

知 S5500与思科3750对接IBGP典型组网配置案例

BGP 韦家宁 2020-04-01 发表

组网及说明



组网说明:

在日常项目实施过程中，经常遇到不同厂商设备的互联，因此本案例使用H3C S5500交换机与思科3750交换机对接IBGP路由协议。

IP地址规划表如下:

设备名称	端口	IP地址	子网掩码	备注
S5500	Gi 1/0/1	10.0.0.1	30	
	Loopback 0	1.1.1.1	32	
Cisco3750	Gi 1/0/1	10.0.0.2	30	
	Loopback 0	2.2.2.2	32	

H3C S5500版本信息如下:

```
<H3C>dis version
H3C Comware Platform Software
Comware Software, Version 5.20, Release 5206
Copyright (c) 2004-2013 Hangzhou H3C Tech. Co., Ltd. All rights reserved.
H3C S5500-58C-HI uptime is 0 week, 0 day, 0 hour, 10 minutes
```

H3C S5500-58C-HI with 2 Processors

1024M bytes SDRAM
4096K bytes Nor Flash Memory

512M bytes Nand Flash Memory

Hardware Version is REV.C
CPLD Version is 003
Bootrom Version is 211
[SubSlot 0] 48GE+4SFP+2SFP PLUS Hardware Version is REV.C

<H3C>

思科3750版本信息如下:

```
Switch#sh version
Cisco IOS Software, C3750 Software (C3750-IPSERVICES-M), Version 12.2(35)SE5, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Thu 19-Jul-07 19:15 by nachen
Image text-base: 0x00003000, data-base: 0x01280000
```

ROM: Bootstrap program is C3750 boot loader

BOOTLDR: C3750 Boot Loader (C3750-HBOOT-M) Version 12.2(25r)SEE4, RELEASE SOFTWARE (fc1)

Switch uptime is 8 minutes

System returned to ROM by power-on

System image file is "flash:c3750-ipservices-mz.122-35.SE5/c3750-i

00:08:14: %LINK-5-CHANGED: Interface Vlan1, changed state to administratively down
services-mz.122-35.SE5.bin"

cisco WS-C3750G-48TS (PowerPC405) processor (revision H0) with 118784K/12280K bytes of memory.

Processor board ID FOC1446Y09V

Last reset from power-on

1 Virtual Ethernet interface

52 Gigabit Ethernet interfaces

The password-recovery mechanism is enabled.

512K bytes of flash-simulated non-volatile configuration memory.

Base ethernet MAC Address : F0:25:72:81:F3:00

Motherboard assembly number : 73-10218-10

Power supply part number : 341-0107-01

Motherboard serial number : FOC14453BA2

Power supply serial number : AZS143207R7

Model revision number : H0

Motherboard revision number : A0

Model number : WS-C3750G-48TS-E

System serial number : FOC1446Y09V

Top Assembly Part Number : 800-27483-05

Top Assembly Revision Number : D0

Version ID : V07

CLEI Code Number : CMMAN00ARA

Hardware Board Revision Number : 0x09

Switch	Ports	Model	SW Version	SW Image
* 1	52	WS-C3750G-48TS	12.2(35)SE5	C3750-IPSERVICES-M

Configuration register is 0xF

Switch#

配置步骤

H3C S5500配置如下:

```
<H3C>sys
```

```
System View: return to User View with Ctrl+Z.
```

```
[H3C]sysname S5500
```

```
[S5500]int loopback 0
```

```
[S5500-LoopBack0]ip address 1.1.1.1 32
```

```
[S5500-LoopBack0]quit
```

```
[S5500]int GigabitEthernet 1/0/1
```

```
[S5500-GigabitEthernet1/0/1]port link-mode route
```

```
[S5500-GigabitEthernet1/0/1]des <connect to cisco3750>
```

```
[S5500-GigabitEthernet1/0/1]ip address 10.0.0.1 30
```

```
[S5500-GigabitEthernet1/0/1]quit
```

```
[S5500]ospf 1 router-id 1.1.1.1
```

```
[S5500-ospf-1]area 0.0.0.0
```

```
[S5500-ospf-1-area-0.0.0.0]network 10.0.0.1 0.0.0.0
```

```
[S5500-ospf-1-area-0.0.0.0]network 1.1.1.1 0.0.0.0
```

```
[S5500-ospf-1-area-0.0.0.0]quit
```

```
[S5500-ospf-1]quit
```

```
[S5500]bgp 100
```

```
[S5500-bgp]router-id 1.1.1.1
```

```
[S5500-bgp]peer 2.2.2.2 as-number 100
```

```
[S5500-bgp]peer 2.2.2.2 connect-interface LoopBack 0
```

```
[S5500-bgp]quit
```

思科3750配置如下:

```
Switch>ena
```

```
Switch#conf t
```

```
Enter configuration commands, one per line. End with CNTL/Z.
```

```

Switch(config)#hos cisco3750
cisco3750(config)#ip routing
cisco3750(config)#int gi 1/0/1
cisco3750(config-if)#no switchport
cisco3750(config-if)#des <connect to S5500>
cisco3750(config-if)#ip address 10.0.0.2 255.255.255.252
cisco3750(config-if)#no shutdown
cisco3750(config-if)#exit
cisco3750(config)#int loopback 0
cisco3750(config-if)#ip address 2.2.2.2 255.255.255.255
cisco3750(config-if)#no shutdown
cisco3750(config-if)#exit
cisco3750(config)#router ospf 1
cisco3750(config-router)#router-id 2.2.2.2
cisco3750(config-router)#network 10.0.0.2 0.0.0.0 area 0
cisco3750(config-router)#network 2.2.2.2 0.0.0.0 area 0
cisco3750(config-router)#exit
cisco3750(config)#router bgp 100
cisco3750(config-router)#bgp router-id 2.2.2.2
cisco3750(config-router)#neighbor 1.1.1.1 remote-as 100
cisco3750(config-router)#address-family ipv4 unicast
cisco3750(config-router-af)#neighbor 1.1.1.1 activate
cisco3750(config-router-af)#exit
cisco3750(config-router)#exit

```

查看S5500的BGP邻居信息:

```
[S5500]dis bgp peer
```

```

BGP local router ID : 1.1.1.1
Local AS number : 100
Total number of peers : 1          Peers in established state : 1

```

Peer	AS	MsgRcvd	MsgSent	OutQ	PrefRcv	Up/Down	State
2.2.2.2	100	3	2	0	0	00:00:51	Established

查看思科3750的BGP邻居信息:

```
cisco3750#sh ip bgp neighbors
```

```

BGP neighbor is 1.1.1.1, remote AS 100, internal link
BGP version 4, remote router ID 1.1.1.1
BGP state = Established, up for 00:01:46
Last read 00:00:31, last write 00:00:45, hold time is 180, keepalive interval is 60 seconds
Neighbor capabilities:

```

```

Route refresh: advertised and received(new)
Address family IPv4 Unicast: advertised and received

```

Message statistics:

```

InQ depth is 0
OutQ depth is 0

```

	Sent	Rcvd
Opens:	1	1
Notifications:	0	0
Updates:	0	0
Keepalives:	3	2
Route Refresh:	0	0
Total:	4	3

Default minimum time between advertisement runs is 0 seconds

For address family: IPv4 Unicast

BGP table version 1, neighbor version 1/0

Output queue size : 0

Index 1, Offset 0, Mask 0x2

1 update-group member

	Sent	Rcvd
Prefix activity:	----	----

```
Prefixes Current:      0    0
Prefixes Total:       0    0
Implicit Withdraw:    0    0
Explicit Withdraw:    0    0
Used as bestpath:    n/a   0
Used as multipath:    n/a   0
```

```
                Outbound  Inbound
Local Policy Denied Prefixes:  -----  -----
Total:                0    0
Number of NLRIs in the update sent: max 0, min 0
```

Connections established 1; dropped 0

Last reset never

Connection state is ESTAB, I/O status: 1, unread input bytes: 0

Minimum incoming TTL 0, Outgoing TTL 255

Local host: 2.2.2.2, Local port: 179

Foreign host: 1.1.1.1, Foreign port: 4554

Enqueued packets for retransmit: 0, input: 0 mis-ordered: 0 (0 bytes)

Event Timers (current time is 0x25CC39):

Timer	Starts	Wakeups	Next
Retrans	4	0	0x0
TimeWait	0	0	0x0
AckHold	3	1	0x0
SendWnd	0	0	0x0
KeepAlive	0	0	0x0
GiveUp	0	0	0x0
PmtuAger	0	0	0x0
DeadWait	0	0	0x0

iss: 1010388765 snduna: 1010388868 sndnxt: 1010388868 sndwnd: 65535

irs: 443003688 rcvnxt: 443003772 rcvwnd: 16301 delrcwnd: 83

SRTT: 124 ms, RTTO: 1405 ms, RTV: 1281 ms, KRTT: 0 ms

minRTT: 0 ms, maxRTT: 300 ms, ACK hold: 200 ms

Flags: passive open, nagle, gen tcbs

Datagrams (max data segment is 536 bytes):

Rcvd: 18 (out of order: 0), with data: 3, total data bytes: 83

Sent: 16 (retransmit: 0), with data: 3, total data bytes: 102

cisco3750#

从建立的邻居的情况来看，S5500与思科3750对接IBGP已完成！

至此，H3C S5500与思科3750对接IBGP典型组网配置案例已完成！

配置关键点