

# Skillet for PAN-OS

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## **Azure Virtual Network Gateway IKE/IPSec and BGP configuration for PAN-OS**

<https://github.com/cestebanez91/Azure-VNG-PANOS>

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# **1. Presentation of the Skillet**

This skillet will configure IKE/IPSec parameters and BGP in order to connect PAN-OS to Microsoft Azure VNG (Virtual Network Gateway).

This skillet will be used to connect your Palo Alto Network device (physical or VM-series) to any Microsoft Azure Virtual Network Gateway to establish an IPSec connection.

Based on parameters given by Azure (VNG public IP address, BGP peer and gateway subnet).

It will create a new IKE gateway and a new Ipsec tunnel, whatever this is already existing, iteration is possible up to four IKE gateways and four IPSec tunnels.

IKE and IPSec profile are compliant to Azure VNG expectations.

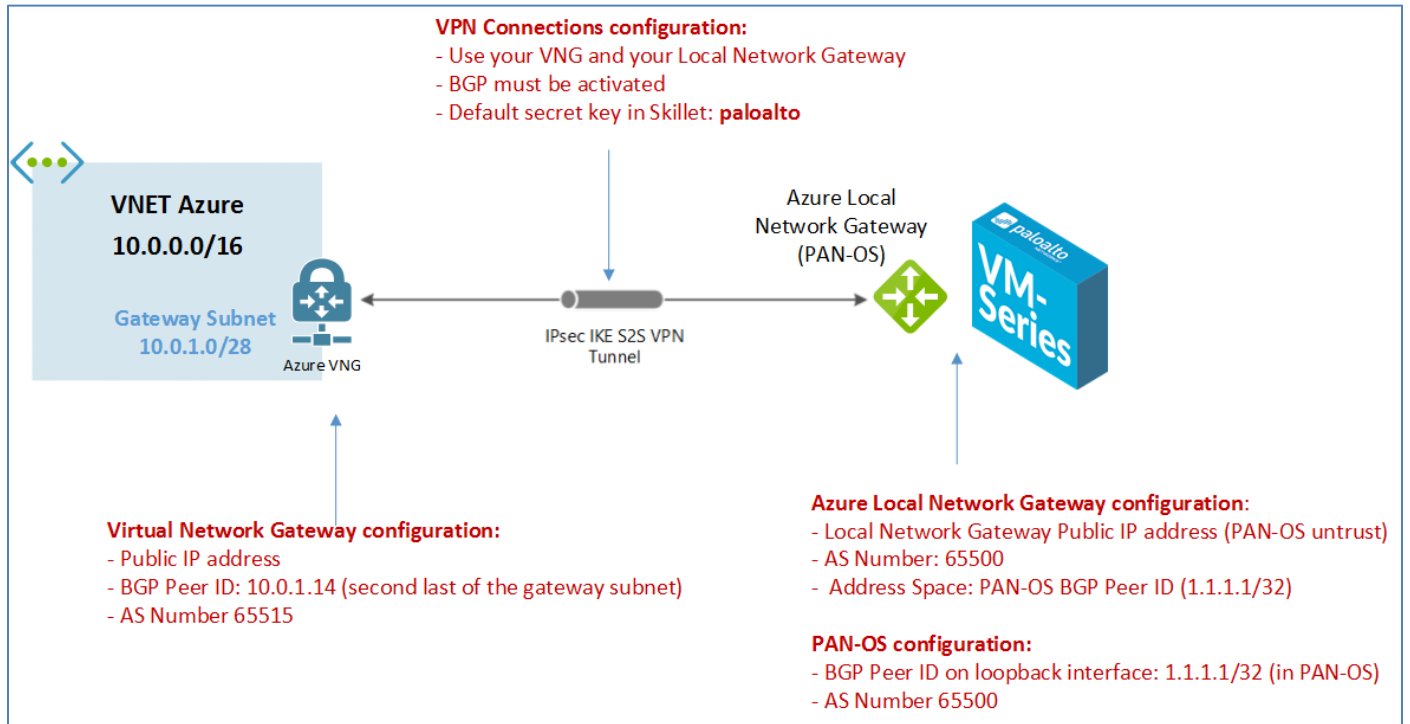
## **This skillet will configure PAN-OS with following features:**

- IKE crypto profile compliant with Azure VNG
- IPSec crypto profile compliant with Azure VNG
- IKE gateway to connect to Azure VNG
- IPSec tunnel
- Tunnel interface, loopback interface for BGP and Zone
- Routing and BGP configuration with distribution profile activated

## **Content is the following:**

- ikecrypto.xml will configure IKE crypto profile
- ipseccrypto.xml will configure IPSec crypto profile
- ikeprofile.xml will configure IKE gateway with iteration
- ipsecprofile.xml will configure IPSec tunnel with iteration
- interface.xml will configure tunnel and loopback interfaces
- zone.xml will configure zones
- routing.xml will configure BGP parameters to exchange routes

## 2. Diagram



To establish an IPsec connection to your Azure Vnet, you will need to configure:

- **Azure Virtual Network Gateway (VNG)**
- **Azure Local Network Gateway (your on prem device running PAN-OS)**
- **Azure VPN connection (to bind VNG and LNG)**
- **PAN-OS device**

Once you deployed 4 components, you should get:

- **Azure VNG public IP address**
- **Azure VNET gateway subnet CIDR**
- **Azure VNG BGP Peer ID (second last IP address of your gateway subnet CIDR)**
- **Azure VNG BGP AS Number**
- **PAN-OS public IP address with default route to Internet**

### 3. Run Skillet

When you run exectue the skillet, you need to define these values:

PAN-OS Configuration

#### Customize PAN-OS Skillet: Azure VNG IKE/IPSec

Public IP address of Azure Virtual Network Gateway:

1 40.1.1.1

Azure Virtual Network Gateway BGP peer ip address (should be the second last ip address of your Azure gateway subnet):

2 10.0.2.1

PAN-OS ethernet interface for IKE/IPsec - Ethernet interface for untrust where the Azure initiated IPSec will terminate:

3 ethernet1/1

PAN-OS Tunnel interface number - If you are using an existing tunnel interface, opt for another than tunnel.1:

4 tunnel.1

PAN-OS IKE preshared key - This preshared key must be the same as defined on your Azure Local Network Gateway:

5 paloalto

PAN-OS virtual router name - If you want to use another than default virtual router instance.

6 default

PAN-OS BGP AS - Specify your local BGP AS if needed. Must match the value you configure in Azure Local Network Gateway.

7 65500

Azure VNG BGP AS - Specify your Azure BGP AS. Must match the value you configure in Azure Virtual Network Gateway.

8 65516

Submit

1: This is the Public IP Address given by Azure when you create your Virtual Network Gateway.

2: This is the BGP Peer IP address given by Azure.

3: Choose from ethernet1/1 to ethernet1/4 on which interface you will connect your IPSec tunnel for untrust side.

4: Choose from tunnel.1 to tunnel.4 to create the new tunnel if tunnels are already existing.

## Palo Alto Networks – Skillet Azure VNG for PAN-OS

5: This is the preshared ky used to authenticate the IKE, must match the one defined in your Azure VNG configuration (by default: paloalto).

6: Type in the name of your PAN-OS virtual router instance to be configured (by default: default).

7: Local BGP AS Number for PAN-OS, by default 65500. This skillet will not update your Azure configuration if different.

8: Azure Virtual Network Gateway BGP AS Number, given by Azure.