# 华三设备对接第三方Free radius认证服务器将我司设备识别为华为设备从而获取到错误的权限解决方法

Radius AAA zhiliao_fE11l8 2024-05-15 发表

## 组网及说明

Free-radius 版本：FreeRADIUS Version 3.0.13
操作系统：Oracle Linux Server 7.8
我司交换机型号：S5170-28S-HPWR-EI
我司交换机版本：Version 7.1.070, Release 1115

## 告警信息

我司设备接口上线触发AAA认证获取到的是华为设备的权限

```
*Mar 27 13:06:16:294 2024 H3C_PRUEBAS RADIUS/7/PACKET:
    Service-Type=NAS-Prompt-User
    Service-Type=Administrative-User
    Vendor-2636-Attr-1=0x6f70657261646f72
    Hw-Exec-Privilege=3
    Vendor-12356-Attr-1=0x4669726577616c6c5f41646d696e73
    Vendor-5003-Attr-35=0x000000c8
    Vendor-28557-Attr-2=0x0000001f
    Vendor-28557-Attr-1=0x00000000
    Vendor-28557-Attr-4=0x0000003f
    Vendor-28557-Attr-3=0xffffffff
    Cisco-AVPair="shell:priv-lvl=15"
    Vendor-3224-Attr-1=0x00000001
*Mar 27 13:06:16:295 2024 H3C_PRUEBAS RADIUS/7/PACKET:
 02 ba 00 b4 7f 55 52 7e 97 73 e4 81 2b 9a a5 32
 1a b0 ec 23 06 06 00 00 00 07 06 06 00 00 00 06
 1a 10 00 00 0a 4c 01 0a 6f 70 65 72 61 64 6f 72
 1a 0c 00 00 07 db 1d 06 00 00 00 03 1a 17 00 00
 30 44 01 11 46 69 72 65 77 61 6c 6c 5f 41 64 6d
 69 6e 73 1a 0c 00 00 13 8b 23 06 00 00 00 c8 1a
 0c 00 00 6f 8d 02 06 00 00 00 1f 1a 0c 00 00 6f
 8d 01 06 00 00 00 00 1a 0c 00 00 6f 8d 04 06 00
```

## 问题描述

客户需要用我司设备替代华为设备，在客户原有的环境华为设备上线认证获得level3的权限，替换我司设备后，登陆设备发现权限很低，通过dis user-interface 看是level3，怀疑是采用了华为属性导致的，没有获得network-admin级别的权限。

## 过程分析

分析有两种解决方法

1. 在客户的free-radius上添加我司的私有属性
2. 直接在思科属性上添加我司设备可以识别的思科属性，但该方案需要去掉华为属性，因为客户组网里有华为设备固放弃该方法。

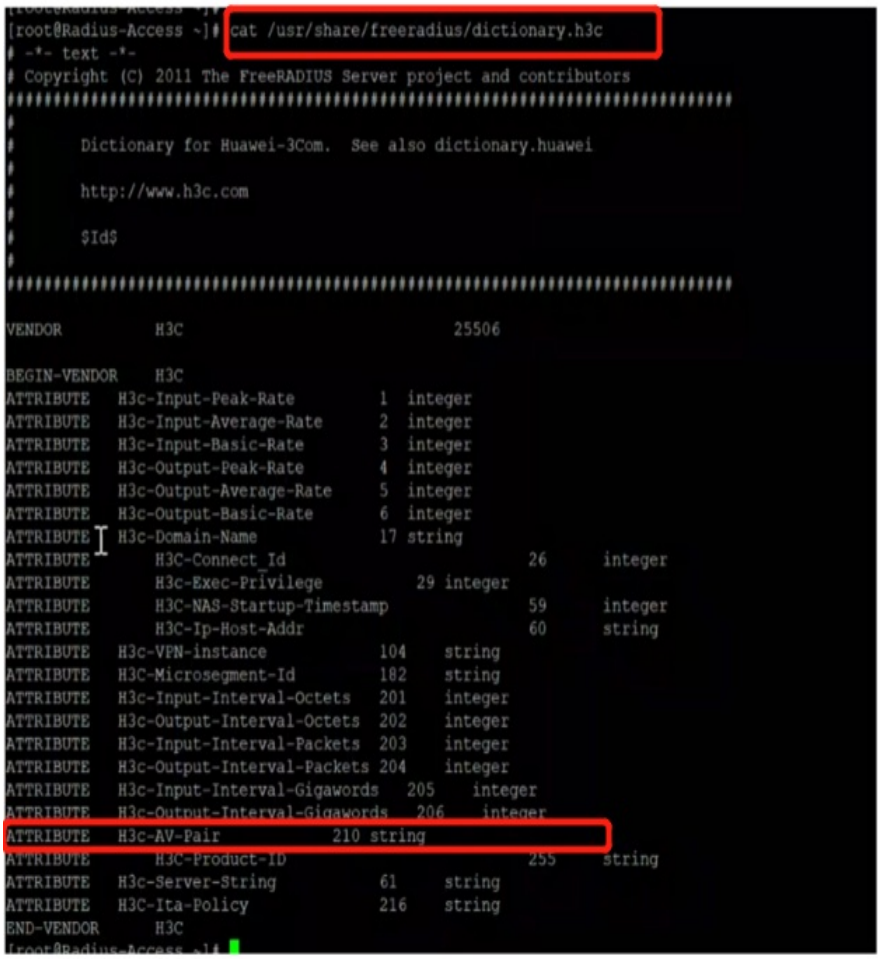
## 解决方法

在客户free-radius服务器上添加我司私有属性步骤

l第一步： 在free-radius目录下寻找dictionary.h3c（如果没有需要添加该文件）然后在该文件下添加

**ATTRIBUTE H3c-AV-Pair 210 string**

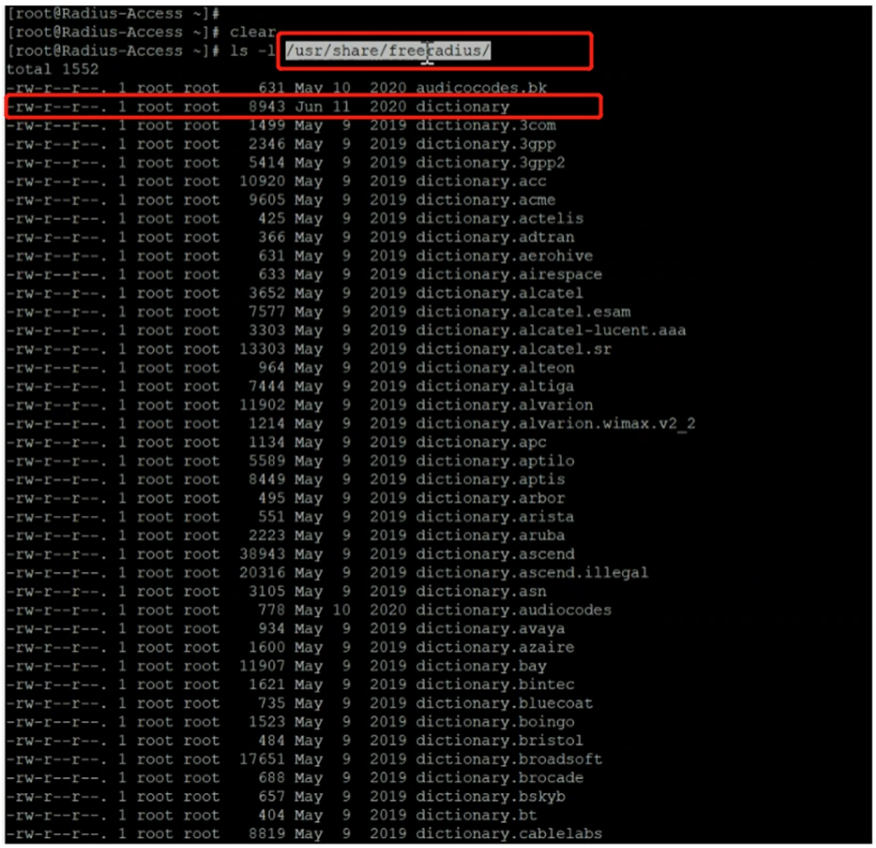
路径和添加结果如图所示




l 第二步：在free-radius目录下找到“dictionary”文件，之后添加以下字符（与其他字典放在一起，不要在最前面或者最后面）

**$INCLUDE dictionaries/dictionary.h3c**

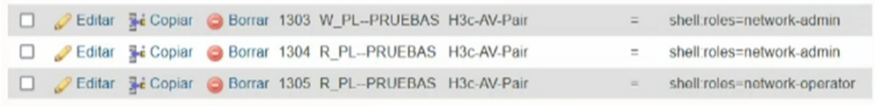
路径和添加结果如图所示



```
$INCLUDE dictionary.dragonwave
$INCLUDE dictionary.efficientip
$INCLUDE dictionary.eltex
$INCLUDE dictionary.epygi
$INCLUDE dictionary.erx
$INCLUDE dictionary.equallogic
$INCLUDE dictionary.ericsson
$INCLUDE dictionary.ericsson.ab
$INCLUDE dictionary.ericsson.packet.core.networks
$INCLUDE dictionary.extreme
$INCLUDE dictionary.f5
$INCLUDE dictionary.fdxtended
$INCLUDE dictionary.freeradius
$INCLUDE dictionary.freeswitch
$INCLUDE dictionary.fortinet
$INCLUDE dictionary.foundry
$INCLUDE dictionary.gandalf
$INCLUDE dictionary.h3c
$INCLUDE dictionary.hp
$INCLUDE dictionary.huawei
$INCLUDE dictionary.iea
$INCLUDE dictionary.infonet
$INCLUDE dictionary.issanni
$INCLUDE dictionary.itk
$INCLUDE dictionary.ipunplugged
$INCLUDE dictionary.juniper
$INCLUDE dictionary.karlnet
```

l 第三步：在用户文件中的“用户授权属性”中增加如下授权字段（对于实验室环境是在free-radius添加路径为freeradius/etc/raddb/users，在客户环境是远程数据库，因为涉密没有看到路径）

添加后的结果如下图所示




l 第四步：做完所有的操作后需要重启Free-radius软件

l 第五步：打开debug radius packet，SSH触发认证后检查H3C属性是否生效。使用*display users* 查看用户获取的权限是否为“network-admin”

正确结果debug日志如下图所示

```
*Apr 23 21:31:52:718 2024 H3C_PRUEBAS
RADIUS/7/EVENT: Sent request packet and create
request context successfully.
*Apr 23 21:31:52:718 2024 H3C_PRUEBAS
RADIUS/7/EVENT: Added request context to global
table successfully.
*Apr 23 21:31:52:718 2024 H3C_PRUEBAS
RADIUS/7/EVENT: Processing AAA request data.
*Apr 23 21:31:52:722 2024 H3C_PRUEBAS
RADIUS/7/EVENT: Reply SocketFd recieved EPOLLIN
event.
*Apr 23 21:31:52:722 2024 H3C_PRUEBAS
RADIUS/7/EVENT: Received reply packet
succuessfully.
*Apr 23 21:31:52:723 2024 H3C_PRUEBAS
RADIUS/7/EVENT: Found request context, dstIP:
10.20.252.4, dstPort: 1812, VPN instance: --
(public), socketFd: 40, pktID: 43.
*Apr 23 21:31:52:723 2024 H3C_PRUEBAS
RADIUS/7/EVENT: The reply packet is valid.
*Apr 23 21:31:52:724 2024 H3C_PRUEBAS
RADIUS/7/EVENT: Decoded reply packet successfully.
*Apr 23 21:31:52:724 2024 H3C_PRUEBAS
RADIUS/7/PACKET:
    H3c-AVPair="shell:roles=network-admin"
*Apr 23 21:31:52:725 2024 H3C_PRUEBAS
RADIUS/7/PACKET:
 02 2b 00 35 89 e8 11 1f d2 31 e0 8d 12 53 11 19
 30 ce 9e 85 1a 21 00 00 63 a2 d2 1b 73 68 65 6c
 6c 3a 72 6f 6c 65 73 3d 6e 65 74 77 6f 72 6b 2d
```

## 注意事项

Free-radius重启会导致几分钟的认证业务中断，重启前确认有备份文件再重启