

由ALARM记录器进程的高CPU使用率在运行IOS- XR的路由器

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简介

tacacsd是关联与TACACS AAA服务的IOS XP进程。本文讨论能导致运行IOS XP版本4.2.X的路由器或降低观察不变高CPU利用率的软件Bug和其症状。

先决条件

本文档没有任何特定的要求。

使用的组件

在本文涉及的问题适用于Cisco GSR、运行IOS XP的ASR9000、CRS和其他路由器。下面使用的输出从实验路由器运行IOS XP版本比4.2.X被采取了更低。

问题

路由器运行IOS XP版本4.2.X的或更低可能观察不变高CPU利用率由于ALARM记录器进程由于已知软件Bug。**Show process CPU**输出将显示ALARM记录器进程消耗的最大数量CPU利用率。

```
show proc cpu | ex "0% 0% 0%"
```

```
CPU utilization for one minute: 100%; five minutes: 100%; fifteen minutes: 100%
```

```
PID 1Min 5Min 15Min Process
```

```
<snip>
```

```
53281 2% 2% 2% syslogd_helper  
57379 1% 1% 1% fabricq_prp_driver  
69636 1% 1% 1% correlator  
69677 6% 6% 6% syslogd  
118842 1% 1% 1% sysdb_svr_local  
122962 3% 3% 3% gsp  
229604 2% 2% 2% eem_ed_syslog  
262456 1% 1% 1% tacacsd  
452726918 67% 71% 72% alarm-logger
```

463302887 1% 1% 1% exec

<snip>

在操作日志缓冲区中您可以发现连续日志类似于：

tacacsd : %SECURITY-TACACSD-7-GENERIC_ERROR : 失败对获得请求为：密钥-会话

show log

<snip>

```
RP/0/7/CPU0:Dec 26 04:02:03.149 : tacacsd[1110]: %SECURITY-TACACSD-6-SERVER_UP :
TACACS+ server 32.95.X.X/XXXX is UP
RP/0/7/CPU0:Dec 26 04:02:05.956 : tacacsd[1110]: %SECURITY-TACACSD-6-SERVER_DOWN :
TACACS+ server 32.95.X.X/XXXX is DOWN - Socket 43: Connection timed out
RP/0/7/CPU0:Dec 26 04:02:09.468 : tacacsd[1110]: %SECURITY-TACACSD-6-SERVER_DOWN :
TACACS+ server 199.37.X.X/XXXX is DOWN - Socket 43: Connection timed out
RP/0/7/CPU0:Dec 26 04:02:09.647 : tacacsd[1110]: %SECURITY-TACACSD-6-TIMEOUT_IGNORED :
A time out event has been ignored for context key -953829129/1073/60000000/6486405
(session 6486405)
RP/0/7/CPU0:Dec 26 04:02:11.647 : tacacsd[1110]: %SECURITY-TACACSD-7-GENERIC_ERROR :
Failed to get request for: key -953829129/1073/60000000/6486405 session 105407493
RP/0/0/CPU0:last message repeated 520 times
RP/0/7/CPU0:Dec 26 04:02:34.064 : tacacsd[1110]: %SECURITY-TACACSD-6-SERVER_UP :
TACACS+ server 32.95.X.X/XXXX is UP
RP/0/7/CPU0:Dec 26 04:02:34.064 : tacacsd[1110]: %SECURITY-TACACSD-7-GENERIC_ERROR :
Failed to get request for: key -953829129/1073/60000000/6486405 session 105407493
```

ALARM记录器和tacacsd进程详细资料能被看到作为下面。

show processes alarm-logger

<snip>

```
Job Id: 114
PID: 135303
Executable path: /c12k-os-4.2.4/sbin/alarm-logger
Instance #: 1
Version ID: 00.00.0000
Respawn: ON
Respawn count: 1
Max. spawns per minute: 12
Last started: Tue Aug 13 02:17:23 2013
Process state: Run
Package state: Normal
core: MAINMEM
Max. core: 0
Level: 91
Placement: None
startup_path: /pkg/startup/alarm-logger.startup
Ready: 0.672s
Process cpu time: 1401.018 user, 49.774 kernel, 1450.792 total
JID TID Stack pri state TimeInState HR:MM:SS:MSEC NAME
114 1 88K 10 Receive 0:00:02:0071 0:00:40:0919 alarm-logger
114 2 88K 10 Receive 3242:46:17:0308 0:00:00:0000 alarm-logger
114 3 88K 10 Reply 0:00:00:0000 0:23:08:0029 alarm-logger
114 4 88K 10 Mutex 0:00:00:0000 0:00:21:0957 alarm-logger
```

<snip>

show processes tacacsd

<snip>

```
Job Id: 1110
PID: 266551
```

```
Executable path: /disk0/iosxr-infra-4.2.4/bin/tacacsd
Instance #: 1
Version ID: 00.00.0000
Respawn: ON
Respawn count: 1
Max. spawns per minute: 12
Last started: Tue Aug 13 02:23:47 2013
Process state: Run
Package state: Normal
Started on config: cfg/gl/aaa/tacacs/
Process group: central-services
core: MAINMEM
Max. core: 0
Placement: Placeable
startup_path: /pkg/startup/tacacsd.startup
Ready: 3.954s
Process cpu time: 1010.118 user, 185.932 kernel, 1196.050 total
JID TID Stack pri state TimeInState HR:MM:SS:MSEC NAME
1110 1 108K 16 Sigwaitinfo 3242:46:40:0742 0:00:00:0116 tacacsd
1110 2 108K 10 Nanosleep 0:01:03:0835 0:00:00:0019 tacacsd
1110 3 108K 10 Receive 3242:46:41:0593 0:00:00:0002 tacacsd
1110 4 108K 10 Reply 0:00:00:0000 0:08:55:0970 tacacsd
1110 5 108K 16 Receive 3242:46:40:0771 0:00:00:0000 tacacsd
1110 6 108K 10 Receive 0:07:07:0403 0:04:03:0462 tacacsd
1110 7 108K 10 Receive 0:00:01:0389 0:03:28:0939 tacacsd
1110 8 108K 10 Receive 0:00:01:0332 0:03:03:0622 tacacsd
```

<snip>

高CPU导致由于造成ALARM记录器缓冲区的充斥系统消息获得全双工。因此ALARM记录器进程依然是忙碌同时尝试处理消息的和面对缓冲区全双工情况。在这种情况下，TACACS进程是压倒多数ALARM记录器。因为ALARM记录器是受害者，重新启动ALARM记录器进程不会帮助，共享内存缓冲区依然是不变在process restart以后。

解决方案

此问题通过软件Bug CSCuh98484解决了并且修复- Tacacsd “失败对获得要求关键”错误原因高CPU。Bug详细信息在存在[此处](#)

请注意:重新启动tacacsd进程是应该终止日志，并且CPU利用率应该返回到正常级别的应急方案。重新启动tacacsd进程不会影响任何功能或数据包转发，在其初始状态将放置进程。

此bug在以下IOS XP版本修复。

- 4.3.2.SP2
- 4.3.2.SP3
- 4.3.2.SP5
- 4.3.2.SP6
- 4.3.2.SP7
- 4.3.2.SP8