



MSR2600-X1设备内存异常导致重启问题经验案例

内存

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问题描述

某局点MSR2600-X1设备运行中重启，重启后保存诊断查看上次重启原因为内存耗尽。
H3C Comware Software, Version 7.1.064, Release 0809P33
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H3C MSR2600 uptime is 0 weeks, 0 days, 1 hour, 16 minutes
Last reboot reason : Memory exhausted

过程分析

查看设备日志，重启前有大量尝试登陆设备日志、登陆设备失败日志，及用户线占满日志。怀疑内存异常与登陆设备用户太多有关。

```
%@6670762%Jul 8 11:41:02:244 2022 H3C PWDCTL/6/PWDCTL_ADD_BLACKLIST: admin was added to the blacklist for failed login attempts.
```

.....

```
%@6671336%Jul 8 11:42:17:926 2022 H3C TELNETD/6/TELNETD_REACH_SESSION_LIMIT: Telnet client 1.1.1.1 failed to log in. The current number of Telnet sessions is 32. The maximum number allowed is (32).
```

```
%@6671337%Jul 8 11:42:17:966 2022 H3C TELNETD/6/TELNETD_REACH_SESSION_LIMIT: Telnet client 1.1.1.1 failed to log in. The current number of Telnet sessions is 32. The maximum number allowed is (32).
```

```
%@6671338%Jul 8 11:42:17:975 2022 H3C TELNETD/6/TELNETD_REACH_SESSION_LIMIT: Telnet client 1.1.1.1 failed to log in. The current number of Telnet sessions is 32. The maximum number allowed is (32).
```

.....

```
%@6671339%Jan 1 08:00:00:000 2011 H3C SYSLOG/6/SYSLOG_RESTART: System restarted -- H3C Comware Software.
```

查看设备flash中的文件，lauth.dat文件占了约390M，该文件多用于存储认证相关信息，内容不应该有这么多。该文件大说明设备认证有异常信息。

```
=====dir /all /all-filesystems=====
```

Directory of flash: (YAFFS2)

.....

```
7 -rw- 396870 Jul 08 2022 13:03:01 lauth.dat
```

查看诊断中的密码控制黑名单，发现存在大量表项，该表项用于记录客户端尝试登陆设备次数。按照password-control功能配置，客户端登陆设备失败3次后会被加入黑名单锁定，如失败2次后不再继续尝试，按照设备当前实现，该表项会长时间记录于设备上，导致内存占用持续增长。现网设备暴露于公网环境，受到来自很多客户端的登陆尝试，因此该表项内容持续增长，最终导致内存耗尽，设备重启。

```
=====display password-control blacklist=====
```

Blacklist items matched: 11002.

Username	IP address	Login failures	Lock flag
admin	1.1.1.2	2	unlock
admin	1.1.1.3	2	unlock
admin	1.1.1.4	2	unlock
admin	1.1.1.5	1	unlock

解决方法

1. 可以对ssh/telnet用户配置acl，限制能够登陆设备的源ip，避免产生大量黑名单表项；
2. 如设备已产生大量黑名单表项，可通过reset password-control blacklist暂时清除，释放内存。

