**Phase 1**

**Creation of Network Resources and Peering**

Created the Resource Groups using a PowerShell script:

* **RGdeploy.ps1** creates the following Resource Groups:
  + Epimoni-EastUS-Dev
  + Epimoni-EastUS-Prod
  + Epimoni-WestUS2-Dev
  + Epimoni-WestUS2-Prod

Created the Network resources for East US using the following template and parameters:

* **AzureNetworkDeploy.json** and **Parameters.json** deploy the following resources:
  + VNET1 with two Subnets in East US
    - Subnet1 (10.0.0.0/24) and Subnet2 (10.0.1.0/24)
  + VNET2 with two Subnets in East US
    - Subnet1 (192.168.0.0/24) and Subnet2 (192.168.1.0/24)
  + Local VNET Peering established between VNET1 and VNET2
  + Four NSGs, each assigned to a subnet
    - No management ports opened (RDP / SSH)
    - Azure Bastion to be configured within the Azure Portal
    - No NSG rules defined, more to be added in later steps

Created the Network resources for West US 2 using the following template and parameters:

* **AzureNetworkDeploy.json** and **Parameters.json** deploy the following resources:
  + VNET1 with two Subnets in West US 2
    - Subnet1 (172.16.0.0/24) and Subnet2 (172.16.1.0/24)
  + Two NSGs, each assigned to its own subnet
    - No management ports opened (RDP / SSH)
    - Azure Bastion to be configured within the Azure Portal
    - No NSG rules defined, more to be added in later steps

Created the Global VNet Peering using ARM templates (one for each RG)

* Westglobalpeerdeploy.json and parameters.json
* Eastglobalpeerdeploy.json and parameters.json

Created the Azure Bastion resource (along with the subnet) in the Azure Portal:

* Created after compute resources (test VMs for now)

Created the VPN Gateway in Eus-VNet1 (the “hub”)

* Created after compute resources (test VMs for now)

**Deployment cycle –**

* Deploy East US Template First
* Deploy West US 2 Template Second
* Deploy the Global Peering Templates Third
* Test connectivity between VNets to ensure peering is operational and secure

**End result of the network peering –**

* Local VNet Peering: VNet1 and VNet2 in the East US region can communicate with each other directly due to local peering
* Global VNet Peering: Eus-VNet1 is globally peered with Wus2-VNet1, allowing these two VNets to communicate across regions
* Hub and Spoke network model – use a VPN Gateway to allow Eus-VNet2 to communicate with Wus2-VNet1 using Eus-VNet1 as the “hub” and transit point of the VPN Gateway