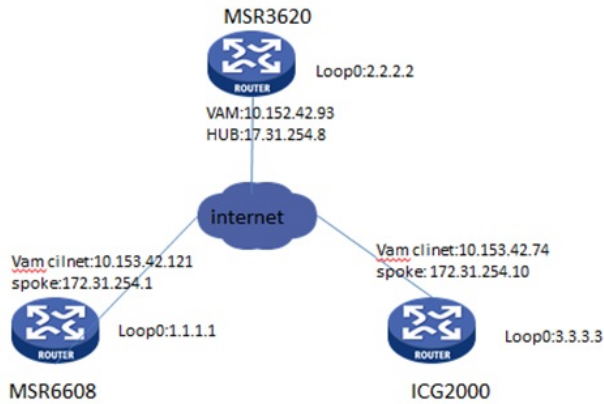


部MSR3620做DVPN HUB和VAM Server，分支点使用Comware v5的SR6608和ICG2000做Spoke和VAM client，Spoke和HUB自动建立VPN，为了数据安全，使用IPSec保护VPN数据流。私网路由通过OSPF自动学习。



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MSR3620配置

#配置接口地址

```
interface LoopBack0
ip address 2.2.2.2 255.255.255.255
#
interface GigabitEthernet0/0
ip address 10.153.42.93 255.255.255.0
```

#配置VAM服务器domain为123，指定hub地址为172.31.254.8，spoke的地址访问为172.31.254.0 172.31.254.255。

```
vam server advpn-domain 123 id 1
pre-shared-key cipher $c$3$pd9mir37LpNvYevgHk+RfUfNRkyoxA==
authentication-method none
server enable
hub-group 0
hub private-address 172.31.254.8
spoke private-address range 172.31.254.0 172.31.254.255
```

#配置vam客户端名称hangzhou，指定注册服务器为10.153.42.93

```
vam client name hangzhou
advpn-domain 123
server primary ip-address 10.153.42.93
pre-shared-key cipher $c$3$BPfl3/wjrPgLJaFNbkaq6bH/CFAAFA==
client enable
```

#配置ospf，使能loop0口和tunnel口。

```
ospf 1
area 0.0.0.0
network 2.2.2.2 0.0.0.0
network 172.31.254.8 0.0.0.0
```

#配置ike密钥链，命名为dvpn

```
ike keychain dvpn
pre-shared-key address 0.0.0.0 0.0.0.0 key cipher $c$3$/BzI9UelR8cTXqq9Azx2DIVDnLcANw==
```

#配置ike profile，关联之前配置的密钥链

```
ike profile dvpn
keychain dvpn
```

#配置IPSec框架

```
ipsec transform-set dvpn
encapsulation-mode transport
esp encryption-algorithm des-cbc
esp authentication-algorithm sha1
#
ipsec profile dvpn isakmp
transform-set dvpn
ike-profile dvpn
```

#配置tunnel口， OSPF网络类型指定p2mp， 关联IPSec策略， 绑定vam client使能兼容模式。

```
interface Tunnel1 mode advpn gre
ip address 172.31.254.8 255.255.255.0
ospf network-type p2mp
source GigabitEthernet0/0
tunnel protection ipsec profile dvpn
vam client hangzhou compatible advpn0
#配置默认路由指向外网网关
ip route-static 0.0.0.0 0.0.0.0 10.153.42.1
```

ICG2000配置

```
#配置互联口地址
interface Ethernet0/0
port link-mode route
ip address 10.153.42.74 255.255.255.0
#
interface LoopBack0
ip address 3.3.3.3 255.255.255.255
#配置vam client， 命名为shanghai， 指定服务器为10.153.42.93， vpn域名称和MSR3620 advpn-domain一致。
vam client name shanghai
client enable
server primary ip-address 10.153.42.93
vpn 123
pre-shared-key simple 123
```

#IPSec相关配置

```
ike peer dvpn
pre-shared-key simple 123
#
ipsec proposal dvpn
encapsulation-mode transport
esp authentication-algorithm sha1
#
ipsec profile dvpn
ike-peer dvpn
proposal dvpn
#配置tunnel口， OSPF网络类型指定p2mp， 关联IPSec策略， 绑定vam client。
interface Tunnel1
ip address 172.31.254.10 255.255.255.0
tunnel-protocol dvpn gre
source Ethernet0/0
ospf network-type p2mp
ipsec profile dvpn
vam client shanghai
#配置OSPF， 使能loop0口和tunnel口。
ospf 1
area 0.0.0.0
network 3.3.3.3 0.0.0.0
network 172.31.254.10 0.0.0.0
#配置指向外网网关的默认路由
ip route-static 0.0.0.0 0.0.0.0 10.153.42.1
```

SR6608配置

```

#配置接口地址
interface LoopBack0
ip address 1.1.1.1 255.255.255.255
#
interface GigabitEthernet0/0/0
ip address 10.153.42.121 255.255.255.0
#配置vam client, 命名为beijing, 指定服务器为10.153.42.93, vpn域名名称和MSR3620 advpn-domain名一致。
vam client name beijing
client enable
server primary ip-address 10.153.42.93
vpn 123
pre-shared-key cipher $c$3$Y24eXo6wWvzRLpL5FBaNUh/ewGcE1Q==

```

#配置IPSec相关配置

```

ike peer vam
pre-shared-key cipher $c$3$cw8tajh6l/67q11FiwF4js4l2cg+7g==
#
ipsec transform-set vam
encapsulation-mode transport
transform esp
esp authentication-algorithm sha1
esp encryption-algorithm des
#
ipsec profile vam
ike-peer vam
transform-set vam
#配置tunnel口, OSPF网络类型指定p2mp, 关联IPSec策略, 绑定vam client。
interface Tunnel1
ip address 172.31.254.1 255.255.255.0
tunnel-protocol dvpn gre
source M-GigabitEthernet0/0/0
ospf network-type p2mp
ipsec profile vam
vam client beijing
#配置OSPF, 使能loop0口和tunnel口。
ospf 1
area 0.0.0.0
network 172.31.254.1 0.0.0.0
network 1.1.1.1 0.0.0.0
#配置指向外网网关的默认路由
ip route-static 0.0.0.0 0.0.0.0 10.153.42.1
#

```

结果验证

```

<MSR3620>disp vam ser add
ADVPN domain name: 123
Total private address mappings: 3

```

| Group | Private address | Public address | Type | NAT | Holding time |
|-------|-----------------|----------------|-------|-----|--------------|
| 0 | 172.31.254.1 | 10.153.42.121 | Spoke | No | 1H 17M 48S |
| 0 | 172.31.254.8 | 10.153.42.93 | Hub | No | 1H 23M 12S |
| 0 | 172.31.254.10 | 10.153.42.74 | Spoke | No | 1H 22M 53S |

```

<H3C>ping -a 2.2.2.2 1.1.1.1
Ping 1.1.1.1 (1.1.1.1) from 2.2.2.2: 56 data bytes, press CTRL_C to break
56 bytes from 1.1.1.1: icmp_seq=0 ttl=255 time=0.528 ms
56 bytes from 1.1.1.1: icmp_seq=1 ttl=255 time=0.452 ms
56 bytes from 1.1.1.1: icmp_seq=2 ttl=255 time=0.456 ms
56 bytes from 1.1.1.1: icmp_seq=3 ttl=255 time=0.412 ms
56 bytes from 1.1.1.1: icmp_seq=4 ttl=255 time=0.423 ms

```

```

--- Ping statistics for 1.1.1.1 ---
5 packets transmitted, 5 packets received, 0.0% packet loss
round-trip min/avg/max/std-dev = 0.412/0.454/0.528/0.041 ms
<H3C>ping -a 2.2.2.2 3.3.3.3

```

```
Ping 3.3.3.3 (3.3.3.3) from 2.2.2.2: 56 data bytes, press CTRL_C to break
56 bytes from 3.3.3.3: icmp_seq=0 ttl=255 time=1.978 ms
56 bytes from 3.3.3.3: icmp_seq=1 ttl=255 time=1.945 ms
56 bytes from 3.3.3.3: icmp_seq=2 ttl=255 time=1.884 ms
56 bytes from 3.3.3.3: icmp_seq=3 ttl=255 time=2.221 ms
56 bytes from 3.3.3.3: icmp_seq=4 ttl=255 time=2.198 ms
```

```
--- Ping statistics for 3.3.3.3 ---
```

```
5 packets transmitted, 5 packets received, 0.0% packet loss
round-trip min/avg/max/std-dev = 1.884/2.045/2.221/0.138 ms
```

1、MSR G2和V5设备建立DVPN时tunnel绑定vam client时必须使用 compatible advpn0, 必然建立失败, debug可以看到如下提示。

```
<MSR3620>debugging advpn all
```

```
*Jan 17 18:10:25:657 2015 H3C ADVPN/7/EVENT: Compatibility was not configured.
```

2、MSR G2的advpn-domain名称和V5 VAM client下配置了VPN域名保证一致。