



Azure Networking

LinkMeUp #69

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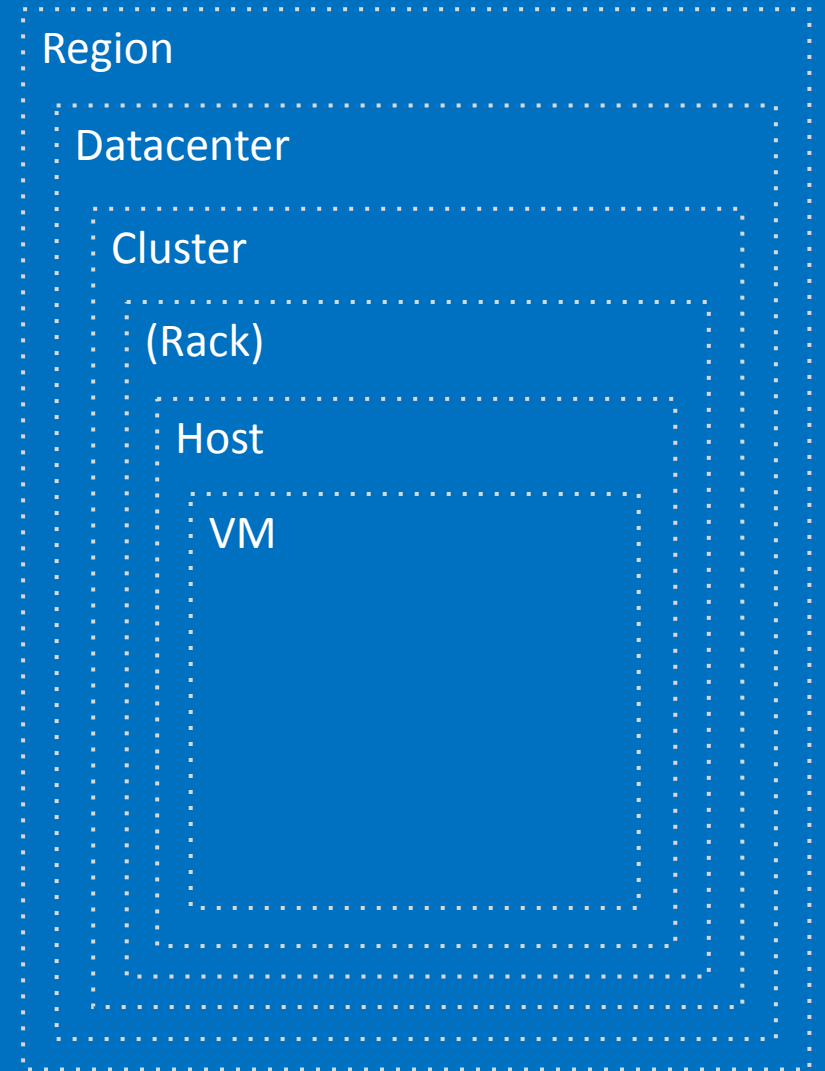
Что такое облако

- SaaS, PaaS, IaaS
- ЦОДы



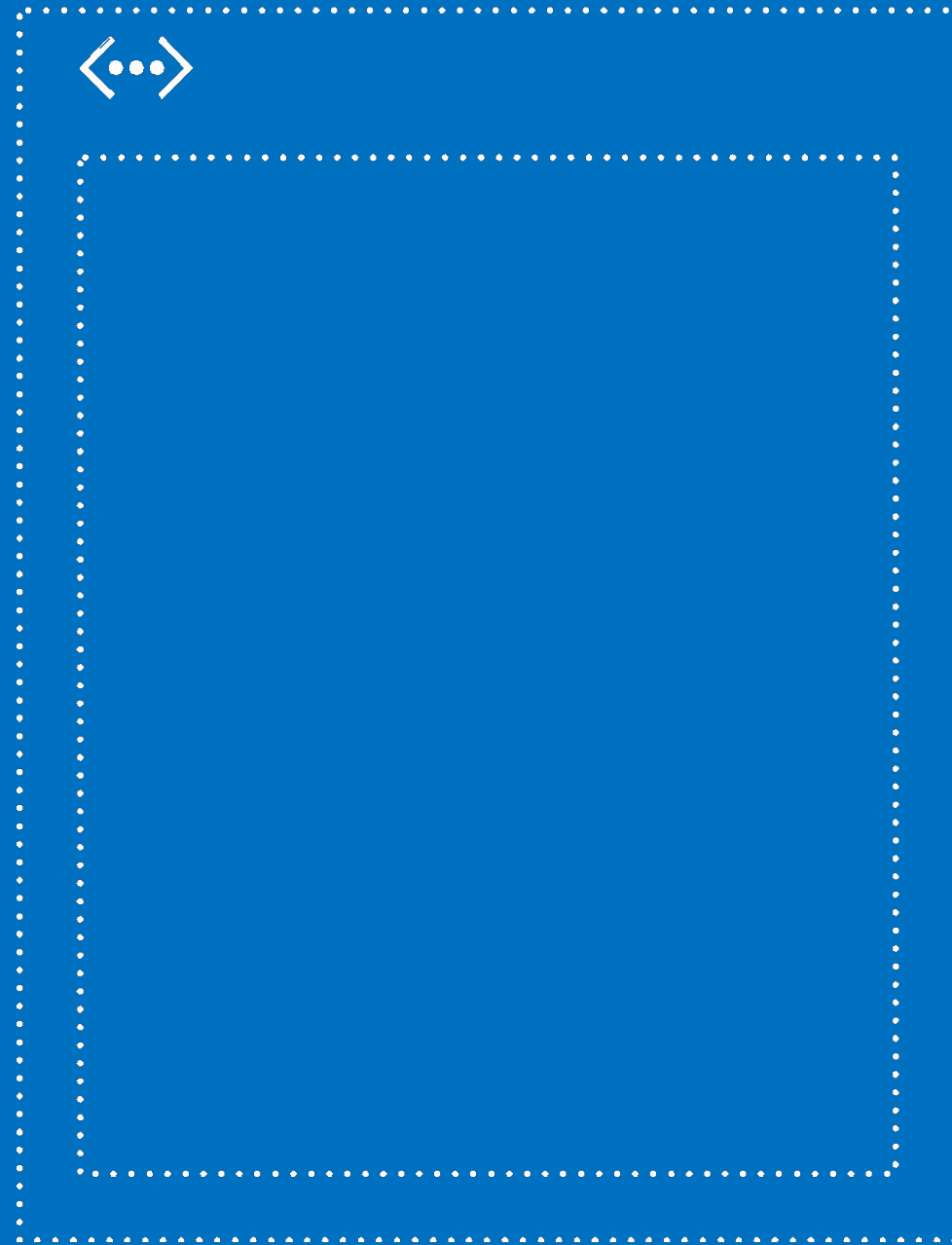
Physical Infrastructure

- Region - Страна, город
- DataCenter (независимое электричество, сеть, охлаждение)
- Cluster (одинаковые серверы Hyper-V, сетевая инфраструктура, отдельные контроллеры)
- (Rack) (разные фазы, TOR switches)
- Host (несколько VM похожего типа, резервное электричество и сеть)
- VM



Vnet (виртуальная сеть)

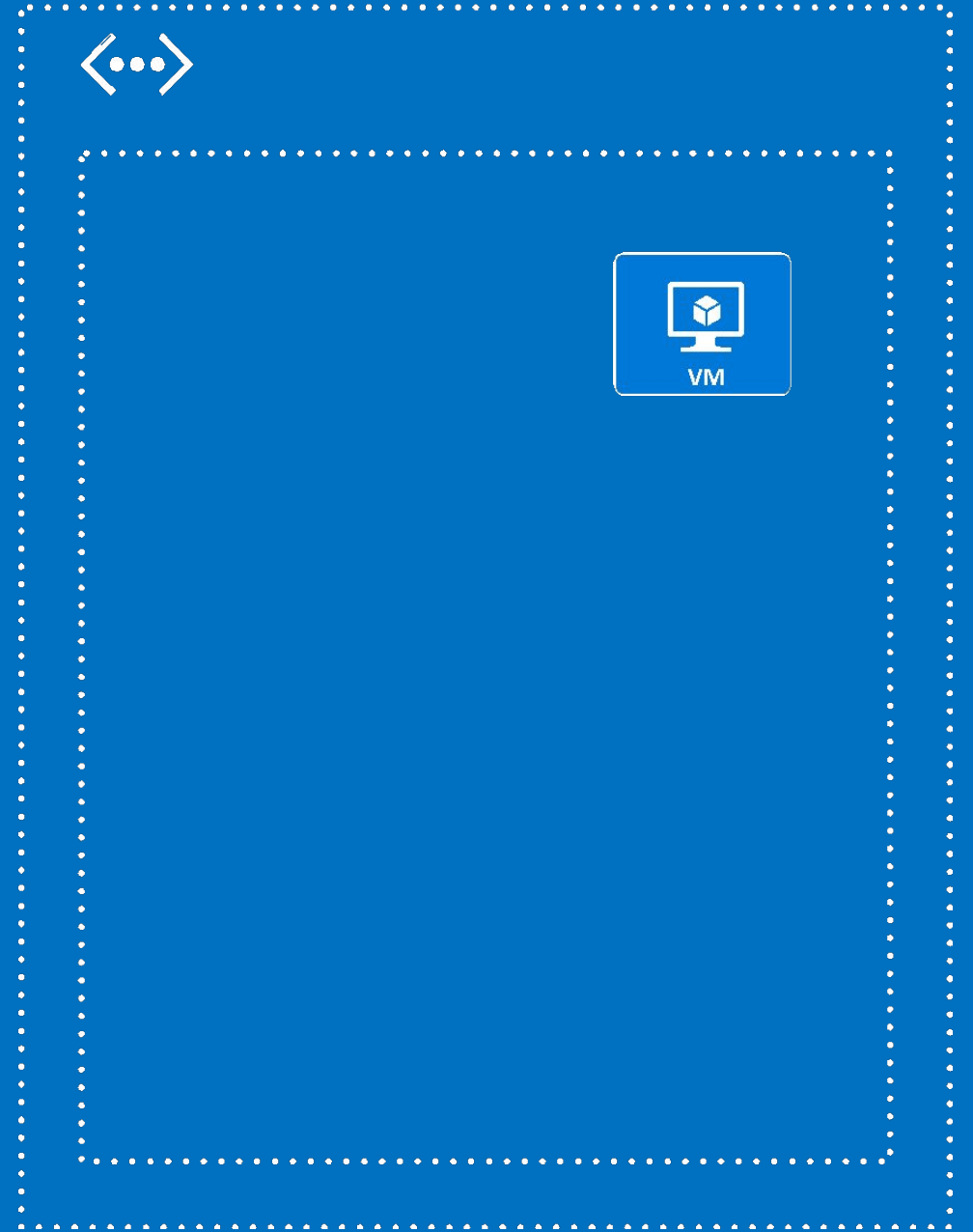
- Region
- Address Space
- Subnets
 - Gateway Subnet



VM

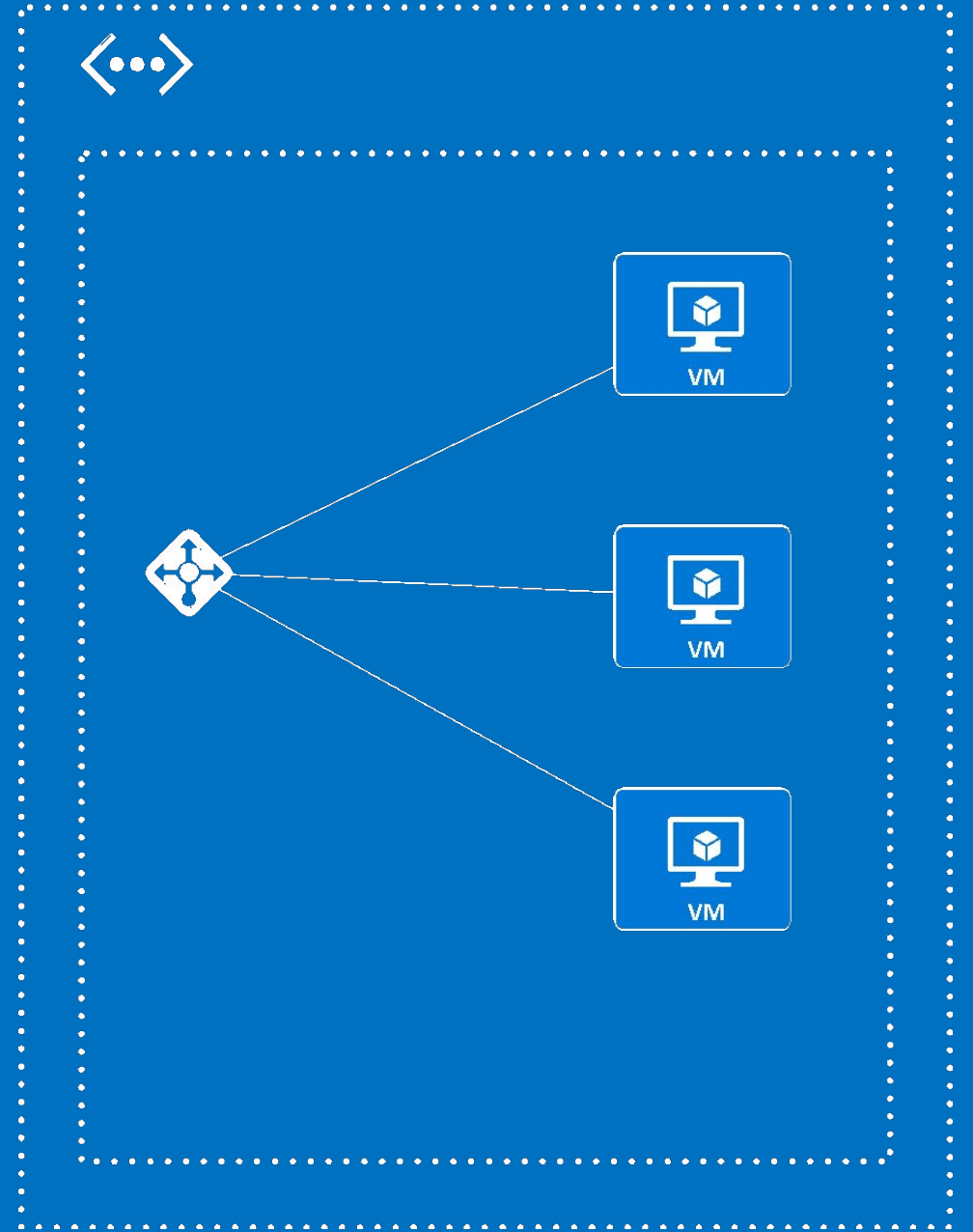
- NIC
- Subnet

- DHCP
- ARP
- Default Gateway
- Broadcast



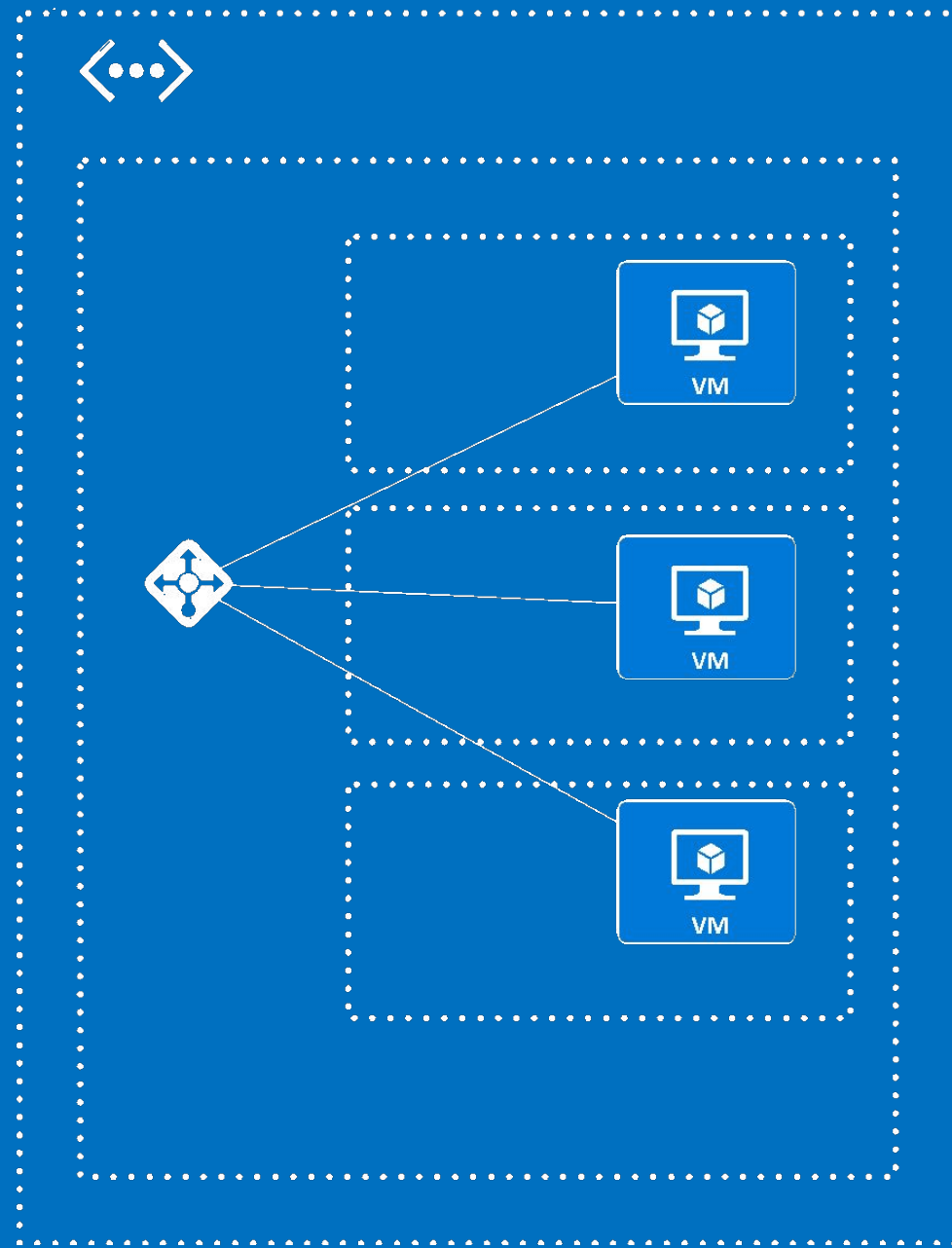
Load Balancer

- FrontEnd
- Backend
- Rules
- Probes



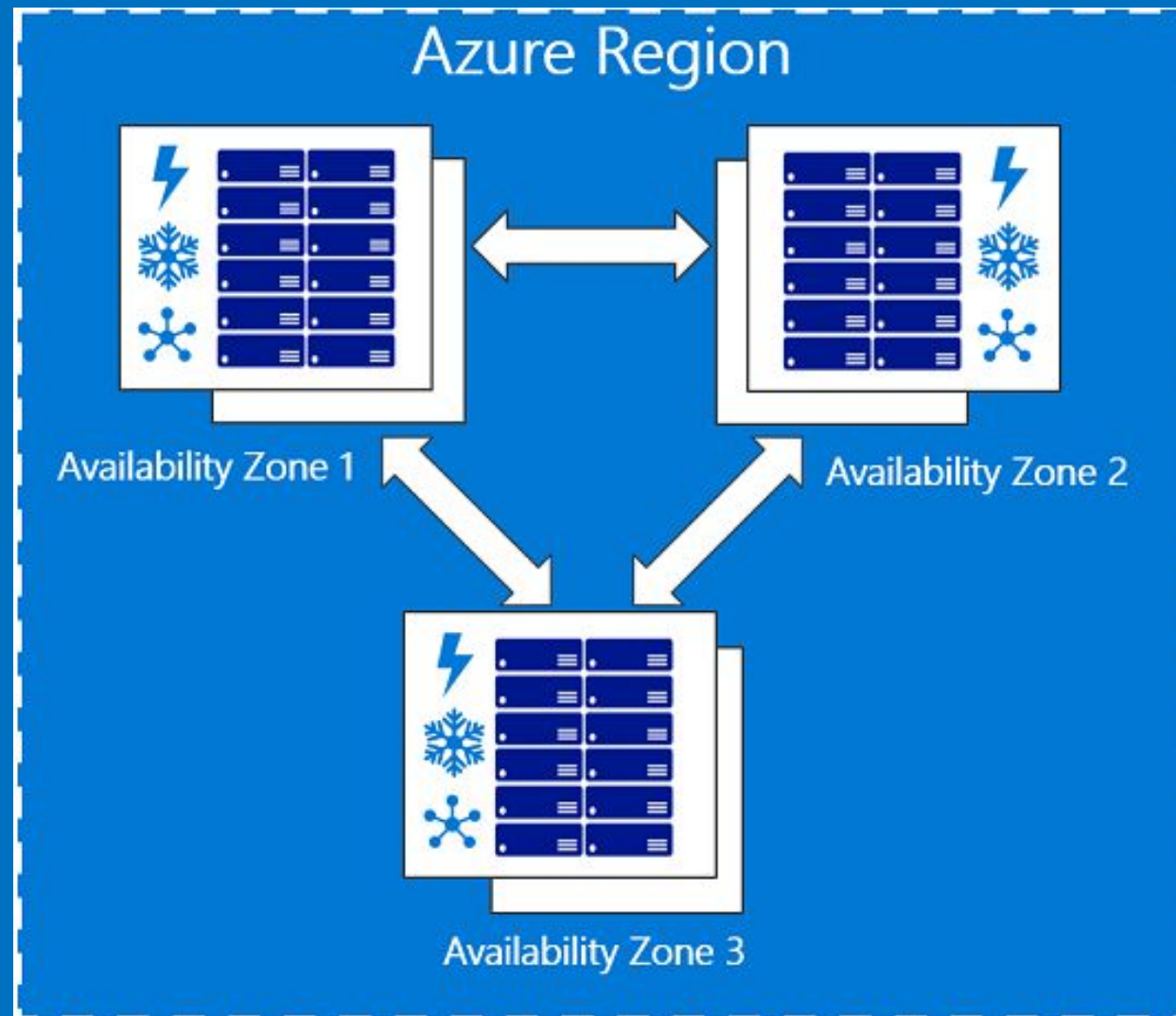
Availability Set

- Update Domain (это про хост!)
- Failure Domain
- SLA 99,95%



Availability Zones

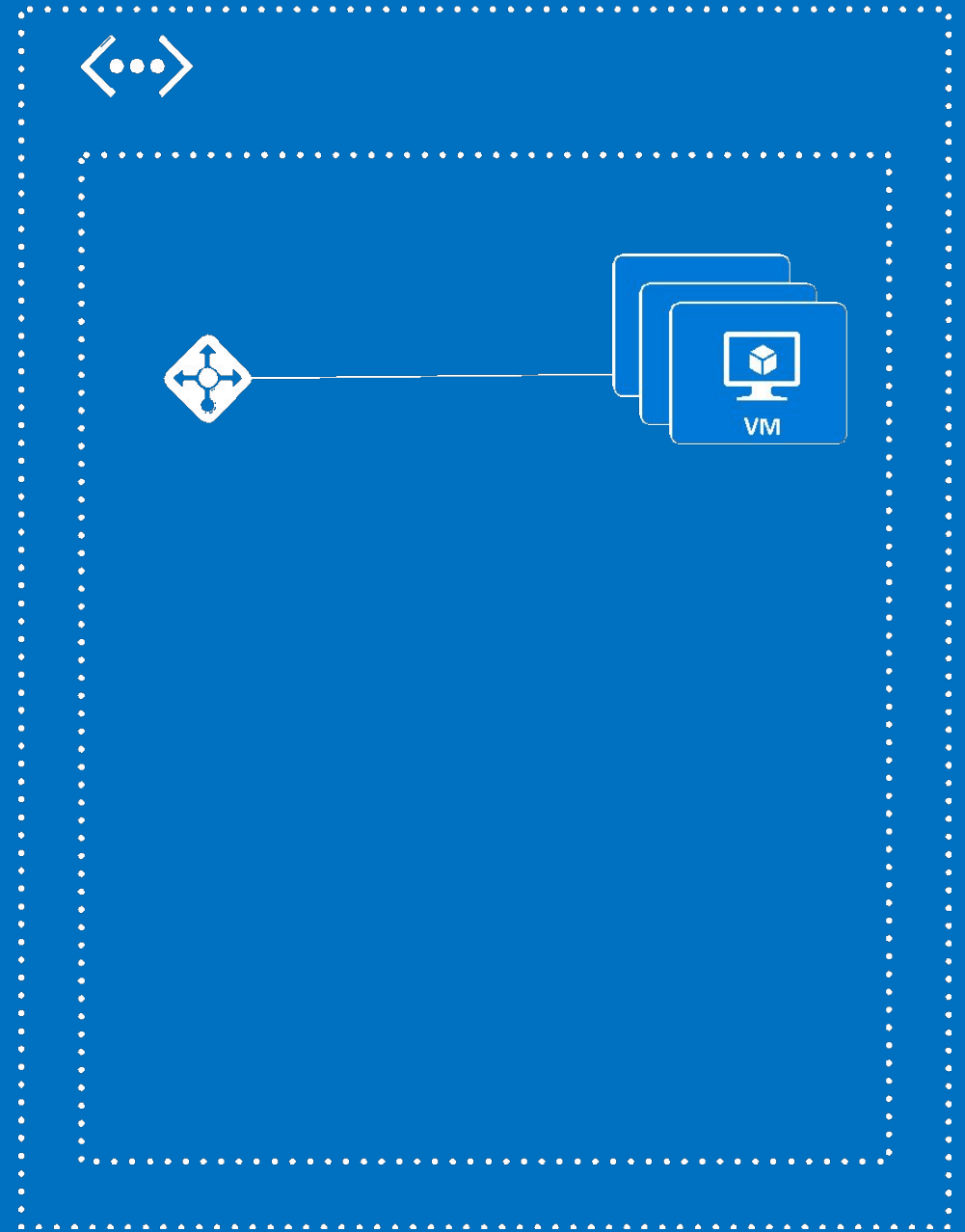
- 100+ км
- Независимое управление
- 3 DC



VM Scale Set

AV-Set + More

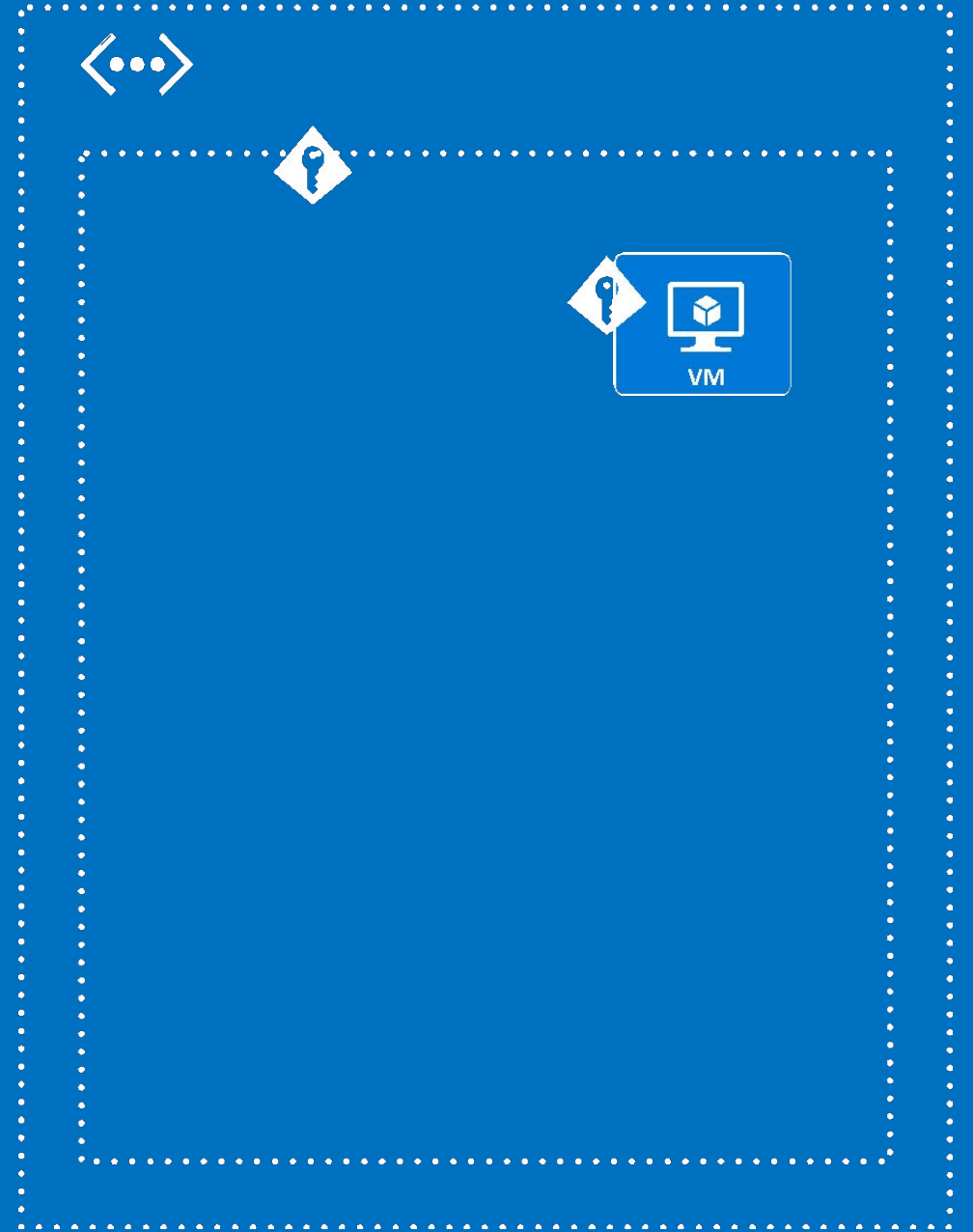
- Развертывание
- Обновление
- Масштабирование
 - До 1000 VM
 - Автоматическое
 - Нагрузка
 - Время
 - Свои правила



NSG

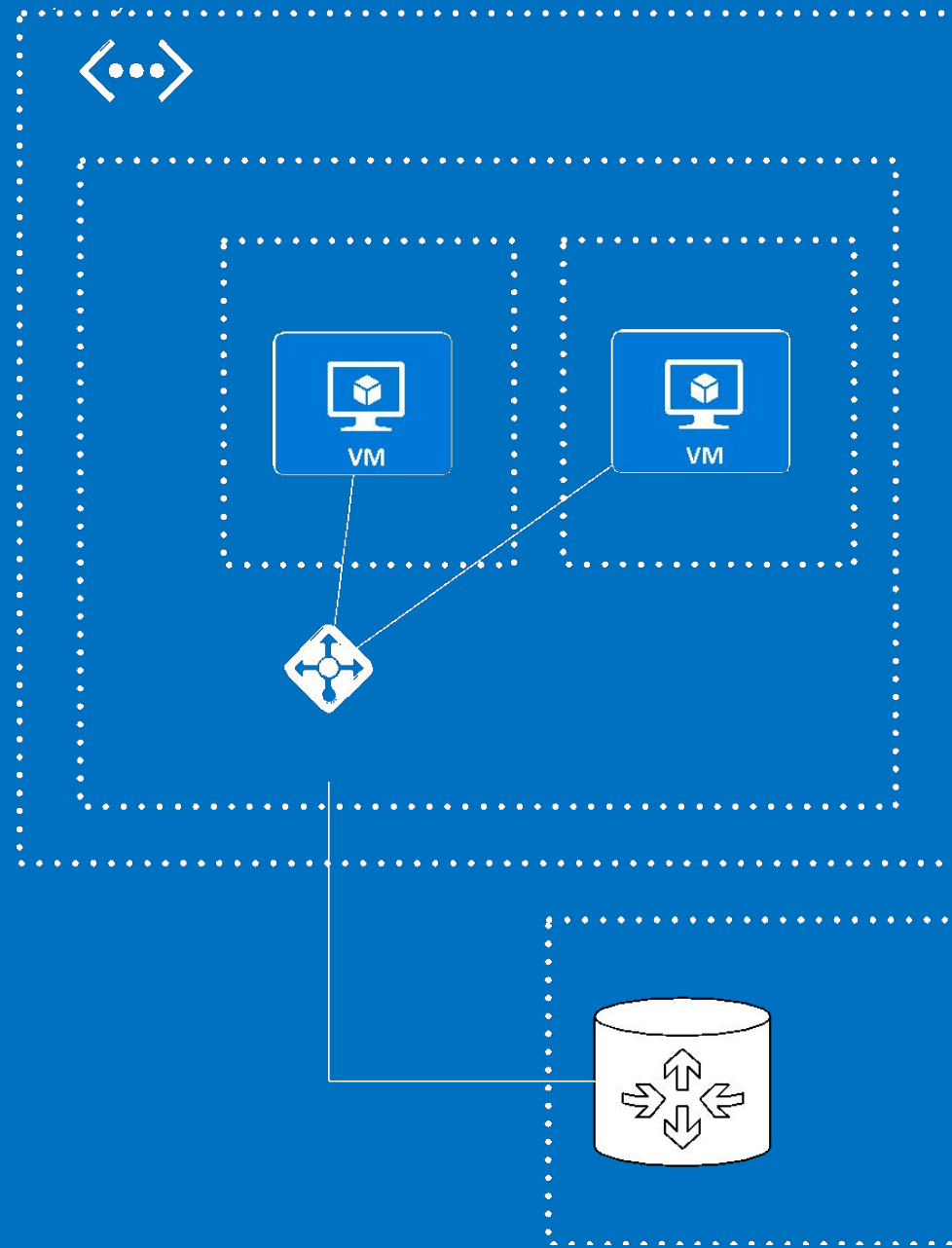
Network Security Groups

- TCP, UDP, ICMP
- Stateful
- Subnet & VM



VPN Gateway

- IPsec
- Site-to-site & Point-to-site
- Специально настроенные, но обычные VM
- BGP
- Active-Active

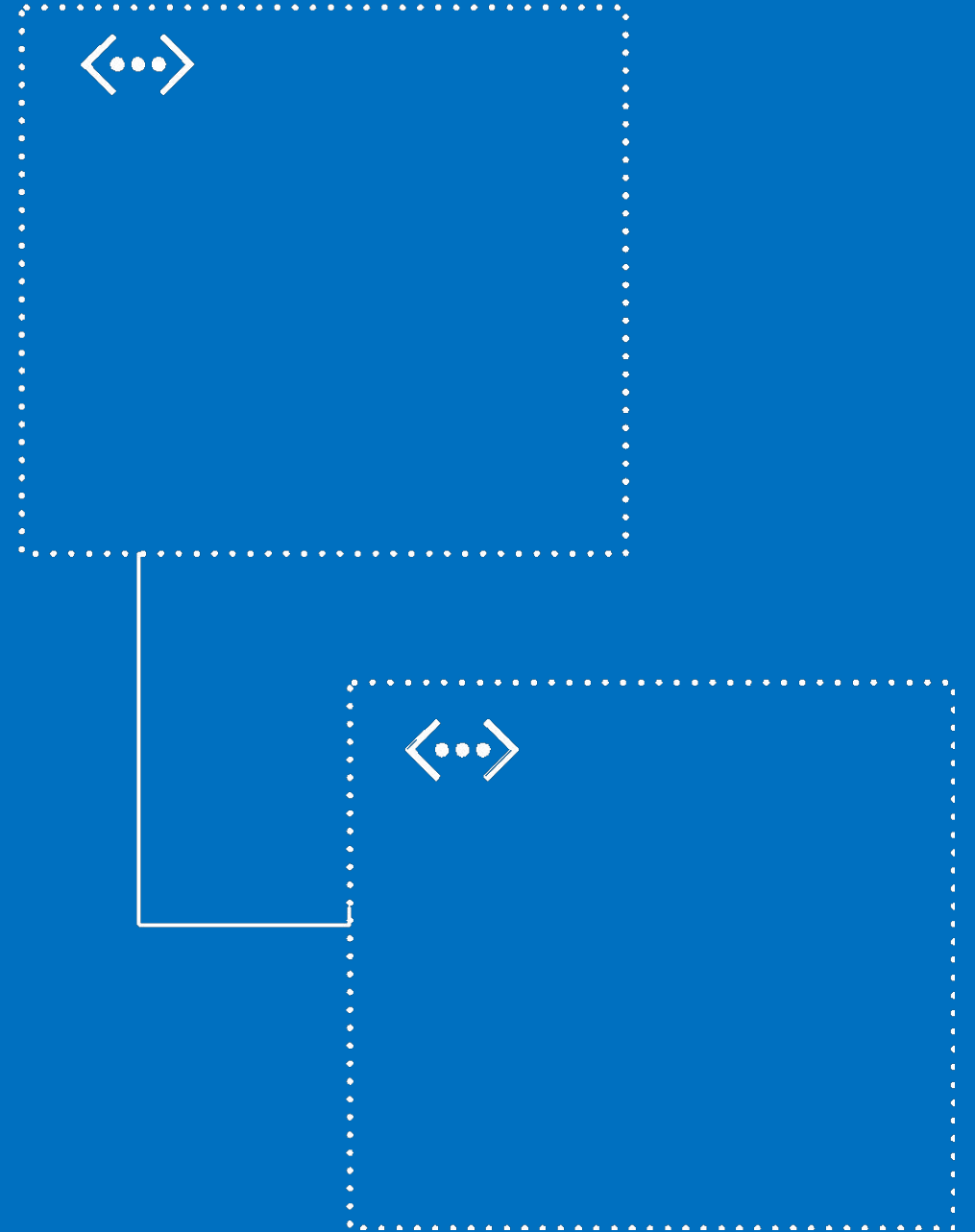


Interconnecting VNets

- Vnet Peering
- VPN

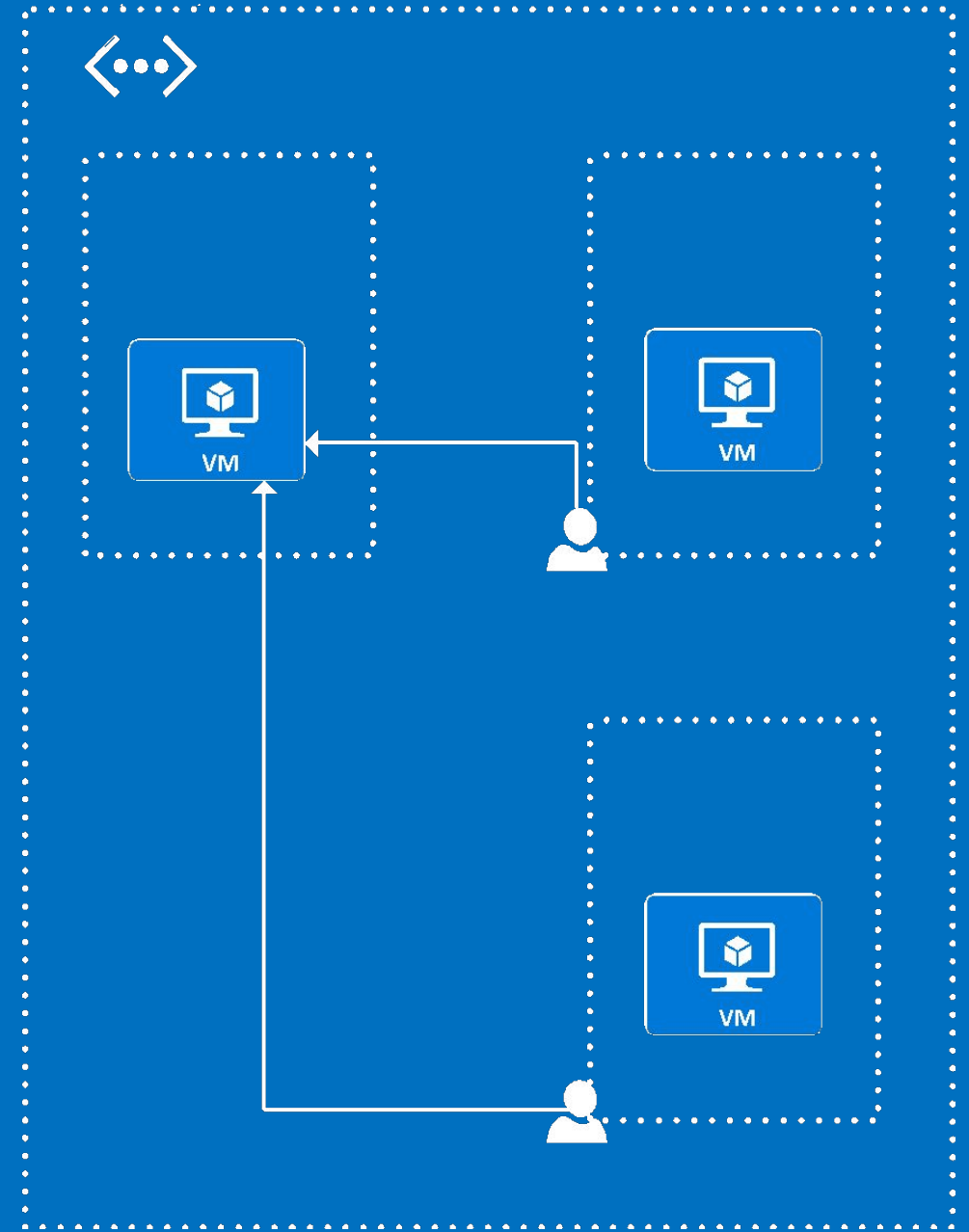
Internal routing

- BGP



NVA & UDR

- Network Virtual Appliance – VM с сетевым функционалом
- User-Defined Routes – переопределение стандартных маршрутов для подсети
- Load Balancer – friendly
- Firewall, VPN Gateway



Управление Azure

- Portal
- PowerShell
- CLI
- REST API
- Шаблоны

Dashboard > Virtual machines

Virtual machines

Microsoft

+ Add ⌚ Reservations ⚙ Edit columns ↻ Refresh

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 2 subscriptions

5 items

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<input type="checkbox"/>	fe1
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<input type="checkbox"/>	fe2
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Search or jump to... Pull requests

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Redmond, WA & the cloud https://docs.microsoft.com/azure

Repositories 1,012 People 1,595 Projects

Pinned repositories

azure-quickstart-templates
Azure Quickstart Templates
Shell ★ 4.3k 🍴 6.3k

azure... .NET L... C#

```
34 New-AzureRmResourceGroup -Name "fe" -Location "West Europe"
35
36 #create Vnet
37 $vnet = New-AzureRmVirtualNetwork -Name "vnet" -ResourceGroup "fe" -AddressPrefix "10.0.0.0/16"
38 $vnet = Get-AzureRmVirtualNetwork -Name "vnet" -ResourceGroup "fe"
39
40
41 #create LBs
42 $l1feip = New-AzureRmLoadBalancerFrontendIpConfiguration -Name "feip" -ResourceGroup "fe" -VirtualNetwork $vnet
43 $l1beAddresspool = New-AzureRmLoadBalancerBackendAddressPool -Name "be" -ResourceGroup "fe" -VirtualNetwork $vnet
44 $l1 = New-AzureRmLoadBalancer -Name "l1" -ResourceGroup "fe" -VirtualNetwork $vnet -BackendAddressPool $l1beAddresspool -FrontendIpConfiguration $l1feip
45
46
47 $l2feip = New-AzureRmLoadBalancerFrontendIpConfiguration -Name "feip" -ResourceGroup "fe" -VirtualNetwork $vnet
48 $l2beAddresspool = New-AzureRmLoadBalancerBackendAddressPool -Name "be" -ResourceGroup "fe" -VirtualNetwork $vnet
49 $l2 = New-AzureRmLoadBalancer -Name "l2" -ResourceGroup "fe" -VirtualNetwork $vnet -BackendAddressPool $l2beAddresspool -FrontendIpConfiguration $l2feip -BackendAddressPool $l2beAddresspool
50
51
52
53 #create VM
54 $nic1 = New-AzureRmNetworkInterface -Name "nic1" -ResourceGroup "fe" -VirtualNetwork $vnet
55 $nic2 = New-AzureRmNetworkInterface -Name "nic2" -ResourceGroup "fe" -VirtualNetwork $vnet
56
```

