SPECpower报错解决

WARNING1：版本过时

报错如下：WARNING: PTDaemon 1.9.1-3caa3cc4-20190717 is over 12 months old. Check **http://www.spec.org/power/docs/SPECpower-Device_List.html** to determine if a newer version is available. (see Run Rules Section **1.1**)

解决方法：

1. 打开SPEC PTDaemon™ Tool的**Accepted Measurement Devices**可以查到支持SPECpower_ssj2008的功耗仪和温度传感器列表，获取 **SPEC-updater的更新**

   SPEC PTDaemon™ Tool

   The SPEC PTDaemon™ tool is used to control benchmarks that contain a power measurement component. This tool controls the power analyzers and is updated as needed to support new analyzers and features. The current version is V1.9.1, released on August 1st, 2019.

   The SPEC PTDaemon tool is **distributed** as part of selected SPEC licensed software; **SPECpower_ssj® 2008, SERT™ tool and SPECvirt_sc® 2013.** Each benchmark has its own independent requirement for a minimum version of the PTDaemon tool.

   To obtain the latest version, go to SPEC PTDaemon update pages. (https://www.spec.org/power/docs/SPECpower-PTD-Update_Process.html)

2. 下载对应版本的更新包，按照教程更新即可

   To apply a SPEC PTDaemon tool update, do the following:

   1. The update process requires you to already have the full binary of a given version of the SPEC PTDaemon tool, and a connection to the internet while running the actual update utility itself.
   2. Create a directory for your update process
   3. Download the SPEC-updater v0.6 zip or SPEC-updater v0.6 tar to that directory
   4. Unzip or untar the package. The update tool is invoked from the SPEC-updater.bat or SPEC-updater sh script found in the bin directory of the package.
   5. Run the updater:

   Window版 Linux版

本实验使用的温度传感器是**USB9097 + DS18B20**；功耗仪使用的是**PA1000**；

在CCS端首先需要使用**spec-updater**来更新`\SPECpower\PTDaemon`下的`ptd-windows-x86.exe`(`runpower.bat`和`runtemp.bat`都会调用)

- 将下载好的**SPEC-updater v0.6 zip**]在本地解压，然后将`ptd-windows-x86.exe`放入`\SPEC-updater\bin`目录下，打开`cmd`终端

  ```
  # 切换到\SPEC-updater\bin目录下
  C:\Users\Reanon>cd C:\SPECpower\PTDaemon\SPEC-updater\bin
  # 更新ptd-windows-x86.exe 为 ptd-windows-x86new.exe
  C:\SPECpower\PTDaemon\SPEC-updater\bin>spec-updater update ptd-windows-x86.exe ptd-windows-x86new.exe
  # 使用ptd-windows-x86new.exe -h查找帮助文档
  C:\SPECpower\PTDaemon\SPEC-updater\bin>ptd-windows-x86new.exe -h
  ```

- 通过更新过的`ptd-windows-x86new.exe -h`可以看到以下查找到对应的功率分析仪和温度传感器型号的`Device type`

- ```
  Power Analyzer device types:
  ```
  ```

```
for AC power measurements:
  0. *Dummy (testing only)             8. Yokogawa WT210
 14. Instek GPM-8212                  16. ZES LMG450:1-Channel
 17. ZES LMG450:4-Channel             18. ZES LMG500:1-Channel
 19. ZES LMG500:4-Channel             22. ZES LMG95
 23. Voltech PM1000+                  25. Infratek 107A-1
 28. Xitron 280X:1-Channel            31. Chroma 66202
 33. Hioki 3334                       35. Yokogawa WT500:1-Channel
 36. Yokogawa WT500:MULTIPHASE        37. ZES LMG450:3-Phase
 38. ZES LMG500:3-Phase               41. N4L PPA15X0:1-Channel
 44. N4L PPA55X0:1-Channel            47. Yokogawa WT1800:1-Channel
 48. Yokogawa WT500:MULTICHANNEL      49. Yokogawa WT310
 50. N4L PPA5X0:1-Channel             51. Chroma 66203 66204:1ch
 52. Yokogawa WT330:1-Channel         53. Yokogawa WT330:3-Phase
 56. **Tektronix PA1000                 57. Hioki PW3335
 58. Hioki PW3336:1-Channel           59. Hioki PW3336:2-Channel
 60. Hioki PW3337:1-Channel           61. Hioki PW3337:3-Channel
 62. Hioki PW3337:3-Phase             65. Chroma 66205
 66. Yokogawa WT5000:1-Channel        67. Yokogawa WT5000:3-Phase

for DC power measurements:
 500. *DC Dummy (testing only)        508. DC Yokogawa WT210
 522. DC ZES LMG95                    535. DC Yokogawa WT500:1-Channel
 549. DC Yokogawa WT310               550. DC N4L PPA5X0:1-Channel
 551. DC Chroma 66203 66204:1ch       556. DC Tektronix PA1000
 557. DC Hioki PW3335                 565. DC Chroma 66205
 566. DC Yokogawa WT5000:1-Channel

Temperature sensor device types:
 1000. *Dummy (testing only)          1001. Digi Watchport/H
 1002. Temperature@lert               1003. Digi Watchport/T
 1004. iButtonLink T-Sense/T-Probe    1005. **PCsensor USB9097+DS18B20
```

- 由上面的信息可知虚拟模式下（Dummy model），功率分析仪和温度传感器：
  - 配置runpower.bat（功率分析仪）：`set DEVICE=0`
  - 配置runtemp.bat（温度传感器）：`set DEVICE=1000`
- 实际情况是
  - 配置功率仪DC Tektronix PA1000：`set DEVICE=556`
  - 配置PCsensor USB9097+DS18B20：`set DEVICE=1005`

2.1.1 runpower.bat or runpower.sh

在linux下更新ptd-linux-x86

```
# 添加执行权限
[root@reanon bin]# chmod +x SPEC-updater
# 执行脚本
[root@localhost bin]#./SPEC-updater update ptd-linux-x86 ptd-linux-x86new
# 查看帮助文档
[root@reanon bin]# ./ptd-linux-x86new -h
```

如果更新完依然提示“over 12 months old”，是因为当前官网没有更加新的update包。

WARNING2：功耗仪自动量程

报错信息：WARNING: Autoranging was enabled for current on Power Analyzer "pwr1". The use of autoranging is discouraged. (see Run Rules Section 2.13.2)

解决方法

这里提示功耗分析仪自动量程（autoranging），软件报出的是警告，会对结果有影响，但是可以暂时忽略。

10-29-2020 18:58:10.606,Watts,173.440000,Volts,220.270000,Amps,0.878080,PF,0.896400,Mark, *002_cal_rc*
10-29-2020 18:58:11.530: Response to client sent:
Watts,173.440000,Volts,220.270000,Amps,0.878080,PF,0.896400

WARNING3：额定网速过慢

Set sut WARNING: The network speed is less than 1 Gbit. For compliant results, this is allowed only if the network adapter at its full rated speed. (see Run Rules Section 2.11.2.1)

解决方法：

可能是需要网线直连

INVALID1：功耗仪采集无效

报错信息：INVALID: Power Analyzer "pwr1" had 233 samples with unknown uncertainty out of 233 total samples (100.0%) in interval 0, exceeding the threshold of 1.0%. (see Run Rules Section 2.5.2)

解决方法

报这个错误，说明功耗分析仪采集的数据不对，主要是因为没有固定功耗分析的量程。

INVALID2：功耗仪电压过高

报错信息：INVALID: The voltage (201V) reported by power analyzer 'pwr1' rose above the maximum allowed voltage (126V) for the standard specified in config.line.standard.voltage (see Run Rules Section 2.8)

问题解决

这里的问题说明，实际采集到的电压比设置的电压要高，所有会出错。需要设置 `ssj/SPECpower_ssj_config.props`

需要修改为中国的供电方式，一般三线插头是单相两线供电（虽然有三根，但是一根火线一根零线一个接地线）。

```
# The voltage (integer: 100, 110, 120, 208, 220, 230 -- if other, describe
# in config.notes)
```

```
# 设置电压
config.line.standard.voltage=220

# Frequency of the voltage in Hz (50, 60 -- must be an integer)
# 设置频率
config.line.standard.frequency=50

# Phases used to provide the voltage (must be an integer)
# 设置几相供电
config.line.standard.phase=1

# Wires used to provide the voltage (must be an integer)
config.line.standard.wires=2
```