

# movianVPN™

Version 3.0

## movianVPN User's Guide for Nokia 9000 Series phones

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Other applications and corresponding foreign protection pending.

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# 1

## Introduction

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### Overview: movianVPN

For mobile professionals, owning a handheld personal computer such as a Personal Digital Assistant (PDA) means that downloading e-mail and accessing the Internet can occur anyplace, anytime. More difficult, however, is ensuring security when using a handheld device to remotely access confidential information on the corporate intranet.

**movianVPN** is a software application that allows mobile professionals to use their handheld devices to connect securely to their corporate intranet, whether remotely or on-site at their company. The corporate intranet or VPN (Virtual Private Network) is accessed through a gateway server the user connects to by wireline dial-up or wireless access.

Once a user is logged in to the VPN gateway, information sent in each direction is encrypted and verified. The communicating parties are authenticated, ensuring confidentiality and integrity of the data. Authorized users have secure, real-time access to critical data and application servers behind the gateway, such as e-mail servers.

**movianVPN** can be downloaded from the **www.certicom.com** website and installed on your computer. The next time you synchronize your handheld device with the computer, the necessary files will be installed on the device.

The application is simple to use, with only a few steps to follow.

To use **movianVPN**, you will require:

- A handheld device capable of connection to an Internet Service Provider or to a wireline or wireless LAN
- Information from your VPN administrator regarding the configuration required for your specific VPN gateway

## Using this document

This User's Guide is intended for **movianVPN** on the Nokia 9000 Series phones. It provides information on:

- VPNs and handheld devices
- Installing **movianVPN**
- Creating and verifying the policies used to connect to VPN gateways
- Accessing and using the gateway
- Diagnostic tools and troubleshooting

If your VPN administrator has already completed a particular chapter's procedures for installing and configuring **movianVPN** on your handheld device, you can move on to the next chapter.

# VPNs

Virtual Private Networks (VPNs) are secure private networks operating either within a public network like the Internet or within an insecure private network.

A VPN links together particular computers within the wider network and provides authorized users with secure, confidential transmission of data. Security is maintained by encrypting communications and by creating secure "tunnels" to direct network traffic from one computer to another specific computer.

VPNs can create secure connections between an internal corporate network and external users in any combination of the following three forms:

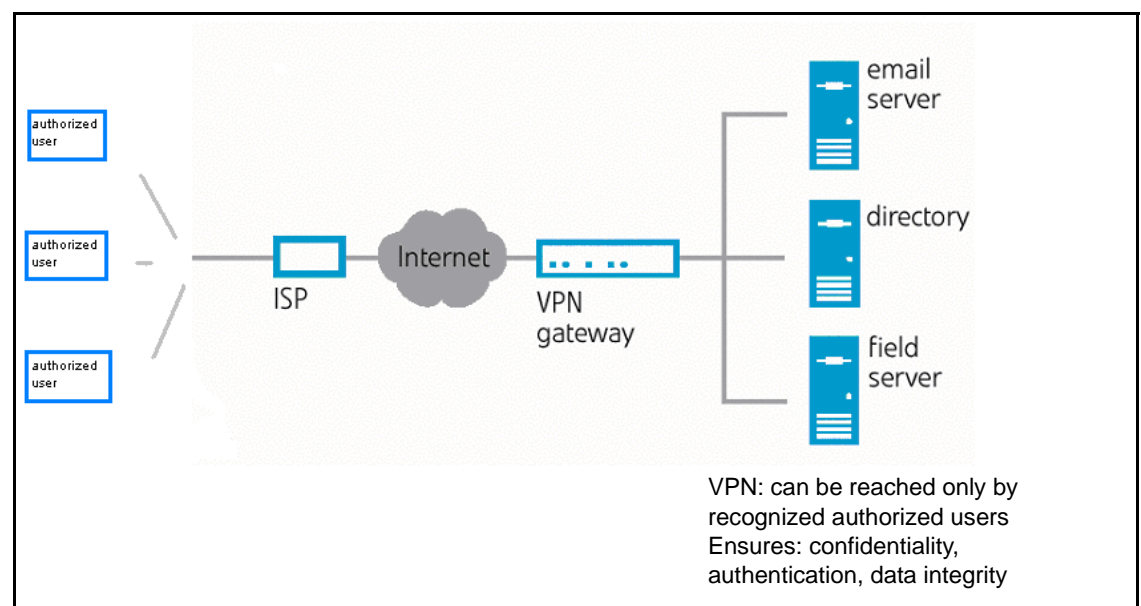
- **Intranet VPN:** Between a central corporate site and branch offices
- **Remote access VPN:** Between a central corporate site and individual remote users (the **movianVPN** model)
- **Extranet VPN:** Between an enterprise and its business partners, suppliers, and customers

VPNs provide a cost-effective means for secure e-mail access and functions such as sharing confidential information, updating databases for remote offices, and disseminating business applications.

Once you are logged in to a VPN, you can access the servers within the VPN, while other Internet or intranet users outside the VPN are unable to access the VPN and its subnets or enclosed networks.

## Gateway servers

The VPN is accessed through a "VPN gateway server," a computer which recognizes authorized users and their passwords. The gateway server gives users access to the application servers for e-mail and other confidential information behind the gateway (that is, access to servers within the corporate intranet that have been designated as part of the VPN).



Secure access is provided through a combination of:

- Tunneling (directing encrypted communication and routing instructions from one computer to another specific computer using TCP/IP protocols)
- Encrypting data, and
- Using authentication technologies that verify the identity of the sender, the identity of the receiver, and the security of the information transmitted

A VPN must provide a reliable, secure communication between all hardware and software points of the VPN: the IPSec protocol makes this possible.

## IPSec

The IPSec protocol is a framework of standards for network security, aimed at providing confidentiality, data integrity, and data source verification for any application using the network.

IPSec protocol ensures that:

- Communicating parties can authenticate both the source and the integrity of the data
- The data is encrypted for secure exchange
- The method of authentication and encryption can be negotiated by the communicating parties

## Handheld devices

Using **movianVPN**, a traditional VPN can also have handheld devices added to the configuration.

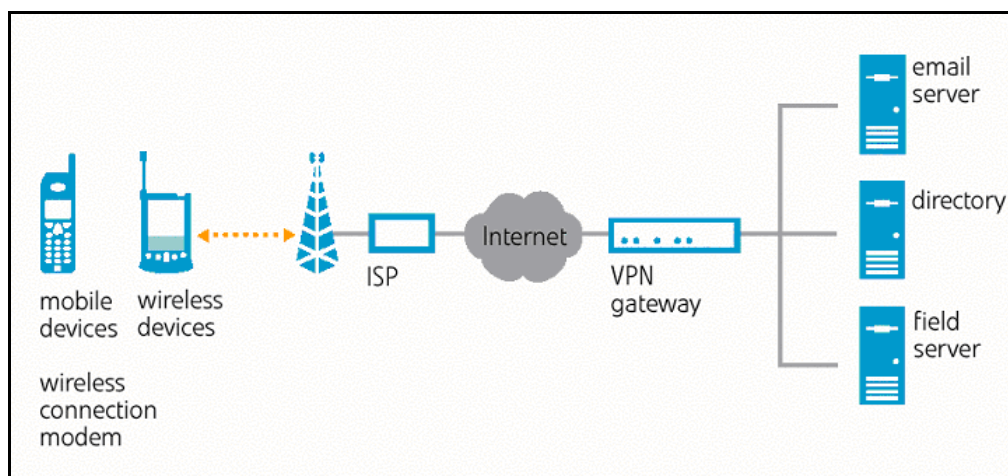
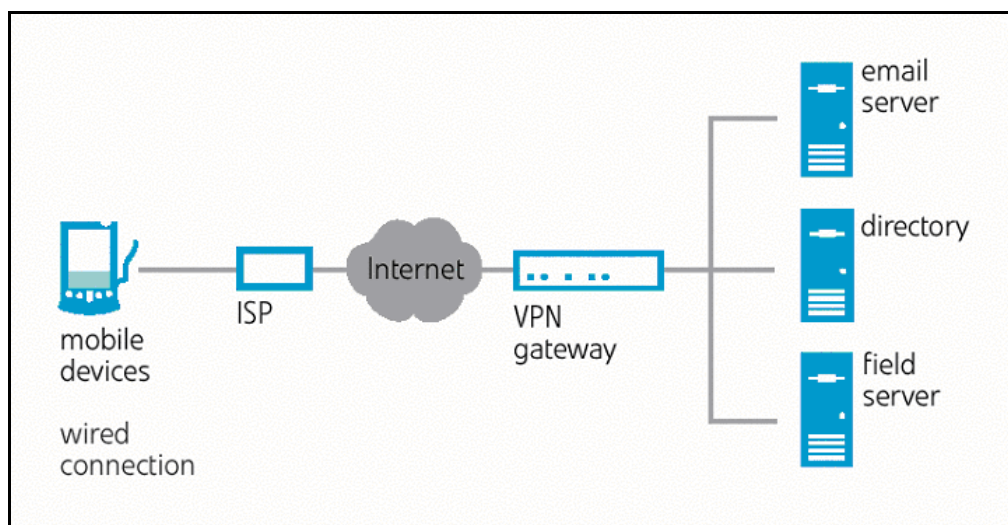
Handheld devices can connect to the VPN by several options:

- Dedicated dial-up modem to access an ISP through the telephone network
- Wireless modem to access a Local Area Network or LAN
- Wireline (Ethernet) access to a LAN
- Modem with data-capable mobile phone to access the ISP

To access the VPN, the handheld device must support the standard IP or Internet Protocol, which addresses and sends information packets over the network.

Handheld devices can connect to the VPN by a wired connection or by a wireless connection, depending on the devices' hardware/software configuration.





For information on the handheld devices and operating systems that can use **movianVPN**, see “Interoperability” on page 7.

# movianVPN

**movianVPN** allows mobile professionals to use their handheld devices to connect securely and easily to a corporate intranet's VPN gateway. The handheld can then be used to access the corporate intranet, providing you with secure, real-time access to confidential data and application servers behind the gateway, such as e-mail servers.

**movianVPN** uses IPSec standards to establish a secure end-to-end connection. The process for an IPSec-based communication works as follows:

- When your handheld device contacts the VPN gateway server to establish a connection, the "client" (that is, the part of the software resident on your handheld device) and the server identify themselves to each other.  
There are several possible authentication methods, including passwords for the username you login with and tokens for two-factor authentication.
- Once the authentication is complete, the client generates a "key" and shares it with the VPN gateway server to use for the length of that session.
- When the client accesses data from the VPN, the gateway server encrypts the data, using the session key. The encrypted data travels securely across the Internet to the client, where it is decrypted with the same key.  
Encryption is the process of converting a text or other communication into a coded format which cannot be read by other parties unless decrypted. Encryption and decryption relies on shared keys.

## Gateway access

Gateways are accessed using a security "policy" configured within **movianVPN**. The policy contains the information required to connect to a specific gateway and to successfully negotiate the exchange of keys that will be used for encrypting the transmitted data, verifying identities, and confirming data integrity.

The network you use to access the VPN gateway server does not have to be secure. For example, you may use dial-up access to an Internet Service Provider to reach the gateway server, or access it through a wider corporate LAN.

Once you are recognized by the VPN gateway through providing your user name and password, **movianVPN** establishes a secure, encrypted "tunnel" for you to the VPN. While accessing the servers that comprise the VPN, you are provided with confidentiality, data integrity verification, and data source authentication for your communications.

A policy requires specific information from your VPN administrator regarding connection and encryption protocols, user names and passwords for authentication, and configuration modes for the particular type of gateway.

# Interoperability

**Supported devices** The Nokia 9210 and Nokia 9290 devices are supported.

**VPN gateways currently supported** The following VPN gateways are currently supported:

Company	Product	Software Version
Cisco	VPN Concentrator 3000 Series	3.0 to 3.5, limited 2.5.2E, 2.5, 2.1
	Cisco Unity with Cisco 3000 v3.0	
Nortel Network	Contivity VPN Switch series	2.60.56 to 3.6.0 and 4.0

**Connections** The following specific connections have been tested for interoperability:

- GSM



# 2

## Installing movianVPN

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### System requirements

To install and run **movianVPN**, you should have the following as a minimum:

- PC Suite for Nokia Communicator software on your desktop or laptop computer
- Nokia Symbian OS (version 3.2 or above) on your Nokia Communicator device

To connect to a VPN, you will also require:

- Account with an Internet Service Provider (ISP) and/or wireless data provider

movianVPN is contained in a zip file. To install **movianVPN**, follow the steps below.

- Extract the files to a designated folder.
- Double-click on the SIS file to run the PC Suite for Nokia Communicator application.
- Follow the instructions on the screen to install **movianVPN** on the Nokia device.

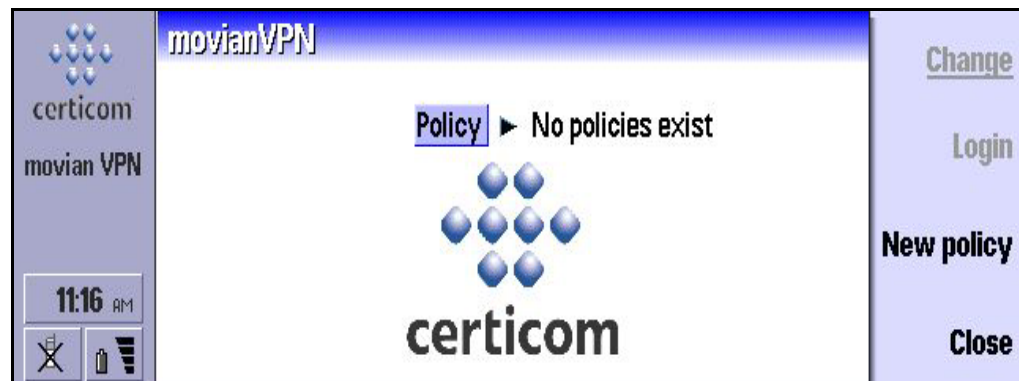
Note that if you have a previous version of movianVPN on your device, it will be removed during the installation process.

## Checking the movianVPN version number

To resolve questions or issues more quickly when receiving technical support, you should be able to supply the **movianVPN** version number.

To check your **movianVPN** version number:

1. Open the **movianVPN** application. The **movianVPN** window will appear.



2. Press the **Menu** key on the keyboard, then select **About** on the menu toolbar.

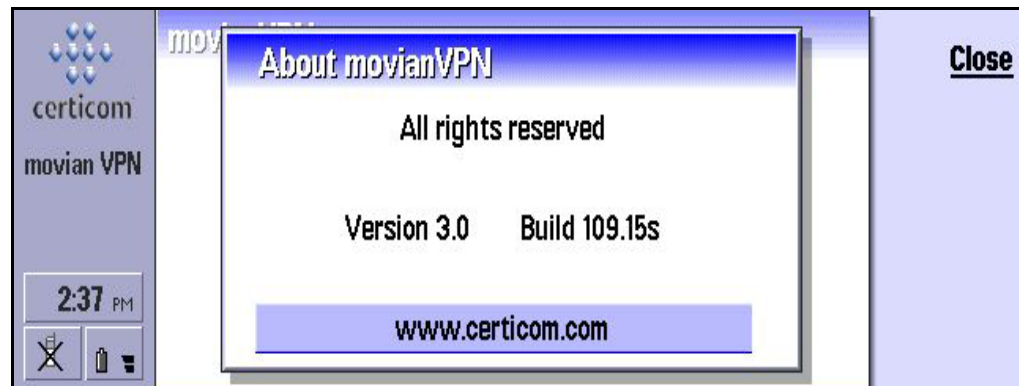


3. Select **movian** in the list.



The **About movianVPN** window appears.

Scroll down to display the **movianVPN** version and build number. You will need this information if you need to contact technical support.



# Licensing movianVPN

The **movianVPN** evaluation license expires after a period of 30 days. In the final ten days of the evaluation period, you will see a message informing you that the license will expire soon.

To activate **movianVPN** for a longer period, you must license the application with Certicom.

## Licensing movianVPN

To obtain a licensed version of **movianVPN**, visit our website at [www.certicom.com/buymovian](http://www.certicom.com/buymovian) and contact one of our channel partners.

Once you purchase a license, you will receive a **.sis** file. When you run this file, it will install a license file on your handheld device. The license takes effect when you restart **movianVPN**.

**Note:** You must ensure that you install the license in the same directory as **movianVPN**.

## Checking the current license type

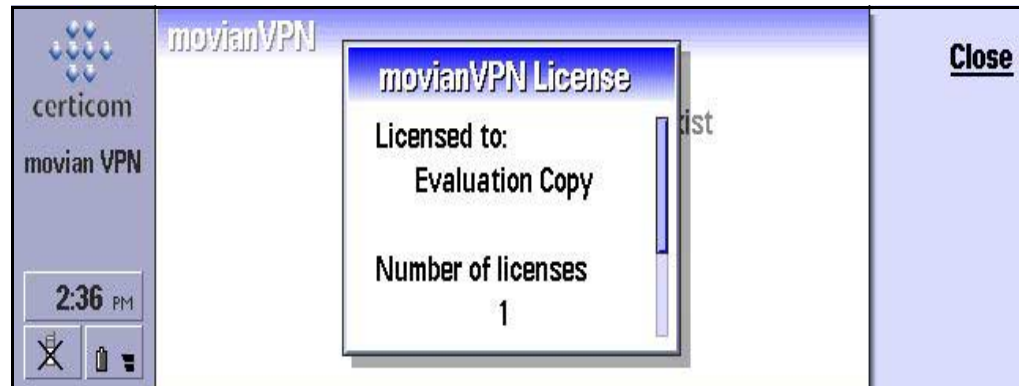
To check on which type of license you currently have for **movianVPN** and when it expires:

1. Open the **movianVPN** application. The **movianVPN** window will appear.
2. Press the **Menu** key on the keyboard, then select **About** on the menu bar.



3. Select **License**. The **movianVPN License** window appears.





The **movianVPN License** window shows the current information on whether the installation is licensed or for evaluation, the number of licenses, and the days remaining. Select **Close** to close the window.

## Getting updates for movianVPN

To download updates for **movianVPN**, visit our website at [www.certicom.com](http://www.certicom.com) and contact one of our channel partners.

# Uninstalling movianVPN

To uninstall **movianVPN**, use the Install/Remove application on your handheld device.

1. Press **Extras** on the keyboard.
2. Select the **Control Panel** icon.
3. Select **Install / Remove**.
4. Select **movianVPN** in the drop-down list.

Note that if you install a new version of **movianVPN** using the PC Suite for Nokia Communicator application, the previous version of **movianVPN** is removed automatically.

# 3 Getting Started

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## Overview: Getting Started

Getting started with **movianVPN** requires that you have the information necessary to complete both of the following:

- Set up your device to connect to the Internet
- Create the policy for your gateway

The Nokia Symbian OS documentation will explain what you need to do to connect your device to the Internet. This chapter explains how you create a policy for your gateway.

Note that your VPN administrator may already have configured your handheld device to connect to the Internet and created the policy. If this is the case, you can begin “Running movianVPN” on page 39.

# Providing a policy for your gateway

**movianVPN** supports access to the gateways listed in the table “VPN gateways currently supported” on page 7.

**Note:** To create a policy for your gateway, you will require specific information supplied by your VPN administrator. This information may be supplied to you in the table that follows or in a form such as that shown in “Appendix C: Information worksheet” on page 57.

## Information required for creating a policy

The following information will be required as you create the policy for your gateway. The information must be entered in a field, selected from a pull-down list, or selected/deselected using checkboxes.

**Note:** Not all entries will be applicable for your gateway’s policy.

Field, Checkbox or Button	Required	Information/Action
Policy Name		
Gateway Type (Please select one)		
Gateway IP Address		
Perfect Forward Secrecy		
Extended Authentication (Nortel gateway only)		
IKE Suite		Group:
		Cipher:
		Hash:
Group Name		
Group Password		
User Name		
User Password		
User Passcode (SecurID)		
IPSec Suite		

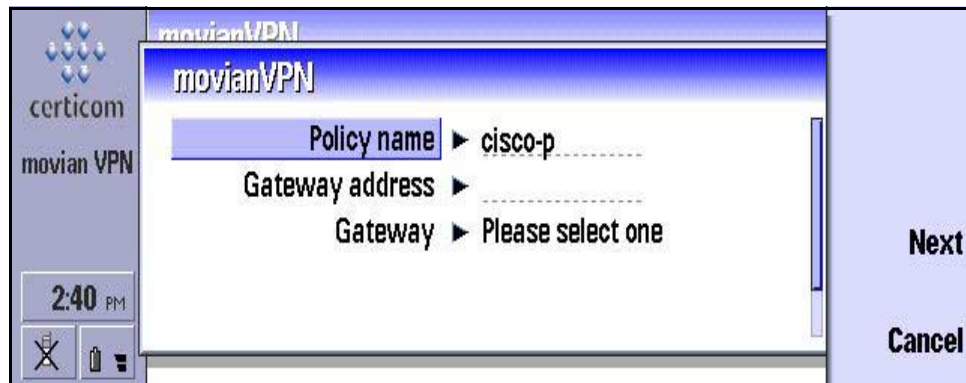
## Creating a policy for a Cisco VPN Concentrator 3000 gateway

To create a policy for a Cisco VPN Concentrator 3000 gateway you will require the following information from your VPN administrator:

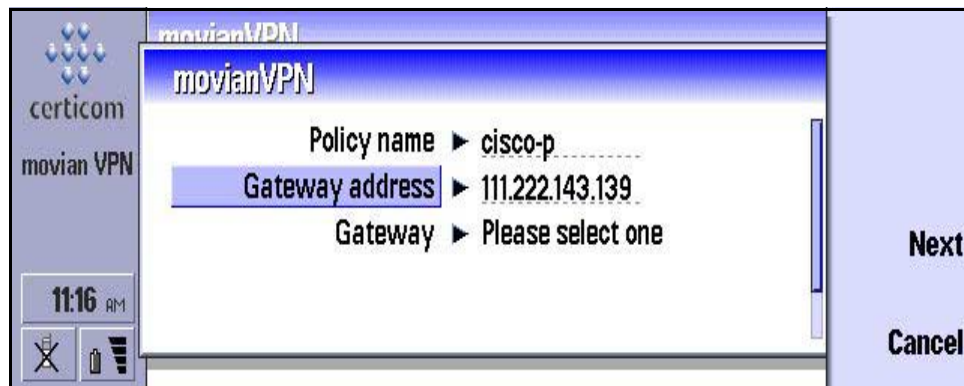
- Gateway IP address
  - Select/deselect Perfect Forward Secrecy
  - Group name, group password, user name
  - IKE Suite and IPsec Suite settings
1. To start the **movianVPN** application, open the **Extras** window, select the **movianVPN** icon, and select **Open**. The **movianVPN** application window appears.



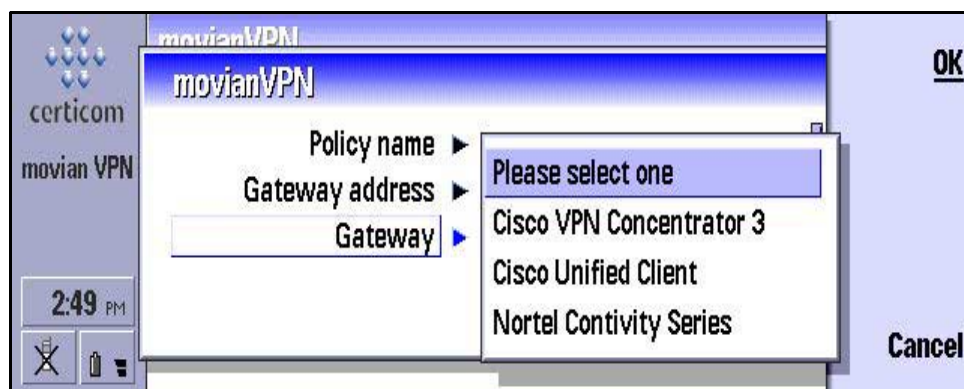
2. Select **Create** to create a new policy (you can also create a new policy by selecting **File** then **New policy** on the menu bar).
3. The **movianVPN** policy window appears. Enter the name of the policy in the **Policy name** field. The policy name must be no more than ten characters long.



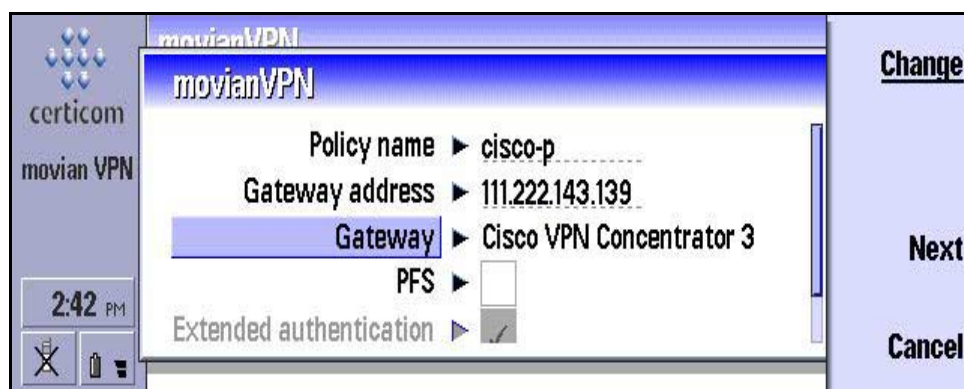
4. Enter the IP address of the gateway in the **Gateway address** field. The IP address is supplied by your VPN administrator.



5. Select **Gateway** to display a pull-down list of all the available gateways.



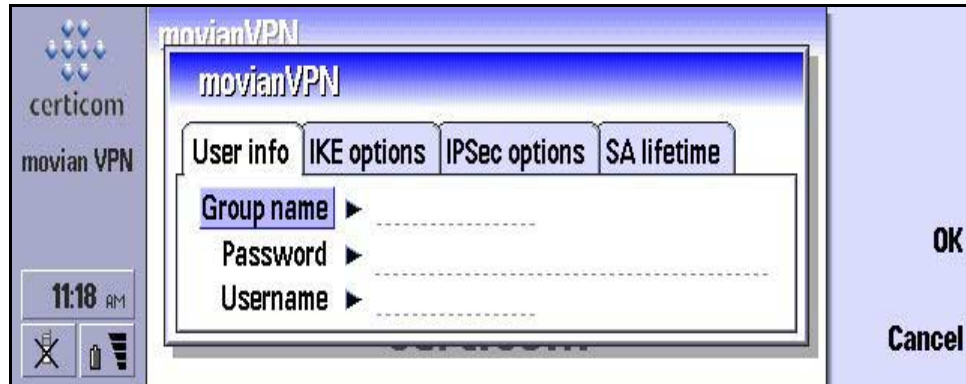
6. Scroll down and select the **Cisco VPN Concentrator 3** gateway.



7. Check the **Use Perfect Forward Secrecy** checkbox if the option is desired. For information on Perfect Forward Secrecy see “Perfect Forward Secrecy” on page 34.

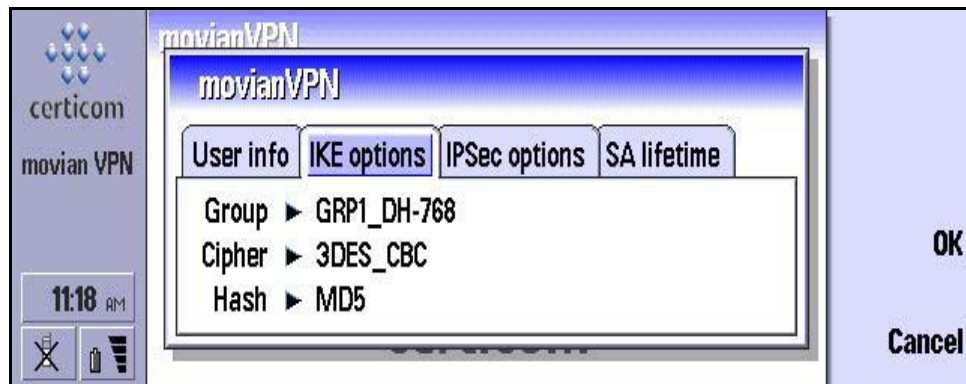
***Note:** Use **Extended Authentication** is selected by default and locked as required by the Cisco VPN Concentrator 3000 gateways. When you connect to the gateway, you will be asked for further authentication, supplied by your VPN administrator. For information on Extended Authentication, see “Extended Authentication” on page 34.*

8. Select **Next**. The **user info** tab appears.



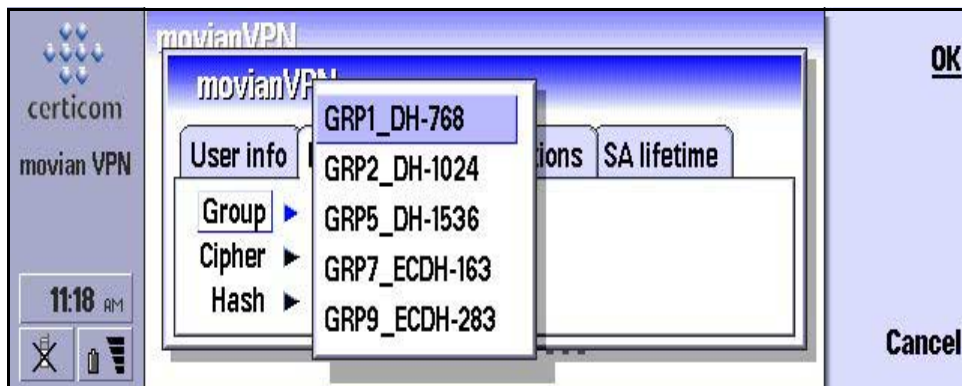
The screenshot shows the 'movianVPN' application window with the 'User info' tab selected. The window has a sidebar on the left with the 'certicom' logo and 'movian VPN' text, a clock showing '11:18 AM', and icons for a printer and a help menu. The main area contains four tabs: 'User info', 'IKE options', 'IPSec options', and 'SA lifetime'. The 'User info' tab is active, showing three input fields: 'Group name', 'Password', and 'Username', each with a right-pointing arrow and a dashed line for text entry. On the right side of the window, there are 'OK' and 'Cancel' buttons.

9. Enter the **Group name**, **Password**, and **Username** supplied by your VPN administrator.
10. Press the **Menu** button for the **IKE options**. The **Group**, **Cipher** and **Hash** fields appear (see “IKE options” on page 36 for more information on these settings).

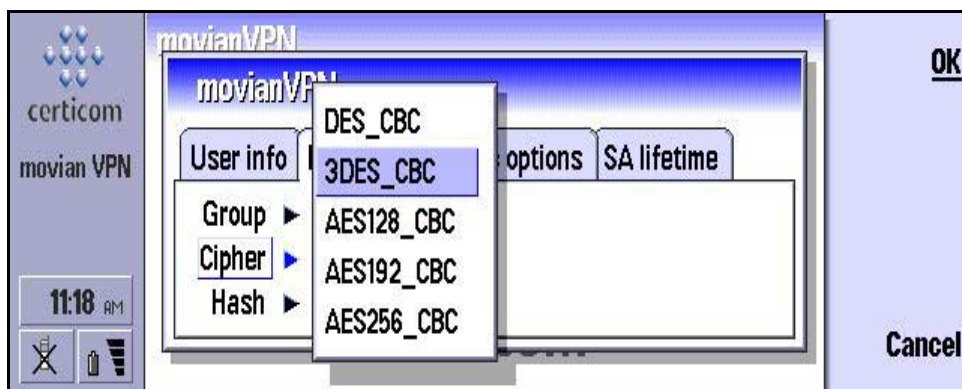


The screenshot shows the 'movianVPN' application window with the 'IKE options' tab selected. The sidebar on the left is identical to the previous screenshot. The main area shows the same four tabs, but now the 'IKE options' tab is active. It contains three input fields: 'Group' with the value 'GRP1\_DH-768', 'Cipher' with the value '3DES\_CBC', and 'Hash' with the value 'MD5'. Each field has a right-pointing arrow. The 'OK' and 'Cancel' buttons are on the right side of the window.

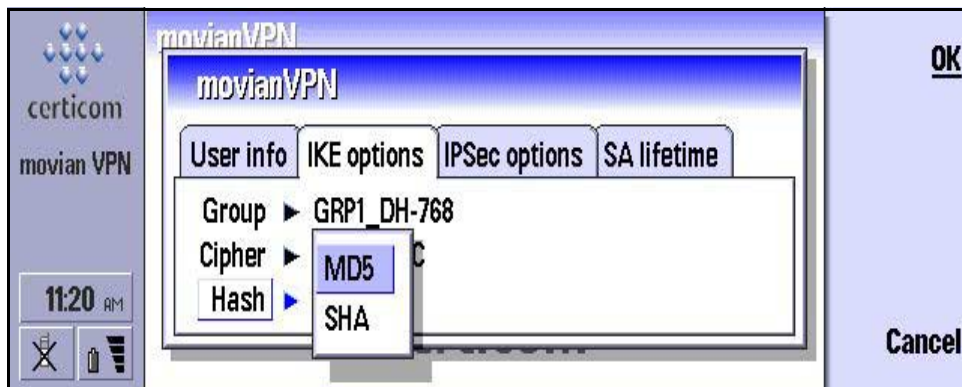
11. Select **Group** and set the Diffie-Hellman group. This information is supplied by your VPN administrator.



12. Select **Cipher** and set the cipher algorithm. This information is supplied by your VPN administrator.

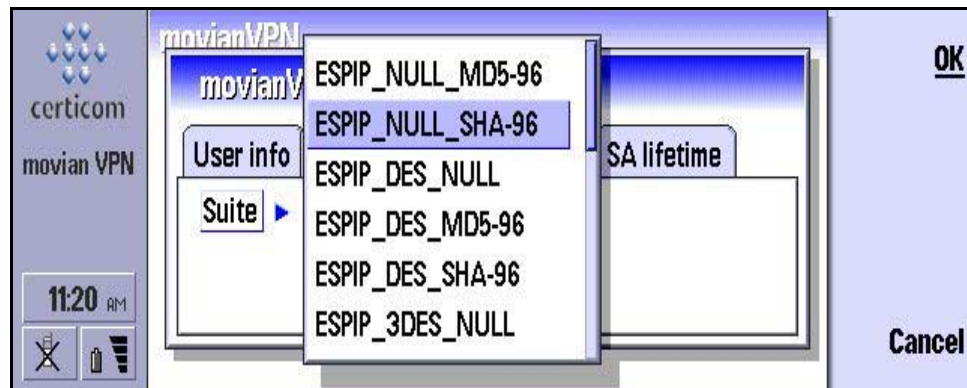


13. Select **Hash** and set the hashing algorithm. This information is supplied by your VPN administrator.

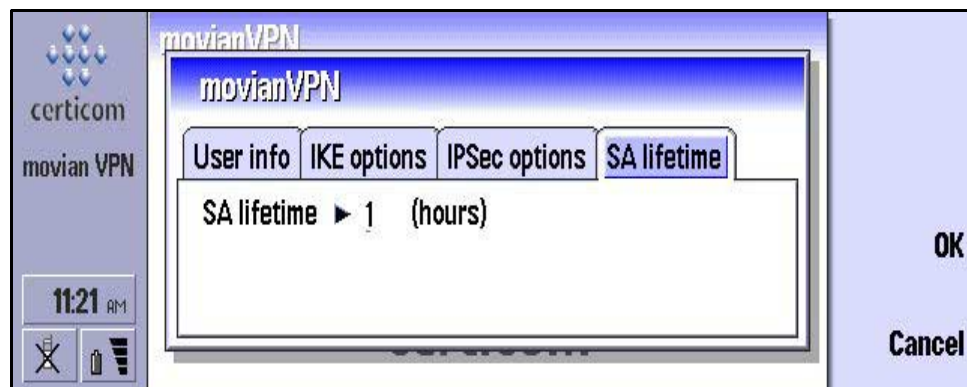




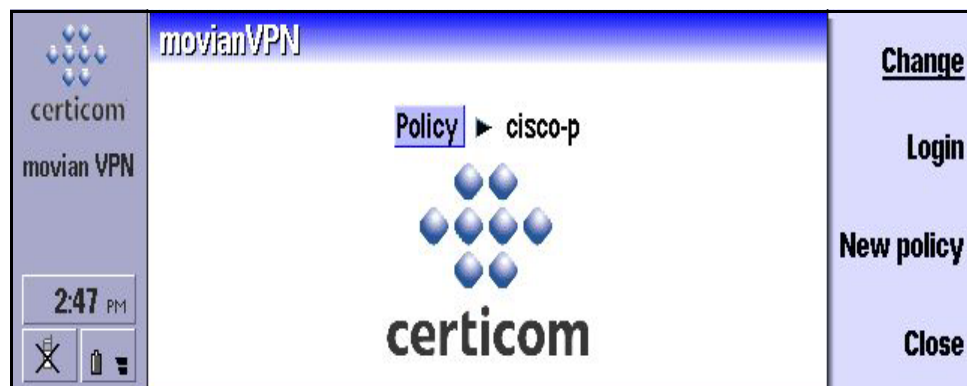
14. Press the **Menu** button to set the **IPSec options**. This information is supplied by your VPN administrator (see “IPSec options” on page 37 for more information on this setting).



15. Press the **Menu** button to set the **SA lifetime**. This information is supplied by your VPN administrator (see “SA (Security Association) lifetime” on page 37 for more information on this setting).



16. Select **OK** to save the policy.



## Creating a policy for a Nortel Contivity Series gateway

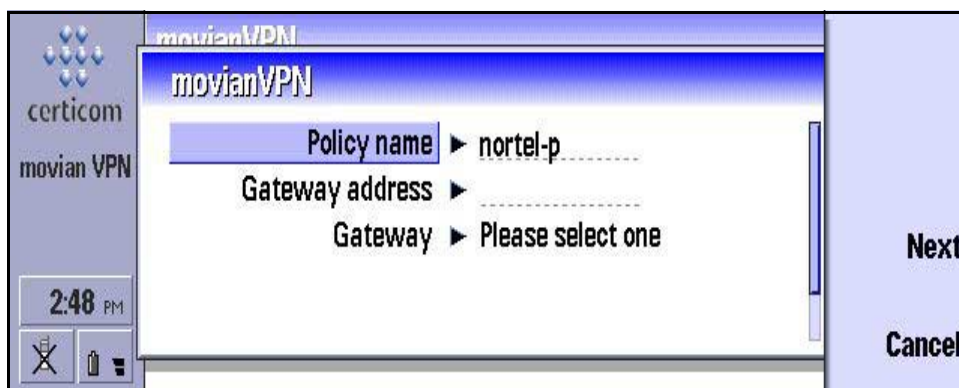
To create a policy for a Nortel Contivity Series VPN gateway you will require the following information from your VPN administrator:

- Gateway IP address
- Select/deselect Perfect Forward Secrecy
- Select/deselect Extended Authentication (and desired format)
- A combination of group name, group password, user name and user password, depending on the authentication selected
- IKE Suite and IPSec Suite settings

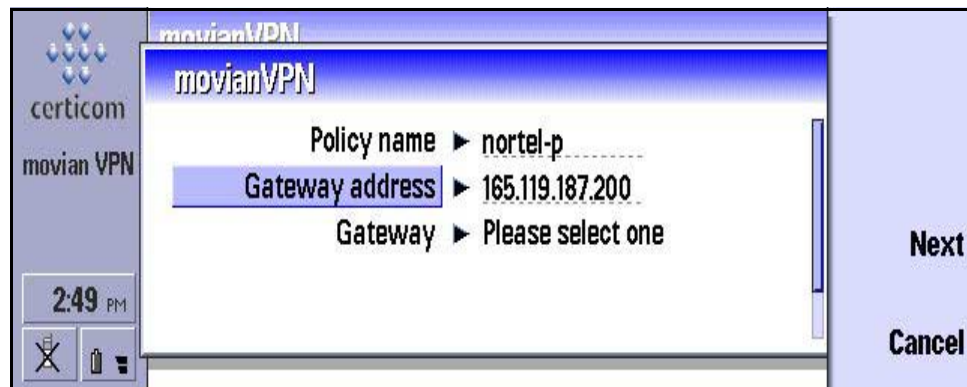
1. To start the **movianVPN** application, open the **Extras** window, select the **movianVPN** icon, and select **Open**. The **movianVPN** application window appears.



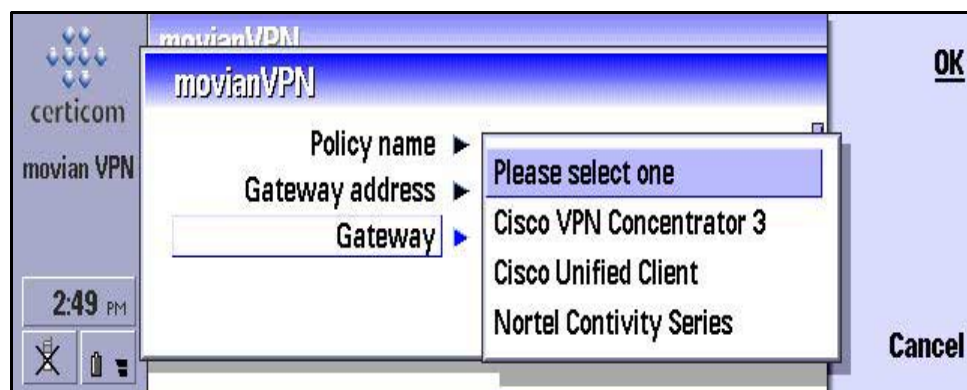
2. Select **Create** to create a new policy (you can also create a new policy by selecting **File** then **New policy** on the menu bar).
3. The **movianVPN** policy window appears. Enter the name of the policy in the **Policy name** field. The policy name must be no more than ten characters long.



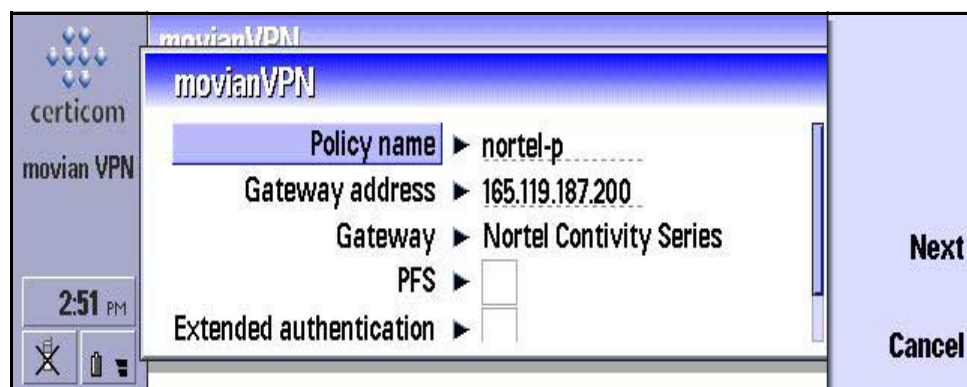
4. Enter the IP address of the gateway in the **Gateway address** field. The IP address is supplied by your VPN administrator.



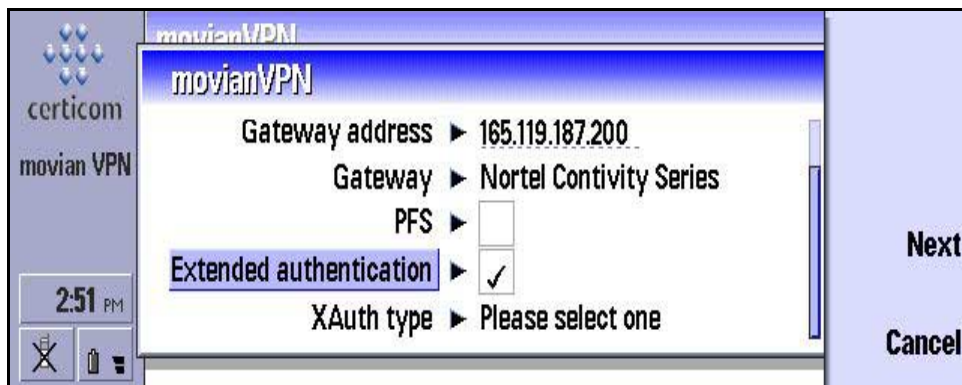
5. Select **Gateway** to display a pull-down list of all the available gateways.



6. Scroll down and select the **Nortel Contivity Series** gateway.

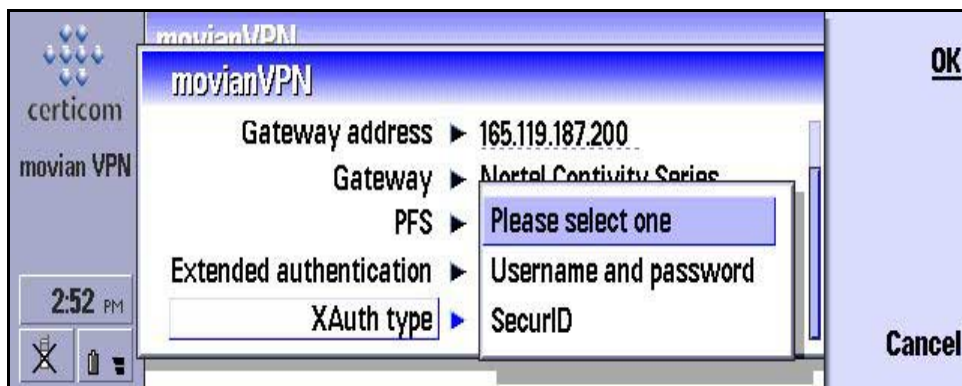


7. Check the **PFS** checkbox if Perfect Forward Secrecy is desired. For information on Perfect Forward Secrecy see “Perfect Forward Secrecy” on page 34.
8. Check the **Extended Authentication** checkbox if the option is desired.

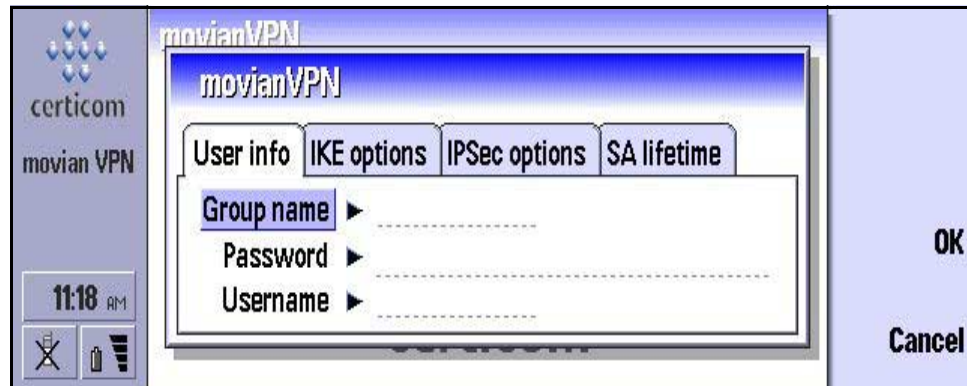


9. Select the desired form of extended authentication, as directed by your VPN administrator.

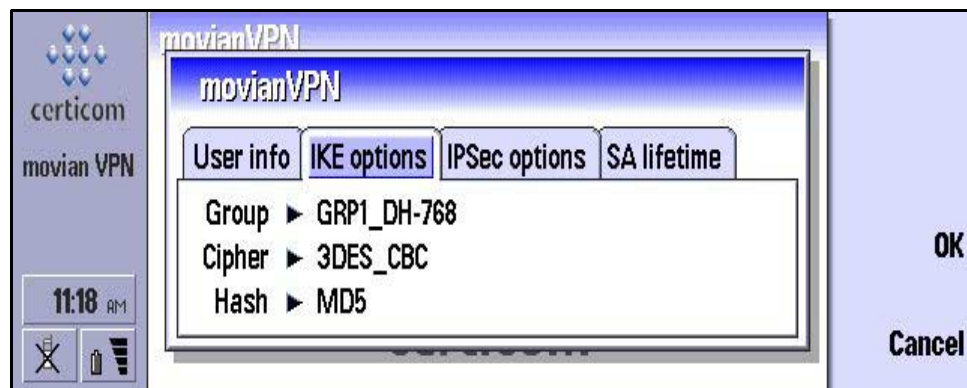
*Note:* When you log into the gateway, you will be asked for further authentication, supplied by your VPN administrator. For further information, see “Extended Authentication” on page 34.



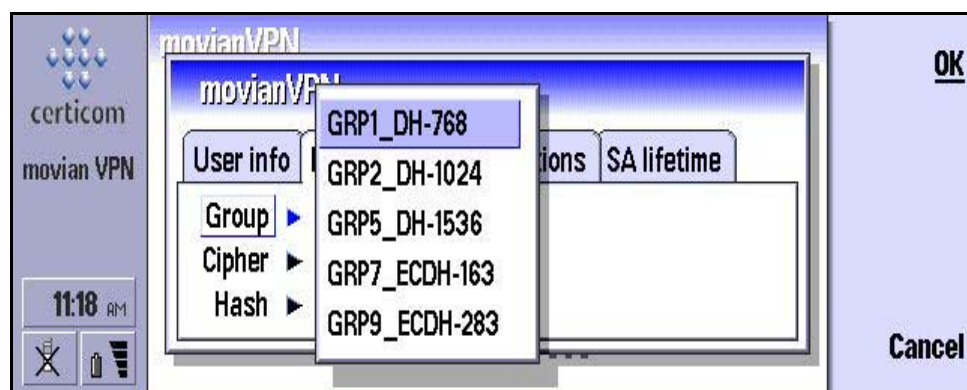
10. Select **Next**. The **user info** tab appears.



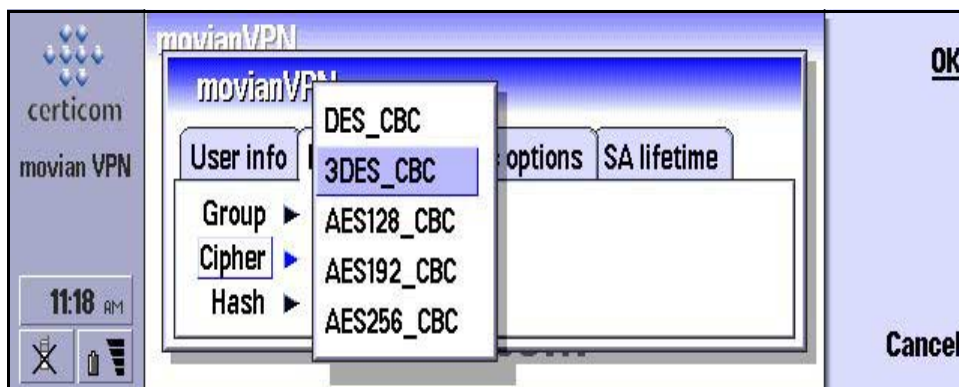
11. Enter the **Group name**, **Password**, and **Username** supplied by your VPN administrator.
12. Press the **Menu** button for the **IKE options**. The **Group**, **Cipher** and **Hash** fields appear (see “IKE options” on page 36 for more information on these settings).



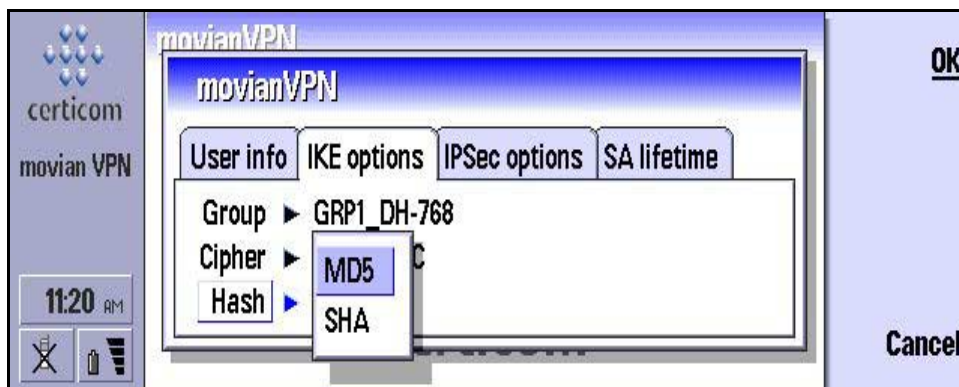
13. Select **Group** and set the Diffie-Hellman group. This information is supplied by your VPN administrator.



14. Select **Cipher** and set the cipher algorithm. This information is supplied by your VPN administrator.

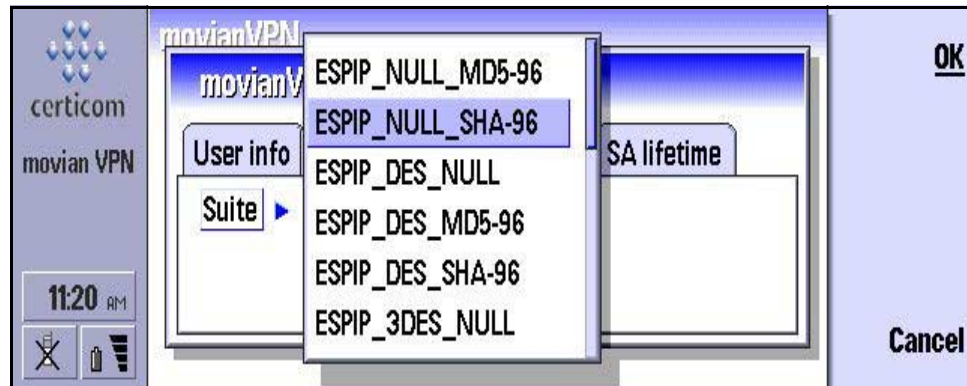


15. Select **Hash** and set the hashing algorithm. This information is supplied by your VPN administrator.

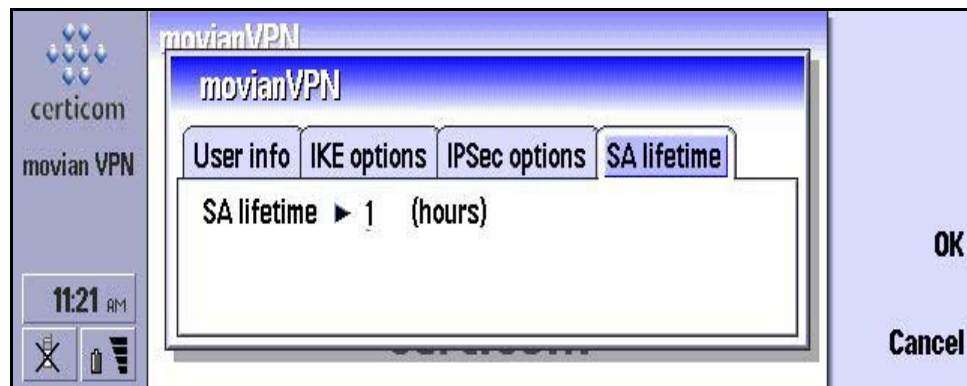


16. Press the **Menu** button to set the **IPSec options**. This information is supplied by your VPN administrator ("IPSec options" on page 37 for more information on this setting).

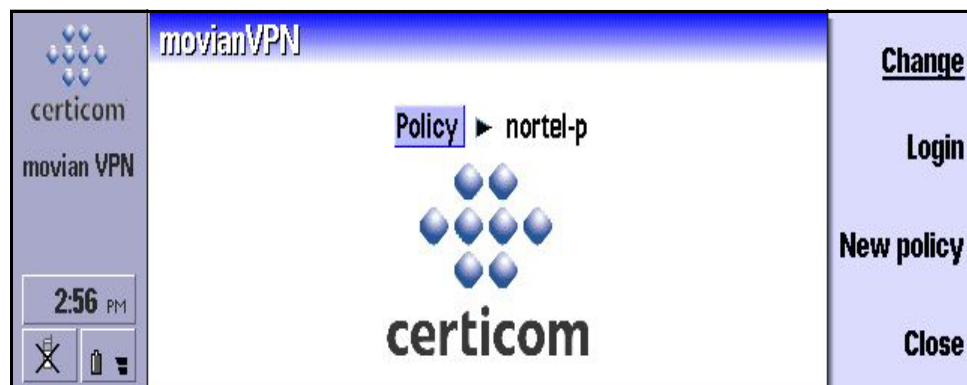




17. Press the **Menu** button to set the **SA lifetime**. This information is supplied by your VPN administrator (see “SA (Security Association) lifetime” on page 37 for more information on this setting).



18. Select **OK** to save the policy.



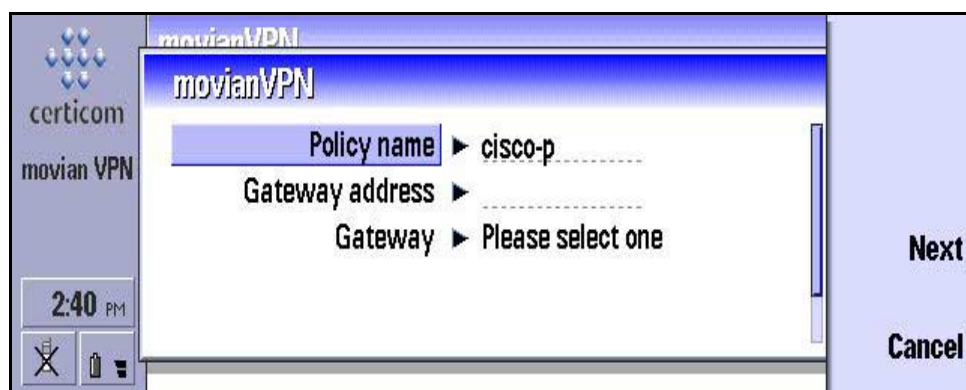
### Creating a policy for Cisco Unity with a Cisco 3000 v3.0 gateway

To create a policy for Cisco Unity with the Cisco 3000 v3.0 gateway, you will require the following information from your VPN administrator:

- Gateway IP address
  - Select/deselect Perfect Forward Secrecy
  - Group name, group password and user name
  - IKE Suite, and IPSec Suite settings
1. To start the **movianVPN** application, open the **Extras** window, select the **movianVPN** icon, and select **Open**. The movianVPN application window appears.

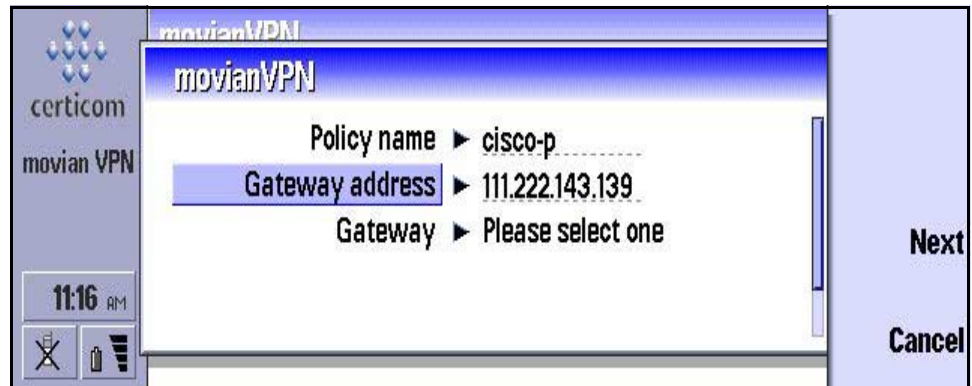


2. Select **Create** to create a new policy (you can also create a new policy by selecting **File** then **New policy** on the menu bar).
3. The **movianVPN** Policy window appears. Enter the name of the policy in the **Policy name** field. The policy name must be no more than ten characters long.

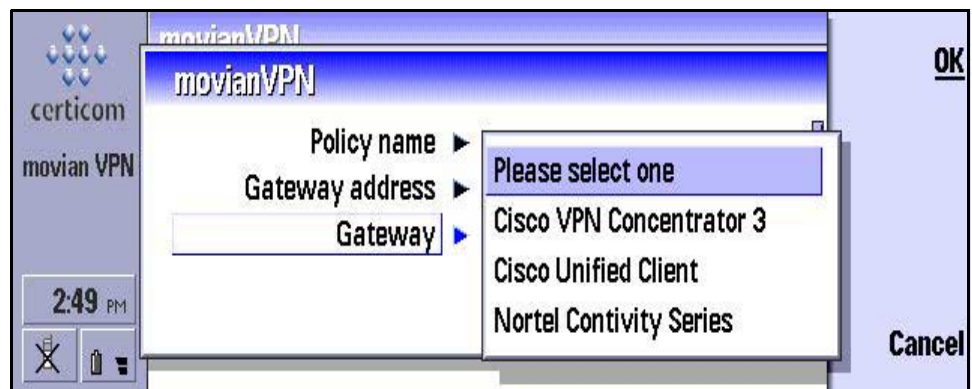


4. Enter the IP address of the gateway in the **Gateway address** field. The IP address is supplied by your VPN administrator.

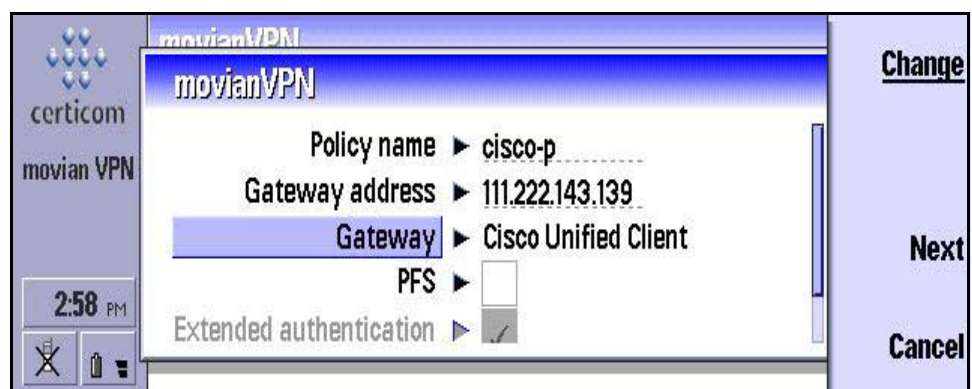




5. Select **Gateway** to display a pull-down list of all the available gateways.



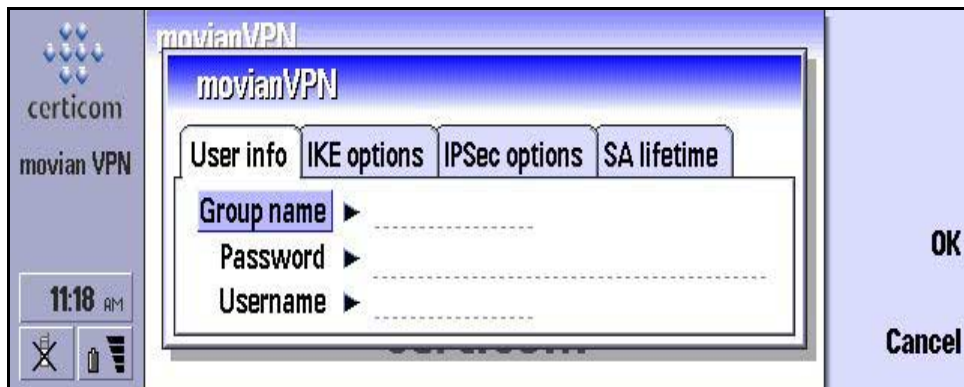
6. Select the **Cisco Unified Client** entry.



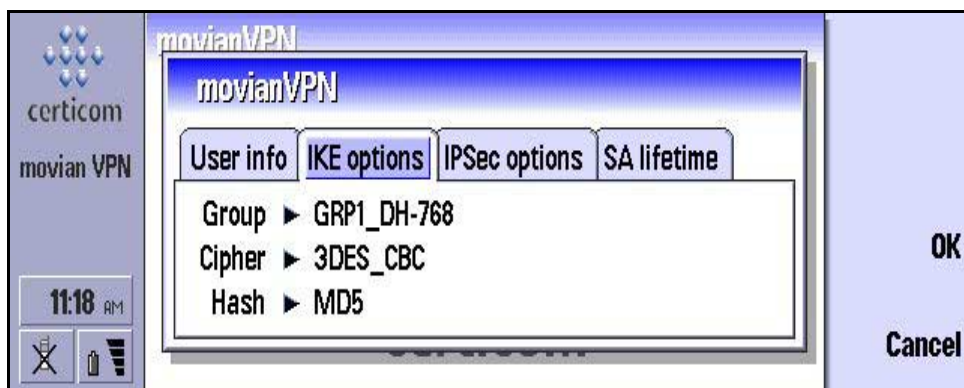
7. Check the **PFS** checkbox if Perfect Forward Secrecy is desired. For information on Perfect Forward Secrecy see “Perfect Forward Secrecy” on page 34.

*Note: Use **Extended Authentication** is selected by default and locked as required by the Cisco Unified Client gateways. When you connect to the gateway, you will be asked for further authentication, supplied by your VPN administrator. For information on Extended Authentication, see “Extended Authentication” on page 34.*

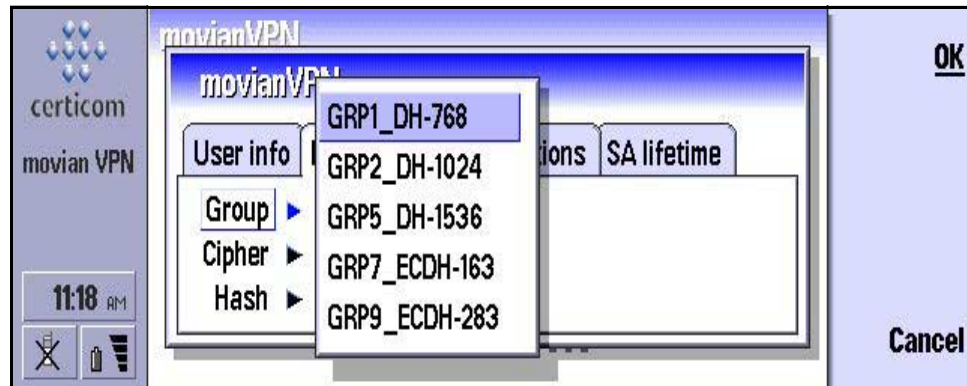
8. Select **Next**. The **user info** tab appears.



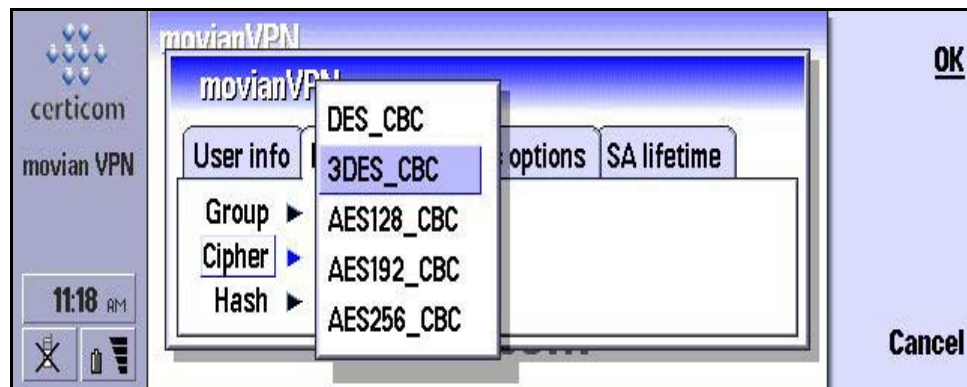
9. Enter the **Group name**, **Password**, and **Username** supplied by your VPN administrator.
10. Press the **Menu** button for the **IKE options**. The **Group**, **Cipher** and **Hash** fields appear (see “IKE options” on page 36 for more information on these settings).



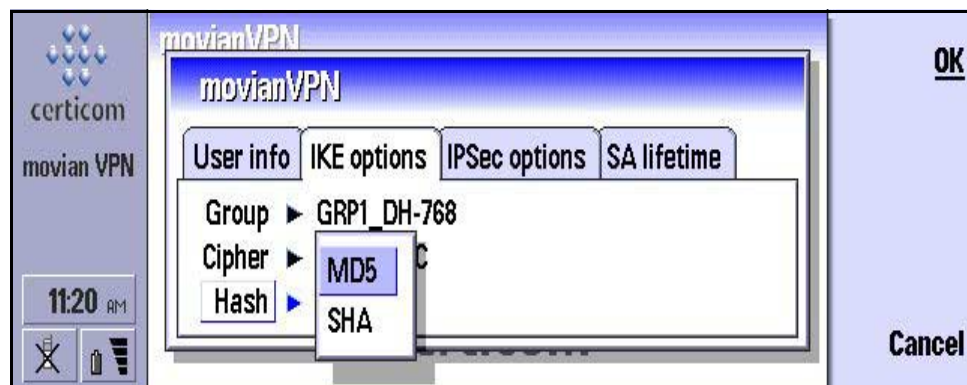
11. Select the **Group** arrow and set the Diffie-Hellman group. This information is supplied by your VPN administrator.



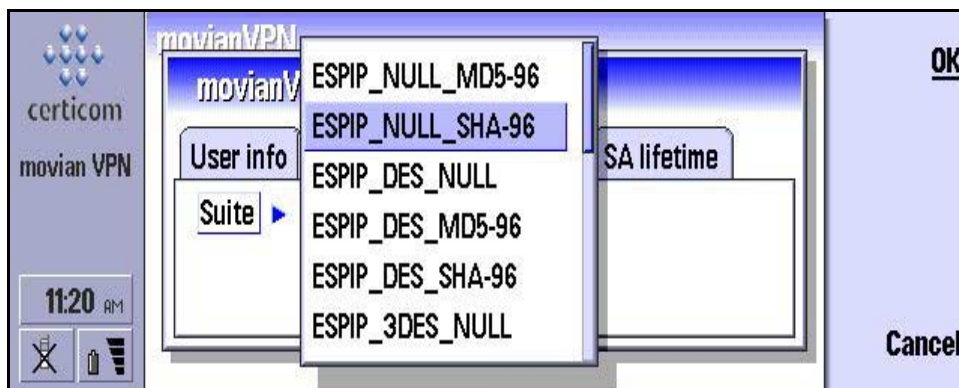
12. Select the **Cipher** arrow and set the cipher algorithm. This information is supplied by your VPN administrator.



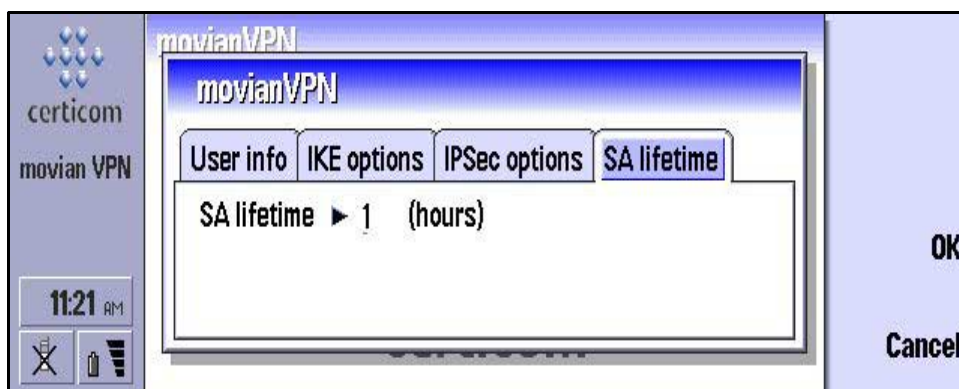
13. Select the **Hash** arrow and set the hashing algorithm. This information is supplied by your VPN administrator.



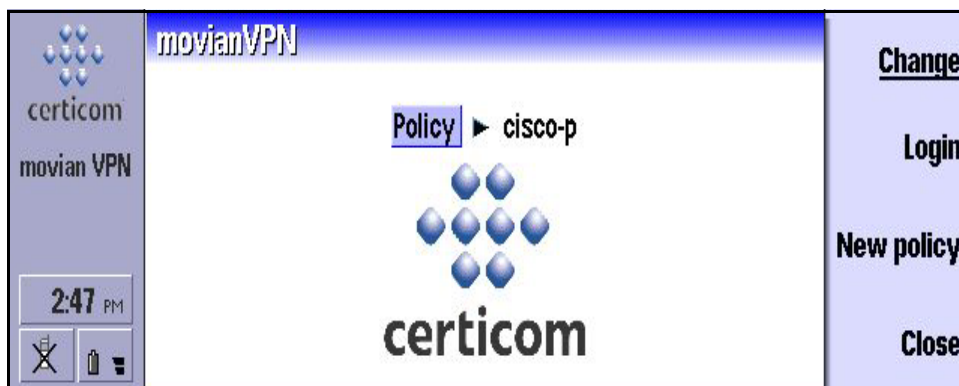
14. Press the **Menu** button to set the **IPSec options**. This information is supplied by your VPN administrator (see “IPSec options” on page 37 for more information on this setting).



15. Press the **Menu** button to set the **SA lifetime**. This information is supplied by your VPN administrator (see “SA (Security Association) lifetime” on page 37 for more information on this setting).



16. Select **OK** to save the policy.

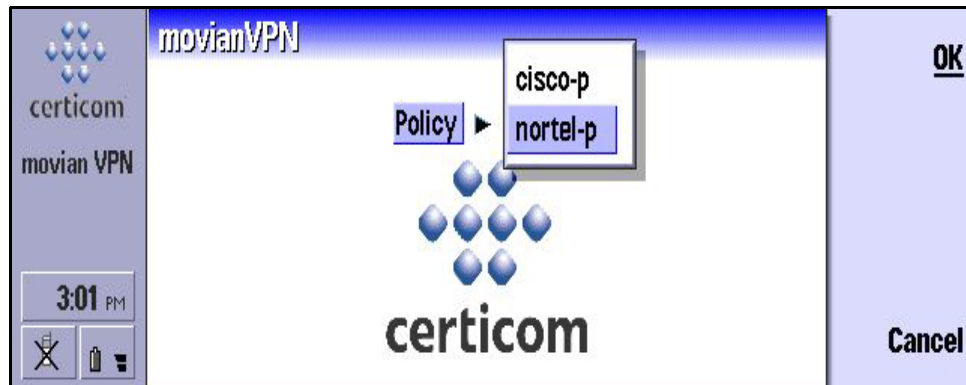


# Verifying your policy

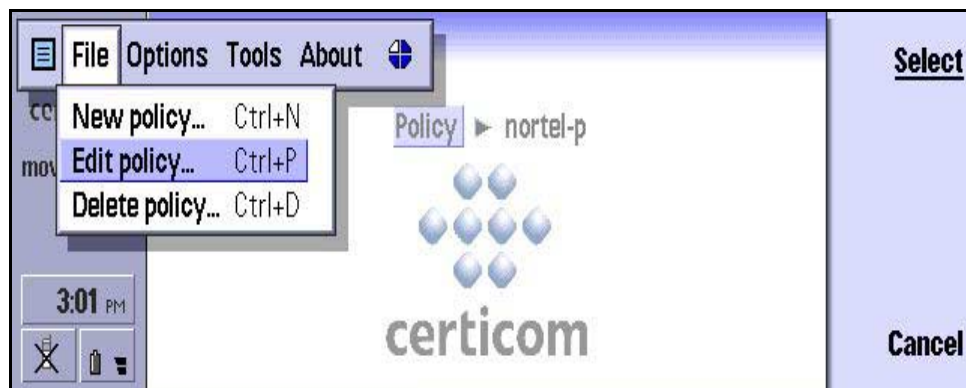
Once your policy is in place, you may need to review the settings and options.

## Policy window checkboxes

When you start the movianVPN application, the policy you used in your last session is loaded by default. To switch to another policy, select **Change**. Select the policy and then select **OK**.



To edit the policy, press the **Menu** button on the keyboard and select **File** then **Edit policy** on the menu bar.



When you select a policy, depending on the type of gateway, the policy window will provide you with options that may or may not be enabled for your session. These options appear as checkboxes on the policy window:

- Perfect Forward Secrecy
- Extended Authentication

You may be able to select or deselect these options, depending on your gateway. Some options may be permanently selected and locked.

Not all settings or modes are available for each type of gateway; if your gateway does not support an option, the checkbox will not appear.

### Perfect Forward Secrecy

Perfect Forward Secrecy is a cryptographic characteristic associated with a derived Shared Secret value. With Perfect Forward Secrecy, if one key is compromised, previous and subsequent keys are not compromised, because subsequent keys are not derived from previous keys.

Perfect Forward Secrecy performs the key exchange twice as your handheld device negotiates with the gateway, using the same key material. A new key is created for each step of the Internet Key Exchange (IKE), and each new key is not derived from the previous key. The previous key or the one following are not compromised even if the current one is.

To set Perfect Forward Secrecy in your policy, check the PFS checkbox in the movianVPN policy window.



Note that if Perfect Forward Secrecy is enabled, negotiation of the connection will take longer.

### Extended Authentication

Extended Authentication requires you to supply an additional password or another form of additional authentication when you log onto the gateway. Extended Authentication can be used to require an additional password or a passcode associated with a token card, depending on the type of gateway. Extended Authentication is always required for some gateways. In those instances, Extended Authentication is selected and the option is greyed out.



### Other extended authentication methods

movianVPN also supports Safeword.



## Policy gateway access settings

Each gateway may require specific settings to access the server. These settings are configured for each policy, depending on the gateway. Not all settings or modes are available to configure for each specific gateway.

The following may be configured on the client software, depending on your gateway:

- IKE options
- IPSec options
- SA lifetime

**Note:** Gateway settings should be set or changed as directed by your VPN administrator.

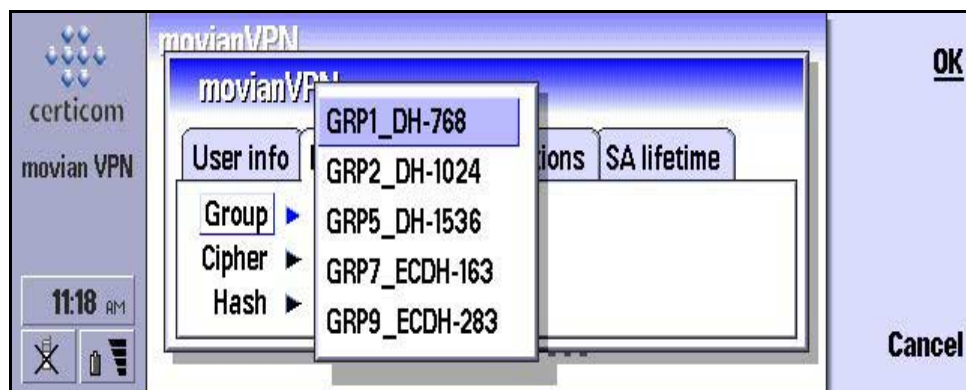
### IKE options

IKE (Internet Key Exchange) options configures the preferred protocols for exchanging keys.

**Note:** If they must be set or changed, use the settings provided to you by your VPN administrator.

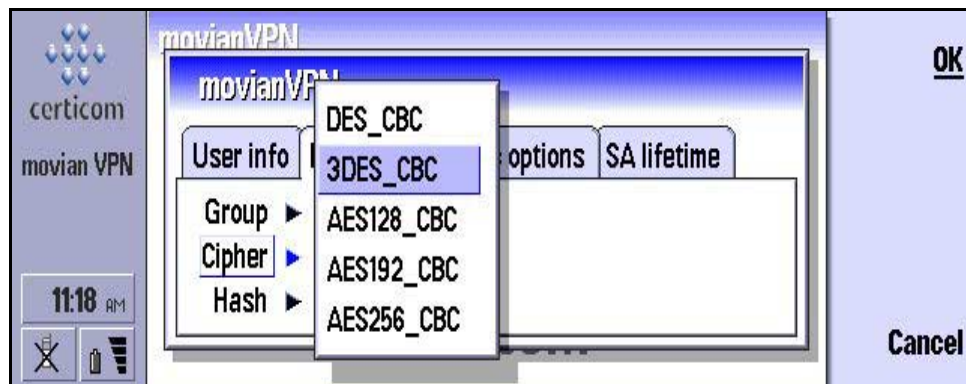
### Group

Group refers to the strength of the key encryption negotiation.



### Cipher

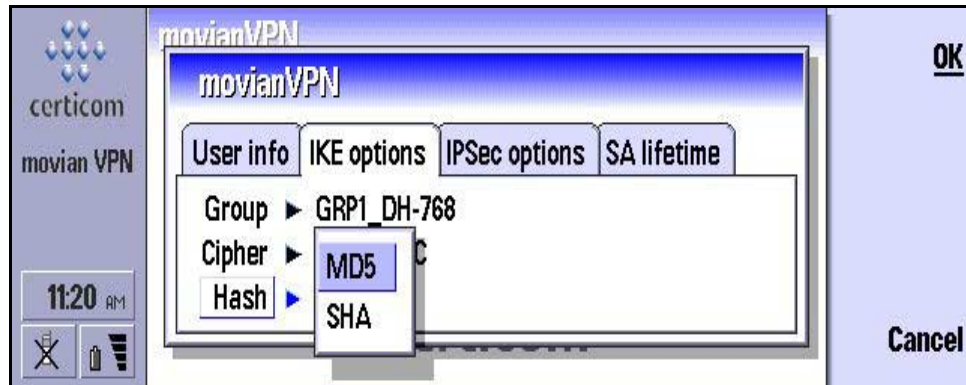
Ciphers are used to encrypt the data using Digital Encryption Standard (DES) or 3DES, where the encryption is performed three times.





## Hash

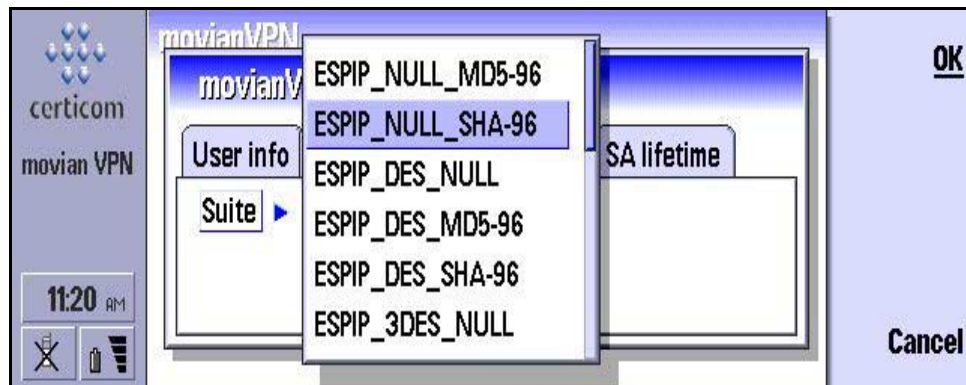
Hash numbers confirm that communicated data has not been changed during transmission. A hash number is generated for a particular set of data's characteristics, and sent along with the communication. When the communication is received, the hash number is generated again in the same way, and compared to the first.



## IPSec options

IPSec settings are used to encrypt the data. The various settings represent the strengths of security, 3DES being the strongest while Null represents no encryption.

**Note:** If they must be changed, these settings will be provided to you by your VPN administrator.

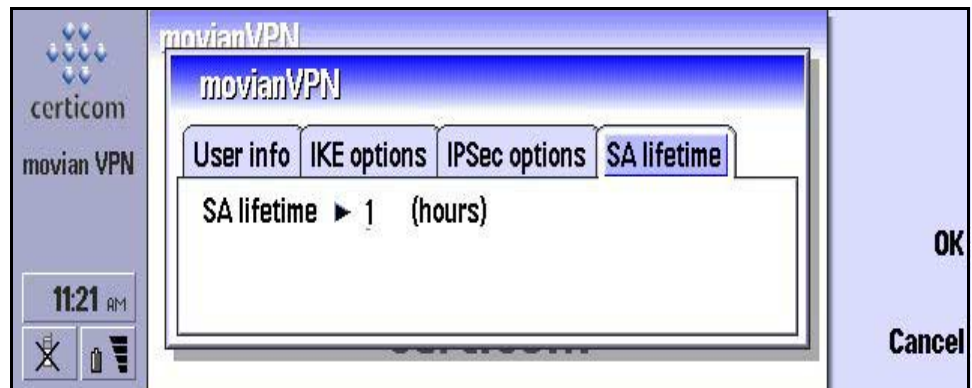


## SA (Security Association) lifetime

A security association describes the security policy negotiated between two communicating devices (in this case the client device and a gateway). This can include things such as the session keys and the encryption algorithms.

The security association has a limited lifetime. When a security association expires, the client device is logged out of the gateway. You must then attempt to log on to the gateway again to negotiate a new security policy.

You can set the security association lifetime in SA lifetime dialog box. Note, however, that if the gateway has a set a shorter lifetime then this takes precedence over the setting on the client device.



# 4

## Running movianVPN

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### Overview: Running movianVPN

Running movianVPN is a simple process of:

- Logging in to the VPN gateway
- Using **movianVPN** to securely access the VPN gateway and use applications such as e-mail
- Logging out of the VPN gateway

# Logging in to the gateway

When you attempt to login to the VPN gateway, the following actions occur:

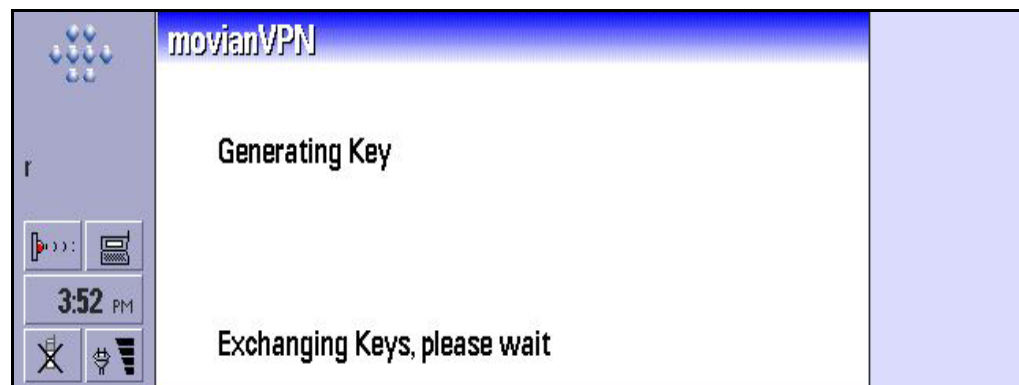
- **movianVPN** contacts the gateway
- The gateway prompts you for further authentication (if extended authentication is enabled)
- Keys are negotiated and accepted
- You are logged in to the gateway

## Contacting the gateway

1. To start the **movianVPN** application, open the **Extras** window, select the **movianVPN** icon, and select **Open**. The **movianVPN** application window appears. The last policy you created will be selected by default. To switch to another policy, select **Change** and choose a policy from the list.

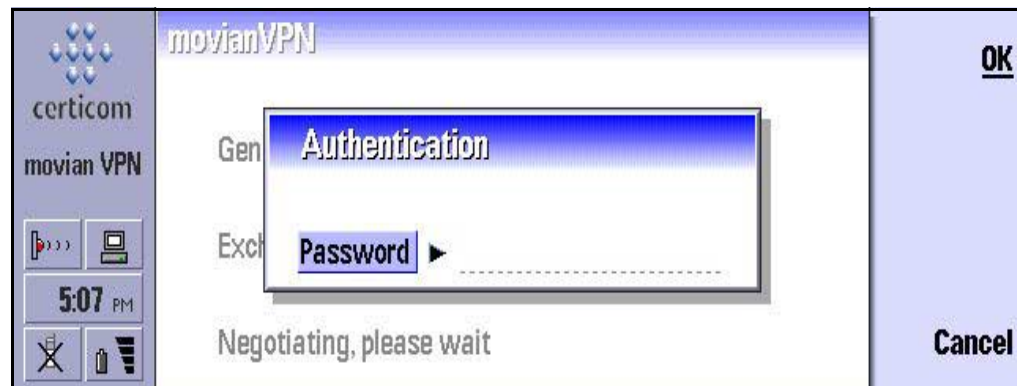


2. Select **Login**. **movianVPN** displays status messages as it attempts to connect to the gateway.



## Authentication and Key Negotiation

After **movianVPN** has contacted the gateway, you may be asked for further authentication. The type of authentication requested depends on the gateway and the policy settings.

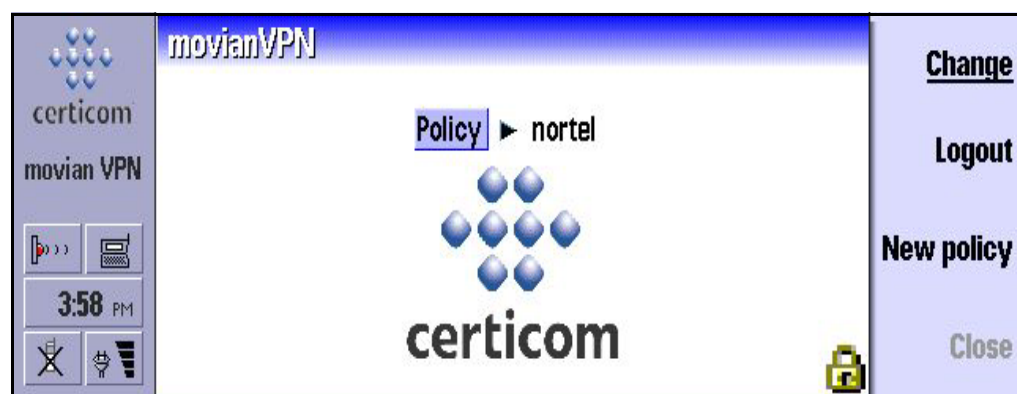


If requested, enter the password or SecurID passcode supplied to you by your VPN administrator.

When the connection to the gateway has been made, a message appears indicating that the IPSec tunnel has been established.



A padlock symbol appears in the lower right-hand corner of the screen. At this point all the data between the mobile device and the gateway is encrypted.



If you experience difficulty while logging into the gateway, review your policy and connection type settings. Settings should be as directed by your VPN administrator.

If after checking policy and connection type settings you are still unable to log in, contact your gateway administrator or support team. You may wish to consult “Appendix A: Troubleshooting and using the Diagnostic Tools” on page 45.

# Using movianVPN

Once you have logged in to the gateway, you can leave movianVPN running in the background. All data to and from your email client, web browser and VPN servers will be securely encrypted.

## Working with applications

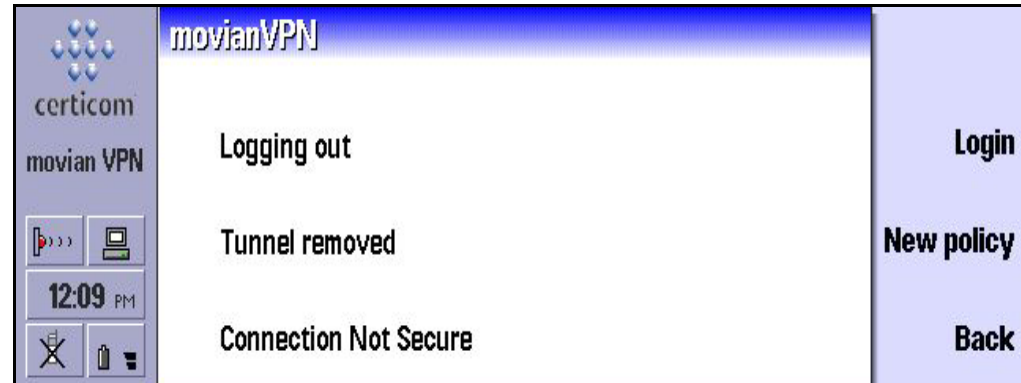
To access the web browser, press **Internet** on the keyboard and click on the **WWW** icon.

To access the email client, press **Messaging** on the keyboard.

# Logging out of the gateway

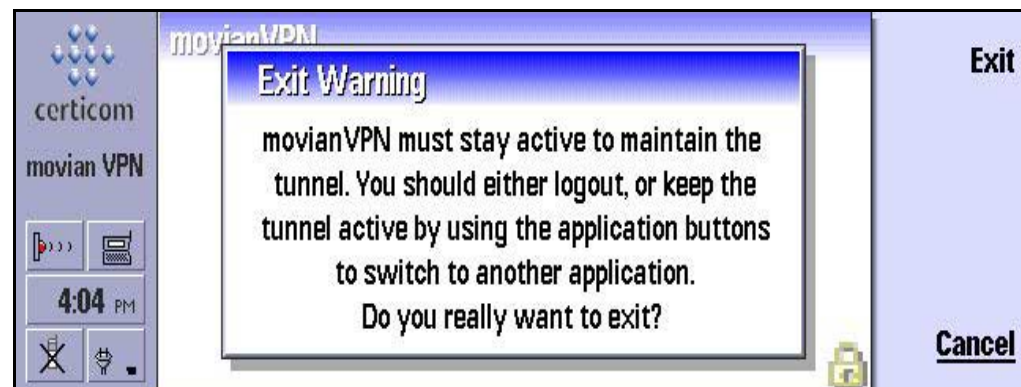
To log out of the gateway:

1. Bring the **movianVPN** window to the foreground.
2. In the **movianVPN** window, select the **Logout** button. When the connection has ended, a message appears indicating that the tunnel has been removed. The padlock symbol in the lower right-hand corner disappears.



3. To close **movianVPN** type Ctrl-E.

If you attempt to close movianVPN before logging out of the gateway you will see a warning message.



If you exit you may not be able to login again because your previous session will still be active. Contact your gateway administrator if this is the case.

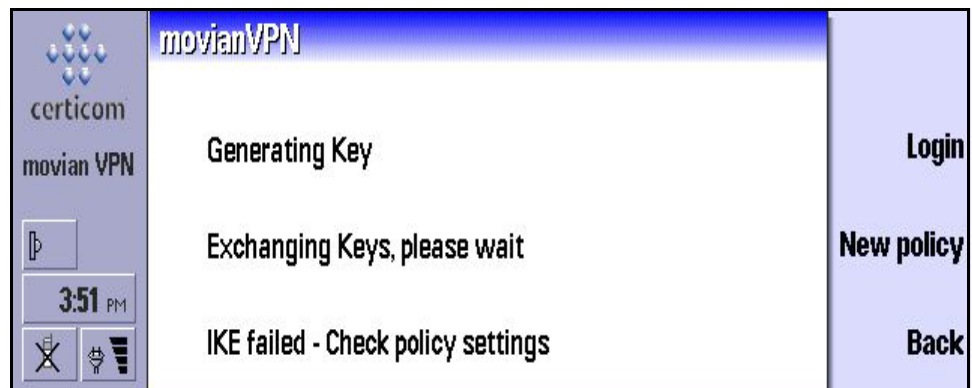


# A

## Appendix A: Troubleshooting and using the Diagnostic Tools

### Troubleshooting

While logging into the gateway, you may see the message shown below.



If you see this message, the most likely cause is an incorrect policy setting. Review your policy and connection settings again. The settings should be as specified by your VPN administrator.

You should also bear the following in mind:

- If **movianVPN** cannot negotiate a connection to the gateway although the settings appear correct, check that the group name, group password and user name do not have a trailing space after the entry.
- If your dial-up connection is normally made from a particular location, such as home or from the office, you may or may not be required to include a 9 or make other changes in the dialing number. See your Nokia Symbian OS documentation to find out how to change your Internet settings.
- Poor cellular coverage could also have an effect on your connection.
- If your settings are correct but you cannot connect to your gateway, the gateway may be down or inaccessible for some reason. Contact your gateway administrator.

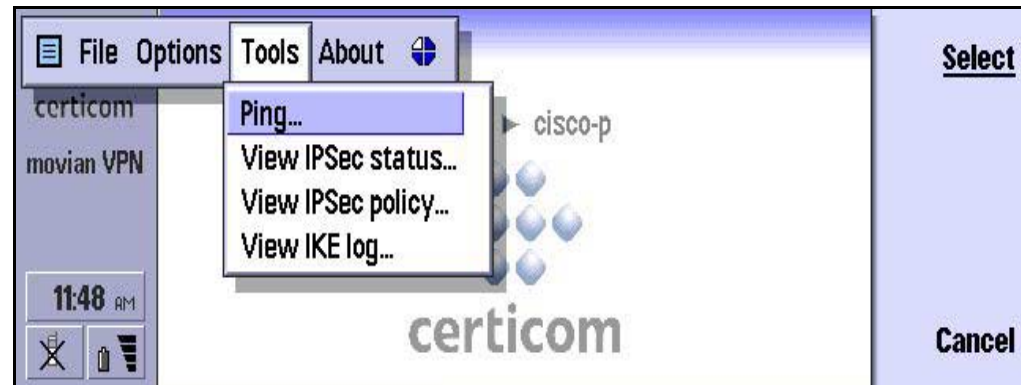
# Using the diagnostic tools

If you are having trouble with your VPN connection, you can try running the movianVPN diagnostic tools.

## Ping

You can use the Ping utility to test your network connection.

1. To use the Ping utility, select **Tools** on the menu bar, then **Ping**.



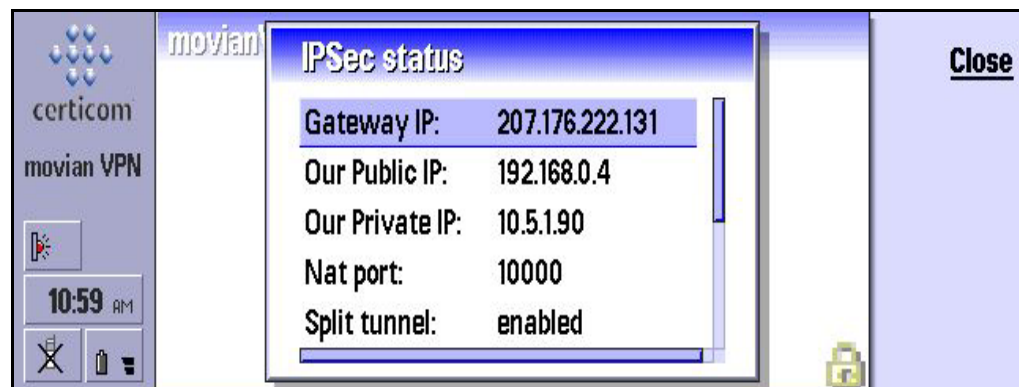
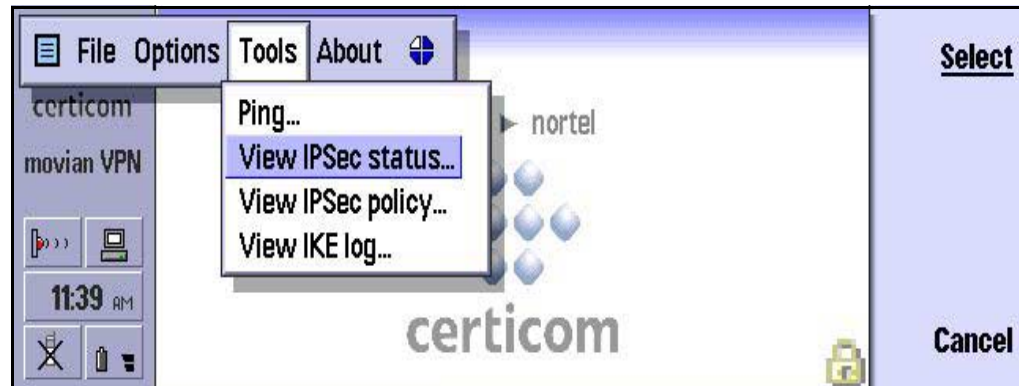
2. Enter the IP address of the computer you wish to contact.



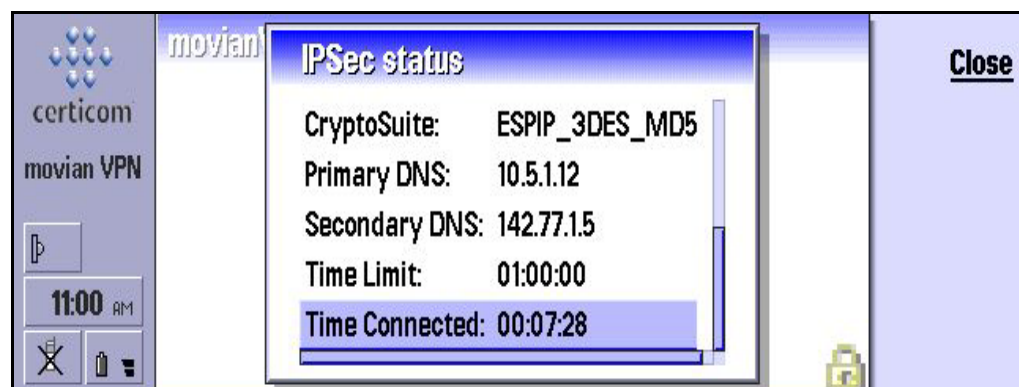
## View IPsec status

The IPsec status can be used to confirm that a tunnel is working and provide information about it. It also provides information on the handheld device and the gateway. The IPsec status is only available while the VPN tunnel is up.

1. To view the IPsec status, select **Tools** on the menu bar, then **View IPsec status**.



Scroll down to reveal all the fields.



The fields provide the following information:

Field	Information
Gateway IP	VPN gateway server IP address.
Our Public IP	IP address supplied by ISP.
Our Private IP	IP address within the VPN.

Field	Information
NAT Port	States if NAT (Network Address Translation) is enabled.
Split Tunnel	States if split tunneling is enabled.
Crypto Suite	The cryptographic suite which was negotiated.
Primary DNS	IP address of the primary DNS server.
Secondary DNS	IP address of the secondary DNS server.
Time Limit	The time limit on the connection (SA life).
Time Connected	The amount of time the connection has been active.

### Split Tunneling

Split tunneling allows you to use both the internet and the corporate internet at the same time. When split tunneling is enabled, all packets sent to or from the VPN and its identified subnets are encrypted; packets directed outside the VPN are not encrypted, and go directly through the ISP to the internet.

When split tunneling is disabled, all packets are encrypted. If the packet is not to or from an identified address on the VPN, it is dropped from communication.

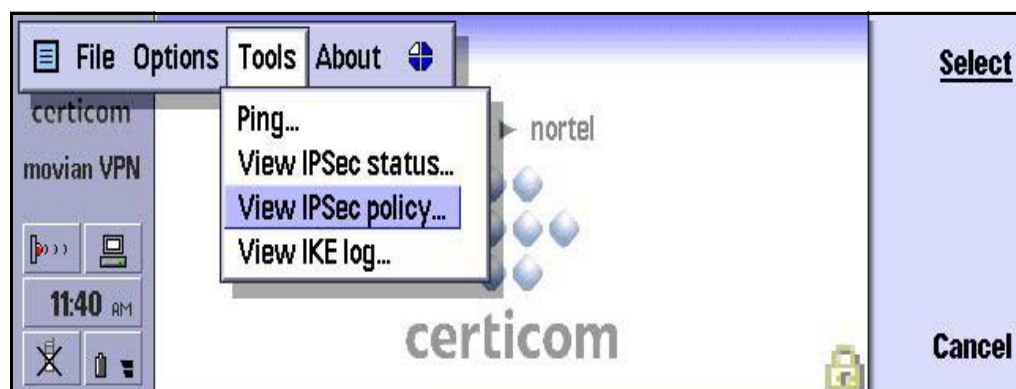
### Network Address Translation

NAT (Network Address Translation) is a gateway technology that allows IP packets to be transmitted between two networks which use different addressing schemes. NAT allows the two networks (or subnetworks) to communicate with each other without any conflicts by resolving the destination address of an incoming IP packet. This involves modifying the header of the IP packet. However, since it modifies the packet header, it cannot be used with IPSec because the latter encrypts all the traffic.

### View IPSec policy

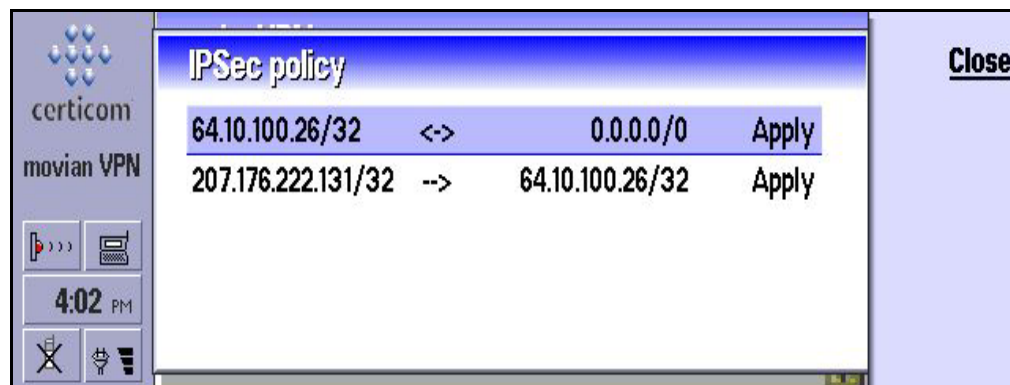
The IPSec policy shows where the data has been encrypted (between which IP addresses). The IPSec policy is only available when the tunnel is up.

1. In the movianVPN menu bar, select **Tools**, then **View IPSec policy**.



- The IPSec policy window shows where the data was encrypted: **Apply** indicates that the data was encrypted between the two IP addresses; **Bypass** indicates that it was not encrypted.

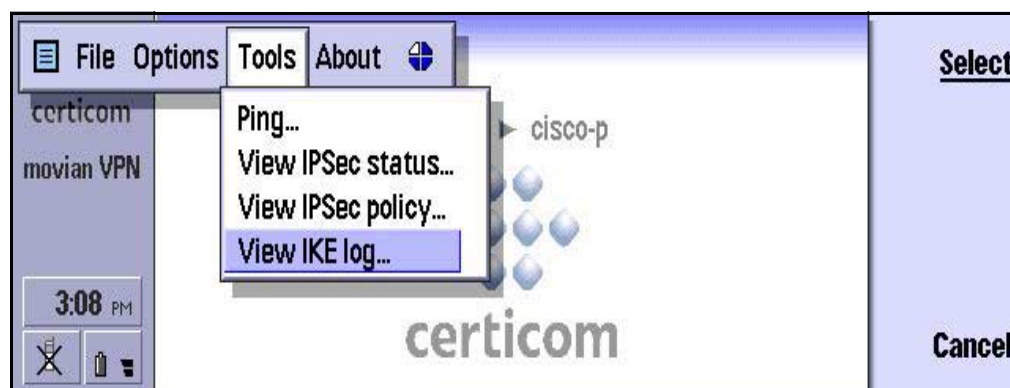
In the screen below, IP packets with a source IP address of 207.176.222.131 (i.e. coming from the gateway) and a destination IP address of 64.10.100.26 (i.e. going to your handheld device) are encrypted. The arrow (->) indicates the direction of the data. The number 32 after the IP address indicates that only this single address is affected. A bi-directional arrow (<->) indicates that data are encrypted in both directions between the IP addresses.



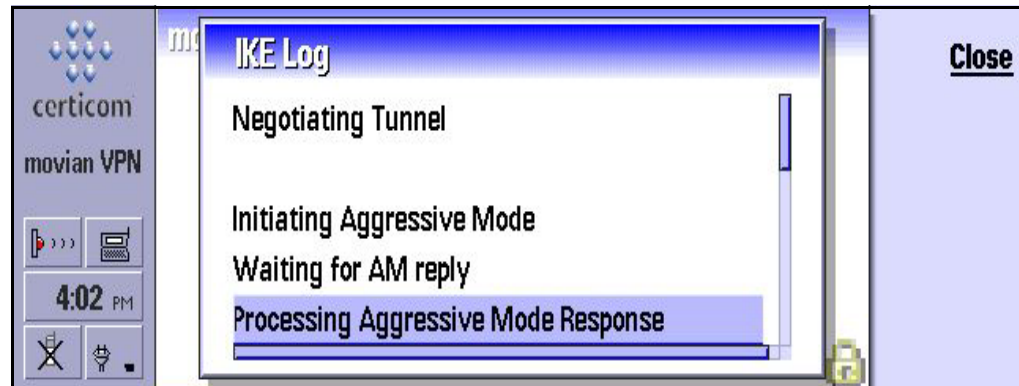
## View IKE Log

The IKE log displays the negotiations that occurred between the movianVPN client and the VPN gateway.

- To view the IKE log, select **Tools** on the menu bar, then **View IKE log**.



- The IKE log displays status messages about the connection with the gateway. To close the window, press **Esc**.

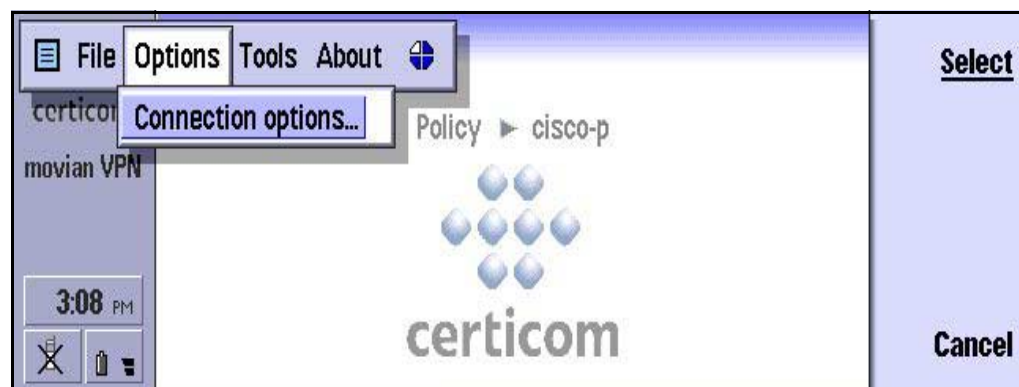


### Connection (socket) options

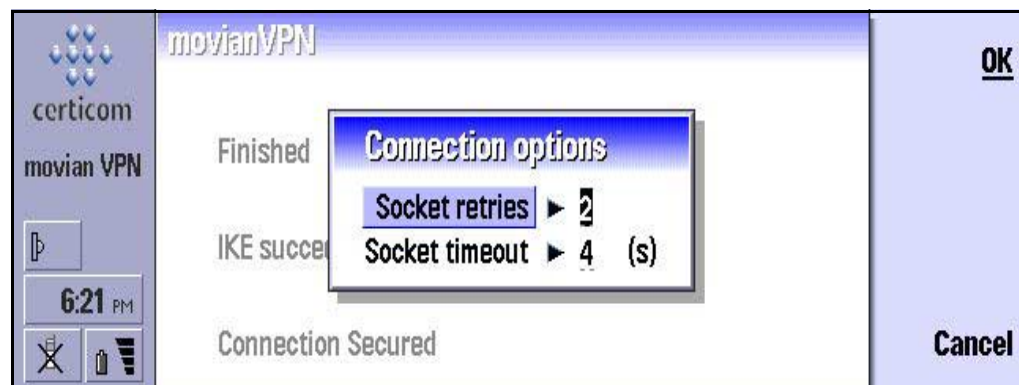
If you are having trouble getting a reply from your VPN gateway or ISP mobile connection, you could try adjusting the socket settings.

You can find the socket settings under **Connection options** on the menu bar.

1. In the **movianVPN** menu bar, select **Options**, then **Connection options**.



2. The **Connection options** window appears.



- **Socket retries** option sets the number of times **movianVPN** will attempt to connect.
  - **Socket timeout** option sets the time the system will allow before considering each attempt to be a failure.
3. Change the **Socket retries** and **Socket timeout** values as appropriate.
  4. Select **Close** to close the **Socket Options** window.





# B

## Appendix B: Glossary of Terms

---

Authentication	Authentication refers to the verification of the identity of communicating parties.
Cipher	Ciphers are algorithms or mathematical functions used to encrypt data. <b>movianVPN</b> uses Digital Encryption Standard (DES) or 3DES, where the encryption is performed three times.
Client software	Client software is the software installed on your handheld device. It communicates with the software installed on your gateway server.
Confidentiality	Confidentiality is the need to restrict access to information to people with the appropriate authorization. This need is typically addressed by encryption, which restricts access to information to people possessing the correct key.
Digital signatures	Digital signatures provide a form of authentication, confirming the identity of communicating parties and acting as a legally binding signature.
DNS Domain Name System	Domain Name System (DNS) settings are used to identify particular computers or parts of the network.
Encryption	Encryption is the process of converting a text or other communication into a coded format which cannot be read by other parties unless decrypted. Encryption and decryption relies on shared keys.

<b>Extended Authentication</b>	<p>Extended Authentication (XAUTH) inserts a new level of security in the middle of the IKE (Internet Key Exchange), after the device authentication. A prompt asking for the User Name and Password or another form of additional authentication appears when you log onto the gateway.</p> <p>If you answer the prompt correctly, the second security set-up phase continues. Extended Authentication can be used to require an additional password or code, depending on the type of gateway.</p>
<b>Gateway</b>	<p>A gateway is the server which recognizes and authenticates a user attempting to access a VPN.</p>
<b>Hash Numbers</b>	<p>Hash numbers confirm that communicated data has not been changed during transmission. A hash number is generated for a particular set of data's characteristics, and sent along with the communication. When the communication is received, the hash number is generated again in the same way, and the results compared to the original hash number.</p>
<b>IKE Internet Key Exchange protocol</b>	<p>Part of the IPSec protocol, allows communicating parties to negotiate methods of secure communication—such as how the parties will authenticate themselves initially, which hash functions will be used to confirm data integrity, or which forms of encryption will be used.</p>
<b>IPSec</b>	<p>Developed by the Internet Engineering Task Force (IETF), IPSec protocol is a framework of open standards that provides flexible network security, providing confidentiality, data integrity, and data source verification for any application using the network. A protocol is a series of clearly-defined, agreed upon steps that are followed by all parties in an interaction.</p>
<b>ISP Internet Service Provider</b>	<p>A company providing dial-up connections to access the Internet.</p>
<b>Key</b>	<p>A key is used to encrypt and decrypt a communication so that it cannot be read by any parties except the sender and intended receiver.</p>

**Perfect Forward Secrecy**

Perfect Forward Secrecy is designed to keep previous traffic locked in the past. This is accomplished by executing the key exchange twice, using the same key material. Using Perfect Forward Secrecy prevents the compromise of the secret keys.

Perfect Forward Secrecy creates new keys for each step of the Internet Key Exchange (IKE). Negotiation of the connection will take longer.

**PDA  
Personal Digital Assistant**

Personal Digital Assistants (PDAs) are handheld personal computing devices.

**Policy**

A policy contains the settings used by **movianVPN** to contact and negotiate access to a VPN. The policy includes information on making a connection; negotiating authentication and key exchange; and encryption protocols.

**SA  
Security Association**

A limited-lifetime statement of the negotiated security policies between the communicating devices, such as session keys and agreed encryption algorithms. SA Lifetime provides an automatic time-out from a session with a gateway.

**Split Tunnelling**

Split tunneling is a method used by the VPN server to decide which traffic to send through an encrypted tunnel. Traffic sent to or from the VPN is encrypted, while other traffic goes directly through the ISP to or from the internet. Split tunneling secures sensitive VPN traffic, while allowing less sensitive material to flow normally.

When you select Split Tunneling, packets of data headed to inside the VPN will still be encrypted and forwarded. Packets that are not directed to inside the VPN will not be encrypted, nor is the reply.

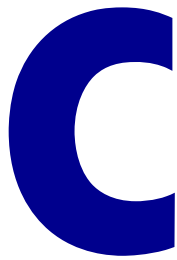
**Tunnel**

A tunnel is created to securely send encrypted information directly from one computer to another.

**VPN  
Virtual Private Network**

A Virtual Private Network or VPN is used to provide secure, encrypted communication between specific computers on a wider network.





## **Appendix C: Information worksheet**

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### **Information required for client configuration**

The following information will be required as you create the policy for the gateway. The information must be entered in a field, selected from a pull-down list, or selected/deselected using checkboxes.

Not all fields will apply for your specific gateway.

# Information required for creating a policy

Field, Checkbox or Button	Required	Information/Action
Policy Name		
Gateway Type (Please select one)		
Gateway IP Address		
Perfect Forward Secrecy		
Extended Authentication (Nortel gateway only)		
IKE Suite		Group:
		Cipher:
		Hash:
Group Name		
Group Password		
User Name		
User Password		
User Passcode (SecurID)		
IPSec Suite		

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