# ClearPass VIP 和 Server-Group 的认证切换对比测试

2021.03.26

# 目录

# 1 测试环境描述

测试版本：7005：AOS 8.6.0.6，standalone 10.1.10.100

ClearPass：6.8.5，10.254.5.101/102，VIP 10.254.5.110

终端：Win10

# 2 测试记录

## 2.1 Server-Group 的认证切换

SSID: aruba-test2

portal 认证

server group 未开启 fail through/load balance

server group 中配置了 cppm1（10.254.5.101）和 cppm2（10.254.5.102），采

用默认参数

```
(AC7005) [mynode] #show aaa authentication-server radius cppm

RADIUS Server "cppm"
-------------------
Parameter                    Value
---------                    -----
Enable IPv6                  Disabled
Host                         10.254.5.101
Key                          ********
CPPM credentials             N/A
Auth Port                    1812
Acct Port                    1813
RadSec Port                  2083
Retransmits                  3
Timeout                      5 sec
```

### 2.1.1 cppm1 网络不通

断开 cppm1 的网络连接

win10 尝试 portal 认证

| No. | Time | Source | Destination | Protocol | Length | Info |
|---|---|---|---|---|---|---|
| 6802 | 2021-03-26 17:30:12.405095 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=3 |
| 6947 | 2021-03-26 17:30:17.380054 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=3, Duplicate Request |
| 7854 | 2021-03-26 17:30:22.404334 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=3, Duplicate Request |
| 8670 | 2021-03-26 17:30:27.427456 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=3, Duplicate Request |
| 8793 | 2021-03-26 17:30:32.454525 | 10.1.10.100 | 10.254.5.102 | RADIUS | 229 | Access-Request id=1 |
| 8805 | 2021-03-26 17:30:32.788630 | 10.254.5.102 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=1 |

终端发起认证，每 5 秒发一次认证，3 次重传，超时后切到 cppm2 认证。即终端需

要等 20 秒后才能认证成功。

将终端踢下线重新进行 portal 认证，直接到 cppm2 认证成功；第二台终端发起认证，也是直接到 cppm2 认证成功。

十多分钟后（注意是第三次重传超时之后的时间）终端再次认证，又会向 cppm1 发起认证，三次认证重传超时后切到 cppm2 认证，第二个终端再认证也是直接到 cppm2 认证。

| No. | Time | Source | Destination | Protocol | Length | Info |
|---|---|---|---|---|---|---|
| 6802 | 2021-03-26 17:30:12.405095 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=3 |
| 6947 | 2021-03-26 17:30:17.380054 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=3, Duplicate Request |
| 7854 | 2021-03-26 17:30:22.404334 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=3, Duplicate Request |
| 8670 | 2021-03-26 17:30:27.427456 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=3, Duplicate Request |
| 8793 | 2021-03-26 17:30:32.454525 | 10.1.10.100 | 10.254.5.102 | RADIUS | 229 | Access-Request id=1 |
| 8805 | 2021-03-26 17:30:32.788630 | 10.254.5.102 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=1 |
| 54961 | 2021-03-26 17:39:10.998814 | 10.1.10.100 | 10.254.5.102 | RADIUS | 229 | Access-Request id=2 |
| 54964 | 2021-03-26 17:39:11.020579 | 10.254.5.102 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=2 |
| 65243 | 2021-03-26 17:40:24.927185 | 10.1.10.100 | 10.254.5.102 | RADIUS | 227 | Access-Request id=3 |
| 65244 | 2021-03-26 17:40:24.944317 | 10.254.5.102 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=3 |
| 111206 | 2021-03-26 17:48:18.767932 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=4 |
| 111400 | 2021-03-26 17:48:21.776977 | 10.1.10.1 | 10.1.10.100 | ICMP | 257 | Destination unreachable (Host unreachable) |
| 111502 | 2021-03-26 17:48:23.693605 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=4, Duplicate Request |
| 111576 | 2021-03-26 17:48:26.696860 | 10.1.10.1 | 10.1.10.100 | ICMP | 257 | Destination unreachable (Host unreachable) |
| 111618 | 2021-03-26 17:48:28.716697 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=4, Duplicate Request |
| 111730 | 2021-03-26 17:48:31.726983 | 10.1.10.1 | 10.1.10.100 | ICMP | 257 | Destination unreachable (Host unreachable) |
| 111815 | 2021-03-26 17:48:33.738672 | 10.1.10.100 | 10.254.5.101 | RADIUS | 229 | Access-Request id=4, Duplicate Request |
| 111944 | 2021-03-26 17:48:36.746875 | 10.1.10.1 | 10.1.10.100 | ICMP | 257 | Destination unreachable (Host unreachable) |
| 111986 | 2021-03-26 17:48:38.764759 | 10.1.10.100 | 10.254.5.102 | RADIUS | 229 | Access-Request id=4 |
| 111989 | 2021-03-26 17:48:38.781575 | 10.254.5.102 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=4 |
| 115002 | 2021-03-26 17:49:07.188551 | 10.1.10.100 | 10.254.5.102 | RADIUS | 227 | Access-Request id=5 |
| 115013 | 2021-03-26 17:49:07.208018 | 10.254.5.102 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=5 |

**Table 40:** *Authentication Timers*

| Timer | Description |
|---|---|
| **User Idle Timeout** | Maximum period after which a client is considered idle if there is no wireless traffic from the client. The timeout period is reset if there is wireless traffic. If there is no wireless traffic in the timeout period, the client is aged out. Once the timeout period has expired, the user is removed. If the keyword **seconds** is not specified, the value defaults to minutes at the command line.<br>Range: 1–255 minutes (30–15300 seconds)<br>Default: 5 minutes (300 seconds) |
| **Authentication Server dead Time** | Maximum period, in minutes, that the managed device considers an unresponsive authentication server to be "out of service."<br>This timer is only applicable if there are two or more authentication servers configured on a managed device. If there is only one authentication server configured, the server is never considered out of service, and all requests are sent to the server.<br>If one or more backup servers are configured and a server is unresponsive, it is marked as out of service for the dead time; subsequent requests are sent to the next server on the priority list for the duration of the dead time. If the server is responsive after the dead time has elapsed, it can take over servicing requests from a lower-priority server; if the server continues to be unresponsive, it is marked as down for the dead time.<br>Range: 0–50 minutes<br>Default: 10 minutes |
| **Logon User Lifetime** | Maximum time, in minutes, unauthenticated clients are allowed to remain logged on.<br>Range: 0–255 minutes<br>Default: 5 minutes |
| **User Interim stats frequency** | Sets the timeout value for user stats, reporting in minutes or seconds.<br>Range: 300-3600 seconds, or 5-60 minutes<br>Default: 600 seconds |

### 2.1.2 cppm1 service stopped

关闭 cppm1 的 service

| 14. | Policy server | | Running | Stop |
|---|---|---|---|---|
| 15. | RadSec service | | Running | Stop |
| 16. | Radius server | | Stopped | Start |

| No. | Time | Source | Destination | Protocol | Length | Info |
|---|---|---|---|---|---|---|
| 397 | 2021-03-26 22:21:58.564374 | 10.1.10.100 | 10.254.5.101 | RADIUS | 227 | Access-Request id=167 |
| 398 | 2021-03-26 22:21:58.565528 | 10.254.5.101 | 10.1.10.100 | ICMP | 255 | Destination unreachable (Port unreachable) |
| 521 | 2021-03-26 22:22:03.511650 | 10.1.10.100 | 10.254.5.101 | RADIUS | 227 | Access-Request id=167, Duplicate Request |
| 522 | 2021-03-26 22:22:03.512803 | 10.254.5.101 | 10.1.10.100 | ICMP | 255 | Destination unreachable (Port unreachable) |
| 607 | 2021-03-26 22:22:08.534044 | 10.1.10.100 | 10.254.5.101 | RADIUS | 227 | Access-Request id=167, Duplicate Request |
| 608 | 2021-03-26 22:22:08.534395 | 10.254.5.101 | 10.1.10.100 | ICMP | 255 | Destination unreachable (Port unreachable) |
| 717 | 2021-03-26 22:22:13.556928 | 10.1.10.100 | 10.254.5.101 | RADIUS | 227 | Access-Request id=167, Duplicate Request |
| 718 | 2021-03-26 22:22:13.557898 | 10.254.5.101 | 10.1.10.100 | ICMP | 255 | Destination unreachable (Port unreachable) |
| 784 | 2021-03-26 22:22:18.583466 | 10.1.10.100 | 10.254.5.102 | RADIUS | 227 | Access-Request id=1 |
| 786 | 2021-03-26 22:22:18.727725 | 10.254.5.102 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=1 |
| 3091 | 2021-03-26 22:23:21.179230 | 10.1.10.100 | 10.254.5.102 | RADIUS | 229 | Access-Request id=2 |
| 3108 | 2021-03-26 22:23:21.196161 | 10.254.5.102 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=2 |

cppm1 网络通但是 service down 的情况下，认证超时后一样会切到 cppm2，后续的认证也是直接发到 cppm2 认证，直到 authentication server dead time（默认为 10 分钟）超时后再次到 cppm1 认证…

## 2.2  ClearPass VIP 故障切换时间

ClearPass VIP 的故障切换时间（断开 cppm1 网络连接）：10 秒后切换到 cppm2

| Cluster-Wide Parameters | | | | | | | ⊗ |
|---|---|---|---|---|---|---|---|
| General | Cleanup Intervals | Notifications | Standby Publisher | **Virtual IP** | Mode | Database | Profiler | TACACS |

| Parameter Name | Parameter Value | | Default Value |
|---|---|---|---|
| Failover Wait Time | 10 | seconds | 10 |

```
20:05:03.552351 64 bytes from 10.254.5.111: icmp_seq=77 ttl=63 time=2.286 ms
20:05:03.764143 64 bytes from 10.254.5.111: icmp_seq=78 ttl=63 time=10.766 ms
Request timeout for icmp_seq 80
Request timeout for icmp_seq 81
Request timeout for icmp_seq 82
Request timeout for icmp_seq 83
Request timeout for icmp_seq 84
Request timeout for icmp_seq 85
Request timeout for icmp_seq 86
Request timeout for icmp_seq 87
Request timeout for icmp_seq 88
Request timeout for icmp_seq 89
Request timeout for icmp_seq 90
Request timeout for icmp_seq 91
Request timeout for icmp_seq 92
Request timeout for icmp_seq 93
Request timeout for icmp_seq 94
Request timeout for icmp_seq 95
Request timeout for icmp_seq 96
Request timeout for icmp_seq 97
Request timeout for icmp_seq 98
Request timeout for icmp_seq 99
Request timeout for icmp_seq 100
Request timeout for icmp_seq 101
Request timeout for icmp_seq 102
Request timeout for icmp_seq 103
Request timeout for icmp_seq 104
Request timeout for icmp_seq 105
Request timeout for icmp_seq 106
Request timeout for icmp_seq 107
Request timeout for icmp_seq 108
Request timeout for icmp_seq 109
Request timeout for icmp_seq 110
Request timeout for icmp_seq 111
Request timeout for icmp_seq 112
Request timeout for icmp_seq 113
Request timeout for icmp_seq 114
Request timeout for icmp_seq 115
Request timeout for icmp_seq 116
Request timeout for icmp_seq 117
Request timeout for icmp_seq 118
Request timeout for icmp_seq 119
Request timeout for icmp_seq 120
Request timeout for icmp_seq 121
Request timeout for icmp_seq 122
Request timeout for icmp_seq 123
Request timeout for icmp_seq 124
Request timeout for icmp_seq 125
Request timeout for icmp_seq 126
Request timeout for icmp_seq 127
20:05:13.905124 64 bytes from 10.254.5.111: icmp_seq=127 ttl=63 time=227.480 ms
20:05:13.905177 64 bytes from 10.254.5.111: icmp_seq=128 ttl=63 time=23.990 ms
```

ClearPass VIP 的回切时间（恢复 cppm1 网络连接）：恢复 cppm1 网络连接后 vip

立马切回 cppm1，ping 无丢包

```
(ArubaS1500-24P) #show arp | include 10.254.5.101
   Internet  10.254.5.101   00:0c:29:66:7d:14  vlan5      32

(ArubaS1500-24P) #show arp | include 10.254.5.102
   Internet  10.254.5.102   00:0c:29:17:8d:4a  vlan5       0

(ArubaS1500-24P) #show arp | include 10.254.5.111
   Internet  10.254.5.111   00:0c:29:66:7d:14  vlan5       0
```

## 2.3  ClearPass VIP 的认证切换

SSID: aruba-test2

portal 认证

AC 上配置一个 server，指向 ClearPass VIP

### 2.3.1  断开和恢复 cppm1 网络连接

断开 cppm1 网络连接，vip 会在 10 秒后切到 cppm2，所以 nas 会重传两次认证

请求后收到 cppm2 的认证成功响应。后续认证发往 vip 地址，cppm2 直接响应。

```
20:36:00.248312 64 bytes from 10.254.5.111: icmp_seq=92 ttl=63 time=2.029 ms
20:36:00.489477 64 bytes from 10.254.5.111: icmp_seq=93 ttl=63 time=38.333 ms
Request timeout for icmp_seq 94
Request timeout for icmp_seq 95
Request timeout for icmp_seq 96
Request timeout for icmp_seq 97
Request timeout for icmp_seq 98
Request timeout for icmp_seq 99
Request timeout for icmp_seq 100
Request timeout for icmp_seq 101
Request timeout for icmp_seq 102
Request timeout for icmp_seq 103
Request timeout for icmp_seq 104
Request timeout for icmp_seq 105
Request timeout for icmp_seq 106
Request timeout for icmp_seq 107
Request timeout for icmp_seq 108
Request timeout for icmp_seq 109
Request timeout for icmp_seq 110
Request timeout for icmp_seq 111
Request timeout for icmp_seq 112
Request timeout for icmp_seq 113
Request timeout for icmp_seq 114
Request timeout for icmp_seq 115
Request timeout for icmp_seq 116
Request timeout for icmp_seq 117
Request timeout for icmp_seq 118
Request timeout for icmp_seq 119
Request timeout for icmp_seq 120
Request timeout for icmp_seq 121
Request timeout for icmp_seq 122
Request timeout for icmp_seq 123
Request timeout for icmp_seq 124
Request timeout for icmp_seq 125
Request timeout for icmp_seq 126
Request timeout for icmp_seq 127
Request timeout for icmp_seq 128
Request timeout for icmp_seq 129
Request timeout for icmp_seq 130
Request timeout for icmp_seq 131
Request timeout for icmp_seq 132
Request timeout for icmp_seq 133
Request timeout for icmp_seq 134
Request timeout for icmp_seq 135
Request timeout for icmp_seq 136
Request timeout for icmp_seq 137
Request timeout for icmp_seq 138
Request timeout for icmp_seq 139
20:36:09.996305 64 bytes from 10.254.5.111: icmp_seq=140 ttl=63 time=2.162 ms
20:36:10.200921 64 bytes from 10.254.5.111: icmp_seq=141 ttl=63 time=2.742 ms
```

| No. | Time | Source | Destination | Protocol | Length | Info |
|-----|------|--------|-------------|----------|--------|------|
| 102 | 2021-03-26 20:34:10.317127 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=17 |
| 104 | 2021-03-26 20:34:10.332094 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=17 |
| 1548 | 2021-03-26 20:36:02.086887 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=18 |
| 1636 | 2021-03-26 20:36:07.105259 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=18, Duplicate Request |
| 1711 | 2021-03-26 20:36:12.127259 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=18, Duplicate Request |
| 1713 | 2021-03-26 20:36:12.306122 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=18 |

恢复 cppm1 网络连接，vip 会马上切回 cppm1，认证会很快切回 cppm1，不影响

用户认证。

### 2.3.2    关闭和重启 cppm1

关闭 cppm1，vip 同样会在 10 秒后切到 cppm2，nas 重传 2 次认证请求后会收到

cppm2 的认证响应，后续认证发到 vip，cppm2 直接响应。

| No. | Time | Source | Destination | Protocol | Length | Info |
|---|---|---|---|---|---|---|
| 210 | 2021-03-26 21:00:54.518684 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=60 |
| 212 | 2021-03-26 21:00:54.531025 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=60 |
| 395 | 2021-03-26 21:01:16.619127 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=61 |
| 499 | 2021-03-26 21:01:21.632220 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=61, Duplicate Request |
| 552 | 2021-03-26 21:01:26.654081 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=61, Duplicate Request |
| 554 | 2021-03-26 21:01:26.669886 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=61 |
| 579 | 2021-03-26 21:01:29.164064 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=62 |
| 581 | 2021-03-26 21:01:29.188267 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=62 |
| 1588 | 2021-03-26 21:02:27.695874 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=63 |
| 1590 | 2021-03-26 21:02:27.709554 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=63 |

重新开启 cppm1，cppm1 启动完成后 vip 很快会切回 cppm1，会出现 vip 切回 cppm1 但是 service 还未启动正常，会导致此期间的认证无法响应，从 lab 环境测试看，大概 14 秒的时间无法响应，不同的环境此时间会略有差异。

| No. | Time | Source | Destination | Protocol | Length | Info |
|---|---|---|---|---|---|---|
| 2940 | 2021-03-26 21:03:08.798688 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=134 |
| 2956 | 2021-03-26 21:03:09.327548 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=135 |
| 2957 | 2021-03-26 21:03:09.343138 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=135 |
| 2979 | 2021-03-26 21:03:09.870016 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=136 |
| 2980 | 2021-03-26 21:03:09.885066 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=136 |
| 2993 | 2021-03-26 21:03:10.441737 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=137 |
| 2994 | 2021-03-26 21:03:10.443825 | 10.254.5.111 | 10.1.10.100 | ICMP | 183 | Destination unreachable (Port unreachable) |
| 3053 | 2021-03-26 21:03:15.406299 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=137, Duplicate Request |
| 3054 | 2021-03-26 21:03:15.407069 | 10.254.5.111 | 10.1.10.100 | ICMP | 183 | Destination unreachable (Port unreachable) |
| 3208 | 2021-03-26 21:03:20.429187 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=137, Duplicate Request |
| 3284 | 2021-03-26 21:03:24.707849 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=137 |
| 3289 | 2021-03-26 21:03:24.732920 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=138 |
| 3290 | 2021-03-26 21:03:24.774509 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=138 |
| 3297 | 2021-03-26 21:03:24.793808 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=139 |
| 3298 | 2021-03-26 21:03:24.905132 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=139 |
| 3328 | 2021-03-26 21:03:26.503741 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=140 |
| 3330 | 2021-03-26 21:03:26.612593 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=140 |
| 3371 | 2021-03-26 21:03:29.146620 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=141 |
| 3373 | 2021-03-26 21:03:29.175927 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=141 |
| 3390 | 2021-03-26 21:03:29.794900 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=142 |
| 3392 | 2021-03-26 21:03:29.817073 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=142 |
| 3407 | 2021-03-26 21:03:30.494575 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=143 |
| 3409 | 2021-03-26 21:03:30.551168 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=143 |
| 3431 | 2021-03-26 21:03:31.080485 | 10.1.10.100 | 10.254.5.111 | RADIUS | 155 | Access-Request id=144 |
| 3433 | 2021-03-26 21:03:31.133037 | 10.254.5.111 | 10.1.10.100 | RADIUS | 145 | Access-Accept id=144 |

[All Requests]    CPPM2.arubatraininglab.com (10.254.5.102)    Last 1 day before Today    Edit

Filter: Request ID  contains    Go  Clear Filter    Show 20 records

| # | Server | Source | Username | Service | Login Status | Request Timestamp ▼ |
|---|---|---|---|---|---|---|
| 1. | 10.254.5.102 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:09 |
| 2. | 10.254.5.102 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:09 |
| 3. | 10.254.5.102 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:08 |

[All Requests]    CPPM1.arubatraininglab.com (10.254.5.101)    Last 1 day before Today    Edit

Filter: Request ID  contains    Go  Clear Filter    Show 20 record

| # | Server | Source | Username | Service | Login Status | Request Timestamp ▼ |
|---|---|---|---|---|---|---|
| 1. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:40 |
| 2. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:37 |
| 3. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:36 |
| 4. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:35 |
| 5. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:35 |
| 6. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:34 |
| 7. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:33 |
| 8. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:33 |
| 9. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:32 |
| 10. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:31 |
| 11. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:31 |
| 12. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:30 |
| 13. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:29 |
| 14. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:29 |
| 15. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:28 |
| 16. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:25 |
| 17. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:24 |
| 18. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:24 |
| 19. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:03:19 |
| 20. | 10.254.5.101 | RADIUS | test | aruba-portal | ACCEPT | 2021/03/26 21:00:54 |

### 2.3.3 关闭和开启 cppm1 的 service

关闭 cppm1 的 service，保持 cppm1 网络可达，此情况下 vip 会始终在 cppm1，

但是认证无法响应，所以此情况会导致所有认证都失败。



```
(AC7005) [mynode] #aaa test-server pap cppm test aruba123
AAA server timeout
```



```
(AC7005) [mynode] #aaa test-server pap cppm test aruba123
AAA server timeout

(AC7005) [mynode] #aaa test-server pap cppm test aruba123
AAA server timeout

(AC7005) [mynode] #aaa test-server pap cppm test aruba123
AAA server timeout

(AC7005) [mynode] #
```

# 3 测试总结

## 3.1 采用 Server-group

主 cppm 网络不通或者网络通 service down 后，ac 需要等 3 次重传全部超时后，

才把主cppm标记为out-of-service，所以在这20秒内所有发起的认证都会发送到主cppm，都会一直等到3次重传超时后才会切到备cppm。在这20秒之后发起的认证都会直接发给备cppm。十分钟后，认证又开始发送到主cppm，如果主cppm仍然处于网络不通或者服务不可用状态，同样20秒内所有发起的认证都会发送到主cppm，同样都会一直等到3次重传超时后才会切到备cppm。在这20秒之后发起的认证都会直接发给备cppm。如此重复。一旦主cppm有认证成功，所有认证都会发送到主cppm。

## 3.2 采用 ClearPass VIP

1.  主cppm网络不通后，会在10秒后将vip切换到备cppm，所以在这10秒内所有发起的认证都会发到主cppm，然后5s超时后ac重传，如果重传时vip已经切到备cppm，认证将会收到响应。之后的所有认证发到vip，备cppm会直接响应。

2.  主cppm恢复后，vip立刻切回主cppm，如果主cppm是因为网络故障导致的问题，网络恢复后，所有认证很快切回主cppm，认证不会受影响；如果主cppm是重新启动（例如掉电，或者网络和服务同时挂掉），cppm启动完成后vip很快会切回主cppm，会出现vip切回主cppm但是service还未启动正常，会导致此期间的认证无法响应，从lab环境测试看，大概14秒的时间无法响应。

3.  主cppm网络通但是服务不可用，vip会保持在主cppm，所有认证都会发到主cppm，直到三次重传超时，认证失败，这样会导致所有认证都失败。

综上所述，建议采用Server-Group，Server-Group是检测服务，ClearPass VIP只是检测网络，当出现网络通服务down的情况时，会导致所有认证都失败。