如何将同一个云服务下的虚拟机从ASM迁移到ARM上

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适用场景

客户希望将特定云服务下的所有虚拟机从ASM模式迁移到 ARM 模式。

Note:

如果云服务下使用VNET也希望将虚拟机从ASM模式迁移到ARM模式，您可以参考这篇文章：《如何将同一个VNET下的虚拟机从ASM迁移到ARM上》

解决方案

1. 首先，我们登陆到需要迁移的虚拟机所在的订阅下，注册迁移服务：

#登陆到需要迁移的虚拟机所在的订阅下

PS C:\windows\system32> Login-AzureRmAccount –Environment AzureChinaCloud

Environment : AzureChinaCloud

Account : XXX@mcpod.partner.onmschina.cn

TenantId : xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx

SubscriptionId : xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx

SubscriptionName : <订阅名称>

CurrentStorageAccount :

#如果您需要迁移某个特定订阅下的虚拟机，需要手动进行指定

PS C:\windows\system32> Select-AzureRmSubscription –SubscriptionName "<订阅名称>"

#注册迁移服务

PS C:\windows\system32> Register-AzureRmResourceProvider -ProviderNamespace Microsoft.ClassicInfrastructureMigrate

#迁移服务注册一般需要5分钟左右，您可以通过下述命令查看完成情况，

PS C:\windows\system32> Get-AzureRmResourceProvider -ProviderNamespace Microsoft.ClassicInfrastructureMigrate

ProviderNamespace : Microsoft.ClassicInfrastructureMigrate

RegistrationState : Registered

ResourceTypes : {classicInfrastructureResources}

Locations : {China North, China East}

Note:

注册迁移服务为一次性操作，注册完成后以后迁移时无需再次注册，但是如果您在未注册前尝试迁移，会收到报错说该订阅未注册迁移服务

#最后登陆到经典模式中需要迁移的虚拟机所在订阅下

PS C:\windows\system32> Add-AzureAccount -Environment AzureChinaCloud

Id Type Subscriptions Tenants

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XXX@mcpod.partner.onmschina.cn User xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx { xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx }

#如果您需要迁移某个特定订阅下的虚拟机，需要手动进行指定

Select-AzureSubscription –SubscriptionName "<订阅名称>"

1. 检查ARM下您订阅里的配额，确保需要迁移的虚拟机有足够的配额可以使用：

#您可以根据虚拟机所在的区域选择China North或者China East

PS C:\windows\system32> Get-AzureRmVMUsage -Location "China East"

Name Current Value Limit Unit

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Availability Sets 2 2000 Count

Total Regional Cores 39 100 Count

Virtual Machines 17 10000 Count

Virtual Machine Scale Sets 1 2000 Count

Standard Dv2 Family Cores 4 100 Count

Standard FS Family Cores 16 100 Count

Standard A0-A7 Family Cores 11 100 Count

Standard D Family Cores 1 100 Count

Standard Av2 Family Cores 2 100 Count

Standard DSv2 Family Cores 4 100 Count

Standard DS Family Cores 1 100 Count

Basic A Family Cores 0 100 Count

Standard A8-A11 Family Cores 0 100 Count

Standard G Family Cores 0 100 Count

Standard GS Family Cores 0 100 Count

Standard F Family Cores 0 100 Count

Standard NV Family Cores 0 0 Count

Standard NC Family Cores 0 0 Count

Standard H Family Cores 0 0 Count

Standard LS Family Cores 0 100 Count

Standard Dv2 Promo Family Cores 0 100 Count

Standard DSv2 Promo Family Cores 0 100 Count

Standard MS Family Cores 0 0 Count

Standard Dv3 Family Cores 0 100 Count

Standard DSv3 Family Cores 0 100 Count

Standard Ev3 Family Cores 0 100 Count

Standard ESv3 Family Cores 0 100 Count

Standard Storage Managed Disks 0 10000 Count

Premium Storage Managed Disks 0 10000 Count

1. 将同一个云服务下的虚拟机从ASM迁移到ARM上

#查询云服务并找出您想要迁移的云服务，此处以1vnet2cs02为例

PS C:\windows\system32> Get-AzureService|ft Servicename

ServiceName

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1vent2cs04

1vnet2cs01

1vnet2cs02

1vnet2cs03

#获取部署名称

PS C:\windows\system32> $serviceName = "1vnet2cs02"

PS C:\windows\system32> $deployment = Get-AzureDeployment -ServiceName $serviceName

PS C:\windows\system32> $deploymentName = $deployment.DeploymentName

Result : Validation Passed with warnings. Please see ValidationMessages object for a list of resources

that will be migrated and additional detail on the warnings.

ValidationMessages : {test4as, test01, test01, test01...}

选择1：将VM迁移到一个新建的虚拟网络中

#验证云服务

PS C:\windows\system32> Move-AzureService -Validate -ServiceName $serviceName ` -DeploymentName $deploymentName -CreateNewVirtualNetwork

OperationId        : 119a8709-4160-4122-859d-a1bc2dc8c603

Result             : Validation Passed. Please see ValidationMessages object for a list of resources that will be migrated.

ValidationMessages : {cs03, cs03, cs03}

#上述验证通过后接下来执行迁移准备操作

PS C:\windows\system32> Move-AzureService -Prepare -ServiceName $serviceName `

>>     -DeploymentName $deploymentName -CreateNewVirtualNetwork

OperationDescription OperationId                          OperationStatus

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Move-AzureService    7a6931ef-6f42-47dc-8d99-0929fbdc5658 Succeeded

#如果迁移准备步骤操作成功，那么可以执行下述命令来生效迁移操作

PS C:\windows\system32> Move-AzureService -Commit -ServiceName $serviceName -DeploymentName $deploymentName

OperationDescription OperationId                          OperationStatus

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Move-AzureService    e88c11c0-21d4-46c0-abb0-700c324b21ba Succeeded

选择2：将VM迁移到一个已有的虚拟网络中

#准备已有虚拟网络的相关信息

PS C:\windows\system32> $existingVnetRGName = "<虚拟网络所在的资源组名称>"

PS C:\windows\system32> $vnetName = "<虚拟网络名称>"

PS C:\windows\system32> $subnetName = "<子网名称>"

#验证云服务

PS C:\windows\system32> Move-AzureService -Validate -ServiceName $serviceName `

>>     -DeploymentName $deploymentName -UseExistingVirtualNetwork -VirtualNetworkResourceGroupName $existingVnetRGName -VirtualNetworkName $vnetName -SubnetName $subnetName

#上述验证通过后接下来执行迁移准备操作

PS C:\windows\system32> Move-AzureService -Prepare -ServiceName $serviceName -DeploymentName $deploymentName `

>>     -UseExistingVirtualNetwork -VirtualNetworkResourceGroupName $existingVnetRGName `

>>     -VirtualNetworkName $vnetName -SubnetName $subnetName

OperationDescription OperationId                          OperationStatus

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Move-AzureService    9c9e01a6-183e-4884-b51d-04f25112934e Succeeded

#如果迁移准备步骤操作成功，那么可以执行下述命令来生效迁移操作

PS C:\windows\system32> Move-AzureService -Commit -ServiceName $serviceName -DeploymentName $deploymentName

OperationDescription OperationId                          OperationStatus

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Move-AzureService    c803cc0d-1446-4922-bcb1-af1330828c69 Succeeded

1. 迁移虚拟机所在的存储账号

#检查存储账号下是否有未被迁移的虚拟机的VHD存在

PS C:\windows\system32> $storageAccountName ="<存储账号名称>"

PS C:\windows\system32> Get-AzureDisk | where-Object {$\_.MediaLink.Host.Contains($storageAccountName)} | Select-Object -ExpandProperty AttachedTo -Property `

>> DiskName | Format-List -Property RoleName, DiskName

#检查存储账号下是否有已分离的虚拟机磁盘，如有需要进行删除，如果您仍然需要这些磁盘可以将其复制到其他存储账号中

PS C:\windows\system32> Get-AzureDisk | where-Object {$\_.MediaLink.Host.Contains($storageAccountName)} | Where-Object -Property AttachedTo -EQ $null | Format-List

-Property DiskName

DiskName : disktest

#删除磁盘

PS C:\windows\system32> Remove-AzureDisk -DiskName "disktest"

OperationDescription OperationId OperationStatus

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Remove-AzureDisk 9661659d-3bcf-4e6e-bdc4-cce7c8d7a1e0 Succeeded

#删除存储账号中OS盘和数据盘中的虚拟机镜像

PS C:\windows\system32> Get-AzureVmImage | Where-Object { $\_.OSDiskConfiguration.MediaLink -ne $null -and $\_.OSDiskConfiguration.MediaLink.Host.Contains($storageA

ccountName)`

>> } | Select-Object -Property ImageName, ImageLabel

ImageName ImageLabel

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captureTest-20160902-436096

PS C:\windows\system32> Get-AzureVmImage | Where-Object {$\_.DataDiskConfigurations -ne $null `

>> -and ($\_.DataDiskConfigurations | Where-Object {$\_.MediaLink -ne $null -and $\_.MediaLink.Host.Contains($storageAccountName)

}).Count -gt 0 `

>> } | Select-Object -Property ImageName, ImageLabel

PS C:\windows\system32> Remove-AzureVMImage -ImageName "captureTest-20160902-436096"

OperationDescription OperationId OperationStatus

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Remove-AzureVMImage b8f1c164-147a-4d98-9805-432dcd3b7105 Succeeded

#验证存储账号是否符合迁移条件

PS C:\windows\system32> Move-AzureStorageAccount -Validate -StorageAccountName $storageAccountName

OperationId : 68f3501e-f965-4732-aae5-a1da5b58103b

Result : Validation Passed. Please see ValidationMessages object for a list of resources that will be migrated.

ValidationMessages : {<存储账号名称>}

PS C:\windows\system32> $val=Move-AzureStorageAccount -Validate -StorageAccountName $storageAccountName

PS C:\windows\system32> $val.ValidationMessages

ResourceType : Storage

ResourceName : <存储账号名称>

Category : Information

Message : Storage Account tcportalvhdsgrnnb3k173zr is eligible for migration.

VirtualMachineName :

#上述验证通过后接下来执行迁移准备操作

PS C:\windows\system32> Move-AzureStorageAccount -Prepare -StorageAccountName $storageAccountName

OperationDescription OperationId OperationStatus

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Move-AzureStorageAccount 4086a517-a14a-4360-97aa-2714543dd345 Succeeded

#如果在迁移准备操作中出现了报错，或者您想取消本次迁移操作，可以使用下面命令进行取消

PS C:\windows\system32> Move-AzureStorageAccount -Abort -StorageAccountName $storageAccountName

OperationDescription OperationId OperationStatus

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Move-AzureStorageAccount 8473i405-b3fg-7942-345h-8236hdy63i2f Succeeded

#如果迁移准备步骤操作成功，那么可以执行下述命令来生效迁移操作

PS C:\windows\system32> Move-AzureStorageAccount -Commit -StorageAccountName $storageAccountName

OperationDescription OperationId OperationStatus

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Move-AzureStorageAccount cf4e80b3-8e26-4d65-96f2-98dda2266d49 Succeeded