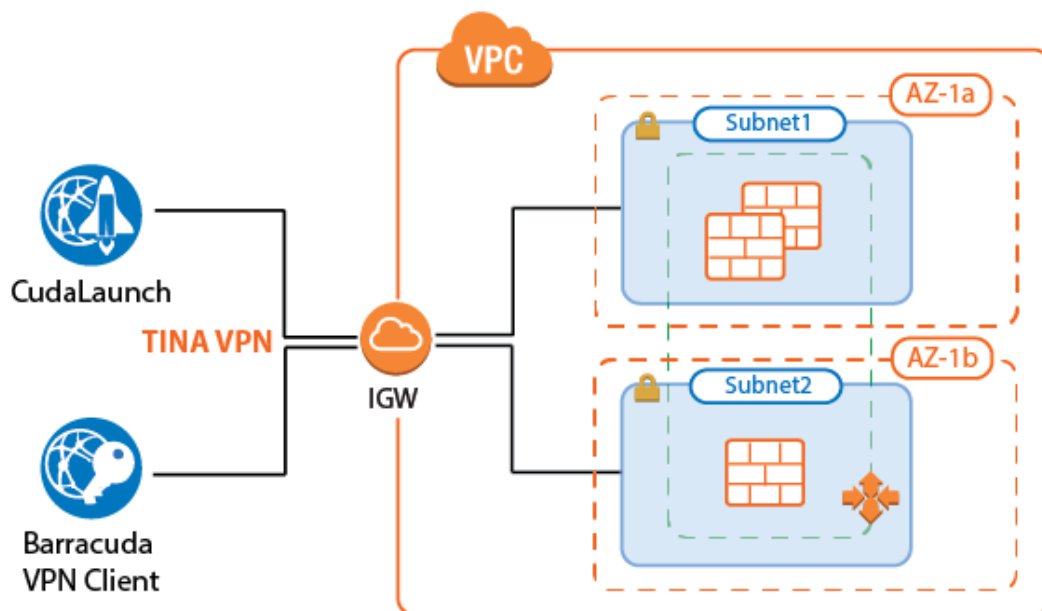


## How to Configure a Client-to-Site VPN Group Policy for a CloudGen Firewall Auto Scaling Cluster in AWS

<https://campus.barracuda.com/doc/96026134/>

Create a client-to-site group policy for remote users connecting to your network in a CloudGen Firewall Auto Scaling Cluster in AWS. Configure a VPN client network, create the policy, and configure the network settings for the client-to-site connections. Then, create a Source NAT access rule to allow the clients to connect to your network. VPN clients can be authenticated either through external authentication schemes, client certificates, or a combination thereof.



### Supported Clients

- Barracuda VPN Client for Windows, macOS, Linux, and OpenBSD
- CudaLaunch for Windows, macOS, and Android. A CudaLaunch version for iOS with support for CloudGen Firewall clusters is coming soon.

### Before You Begin

- Set up the VPN certificates for External CA or Barracuda VPN CA. For more information, see [How to Set Up External CA VPN Certificates](#), or [How to Set Up Barracuda VPN CA VPN Certificates](#).
- Configure the required authentication schemes. For more information, see [Authentication](#).

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## Step 1. Disable Port 443 for Client-to-Site VPN

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To use SSL VPN and client-to-site VPN simultaneously, the listener on port 443 for the VPN service must be disabled.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > VPN > VPN Settings**.
2. Click **Lock**.
3. Set **Listen on port 443** to **No**.
4. Click **OK**.
5. Click **Send Changes** and **Activate**.

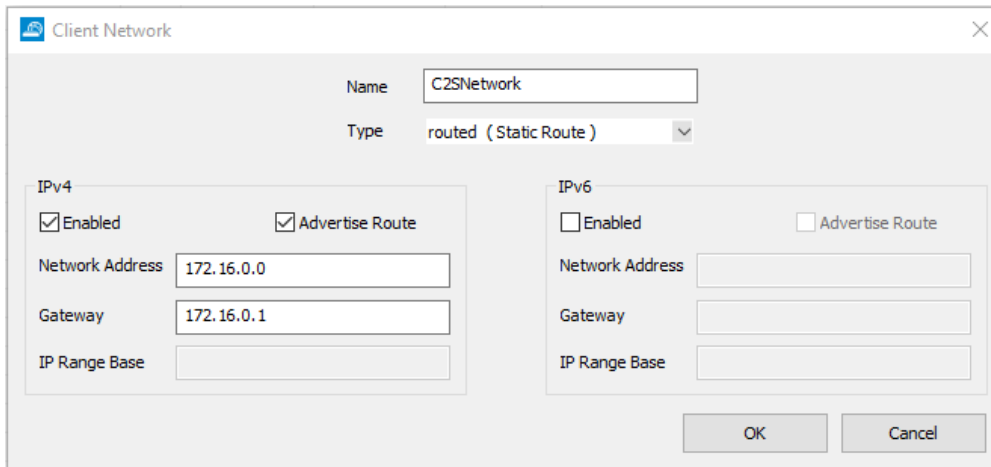
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## Step 2. Configure the VPN Client Network

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Configure the client network. When the VPN clients connect, they are assigned an IP address out of this network. Make sure to size the client-to-site network according to the number of client-to-site connections you are expecting to use on one instance of your Auto Scaling cluster. The source IP address for all connections from the VPN client network are rewritten to use the firewall's IP address.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > VPN > VPN Settings**.
2. Click **Lock**.
3. In the left menu, select **Client Networks**.
4. Right-click the table, and select **New Client Network**.
5. In the **Client Network** window, configure the following settings:
  - **Name** - Enter a descriptive name for the network.
  - **Network Address** - Enter the default network address, e.g.: 172.16.0.0
  - **Gateway** - Enter the gateway network address, e.g.: 172.16.0.1
  - **Type** - Select **routed (Static Route)**. A static route on the firewall routes traffic between the VPN client subnet and the local network.



The image shows a 'Client Network' configuration window. At the top, the 'Name' field is set to 'C2SNetwork' and the 'Type' is set to 'routed (Static Route)'. Below this, there are two sections: 'IPv4' and 'IPv6'. In the 'IPv4' section, 'Enabled' and 'Advertise Route' are both checked. The 'Network Address' is '172.16.0.0' and the 'Gateway' is '172.16.0.1'. The 'IP Range Base' field is empty. In the 'IPv6' section, 'Enabled' and 'Advertise Route' are both unchecked. The 'Network Address', 'Gateway', and 'IP Range Base' fields are all empty. At the bottom right, there are 'OK' and 'Cancel' buttons.

6. Click **OK**.
7. Click **Send Changes** and **Activate**.

### Step 3. Configure Group Policy Settings

Configure the authentication setting for the client-to-site VPN. The firewall must have access to the authentication service.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > VPN > Client-to-Site**.
2. Click **Lock**.
3. Click the **External CA** tab and then the **Group Policy** tab.
4. Click the **Click here for options** link.
5. Select the **Authentication Scheme**:
  - **Default Authentication Scheme** – The default authentication scheme is used for all VPN group policies.
  - **Extract from username** – The authentication scheme is appended to the username. The authentication scheme with the appended name is used with the default authentication scheme acting as a fallback if the authentication scheme name is not present on the firewall. E.g., user1@msad1 or user2@domain.com@HQLdap.
6. Select the **Default Authentication Scheme** from the drop-down list. This authentication scheme must be configured on box level of the firewall.
7. Configure which certificates are used. By selecting a specific certificate, all VPN group policies must use this certificate:
  - **(optional) Server** – Select a server certificate, or use the default server certificate configured in the VPN settings.
  - **Server Protocol Key** – Select the service certificate.
  - **(optional) Used Root Certificates** – Select a root certificate, or use the default server certificate configured in the VPN settings.
  - **(optional) X509 Login Extraction Field** – Select the X.509 field containing the username.

8. (optional) If needed, select the **Preauthentication Scheme**.

**X509 Client Security**

Mandatory Client Credentials
☐ X509 Certificate
☐ External Authentication
☐ IPsec needs Xauth

Certificate Login Matching
☐ Login must match AltName in Certificate

**Server**

Authentication Scheme
Default Authentication Sch ▾

Default Authentication Scheme
msad ▾

☐ Ras Login permission required

Server
-Use-Default- ▾

Server Protocol Key
-From-Server-Cert- ▾

Used Root Certificates
-Use-All-Known- ▾

X509 Login Extraction Field
-NONE- ▾

**LDAP or Radius Attributes**

IP Attribute Name

VPN Group Policy Name Attribute

**Preauthentication**

Preauthentication Scheme
-NONE- ▾

Details ...

9. Click **OK**.

Only X.509 certificate conditions can be assigned because IPsec XAUTH authentication will not work if group patterns are defined in the **External Group Condition** section.

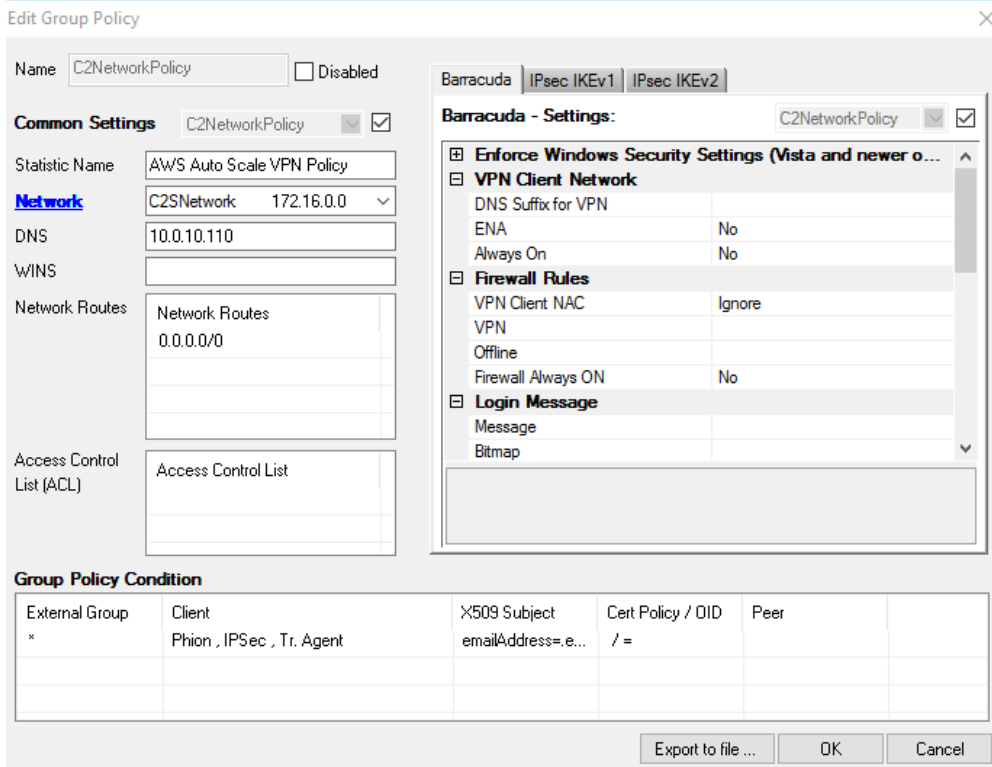
## Step 4. Create a VPN Group Policy

Create a group policy and configure the network settings for the client-to-site connections. If you want the client to send all traffic through the VPN tunnel, enter 0.0.0.0/0 as the network.

- Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > VPN > Client-to-Site**.
- Click the **External CA** tab and then click the **Group Policy** tab.
- Right-click the table and select **New Group Policy**.
- In the **Edit Group Policy** window, edit the following settings:
  - Name** – Enter a name for this policy.
  - Common Settings** – Select the check box.
  - Statistics Name** – To better allocate statistics entries, enter a name.

- **Network** – Select the required client network.
  - **DNS** – Enter a DNS server for the clients.
  - **Network Routes** – Add all networks that should be reachable by the VPN clients. Enter 0.0.0.0/0 for all traffic to be sent through the client-to-site VPN.
5. Right-click the **Group Policy Condition** field and select **New Rule**.
  6. In the **X509 Certificate Conditions** section of the **Group Policy Condition** window, set filters for the certificate. For example, to let everyone with a valid certificate log on, click **Edit/Show** to add the following condition to the **Subject** field: CN=\*

Certificate condition entries are case insensitive and can contain the quantification patterns ? (zero or one) and \* (zero or more).



**Edit Group Policy**

Name: C2NetworkPolicy ☐ Disabled

**Common Settings** C2NetworkPolicy ☒

Statistic Name: AWS Auto Scale VPN Policy

**Network** C2Network 172.16.0.0

DNS: 10.0.10.110

WINS:

Network Routes: Network Routes 0.0.0.0/0

Access Control List (ACL): Access Control List

**Barracuda - Settings:** C2NetworkPolicy ☒

- Enforce Windows Security Settings (Vista and newer o...**
- VPN Client Network**
  - DNS Suffix for VPN
  - ENA No
  - Always On No
- Firewall Rules**
  - VPN Client NAC Ignore
  - VPN
  - Offline
  - Firewall Always ON No
- Login Message**
  - Message
  - Bitmap

**Group Policy Condition**

External Group	Client	X509 Subject	Cert Policy / OID	Peer
*	Phion , IPsec , Tr. Agent	emailAddress=e...	/ =	

Export to file ... OK Cancel

7. Click **OK**.
8. Click **OK**.
9. Click **Send Changes** and **Activate**.

## Step 5. (optional) Adjust Barracuda (TINA) Settings

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > VPN-Service > Client-to-Site**.
2. Click **Lock**.
3. Click the **External CA** tab and then click the **Group Policy** tab.
4. Double-click the VPN group policy created in Step 3.
5. In the **Barracuda** tab configure:
  - **Windows Security Settings**
  - **VPN Client Network**

- **Firewall Rules**
- **Login Message**
- **Ciphers**

6. Click **OK**.

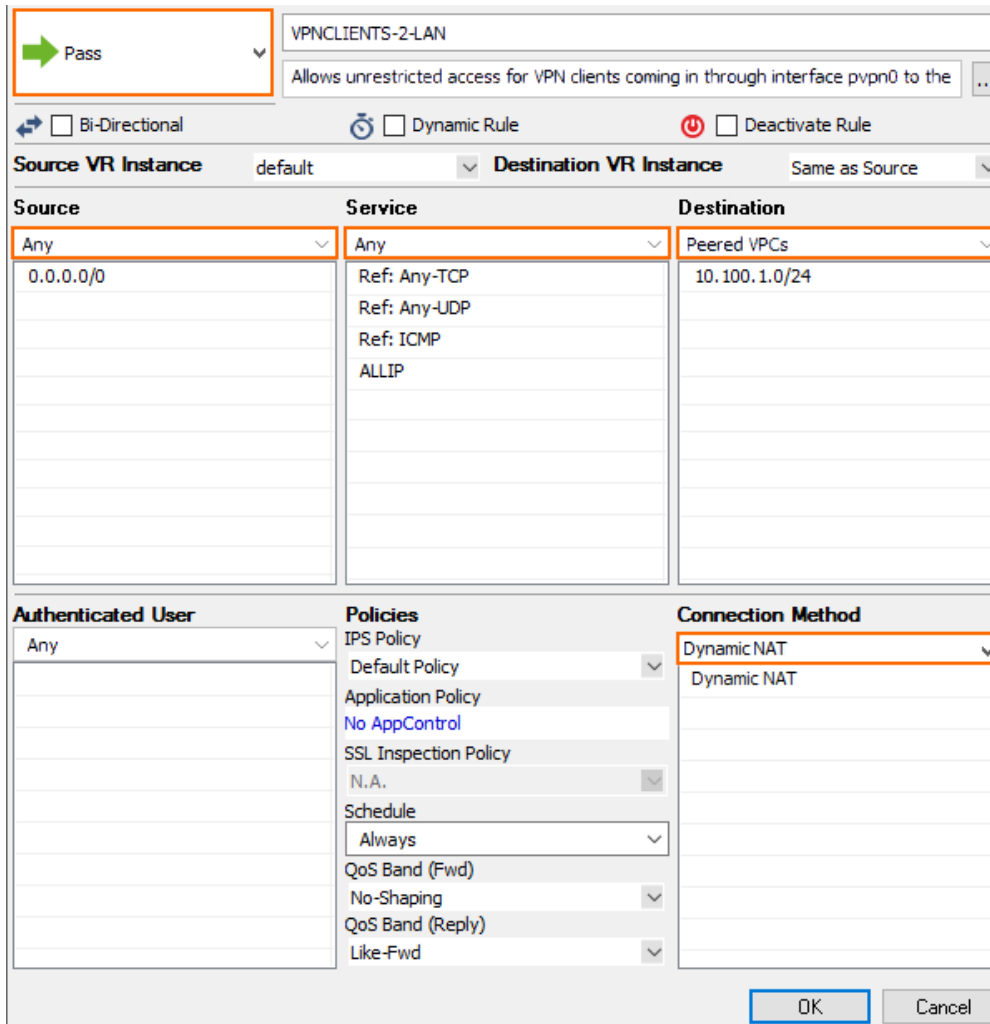
7. Click **Send Changes** and **Activate**.

## Step 9. Add Access Rules

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For each service and/or destination network, create an access rule to allow traffic from the client VPN network to your AWS resources. The access rules must always use a **Dynamic NAT** or **Translated IP from DHCP** connection method.

- **Action** – Select **Pass**.
- **Source** – Select **Any**.
- **Service** – Select the allowed services, or **Any** to allow all services.
- **Destination** – Select the network object containing the networks the VPN clients can access in AWS.
- **Connection Method** – Select **Dynamic NAT**.



**VPNCLIENTS-2-LAN**  
 Allows unrestricted access for VPN clients coming in through interface pvpn0 to the ...

☐ Bi-Directional ☐ Dynamic Rule ☐ Deactivate Rule

Source VR Instance: default Destination VR Instance: Same as Source

Source	Service	Destination
Any	Any	Peered VPCs
0.0.0.0/0	Ref: Any-TCP Ref: Any-UDP Ref: ICMP ALLIP	10.100.1.0/24

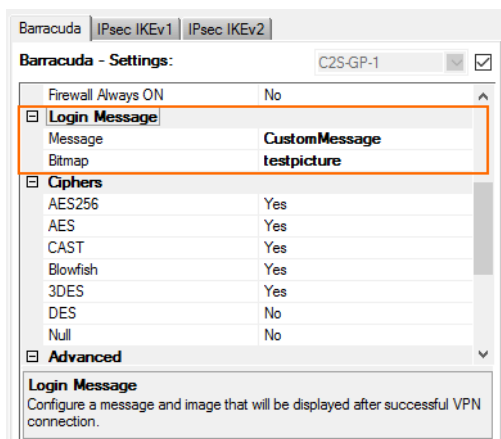
Authenticated User	Policies	Connection Method
Any	IPS Policy: Default Policy Application Policy: No AppControl SSL Inspection Policy: N.A. Schedule: Always QoS Band (Fwd): No-Shaping QoS Band (Reply): Like-Fwd	Dynamic NAT

OK Cancel

## Configure a Custom Login Message

When using a Barracuda VPN client, you can define a custom welcome message as well as upload your company logo as a custom **Picture**. Custom message and picture can be selected in the **Barracuda - Settings** of the VPN group policy.

- **Messages** – Create a custom message in the **Message** tab of the **Client-to-Site** page, and then select the customized welcome message in the **Barracuda Settings** tab of the VPN group policies.
- **Bitmap/Pictures** – Upload a 150x80 pixel, 256 color BMP bitmap in the **Pictures** tab of the **Client-to-Site** page, and then select the custom bitmap in the **Barracuda Settings** tab of the VPN group policies.



Barracuda - Settings: C2S-GP-1	
Firewall Always ON	No
<b>Login Message</b>	
Message	CustomMessage
Bitmap	testpicture
<b>Ciphers</b>	
AES256	Yes
AES	Yes
CAST	Yes
Blowfish	Yes
3DES	Yes
DES	No
Null	No
<b>Advanced</b>	
<b>Login Message</b> Configure a message and image that will be displayed after successful VPN connection.	

## Troubleshooting

Barracuda Firewall Admin only displays the logs on one firewall instance. To troubleshoot multiple client-to-site connections in an AWS Auto Scaling cluster, use CloudWatch.

For more information, see [How to Configure Log Streaming to AWS CloudWatch](#).

## Next Steps

- Configure the remote access clients to connect to the client-to-site VPN. For more information, see [Remote Access Clients](#).
- Configure SSL VPN and CudaLaunch. For more information, see [SSL VPN](#) and [CloudGen Firewall Configuration for CudaLaunch](#).



## Figures

1. aws\_autoscale\_cluster\_c2s.png
2. client\_net.png
3. group\_settings.png
4. gp\_01.png
5. client\_rule.png
6. custom\_login\_message.png

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