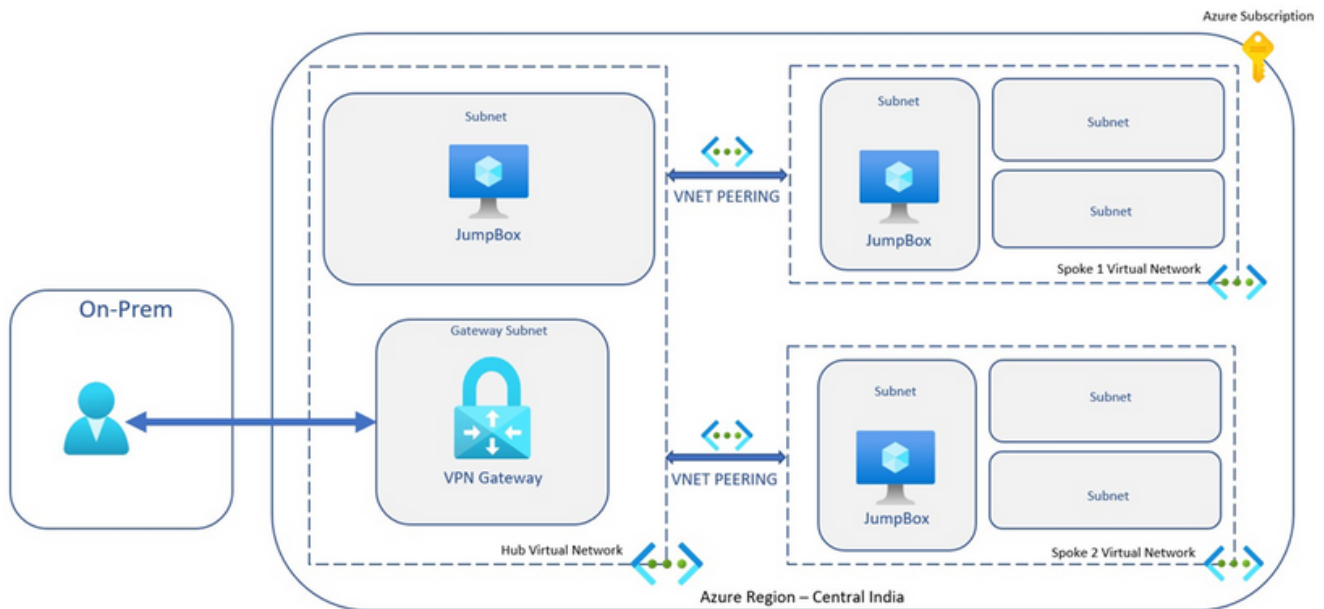# DESIGNED A HUB & SPOKE ARCHITECTURE IN AZURE

VPN Gateway - Azure VPN Gateway is a service that uses a specific type of virtual network gateway to send encrypted traffic between an Azure virtual network and on-premises locations over the public Internet.

Vnet Peering - Virtual network peering enables you to seamlessly connect two or more Virtual Networks in Azure. The virtual networks appear as one for connectivity purposes. The traffic between virtual machines in peered virtual networks uses the Microsoft backbone infrastructure

```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\hiresh>ipconfig

Windows IP Configuration


Ethernet adapter Ethernet:

   Connection-specific DNS Suffix  . : esuw5xnzjnhu3mvo5z2yrbcbbf.rx.internal.cloudapp.net
   Link-local IPv6 Address . . . . . : fe80::57cd:f4b7:c9bd:15f6%7
   IPv4 Address. . . . . . . . . . . : 10.0.0.4
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 10.0.0.1

C:\Users\hiresh>ping 10.2.0.4

Pinging 10.2.0.4 with 32 bytes of data:
Reply from 10.2.0.4: bytes=32 time=4ms TTL=127
Reply from 10.2.0.4: bytes=32 time=3ms TTL=127
Reply from 10.2.0.4: bytes=32 time=4ms TTL=127
Reply from 10.2.0.4: bytes=32 time=3ms TTL=127

Ping statistics for 10.2.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 4ms, Average = 3ms

C:\Users\hiresh>
```
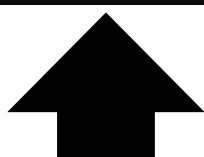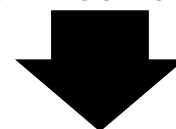
VM in spoke 1
(10.0.0.4 255.255.255.0)

VM in spoke 2
(10.2.0.4 255.255.255.0)

```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\hiresh>ipconfig

Windows IP Configuration


Ethernet adapter Ethernet:

   Connection-specific DNS Suffix  . : ynxg5lierorunff5stxcsdje1e.rx.internal.cloudapp.net
   Link-local IPv6 Address . . . . . : fe80::2d3d:b5be:723a:651a%15
   IPv4 Address. . . . . . . . . . . : 10.2.0.4
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 10.2.0.1

C:\Users\hiresh>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:
Reply from 10.0.0.4: bytes=32 time=4ms TTL=127
Reply from 10.0.0.4: bytes=32 time=3ms TTL=127
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Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 4ms, Average = 3ms

C:\Users\hiresh>
```

- both the hosts in spoke 1 and spoke 2 are able to communicate to each other sucessfully through hub gateway hence, both the network are not peered directly but routed throught HUB virtual network for increased security and compliance.
- additionally a firewall can also be added at the gateway network for increased monitoring