TRP LABORATORIES

CyFlex® Knowledge Article

Tracking Run Time at CyFlex Test Cells

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1 Introduction

There are numerous variables that are updated by `cell mon` to track run time at CyFlex test cells. The accumulation is controlled by logical variables as well as configuration to define threshold values that trigger accumulation. This Knowledge Article describes these variables.

2 Run Time Tracking Variables

Five variables are created by perf_labels using /cell/perf_labels that track test cell usage:

- Cell_meter
- engine_hrs
- test_hrs
- down_hrs
- unalloc_hrs

Four logical variables are created by perf_labels using /cell/perf_labels that affect how hours are accumulated or indicate the status of the tracking process:

- Tst_hrs_acc
- Tst_hrs_enab
- Cell_mtr_acc
- Hr_meter_run

Another logical variable is created by sys_start using /cell/logi_specs and is updated by cell_mon which sets it ON if the ctl_spd is greater than 100[rpm]:

- Engine_Run

There is also a threshold variable, hr_meter_th, that is created by perf_labels and specified in perf_labels or in the cell_special file that is used to determine when hours should be accumulated. If it is specified in perf_labels, the value should not be changed. If specified in the cell_special file, the value can be changed. Experiments show that the units can also be changed without causing any obvious problem.

The threshold is compared to the value of a variable specified in /specs/spcl_chans as the HOUR_METER_VARIABLE. Standard practice is to use Speed as that variable, but other parameters can be used and could potentially have different units. Hours will accumulate when the threshold is exceeded as described in the logic below.

cell_mon receives a timer event in the following conditions:

- If an HOUR_METER_VARIABLE has been specified in /specs/spcl_chans
- If the value of the specified variable is greater than the hr_meter_th value:
  The hr_meter_run logical is set ON.
- Else if the Cell_mtr_acc logical variable is OFF:
  The hr_meter_run logical is set OFF.
- Else if Cell_mtr_acc is ON:
  The hr_meter_run logical is set ON.

The following occurs regardless of the preceding information:

- If `hr_meter_run` is `ON` or `Cell_mtr_acc` is `ON`:
  Increment the value of `Cell_meter` by one-time increment.
- If `Tst_hrs_enab` is `ON` and either `Tst_hrs_acc` or `hr_meter_run` is `ON`:
  Increment the value of `test_hrs` by one-time increment.
- If `Engine_Run` is `ON`:
  Increment the value of `engine_hrs` by one-time increment.
- If `hr_meter_run` is `OFF` and either `Tst_hrs_acc` or `Tst_hrs_enab` is `OFF`:
  Increment the value of `down_hrs` by one-time increment.
  Increment the value of `unalloc_hrs` by one-time increment.