

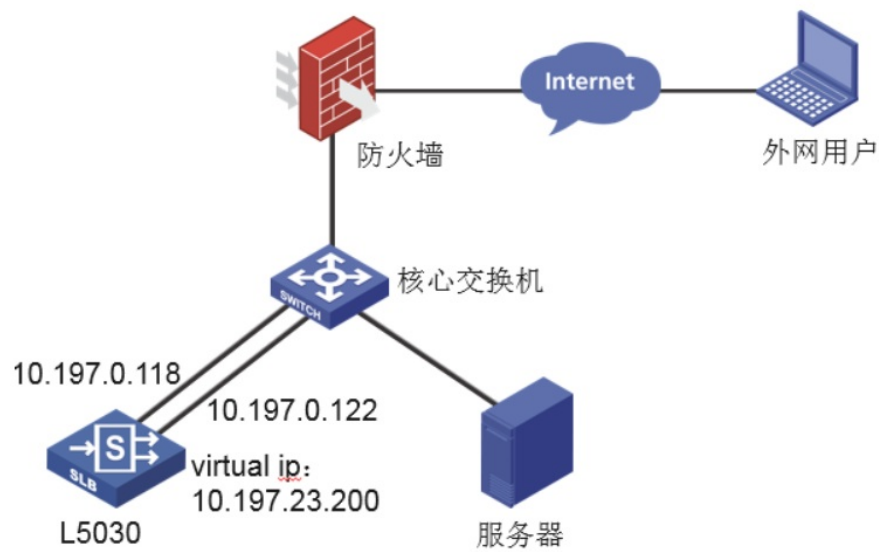
服务器负载均衡实服务组状态异常

七层服务器负载均衡

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组网及说明



L5030上配置了服务器负载均衡，想要实现将外网用户访问虚服务IP的流量分发给不同的实服务器，减轻服务器的业务负担。L5030旁挂在核心交换机上，现网的多台服务器在拓扑中用一台服务器体现

问题描述

现场配置完服务器负载均衡后发现实服务组状态不可用，从图中可以看出状态不可用的实服务组中可用实服务器数为0。

实服务组名称	状态	调度算法	实服务器总数	可用实服务器数
jyzx-tukuang-test-443	●	加权轮转	2	1
jyzx-tukuang-yushengc-443	●	加权轮转	3	1
test-01	●	源IP地址哈希	2	0
tukuang-group-01	●	加权轮转	8	2

健康性检测中有很多探测失败的系统日志，如果实服务器NQA探测失败会导致实服务器不可用。

时间	级别	模块名	助记符	详细信息
2021-04-24 16:22:44	Notification	LB	LB_CHANGE_RSQU...	The health state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.15,port:443)was changed to Inactive. ...
2021-04-24 16:22:44	Notification	LB	LB_CHANGE_RSQU...	The probe state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.15,port:443) template tcp-temp was c...
2021-04-24 16:22:41	Notification	LB	LB_CHANGE_RSQU...	The health state of (server farm jyzx-tukuang-test-443,real server jyzx-tuk-10.197.131.149,port:443)was changed to Acti...
2021-04-24 16:22:41	Notification	LB	LB_CHANGE_RSQU...	The probe state of (server farm jyzx-tukuang-test-443,real server jyzx-tuk-10.197.131.149,port:443) template tcp-temp ...
2021-04-24 16:22:24	Notification	LB	LB_CHANGE_RSQU...	The health state of (server farm jyzx-tukuang-test-443,real server jyzx-tuk-10.197.131.149,port:443)was changed to Inac...
2021-04-24 16:22:24	Notification	LB	LB_CHANGE_RSQU...	The probe state of (server farm jyzx-tukuang-test-443,real server jyzx-tuk-10.197.131.149,port:443) template tcp-temp ...
2021-04-24 16:22:24	Notification	LB	LB_CHANGE_RSQU...	The health state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.11,port:443)was changed to Inactive. ...
2021-04-24 16:22:24	Notification	LB	LB_CHANGE_RSQU...	The probe state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.11,port:443) template tcp-temp was c...
2021-04-24 16:22:21	Notification	LB	LB_CHANGE_RSQU...	The health state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.15,port:443)was changed to Active. L...
2021-04-24 16:22:21	Notification	LB	LB_CHANGE_RSQU...	The probe state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.15,port:443) template tcp-temp was c...
2021-04-24 16:22:04	Notification	LB	LB_CHANGE_RSQU...	The health state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.15,port:443)was changed to Inactive. ...
2021-04-24 16:22:04	Notification	LB	LB_CHANGE_RSQU...	The probe state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.15,port:443) template tcp-temp was c...
2021-04-24 16:21:56	Notification	LB	LB_CHANGE_RSQU...	The health state of (server farm jyzx-tukuang-test-443,real server jyzx-tuk-10.197.131.111,port:443)was changed to Acti...
2021-04-24 16:21:56	Notification	LB	LB_CHANGE_RSQU...	The probe state of (server farm jyzx-tukuang-test-443,real server jyzx-tuk-10.197.131.111,port:443) template tcp-temp ...
2021-04-24 16:21:56	Notification	LB	LB_CHANGE_RSQU...	The health state of (server farm tukuang-group-01,real server jyzx-tuk-10.197.172.14,port:443)was changed to Active. L...

过程分析

1、于是根据不可用实服务组test-01进行排查，检查L5030和实服务组test-01中的两个服务器的连通性是否可达。查看实服务组状态显示两个实服务器状态均为探测失败。

```
[L5030]display server-farm
```

Server farm: test-01

Description:

Predictor: Hash address source IP

Proximity: Disabled

NAT: Enabled

SNAT pool: test02

Failed action: Keep

Active threshold: Disabled

Slow-online: Disabled

Selected server: Disabled

Busy action: Drop

Probe information:

Probe success criteria: At least 1

Probe method:

tcp-temp

Total real server: 2

Active real server: 0

Real server list:

Name	State	VPN-instance	Address	Port	Weight	Priority
test1	Probe-failed	HLW	10.197.44.200	80	100	4
test2	Probe-failed	HLW	10.197.44.201	80	100	4

ping测试发现L5030无法ping通10.197.44.200，但是可以ping通10.197.44.201。

```
[GZ-HXY-G160201-V07-L5000S-L-01]ping -vpn-instance HLW 10.197.44.200
```

Ping 10.197.44.200 (10.197.44.200): 56 data bytes, press CTRL_C to break

Request time out

Request time out

Request time out

Request time out

Request time out

--- Ping statistics for 10.197.44.200 in VPN instance HLW ---

5 packet(s) transmitted, 0 packet(s) received, 100.0% packet loss

```
[GZ-HXY-G160201-V07-L5000S-L-01]ping -vpn-instance HLW 10.197.44.201
```

Ping 10.197.44.201 (10.197.44.201): 56 data bytes, press CTRL_C to break

56 bytes from 10.197.44.201: icmp_seq=0 ttl=63 time=0.993 ms

56 bytes from 10.197.44.201: icmp_seq=1 ttl=63 time=0.865 ms

56 bytes from 10.197.44.201: icmp_seq=2 ttl=63 time=0.814 ms

56 bytes from 10.197.44.201: icmp_seq=3 ttl=63 time=0.828 ms

56 bytes from 10.197.44.201: icmp_seq=4 ttl=63 time=0.864 ms

--- Ping statistics for 10.197.44.201 in VPN instance HLW ---

5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss

2、由于现场采用的探测方式是TCP探测，所以需要排查是否是服务器端口不可达导致10.197.44.201可以ping通，但是探测失败。首先查看会话，看报文是从哪个接口上出去的，如果看不到报文数量的话需要通过session statistics enable开启会话统计功能，可以看到报文是从冗余口2出去的。

```
[L5030]display session table ipv4 destination-ip 10.197.44.201 verbose
```

Slot 1:

Initiator:

Source IP/port: 10.197.0.122/51188

Destination IP/port: 10.197.44.201/80

DS-Lite tunnel peer: -

VPN instance/VLAN ID/Inline ID: HLW/-/-

Protocol: TCP(6)

Inbound interface: InLoopBack0

Responder:

Source IP/port: 10.197.44.201/80

Destination IP/port: 10.197.0.122/51188

DS-Lite tunnel peer: -

