ECB Resource Monitor Test Driver User's Guide

The resource monitor test driver tests that the TPF system will take a designated action when the ECB usage of a certain system resource is exceeded.

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                                    .------.
                                    V      |   +-RCT-No-+   +-Verbose---+
>>-ZTEST ECBM -+-+------+-+------+--resrc-+--+-------+--+-----------+---+-><
              | |      | |      |                +-RCT-Yes+   +-NOVerbose-+    |
              | '-|GP|-' '-|LS|-'                                              |
              |                                                               |
              '-- Display ---------------------------------------------------'
              |                                                               |
              '-- HELP -----------------------------------------------------'


  GP - Group Parameters

    |--- GROUP API-api CHILDEcbs-xx(.yy(.zz))---+---------+------------->
                                                +- Case-c -+

   api: CREMC  CREDC  CREXC  CREEC  CRESC  SWISC  SWISCNG  FORK  TFORK  PTHRD

   xx:  # of ECBs to be created by the parent ECB using specified create API
   yy:  # of ECBs to be created by each child of the parent ECB
   zz:  # of ECBs to be created by each grandchild of the parent ECB

   Case-c - Special test cases for Group Monitoring

  LS - LSETNAME

   |--- LSETNAME-lsetname ------------------------------------------------|


  resrc - Resource limits and values (One or more of the following)

    resLimit:  CMBKLimit-n  CRETLimit-n  FINDLimit-n  FILELimit-n
               FILRLimit-n  FILTLimit-n  GFSLLimit-n  GFSSLimit-n
               GRFSLimit-n  RELFLimit-n  ROUTLimit-n  SERRLimit-n _
               SNAPLimit-n  SWBKLimit-n  SYSHLimit-n  TOURLimit-n
               TWRTLimit-n  WTORLimit-n  WTOTLimit-n

    resValue:  CMBK-n  CRET-n  FIND-n  FILE-n  GFSL-n  GFSS-n  GRFS-n  RELF-n
               ROUT-n  SERR-n  SNAP-n  SWBK-n  SYSH-n  TOUR-n  TWRT-n

  RCT - show Record Count Table

  SVT - very quiet, only write errors

  Display - show resource limits
```

LSETNAME-*lsetname*

changes the ECB's copy of the resource limit table (RLT) to that of a predefined named limit set.[1] When the ECB is created, the ECB's RLT is copied (via a tpf_ecbmc_query C function) from the core copy of the system's default RLT. This LSETNAME parameter changes the ECB's RLT values via a tpf_ecbm_query_lsetname C function call (by specifying the named limit set) and issues a message that shows the resource Limits of the ECB's RLT, so that you can confirm the changes. When the LSETNAME parameter is specified, the ECB's RLT settings are changed before any requested resources are consumed.

[1] Note: The predefined named limit set is created using the ZECBM command specifying the CREATE (GROUP) LSETNAME parameters. A resource value's limits and the action taken by the system when that limit is exceeded are defined using the ZECBM command specifying the SET parameter. If the specified LSETNAME has not been predefined via ZECBM ADD LSETNAME, the system will return an error message.

GROUP

Takes action on a predefined specified named limit set for group ECB resource monitoring.

API-*api*

api is the create-type function used to create all child ECBs specified by the CHILDEcbs parameter. Issue ZTEST ECBM HELP to see a list of acceptable create apis.

CHILDEcbs-xx(.yy(.zz))

    xx: # of ECBs to be created by the parent ECB using specified create API
    yy: # of ECBs to be created by each child of the parent ECB
    zz: # of ECBs to be created by each grandchild of the parent ECB

Case-1

Turn ON unlimited resources switch for the parent ECB. All child ECBs should inherit this setting.

Case-2

Turn OFF unlimited resources switch for the parent ECB, but ON for all child ECBs to verify that the child ECB(s) leaves the group due to unlimited resources

Case-3

Turn ON unlimited resources switch for the parent ECB, but OFF for all child ECBs. The root parent shouldn't become part of group, but the 1st generation child should create the group for 2nd generation.

Case-4

Change the lsetname for the parent ECB. All child ECBs should inherit this lsetname.

resrc - one or more of resLimit and/or resValue

resValue -

n

> the number of a specified resource to consume for the ECB. For Group Monitoring, each ECB created by the driver will consume *n* of the specified resource.

CRET

> issues looping create-type C functions for a count specified by *n*.

CMBK

> issues looping GETFC macros (GETFC BLOCK=YES, COMMON=YES) for a count specified by *n*.

FILE

> issues looping file-type C functions for a count specified by *n*.

FIND

> issues looping find-type C functions for a count specified by *n*.

GFSL

> issues looping get-type C functions for long-term pool storage for a count specified by *n*.

GFSS

> issues looping get-type C functions for short-term pool storage for a count specified by *n*.

GRFS

> issues looping get-type C functions for a count specified by *n*.

RELF

> issues looping RELF macro requests for a count specified by *n*.

ROUT

> issues looping ROUTC macro requests for a count specified by *n*.

SERR

> issues looping serrc_op C functions for a count specified by *n*.

SNAP

issues looping SNAPC macro requests for a count specified by *n*.

SWBK

issues looping GSWBC macros for a count specified by *n*.

SYSH

issues looping heap-type C functions (gsysc) for a count specified by *n*.

TOUR

issues looping TOURC macro requests for a count specified by *n*.

TWRT

issues looping TWRTC macro requests for a count specified by *n*.

resLimit -

Note: Altering ECB resource limits changes the ECB's copy of the Resource Limit Table (RLT). When the ECB is created, the ECB's RLT is copied (by the system via a tpf_ecbmc_query C function) from the core copy of the system RLT. This parameter issues the tpf_ecbmc_set C function (which alters the current settings of the ECB's RLT) and issues a message that shows the resource limits of the ECB copy of the RLT, so that you can confirm the changes. When ECB resource limits are specified by a driver command, the ECB's RLT settings are changed before any requested resources are consumed.

n

the maximum number of a specified resource that can be consumed by an ECB before the system-defined action(s) is(are) taken.

CMBKLimit

changes the number of common blocks that the ECB can consume before taking an action.

CRETLimit

changes the number of create-type C functions that the ECB can issue before taking an action.

FILELimit

changes the number of file-type C functions that the ECB can issue before taking an action.

FILRLimit

together with the FILTLimit parameter, changes the number of file-type C functions that the ECB can issue in a given time before taking an action. FILRLIMIT is the number of file-type C functions. If FILRLimit is specified, FILTLimit must also be specified.

FILTLimit

together with the FILRLimit parameter, changes the number of file-type C functions that the ECB can issue in a given time before taking an action. FILTLimit is the time in number milliseconds. If FILTLimit is specified, FILRLimit must also be specified.

FINDLimit

changes the number of find-type C functions that the ECB can issue before taking an action.

GFSLLimit

changes the number of get file (GETFC) long-term pool storage requests that the ECB can issue before taking an action.

GFSSLimit

changes the number of get file (GETFC) short-term pool storage requests that the ECB can issue before taking an action.

GRFSLimit

changes the number of get file storage requests that the ECB can issue before taking an action.

RELFLimit

changes the number of RELFC macro requests that the ECB can issue before taking an action

ROUTLimit

changes the number of ROUTC macro requests that the ECB can issue before taking an action

SERRLimit

changes the number of SERRC macro requests that the ECB can issue before taking an action.

SNAPLimit

changes the number of SNAPC macro requests that the ECB can issue before taking an action

SWBKLimit

changes the number of system work blocks that the ECB can consume before taking an action.

SYSHLimit

changes the number system heap requests that the ECB can issue before taking an action.

TOURLimit

changes the number of TOURC macro requests that the ECB can issue before taking an action

TWRTLimit

changes the number of TWRTC macro requests that the ECB can issue before taking an action

WTORLimit

together with the WTOTLimit parameter, changes the number of WTOPC functions that the ECB can issue in a given time before taking an action.

WTOTLimit

together with the WTORLimit parameter, changes the number of WTOPC functions that the ECB can issue in a given time before taking an action. WTOTLimit is the time in milliseconds.