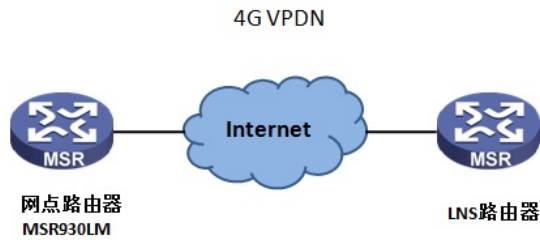


- 1、MSR930LM做网点路由器与总部进行互通;
- 2、MSR930LM通过内置4G modem, 插4G SIM卡, 拨VPDN。



由于速率限制, PPP拨号无法达到4G的速率, 所以, 4G接口默认均为Ethernet拨号模式, 本文则以MSR930LM的内置4G modem为例, 讲解4G VPDN的配置方法。

配置拨号访问组1以及对应的拨号访问控制条件。

```
[H3C] dialer-rule 1 ip permit
```

配置ACL, 匹配内网用户地址

```
[H3C] acl number 3000
```

```
[H3C-acl-adv-3000] rule 0 permit ip source 192.168.1.0 0.0.0.255
```

#通过display current-configuration, 可以看出该内置modem对应的接口为interface Cellular-Ethernet1/0, 如下:

```
#
```

```
interface GigabitEthernet0/3
```

```
port link-mode bridge
```

```
#
```

```
interface GigabitEthernet0/4
```

```
port link-mode bridge
```

```
#
```

```
interface Cellular-Ethernet1/0
```

```
#
```

#进入到该接口, 配置4G拨号接口, 使能传统DDR, 将接口加入拨号访问组1、配置DDR可以进行下一次呼叫的间隔时间为60秒, 根据运营商设置拨号串, 此处采用联通, 设置拨号串为*99#, 并开启接口NAT, 匹配内网ACL 3000:

```
[H3C] interface Cellular-Ethernet 1/0
```

```
[H3C-Cellular-Ethernet1/0] ip address cellular-allocated
```

```
[H3C-Cellular-Ethernet1/0] dialer enable-circular
```

```
[H3C-Cellular-Ethernet1/0] dialer-group 1
```

```
[H3C-Cellular-Ethernet1/0] dialer timer idle 0
```

```
[H3C-Cellular-Ethernet1/0] dialer timer autodial 60
```

```
[H3C-Cellular-Ethernet1/0] dialer number *99# autodial
```

```
[H3C-Cellular-Ethernet1/0] nat outbound 3000
```

#由于拨号口采用的是Ethernet模式, 无法在接口上直接配置PPP的验证方式及用户名密码, 所以在4G做VPDN拨号, 需要在APN中进行配置。

根据提供的VPDN APN接入点以及用户名密码, 然后手动添加APN节点并设置用户名密码及验证方式, 举例:

用户的APN接入点为cb.jsapn, 用户名为jkn@cb.jsapn, 密码为jsapn, 验证方式为pap, 配置时需要在接口下配置:

```
[H3C-Cellular-Ethernet1/0] profile create 1 static cb.jsapn authentication-mode pap user jkn@cb.jsapn password jsapn
```

#配置完成之后, 添加一条路由, 指向4G出接口。

```
[H3C] ip route-static 0.0.0.0 0 Cellular-Ethernet 1/0
```

#查看拨号成功后, 获取到的IP地址, 如下:

[H3C]display ip interface brief

*down: administratively down

(s): spoofing (!): loopback

Interface	Physical	Protocol	IP Address	Description
Aux0	up	up	--	--
Cellular0/0	down	up(s)	--	--
CE1/0	up	up(s)	214.224.255.133	--
GE0/0	down	down	--	--
Vlan1	down	down	192.168.1.1	--

#通过ping LNS侧地址，测试VPDN链路是否连通正常：

[H3C] ping 214.224.255.254

```
PING 214.224.255.254: 56 data bytes, press CTRL_C to break
  Reply from 214.224.255.254: bytes=56 Sequence=0 ttl=255 time=1841 ms
  Reply from 214.224.255.254: bytes=56 Sequence=1 ttl=255 time=56 ms
  Reply from 214.224.255.254: bytes=56 Sequence=2 ttl=255 time=60 ms
  Reply from 214.224.255.254: bytes=56 Sequence=3 ttl=255 time=60 ms
  Reply from 214.224.255.254: bytes=56 Sequence=4 ttl=255 time=60 ms
```

--- 214.224.255.254 ping statistics ---

```
 5 packet(s) transmitted
 5 packet(s) received
 0.00% packet loss
 round-trip min/avg/max = 56/415/1841 ms
```

#此时使用display Cellular0/0，可以看到拨号信息如下：

[H3C]display cellular-ethernet 1/0 all

Modem State:

Hardware Information

=====

```
Model = DM11-2
Manufacturer = Wistron NeWeb Corp.
Modem Firmware Version = DM11-2-M9615A-CETWTBZM-6.0.15216-4.5
International Mobile Equipment Identity (IMEI) = 863798029031619
International Mobile Subscriber Identity (IMSI) = 460015123708415
Hardware Version = 20004
Modem Status = Online
```

Profile Information

=====

```
Profile index = 1
PDP Type = IPv4v6, Header Compression = OFF
Data Compression = OFF
Access Point Name (APN) = cb.jsapn //此处可以看到手工添加的APN接入点
Authentication = PAP //设备使用的验证方式为PAP
Username = jkn@cb.jsapn //PAP验证所使用的用户名
* - Default profile
```

Network Information

=====

```
Current Service Status = Service Available
Registration Status = Registered
Current Service = Combined
Current Roaming Status = Home
Current Data Bearer Technology = UMTS
Network Selection Mode = Automatic
Mobile Country Code (MCC) = 460
Mobile Network Code (MNC) = 01
Location Area Code (LAC) = 54020
Cell ID = 117737919
```

Radio Information

=====

```
Technology Preference = No preference specified (AUTO)
```

Technology Selected = UMTS

WCDMA related info

Current RSSI = -50 dBm

Current ECIO = -2 dBm

Modem Security Information

=====

PIN Verification = Disabled

PIN Status = PIN Requirement Disabled

Number of PIN Retries Remaining = 3

Number of PUK Retries Remaining = 10

SIM Status = OK

- 1、联通移动和电信的拨号串不一致，如果是联通移动，拨号串采用*99#，电信的拨号串为#777
- 2、在4G拨号中拨号串并无太大意义，但是为了防止因信号不好，存在有4G、3G切换，还是建议添加上传统的拨号串；
- 3、配置完成之后，切记添加一条路由，出接口设置为cellular-ethernet 1/0；
- 4、VPDN组网一定要手动添加APN接入点，并在profile中设置验证方式和用户名密码。