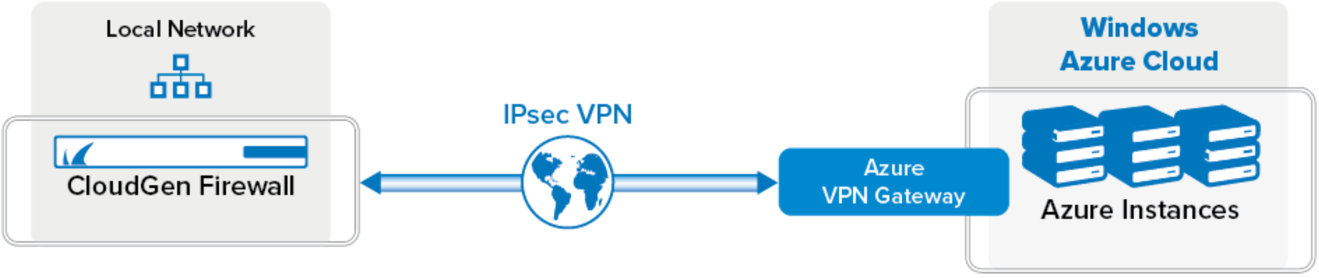
# How to Configure an IKEv1 IPsec Site-to-Site VPN to the Static Microsoft Azure VPN Gateway

https://campus.barracuda.com/doc/79462887/

You can configure your local Barracuda CloudGen Firewall to connect to the static IPsec VPN gateway service in the Windows Azure cloud using an IKEv1 IPsec VPN tunnel.



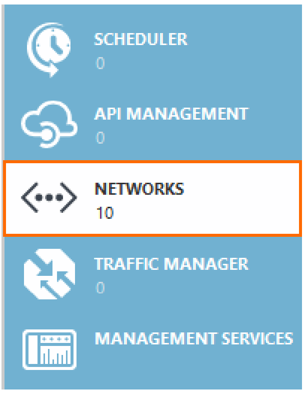
## Before You Begin

- Create and configure a Windows Azure static VPN gateway for your virtual network.
- You will need the following information:
    - VPN gateway
    - External IP address for the Barracuda CloudGen Firewall
    - Remote and local networks

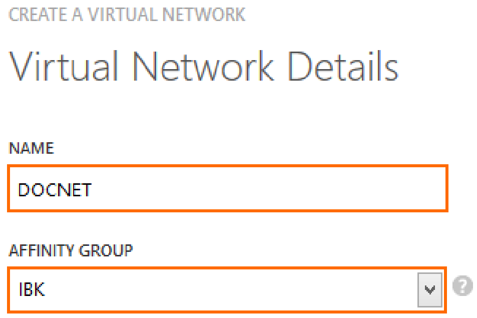
## Step 1. Create a Network in the Windows Azure Cloud

Create a virtual network in the Windows Azure cloud. Choose subnets that are not present in your local networks to avoid IP address conflicts.

1. Log into your Windows Azure Management Portal (https://manage.windowsazure.com).
2. In the left pane, click **NETWORKS**.



3. In the bottom-left corner click **+ NEW**.
4. Click **CUSTOM CREATE**. The **create a virtual network** windows opens.
5. Enter the **Name** for the network.
6. Select an affinity group, or create a new affinity group.
7. Click **NEXT** .

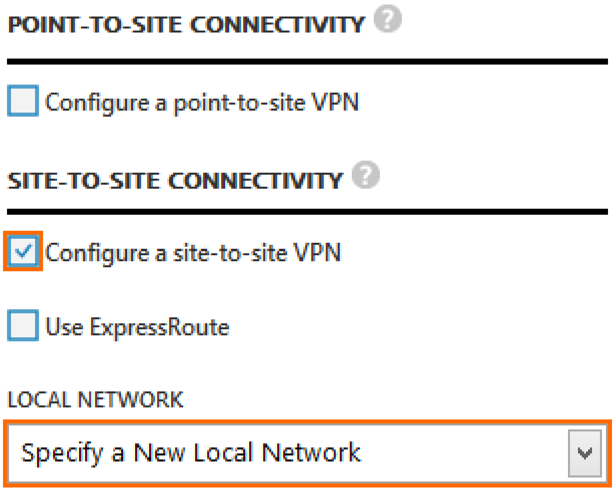

CREATE A VIRTUAL NETWORK

Virtual Network Details

NAME
DOCNET

AFFINITY GROUP
IBK

8. (optional) Enter or select a DNS server.
9. In the right panel, enable **Configure site-to-site VPN**.
10. Select **Specify a New Local Network** from the **LOCAL NETWORK** drop-down list.


POINT-TO-SITE CONNECTIVITY

☐ Configure a point-to-site VPN

SITE-TO-SITE CONNECTIVITY

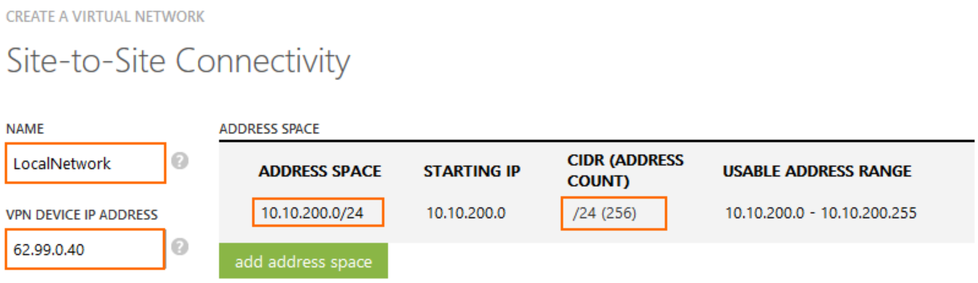
☑ Configure a site-to-site VPN

☐ Use ExpressRoute

LOCAL NETWORK
Specify a New Local Network

11. Click **Next** .
12. Enter a **NAME** for your local on-premises network.
13. Enter the **VPN DEVICE IP ADDRESS**. This is the external IP address of the Barracuda CloudGen Firewall running the VPN service.
14. In the **ADDRESS SPACE** section, enter the on-premise network(s). E.g., `10.10.200.0/24`

15. Click **Next** ➔ .



CREATE A VIRTUAL NETWORK

Site-to-Site Connectivity

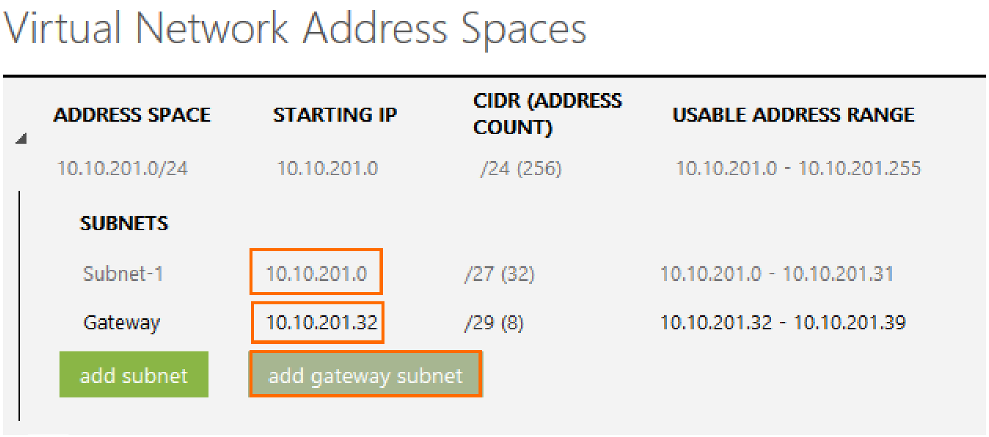
NAME: LocalNetwork

VPN DEVICE IP ADDRESS: 62.99.0.40

ADDRESS SPACE

| ADDRESS SPACE | STARTING IP | CIDR (ADDRESS COUNT) | USABLE ADDRESS RANGE |
|---|---|---|---|
| 10.10.200.0/24 | 10.10.200.0 | /24 (256) | 10.10.200.0 - 10.10.200.255 |

16. In the **Virtual Network Address Spaces** section, click **add subnet**:
    - **Subnet** – Enter a name for the subnet.
    - **Starting IP** – Enter the first IP of the IP Range for the subnet. E.g., `10.10.201.0`
    - **CIDR(ADDRESS COUNT)** – Select the subnet mask from the list. E.g., **/24** for 256 IP addresses.
17. Click **add gateway subnet**:
    - **Starting IP** – Enter the first IP for the gateway subnet. E.g., `10.10.201.0`
    - **CIDR (ADDRESS COUNT)** – Select the subnet mask from the list. E.g., /29 for 8 IP addresses.



Virtual Network Address Spaces

| ADDRESS SPACE | STARTING IP | CIDR (ADDRESS COUNT) | USABLE ADDRESS RANGE |
|---|---|---|---|
| 10.10.201.0/24 | 10.10.201.0 | /24 (256) | 10.10.201.0 - 10.10.201.255 |
| **SUBNETS** | | | |
| Subnet-1 | 10.10.201.0 | /27 (32) | 10.10.201.0 - 10.10.201.31 |
| Gateway | 10.10.201.32 | /29 (8) | 10.10.201.32 - 10.10.201.39 |

18. Click **OK**.✓ .

The Azure Virtual Network you have just created is now listed in the **NETWORK** menu in the Azure management interface.

## Step 2. Create a VPN Gateway for the Windows Azure Network

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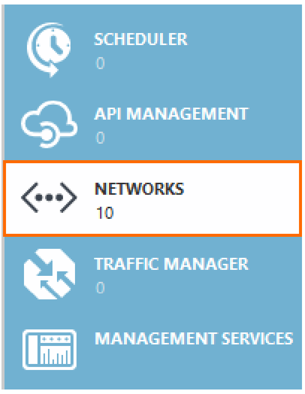
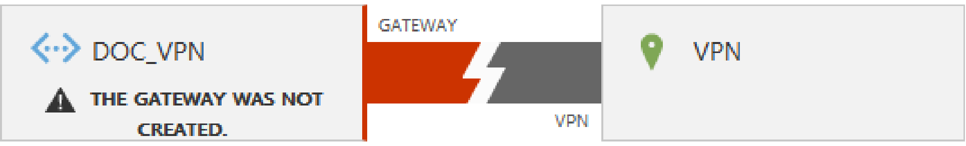
Create the Azure VPN Gateway.

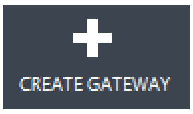
1. Log into your Windows Azure Management Portal ( [https://manage.windowsazure.com](https://manage.windowsazure.com) ).
2. In the left pane, click **NETWORKS**.



3. Click on the Network previously created in **Step 1**.

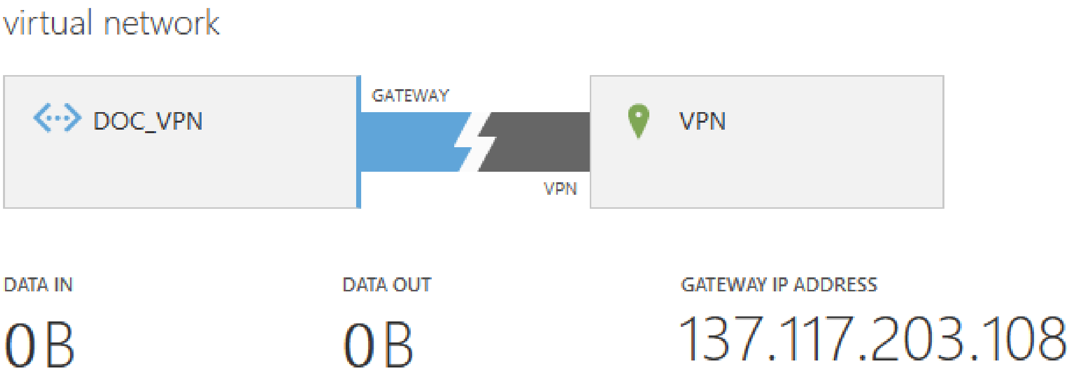


4. in the top menu, click on **DASHBOARD**.
5. In the bottom pane, click **CREATE GATEWAY**.



6. Select **Static Routing** from the list. Creating the gateway will take a couple of minutes.

When the color of the gateway turns blue, the gateway has been successfully created. The Gateway IP is now displayed below the VPN Gateway image.



## Step 3. Configure IPsec Site-to-Site VPN on the CloudGen Firewall

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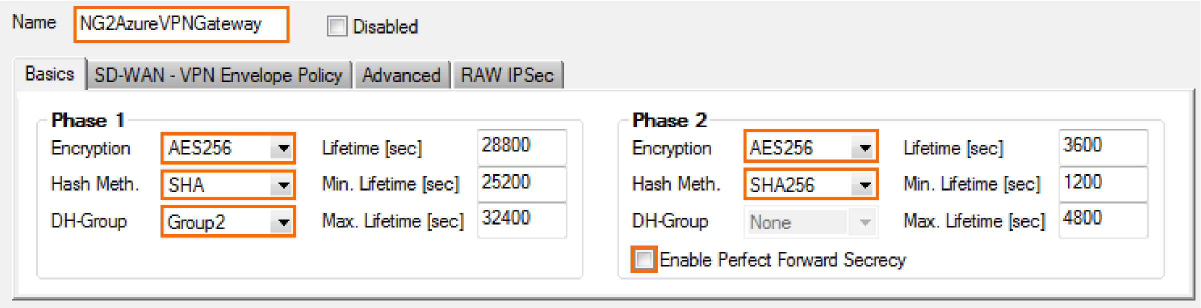
Create an active IPsec VPN connection on the local firewall.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > VPN-Service > Site to Site**.

2. Click the **IPSEC IKEv1 Tunnels** tab.
3. Click **Lock**.
4. Right-click the table, and select **New IPsec IKEv1 tunnel**. The **IPsec Tunnel** window opens.
5. In the **Name** field, enter your tunnel name. E.g., `NG2AzureVPNGateway`
6. In the **Basics** tab, enter the Phase1 and Phase2 encryption settings:
   - **Phase 1**
     - **Encryption** – Select **AES-256**.
     - **Hash Meth.** – Select **SHA**.
     - **DH Group** – Select **Group 2**.
     - **Lifetime** – Enter `28800`.
   - **Phase 2**
     - **Encryption** – Select **AES-256**.
     - **Hash Meth.** – Select **SHA256**.
     - **Perfect Forward Secrecy** – Disable.
     - **Lifetime** – Enter `3600`.



Name: NG2AzureVPNGateway ☐ Disabled

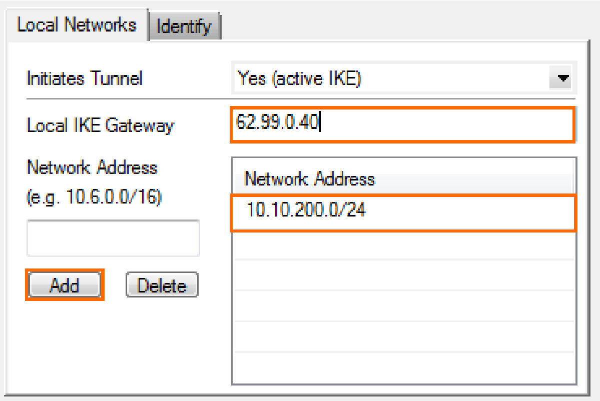
**Phase 1**

Encryption: AES256
Hash Meth.: SHA
DH-Group: Group2
Lifetime [sec]: 28800
Min. Lifetime [sec]: 25200
Max. Lifetime [sec]: 32400

**Phase 2**

Encryption: AES256
Hash Meth.: SHA256
DH-Group: None
Lifetime [sec]: 3600
Min. Lifetime [sec]: 1200
Max. Lifetime [sec]: 4800
☐ Enable Perfect Forward Secrecy

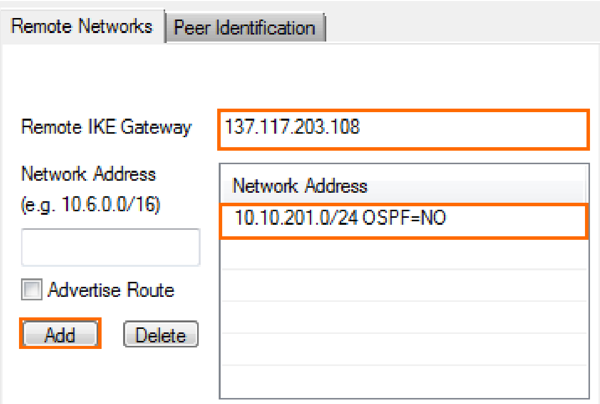
7. Configure the local network settings. Click the **Local Networks** tab and specify the following settings:
   - **Local IKE Gateway** – Enter the external IP address of the firewall. E.g., `62.99.0.40`
   - **Network Address** – Enter your local on-premises network and click **Add**. E.g., `10.10.200.0/24`



Initiates Tunnel: Yes (active IKE)
Local IKE Gateway: 62.99.0.40
Network Address (e.g. 10.6.0.0/16)

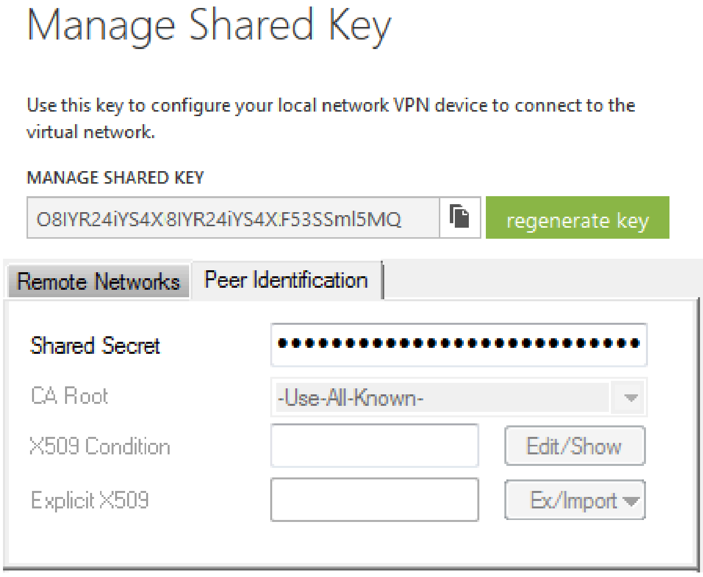
| Network Address |
|---|
| 10.10.200.0/24 |

8. Configure the remote network settings. Click the **Remote Networks** tab and specify the following settings:
   - **Remote IKE Gateway** – Enter the Gateway IP Address of the Azure VPN Gateway created in Step 2. E.g., `137.117.205.83`
   - **Network Address** – Enter the Azure subnet(s) configured in the Azure Virtual Network and click **Add**. E.g., `10.10.201.0/24`.



Remote IKE Gateway: 137.117.203.108
Network Address (e.g. 10.6.0.0/16)
☐ Advertise Route
Network Address: 10.10.201.0/24 OSPF=NO

Click on the **Peer Identification** tab, and enter the Azure **MANAGE KEY** passphrase.



Use this key to configure your local network VPN device to connect to the virtual network.

MANAGE SHARED KEY: O8IYR24iYS4X8IYR24iYS4XF53SSmI5MQ

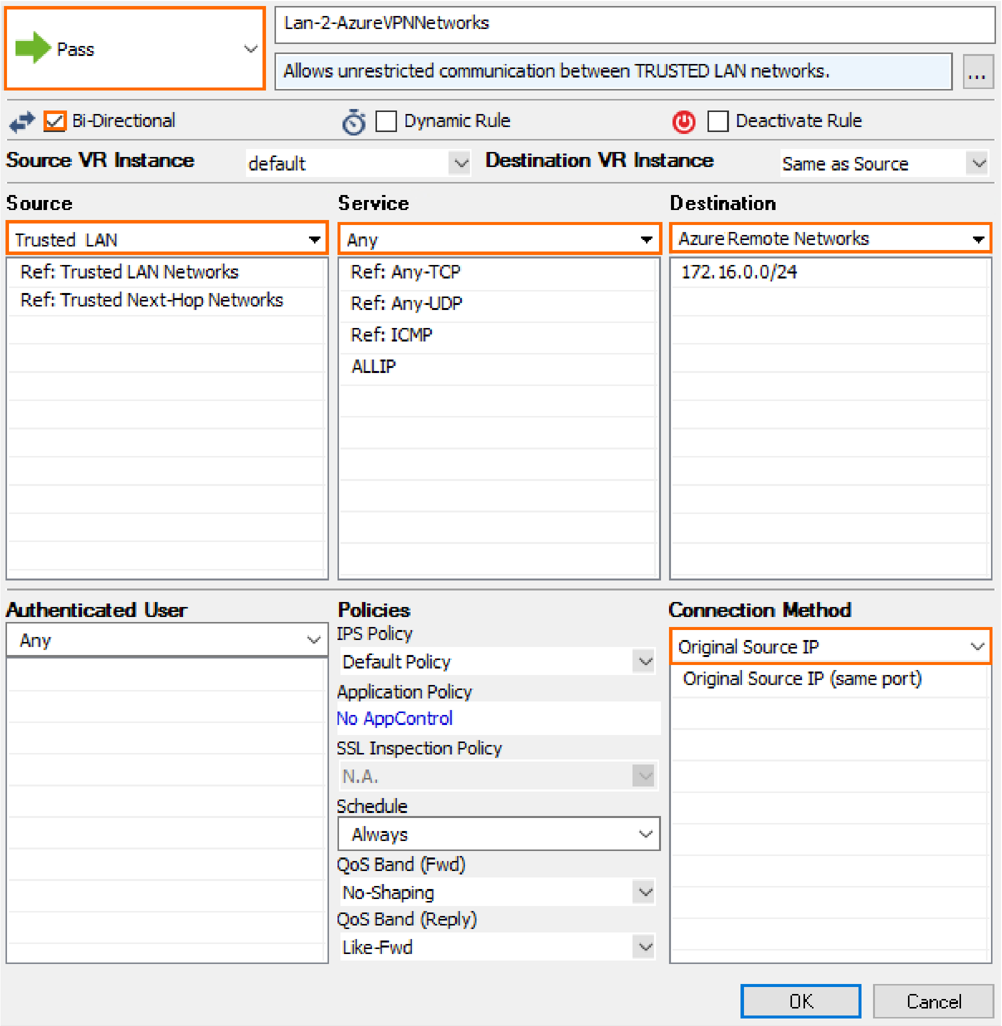
Shared Secret: ●●●●●●●●●●●●●●●●●●●●●●●●●●●●
CA Root: -Use-All-Known-
X509 Condition
Explicit X509

9. Click **OK**.
10. Click **Send Changes** and **Activate**.

## Step 4. Create an Access Rule

Create a pass access rule to allow traffic from the local network to the remote network.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > Firewall > Firewall Rules**.
2. Create a PASS access rule:
    - **Bi-Directional** – Enable.
    - **Source** – Select the local on-premises network(s).
    - **Service** – Select the service you want to have access to the remote network or **Any** for complete access.
    - **Destination** – Select the network object containing the remote Azure Virtual Network subnet(s).
    - **Connection Method** – Select **No Src NAT**.



Pass

Lan-2-AzureVPNNetworks

Allows unrestricted communication between TRUSTED LAN networks.

☑ Bi-Directional ☐ Dynamic Rule ☐ Deactivate Rule

**Source VR Instance** default **Destination VR Instance** Same as Source

**Source**
Trusted LAN
Ref: Trusted LAN Networks
Ref: Trusted Next-Hop Networks

**Service**
Any
Ref: Any-TCP
Ref: Any-UDP
Ref: ICMP
ALLIP

**Destination**
Azure Remote Networks
172.16.0.0/24

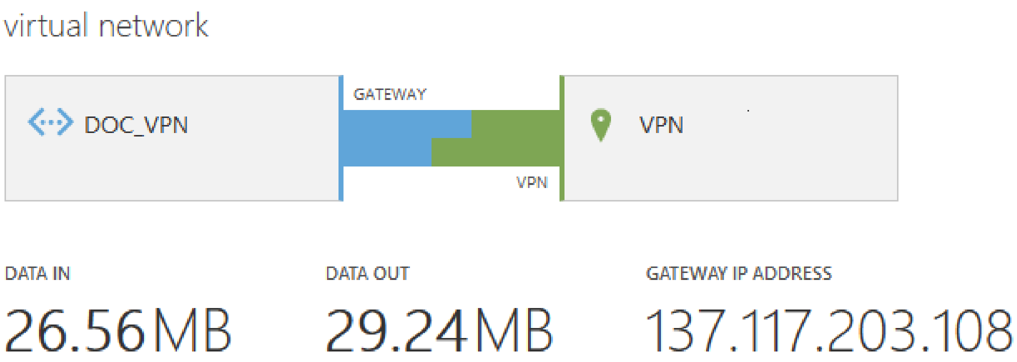
**Authenticated User**
Any

**Policies**
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

**Connection Method**
Original Source IP
Original Source IP (same port)

3. Click **OK**.
4. Move the access rule up in the rule list, so that it is the first rule to match this traffic.
5. Click **Send Changes** and **Activate**.

Your Barracuda CloudGen Firewall will now automatically connect to the Azure VPN Gateway.



virtual network

DATA IN 26.56MB

DATA OUT 29.24MB

GATEWAY IP ADDRESS 137.117.203.108

## Figures