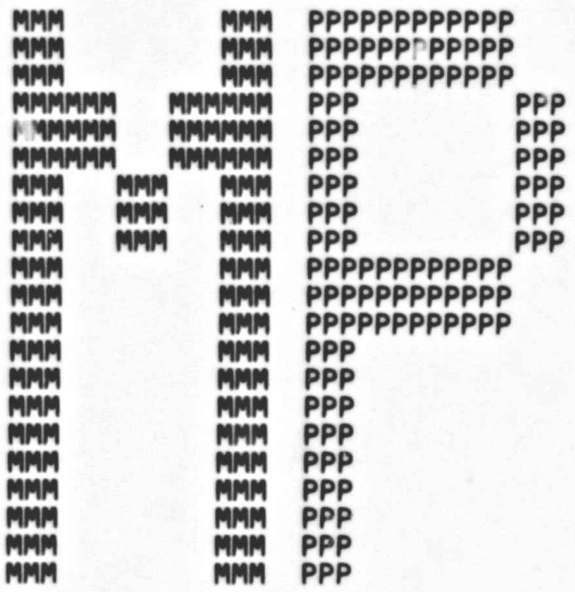
MMM MMM PPPPPPPPPPPP
MMM MMM PPPPPPPPPPPP
MMM MMM PPPPPPPPPPPP
MMMMMM MMMMMM PPP PPP
MMMMMM MMMMMM PPP PPP
MMMMMM MMMMMM PPP PPP
MMM MMM MMM PPP PPP
MMM MMM MMM PPP PPP
MMM MMM MMM PPP PPP
MMM MMM PPPPPPPPPPPP
MMM MMM PPPPPPPPPPPP
MMM MMM PPPPPPPPPPPP
MMM MMM PPP
MMM MMM PPP
MMM MMM PPP
MMM MMM PPP
MMM MMM PPP
MMM MMM PPP
MMM MMM PPP
MMM MMM PPP
MMM MMM PPP

```
MM      MM  PPPPPPPP      CCCCCCCC  LL          RRRRRRRR    PPPPPPPP    FFFFFFFFFF  MM      MM
MM      MM  PPPPPPPP      CCCCCCCC  LL          RRRRRRRR    PPPPPPPP    FFFFFFFFFF  MM      MM
MMMM  MMMM  PP      PP  CC        LL          RR      RR  PP      PP  FF          MMMM  MMMM
MMMM  MMMM  PP      PP  CC        LL          RR      RR  PP      PP  FF          MMMM  MMMM
MM  MM  MM  PP      PP  CC        LL          RR      RR  PP      PP  FF          MM  MM  MM
MM  MM  MM  PP      PP  CC        LL          RR      RR  PP      PP  FF          MM  MM  MM
MM      MM  PPPPPPPP    CC        LL          RRRRRRRR    PPPPPPPP    FFFFFFFF    MM      MM
MM      MM  PPPPPPPP    CC        LL          RRRRRRRR    PPPPPPPP    FFFFFFFF    MM      MM
MM      MM  PP          CC        LL          RR  RR      PP          FF          MM      MM
MM      MM  PP          CC        LL          RR  RR      PP          FF          MM      MM
MM      MM  PP          CC        LL          RR    RR    PP          FF          MM      MM      ....
MM      MM  PP          CC        LL          RR    RR    PP          FF          MM      MM      ....
MM      MM  PP            CCCCCCCC  LLLLLLLLLL  RR      RR  PP          FF          MM      MM      ....
MM      MM  PP            CCCCCCCC  LLLLLLLLLL  RR      RR  PP          FF          MM      MM      ....

LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

```
0000     1          .TITLE MPCLRPFM
0000     2          .IDENT  'V04-000'
0000     3
0000     4 ;
0000     5 ;*****************************************************************************
0000     6 ;*                                                                           *
0000     7 ;*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                  *
0000     8 ;*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                   *
0000     9 ;*  ALL RIGHTS RESERVED.                                                     *
0000    10 ;*                                                                           *
0000    11 ;*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED    *
0000    12 ;*  ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE   *
0000    13 ;*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER    *
0000    14 ;*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY    *
0000    15 ;*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY    *
0000    16 ;*  TRANSFERRED.                                                             *
0000    17 ;*                                                                           *
0000    18 ;*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE    *
0000    19 ;*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT   *
0000    20 ;*  CORPORATION.                                                             *
0000    21 ;*                                                                           *
0000    22 ;*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS    *
0000    23 ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                  *
0000    24 ;*                                                                           *
0000    25 ;*                                                                           *
0000    26 ;*****************************************************************************
0000    27 ;
0000    28
0000    29 ;++
0000    30 ;
0000    31 ; Facility:  Multi-processor performance measurement tool to re-init data cells
0000    32 ;
0000    33 ; Abstract:  This module resets all performance accumulators to zero.
0000    34 ;
0000    35 ; Environment: MODE=Kernel
0000    36 ;
0000    37 ; Author:  Kathleen D. Morse, Creation date:  27-Aug-1981
0000    38 ;
0000    39 ; Modified by:
0000    40 ;
0000    41 ;       V03-002 KDM0032         Kathleen D. Morse       22-Nov-1982
0000    42 ;                Remove wait time before secondary reschedule histogram.
0000    43 ;                Add secondary executed kernel system service histogram.
0000    44 ;
0000    45 ;
0000    46 ;--
0000    47
0000    48 ;
0000    49 ; Include files:
0000    50 ;
0000    51
0000    52 ;
0000    53 ; MACROS:
0000    54 ;
0000    55
0000    56 ;
0000    57 ; Equated Symbols:
```

```
                                0000     58 ;
                                0000     59
                                0000     60          $IPLDEF
                                0000     61          $PCBDEF
                                0000     62          $PHDDEF
                                0000     63
                                0000     64
                     00000000   0000     65 HST_L_CELLCOUNT = 0
                     00000004   0000     66 HST_L_CELLWIDTH = 4
                     00000008   0000     67 HST_L_OVRFLOW = 8
                     00000010   0000     68 HST_L_FIRSTCELL = 16
                                0000     69
                            00000000     70          .PSECT  RO_DATA LONG,NOWRT,NOEXE
                                0000     71
                                0000     72
                            00000000     73          .PSECT  CODE BYTE,NOWRT,EXE
                                0000     74 CLRPFM::
                                0000     75          .ENABL  LSB
                                0000     76          .WORD   0
                                0002     77          $CMKRNL_S       B^CLRDATA
                                000E     78          $EXIT_S RO
                                0017     79 ;
                                0017     80 ; CLRDATA - This routine goes into kernel mode and clears the performance
                                0017     81 ; data.
                                0017     82 ;
                                0017     83 CLRDATA::
                         007C   0017     84          .WORD   ^M<R2,R3,R4,R5,R6>
                                0019     85          SETIPL  #IPL$_TIMER             ;Synchronize on primary processor
                           50    D4  001C 86          CLRL    RO                              ;Assume error code exit
                   56  00000000'GF  D0  001E 87          MOVL    G^EXE$GL_MP,R6                  ;Get adr of loaded MP code
                           03    12  0025 88          BNEQ    5$                              ;Br if MP code is loaded
                         00F4    31  0027 89          BRW     ERR_EXIT                        ;Br if MP code not loaded
                                002A     90
                         51  06    9A  002A 91 5$:     MOVZBL  #6,R1                   ;One counter for K,E,S,U,I,C and null
                      0000'C641    D4  002D 92 10$:    CLRL    MPS$AL_CPUTIME(R6)[R1]
                            F8 51  F4  0032 93          SOBGEQ  R1,10$
                                0035     94
                         51  05    9A  0035 95          MOVZBL  #5,R1
                   00000000'GF41    D4  0038 96 20$:    CLRL    G^PMS$GL_KERNEL[R1]
                            F6 51  F4  003F 97          SOBGEQ  R1,20$
                                0042     98
                50  00000000'GF    9E  0042 99          MOVAB   G^SCH$GL_NULLPCB,RO
                      50  6C A0    D0  0049 100         MOVL    PCB$L_PHD(RO),RO
                          38 A0    D4  004D 101         CLRL    PHD$L_CPUTIM(RO)
                                0050     102
                          0000'C6  D4  0050 103         CLRL    PFM$L_CNT_CTXSW(R6)
                          0000'C6  D4  0054 104         CLRL    PFM$L_CNT_RESCH(R6)
                          0000'C6  D4  0058 105         CLRL    PFM$L_CNT_SCHDS(R6)
                          0000'C6  D4  005C 106         CLRL    PFM$L_CNT_INVAL(R6)
                          0000'C6  D4  0060 107         CLRL    PFM$L_CNT_IWAIT(R6)
                          0000'C6  D4  0064 108         CLRL    PFM$L_CNT_EXCHG(R6)
                          0000'C6  D4  0068 109         CLRL    PFM$L_CNT_ASTSC(R6)
                          0000'C6  D4  006C 110         CLRL    PFM$L_CNT_NWAIT(R6)
                                0070     111
                50    0000'C6  9E  0070 112         MOVAB   PFM$A_HIST_TIME(R6),RO
                51    04   60  C5  0075 113         MULL3   HST_L_CELLCOUNT(RO),#4,R1
                          51   0C  C0  0079 114         ADDL    #12,R1                          ;Add in overflow cell
```

```
                50   08   C0  007C   115          ADDL    #HST_L_OVRFLOW,R0
        60  51  00   60   00  2C  007F   116          MOVC5   #0,(R0),#0,R1,(R0)              ;Clear performance meas data
                                 0085   117
                50   0000'C6   9E  0085   118          MOVAB   PFM$A_HIST_SRV(R6),R0
                51   04   60    C5  008A   119          MULL3   HST_L_CELLCOUNT(R0),#4,R1
                     51   0C    C0  008E   120          ADDL    #12,R1                          ;Add in overflow cell
                     50   08    C0  0091   121          ADDL    #HST_L_OVRFLOW,R0
        60  51  00   60   00  2C  0094   122          MOVC5   #0,(R0),#0,R1,(R0)              ;Clear performance meas data
                                 009A   123
                50   0000'C6   9E  009A   124          MOVAB   PFM$A_HIST_CTX(R6),R0
                51   04   60    C5  009F   125          MULL3   HST_L_CELLCOUNT(R0),#4,R1
                     51   0C    C0  00A3   126          ADDL    #12,R1                          ;Add in overflow cell
                     50   08    C0  00A6   127          ADDL    #HST_L_OVRFLOW,R0
        60  51  00   60   00  2C  00A9   128          MOVC5   #0,(R0),#0,R1,(R0)              ;Clear performance meas data
                                 00AF   129
                50   0000'C6   9E  00AF   130          MOVAB   PFM$A_HIST_PGFL(R6),R0
                51   04   60    C5  00B4   131          MULL3   HST_L_CELLCOUNT(R0),#4,R1
                     51   0C    C0  00B8   132          ADDL    #12,R1                          ;Add in overflow cell
                     50   08    C0  00BB   133          ADDL    #HST_L_OVRFLOW,R0
        60  51  00   60   00  2C  00BE   134          MOVC5   #0,(R0),#0,R1,(R0)              ;Clear performance meas data
                                 00C4   135
                50   0000'C6   9E  00C4   136          MOVAB   PFM$A_HIST_CHMK(R6),R0
                51   04   60    C5  00C9   137          MULL3   HST_L_CELLCOUNT(R0),#4,R1
                     51   0C    C0  00CD   138          ADDL    #12,R1                          ;Add in overflow cell
                     50   08    C0  00D0   139          ADDL    #HST_L_OVRFLOW,R0
        60  51  00   60   00  2C  00D3   140          MOVC5   #0,(R0),#0,R1,(R0)              ;Clear performance meas data
                                 00D9   141
                50   0000'C6   9E  00D9   142          MOVAB   PFM$A_HIST_OTHR(R6),R0
                51   04   60    C5  00DE   143          MULL3   HST_L_CELLCOUNT(R0),#4,R1
                     51   0C    C0  00E2   144          ADDL    #12,R1                          ;Add in overflow cell
                     50   08    C0  00E5   145          ADDL    #HST_L_OVRFLOW,R0
        60  51  00   60   00  2C  00E8   146          MOVC5   #0,(R0),#0,R1,(R0)              ;Clear performance meas data
                                 00EE   147
                50   0000'C6   9E  00EE   148          MOVAB   PFM$A_HIST_SSRV(R6),R0
                51   04   60    C5  00F3   149          MULL3   HST_L_CELLCOUNT(R0),#4,R1
                     51   0C    C0  00F7   150          ADDL    #12,R1                          ;Add in overflow cells
                     50   C8    C0  00FA   151          ADDL    #HST_L_OVRFLOW,R0
    60  51  00   60   00  2C  00FD   152          MOVC5   #0,(R0),#0,R1,(R0)              ;Clear performance meas data
                                 0103   153
                50   0000'C6   9E  0103   154          MOVAB   PFM$A_HIST_KSRV(R6),R0
                51   04   60    C5  0108   155          MULL3   HST_L_CELLCOUNT(R0),#4,R1
                     51   0C    C0  010C   156          ADDL    #12,R1                          ;Add in overflow cells
                     50   08    C0  010F   157          ADDL    #HST_L_OVRFLOW,R0
    60  51  00   60   00  2C  0112   158          MOVC5   #0,(R0),#0,R1,(R0)              ;Clear performance meas data
                                 0118   159
                                 0118   160          SETIPL  #0                      ;Reset IPL
                     50   01    9A  011B   161          MOVZBL  #1,R0                           ;Set success status
                                 011E   162  ERR_EXIT:
                                 04  011E   163          RET
                                 011F   164
                                 011F   165
                                 011F   166
                                 011F   167          .END    CLRPFM
```

```
CLRDATA                         00000017 RG    03
CLRPFM                          00000000 RG    03
ERR_EXIT                        0000011E R     03
EXE$GL_MP                       ******** X     03
HST_L_CELLCOUNT                 = 00000000
HST_L_CELLWIDTH                 = 00000004
HST_L_FIRSTCELL                 = 00000010
HST_L_OVRFLOW                   = 00000008
IPL$_TIMER                      = 00000008
MPS$AL_CPUTIME                  ******** X     03
PCB$L_PHD                       = 0000006C
PFM$A_HIST_CHMK                 ******** X     03
PFM$A_HIST_CTX                  ******** X     03
PFM$A_HIST_KSRV                 ******** X     03
PFM$A_HIST_OTHR                 ******** X     03
PFM$A_HIST_PGFL                 ******** X     03
PFM$A_HIST_SRV                  ******** X     03
PFM$A_HIST_SSRV                 ******** X     03
PFM$A_HIST_TIME                 ******** X     03
PFM$L_CNT_ASTSC                 ******** X     03
PFM$L_CNT_CTXSW                 ******** X     03
PFM$L_CNT_EXCHG                 ******** X     03
PFM$L_CNT_INVAL                 ******** X     03
PFM$L_CNT_IWAIT                 ******** X     03
PFM$L_CNT_NWAIT                 ******** X     03
PFM$L_CNT_RESCH                 ******** X     03
PFM$L_CNT_SCHDS                 ******** X     03
PHD$L_CPUTIM                    = 00000038
PMS$GL_KERNEL                   ******** X     03
PR$_IPL                         ******** X     03
SCH$GL_NULLPCB                  ******** X     03
SYS$CMKRNL                      ******** GX    03
SYS$EXIT                        ******** GX    03
```

Psect synopsis

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
ABS	00000000 (0.)	01 (1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
RO_DATA	00000000 (0.)	02 (2.)	NOPIC USR CON REL LCL NOSHR NOEXE RD NOWRT NOVEC LONG
CODE	0000011F (287.)	03 (3.)	NOPIC USR CON REL LCL NOSHR EXE RD NOWRT NOVEC BYTE

Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.09	00:00:00.80
Command processing	108	00:00:00.69	00:00:04.97
Pass 1	178	00:00:03.30	00:00:11.00
Symbol table sort	0	00:00:00.38	00:00:00.62
Pass 2	47	00:00:00.75	00:00:02.16
Symbol table output	5	00:00:00.05	00:00:00.09

```
Psect synopsis output                2      00:00:00.03    00:00:00.04
Cross-reference output               0      00:00:00.00    00:00:00.00
Assembler run totals               372      00:00:05.30    00:00:19.68

The working set limit was 1050 pages.
16658 bytes (33 pages) of virtual memory were used to buffer the intermediate code.
There were 20 pages of symbol table space allocated to hold 293 non-local and 3 local symbols.
167 source lines were read in Pass 1, producing 16 object records in Pass 2.
14 pages of virtual memory were used to define 13 macros.
```

+----------------------------+
! Macro library statistics !
+----------------------------+

Macro library name	Macros defined
_255DUA28:[MP.OBJ]MP.MLB;1	0
_255DUA28:[SYS.OBJ]LIB.MLB;1	4
_255DUA28:[SYSLIB]STARLET.MLB;2	6
TOTALS (all libraries)	10

```
355 GETS were required to define 10 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:MPCLRPFM/OBJ=OBJ$:MPCLRPFM MSRC$:MPCLRPFM/UPDATE=(ENH$:MPCLRPFM)+EXECML$/LIB+LIB$:MP.MLB/LIB
```

VMOUNT
LIS

MPCLRPFM
LIS

MPAST
LIS

MP

MP
MAP

MP
MDL

TRNLOG
LIS

MPCMOD
LIS

MPMACROS
MAR