

# Introduction to VPN gateways

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- Type of a [#virtual\\_Network](#) composed of 2 or more azure managed VMs which are automatically configured and deployed to a specific subnet called [#GatewaySubnet](#).
- These VM's contains *routing tables* and run specific gateway services.
- You specify *gateway type* which determines how the Vnet gateway will be used and the actions that gateway takes.
- A Vnet can have 2 Vnet gateways
  - [#VPN\\_gateway](#)
  - [#ExpressRoute](#) gateway
- Both of them use different gateway type.
- After you create VPN gateway, you can configure connections.
- ! Once the gateway is created, the VPN client will have to authenticate to the gateway, otherwise, any random person can connect to the gateway if they know the IP address of the gateway.
- You cannot create Policy based VPN for P2S connection.

## Connections you can create

- VPN tunnel connection between that VPN gateway and another VPN gateway [#VNet-to-VNet](#).
- Cross-premises *IPsec/IKE* VPN tunnel connection between the VPN gateway and an on-premises VPN device [#Site-to-Site](#).
- [#Point-to-Site](#) VPN connection (VPN over [#OpenVPN](#), [#IKEv2](#), or [#SSTP](#)), which lets you connect to your virtual network from a remote location, such as from a conference or from home.
- [Site-to-Site VPN connections](#)
- [Point-to-Site VPN connections](#)
- [VNet-to-VNet VPN connections](#)

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## Gateway SKUs

- When you create a Vnet gateway, you specify the gateway SKU that you want to you.

VPN Gateway Generation	SKU	S2S/VNet-to-VNet Tunnels	P2S SSTP Connections	P2S IKEv2/OpenVPN Connections	Aggregate Throughput Benchmark	BGP	Zone-redundant	Supported Number of VMs in the Virtual Network
Generation1	Basic	Max. 10	Max. 128	Not Supported	100 Mbps	Not Supported	No	200
	VpnGw1	Max. 30	Max. 128	Max. 250	650 Mbps	Supported	No	450
	VpnGw2	Max. 30	Max. 128	Max. 500	1 Gbps	Supported	No	1300
	VpnGw3	Max. 30	Max. 128	Max. 1000	1.25 Gbps	Supported	No	4000
Generation1	VpnGw1AZ	Max. 30	Max. 128	Max. 250	650 Mbps	Supported	Yes	1000
	VpnGw2AZ	Max. 30	Max. 128	Max. 500	1 Gbps	Supported	Yes	2000
	VpnGw3AZ	Max. 30	Max. 128	Max. 1000	1.25 Gbps	Supported	Yes	5000
Generation2	VpnGw2	Max. 30	Max. 128	Max. 500	1.25 Gbps	Supported	No	685
	VpnGw3	Max. 30	Max. 128	Max. 1000	2.5 Gbps	Supported	No	2240

VPN Gateway Generation	SKU	S2S/VNet-to-VNet Tunnels	P2S SSTP Connections	P2S IKEv2/OpenVPN Connections	Aggregate Throughput Benchmark	BGP	Zone-redundant	Supported Number of VMs in the Virtual Network
	VpnGw4	Max. 100*	Max. 128	Max. 5000	5 Gbps	Supported	No	5300
	VpnGw5	Max. 100*	Max. 128	Max. 10000	10 Gbps	Supported	No	6700
Generation2	VpnGw2AZ	Max. 30	Max. 128	Max. 500	1.25 Gbps	Supported	Yes	2000
	VpnGw3AZ	Max. 30	Max. 128	Max. 1000	2.5 Gbps	Supported	Yes	3300
	VpnGw4AZ	Max. 100*	Max. 128	Max. 5000	5 Gbps	Supported	Yes	4400
	VpnGw5AZ	Max. 100*	Max. 128	Max. 10000	10 Gbps	Supported	Yes	9000

SKU \* ⓘ

VpnGw2AZ

VpnGw1  
VpnGw2  
VpnGw3  
VpnGw4  
VpnGw5  
VpnGw1AZ  
VpnGw2AZ  
VpnGw3AZ  
VpnGw4AZ  
VpnGw5AZ

The selected SKU will decide the bandwidth between the networks and how many simultaneous connections we can have

## Availability Zones

[source](#)

- resiliency,
- scalability
- higher availability

physically and logically separates gateways within a region, while protecting your on-premises network connectivity to Azure from zone-level failures.

## Pricing

- hourly costs for the Virtual Network gateway
- The price is based on the gateway SKU.
- The cost is for the gateway itself and is in addition to the data transfer that flows through the gateway
- Cost for active-active setup is same as active-passive.

### #Data-transfer-costs

- `#VPN_gateway/Egress` data transfer from the Vnet gateway.
- The cost is for the gateway itself and is in addition to the data transfer that flows through the gateway
- sending traffic **to your on-premises VPN device**, It will be charged with the internet egress data transfer rate.
- If you're sending traffic **between virtual networks in different regions**, the pricing is *based on the region*.

- If you're sending traffic only **between virtual networks that are in the same region**, there are *no data costs*. Traffic between VNets in the same region is *free*.
- [source](#)