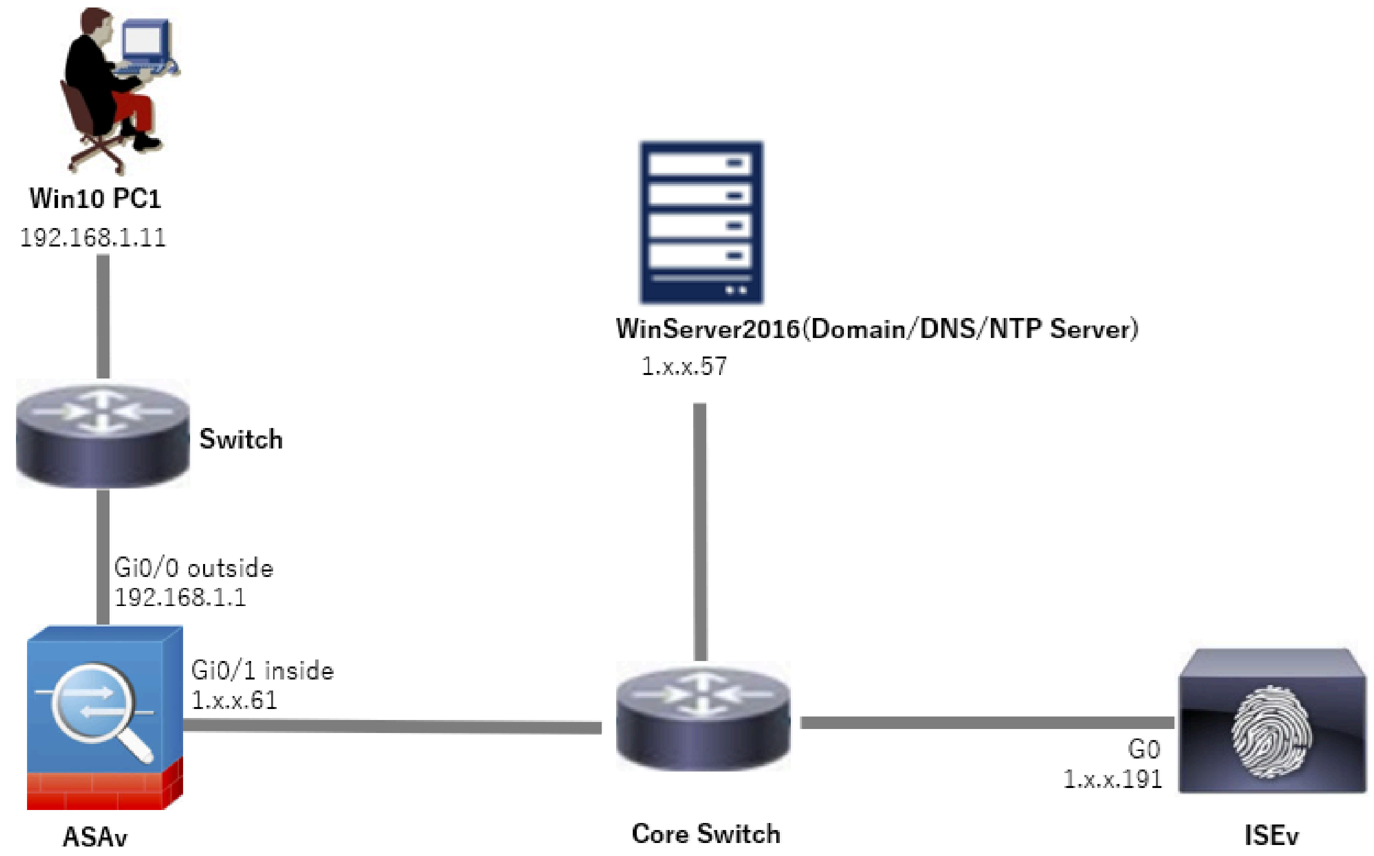


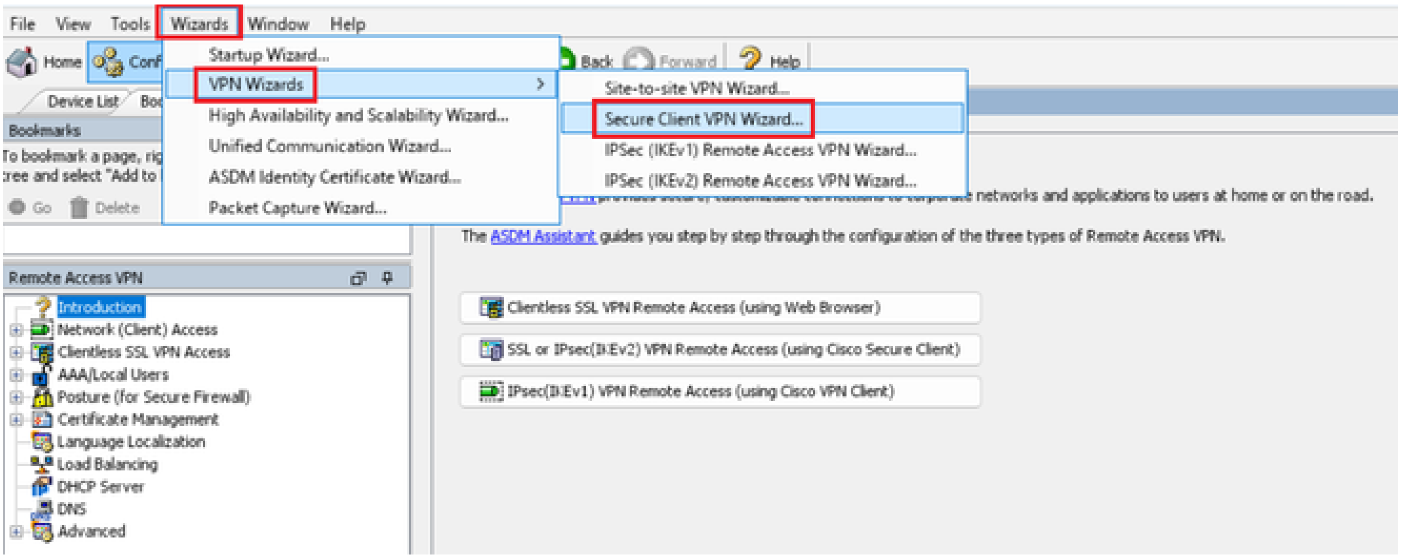
Diagrama de la red

Configuraciones

Configuración en ASDM

Paso 1. Asistentes para Open VPN

Vaya a Wizards > VPN Wizards, haga clic en Secure Client VPN Wizard.

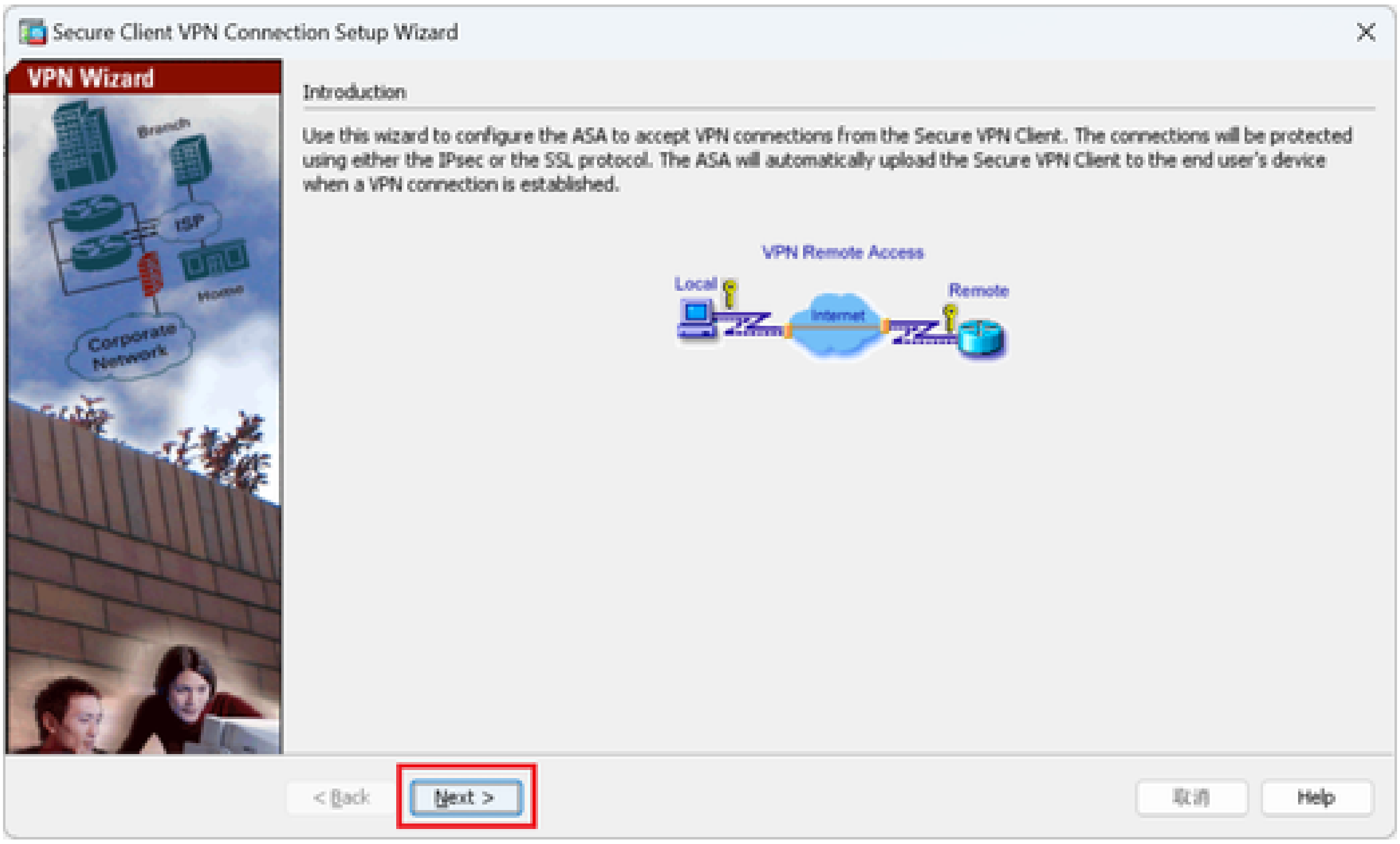

File
View
Tools
Wizards
Window
Help
Home
Conf
Back
Forward
Help
Startup Wizard...
VPN Wizards
High Availability and Scalability Wizard...
Unified Communication Wizard...
ASDM Identity Certificate Wizard...
Packet Capture Wizard...
Site-to-site VPN Wizard...
Secure Client VPN Wizard...
IPSec (IKEv1) Remote Access VPN Wizard...
IPSec (IKEv2) Remote Access VPN Wizard...
Device List
Bookmarks
Go
Delete
Remote Access VPN
Introduction
Network (Client) Access
Clientless SSL VPN Access
AAA/Local Users
Posture (for Secure Firewall)
Certificate Management
Language Localization
Load Balancing
DHCP Server
DNS
Advanced
Clientless SSL VPN Remote Access (using Web Browser)
SSL or IPsec(IKEv2) VPN Remote Access (using Cisco Secure Client)
IPsec(IKEv1) VPN Remote Access (using Cisco VPN Client)

To bookmark a page, rig
tree and select "Add to

networks and applications to users at home or on the road.

The ASDM Assistant guides you step by step through the configuration of the three types of Remote Access VPN.

Haga clic en Next (Siguiente).



Secure Client VPN Connection Setup Wizard

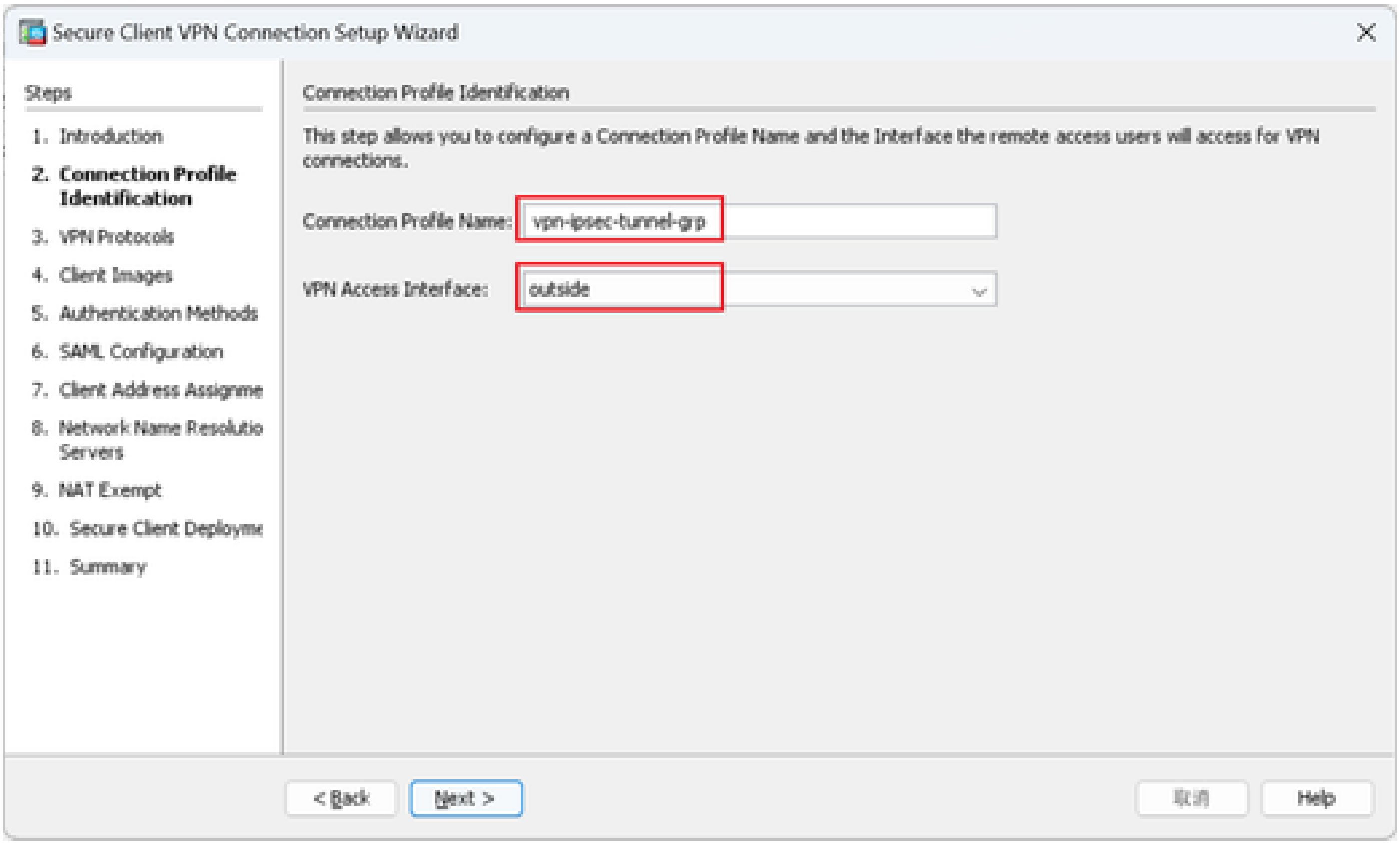
Introduction

Use this wizard to configure the ASA to accept VPN connections from the Secure VPN Client. The connections will be protected using either the IPsec or the SSL protocol. The ASA will automatically upload the Secure VPN Client to the end user's device when a VPN connection is established.

Haga clic en el botón Siguiente

Paso 2. Identificación del perfil de conexión

Introduzca información para el perfil de conexión.
Nombre del perfil de conexión: vpn-ipsec-tunnel-grp
Interfaz de acceso VPN: externa



Secure Client VPN Connection Setup Wizard

Connection Profile Identification

This step allows you to configure a Connection Profile Name and the Interface the remote access users will access for VPN connections.

Connection Profile Name: vpn-ipsec-tunnel-grp

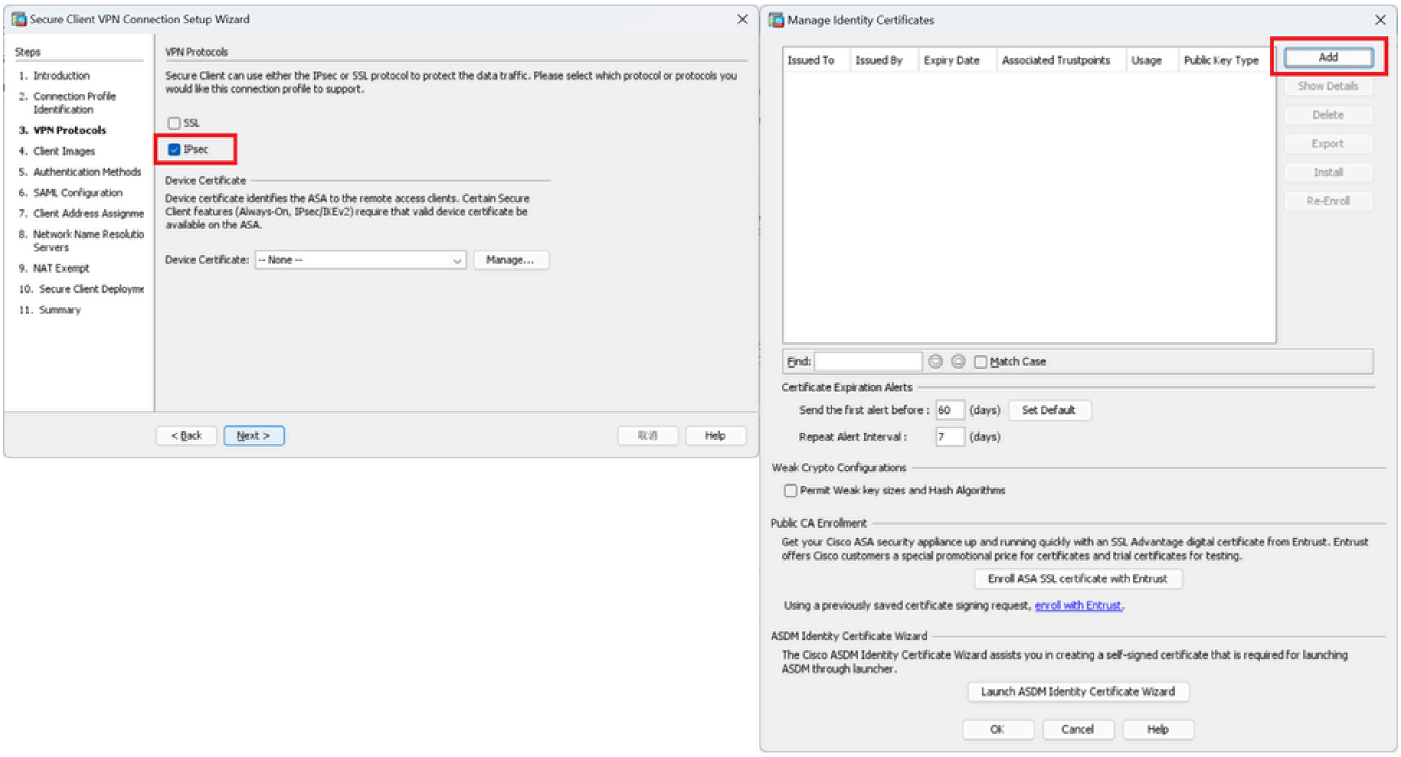
VPN Access Interface: outside

Steps
1. Introduction
2. Connection Profile Identification
3. VPN Protocols
4. Client Images
5. Authentication Methods
6. SAML Configuration
7. Client Address Assignme
8. Network Name Resolutio Servers
9. NAT Exempt
10. Secure Client Deployme
11. Summary
< Back
Next >
取消
Help

Identificación del perfil de conexión

Paso 3. Protocolos VPN

Seleccione IPsec, haga clic en el botón Add para agregar un nuevo certificado autofirmado.



Secure Client VPN Connection Setup Wizard

VPN Protocols

Secure Client can use either the IPsec or SSL protocol to protect the data traffic. Please select which protocol or protocols you would like this connection profile to support.

☐ SSL

☑ IPsec

Device Certificate

Device certificate identifies the ASA to the remote access clients. Certain Secure Client features (Always-On, IPsec/IKEv2) require that valid device certificate be available on the ASA.

Device Certificate: -- None --

Manage Identity Certificates

Issued To	Issued By	Expiry Date	Associated Trustpoints	Usage	Public Key Type

Find: ☐ Match Case

Certificate Expiration Alerts

Send the first alert before : 60 (days)

Repeat Alert Interval : 7 (days)

Weak Crypto Configurations

☐ Permit Weak key sizes and Hash Algorithms

Public CA Enrollment

Get your Cisco ASA security appliance up and running quickly with an SSL Advantage digital certificate from Entrust. Entrust offers Cisco customers a special promotional price for certificates and trial certificates for testing.

Using a previously saved certificate signing request, enroll with Entrust.

ASDM Identity Certificate Wizard

The Cisco ASDM Identity Certificate Wizard assists you in creating a self-signed certificate that is required for launching ASDM through launcher.

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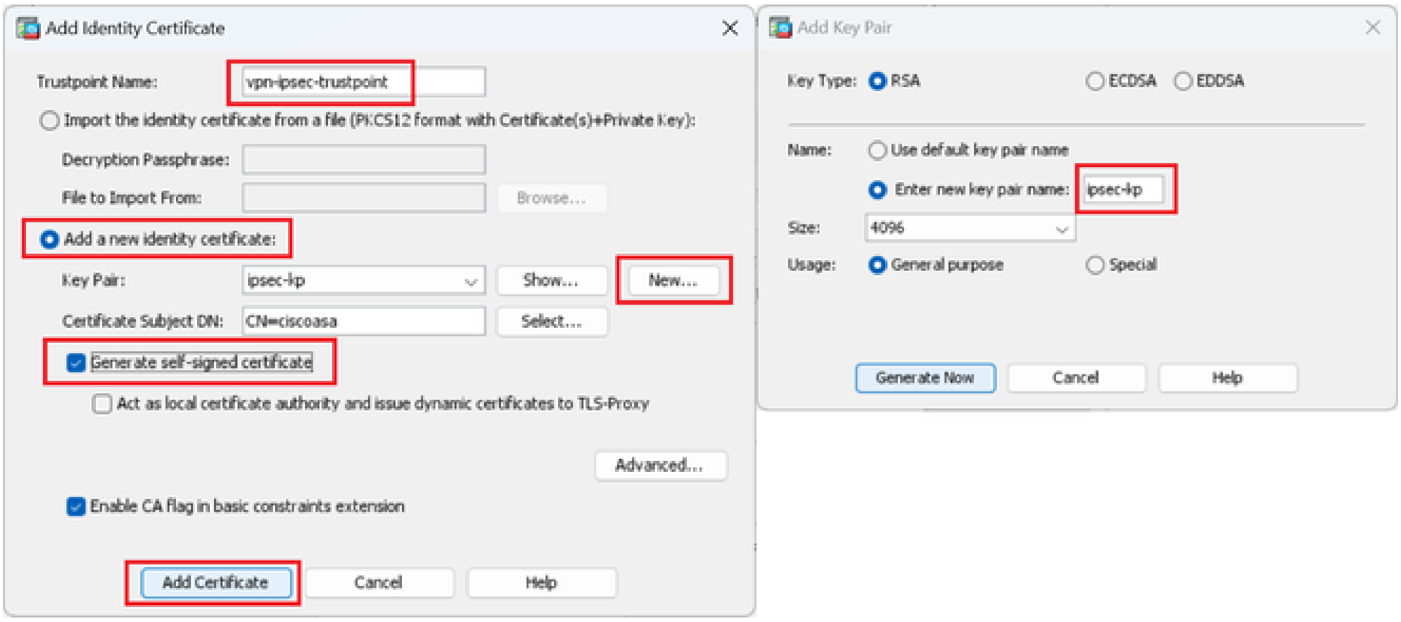
10. Secure Client Deployme
11. Summary
Manage...
< Back
Next >
取消
Help
Add
Show Details
Delete
Export
Install
Re-Enroll
Set Default
Enroll ASA SSL certificate with Entrust
Launch ASDM Identity Certificate Wizard
OK
Cancel
Help

Protocolos VPN

Introduzca información para el certificado autofirmado.

Nombre de punto de confianza: vpn-ipsec-trustpoint

Par de claves: ipsec-kp



Add Identity Certificate

Trustpoint Name: vpn-ipsec-trustpoint

○ Import the identity certificate from a file (PKCS12 format with Certificate(s)+Private Key):

Decryption Passphrase:

File to Import From:

● Add a new identity certificate:

Key Pair: ipsec-kp

Certificate Subject DN: CN=ciscoasa

☑ Generate self-signed certificate

☐ Act as local certificate authority and issue dynamic certificates to TLS-Proxy

☑ Enable CA flag in basic constraints extension

Add Key Pair

Key Type: ● RSA ○ ECDSA ○ EDDSA

Name: ○ Use default key pair name

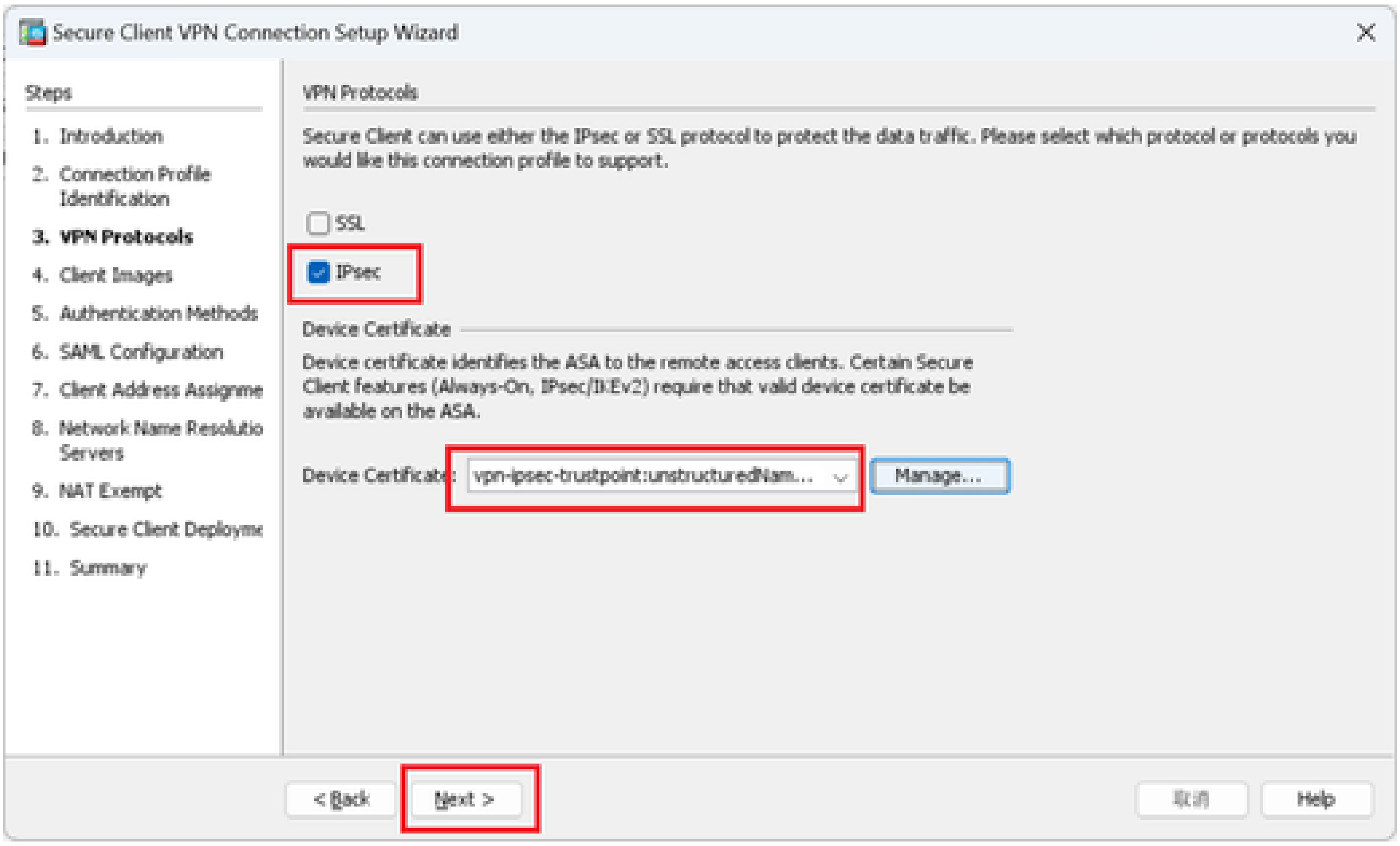
● Enter new key pair name: ipsec-kp

Size: 4096

Usage: ● General purpose ○ Special

Detalle del certificado autofirmado

Confirme los parámetros de los protocolos VPN y haga clic en el botón Next.



Secure Client VPN Connection Setup Wizard

Steps
1. Introduction
2. Connection Profile Identification
3. VPN Protocols
4. Client Images
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9. NAT Exempt
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VPN Protocols

Secure Client can use either the IPsec or SSL protocol to protect the data traffic. Please select which protocol or protocols you would like this connection profile to support.

☐ SSL

☑ IPsec

Device Certificate

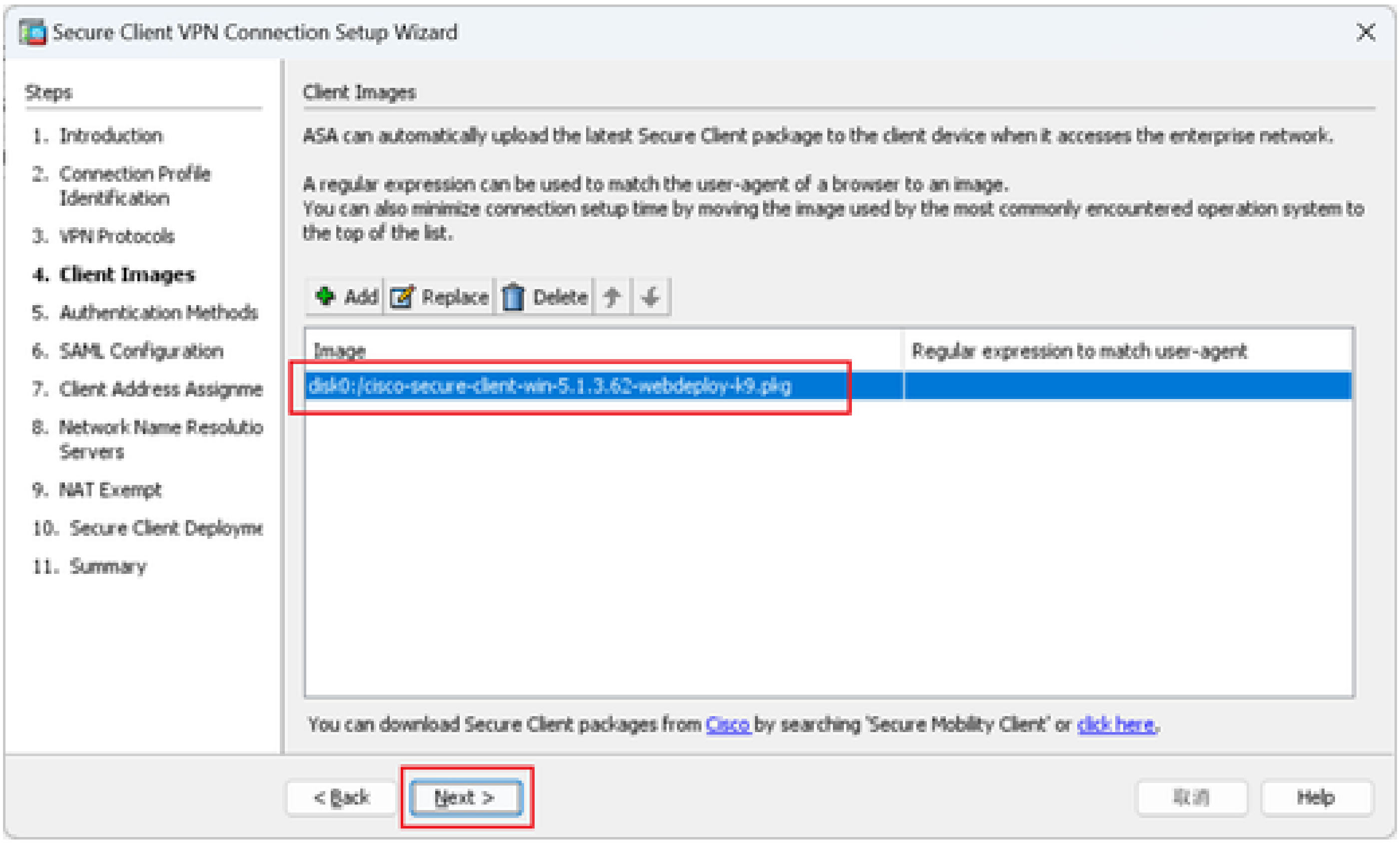
Device certificate identifies the ASA to the remote access clients. Certain Secure Client features (Always-On, IPsec/IKEv2) require that valid device certificate be available on the ASA.

Device Certificate: vpn-ipsec-trustpoint:unstructuredNam...

Confirmar la configuración del protocolo VPN

Paso 4. Imágenes del cliente

Haga clic en el botón Agregar para agregar una imagen de cliente segura, haga clic en el botón Siguiente.



Secure Client VPN Connection Setup Wizard

Steps

1. Introduction
2. Connection Profile Identification
3. VPN Protocols
4. **Client Images**
5. Authentication Methods
6. SAML Configuration
7. Client Address Assignme
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9. NAT Exempt
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Client Images

ASA can automatically upload the latest Secure Client package to the client device when it accesses the enterprise network.

A regular expression can be used to match the user-agent of a browser to an image.
You can also minimize connection setup time by moving the image used by the most commonly encountered operation system to the top of the list.

Image	Regular expression to match user-agent
disk0:/cisco-secure-client-win-5.1.3.62-webdeploy-k9.pkg	

You can download Secure Client packages from Cisco by searching 'Secure Mobility Client' or click here.

Imágenes del cliente

Paso 5. Métodos de autenticación

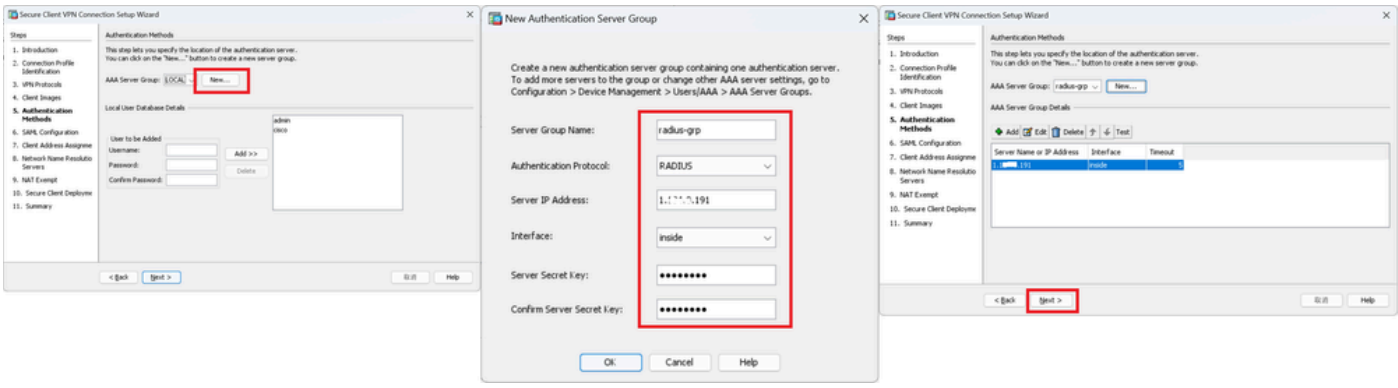
Haga clic en el botón Nuevo para agregar un nuevo servidor aaa, haga clic en el botón Siguiente.

Nombre del grupo de servidores: radius-grp

Protocolo de autenticación: RADIUS

Dirección IP del servidor: 1.x.x.191

Interfaz: interior


Secure Client VPN Connection Setup Wizard

Authentication Methods

This step lets you specify the location of the authentication server.
You can click on the "New..." button to create a new server group.

AAA Server Group: LOCAL

Local User Database Details: admin, cisco

New Authentication Server Group

Create a new authentication server group containing one authentication server.
To add more servers to the group or change other AAA server settings, go to
Configuration > Device Management > Users/AAA > AAA Server Groups.

Server Group Name: radius-grp

Authentication Protocol: RADIUS

Server IP Address: 1.[redacted].191

Interface: inside

Server Secret Key: ••••••••

Confirm Server Secret Key: ••••••••

Secure Client VPN Connection Setup Wizard

Authentication Methods

AAA Server Group: radius-grp

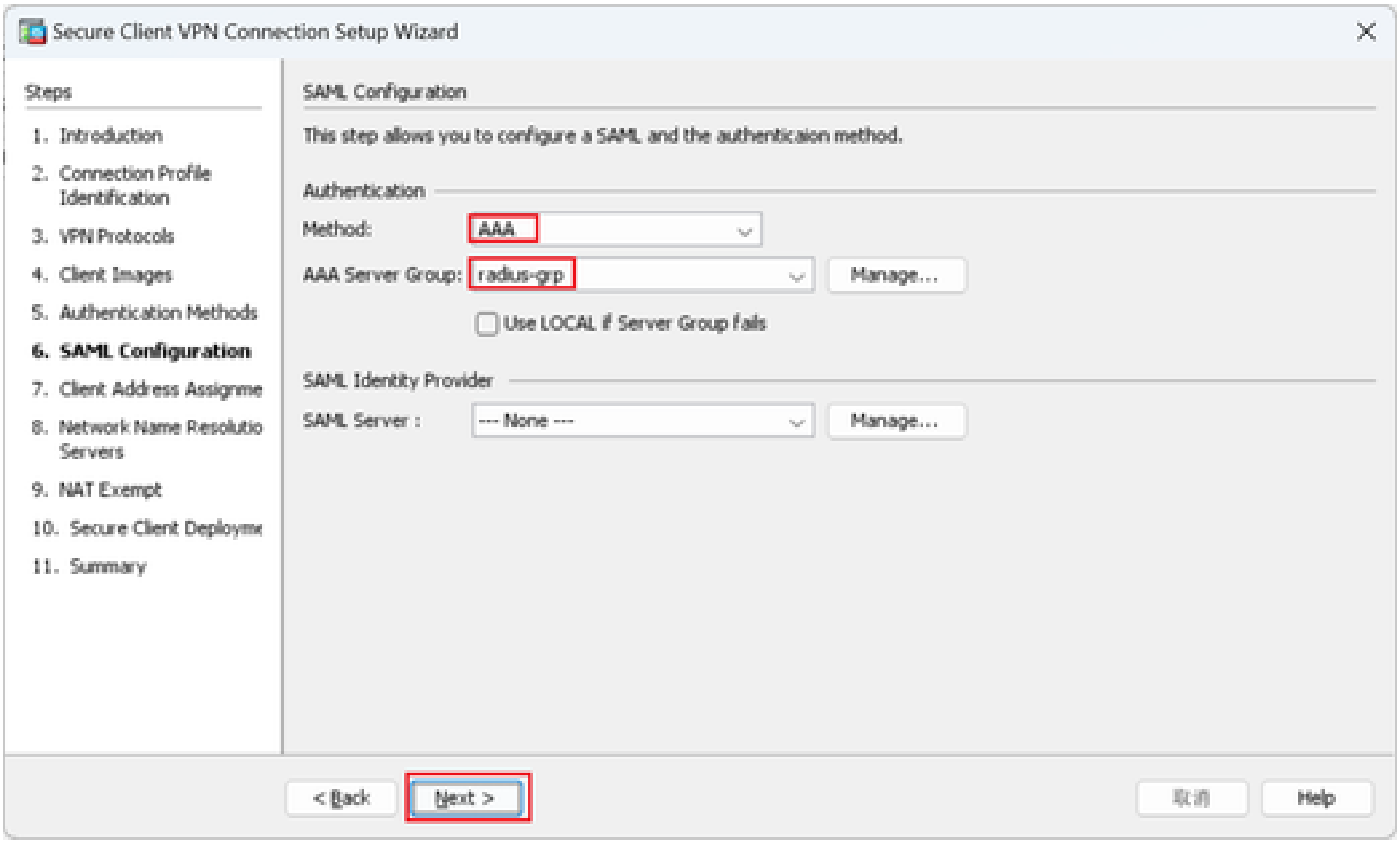
AAA Server Group Details

Server Name or IP Address	Interface	Timeout
1.1[redacted].191	inside	5

Métodos de autenticación

Paso 6. Configuración de SAML

Haga clic en el botón Next.


Secure Client VPN Connection Setup Wizard

SAML Configuration

This step allows you to configure a SAML and the authenticaion method.

Authentication

Method: AAA

AAA Server Group: radius-grp

☐ Use LOCAL if Server Group fails

SAML Identity Provider

SAML Server : --- None ---

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Manage...
Manage...
< Back
Next >
取消
Help

Configuración de SAML

Paso 7. Asignación de dirección de cliente

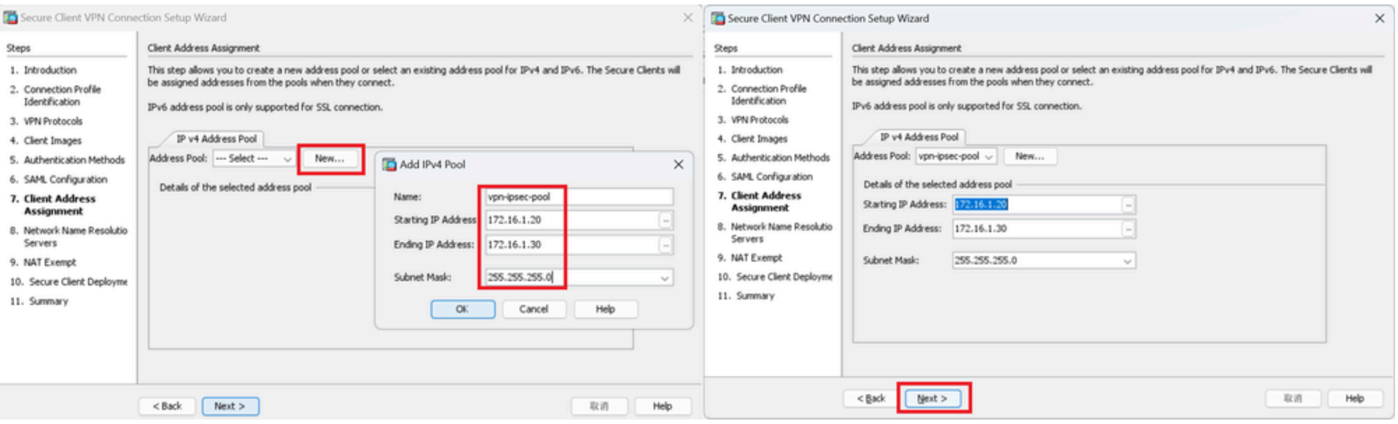
Haga clic en el botón New para agregar un nuevo conjunto de IPv4, haga clic en el botón Next.

Nombre: vpn-ipsec-pool

Dirección IP inicial: 172.16.1.20

Dirección IP final: 172.16.1.30

Máscara de subred: 255.255.255.0



Secure Client VPN Connection Setup Wizard

Client Address Assignment

This step allows you to create a new address pool or select an existing address pool for IPv4 and IPv6. The Secure Clients will be assigned addresses from the pools when they connect.

IPv6 address pool is only supported for SSL connection.

IP v4 Address Pool

Address Pool: --- Select ---

Add IPv4 Pool

Name: vpn-ipsec-pool

Starting IP Address: 172.16.1.20

Ending IP Address: 172.16.1.30

Subnet Mask: 255.255.255.0

Secure Client VPN Connection Setup Wizard

Client Address Assignment

This step allows you to create a new address pool or select an existing address pool for IPv4 and IPv6. The Secure Clients will be assigned addresses from the pools when they connect.

IPv6 address pool is only supported for SSL connection.

IP v4 Address Pool

Address Pool: vpn-ipsec-pool

Details of the selected address pool

Starting IP Address: 172.16.1.20

Ending IP Address: 172.16.1.30

Subnet Mask: 255.255.255.0

Steps
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6. SAML Configuration
7. Client Address Assignment
8. Network Name Resolutio Servers
9. NAT Exempt
10. Secure Client Deployme
11. Summary
New...
OK
Cancel
Help
< Back
Next >
取消
Help

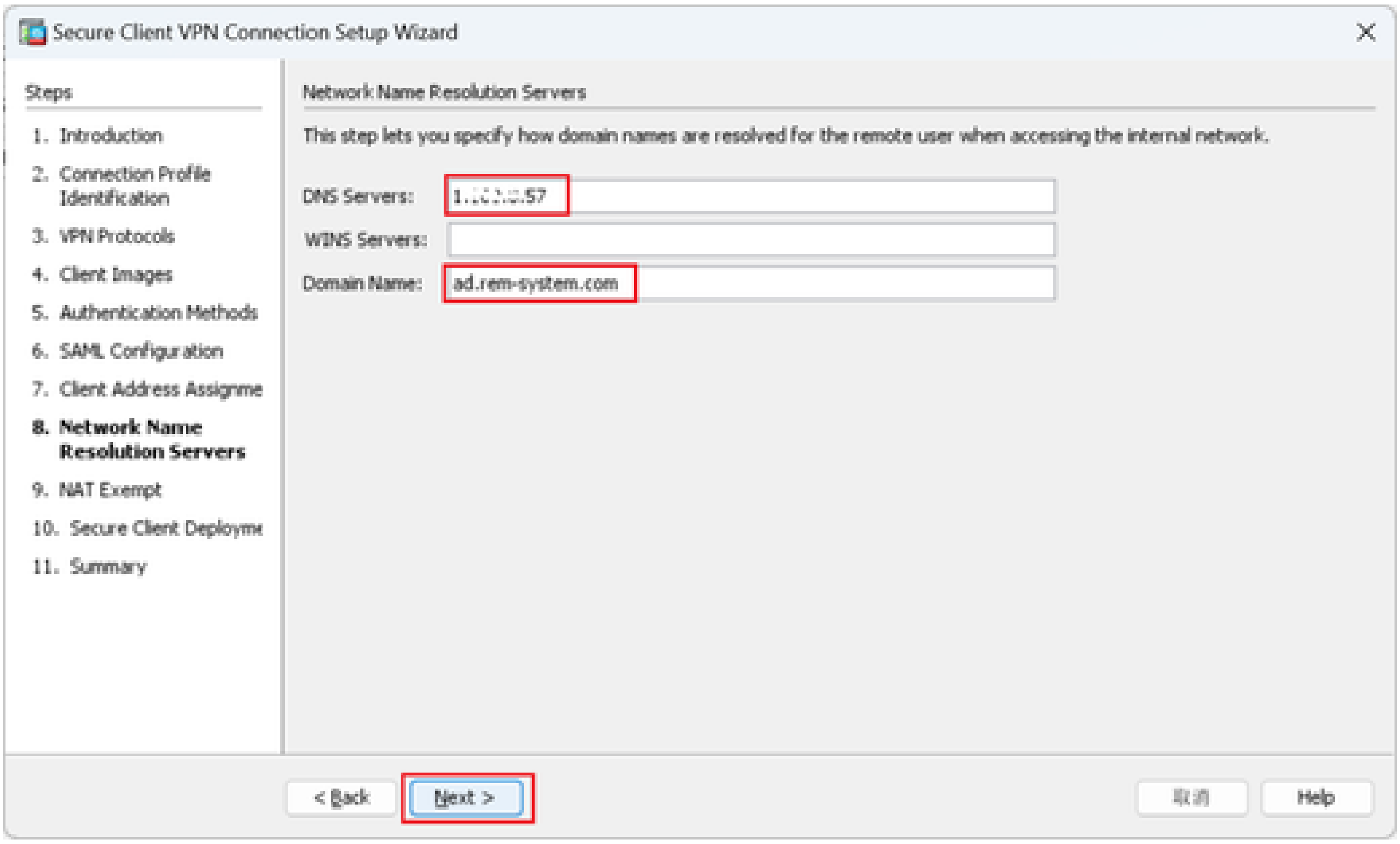
Asignación de dirección de cliente

Paso 8. Servidores de resolución de nombres de red

Introduzca información para DNS y dominio, haga clic en el botón Next.

Servidores DNS: 1.x.x.57

Nombre de dominio: ad.rem-system.com



Secure Client VPN Connection Setup Wizard

Network Name Resolution Servers

This step lets you specify how domain names are resolved for the remote user when accessing the internal network.

DNS Servers: 1.[illegible].57

WINS Servers:

Domain Name: ad.rem-system.com

Steps
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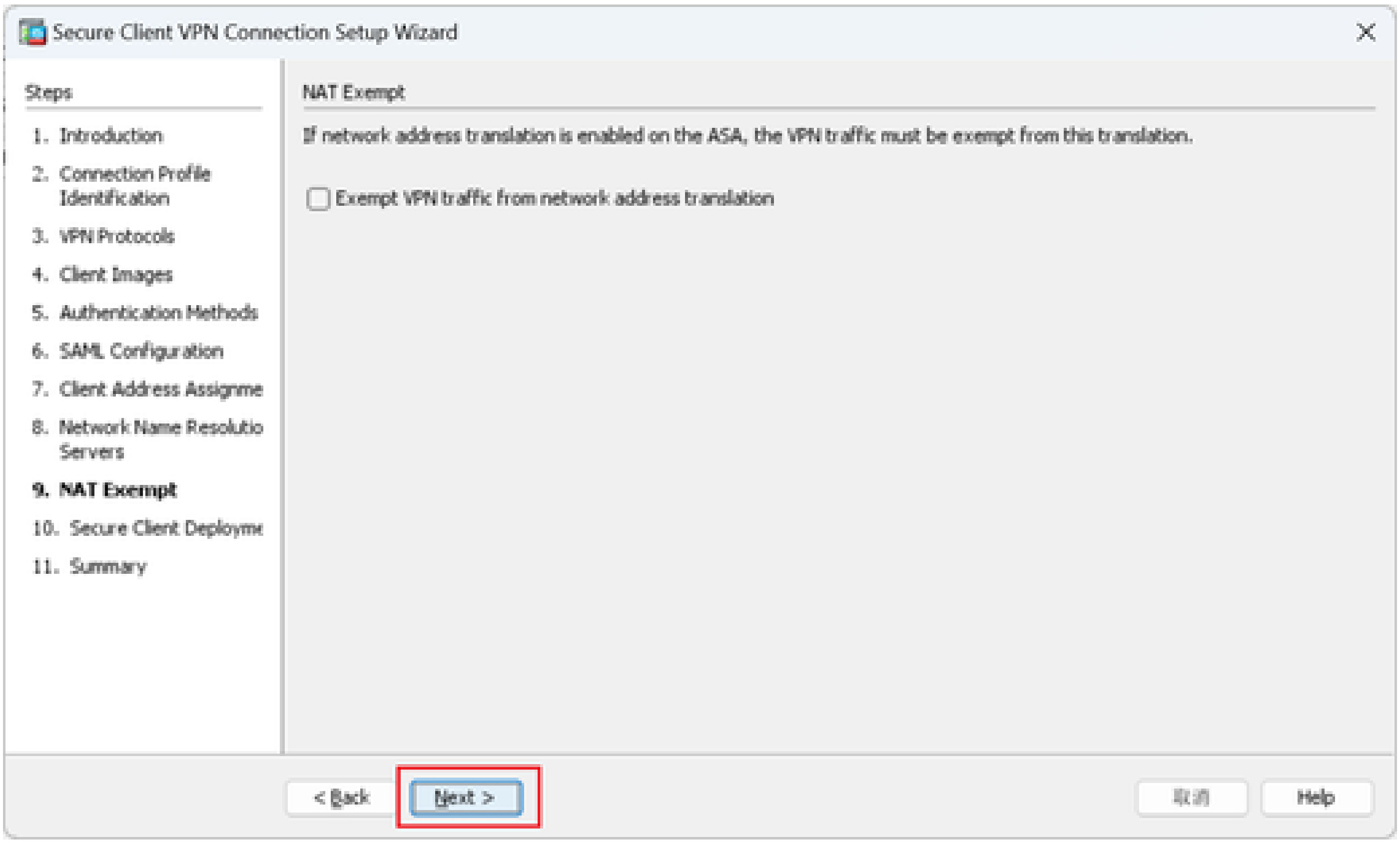
2. Connection Profile Identification
3. VPN Protocols
4. Client Images
5. Authentication Methods
6. SAML Configuration
7. Client Address Assignme
8. Network Name Resolution Servers
9. NAT Exempt
10. Secure Client Deployme
11. Summary
< Back
Next >
取消
Help

Servidores de resolución de nombres de red

Paso 9. Exención de NAT

Haga clic en el botón Next.



Secure Client VPN Connection Setup Wizard

Steps
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NAT Exempt

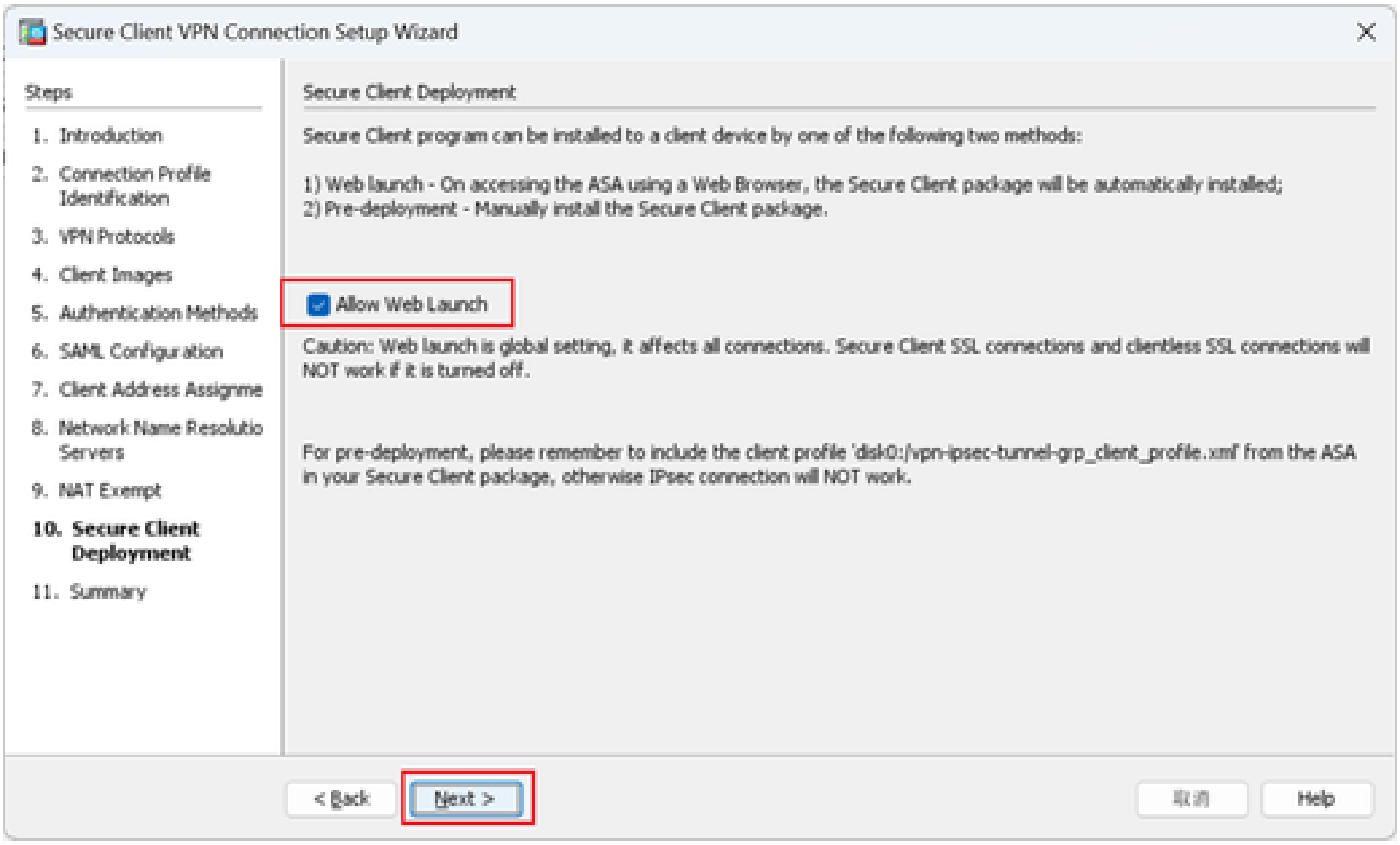
If network address translation is enabled on the ASA, the VPN traffic must be exempt from this translation.

□ Exempt VPN traffic from network address translation

Exención de NAT

Paso 10. Implementación de clientes seguros

Seleccione Allow Web Launch, haga clic en Next button.



Secure Client VPN Connection Setup Wizard

Steps
1. Introduction
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7. Client Address Assignme
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Secure Client Deployment

Secure Client program can be installed to a client device by one of the following two methods:

1) Web launch - On accessing the ASA using a Web Browser, the Secure Client package will be automatically installed;
2) Pre-deployment - Manually install the Secure Client package.

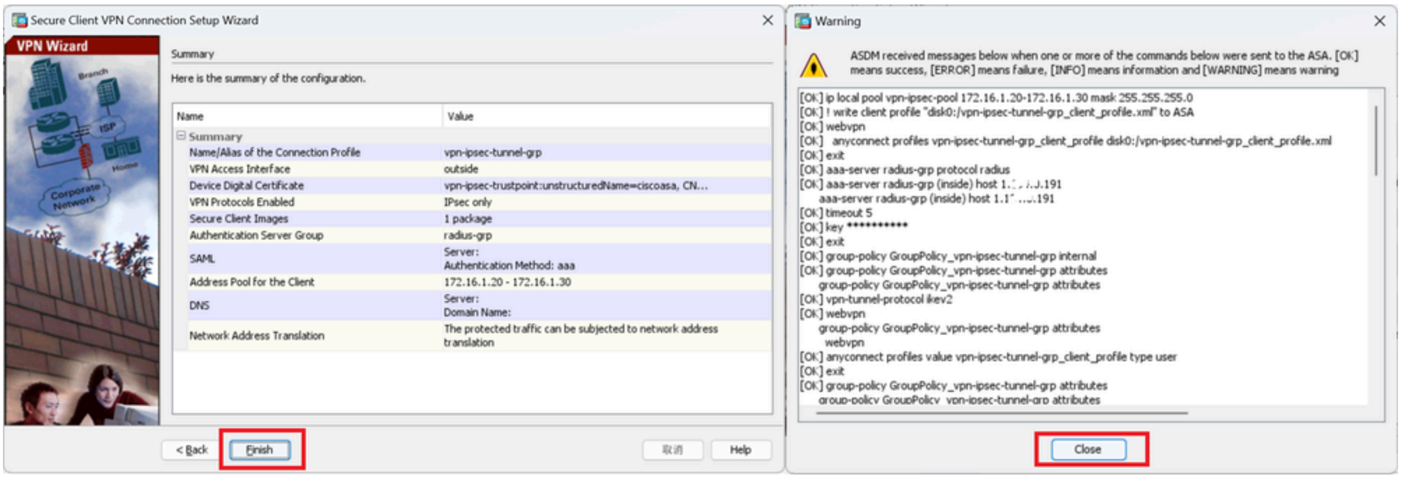
☑ Allow Web Launch

Caution: Web launch is global setting, it affects all connections. Secure Client SSL connections and clientless SSL connections will NOT work if it is turned off.

For pre-deployment, please remember to include the client profile 'disk0:/vpn-ipsec-tunnel-grp_client_profile.xml' from the ASA in your Secure Client package, otherwise IPsec connection will NOT work.

Paso 11. Guardar configuración

Haga clic en el botón Finish y guarde la configuración.



Here is the summary of the configuration.

Name	Value
⊟ Summary	
Name/Alias of the Connection Profile	vpn-ipsec-tunnel-grp
VPN Access Interface	outside
Device Digital Certificate	vpn-ipsec-trustpoint:unstructuredName=ciscoasa, CN...
VPN Protocols Enabled	IPsec only
Secure Client Images	1 package
Authentication Server Group	radius-grp
SAML	Server: Authentication Method: aaa
Address Pool for the Client	172.16.1.20 - 172.16.1.30
DNS	Server: Domain Name:
Network Address Translation	The protected traffic can be subjected to network address translation

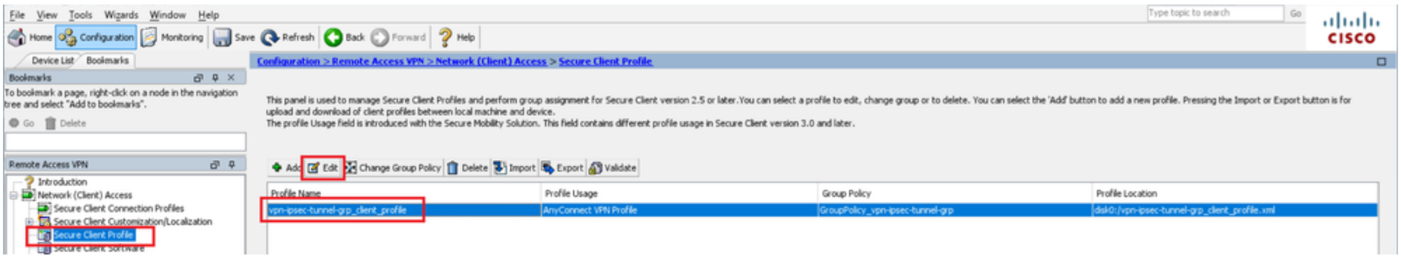
ASDM received messages below when one or more of the commands below were sent to the ASA. [OK] means success, [ERROR] means failure, [INFO] means information and [WARNING] means warning

```
[OK] ip local pool vpn-ipsec-pool 172.16.1.20-172.16.1.30 mask 255.255.255.0
[OK] ! write client profile "disk0:/vpn-ipsec-tunnel-grp_client_profile.xml" to ASA
[OK] webvpn
[OK]   anyconnect profiles vpn-ipsec-tunnel-grp_client_profile disk0:/vpn-ipsec-tunnel-grp_client_profile.xml
[OK] exit
[OK] aaa-server radius-grp protocol radius
[OK] aaa-server radius-grp (inside) host 1.[redacted].191
     aaa-server radius-grp (inside) host 1.1[redacted].191
[OK] timeout 5
[OK] key **********
[OK] exit
[OK] group-policy GroupPolicy_vpn-ipsec-tunnel-grp internal
[OK] group-policy GroupPolicy_vpn-ipsec-tunnel-grp attributes
     group-policy GroupPolicy_vpn-ipsec-tunnel-grp attributes
[OK] vpn-tunnel-protocol ikev2
[OK] webvpn
     group-policy GroupPolicy_vpn-ipsec-tunnel-grp attributes
      webvpn
[OK] anyconnect profiles value vpn-ipsec-tunnel-grp_client_profile type user
[OK] exit
[OK] group-policy GroupPolicy_vpn-ipsec-tunnel-grp attributes
     group-policy GroupPolicy_vpn-ipsec-tunnel-grp attributes
```

Guardar configuración

Paso 12. Confirmar y exportar perfil de cliente seguro

Vaya a Configuration > Remote Access VPN > Network (Client) Access > Secure Client Profile, haga clic en el botón Edit.



File View Tools Wizards Window Help
Home Configuration Monitoring Save Refresh Back Forward Help
Type topic to search Go
CISCO
Device List Bookmarks
Bookmarks
Go Delete
Remote Access VPN
Introduction
Network (Client) Access
Secure Client Connection Profiles
Secure Client Customization/Localization
Secure Client Profile
Secure Client Software
Add Edit Change Group Policy Delete Import Export Validate

To bookmark a page, right-click on a node in the navigation tree and select "Add to bookmarks".

Configuration > Remote Access VPN > Network (Client) Access > Secure Client Profile

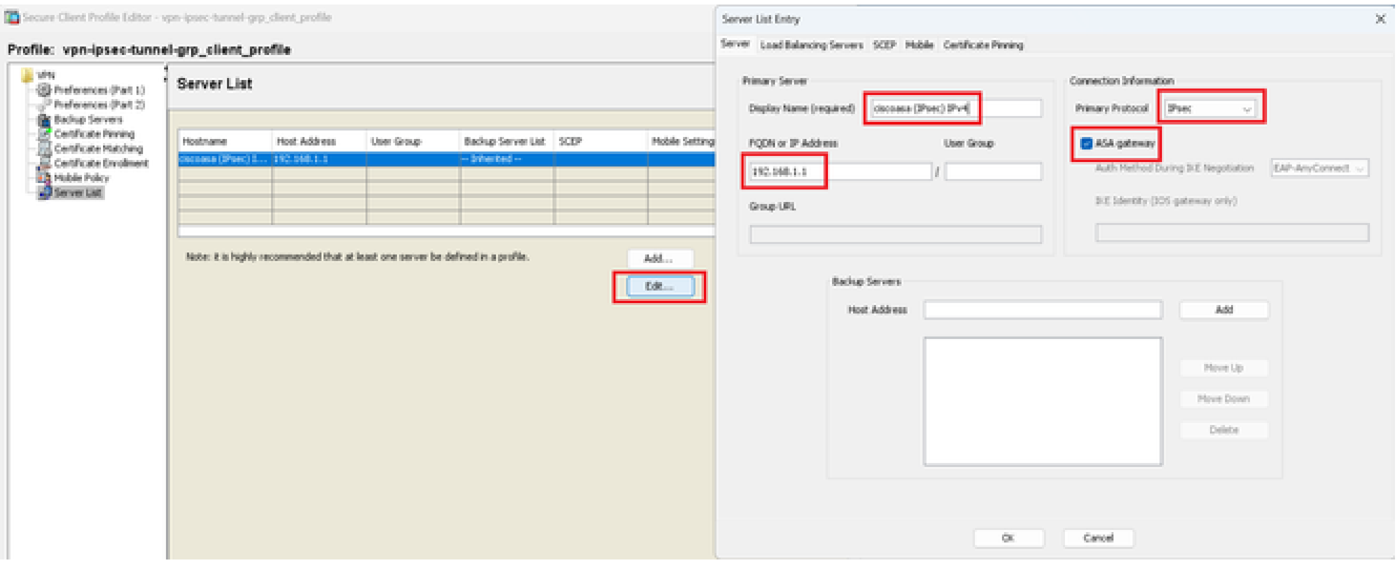
This panel is used to manage Secure Client Profiles and perform group assignment for Secure Client version 2.5 or later. You can select a profile to edit, change group or to delete. You can select the 'Add' button to add a new profile. Pressing the Import or Export button is for upload and download of client profiles between local machine and device.
The profile Usage field is introduced with the Secure Mobility Solution. This field contains different profile usage in Secure Client version 3.0 and later.

Profile Name	Profile Usage	Group Policy	Profile Location
vpn-ipsec-tunnel-grp_client_profile	AnyConnect VPN Profile	GroupPolicy_vpn-ipsec-tunnel-grp	disk0:/vpn-ipsec-tunnel-grp_client_profile.xml

Editar perfil de cliente seguro

Confirme el detalle del perfil.

- Nombre para mostrar (obligatorio): Cisco ASA (IPsec) IPv4
- FQDN o dirección IP: 192.168.1.1
- Protocolo principal: IPsec



Profile: vpn-ipsec-tunnel-grp_client_profile

Server List

Hostname	Host Address	User Group	Backup Server List	SCEP	Mobile Setting
ciscoasa (IPsec) I...	192.168.1.1		-- Inherited --		

Note: it is highly recommended that at least one server be defined in a profile.

Server List Entry

Primary Server

Display Name (required): ciscoasa (IPsec) IPv4

FQDN or IP Address: 192.168.1.1

Connection Information

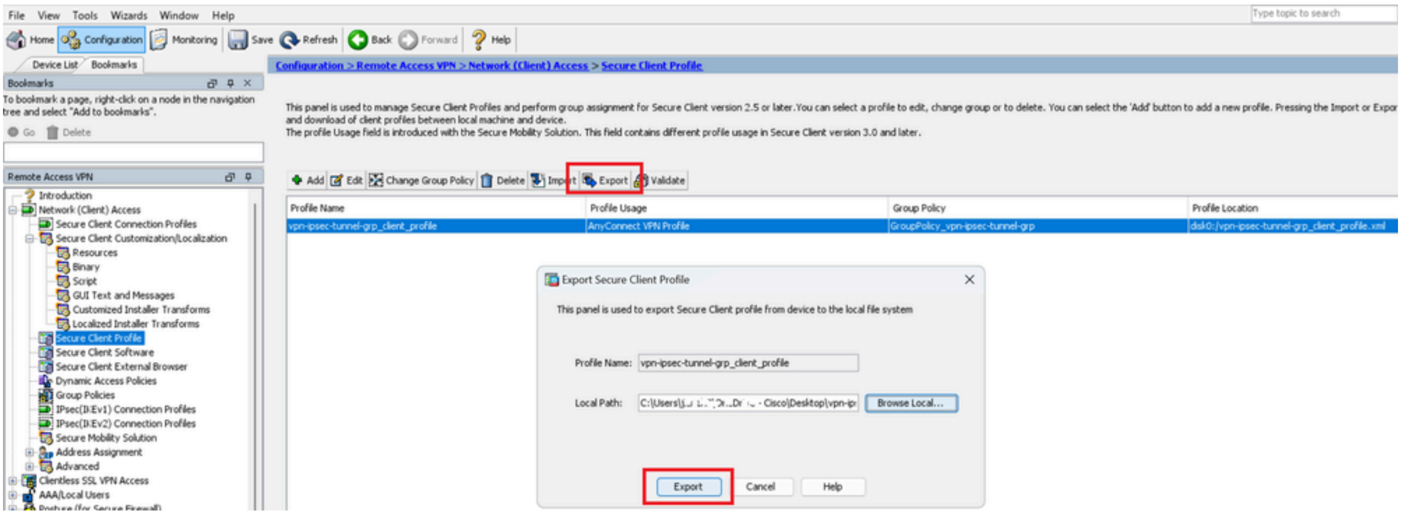
Primary Protocol: IPsec

☑ ASA gateway

Auth Method During IKE Negotiation: EAP-AnyConnect

Confirmar perfil de cliente seguro

Haga clic en el botón Export para exportar el perfil al equipo local.



Configuration > Remote Access VPN > Network (Client) Access > Secure Client Profile

This panel is used to manage Secure Client Profiles and perform group assignment for Secure Client version 2.5 or later.You can select a profile to edit, change group or to delete. You can select the 'Add' button to add a new profile. Pressing the Import or Expor and download of client profiles between local machine and device.
The profile Usage field is introduced with the Secure Mobility Solution. This field contains different profile usage in Secure Client version 3.0 and later.

Profile Name	Profile Usage	Group Policy	Profile Location
vpn-ipsec-tunnel-grp_client_profile	AnyConnect VPN Profile	GroupPolicy_vpn-ipsec-tunnel-grp	disk0:/vpn-ipsec-tunnel-grp_client_profile.xml

Export Secure Client Profile

This panel is used to export Secure Client profile from device to the local file system

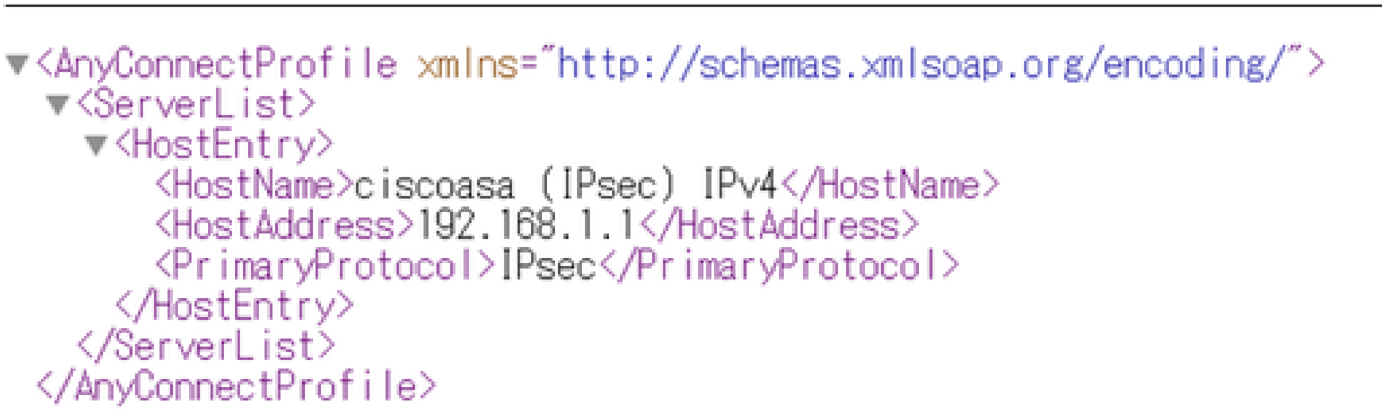
Profile Name: vpn-ipsec-tunnel-grp_client_profile

Local Path: C:\Users\[redacted] - Cisco\Desktop\vpn-ip

Exportar perfil de cliente seguro

Paso 13. Confirmar detalles del perfil de cliente seguro

Abra Perfil de cliente seguro por navegador, confirme que el protocolo principal para el host es IPsec.



```
▼<AnyConnectProfile xmlns="http://schemas.xmlsoap.org/encoding/">
  ▼<ServerList>
    ▼<HostEntry>
        <HostName>ciscoasa (IPsec) IPv4</HostName>
        <HostAddress>192.168.1.1</HostAddress>
        <PrimaryProtocol>IPsec</PrimaryProtocol>
     </HostEntry>
   </ServerList>
</AnyConnectProfile>
```

Detalle del perfil de cliente seguro

Paso 14. Confirmar configuración en ASA CLI

Confirme la configuración IPsec creada por ASDM en la CLI ASA.

```
// Defines a pool of addresses
ip local pool vpn-ipsec-pool 172.16.1.20-172.16.1.30 mask 255.255.255.0

// Defines radius server
aaa-server radius-grp protocol radius
aaa-server radius-grp (inside) host 1.x.x.191
timeout 5

// Define the transform sets that IKEv2 can use
crypto ipsec ikev2 ipsec-proposal AES256
protocol esp encryption aes-256
protocol esp integrity sha-256 sha-1
crypto ipsec ikev2 ipsec-proposal AES192
protocol esp encryption aes-192
protocol esp integrity sha-256 sha-1
crypto ipsec ikev2 ipsec-proposal AES
protocol esp encryption aes
protocol esp integrity sha-256 sha-1
crypto ipsec ikev2 ipsec-proposal 3DES
protocol esp encryption aes
protocol esp integrity sha-256 sha-1
crypto ipsec ikev2 ipsec-proposal DES
protocol esp encryption aes
protocol esp integrity sha-256 sha-1

// Configures the crypto map to use the IKEv2 transform-sets
crypto dynamic-map SYSTEM_DEFAULT_CRYPTO_MAP 65535 set ikev2 ipsec-proposal AES256 AES192 AES 3DES DES
crypto map outside_map 65535 ipsec-isakmp dynamic SYSTEM_DEFAULT_CRYPTO_MAP
crypto map outside_map interface outside

// Defines trustpoint
crypto ca trustpoint vpn-ipsec-trustpoint
enrollment self
subject-name CN=ciscoasa
keypair ipsec-kp
crl configure

// Defines self-signed certificate
crypto ca certificate chain vpn-ipsec-trustpoint
certificate 6651a2a2
308204ed 308202d5 a0030201 02020466 51a2a230 0d06092a 864886f7 0d01010b
......
ac76f984 efd41d13 073d0be6 f923a9c6 7b
quit

// IKEv2 Policies
crypto ikev2 policy 1
encryption aes-256
integrity sha256
group 5
prf sha256
lifetime seconds 86400
crypto ikev2 policy 10
```

```
encryption aes-192
integrity sha256
group 5
prf sha256
lifetime seconds 86400
crypto ikev2 policy 20
encryption aes
integrity sha256
group 5
prf sha256
lifetime seconds 86400
crypto ikev2 policy 40
encryption aes
integrity sha256
group 5
prf sha256
lifetime seconds 86400

// Enabling client-services on the outside interface
crypto ikev2 enable outside client-services port 443

// Specifiies the certificate the ASA uses for IKEv2
crypto ikev2 remote-access trustpoint vpn-ipsec-trustpoint

// Configures the ASA to allow Cisco Secure Client connections and the valid Cisco Secure Client images
webvpn
enable outside
enable
anyconnect image disk0:/cisco-secure-client-win-5.1.3.62-webdeploy-k9.pkg 1
anyconnect profiles vpn-ipsec-tunnel-grp_client_profile disk0:/vpn-ipsec-tunnel-grp_client_profile.xml
anyconnect enable
tunnel-group-list enable

// Configures the group-policy to allow IKEv2 connections and defines which Cisco Secure Client profile
group-policy GroupPolicy_vpn-ipsec-tunnel-grp internal
group-policy GroupPolicy_vpn-ipsec-tunnel-grp attributes
wins-server none
dns-server value 1.x.x.57
vpn-tunnel-protocol ikev2
default-domain value ad.rem-system.com
webvpn
anyconnect profiles value vpn-ipsec-tunnel-grp_client_profile type user

// Ties the pool of addressess to the vpn connection
tunnel-group vpn-ipsec-tunnel-grp type remote-access
tunnel-group vpn-ipsec-tunnel-grp general-attributes
address-pool vpn-ipsec-pool
authentication-server-group radius-grp
default-group-policy GroupPolicy_vpn-ipsec-tunnel-grp
tunnel-group vpn-ipsec-tunnel-grp webvpn-attributes
group-alias vpn-ipsec-tunnel-grp enable
```

Paso 15. Agregar algoritmo criptográfico

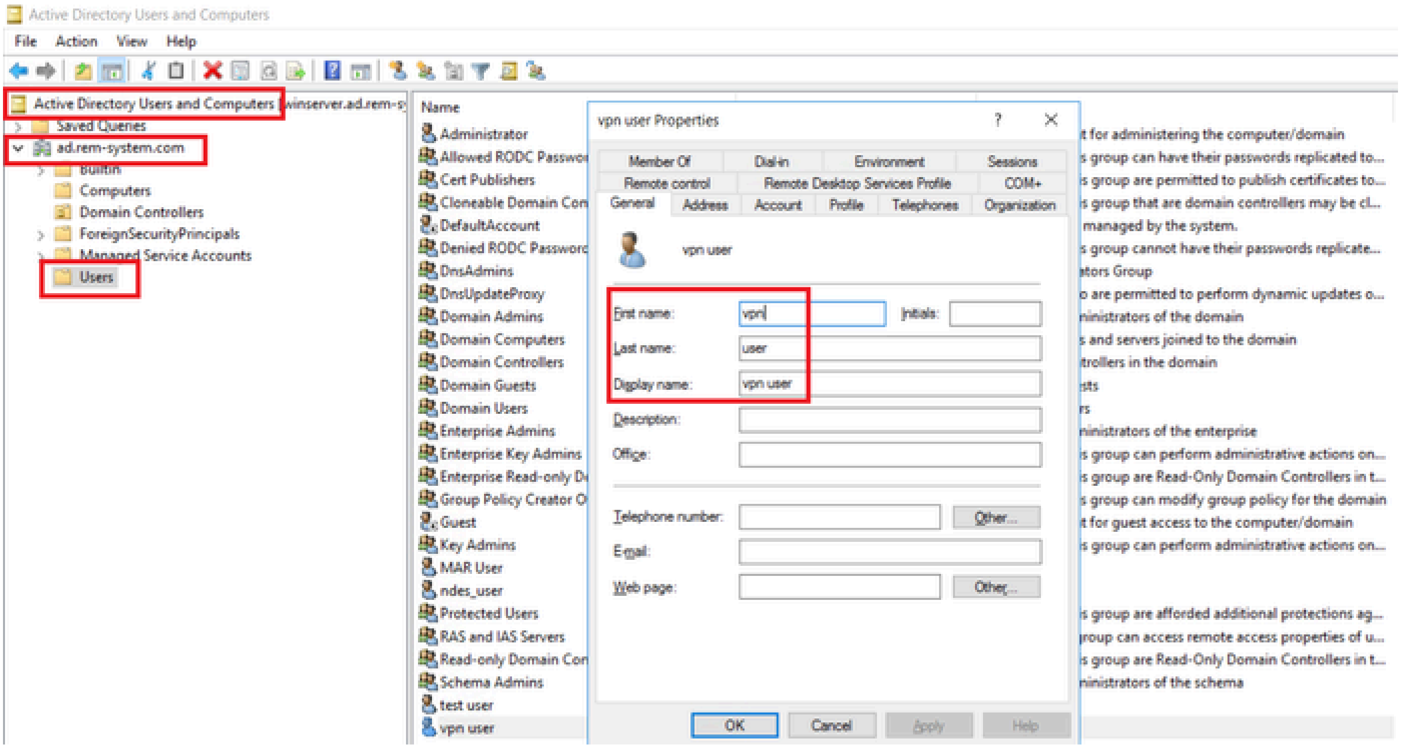
En ASA CLI, agregue el grupo 19 a la política IKEv2.

Nota: Para las conexiones IKEv2/IPsec, Cisco Secure Client ya no admite los grupos Diffie-Hellman (DH) 2, 5, 14 y 24 a partir de la versión 4.9.00086. Este cambio puede dar lugar a errores de conexión debido a discrepancias en los algoritmos criptográficos.

```
ciscoasa(config)# crypto ikev2 policy 1
ciscoasa(config-ikev2-policy)# group 19
ciscoasa(config-ikev2-policy)#
```

Configuración en Windows Server

Debe agregar un usuario de dominio para la conexión VPN. Vaya aUsuarios y equipos de Active Directory, haga clic en Usuarios. Agregue vpnuser como usuario de dominio.



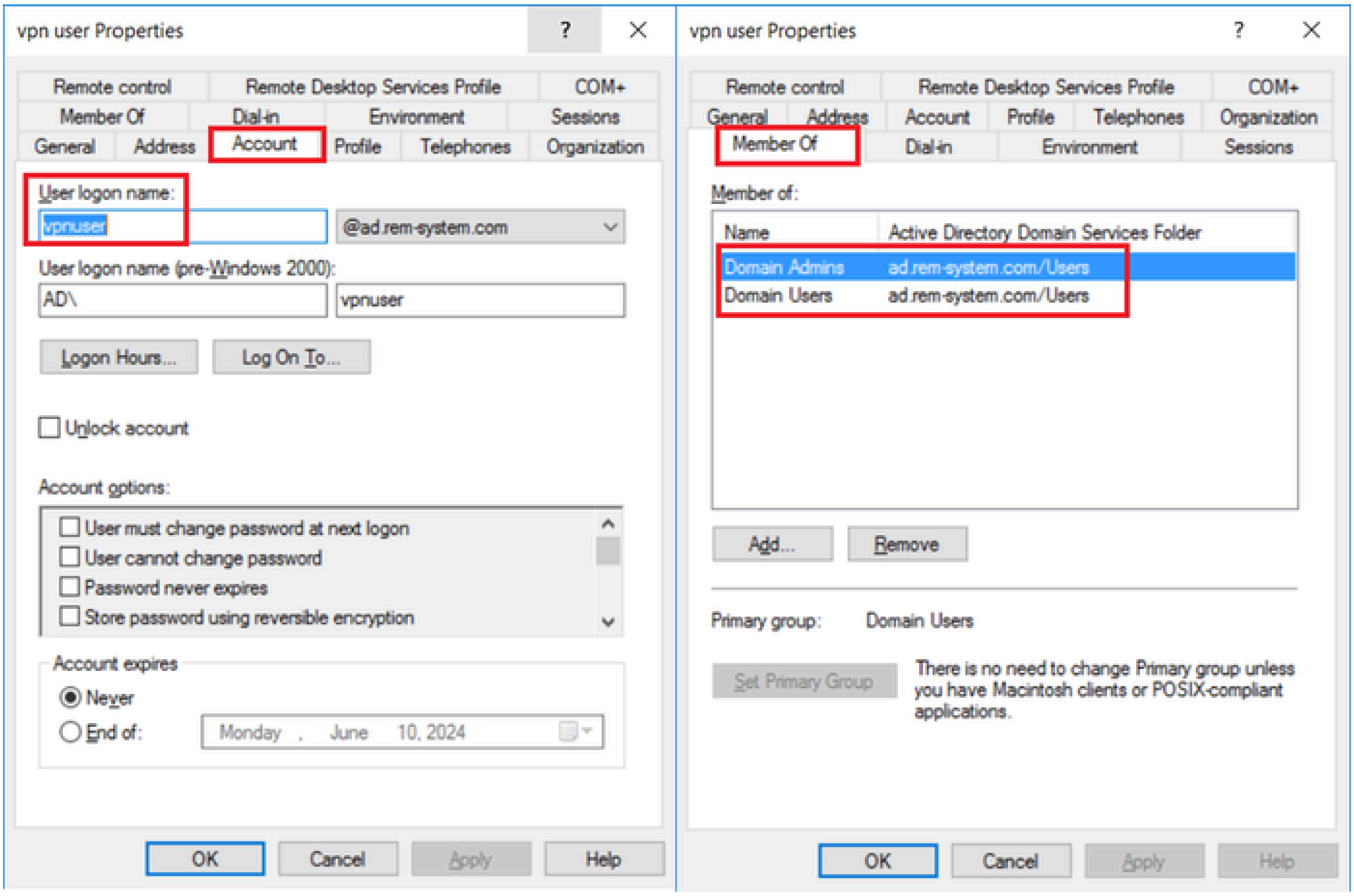
First name: vpn

Last name: user

Display name: vpn user

Agregar usuario de dominio

Agregue el usuario del dominio a un miembro de Domain Admins y Domain Users.



User logon name: vpnuser @ad.rem-system.com

User logon name (pre-Windows 2000): AD\ vpnuser

□ Unlock account

Account options:

- □ User must change password at next logon
- □ User cannot change password
- □ Password never expires
- □ Store password using reversible encryption

Account expires

● Never

○ End of: Monday , June 10, 2024

Member of:

Name	Active Directory Domain Services Folder
Domain Admins	ad.rem-system.com/Users
Domain Users	ad.rem-system.com/Users

Primary group: Domain Users

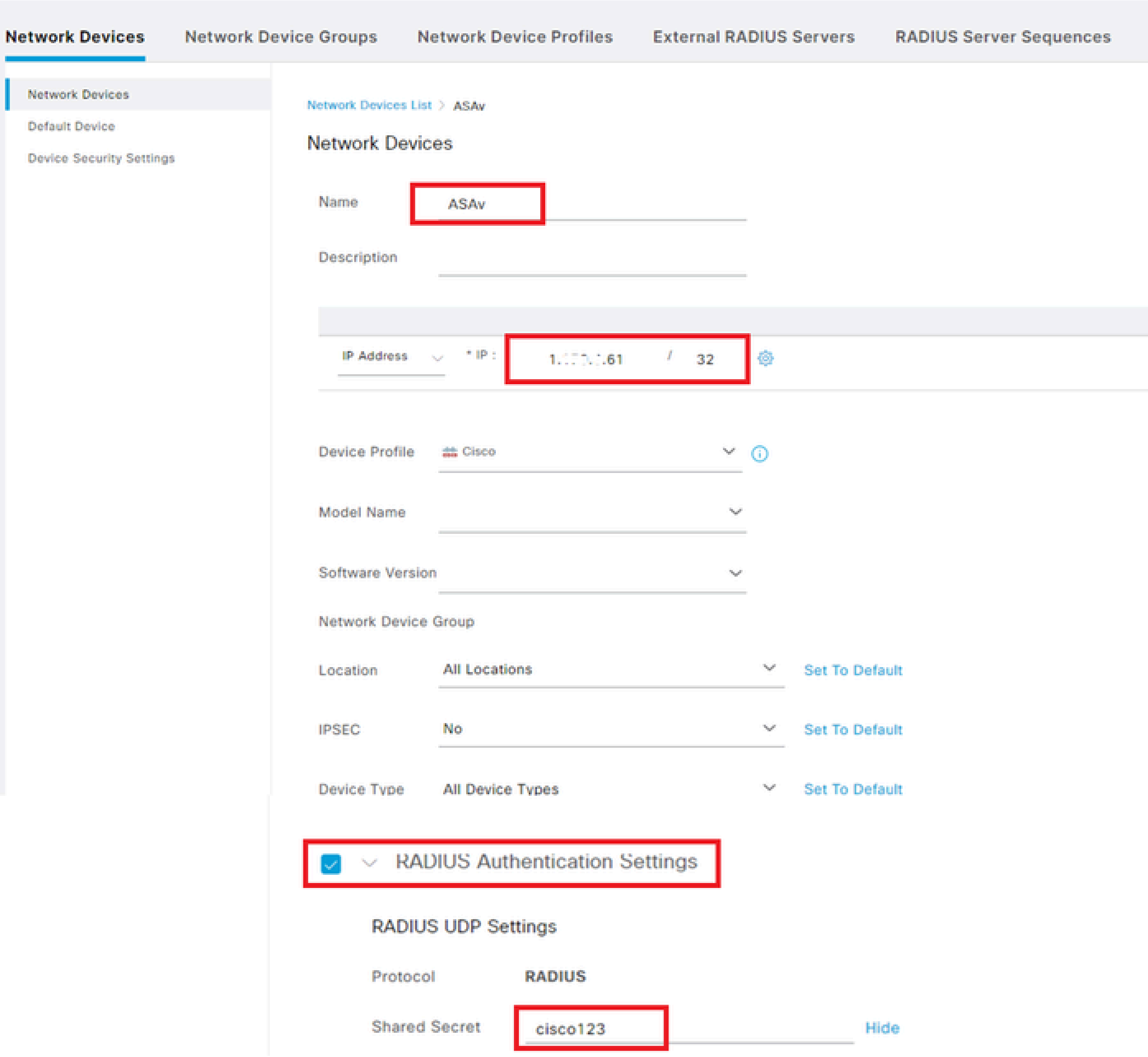
There is no need to change Primary group unless you have Macintosh clients or POSIX-compliant applications.

Administradores de dominio y usuarios de dominio

Configuración en ISE

Paso 1. Agregar dispositivo

Vaya a Administration > Network Devices, haga clic en el botón Add para agregar un dispositivo ASAv.



Name: ASAv

Description:

IP Address * IP : 1.[redacted].61 / 32

Device Profile: Cisco

Model Name:

Software Version:

Network Device Group

Location: All Locations

IPSEC: No

Device Type: All Device Types

☑ RADIUS Authentication Settings

RADIUS UDP Settings

Protocol: RADIUS

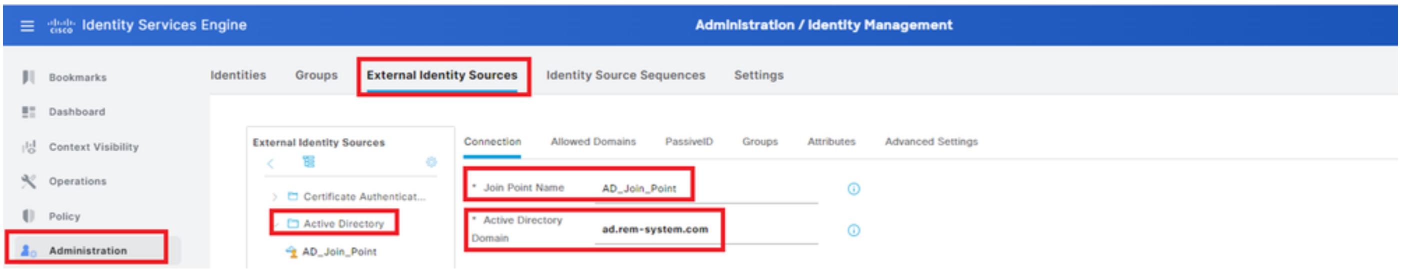
Shared Secret: cisco123

Agregar dispositivo

Paso 2. Agregar Active Directory

Vaya a Administration > External Identity Sources > Active Directory, haga clic en la ficha Connection y agregue Active Directory a ISE.

- Nombre del punto de unión: AD_Join_Point
- Dominio de Active Directory: ad.rem-system.com

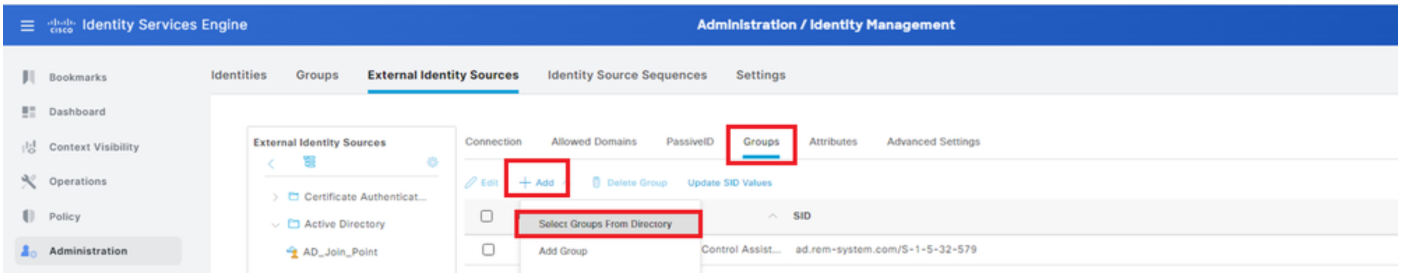


* Join Point Name AD_Join_Point

* Active Directory Domain ad.rem-system.com

Agregar Active Directory

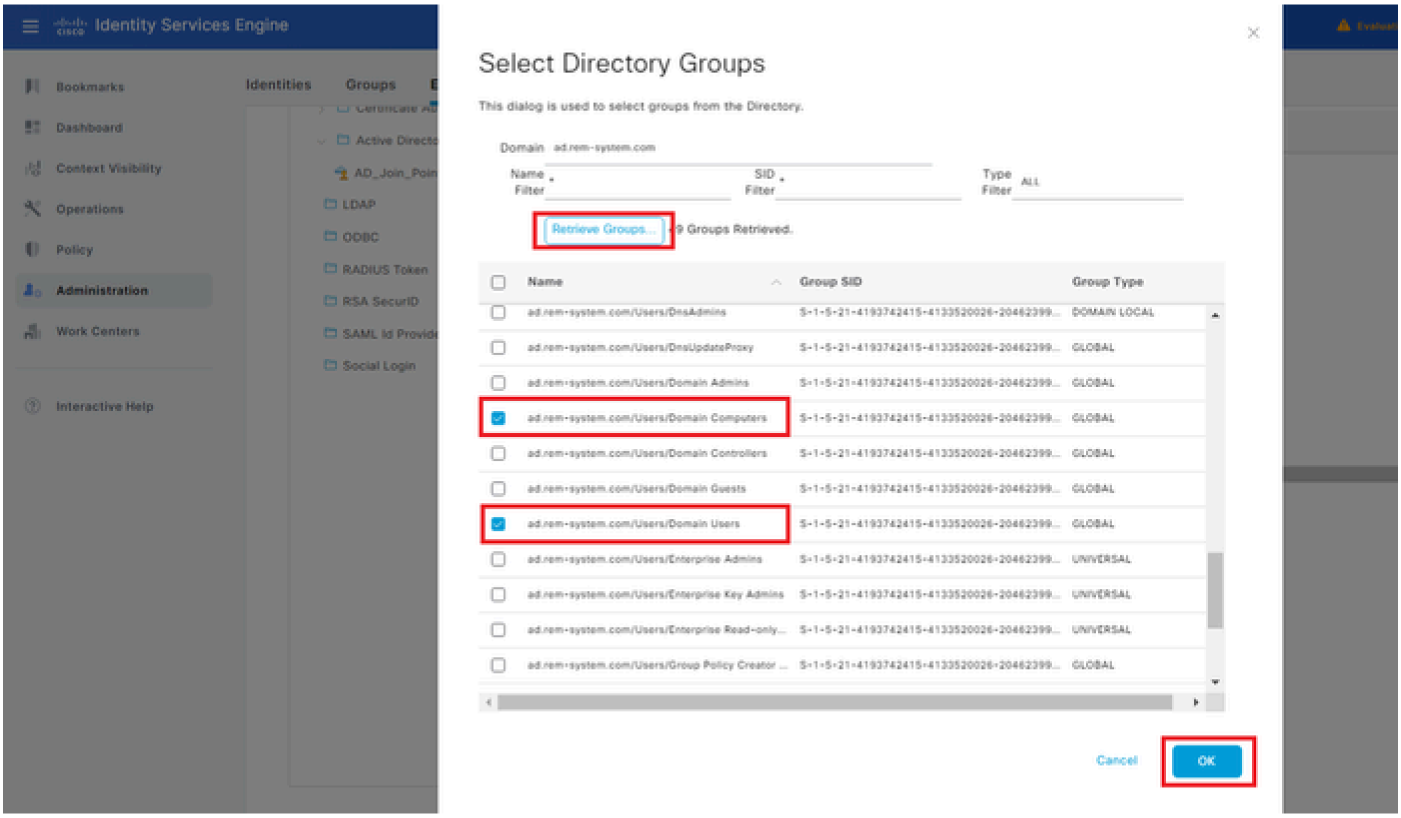
Vaya a la pestaña Grupos, seleccione Seleccionar grupos del directorio en la lista desplegable.



□ Control Assist... ad.rem-system.com/S-1-5-32-579

Seleccionar grupos del directorio

Haga clic en Recuperar grupos de la lista desplegable. Checkad.rem-system.com/Users/Domain Computersandad.rem-system.com/Users/Domain Usuarios y haga clic en Aceptar.



Select Directory Groups

This dialog is used to select groups from the Directory.

Domain ad.rem-system.com

Name Filter * SID Filter * Type Filter ALL

Retrieve Groups... 49 Groups Retrieved.

□	Name	Group SID	Group Type
□	ad.rem-system.com/Users/DnsAdmins	S-1-5-21-4193742415-4133520026-20462399...	DOMAIN LOCAL
□	ad.rem-system.com/Users/DnsUpdateProxy	S-1-5-21-4193742415-4133520026-20462399...	GLOBAL
□	ad.rem-system.com/Users/Domain Admins	S-1-5-21-4193742415-4133520026-20462399...	GLOBAL
☑	ad.rem-system.com/Users/Domain Computers	S-1-5-21-4193742415-4133520026-20462399...	GLOBAL
□	ad.rem-system.com/Users/Domain Controllers	S-1-5-21-4193742415-4133520026-20462399...	GLOBAL
□	ad.rem-system.com/Users/Domain Guests	S-1-5-21-4193742415-4133520026-20462399...	GLOBAL
☑	ad.rem-system.com/Users/Domain Users	S-1-5-21-4193742415-4133520026-20462399...	GLOBAL
□	ad.rem-system.com/Users/Enterprise Admins	S-1-5-21-4193742415-4133520026-20462399...	UNIVERSAL
□	ad.rem-system.com/Users/Enterprise Key Admins	S-1-5-21-4193742415-4133520026-20462399...	UNIVERSAL
□	ad.rem-system.com/Users/Enterprise Read-only...	S-1-5-21-4193742415-4133520026-20462399...	UNIVERSAL
□	ad.rem-system.com/Users/Group Policy Creator ...	S-1-5-21-4193742415-4133520026-20462399...	GLOBAL

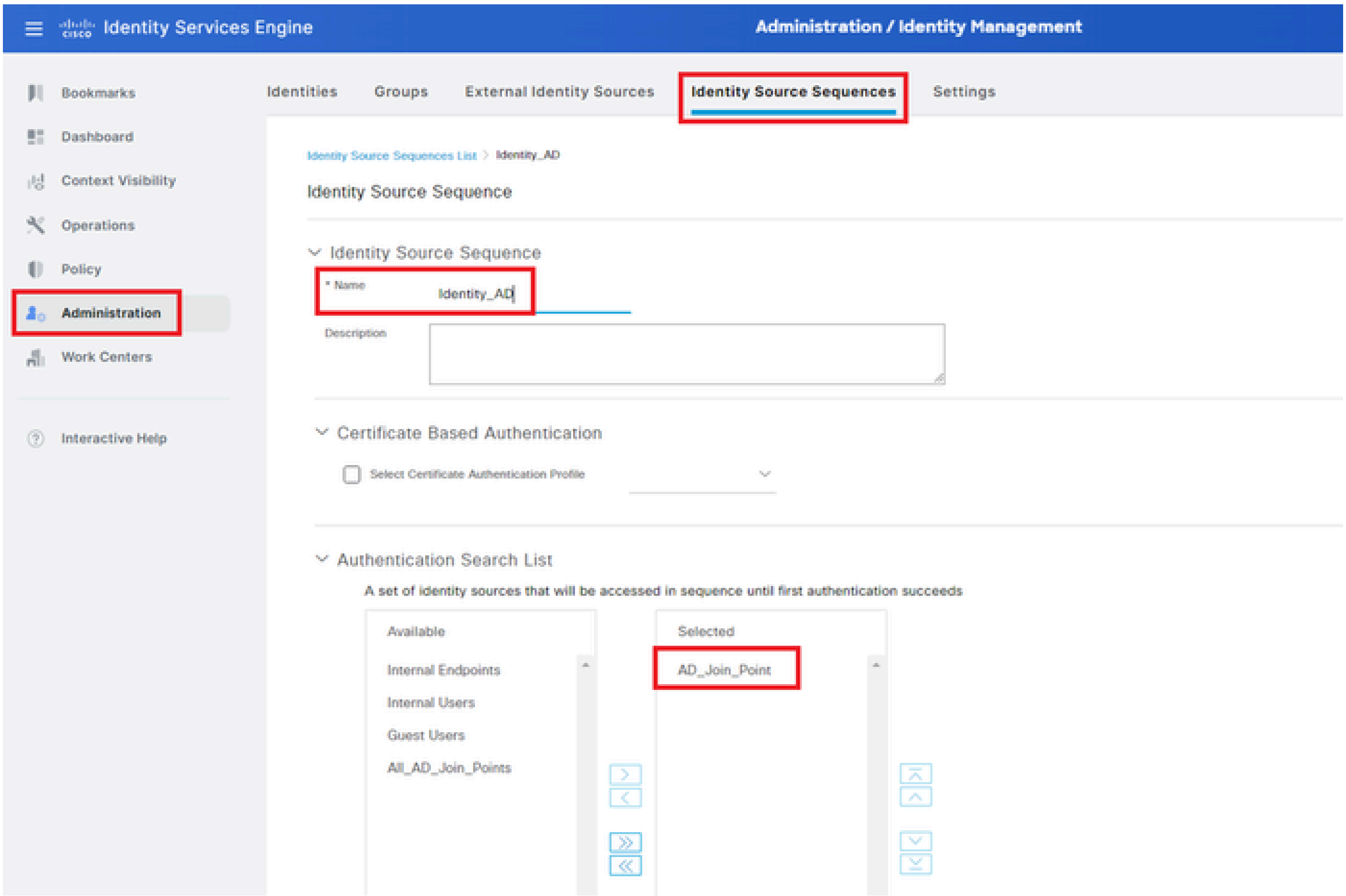
Cancel OK

Agregar equipos y usuarios de dominio

Paso 3. Agregar secuencia de origen de identidad

Vaya a Administration > Identity Source Sequences, agregue una secuencia de origen de identidad.

- Nombre: Identity_AD
- Lista de búsqueda de autenticación: AD_Join_Point


Identity Services Engine
Administration / Identity Management
Bookmarks
Dashboard
Context Visibility
Operations
Policy
Administration
Work Centers
Interactive Help
Identities
Groups
External Identity Sources
Identity Source Sequences
Settings
Identity Source Sequences List > Identity_AD
Identity Source Sequence
Identity Source Sequence
Certificate Based Authentication
□ Select Certificate Authentication Profile
Authentication Search List
A set of identity sources that will be accessed in sequence until first authentication succeeds
Available
Internal Endpoints
Internal Users
Guest Users
All_AD_Join_Points
Selected

* Name: Identity_AD

Description:

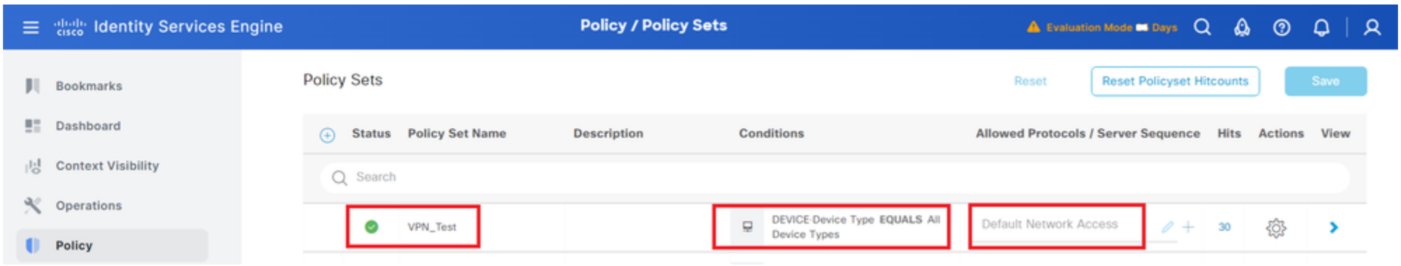
Selected: AD_Join_Point

Agregar secuencias de origen de identidad

Paso 4. Agregar conjunto de políticas

Navegue hasta Policy > Policy Sets, haga clic en + para agregar un conjunto de políticas.

- Nombre del conjunto de políticas: VPN_Test
- Condiciones: El tipo de dispositivo DEVICE ES IGUAL a todos los tipos de dispositivos
- Protocolos/Secuencia de servidor permitidos: acceso a red predeterminado



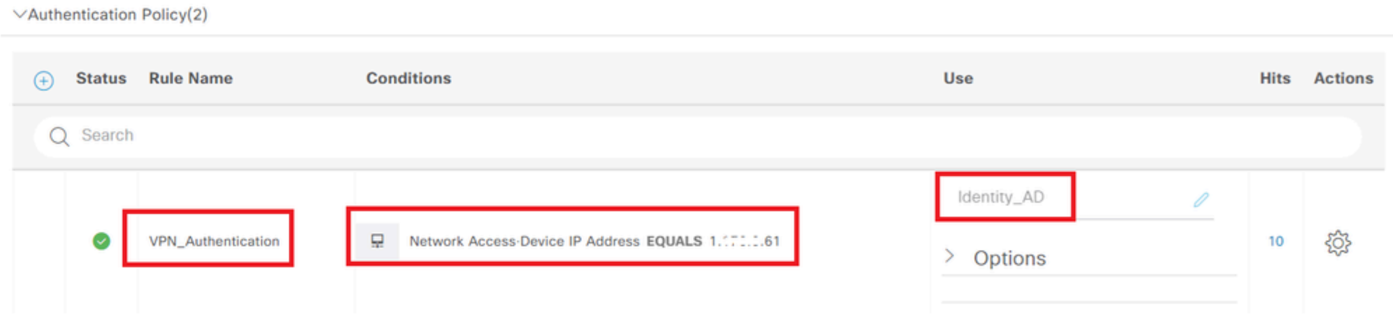
Status	Policy Set Name	Description	Conditions	Allowed Protocols / Server Sequence	Hits	Actions	View
✓	VPN_Test		DEVICE·Device Type EQUALS All Device Types	Default Network Access	30		›

Agregar conjunto de políticas

Paso 5. Agregar política de autenticación

Navegue hasta Conjuntos de políticas, haga clic en VPN_Test para agregar una política de autenticación.

- Nombre de regla: VPN_Authentication
- Condiciones: Dirección IP del dispositivo de acceso a la red IGUAL A 1.x.x.61
- Uso: Identity_AD



Authentication Policy(2)

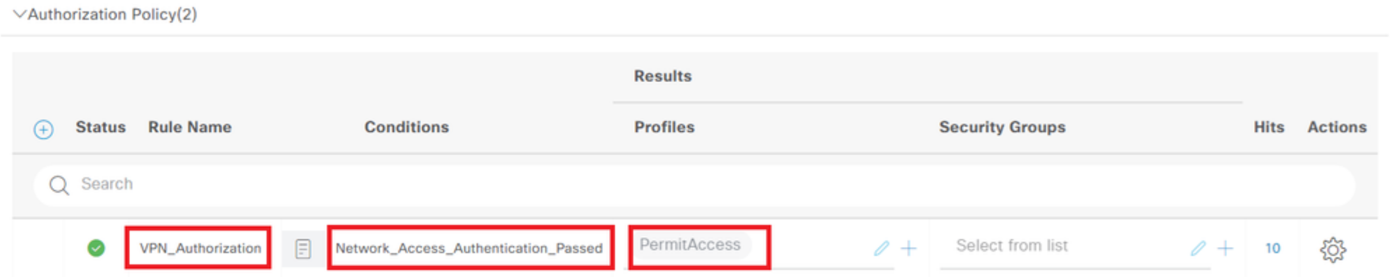
Status	Rule Name	Conditions	Use	Hits	Actions
✓	VPN_Authentication	Network Access·Device IP Address EQUALS 1.[illegible].61	Identity_AD Options	10	⚙

Agregar política de autenticación

Paso 6. Agregar política de autorización

Navegue hasta Conjuntos de políticas, haga clic en VPN_Test para agregar una política de autorización.

- Nombre de regla: VPN_Authorization
- Condiciones: Network_Access_Authentication_Passed
- Resultados: PermitAccess



Authorization Policy(2)

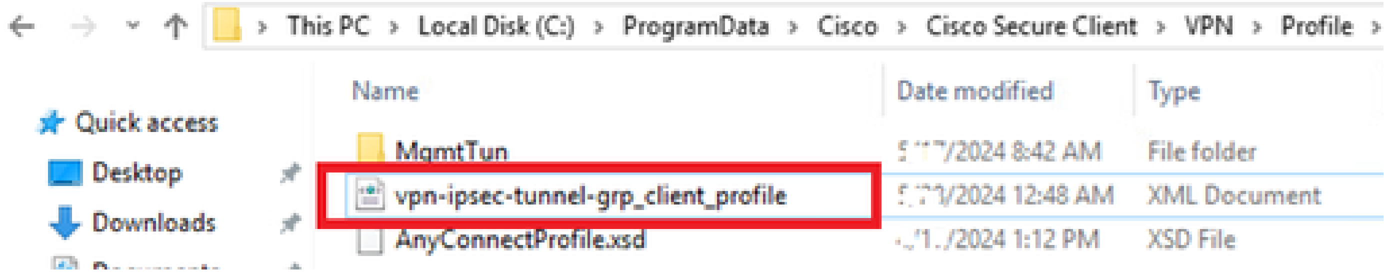
			Results			
Status	Rule Name	Conditions	Profiles	Security Groups	Hits	Actions
✓	VPN_Authorization	Network_Access_Authentication_Passed	PermitAccess	Select from list	10	⚙

Agregar directiva de autorización

Verificación

Paso 1. Copiar perfil de cliente seguro en PC1 Win10

Copie el perfil de cliente seguro en el directorio C:\ProgramData\Cisco\Cisco Secure Client\VPN\Profile.



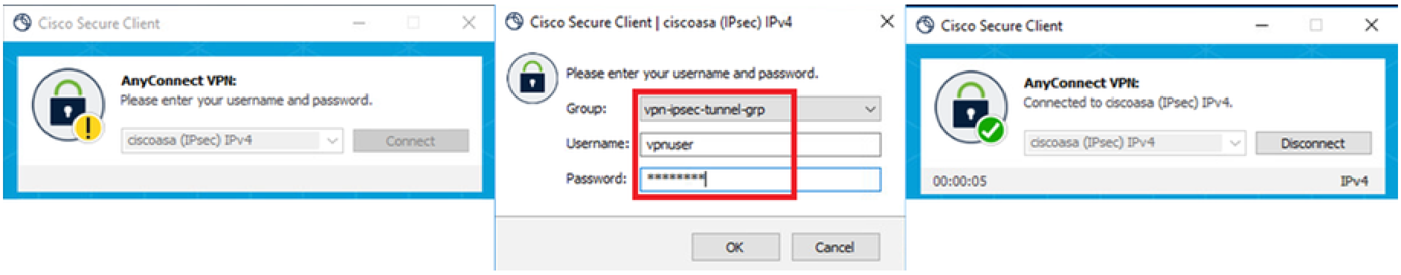
This PC > Local Disk (C:) > ProgramData > Cisco > Cisco Secure Client > VPN > Profile >

Name	Date modified	Type
MgmtTun	[illegible]/2024 8:42 AM	File folder
vpn-ipsec-tunnel-grp_client_profile	[illegible]/2024 12:48 AM	XML Document
AnyConnectProfile.xsd	[illegible]/2024 1:12 PM	XSD File

Copiar perfil en el PC

Paso 2. Iniciar conexión VPN

En el terminal, ejecute Cisco Secure Client, introduzca el nombre de usuario y la contraseña y, a continuación, confirme que Cisco Secure Client se conecta correctamente.



AnyConnect VPN:
Please enter your username and password.
ciscoasa (IPsec) IPv4

Please enter your username and password.
Group: vpn-ipsec-tunnel-grp
Username: vpnuser
Password: ********

AnyConnect VPN:
Connected to ciscoasa (IPsec) IPv4.
ciscoasa (IPsec) IPv4

Conexión correcta

Paso 3. Confirmar Syslog en ASA

En el registro del sistema, confirme que la conexión IKEv2 se ha realizado correctamente.

<#root>

```
May 28 20xx 08:xx:20: %ASA-5-750006: Local:192.168.1.1:4500 Remote:192.168.1.11:50982 Username:vpnuser 

New Connection Established


May 28 20xx 08:xx:20: %ASA-6-751026: Local:192.168.1.1:4500 Remote:192.168.1.11:50982 Username:vpnuser 
```

Paso 4. Confirmar sesión IPsec en ASA

ejecute show vpn-sessiondb detail anyconnect el comando para confirmar la sesión IKEv2/IPsec en ASA.

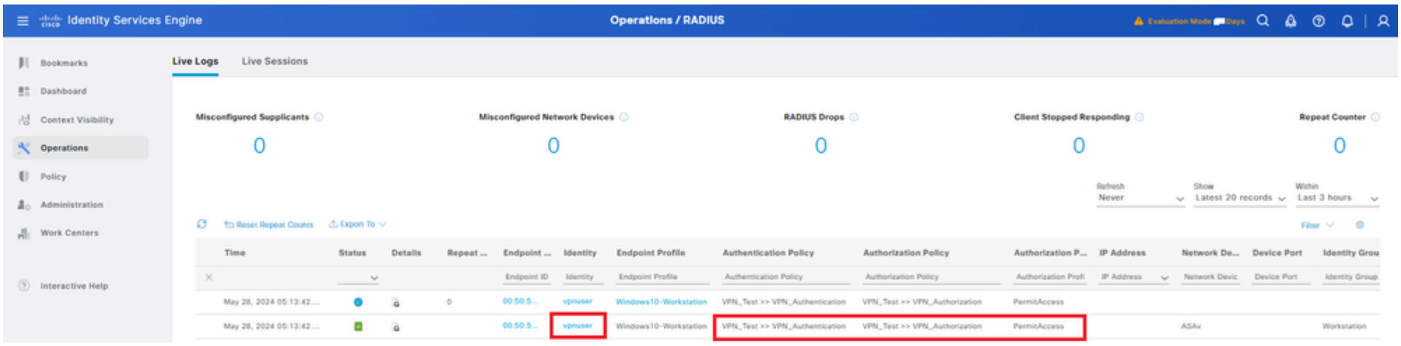
<#root>

```
ciscoasa#

show vpn-sessiondb detail anyconnect



Session Type: AnyConnect Detailed

Username : vpnuser Index : 23
Assigned IP : 172.16.1.20 Public IP : 192.168.1.11
Protocol : IKEv2 IPsecOverNatT AnyConnect-Parent
License : AnyConnect Premium
Encryption : IKEv2: (1)AES256 IPsecOverNatT: (1)AES256 AnyConnect-Parent: (1)none
Hashing : IKEv2: (1)SHA256 IPsecOverNatT: (1)SHA256 AnyConnect-Parent: (1)none
Bytes Tx : 840 Bytes Rx : 52408
Pkts Tx : 21 Pkts Rx : 307
Pkts Tx Drop : 0 Pkts Rx Drop : 0
Group Policy : GroupPolicy_vpn-ipsec-tunnel-grp
Tunnel Group : vpn-ipsec-tunnel-grp
```

```
Login Time : 08:13:20 UTC Tue May 28 2024
Duration : 0h:10m:10s
Inactivity : 0h:00m:00s
VLAN Mapping : N/A VLAN : none
Audt Sess ID : 01aa003d0001700066559220
Security Grp : none

IKEv2 Tunnels: 1


IPsecOverNatT Tunnels: 1


AnyConnect-Parent Tunnels: 1



AnyConnect-Parent:
Tunnel ID : 23.1
Public IP : 192.168.1.11
Encryption : none Hashing : none
Auth Mode : userPassword
Idle Time Out: 30 Minutes Idle TO Left : 19 Minutes
Client OS : win
Client OS Ver: 10.0.15063
Client Type : AnyConnect
Client Ver : 5.1.3.62

IKEv2:
Tunnel ID : 23.2
UDP Src Port : 50982 UDP Dst Port : 4500
Rem Auth Mode: userPassword
Loc Auth Mode: rsaCertificate
Encryption : AES256 Hashing : SHA256
Rekey Int (T): 86400 Seconds Rekey Left(T): 85790 Seconds
PRF : SHA256 D/H Group : 19
Filter Name :
Client OS : Windows Client Type : AnyConnect

IPsecOverNatT:
Tunnel ID : 23.3
Local Addr : 0.0.0.0/0.0.0.0/0/0
Remote Addr : 172.16.1.20/255.255.255.255/0/0
Encryption : AES256 Hashing : SHA256
Encapsulation: Tunnel
Rekey Int (T): 28800 Seconds Rekey Left(T): 28190 Seconds
Idle Time Out: 30 Minutes Idle TO Left : 29 Minutes
Bytes Tx : 840 Bytes Rx : 52408
Pkts Tx : 21 Pkts Rx : 307
```

Paso 5. Confirmar registro en directo de Radius

Vaya a **Operations** > **RADIUS** > **Live Logs** en la GUI de ISE, confirme el registro en vivo para la autenticación de vpn.



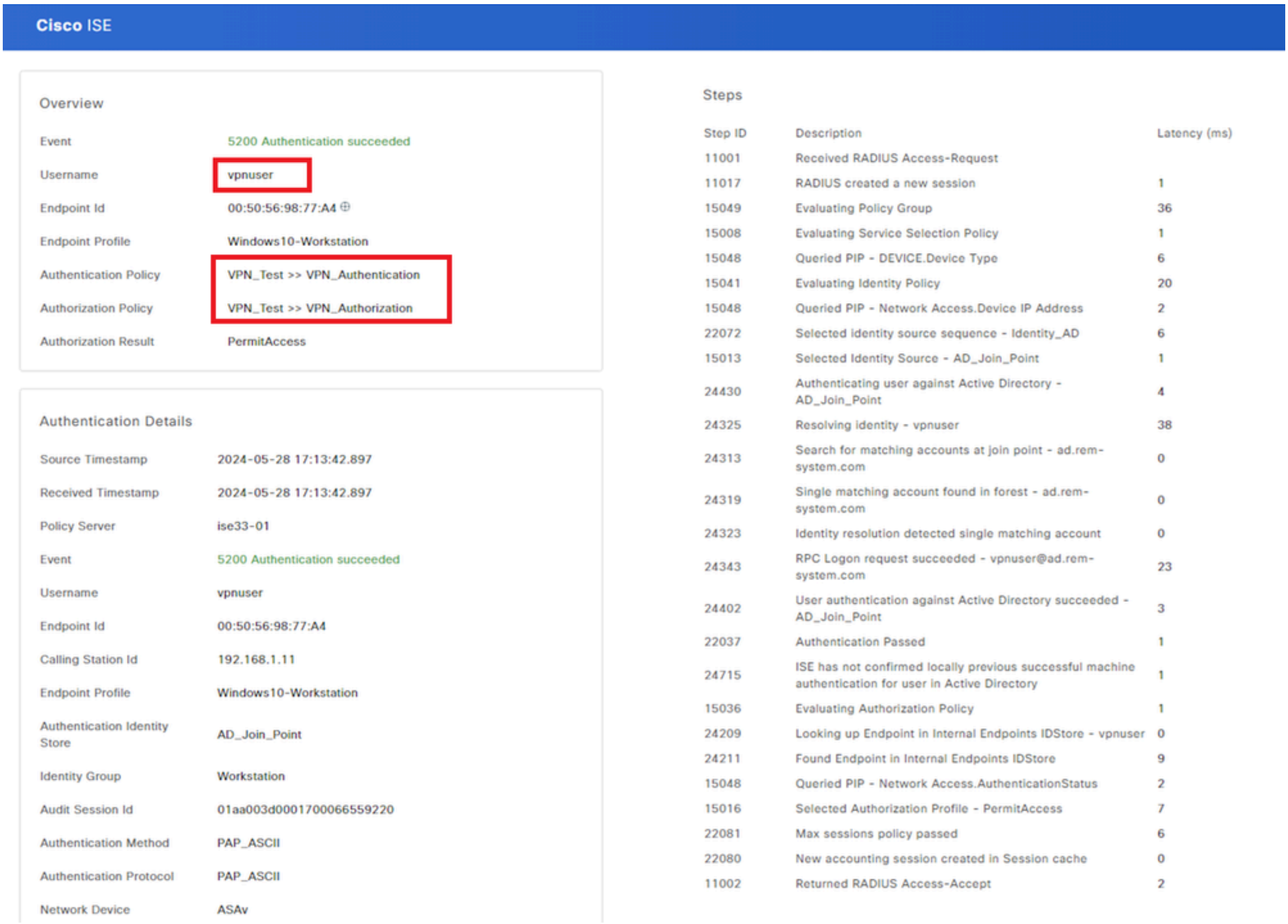
Misconfigured Supplicants: 0
Misconfigured Network Devices: 0
RADIUS Drops: 0
Client Stopped Responding: 0
Repeat Counter: 0

Refresh: Never
Show: Latest 20 records
Within: Last 3 hours

Time	Status	Details	Repeat ...	Endpoint ...	Identity	Endpoint Profile	Authentication Policy	Authorization Policy	Authorization P...	IP Address	Network De...	Device Port	Identity Grou
May 28, 2024 05:13:42....	●		0	00:50:5...	vpnuser	Windows10-Workstation	VPN_Test >> VPN_Authentication	VPN_Test >> VPN_Authorization	PermitAccess				
May 28, 2024 05:13:42....	🟩			00:50:5...	vpnuser	Windows10-Workstation	VPN_Test >> VPN_Authentication	VPN_Test >> VPN_Authorization	PermitAccess		ASAv		Workstation

Registro en directo de Radius

Haga clic en Status (Estado) para confirmar los detalles del registro activo.



Overview

Event	5200 Authentication succeeded
Username	vpnuser
Endpoint Id	00:50:56:98:77:A4
Endpoint Profile	Windows10-Workstation
Authentication Policy	VPN_Test >> VPN_Authentication
Authorization Policy	VPN_Test >> VPN_Authorization
Authorization Result	PermitAccess

Authentication Details

Source Timestamp	2024-05-28 17:13:42.897
Received Timestamp	2024-05-28 17:13:42.897
Policy Server	ise33-01
Event	5200 Authentication succeeded
Username	vpnuser
Endpoint Id	00:50:56:98:77:A4
Calling Station Id	192.168.1.11
Endpoint Profile	Windows10-Workstation
Authentication Identity Store	AD_Join_Point
Identity Group	Workstation
Audit Session Id	01aa003d0001700066559220
Authentication Method	PAP_ASCII
Authentication Protocol	PAP_ASCII
Network Device	ASAv

Steps

Step ID	Description	Latency (ms)
11001	Received RADIUS Access-Request	
11017	RADIUS created a new session	1
15049	Evaluating Policy Group	36
15008	Evaluating Service Selection Policy	1
15048	Queried PIP - DEVICE.Device Type	6
15041	Evaluating Identity Policy	20
15048	Queried PIP - Network Access.Device IP Address	2
22072	Selected identity source sequence - Identity_AD	6
15013	Selected Identity Source - AD_Join_Point	1
24430	Authenticating user against Active Directory - AD_Join_Point	4
24325	Resolving identity - vpnuser	38
24313	Search for matching accounts at join point - ad.rem-system.com	0
24319	Single matching account found in forest - ad.rem-system.com	0
24323	Identity resolution detected single matching account	0
24343	RPC Logon request succeeded - vpnuser@ad.rem-system.com	23
24402	User authentication against Active Directory succeeded - AD_Join_Point	3
22037	Authentication Passed	1
24715	ISE has not confirmed locally previous successful machine authentication for user in Active Directory	1
15036	Evaluating Authorization Policy	1
24209	Looking up Endpoint in Internal Endpoints IDStore - vpnuser	0
24211	Found Endpoint in Internal Endpoints IDStore	9
15048	Queried PIP - Network Access.AuthenticationStatus	2
15016	Selected Authorization Profile - PermitAccess	7
22081	Max sessions policy passed	6
22080	New accounting session created in Session cache	0
11002	Returned RADIUS Access-Accept	2

Detalle de Live Log

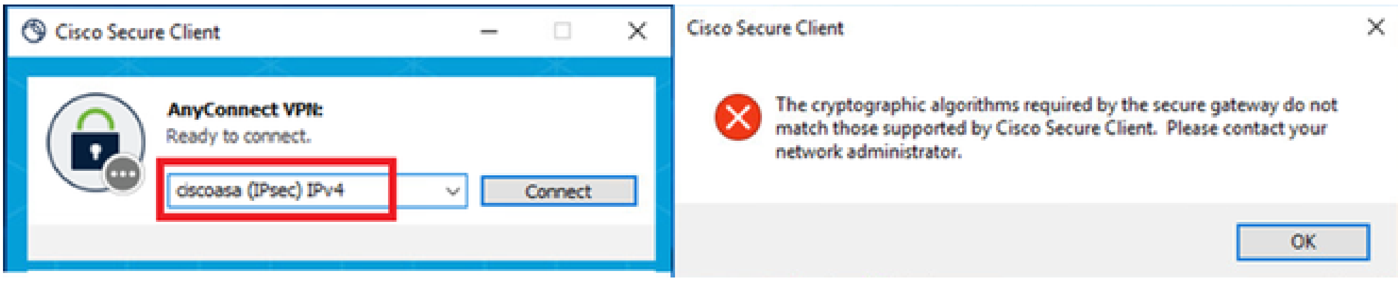
Troubleshoot

La falta de coincidencia de los algoritmos criptográficos puede provocar errores de conexión. Este es un ejemplo de cuando ocurre un problema de falta de coincidencia de algoritmos. La ejecución del paso 15 de la sección Configuración en ASDM puede resolver el problema.

Paso 1. Iniciar conexión VPN

En el terminal, ejecute Cisco Secure Client y confirme que la conexión falló debido a una discordancia de algoritmos criptográficos.

The cryptographic algorithms required by the secure gateway do not match those supported by AnyConnect.Please contact your network administrator.



The cryptographic algorithms required by the secure gateway do not match those supported by Cisco Secure Client. Please contact your network administrator.

Error de conexión

Paso 2. Confirmar registro del sistema en CLI

En el syslog, confirme que la negociación IKEv2 ha fallado.

<#root>

```
May 28 20xx 08:xx:29: %ASA-5-750002: Local:192.168.1.1:500 Remote:192.168.1.11:57711 Username:Unknown IKEv2 Received a IKE_INIT_SA requ
May 28 20xx 08:xx:29: %ASA-4-750003: Local:192.168.1.1:500 Remote:192.168.1.11:57711 Username:Unknown IKEv2 Negotiation aborted due to ERI

Failed to find a matching policy
```

Referencia

[AnyConnect a través de IKEv2 a ASA con AAA y autenticación de certificados]

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