点对多点 VPN----跨账号间虚拟网络的互通实验

2014年6月2日

16:57

Multi-site VPN:

<http://msdn.microsoft.com/en-us/library/azure/dn690124.aspx>

一、网络及地址段规划：

1.1 虚拟网络C1、C2、C3 IP规划：

C1： 192.168.0.1/24

C2： 10.0.1.0/24

C3: 10.32.0.0/24

1.2 网络规划，C1 C2 C3

在订阅1： zhang.lihe@watstest.partner.onmschina.cn：建立虚拟网络 C1和 C2

在订阅2： crane02@crane02zh.partner.onmschina.cn ：建立虚拟网络 C3

在订阅1下创建虚拟网络C1和C2：

创建虚拟网络C1时：虚拟网络名称为C1，Local network 为C2（创建时请选择”指定新的本地网络”选项），创建时本地网络的VPN地址可以任意设为1.1.1.1，虚拟网络创建成功后， 选择创建动态网关，创建完成后，该网关地址显示为：42.159.80.67。

创建虚拟网络C3时：虚拟网络名称为C3，Local network 为C1（创建时请选择”指定新的本地网络”选项），创建时本地网络的VPN地址可以任意设为1.1.1.2，虚拟网络创建成功后， 选择创建动态网关。该网关地址显示为：42.159.153.17。

在订阅2下创建虚拟网络C2：

创建虚拟网络C2时：虚拟网络名称为C2，Local network 为C1（创建时请选择”指定新的本地网络”选项），创建时本地网络的VPN地址可以任意设为1.1.1.3，虚拟网络创建成功后， 选择创建动态网关。该网关地址显示为：42.159.80.150。

C1： 192.168.0.1/24 Gateway：42.159.80.67 ,请注意C1的网关IP地址即为C1作为其它虚拟网络的本地网络的VPN Gateway的IP地址。

C2： 10.0.1.0/24 Gateway: 42.159.153.17，请注意C2的网关IP地址即为C2作为其它虚拟网络的本地网络的VPN Gateway的IP地址。

C3: 10.32.0.0/24 Gateway: 42.159.80.150，请注意C3的网关IP地址即为C3作为其它虚拟网络的本地网络的VPN Gateway的IP地址。

二、导出订阅1的配置文件，修改订阅1的配置文件，导入订阅1的配置文件：

2.1 按照下图点击“导出”，导出配置文件：

Machine generated alternative text:
Windows Azure. 
crane 
4.. 
Zhang.r.he@vvatstest.partner.onmschina.cn 
REST API 0 
Windows PowerSheII cmdlet 
226152 
227236 
342722 
31758 
Created 
42.15980.67 
c31e0417-aed7-46ce-gcf5-S82a681f1982 
gebeccse-8Æ5-4fde-BObO-2ßf5d11 Yau 
BEIJING

2.2 修改配置文件：

2.2.1 修改<Local NetworkSites>部分：

在本地打开配置文件，在配置文件的<Local NetworkSites>下面添加C3网络配置，同时更改所有的GatewayAddress（参见以上C1/C2/C3虚拟网络的网关地址）。

Machine generated alternative text:
rtuaINe tworkConfi gurati 
C Dns 
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name 
-'Address Spac& 
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168 . 
Address Spac& 
159. 80.67 ,'VPNGatewayÄddres» 
CVPNGatewayÄddress 42 . 
c /LocaINetworkSit& 
CLocaINe tworkSi t e 
name 
-'Address Spac& 
CÄddressPrefixAO . O. 
Address Spac& 
159. 153.17 ,'VPNGatewayÄddres» 
CVPNGatewayÄddress 42 . 
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C/ Address Spac& 
CVPNGatewayÄddress 42 . 159. 80 . 150 /VPNGatewayÄddresO 
oca e twcr

2.2.2修改<VirtualNetworkSites>部分：

在本地打开配置文件，继续修改<VirtualNetworkSites>的配置：在虚拟网络C1的配置中增加C1到C3的对应关系：

<LocalNetworkSiteRef name="C3">

<Connection type="IPsec" />

</LocalNetworkSiteRef>

在虚拟网络C3的配置中增加C3到C1的对应关系：

<LocalNetworkSiteRef name="C2">

<Connection type="IPsec" />

</LocalNetworkSiteRef>

如下图所示：

Machine generated alternative text:
irtuaIN e tworkSi tes 
CVirtuaINetwcrkSite 
n arr. e 
-'Address Spac& 
Affinit 
"BEIJING" 
CÄddressPrefixA92 . 168 . O . 
Address Spac& 
Subnet S 
c Subne t name:" GatewaySubnet " 
-'AddressPrefixA92 . 168 . O . 
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ct onsToLocaINe tworo 
CLocaINetworkSiteRef name 
Connection 
c /LocaINetworkSiteReff 
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Connection 
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ress pace 
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Address Spac& 
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c /LocaINetworkSiteReff 
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C/ Gatewa'åD 
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name 
-'Address Spac& 
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c Subnet name:" Subnet—I " 
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2.2.3 保存配置文件。

配置文件参见以下文件：

<<NetworkConfig.xml>>

2.3 按照如下方法导入修改后的配置文件：

Machine generated alternative text:
DNS

三、用同样的方法导出订阅2的配置文件，修改订阅1的配置文件，导入订阅1的配置文件：

修改后的订阅文件为：

<<NetworkConfig (3).xml>>

四、在本地电脑打开Windows Azure Powershell:

导入订阅1和订阅2的配置文件：

PS C:\> Get-AzurePublishSettingsFile -Environment AzureChinaCloud

PS C:\> Import-AzurePublishSettingsFile D:\zhanglihe\CASE\2014063000098\zhang.lihe\免费试用-7-2-2014-credentials.publish

settings

PS C:\> Import-AzurePublishSettingsFile D:\zhanglihe\CASE\2014063000098\crane02\cranetest02-7-2-2014-credentials.publish

settings

Machine generated alternative text:
PS C : NO Get—Azurepub1ishSettingsFi1e -Envi ronment Azurechinacloud 
PS C : Import—Azurepub1ishSettingsFi1e D: Xzhang1iheXCASEX2014063000098Xzhang. 
setti ngs 
ERBOSE: Setting: crane03 as the default and current subscription. To view other subscriptions use 
Get—AzureSubscri pti on 
PS C : Import—Azurepub1ishSettingsFi1e 
setti ngs 
ERBOSE: Setting: crane03 as the default and current subscription. To view other subscriptions use 
Get—AzureSubscri pti on

设置工作模式：

PS C:\> Set-ExecutionPolicy

Machine generated alternative text:
PS C : NO Set-Executionpolicy 
cmdlet Set—Executionp01icy at command pipeline position 2 
Supply values for the followin 
arameters : 
Executionpolicy: remo esngne 
Execution policy Change 
he execution policy helps protect you from scripts that you do not trust. Changing the execution policy might expose 
ou to the security risks described in the about_Execution policies help topic at 
http://go. microsoft.com/fw1ink/?LinkID—135170. Do you want to change the execution policy? 
yes 
CNI No CSI Suspend C? J Help (default is "Y"):

设置当前用户为订阅2：

PS C:\> Select-AzureSubscription -Default

Machine generated alternative text:
PS C: X Select—AzureSubscription -Default 
cmdlet Select—AzureSubscription at command pipeline position 2 
Supply values for the following parameters: 
(Type !? for Help 
Subscripti onName: cranetest02

设置C2到C1的共享秘钥：

PS C:\> Set-AzureVNetGatewaykey -VNetName "C2" -LocalNetworkSiteName "C1" -SharedKey 23456

设置C2到C3的共享秘钥：

PS C:\> Set-AzureVNetGatewaykey -VNetName "C2" -LocalNetworkSiteName "C3" -SharedKey 34576

Machine generated alternative text:
PS C : NO Set—AzureVNetGatewaykey —VNetName "C2" 
—L ocal Networksi teName 
ERBOSE: 15:45:33 - 
Begin Operati on: Set-AzureVNetGatewayKey 
ERBOSE: 15:46:07 
Compl eted Operati on: Set-AzureVNetGatewayKey 
—SharedKey 23456 
Operati onstatus 
Succeeded 
perati onDescri pti on 
Set—AzureVNetGatewayKey 
Operati onld 
2de6b575-e5e1-451a-8bb9-9b19a3677afe 
PS C : NO Set—AzureVNetGatewaykey —VNetName "C2" 
—Local Networksi teName "C3" 
ERBOSE: 15:47 
- Begin Operati on: Set-AzureVNetGatewayKey 
ERBOSE: 15:47:54 - 
Compl eted Operati on: Set-AzureVNetGatewayKey 
—SharedKey 34576 
Operati onstatus 
Succeeded 
perati onDescri pti on 
Set—AzureVNetGatewayKey 
Operati onld 
82706f5b-65a1-4a06-8044-1774de6145b2

设置当前用户为订阅1：

PS C:\> Select-AzureSubscription -Default

Machine generated alternative text:
cmdlet Select—AzureSubscription at command pipeline position 2 
Supply values for the following parameters: 
(Type !? for Help 
Subscri pti onName:

设置C3到C1的共享秘钥：

PS C:\> Set-AzureVNetGatewaykey -VNetName "C3" -LocalNetworkSiteName "C1" -SharedKey 456789

设置C1到C3的共享秘钥：

PS C:\> Set-AzureVNetGatewaykey -VNetName "C1" -LocalNetworkSiteName "C3" -SharedKey 456789

实现C1到C3的互通。

Machine generated alternative text:
PS C : NO Set—AzureVNetGatewaykey —VNetName "C3" 
—Local Networksi teName 
ERBOSE: 16:15:06 - 
Begin Operati on: Set-AzureVNetGatewayKey 
ERBOSE: 16:15:40 - 
Compl eted Operati on: Set-AzureVNetGatewayKey 
—SharedKey 456789 
Operati onstatus 
Succeeded 
perati onDescri pti on 
Set—AzureVNetGatewayKey 
Operati onld 
8ec7 3096-55dO-4c22-b181-47b214a67 a13 
PS C : NO Set—AzureVNetGatewaykey —VNetName "CI' 
—Local Networksi teName "C3" 
ERBOSE: 16:17 - 
Begin Operati on: Set-AzureVNetGatewayKey 
ERBOSE: 16:18:12 - 
Compl eted Operati on: Set-AzureVNetGatewayKey 
—SharedKey 456789 
Operati onstatus 
Succeeded 
perati onDescri pti on 
Set—AzureVNetGatewayKey 
Operati onld 
2092997-b3d6-4f91-9d46-05e877ff9ae8

设置C3到C2的共享秘钥：

PS C:\> Set-AzureVNetGatewaykey -VNetName "C3" -LocalNetworkSiteName "C2" -SharedKey 34576

Machine generated alternative text:
PS C : b Set—AzureVNetGatewaykey —VNetName "C3" 
—L ocal Networksi teName 
ERBOSE: 15:53:47 
- Begin Operati on: Set-AzureVNetGatewayKey 
ERBOSE: 15:54:18 - 
Compl eted Operati on: Set-AzureVNetGatewayKey 
—SharedKey 34576 
Operati onstatus 
perati onDescri pti on 
Set—AzureVNetGatewayKey 
Operati onld 
5c1753c5-b129-4cc9-b4b1-bfb4de135cdO 
Succeeded

设置C1到C2的共享秘钥：

PS C:\> Set-AzureVNetGatewaykey -VNetName "C1" -LocalNetworkSiteName "C2" -SharedKey 23456

Machine generated alternative text:
PS C : NO Set—AzureVNetGatewaykey —VNetName "CI' 
—Local Networksi teName 
ERBOSE: 16:04:43 - 
Begin Operati on: Set-AzureVNetGatewayKey 
ERBOSE: 16:09:21 - 
Compl eted Operati on: Set-AzureVNetGatewayKey 
—SharedKey 23456 
Operationstatus 
perationDescri pti on 
Set—AzureVNetGatewayKey 
Operationld 
469f2818-84e9-4b38-81e3-d38a2cde7e1c 
Succeeded

五、设置成功后C1、C2、C3即可成功互通：

通过以下命令获取网络连接状况;

PS C:\> Get-AzureVNetConnection -VNetName C1

Machine generated alternative text:
ERBOSE : 
ERBOSE : 
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network site 
network site 
changed from Not Connected to Connec 
changed from Not Connected to Connec 
Begin Operati on: Get—AzureVNetConnection 
Completed Operati on: Get—AzureVNetConnecti on 
Connected 
345184 
227912 
2014/7/2 
23401 
The connectivity state for the local 
ted. 
2014/7/2 
e —AzureVNetConnecti on 
37 f228c2-786e-492e-98e1-e5c5deafbe1e 
Succeeded 
Connected 
320320 
229016 
2014/7/2 
23401 
The connectivity state for the local 
ted. 
„'7/2 
e —AzureVNetConnecti on 
37 f228c2-786e-492e-98e1-e5c5deafbe1e 
Succeeded 
EgressBytesTransferred 
IngressBytesTransferred 
L as tconnecti onEs tabl i shed 
L as tEventID 
LastEventMessage 
L as tEventTi mestamp 
L ocal Networksi teName 
perati onDescri pti on 
perati onld 
per ati onstatus 
onnecti vi tyState 
EgressBytesTransferred 
IngressBytesTransferred 
L as tconnecti onEs tabl i shed 
L as tEventID 
LastEventMessage 
L as tEventTi mestamp 
L ocal Networksi teName 
perati onDescri pti on 
perati onld 
per ati onstatus

PS C:\> Get-AzureVNetConnection -VNetName C3

Machine generated alternative text:
ERBOS . 
ERBOSE : 
Get- 
AzureVNetConnection -VNetName C 3 
Netconnecti on 
Completed Operati on: Get—AzureVNetConnecti on 
network site 
network site 
changed from Not Connected to Connec 
changed from Not Connected to Connec 
Connected 
229128 
320384 
2014/7/2 
23401 
The connectivity state for the local 
ted. 
„'7/2 
e —AzureVNetConnecti on 
3bb37265-5d09-4ce7-b93e-ccf2324c5558 
Succeeded 
Connected 
357262 
230056 
2014/7/2 
23401 
The connectivity state for the local 
ted. 
„'7/2 
e —AzureVNetConnecti on 
3bb37265-5d09-4ce7-b93e-ccf2324c5558 
Succeeded 
onnecti vi tyState 
EgressBytesTransferred 
IngressBytesTransferred 
L as tconnecti onEs tabl i shed 
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LastEventMessage 
L as tEventTi mestamp 
L ocal Networksi teName 
perati onDescri pti on 
perati onld 
per ati onstatus 
onnecti vi tyState 
EgressBytesTransferred 
IngressBytesTransferred 
L as tconnecti onEs tabl i shed 
L as tEventID 
LastEventMessage 
L as tEventTi mestamp 
L ocal Networksi teName 
perati onDescri pti on 
perati onld 
per ati onstatus

PS C:\> Get-AzureVNetConnection -VNetName C2

Machine generated alternative text:
PS C : NO Select-Azuresubscription -Default 
cmdlet Select—AzureSubscription at command pipeline position 2 
Supply values for the following parameters: 
(Type !? for Help. 
Subscri 
PS C : Get-AzureVNetConnection -VNetName C2 
ERBOSE : 
ERBOSE: 17:56:00 - 
onnecti vi tyState 
zure Netconnection 
egnn pera on: 
Completed Operati on: Get—AzureVNetConnecti on 
network site 
network site 
changed from Not Connected to Connec 
changed from Not Connected to Connec 
Connected 
228136 
345440 
2014/7/2 
23401 
The connectivity state for the local 
ted. 
„'7/2 
Get—AzureVNetConnecti on 
b3ea3b84-ef9c-47 57-bba5-ea592214d3ab 
Succeeded 
Connected 
230328 
357454 
2014/7/2 
23401 
The connectivity state for the local 
ted. 
„'7/2 
e —AzureVNetConnecti on 
b3ea3b84-ef9c-47 57-bba5-ea592214d3ab 
Succeeded 
EgressBytesTransferred 
IngressBytesTransferred 
L as tconnecti onEs tabl i shed 
L as tEventID 
Las tEventMessage 
L as tEventTi mestamp 
L ocal Networksi teName 
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perati onld 
per ati onstatus 
onnecti vi tyState 
EgressBytesTransferred 
IngressBytesTransferred 
L as tconnecti onEs tabl i shed 
L as tEventID 
Las tEventMessage 
L as tEventTi mestamp 
L ocal Networksi teName 
perati onDescri pti on 
perati onld 
per ati onstatus

六、以上表示网络连接状况良好，在管理portal上查看网络连接状况：

订阅1：

Machine generated alternative text:
Windows Azure. 
crane 
4.. 
Zhang.lihe@n.vatstest.partner.onmschina.cn 
REST API 0 
Windows PowerSheII cmdlet 
228232 
229336 
345504 
320640 
Created 
42.15980.67 
c31e0417-aed7-46ce-gcf5-S82a681f1982 
gebeccse-8Æ5-4fde-BObO-2ßf5d11 Yau 
BEIJING

订阅2：

Machine generated alternative text:
Windows Azure. 
pstos 
c2 
basic I 
bas i Q 
standard 
standard2 
crane02@crane02zh.partner.onmschina.cn 
REST API 
4. 
Windows PowerSheII cmdlet 
345600 
357614 
228296 
230488 
Cre ated 
42.159.153.17 
bf524ß1-d27a-4fd2-8be2-87d7df7ecOee 
fl ec21 a2-fed44 leb-a641-3ag64b I b505d 
cranetest0317 
10.0.14 
10.0.1 
10.0.1 
10.0.1 
.20 
.12 
.28