某局点WX6108E 本地转发集中portal认证https 重定向失败问题处理经验案例

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某局点采用WX6108E部署无线网络，当前业务流量比较大，采用的本地转发的方式，但是后期由于需要做准入控制，在ap和ac 上部署portal 认证，配置完本地转发集中portal 认证之后，测试http 重定向都很正常，但是测试https 重定向失败，查看ap上的配置都无任何问题，后续让客户采集debug portal 和抓包分析。

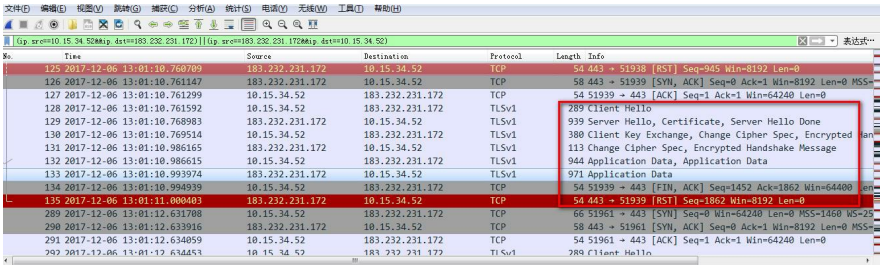
AP关键配置信息：

```
portal server h3c ip 10.1.0.202 key cipher $c$3$H4RiqbGhyEUJ3fpjcTvO46BknTKkvoXnXg== url http://10.1.0.202:8097/web/scwp/auth/authIndex server-type cmcc
 portal free-rule 0 source ip any destination ip 112.29.132.0 mask 255.255.255.0
 portal free-rule 1 source ip any destination ip 10.1.0.22 mask 255.255.255.255
 portal free-rule 2 source ip any destination ip 114.114.114.114 mask 255.255.255.255
 portal free-rule 3 source ip any destination ip 211.138.180.2 mask 255.255.255.255
 portal free-rule 4 source ip any destination ip 10.1.0.200 mask 255.255.255.255
 portal free-rule 5 source interface GigabitEthernet1/0/1 destination any
 portal free-rule 6 source ip any destination ip 10.1.0.23 mask 255.255.255.255
 portal free-rule 7 source ip any destination ip 117.71.17.96 mask 255.255.255.255
 portal free-rule 8 source ip any destination ip 10.1.0.201 mask 255.255.255.255
 portal free-rule 9 source ip any destination ip 10.1.0.202 mask 255.255.255.255
 portal free-rule 10 source ip any destination ip 10.1.0.203 mask 255.255.255.255
 portal free-rule 11 source ip any destination ip 10.1.0.204 mask 255.255.255.255
 portal free-rule 12 source ip any destination ip 10.1.0.205 mask 255.255.255.255
 portal free-rule 13 source ip any destination ip 10.1.0.206 mask 255.255.255.255
 portal free-rule 14 source ip any destination ip 10.1.0.207 mask 255.255.255.255
 portal free-rule 15 source ip any destination ip 10.1.0.208 mask 255.255.255.255
 portal free-rule 16 source ip any destination ip 10.1.0.209 mask 255.255.255.255
 portal url-param include user-mac param-name wlanstamac
 portal url-param include nas-ip param-name wlanacip
 portal url-param include ap-mac param-name wlanapmac
 portal url-param include user-url param-name wlanuserfirsturl
 portal url-param include user-ip param-name wlanuserip
 portal url-param include ssid param-name ssid
 portal host-check wlan
#
 portal https-redirect server-policy h3c
 ssl server-policy h3c
```

debug portal 信息：

```
*Dec  6 12:48:41:896 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: State of connection with source IP 10.15.34.52 is  ESTABLISHED!
*Dec  6 12:48:41:896 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Send TLS 1.0 Alert [length 0002], warning close_notify
*Dec  6 12:48:41:896 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: A connection of N/A deleted!
*Dec  6 12:48:41:896 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: State of connection with source IP N/A changed from  ESTABLISHED to  CLOSE_WAIT!   //第一次三次握手，tcp被关闭了
*Dec  6 12:48:41:897 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG:  Source MAC = 7c7a-91a9-cb03 VLAN = 2119
Dec  6 12:48:41:898 2017 test DPPORTAL/7/DP_PORTAL_DEBUG:
 Matched Redirect ACL.
 IfName=Vlan-interface2119, PortName=WLAN-BSS0, SrcIP=10.15.34.52, DstIP=183.232.231.172, Flow=0!
*Dec  6 12:48:41:899 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG:  Source MAC = 7c7a-91a9-cb03 VLAN = 2119
45 00 00 28 78 d0 40 00 80 06 b6 27 0a 0f 22 34
b7 e8 e7 ac ca e3 01 bb 00 87 31 1a b4 cb 3d 01
50 10 fa f0 f8 fe 00 00
*Dec  6 12:48:41:900 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: State of connection with source IP 10.15.34.52 is  SYN_RECVD!
```

*Dec 6 12:48:41:900 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: State of connection with source IP 10.15.34.52 changed from SYN_RECVD to ESTABLISHED!
*Dec 6 12:48:41:900 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: State of connection with source IP 10.15.34.52 is ESTABLISHED!
*Dec 6 12:48:41:900 2017 test DPPORTAL/7/DP_PORTAL_DEBUG:
 Matched Redirect ACL.
 IfName=Vlan-interface2119, PortName=WLAN-BSS0, SrcIP=10.15.34.52, DstIP=183.232.231.172, Flow=0!
*Dec 6 12:48:41:903 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: State of connection with source IP 10.15.34.52 is ESTABLISHED!
*Dec 6 12:48:41:903 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: The Packet Header len is 40,ulBodyLen 235
*Dec 6 12:48:41:903 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: Success to copy data From Mbuf.
*Dec 6 12:48:41:903 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: BIO wrote 235 bytes into SSL.
*Dec 6 12:48:41:904 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Recv TLS 1.0 Handshake [length 00e6], ClientHello
*Dec 6 12:48:41:904 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Send TLS 1.0 Handshake [length 004a], ServerHello
*Dec 6 12:48:41:904 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Send TLS 1.0 Handshake [length 0318], Certificate
*Dec 6 12:48:41:904 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Send TLS 1.0 Handshake [length 0004], ServerHelloDone
*Dec 6 12:48:41:904 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: BIO read 885 bytes from SSL.
*Dec 6 12:48:41:905 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: Processed SSL handshake.
*Dec 6 12:48:42:121 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Recv TLS 1.0 ChangeCipherSpec [length 0001]
*Dec 6 12:48:42:121 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Recv TLS 1.0 Handshake [length 0010], Finished
*Dec 6 12:48:42:122 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Send TLS 1.0 ChangeCipherSpec [length 0001]
*Dec 6 12:48:42:122 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: PT_TCP TLS Info Description: Send TLS 1.0 Handshake [length 0010], Finished
*Dec 6 12:48:42:122 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: BIO read 59 bytes from SSL.
*Dec 6 12:48:42:122 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: Processed SSL handshake.
*Dec 6 12:48:42:128 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: State of connection with source IP 10.15.34.52 is ESTABLISHED!
*Dec 6 12:48:42:129 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: The Packet Header len is 40,ulBodyLen 890
*Dec 6 12:48:42:129 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: Success to copy data From Mbuf.
*Dec 6 12:48:42:129 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: BIO wrote 890 bytes into SSL.
*Dec 6 12:48:42:129 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: decrypt data success,the packet total length is 868.
*Dec 6 12:48:42:130 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: Copy simple packet len is (828).
*Dec 6 12:48:42:130 2017 test PORTAL/7/PORTAL_DEBUG: The user (10.15.34.52) redirect url is http://10.1.0.202:8097/web/scwp/auth/authIndex?wlanuserip=10.15.34.52&ssid=i-hefei&wlanapmac=38-97-D6-A1-94-E0&wlanacip=192.168.110.12&wlanstamac=7C-7A-91-A9-CB-03&wlanuserfirsturl=https://www.baidu.com. //第二次重定向成功了，但是浏览器没正常弹出来
*Dec 6 12:48:42:130 2017 test PORTAL/7/PORTAL_DEBUG: The user (10.15.34.52) redirect success.
*Dec 6 12:48:42:130 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: BIO read 917 bytes from SSL.
*Dec 6 12:48:42:131 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: Compose https redirect packet successfully.
*Dec 6 12:48:42:131 2017 test TCPCHEAT/7/TCPCHEAT_DEBUG: Processed SSL application data.
*Dec 6 12:48:42:131 2017 test DPPORTAL/7/DP_PORTAL_DEBUG:
抓包信息：



通过抓包信息查看，发现设备在不停和服务器交互，并多次进行重定向不同的地址，当重定向到某个地址时，会出现400 Bad Request，初步怀疑是服务器问题，但是客户表示服务器和其他厂家的设备对接portal 都很正常，就和我们有问题，后续让代理商重新测试其他厂家，并反馈正常的抓包来对比。

最终代理商拿其他厂家的AP 对接服务器发现https 重定向也不行，之前客户反馈有误，最终定位为服务器问题，建议找服务器厂家帮忙定位问题。

1.V5 AC和AP portal 支持https重定向，但是需要特殊配置和版本要求，参考下面说明：
V5 (R2509P52版本特性变更说明)：
先配置个ssl server-policy
ssl server-policy xxx
再跟portal https-redirect关联起来就行了
portal https-redirect server-policy xxx
ssl server-policy内容可以为空，V5自带自签名证书。但会出现告警提示，“继续浏览”即可。
关于告警，只能解决特定域名，无法解决所有域名。客户可以自己购买“受信任”的证书倒入，倒入方式参考配置手册的SSL配置。受信任证书不是“万能”的，证书机构颁发证书时，会有一个CN限制的，简单说就是个域名限制，只有访问的域名跟这个CN匹配，才能信任通过。