```
MMM         MMM  PPPPPPPPPPPP
MMM         MMM  PPPPPPPPPPPP
MMM         MMM  PPPPPPPPPPPP
MMMMMM   MMMMMM  PPP         PFP
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
```

```
                                                                      L 16
**FILE**ID**MPSHWPFM
```

```
MM      MM  PPPPPPPP      SSSSSSSS  HH      HH  WW      WW  PPPPPPPP    FFFFFFFFFF  MM      MM
MM      MM  PPPPPPPP      SSSSSSSS  HH      HH  WW      WW  PPPPPPPP    FFFFFFFFFF  MM      MM
MMMM  MMMM  PP      PP  SS          HH      HH  WW      WW  PP      PP  FF          MMMM  MMMM
MMMM  MMMM  PP      PP  SS          HH      HH  WW      WW  PP      PP  FF          MMMM  MMMM
MM  MM  MM  PP      PP  SS          HH      HH  WW      WW  PP      PP  FF          MM  MM  MM
MM  MM  MM  PP      PP  SS          HH      HH  WW      WW  PP      PP  FF          MM  MM  MM
MM      MM  PPPPPPPP      SSSSSS    HHHHHHHHHH  WW      WW  PPPPPPPP    FFFFFFFF    MM      MM
MM      MM  PPPPPPPP      SSSSSS    HHHHHHHHHH  WW      WW  PPPPPPPP    FFFFFFFF    MM      MM
MM      MM  PP                  SS  HH      HH  WW  WW  WW  PP          FF          MM      MM
MM      MM  PP                  SS  HH      HH  WW  WW  WW  PP          FF          MM      MM
MM      MM  PP                  SS  HH      HH  WWWW  WWWW  PP          FF          MM      MM      ....
MM      MM  PP                  SS  HH      HH  WWWW  WWWW  PP          FF          MM      MM      ....
MM      MM  PP          SSSSSSSS    HH      HH  WW      WW  PP          FF          MM      MM      ....
MM      MM  PP          SSSSSSSS    HH      HH  WW      WW  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          .TITLE MPSHWPFM
0000          .IDENT  'V04-000'
0000
0000    ;
0000    ;****************************************************************************
0000    ;*                                                                          *
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0000    ;*                                                                          *
0000    ;*                                                                          *
0000    ;****************************************************************************
0000    ;
0000
0000    ;++
0000    ;
0000    ; Facility:  Multi-processor performance measurement display tool
0000    ;
0000    ; Abstract:  This program displays the multi-processor performance measurements.
0000    ;
0000    ; Environment: MODE=Kernel
0000    ;
0000    ; Author:  Kathleen D. Morse, Creation date:  27-Aug-1981
0000    ;
0000    ; Modified by:
0000    ;
0000    ;       V03-010 KDM0071         Kathleen D. Morse       15-Aug-1983
0000    ;               Change the way kernel mode system service names are
0000    ;               associated with a CHMK number.
0000    ;
0000    ;       V03-009 KDM0032         Kathleen D. Morse       22-Nov-1982
0000    ;               Remove the secondary wait time for reschedule histogram.
0000    ;               Add the secondary kernel mode system service histogram.
0000    ;
0000    ;       V03-008 KDM0029         Kathleen D. Morse       16-Nov-1982
0000    ;               Remove $SNDJBC, since it changed from kernel mode
0000    ;               to exec mode.
0000    ;
0000    ;       V03-007 KDM0023         Kathleen D. Morse       07-Oct-1982
0000    ;               Display elapsed time for primary and secondary.
0000    ;
0000    ;       V03-006 KDM0022         Kathleen D. Morse       07-Oct-1982
0000    ;               Add display for $ERAPAT system service.
```

```
          0000   ;
          0000   ;       V03-005 KDM0021         Kathleen D. Morse       07-Oct-1982
          0000   ;               Fix cputime display.
          0000   ;
          0000   ;       V03-004 KDM0017         Kathleen D. Morse       30-Sep-1982
          0000   ;               Display percentages for system service and SCB histograms.
          0000   ;
          0000   ;       V03-003 KDM0016         Kathleen D. Morse       30-Sep-1982
          0000   ;               Remove obsolete system services (GETJPP, GTCHAN) and
          0000   ;               add new ones (SNDJBC, GETSYI, GETDVI).  Also, display
          0000   ;               overflow counter for system service hi,togram.
          0000   ;
          0000   ;       V03-002 KDM0013         Kathleen D. Morse       27-Sep-1982
          0000   ;               Fix bug in cpu time display.
          0000   ;
          0000   ;
          0000   ;--
          0000
          0000   ;
          0000   ; Include files:
          0000   ;
          0000
          0000   ;
          0000   ; MACROS:
          0000   ;
          0000           .MACRO  ENTRY   KSSRV
          0000           .PSECT  HIST_SRV_PTR LONG,WRT,NOEXE
          0000           .LONG   0
          0000           .PSECT  RO_DATA LONG,NOWRT,NOEXE
          0000           .LONG   CMK$C_'KSSRV'
          0000           .ADDRESS        'KSSRV'
          0000           .ENDM
          0000
          0000   ;
          0000   ; Equated Symbols:
          0000   ;
          0000           $PCBDEF                                 ;Process control block
          0000           $PHDDEF                                 ;Process header block
00000000  0000   CMK$C_CLRAST = ^X0
00004028  0000   CMK$C_ALLJDR = ^X4028
00004029  0000   CMK$C_ASSJNL = ^X4029
0000403A  0000   CMK$C_CONJNLF = ^X403A
0000402A  0000   CMK$C_CONUIC = ^X402A
0000402B  0000   CMK$C_CREJNL = ^X402B
00004039  0000   CMK$C_CRENWV = ^X4039
0000403B  0000   CMK$C_DCNJNLF = ^X403B
0000402C  0000   CMK$C_DEALJDR = ^X402C
0000402D  0000   CMK$C_DEASJNL_INT = ^X402D
0000402E  0000   CMK$C_DELJNL = ^X402E
0000402F  0000   CMK$C_DMTJMD = ^X402F
00004030  0000   CMK$C_DSPJNL = ^X4030
00004031  0000   CMK$C_GETJNL = ^X4031
00004032  0000   CMK$C_GETRUI = ^X4032
00004038  0000   CMK$C_MNTJMD = ^X4038
00004033  0000   CMK$C_MODFLT = ^X4033
00004034  0000   CMK$C_POSJNL = ^X4034
00004035  0000   CMK$C_READJNL = ^X4035
```

```
00004036  0000  CMK$C_RECOVER = ^X4036
00004037  0000  CMK$C_RECOVERW = ^X4037
          0000
          0000  ;
          0000  ; Histogram offsets
          0000  ;
          0000
00000000  0000  HST_L_CELLCOUNT = 0                         ;Count of cells in histogram
00000004  0000  HST_L_CELLWIDTH = 4                         ;Width of each cell in histo
00000008  0000  HST_Q_OVRFLOW = 8                           ;Offset to overflow accumulator
00000010  0000  HST_L_FIRSTCELL = 16                        ;Offset to first cell in histo
          0000
      00000000          .PSECT  RW_DATA LONG,WRT,NOEXE
          0000
          0000  PFM_DATA::
00003400  0000          .BLKL   ^X0D00                      ;Performance data area
          3400  CPU2TIME_DATA::                             ;Secondary CPU time spent in
00003418  3400          .BLKL   6                           ; each mode (K,E,S,U,I,C)
          3418  CPU2_NULLTIME:                              ;Secondary CPU null clock ticks
00000000  3418          .LONG   0                           ;
          341C  CPU1TIME_DATA::                             ;Primary CPU time spent in
00003434  341C          .BLKL   6                           ; each mode (K,E,S,U,I,C)
          3434  NULL_JOB_TIME::                             ;Clock ticks for null job
00000000  3434          .LONG   0
          3438  NULL_JOB_TIME_D::                           ;Clock ticks for null job
00000000  3438          .LONG   0                           ; in double format
          343C
          343C  TEMP::
00000000  343C          .LONG   0
00000000  3440          .LONG   0
          3444  TEMP1::
00000000  3444          .LONG   0
00000000  3448          .LONG   0
          344C  TEMP2::
00000000  344C          .LONG   0
00000000  3450          .LONG   0
          3454  TWO_32::
00000002  3454          .LONG   2@32
          3458  HISTO_TOTAL::                               ;Accumulator for histogram
00000000  3458          .LONG   0                           ; used for % calculations
00000000  345C          .LONG   0
          3460
          3460  HISTO_PERCENTS::                            ;Array to hold histogram
000037A0  3460          .BLKL   208                         ; percentages - 100 dbl values
          37A0
          37A0  TIME1_SAMPLE::                              ;Total # of primary clock ticks
00000000  37A0          .LONG   0                           ; accumulated in this sample
00000000  37A4          .LONG   0
          37A8  TIME2_SAMPLE::                              ;Total # of 2ndary clock ticks
00000000  37A8          .LONG   0                           ; accumulated in this sample
00000000  37AC          .LONG   0
00000000  37B0          .LONG   0                           ; accumulated in this sample
00000000  37B4          .LONG   0
          37B8
          37B8  TIME1_SAMPLE_D::                            ;Total accum clock ticks
00000000  37B8          .LONG   0                           ; in this sample for primary
00000000  37BC          .LONG   0                           ; in double format
```

```
                        37C0    172
                        37C0    173 TIME2_SAMPLE_D::                                        ;Total accum of clock ticks
             00000000   37C0    174         .LONG   0                                       ; in this sample for secondary
             00000000   37C4    175         .LONG   0                                       ; in double format
                        37C8    176
                        37C8    177 CPU1TIME_PERCENTS::                                     ;Percentage of cpu time spent
             00003800   37C8    178         .BLKL   14                                      ; in each mode (K,E,S,U,I,C)
                        3800    179 CPU2TIME_PERCENTS::                                     ;Percentage of cpu time spent
             00003838   3800    180         .BLKL   14                                      ; in each mode (K,E,S,U,I,C)
                        3838    181
                        3838    182
             00000000   3838    183 ASCTIM_LENGTH:: .LONG   0                               ;Length of ascii time
                        383C    184
                        383C    185 ASCTIM_BUFFER::
             0000388C   383C    186         .BLKB   80
                        388C    187
                        388C    188 ASCTIM_BUFFER_DSC::
             00000050   388C    189         .LONG   80
             0000383C'  3890    190         .ADDRESS        ASCTIM_BUFFER
                        3894    191
                        3894    192 ASCTIM_DSC_PTR::
             0000388C'  3894    193         .ADDRESS        ASCTIM_BUFFER_DSC
                        3898    194
             00000000   3898    195 ASCII1_LENGTH:: .LONG   0                               ;Length of ascii text
                        389C    196
                        389C    197 ASCII1_BUFFER::
             000038EC   389C    198         .BLKB   80
                        38EC    199
                        38EC    200 ASCII1_BUFFER_DSC::
             00000050   38EC    201         .LONG   80
             0000389C'  38F0    202         .ADDRESS        ASCII1_BUFFER
                        38F4    203
                        38F4    204 ASCII1_DSC_PTR::
             000038EC'  38F4    205         .ADDRESS        ASCII1_BUFFER_DSC
                        38F8    206
             00000000   38F8    207 ASCII2_LENGTH:: .LONG   0                               ;Length of ascii text
                        38FC    208
                        38FC    209 ASCII2_BUFFER::
             0000394C   38FC    210         .BLKB   80
                        394C    211
                        394C    212 ASCII2_BUFFER_DSC::
             00000050   394C    213         .LONG   80
             000038FC'  3950    214         .ADDRESS        ASCII2_BUFFER
                        3954    215
                        3954    216 ASCII2_DSC_PTR::
             0000394C'  3954    217         .ADDRESS        ASCII2_BUFFER_DSC
                        3958    218
             00000000   3958    219 OUTPUT_LENGTH:: .LONG   0
                        395C    220
                        395C    221 OUTPUT_BUFFER::
             00003A24   395C    222         .BLKB   200
                        3A24    223
                        3A24    224 OUTPUT_BUFFER_DSC::
             000000C8   3A24    225         .LONG   200
             0000395C'  3A28    226         .ADDRESS        OUTPUT_BUFFER
                        3A2C    227
                        3A2C    228 HISTO_1_FAO_PTR::
                           00000000  3A2C          .LONG   0
                                     3A30
                                     3A30
                                 00000000          .PSECT  RO_DATA LONG,NOWRT,NOEXE
                                     0000
                                     0000  HISTO_KSRV_DSC::
45 4B 2F 21 2F 21 00000008'010E0000' 0000          .ASCID  \!/!/KERNEL SYSTEM SERVICES EXECUTED ON SECONDARY!/\
20 4D 45 54 53 59 53 20 4C 45 4E 52  000E
45 58 45 20 53 45 43 49 56 52 45 53  001A
43 45 53 20 4E 4F 20 44 45 54 55 43  0026
         2F 21 59 52 41 44 4E 4F     0032
                                     003A
                                     003A  HISTO_TIME_DSC::
49 54 2F 21 2F 21 00000042'010E0000' 003A          .ASCID  \!/!/TIME PROCESSES SPENT ON SECONDARY!/\
53 45 53 53 45 43 4F 52 50 20 45 4D  0048
45 53 20 4E 4F 20 54 4E 45 50 53 20  0054
      2F 21 59 52 41 44 4E 4F 43     0060
                                     0069
                                     0069  HISTO_SRV_DSC::
59 53 2F 21 2F 21 00000071'010E0000' 0069          .ASCID  \!/!/SYSTEM SERVICE REQUESTED WHILE ON SECONDARY!/\
45 43 49 56 52 45 53 20 4D 45 54 53  0077
57 20 44 45 54 53 45 55 51 45 52 20  0083
4F 43 45 53 20 4E 4F 20 45 4C 49 48  008F
            2F 21 59 52 41 44 4E     009B
                                     00A2
                                     00A2  HISTO_CTX_DSC::
45 52 2F 21 2F 21 000000AA'010E0000' 00A2          .ASCID  \!/!/REASONS FOR CONTEXT SWITCH OFF SECONDARY!/\
4F 43 20 52 4F 46 20 53 4E 4F 53 41  00B0
48 43 54 49 57 53 20 54 58 45 54 4E  00BC
41 44 4E 4F 43 45 53 20 46 46 4F 20  00C8
                     2F 21 59 52     00D4
                                     00D8
                                     00D8  HISTO_KSRV_HDR::
                           00000000' 00D8          .ADDRESS        HISTO_KSRV_DSC
                                     00DC
                                     00DC  HISTO_TIME_HDR::
                           0000003A' 00DC          .ADDRESS        HISTO_TIME_DSC
                           0000023B' 00E0          .ADDRESS        HISTO_1_SUBTITLE
                           00000292' 00E4          .ADDRESS        HISTO_1_SUBTITLE2
                                     00E8  HISTO_SRV_HDR::
                           00000069' 00E8          .ADDRESS        HISTO_SRV_DSC
                                     00EC  HISTO_CTX_HDR::
                           000000A2' 00EC          .ADDRESS        HISTO_CTX_DSC
                                     00F0
                                     00F0  HIST_DSC_PTR::
                           00000104' 00F0          .ADDRESS        HISTO_COUNT
                           00000132' 00F4          .ADDRESS        HISTO_WIDTH
                                     00F8  HIST_LIN_PTR::
                           0000015F' 00F8          .ADDRESS        HISTO_LINE
                                     00FC  HIST_OVR_PTR::
                           00000178' 00FC          .ADDRESS        HISTO_OVERFLOW
                                     0100
                                     0100  SRV_OVR_PTR::
                           00000199' 0100          .ADDRESS        SRV_OVERFLOW
                                     0104  HISTO_COUNT::
20 20 20 20 2F 21 0000010C'010E0000' 0104          .ASCID  \!/    Number of histogram cells:  !ZL \
69 68 20 66 6F 20 72 65 62 6D 75 4E  0112
```

```
6C 6C 65 63 20 6D 61 72 67 6F 74 73  011E
            20 4C 5A 21 20 20 3A 73  012A
                                     0132    270
                                     0132    271 HISTO_WIDTH::
20 20 20 20 2F 21 0000013A'010E0000' 0132    272         .ASCID  \!/    Width of histogram cell:   !ZL \
73 69 68 20 66 6F 20 68 74 64 69 57  0140
3A 6C 6C 65 63 20 6D 61 72 67 6F 74  014C
               20 4C 5A 21 20 20 20  0158
                                     015F    273
                                     015F    274 HISTO_LINE::
21 43 41 21 5F 21 00000167'010E0000' 015F    275         .ASCID  \!_!AC!_!ZL!_!AS %\
   25 20 53 41 21 5F 21 4C 5A 21 5F  016D
                                     0178    276
                                     0178    277 HISTO_OVERFLOW::
6C 66 72 65 76 4F 00000180'010E0000' 0178    278         .ASCID  \Overflow cell!_!_!ZL!_!AS\
21 5F 21 5F 21 6C 6C 65 63 20 77 6F  0186
               53 41 21 5F 21 4C 5A  0192
                                     0199    279
                                     0199    280 SRV_OVERFLOW::
6C 66 72 65 76 4F 000001A1'010E0000' 0199    281         .ASCID  \Overflow cell!_!ZL\
4C 5A 21 5F 21 6C 6C 65 63 20 77 6F  01A7
                                     01B3    282
                                     01B3    283 CPUTIM1_DSC_TOT::
6F 54 5F 21 2F 21 000001BB'010E0000' 01B3    284         .ASCID  \!/!_Total elapsed time in sample interval for primary = !AS\
20 64 65 73 70 61 6C 65 20 6C 61 74  01C1
70 6D 61 73 20 6E 69 20 65 6D 69 74  01CD
20 6C 61 76 72 65 74 6E 69 20 65 6C  01D9
20 79 72 61 6D 69 72 70 20 72 6F 66  01E5
                     53 41 21 20 3D  01F1
                                     01F6    285 CPUTIM2_DSC_TOT::
6F 54 5F 21 2F 21 000001FE'010E0000' 01F6    286         .ASCID  \!/!_Total elapsed time in sample interval for secondary = !AS\
20 64 65 73 70 61 6C 65 20 6C 61 74  0204
70 6D 61 73 20 6E 69 20 65 6D 69 74  0210
20 6C 61 76 72 65 74 6E 69 20 65 6C  021C
72 61 64 6E 6F 63 65 73 20 72 6F 66  0228
               53 41 21 20 3D 20 79  0234
                                     023B    287
                                     023B    288 HISTO_1_SUBTITLE::
65 43 20 20 20 20 00000243'010E0000' 023B    289         .ASCID  \    Cell               Cell         Accum         Pgfl    CHMK    Othe
20 20 20 20 20 20 20 20 20 20 6C 6C  0249
20 20 20 20 6C 6C 65 43 20 20 20 20  0255
20 20 20 6D 75 63 63 41 20 20 20 20  0261
20 20 20 6C 66 67 50 20 20 20 20 20  026D
68 74 4F 20 20 20 20 4B 4D 48 43 20  0279
74 73 61 4C 20 20 20 20 20 20 72 65  0285
                                 20  0291
                                     0292    290
                                     0292    291 HISTO_1_SUBTITLE2::
6D 69 4C 20 20 20 0000029A'010E0000' 0292    292         .ASCID  \   Limits              Count            %             cnt     cnt     cnt
20 20 20 20 20 20 20 20 20 73 74 69  02A0
20 20 20 20 74 6E 75 6F 43 20 20 20  02AC
20 20 20 20 20 25 20 20 20 20 20 20  02B8
20 20 20 74 6E 63 20 20 20 20 20 20  02C4
6E 63 20 20 20 20 20 74 6E 63 20 20  02D0
72 53 20 73 79 53 20 20 20 20 20 74  02DC
                           2F 21 76  02E8
                                     02EB    293
```

```
                                          02EB     294 TIME1_DSC_PTR::
                               000001B3'  02EB     295          .ADDRESS        CPUTIM1_DSC_TOT
                                          02EF     296 TIME2_DSC_PTR::
                               000001F6'  02EF     297          .ADDRESS        CPUTIM2_DSC_TOT
                                          02F3     298
                                          02F3     299 TITLE::
54 4C 55 4D 5F 21 000002FB'010E0000'  02F3     300          .ASCID  \!_MULTI-PROCESSING PERFORMANCE MEASUREMENTS ON SECONDARY PROCESSOR!
47 4E 49 53 53 45 43 4F 52 50 2D 49  0301
45 43 4E 41 4D 52 4F 46 52 45 50 20  030D
54 4E 45 4D 45 52 55 53 41 45 4D 20  0319
41 44 4E 4F 43 45 53 20 4E 4F 20 53  0325
52 4F 53 53 45 43 4F 52 50 20 59 52  0331
                                2F 21  033D
                                          033F     301
                                          033F     302 TITLE_PTR::
                               000002F3'  033F     303          .ADDRESS        TITLE
                                          0343     304
                                          0343     305 CPUTIM_DSC_K::
65 4B 5F 21 2F 21 0000034B'010E0000'  0343     306          .ASCID  \!/!_Kernel mode!_!_!AS!_!AS\
21 5F 21 65 64 6F 6D 20 6C 65 6E 72  0351
         53 41 21 5F 21 53 41 21 5F  035D
                                          0366     307 CPUTIM_DSC_E::
63 65 78 45 5F 21 0000036E'010E0000'  0366     308          .ASCID  \!_Exec mode!_!_!AS!_!AS\
53 41 21 5F 21 5F 21 65 64 6F 6D 20  0374
                       53 41 21 5F 21  0380
                                          0385     309 CPUTIM_DSC_S::
65 70 75 53 5F 21 0000038D'010E0000'  0385     310          .ASCID  \!_Super mode!_!_!AS!_!AS\
41 21 5F 21 5F 21 65 64 6F 6D 20 72  0393
                    53 41 21 5F 21 53  039F
                                          03A5     311 CPUTIM_DSC_U::
72 65 73 55 5F 21 000003AD'010E0000'  03A5     312          .ASCID  \!_User mode!_!_!AS!_!AS\
53 41 21 5F 21 5F 21 65 64 6F 6D 20  03B3
                       53 41 21 5F 21  03BF
                                          03C4     313 CPUTIM_DSC_I::
69 20 6E 4F 5F 21 000003CC'010E0000'  03C4     314          .ASCID  \!_On interrupt Stack!_!AS!_!AS\
61 74 53 20 74 70 75 72 72 65 74 6E  03D2
53 41 21 5F 21 53 41 21 5F 21 6B 63  03DE
                                          03EA     315 CPUTIM_DSC_C::
70 6D 6F 43 5F 21 000003F2'010E0000'  03EA     316          .ASCID  \!_Compatability mode!_!AS!_!AS\
6F 6D 20 79 74 69 6C 69 62 61 74 61  03F8
53 41 21 5F 21 53 41 21 5F 21 65 64  0404
                                          0410     317 CPUTIM_DSC_N::
65 6C 64 49 5F 21 00000418'010E0000'  0410     318          .ASCID  \!_Idle!_!_!_!AS!_!AS\
21 5F 21 53 41 21 5F 21 5F 21 5F 21  041E
                                53 41  042A
                                          042C     319
                                          042C     320 TIME_ARRAY_PTR::
                               00000434'  042C     321          .ADDRESS        TIME_1_DSC
                               0000046E'  0430     322          .ADDRESS        TIME_2_DSC
                                          0434     323
                                          0434     324 TIME_1_DSC::
20 20 2F 21 2F 21 0000043C'010E0000'  0434     325          .ASCID  \!/!/     !_Time spent in different processor modes\
70 73 20 65 6D 69 54 5F 21 20 20 20  0442
65 66 66 69 64 20 6E 69 20 74 6E 65  044E
73 73 65 63 6F 72 70 20 74 6E 65 72  045A
            73 65 64 6F 6D 20 72 6F  0466
                                          046E     326 TIME_2_DSC::
```

```
20 20 5F 21 2F 21 00000476'010E0000' 046E     327           .ASCID  \!/!_    Mode!_!_ Primary!_ Secondary\
50 20 5F 21 5F 21 65 64 6F 4D 20 20  047C
63 65 53 20 5F 21 79 72 61 6D 69 72  0488
                  79 72 61 64 6E 6F  0494
                                     049A     328
                                     049A     329 CPUTIM_DSC_PTR::
                           00000343' 049A     330           .ADDRESS        CPUTIM_DSC_K
                           00000366' 049E     331           .ADDRESS        CPUTIM_DSC_E
                           00000385' 04A2     332           .ADDRESS        CPUTIM_DSC_S
                           000003A5' 04A6     333           .ADDRESS        CPUTIM_DSC_U
                           000003C4' 04AA     334           .ADDRESS        CPUTIM_DSC_I
                           000003EA' 04AE     335           .ADDRESS        CPUTIM_DSC_C
                           00000410' 04B2     336           .ADDRESS        CPUTIM_DSC_N
                                     04B6     337
                                     04B6     338 CNT_CTXSW_DSC::
5F 21 2F 21 2F 21 000004BE'010E0000' 04B6     339           .ASCID  \!/!/!_Number of context switches on secondary = !ZL\
6F 63 20 66 6F 20 72 65 62 6D 75 4E  04C4
68 63 74 69 77 73 20 74 78 65 74 6E  04D0
64 6E 6F 63 65 73 20 6E 6F 20 73 65  04DC
         4C 5A 21 20 3D 20 79 72 61  04E8
                                     04F1     340 CNT_RESCHD_DSC::
62 6D 75 4E 5F 21 000004F9'010E0000' 04F1     341           .ASCID  \!_Number of reschedule requests made by secondary = !ZL\
65 68 63 73 65 72 20 66 6F 20 72 65  04FF
74 73 65 75 71 65 72 20 65 6C 75 64  050B
65 73 20 79 62 20 65 64 61 6D 20 73  0517
5A 21 20 3D 20 79 72 61 64 6E 6F 63  0523
                                  4C 052F
                                     0530     342 CNT_SCHDS_DSC::
62 6D 75 4E 5F 21 00000538'010E0000' 0530     343           .ASCID  \!_Number of successful reschedule requests = !ZL\
73 65 63 63 75 73 20 66 6F 20 72 65  053E
64 65 68 63 73 65 72 20 6C 75 66 73  054A
73 74 73 65 75 71 65 72 20 65 6C 75  0556
                  4C 5A 21 20 3D 20  0562
                                     0568     344 CNT_EXCHG_DSC::
62 6D 75 4E 5F 21 00000570'010E0000' 0568     345           .ASCID  \!_Number of exchanges from primary to secondary = !ZL\
6E 61 68 63 78 65 20 66 6F 20 72 65  0576
69 72 70 20 6D 6F 72 66 20 73 65 67  0582
6F 63 65 73 20 6F 74 20 79 72 61 6D  058E
   4C 5A 21 20 3D 20 79 72 61 64 6E  059A
                                     05A5     346 CNT_ASTSC_DSC::
62 6D 75 4E 5F 21 000005AD'010E0000' 05A5     347           .ASCID  \!_Number of reschedules done via exec mode AST = !ZL\
65 68 63 73 65 72 20 66 6F 20 72 65  05B3
76 20 65 6E 6F 64 20 73 65 6C 75 64  05BF
65 64 6F 6D 20 63 65 78 65 20 61 69  05CB
      4C 5A 21 20 3D 20 54 53 41 20  05D7
                                     05E1     348 CNT_INVAL_DSC::
62 6D 75 4E 5F 21 000005E9'010E0000' 05E1     349           .ASCID  \!_Number of invalidates requested = !ZL\
69 6C 61 76 6E 69 20 66 6F 20 72 65  05EF
73 65 75 71 65 72 20 73 65 74 61 64  05FB
         4C 5A 21 20 3D 20 64 65 74  0607
                                     0610     350 CNT_IVWAIT_DSC::
62 6D 75 4E 5F 21 00000618'010E0000' 0610     351           .ASCID  \!_Number of invalidate wait loops executed = !ZL\
69 6C 61 76 6E 69 20 66 6F 20 72 65  061E
6F 6C 20 74 69 61 77 20 65 74 61 64  062A
64 65 74 75 63 65 78 65 20 73 70 6F  0636
                  4C 5A 21 20 3D 20  0642
                                     0648     352
```

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                                0648   353 CNTRS_DSC_PTR::
                     000004B6'  0648   354         .ADDRESS        CNT_CTXSW_DSC
                     000004F1'  064C   355         .ADDRESS        CNT_RESCHD_DSC
                     00000530'  0650   356         .ADDRESS        CNT_SCHDS_DSC
                     00000568'  0654   357         .ADDRESS        CNT_EXCHG_DSC
                     000005A5'  0658   358         .ADDRESS        CNT_ASTSC_DSC
                     000005E1'  065C   359         .ADDRESS        CNT_INVAL_DSC
                     00000610'  0660   360         .ADDRESS        CNT_IVWAIT_DSC
                                0664   361
                                0664   362 CNT_NWAIT_PTR::
                     00000668'  0664   363         .ADDRESS        CNT_NWAIT_DSC
                                0668   364
                                0668   365 CNT_NWAIT_DSC::
5F 21 2F 21 2F 21 00000670'010E0000'  0668   366         .ASCID  \!/!/!_Number of times $WAITEF continued on secondary = !ZL\
69 74 20 66 6F 20 72 65 62 6D 75 4E  0676
20 46 45 54 49 41 57 24 20 73 65 6D  0682
6E 6F 20 64 65 75 6E 69 74 6E 6F 63  068E
3D 20 79 72 61 64 6E 6F 63 65 73 20  069A
                        4C 5A 21 20  06A6
         20 65 6E 6F 6E 20 00'  06AA   367 CLRAST: .ASCIC  \ none \
                          06    06AA
         4B 54 53 4A 44 41 00'  06B1   368 ADJSTK: .ASCIC  \ADJSTK\
                          06    06B1
         4C 53 57 4A 44 41 00'  06B8   369 ADJWSL: .ASCIC  \ADJWSL\
                          06    06B8
         50 4E 44 43 4C 41 00'  06BF   370 ALCDNP: .ASCIC  \ALCDNP\
                          06    06BF
            43 4F 4C 4C 41 00'  06C6   371 ALLOC:  .ASCIC  \ALLOC\
                          05    06C6
         43 46 45 43 53 41 00'  06CC   372 ASCEFC: .ASCIC  \ASCEFC\
                          06    06CC
         4E 47 49 53 53 41 00'  06D3   373 ASSIGN: .ASCIC  \ASSIGN\
                          06    06D3
         4C 45 43 4E 41 43 00'  06DA   374 CANCEL: .ASCIC  \CANCEL\
                          06    06DA
         4D 49 54 4E 41 43 00'  06E1   375 CANTIM: .ASCIC  \CANTIM\
                          06    06E1
         4B 41 57 4E 41 43 00'  06E8   376 CANWAK: .ASCIC  \CANWAK\
                          06    06E8
         43 53 50 4D 52 43 00'  06EF   377 CRMPSC: .ASCIC  \CRMPSC\
                          06    06EF
         52 41 50 52 4C 43 00'  06F6   378 CLRPAR: .ASCIC  \CLRPAR\
                          06    06F6
         4C 4E 52 4B 4D 43 00'  06FD   379 CMKRNL: .ASCIC  \CMKRNL\
                          06    06FD
            46 45 52 4C 43 00'  0704   380 CLREF:  .ASCIC  \CLREF\
                          05    0704
         47 45 52 54 4E 43 00'  070A   381 CNTREG: .ASCIC  \CNTREG\
                          06    070A
         49 54 50 54 45 47 00'  0711   382 GETPTI: .ASCIC  \GETPTI\
                          06    0711
         58 42 4D 45 52 43 00'  0718   383 CREMBX: .ASCIC  \CREMBX\
                          06    0718
         43 52 50 45 52 43 00'  071F   384 CREPRC: .ASCIC  \CREPRC\
                          06    071F
         41 56 54 45 52 43 00'  0726   385 CRETVA: .ASCIC  \CRETVA\
                          06    0726
```

```
43 46 45 43 41 44 00' 072D    386 DACEFC: .ASCIC  \DACEFC\
                  06  072D
43 4F 4C 4C 41 44 00' 0734    387 DALLOC: .ASCIC  \DALLOC\
                  06  0734
4E 47 53 53 41 44 00' 073B    388 DASSGN: .ASCIC  \DASSGN\
                  06  073B
54 53 41 4C 43 44 00' 0742    389 DCLAST: .ASCIC  \DCLAST\
                  06  0742
48 58 45 4C 43 44 00' 0749    390 DCLEXH: .ASCIC  \DCLEXH\
                  06  0749
58 42 4D 4C 45 44 00' 0750    391 DELMBX: .ASCIC  \DELMBX\
                  06  0750
43 52 50 4C 45 44 00' 0757    392 DELPRC: .ASCIC  \DELPRC\
                  06  0757
41 56 54 4C 45 44 00' 075E    393 DELTVA: .ASCIC  \DELTVA\
                  06  075E
43 53 4C 42 47 44 00' 0765    394 DGBLSC: .ASCIC  \DGBLSC\
                  06  0765
50 4E 44 43 4C 44 00' 076C    395 DLCDNP: .ASCIC  \DLCDNP\
                  06  076C
43 46 45 43 4C 44 00' 0773    396 DLCEFC: .ASCIC  \DLCEFC\
                  06  0773
43 45 53 44 50 55 00' 077A    397 UPDSEC: .ASCIC  \UPDSEC\
                  06  077A
52 52 45 44 4E 53 00' 0781    398 SNDERR: .ASCIC  \SNDERR\
                  06  0781
      54 49 58 45 00' 0788    399 EXIT:   .ASCIC  \EXIT\
                  04  0788
47 45 52 50 58 45 00' 078D    400 EXPREG: .ASCIC  \EXPREG\
                  06  078D
58 45 43 52 4F 46 00' 0794    401 FORCEX: .ASCIC  \FORCEX\
                  06  0794
   52 45 42 49 48 00' 079B    402 HIBER:  .ASCIC  \HIBER\
                  05  079B
47 41 50 4B 43 4C 00' 07A1    403 LCKPAG: .ASCIC  \LCKPAG\
                  06  07A1
54 45 53 57 4B 4C 00' 07A8    404 LKWSET: .ASCIC  \LKWSET\
                  06  07A8
43 53 4C 42 47 4D 00' 07AF    405 MGBLSC: .ASCIC  \MGBLSC\
                  06  07AF
53 57 47 52 55 50 00' 07B6    406 PURGWS: .ASCIC  \PURGWS\
                  06  07B6
         4F 49 51 00' 07BD    407 QIO:    .ASCIC  \QIO\
                  03  07BD
46 45 44 41 45 52 00' 07C1    408 READEF: .ASCIC  \READEF\
                  06  07C1
45 4D 55 53 45 52 00' 07C8    409 RESUME: .ASCIC  \RESUME\
                  06  07C8
4E 57 44 4E 55 52 00' 07CF    410 RUNDWN: .ASCIC  \RUNDWN\
                  06  07CF
4B 57 44 48 43 53 00' 07D6    411 SCHDWK: .ASCIC  \SCHDWK\
                  06  07D6
54 53 41 54 45 53 00' 07DD    412 SETAST: .ASCIC  \SETAST\
                  06  07DD
   46 45 54 45 53 00' 07E4    413 SETEF:  .ASCIC  \SETEF\
                  05  07E4
56 58 45 54 45 53 00' 07EA    414 SETEXV: .ASCIC  \SETEXV\
                              06  07EA
            4E 52 50 54 45 53 00' 07F1    415 SETPRN: .ASCIC  \SETPRN\
                              06  07F1
            41 52 50 54 45 53 00' 07F8    416 SETPRA: .ASCIC  \SETPRA\
                              06  07F8
            52 4D 49 54 45 53 00' 07FF    417 SETIMR: .ASCIC  \SETIMR\
                              06  07FF
            49 52 50 54 45 53 00' 0806    418 SETPRI: .ASCIC  \SETPRI\
                              06  0806
            54 52 50 54 45 53 00' 080D    419 SETPRT: .ASCIC  \SETPRT\
                              06  080D
            4D 57 52 54 45 53 00' 0814    420 SETRWM: .ASCIC  \SETRWM\
                              06  0814
            4D 46 53 54 45 53 00' 081B    421 SETSFM: .ASCIC  \SETSFM\
                              06  081B
            4D 57 53 54 45 53 00' 0822    422 SETSWM: .ASCIC  \SETSWM\
                              06  0822
            44 4E 50 53 55 53 00' 0829    423 SUSPND: .ASCIC  \SUSPND\
                              06  0829
            47 41 50 4B 4C 55 00' 0830    424 ULKPAG: .ASCIC  \ULKPAG\
                              06  0830
            54 45 53 57 4C 55 00' 0837    425 ULWSET: .ASCIC  \ULWSET\
                              06  0837
            52 46 54 49 41 57 00' 083E    426 WAITFR: .ASCIC  \WAITFR\
                              06  083E
                  45 4B 41 57 00' 0845    427 WAKE:   .ASCIC  \WAKE\
                              04  0845
            44 4E 41 4C 46 57 00' 084A    428 WFLAND: .ASCIC  \WFLAND\
                              06  084A
               52 4F 4C 46 57 00' 0851    429 WFLOR:  .ASCIC  \WFLOR\
                              05  0851
            48 4D 43 4C 43 44 00' 0857    430 DCLCMH: .ASCIC  \DCLCMH\
                              06  0857
            4D 46 50 54 45 53 00' 085E    431 SETPFM: .ASCIC  \SETPFM\
                              06  085E
            42 4D 4C 52 45 44 00' 0865    432 DERLMB: .ASCIC  \DERLMB\
                              06  0865
            48 58 45 4E 41 43 00' 086C    433 CANEXH: .ASCIC  \CANEXH\
                              06  086C
            4E 48 43 54 45 47 00' 0873    434 GETCHN: .ASCIC  \GETCHN\
                              06  0873
            56 45 44 54 45 47 00' 087A    435 GETDEV: .ASCIC  \GETDEV\
                              06  087A
            49 50 4A 54 45 47 00' 0881    436 GETJPI: .ASCIC  \GETJPI\
                              06  0881
            45 4D 49 54 45 53 00' 0888    437 SETIME: .ASCIC  \SETIME\
                              06  0888
            56 52 50 54 45 53 00' 088F    438 SETPRV: .ASCIC  \SETPRV\
                              06  088F
                     51 4E 45 00' 0896    439 ENQ:    .ASCIC  \ENQ\
                              03  0896
                     51 45 44 00' 089A    440 DEQ:    .ASCIC  \DEQ\
                              03  089A
            46 53 53 54 45 53 00' 089E    441 SETSSF: .ASCIC  \SETSSF\
                              06  089E
            4B 54 53 54 45 53 00' 08A5    442 SETSTK: .ASCIC  \SETSTK\
                              06  08A5
               49 59 53 54 45 47 00'  08AC     443 GETSYI: .ASCIC  \GETSYI\
                                 06   08AC
               49 56 44 54 45 47 00'  08B3     444 GETDVI: .ASCIC  \GETDVI\
                                 06   08B3
               54 41 50 41 52 45 00'  08BA     445 ERAPAT: .ASCIC  \ERAPAT\
                                 06   08BA
               54 4E 4C 45 52 43 00'  08C1     446 CRELNT: .ASCIC  \CRELNT\
                                 06   08C1
               4D 4E 4C 45 52 43 00'  08C8     447 CRELNM: .ASCIC  \CRELNM\
                                 06   08C8
               4D 4E 4C 4C 45 44 00'  08CF     448 DELLNM: .ASCIC  \DELLNM\
                                 06   08CF
               4D 4E 4C 4E 52 54 00'  08D6     449 TRNLNM: .ASCIC  \TRNLNM\
                                 06   08D6
               49 4B 4C 54 45 47 00'  08DD     450 GETLKI: .ASCIC  \GETLKI\
                                 06   08DD
            55 52 48 54 4B 52 42 00'  08E4     451 BRKTHRU: .ASCIC \BRKTHRU\
                                 07   08E4
               52 44 4A 4C 4C 41 00'  08EC     452 ALLJDR: .ASCIC  \ALLJDR\
                                 06   08EC
               4C 4E 4A 53 53 41 00'  08F3     453 ASSJNL: .ASCIC  \ASSJNL\
                                 06   08F3
               43 49 55 4E 4F 43 00'  08FA     454 CONUIC: .ASCIC  \CONUIC\
                                 06   08FA
               4C 4E 4A 45 52 43 00'  0901     455 CREJNL: .ASCIC  \CREJNL\
                                 06   0901
            52 44 4A 4C 41 45 44 00'  0908     456 DEALJDR: .ASCIC \DEALJDR\
                                 07   0908
54 4E 49 5F 4C 4E 4A 53 41 45 44 00'  0910     457 DEASJNL_INT: .ASCIC \DEASJNL_INT\
                                 0B   0910
               4C 4E 4A 4C 45 44 00'  091C     458 DELJNL: .ASCIC  \DELJNL\
                                 06   091C
               44 4D 4A 54 4D 44 00'  0923     459 DMTJMD: .ASCIC  \DMTJMD\
                                 06   0923
               4C 4E 4A 50 53 44 00'  092A     460 DSPJNL: .ASCIC  \DSPJNL\
                                 06   092A
               4C 4E 4A 54 45 47 00'  0931     461 GETJNL: .ASCIC  \GETJNL\
                                 06   0931
               49 55 52 54 45 47 00'  0938     462 GETRUI: .ASCIC  \GETRUI\
                                 06   0938
               54 4C 46 44 4F 4D 00'  093F     463 MODFLT: .ASCIC  \MODFLT\
                                 06   093F
               4C 4E 4A 53 4F 50 00'  0946     464 POSJNL: .ASCIC  \POSJNL\
                                 06   0946
            4C 4E 4A 44 41 45 52 00'  094D     465 READJNL: .ASCIC \READJNL\
                                 07   094D
            52 45 56 4F 43 45 52 00'  0955     466 RECOVER: .ASCIC \RECOVER\
                                 07   0955
         57 52 45 56 4F 43 45 52 00'  095D     467 RECOVERW: .ASCIC \RECOVERW\
                                 08   095D
               44 4D 4A 54 4E 4D 00'  0966     468 MNTJMD: .ASCIC  \MNTJMD\
                                 06   0966
               56 57 4E 45 52 43 00'  096D     469 CRENWV: .ASCIC  \CRENWV\
                                 06   096D
            46 4C 4E 4A 4E 4F 43 00'  0974     470 CONJNLF: .ASCIC \CONJNLF\
                                 07   0974
            46 4C 4E 4A 4E 43 44 00'  097C     471 DCNJNLF: .ASCIC \DCNJNLF\
      07  097C
          0984   472
      00000984   473            .PSECT  RO_DATA LONG,NOWRT,NOEXE
          0984   474 HIST_SRV_TBL::
      00000000   475            .PSECT  HIST_SRV_PTR LONG,WRT,NOEXE
          0000   476 HIST_SRV_PTR::
          0000   477            ENTRY   CRELNT
          098C   478            ENTRY   CRELNM
          0994   479            ENTRY   DELLNM
          099C   480            ENTRY   TRNLNM
          09A4   481            ENTRY   GETLKI
          09AC   482            ENTRY   BRKTHRU
          09B4   483            ENTRY   ALLJDR
          09BC   484            ENTRY   ASSJNL
          09C4   485            ENTRY   CONUIC
          09CC   486            ENTRY   CREJNL
          09D4   487            ENTRY   DEALJDR
          09DC   488            ENTRY   DELJNL
          09E4   489            ENTRY   DEASJNL_INT
          09EC   490            ENTRY   DMTJMD
          09F4   491            ENTRY   DSPJNL
          09FC   492            ENTRY   GETJNL
          0A04   493            ENTRY   GETRUI
          0A0C   494            ENTRY   MODFLT
          0A14   495            ENTRY   POSJNL
          0A1C   496            ENTRY   READJNL
          0A24   497            ENTRY   RECOVER
          0A2C   498            ENTRY   RECOVERW
          0A34   499            ENTRY   MNTJMD
          0A3C   500            ENTRY   CRENWV
          0A44   501            ENTRY   CONJNLF
          0A4C   502            ENTRY   DCNJNLF
          0A54   503            ENTRY   CLRAST
          0A5C   504            ENTRY   ADJSTK
          0A64   505            ENTRY   ADJWSL
          0A6C   506            ENTRY   ALCDNP
          0A74   507            ENTRY   ALLOC
          0A7C   508            ENTRY   ASCEFC
          0A84   509            ENTRY   ASSIGN
          0A8C   510            ENTRY   CANCEL
          0A94   511            ENTRY   CANTIM
          0A9C   512            ENTRY   CANWAK
          0AA4   513            ENTRY   CRMPSC
          0AAC   514            ENTRY   CLRPAR
          0AB4   515            ENTRY   CMKRNL
          0ABC   516            ENTRY   CLREF
          0AC4   517            ENTRY   CNTREG
          0ACC   518            ENTRY   GETPTI
          0AD4   519            ENTRY   CREMBX
          0ADC   520            ENTRY   CREPRC
          0AE4   521            ENTRY   CRETVA
          0AEC   522            ENTRY   DACEFC
          0AF4   523            ENTRY   DALLOC
          0AFC   524            ENTRY   DASSGN
          0B04   525            ENTRY   DCLAST
          0B0C   526            ENTRY   DCLEXH
          0B14   527            ENTRY   DELMBX
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               0B1C      ENTRY   DELPRC
               0B24      ENTRY   DELTVA
               0B2C      ENTRY   DGBLSC
               0B34      ENTRY   DLCDNP
               0B3C      ENTRY   DLCEFC
               0B44      ENTRY   UPDSEC
               0B4C      ENTRY   SNDERR
               0B54      ENTRY   EXIT
               0B5C      ENTRY   EXPREG
               0B64      ENTRY   FORCEX
               0B6C      ENTRY   HIBER
               0B74      ENTRY   LCKPAG
               0B7C      ENTRY   LKWSET
               0B84      ENTRY   MGBLSC
               0B8C      ENTRY   PURGWS
               0B94      ENTRY   QIO
               0B9C      ENTRY   READEF
               0BA4      ENTRY   RESUME
               0BAC      ENTRY   RUNDWN
               0BB4      ENTRY   SCHDWK
               0BBC      ENTRY   SETAST
               0BC4      ENTRY   SETEF
               0BCC      ENTRY   SETEXV
               0BD4      ENTRY   SETPRN
               0BDC      ENTRY   SETPRA
               0BE4      ENTRY   SETIMR
               0BEC      ENTRY   SETPRI
               0BF4      ENTRY   SETPRT
               0BFC      ENTRY   SETRWM
               0C04      ENTRY   SETSFM
               0C0C      ENTRY   SETSWM
               0C14      ENTRY   SUSPND
               0C1C      ENTRY   ULKPAG
               0C24      ENTRY   ULWSET
               0C2C      ENTRY   WAITFR
               0C34      ENTRY   WAKE
               0C3C      ENTRY   WFLAND
               0C44      ENTRY   WFLOR
               0C4C      ENTRY   DCLCMH
               0C54      ENTRY   SETPFM
               0C5C      ENTRY   DERLMB
               0C64      ENTRY   CANEXH
               0C6C      ENTRY   GETCHN
               0C74      ENTRY   GETDEV
               0C7C      ENTRY   GETJPI
               0C84      ENTRY   SETIME
               0C8C      ENTRY   SETPRV
               0C94      ENTRY   ENQ
               0C9C      ENTRY   DEQ
               0CA4      ENTRY   SETSSF
               0CAC      ENTRY   SETSTK
               0CB4      ENTRY   GETSYI
               0CBC      ENTRY   GETDVI
               0CC4      ENTRY   ERAPAT
           00000CCC      .PSECT  RO_DATA LONG,NOWRT,NOEXE
00000000       0CCC      .LONG   0                                  ; Null entry indicates the
00000000       0CD0      .LONG   0                                  ;  end of HIST_SRV_TBL
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                                        0CD4   585
                                    00000CD4   586            .PSECT  RO_DATA LONG,NOWRT,NOEXE
                                        0CD4   587
73 65 52 20 2C 64 65 73 75 6E 55 00'   0CD4   588 SCB_000:        .ASCIC  \Unused, Reserved to Digital          \
67 69 44 20 6F 74 20 64 65 76 72 65    0CE0
20 20 20 20 20 20 20 20 6C 61 74 69    0CEC
                              20 20    0CF8
                                 25    0CD4
65 68 63 20 65 6E 69 68 63 61 4D 00'   0CFA   589 SCB_004:        .ASCIC  \Machine check handler                \
20 20 72 65 6C 64 6E 61 68 20 6B 63    0D06
20 20 20 20 20 20 20 20 20 20 20 20    0D12
                              20 20    0D1E
                                 25    0CFA
63 61 74 73 20 6C 65 6E 72 65 4B 00'   0D20   590 SCB_008:        .ASCIC  \Kernel stack not valid halt          \
20 64 69 6C 61 76 20 74 6F 6E 20 6B    0D2C
20 20 20 20 20 20 20 20 74 6C 61 68    0D38
                              20 20    0D44
                                 25    0D20
20 6C 69 61 66 20 72 65 77 6F 50 00'   0D46   591 SCB_00C:        .ASCIC  \Power fail interrupt                 \
20 20 20 74 70 75 72 72 65 74 6E 69    0D52
20 20 20 20 20 20 20 20 20 20 20 20    0D5E
                              20 20    0D6A
                                 25    0D46
72 70 2F 64 65 76 72 65 73 65 52 00'   0D6C   592 SCB_010:        .ASCIC  \Reserved/privileged instruction fault\
73 6E 69 20 64 65 67 65 6C 69 76 69    0D78
75 61 66 20 6E 6F 69 74 63 75 72 74    0D84
                              74 6C    0D90
                                 25    0D6C
65 72 20 72 65 6D 6F 74 73 75 43 00'   0D92   593 SCB_014:        .ASCIC  \Customer reserved instruction fault  \
72 74 73 6E 69 20 64 65 76 72 65 73    0D9E
74 6C 75 61 66 20 6E 6F 69 74 63 75    0DAA
                              20 20    0DB6
                                 25    0D92
70 6F 20 64 65 76 72 65 73 65 52 00'   0DB8   594 SCB_018:        .ASCIC  \Reserved operand fault/halt          \
2F 74 6C 75 61 66 20 64 6E 61 72 65    0DC4
20 20 20 20 20 20 20 20 74 6C 61 68    0DD0
                              20 20    0DDC
                                 25    0DB8
64 61 20 64 65 76 72 65 73 65 52 00'   0DDE   595 SCB_01C:        .ASCIC  \Reserved addressing mode fault       \
64 6F 6D 20 67 6E 69 73 73 65 72 64    0DEA
20 20 20 20 20 74 6C 75 61 66 20 65    0DF6
                              20 20    0E02
                                 25    0DDE
74 6E 6F 63 20 73 73 65 63 63 41 00'   0E04   596 SCB_020:        .ASCIC  \Access control violation fault       \
6F 69 74 61 6C 6F 69 76 20 6C 6F 72    0E10
20 20 20 20 20 74 6C 75 61 66 20 6E    0E1C
                              20 20    0E28
                                 25    0E04
6E 6F 69 74 61 6C 73 6E 61 72 54 00'   0E2A   597 SCB_024:        .ASCIC  \Translation not valid fault          \
66 20 64 69 6C 61 76 20 74 6F 6E 20    0E36
20 20 20 20 20 20 20 20 74 6C 75 61    0E42
                              20 20    0E4E
                                 25    0E2A
20 74 6C 75 61 66 20 74 69 62 54 00'   0E50   598 SCB_028:        .ASCIC  \Tbit fault                           \
20 20 20 20 20 20 20 20 20 20 20 20    0E5C
20 20 20 20 20 20 20 20 20 20 20 20    0E68
                              20 20    0E74
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MPS
V04

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                                 25   0E50
20 74 6E 69 6F 70 6B 61 65 72 42 00'  0E76    599 SCB_02C:        .ASCIC  \Breakpoint fault                     \
20 20 20 20 20 20 20 74 6C 75 61 66   0E82
20 20 20 20 20 20 20 20 20 20 20 20   0E8E
                              20 20   0E9A
                                 25   0E76
69 6C 69 62 69 74 61 70 6D 6F 43 00'  0E9C    600 SCB_030:        .ASCIC  \Compatibility fault                  \
20 20 20 20 74 6C 75 61 66 20 79 74   0EA8
20 20 20 20 20 20 20 20 20 20 20 20   0EB4
                              20 20   0EC0
                                 25   0E9C
20 63 69 74 65 6D 68 74 69 72 41 00'  0EC2    601 SCB_034:        .ASCIC  \Arithmetic trap                      \
20 20 20 20 20 20 20 20 70 61 72 74   0ECE
20 20 20 20 20 20 20 20 20 20 20 20   0EDA
                              20 20   0EE6
                                 25   0EC2
66 6F 20 2D 20 64 65 73 75 6E 55 00'  0EE8    602 SCB_038:        .ASCIC  \Unused - offset 38                   \
20 20 20 20 20 38 33 20 74 65 73 66   0EF4
20 20 20 20 20 20 20 20 20 20 20 20   0F00
                              20 20   0F0C
                                 25   0EE8
66 6F 20 2D 20 64 65 73 75 6E 55 00'  0F0E    603 SCB_03C:        .ASCIC  \Unused - offset 3C                   \
20 20 20 20 20 43 33 20 74 65 73 66   0F1A
20 20 20 20 20 20 20 20 20 20 20 20   0F26
                              20 20   0F32
                                 25   0F0E
20 20 70 61 72 74 20 4B 4D 48 43 00'  0F34    604 SCB_040:        .ASCIC  \CHMK trap                            \
20 20 20 20 20 20 20 20 20 20 20 20   0F40
20 20 20 20 20 20 20 20 20 20 20 20   0F4C
                              20 20   0F58
                                 25   0F34
20 20 70 61 72 74 20 45 4D 48 43 00'  0F5A    605 SCB_044:        .ASCIC  \CHME trap                            \
20 20 20 20 20 20 20 20 20 20 20 20   0F66
20 20 20 20 20 20 20 20 20 20 20 20   0F72
                              20 20   0F7E
                                 25   0F5A
20 20 70 61 72 74 20 53 4D 48 43 00'  0F80    606 SCB_048:        .ASCIC  \CHMS trap                            \
20 20 20 20 20 20 20 20 20 20 20 20   0F8C
20 20 20 20 20 20 20 20 20 20 20 20   0F98
                              20 20   0FA4
                                 25   0F80
20 20 70 61 72 74 20 55 4D 48 43 00'  0FA6    607 SCB_04C:        .ASCIC  \CHMU trap                            \
20 20 20 20 20 20 20 20 20 20 20 20   0FB2
20 20 20 20 20 20 20 20 20 20 20 20   0FBE
                              20 20   0FCA
                                 25   0FA6
66 6F 20 2D 20 64 65 73 75 6E 55 00'  0FCC    608 SCB_050:        .ASCIC  \Unused - offset 50                   \
20 20 20 20 20 30 35 20 74 65 73 66   0FD8
20 20 20 20 20 20 20 20 20 20 20 20   0FE4
                              20 20   0FF0
                                 25   0FCC
65 64 6E 65 70 65 64 2D 75 70 43 00'  0FF2    609 SCB_054:        .ASCIC  \Cpu-dependent fault                  \
20 20 20 20 74 6C 75 61 66 20 74 6E   0FFE
20 20 20 20 20 20 20 20 20 20 20 20   100A
                              20 20   1016
                                 25   0FF2
65 64 6E 65 70 65 64 2D 75 70 43 00'  1018    610 SCB_058:        .ASCIC  \Cpu-dependent fault                  \
20 20 20 20 74 6C 75 61 66 20 74 6E   1024
20 20 20 20 20 20 20 20 20 20 20 20   1030
                              20 20   103C
                                 25   1018
65 64 6E 65 70 65 64 2D 75 70 43 00'  103E      SCB_05C:        .ASCIC  \Cpu-dependent fault            \
20 20 20 20 74 6C 75 61 66 20 74 6E   104A
20 20 20 20 20 20 20 20 20 20 20 20   1056
                              20 20   1062
                                 25   103E
65 64 6E 65 70 65 64 2D 75 70 43 00'  1064      SCB_060:        .ASCIC  \Cpu-dependent fault            \
20 20 20 20 74 6C 75 61 66 20 74 6E   1070
20 20 20 20 20 20 20 20 20 20 20 20   107C
                              20 20   1088
                                 25   1064
66 6F 20 2D 20 64 65 73 75 6E 55 00'  108A      SCB_064:        .ASCIC  \Unused - offset 64             \
20 20 20 20 20 34 36 20 74 65 73 66   1096
20 20 20 20 20 20 20 20 20 20 20 20   1CA2
                              20 20   10AE
                                 25   108A
66 6F 20 2D 20 64 65 73 75 6E 55 00'  10B0      SCB_068:        .ASCIC  \Unused - offset 68             \
20 20 20 20 20 38 36 20 74 65 73 66   10BC
20 20 20 20 20 20 20 20 20 20 20 20   10C8
                              20 20   10D4
                                 25   10B0
66 6F 20 2D 20 64 65 73 75 6E 55 00'  10D6      SCB_06C:        .ASCIC  \Unused - offset 6C             \
20 20 20 20 20 43 36 20 74 65 73 66   10E2
20 20 20 20 20 20 20 20 20 20 20 20   10EE
                              20 20   10FA
                                 25   10D6
66 6F 20 2D 20 64 65 73 75 6E 55 00'  10FC      SCB_070:        .ASCIC  \Unused - offset 70             \
20 20 20 20 20 30 37 20 74 65 73 66   1108
20 20 20 20 20 20 20 20 20 20 20 20   1114
                              20 20   1120
                                 25   10FC
66 6F 20 2D 20 64 65 73 75 6E 55 00'  1122      SCB_074:        .ASCIC  \Unused - offset 74             \
20 20 20 20 20 34 37 20 74 65 73 66   112E
20 20 20 20 20 20 20 20 20 20 20 20   113A
                              20 20   1146
                                 25   1122
66 6F 20 2D 20 64 65 73 75 6E 55 00'  1148      SCB_078:        .ASCIC  \Unused - offset 78             \
20 20 20 20 20 38 37 20 74 65 73 66   1154
20 20 20 20 20 20 20 20 20 20 20 20   1160
                              20 20   116C
                                 25   1148
66 6F 20 2D 20 64 65 73 75 6E 55 00'  116E      SCB_07C:        .ASCIC  \Unused - offset 7C             \
20 20 20 20 20 43 37 20 74 65 73 66   117A
20 20 20 20 20 20 20 20 20 20 20 20   1186
                              20 20   1192
                                 25   116E
66 6F 20 2D 20 64 65 73 75 6E 55 00'  1194      SCB_080:        .ASCIC  \Unused - offset 80             \
20 20 20 20 20 30 38 20 74 65 73 66   11A0
20 20 20 20 20 20 20 20 20 20 20 20   11AC
                              20 20   11B8
                                 25   1194
65 6C 20 65 72 61 77 74 66 6F 53 00'  11BA      SCB_084:        .ASCIC  \Software level 1 interrupt     \
72 72 65 74 6E 69 20 31 20 6C 65 76   11C6
20 20 20 20 20 20 20 20 20 74 70 75   11D2
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                                    20 20  11DE
                                       25  11BA
65 6C 20 65 72 61 77 74 66 6F 53 00'  11E0    622 SCB_088:      .ASCIC  \Software level 2 interrupt - AST delivery\
72 72 65 74 6E 69 20 32 20 6C 65 76   11EC
65 64 20 54 53 41 20 2D 20 74 70 75   11F8
               79 72 65 76 69 6C      1204
                                29    11E0
65 6C 20 65 72 61 77 74 66 6F 53 00'  120A    623 SCB_08C:      .ASCIC  \Software level 3 interrupt          \
72 72 65 74 6E 69 20 33 20 6C 65 76   1216
20 20 20 20 20 20 20 20 20 74 70 75   1222
                             20 20    122E
                                25    120A
65 6C 20 65 72 61 77 74 66 6F 53 00'  1230    624 SCB_090:      .ASCIC  \Software level 4 interrupt          \
72 72 65 74 6E 69 20 34 20 6C 65 76   123C
20 20 20 20 20 20 20 20 20 74 70 75   1248
                             20 20    1254
                                25    1230
65 6C 20 65 72 61 77 74 66 6F 53 00'  1256    625 SCB_094:      .ASCIC  \Software level 5 interrupt          \
72 72 65 74 6E 69 20 35 20 6C 65 76   1262
20 20 20 20 20 20 20 20 20 74 70 75   126E
                             20 20    127A
                                25    1256
65 6C 20 65 72 61 77 74 66 6F 53 00'  127C    626 SCB_098:      .ASCIC  \Software level 6 interrupt          \
72 72 65 74 6E 69 20 36 20 6C 65 76   1288
20 20 20 20 20 20 20 20 20 74 70 75   1294
                             20 20    12A0
                                25    127C
65 6C 20 65 72 61 77 74 66 6F 53 00'  12A2    627 SCB_09C:      .ASCIC  \Software level 7 interrupt - Quantum end\
72 72 65 74 6E 69 20 37 20 6C 65 76   12AE
75 74 6E 61 75 51 20 2D 20 74 70 75   12BA
                  64 6E 65 20 6D      12C6
                                28    12A2
65 6C 20 65 72 61 77 74 66 6F 53 00'  12CB    628 SCB_0A0:      .ASCIC  \Software level 8 interrupt          \
72 72 65 74 6E 69 20 38 20 6C 65 76   12D7
20 20 20 20 20 20 20 20 20 74 70 75   12E3
                             20 20    12EF
                                25    12CB
65 6C 20 65 72 61 77 74 66 6F 53 00'  12F1    629 SCB_0A4:      .ASCIC  \Software level 9 interrupt          \
72 72 65 74 6E 69 20 39 20 6C 65 76   12FD
20 20 20 20 20 20 20 20 20 74 70 75   1309
                             20 20    1315
                                25    12F1
65 6C 20 65 72 61 77 74 66 6F 53 00'  1317    630 SCB_0A8:      .ASCIC  \Software level 10 interrupt         \
72 65 74 6E 69 20 30 31 20 6C 65 76   1323
20 20 20 20 20 20 20 20 74 70 75 72   132F
                             20 20    133B
                                25    1317
65 6C 20 65 72 61 77 74 66 6F 53 00'  133D    631 SCB_0AC:      .ASCIC  \Software level 11 interrupt         \
72 65 74 6E 69 20 31 31 20 6C 65 76   1349
20 20 20 20 20 20 20 20 74 70 75 72   1355
                             20 20    1361
                                25    133D
65 6C 20 65 72 61 77 74 66 6F 53 00'  1363    632 SCB_0B0:      .ASCIC  \Software level 12 interrupt         \
72 65 74 6E 69 20 32 31 20 6C 65 76   136F
20 20 20 20 20 20 20 20 74 70 75 72   137B
                             20 20    1387
                                25    1363
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65 6C 20 65 72 61 77 74 66 6F 53 00' 1389   633 SCB_0B4:      .ASCIC  \Software level 13 interrupt       \
72 65 74 6E 69 20 33 31 20 6C 65 76  1395
20 20 20 20 20 20 20 20 74 70 75 72  13A1
                              20 20  13AD
                                 25  1389
65 6C 20 65 72 61 77 74 66 6F 53 00' 13AF   634 SCB_0B8:      .ASCIC  \Software level 14 interrupt       \
72 65 74 6E 69 20 34 31 20 6C 65 76  13BB
20 20 20 20 20 20 20 20 74 70 75 72  13C7
                              20 20  13D3
                                 25  13AF
65 6C 20 65 72 61 77 74 66 6F 53 00' 13D5   635 SCB_0BC:      .ASCIC  \Software level 15 interrupt       \
72 65 74 6E 69 20 35 31 20 6C 65 76  13E1
20 20 20 20 20 20 20 20 74 70 75 72  13ED
                              20 20  13F9
                                 25  13D5
69 74 20 6C 61 76 72 65 74 6E 49 00' 13FB   636 SCB_0C0:      .ASCIC  \Interval timer\
                           72 65 6D  1407
                                 0E  13FB
66 6F 20 2D 20 64 65 73 75 6E 55 00' 140A   637 SCB_0C4:      .ASCIC  \Unused - offset C4                \
20 20 20 20 20 34 43 20 74 65 73 66  1416
20 20 20 20 20 20 20 20 20 20 20 20  1422
                              20 20  142E
                                 25  140A
66 6F 20 2D 20 64 65 73 75 6E 55 00' 1430   638 SCB_0C8:      .ASCIC  \Unused - offset C8                \
20 20 20 20 20 38 43 20 74 65 73 66  143C
20 20 20 20 20 20 20 20 20 20 20 20  1448
                              20 20  1454
                                 25  1430
66 6F 20 2D 20 64 65 73 75 6E 55 00' 1456   639 SCB_0CC:      .ASCIC  \Unused - offset CC                \
20 20 20 20 20 43 43 20 74 65 73 66  1462
20 20 20 20 20 20 20 20 20 20 20 20  146E
                              20 20  147A
                                 25  1456
66 6F 20 2D 20 64 65 73 75 6E 55 00' 147C   640 SCB_0D0:      .ASCIC  \Unused - offset D0                \
20 20 20 20 20 30 44 20 74 65 73 66  1488
20 20 20 20 20 20 20 20 20 20 20 20  1494
                              20 20  14A0
                                 25  147C
66 6F 20 2D 20 64 65 73 75 6E 55 00' 14A2   641 SCB_0D4:      .ASCIC  \Unused - offset D4                \
20 20 20 20 20 34 44 20 74 65 73 66  14AE
20 20 20 20 20 20 20 20 20 20 20 20  14BA
                              20 20  14C6
                                 25  14A2
66 6F 20 2D 20 64 65 73 75 6E 55 00' 14C8   642 SCB_0D8:      .ASCIC  \Unused - offset D8                \
20 20 20 20 20 38 44 20 74 65 73 66  14D4
20 20 20 20 20 20 20 20 20 20 20 20  14E0
                              20 20  14EC
                                 25  14C8
66 6F 20 2D 20 64 65 73 75 6E 55 00' 14EE   643 SCB_0DC:      .ASCIC  \Unused - offset DC                \
20 20 20 20 20 43 44 20 74 65 73 66  14FA
20 20 20 20 20 20 20 20 20 20 20 20  1506
                              20 20  1512
                                 25  14EE
66 6F 20 2D 20 64 65 73 75 6E 55 00' 1514   644 SCB_0E0:      .ASCIC  \Unused - offset E0                \
20 20 20 20 20 30 45 20 74 65 73 66  1520
20 20 20 20 20 20 20 20 20 20 20 20  152C
                              20 20  1538
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                                    25  1514
66 6F 20 2D 20 64 65 73 75 6E 55 00' 153A   645 SCB_0E4:       .ASCIC  \Unused - offset E4              \
20 20 20 20 20 34 45 20 74 65 73 66  1546
20 20 20 20 20 20 20 20 20 20 20 20  1552
                                20 20  155E
                                   25  153A
66 6F 20 2D 20 64 65 73 75 6E 55 00' 1560   646 SCB_0E8:       .ASCIC  \Unused - offset E8              \
20 20 20 20 20 38 45 20 74 65 73 66  156C
20 20 20 20 20 20 20 20 20 20 20 20  1578
                                20 20  1584
                                   25  1560
66 6F 20 2D 20 64 65 73 75 6E 55 00' 1586   647 SCB_0EC:       .ASCIC  \Unused - offset EC              \
20 20 20 20 20 43 45 20 74 65 73 66  1592
20 20 20 20 20 20 20 20 20 20 20 20  159E
                                20 20  15AA
                                   25  1586
66 6F 20 2D 20 64 65 73 75 6E 55 00' 15AC   648 SCB_0F0:       .ASCIC  \Unused - offset F0              \
20 20 20 20 20 30 46 20 74 65 73 66  15B8
20 20 20 20 20 20 20 20 20 20 20 20  15C4
                                20 20  15D0
                                   25  15AC
66 6F 20 2D 20 64 65 73 75 6E 55 00' 15D2   649 SCB_0F4:       .ASCIC  \Unused - offset F4              \
20 20 20 20 20 34 46 20 74 65 73 66  15DE
20 20 20 20 20 20 20 20 20 20 20 20  15EA
                                20 20  15F6
                                   25  15D2
74 6E 69 20 65 6C 6F 73 6E 6F 43 00' 15F8   650 SCB_0F8:       .ASCIC  \Console interrupt for input     \
69 20 72 6F 66 20 74 70 75 72 72 65  1604
20 20 20 20 20 20 20 20 74 75 70 6E  1610
                                20 20  161C
                                   25  15F8
74 6E 69 20 65 6C 6F 73 6E 6F 43 00' 161E   651 SCB_0FC:       .ASCIC  \Console interrupt for output    \
6F 20 72 6F 66 20 74 70 75 72 72 65  162A
20 20 20 20 20 20 20 74 75 70 74 75  1636
                                20 20  1642
                                   25  161E
                                    1644   652
                                    1644   653 HIST_CTX_PTR::
                       00000CD4'  1644   654         .ADDRESS        SCB_000
                       00000CFA'  1648   655         .ADDRESS        SCB_004
                       00000D20'  164C   656         .ADDRESS        SCB_008
                       00000D46'  1650   657         .ADDRESS        SCB_00C
                       00000D6C'  1654   658         .ADDRESS        SCB_010
                       00000D92'  1658   659         .ADDRESS        SCB_014
                       00000DB8'  165C   660         .ADDRESS        SCB_018
                       00000DDE'  1660   661         .ADDRESS        SCB_01C
                       00000E04'  1664   662         .ADDRESS        SCB_020
                       00000E2A'  1668   663         .ADDRESS        SCB_024
                       00000E50'  166C   664         .ADDRESS        SCB_028
                       00000E76'  1670   665         .ADDRESS        SCB_02C
                       00000E9C'  1674   666         .ADDRESS        SCB_030
                       00000EC2'  1678   667         .ADDRESS        SCB_034
                       00000EE8'  167C   668         .ADDRESS        SCB_038
                       00000F0E'  1680   669         .ADDRESS        SCB_03C
                       00000F34'  1684   670         .ADDRESS        SCB_040
                       00000F5A'  1688   671         .ADDRESS        SCB_044
                       00000F80'  168C   672         .ADDRESS        SCB_048
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                                    00000FA6' 1690    673           .ADDRESS         SCB_04C
                                    00000FCC' 1694    674           .ADDRESS         SCB_050
                                    00000FF2' 1698    675           .ADDRESS         SCB_054
                                    00001018' 169C    676           .ADDRESS         SCB_058
                                    0000103E' 16A0    677           .ADDRESS         SCB_05C
                                    00001064' 16A4    678           .ADDRESS         SCB_060
                                    0000108A' 16A8    679           .ADDRESS         SCB_064
                                    000010B0' 16AC    680           .ADDRESS         SCB_068
                                    000010D6' 16B0    681           .ADDRESS         SCB_06C
                                    000010FC' 16B4    682           .ADDRESS         SCB_070
                                    00001122' 16B8    683           .ADDRESS         SCB_074
                                    00001148' 16BC    684           .ADDRESS         SCB_078
                                    0000116E' 16C0    685           .ADDRESS         SCB_07C
                                    00001194' 16C4    686           .ADDRESS         SCB_080
                                    000011BA' 16C8    687           .ADDRESS         SCB_084
                                    000011E0' 16CC    688           .ADDRESS         SCB_088
                                    0000120A' 16D0    689           .ADDRESS         SCB_08C
                                    00001230' 16D4    690           .ADDRESS         SCB_090
                                    00001256' 16D8    691           .ADDRESS         SCB_094
                                    0000127C' 16DC    692           .ADDRESS         SCB_098
                                    000012A2' 16E0    693           .ADDRESS         SCB_09C
                                    000012CB' 16E4    694           .ADDRESS         SCB_0A0
                                    000012F1' 16E8    695           .ADDRESS         SCB_0A4
                                    00001317' 16EC    696           .ADDRESS         SCB_0A8
                                    0000133D' 16F0    697           .ADDRESS         SCB_0AC
                                    00001363' 16F4    698           .ADDRESS         SCB_0B0
                                    00001389' 16F8    699           .ADDRESS         SCB_0B4
                                    000013AF' 16FC    700           .ADDRESS         SCB_0B8
                                    000013D5' 1700    701           .ADDRESS         SCB_0BC
                                    000013FB' 1704    702           .ADDRESS         SCB_0C0
                                    0000140A' 1708    703           .ADDRESS         SCB_0C4
                                    00001430' 170C    704           .ADDRESS         SCB_0C8
                                    00001456' 1710    705           .ADDRESS         SCB_0CC
                                    0000147C' 1714    706           .ADDRESS         SCB_0D0
                                    000014A2' 1718    707           .ADDRESS         SCB_0D4
                                    000014C8' 171C    708           .ADDRESS         SCB_0D8
                                    000014EE' 1720    709           .ADDRESS         SCB_0DC
                                    00001514' 1724    710           .ADDRESS         SCB_0E0
                                    0000153A' 1728    711           .ADDRESS         SCB_0E4
                                    00001560' 172C    712           .ADDRESS         SCB_0E8
                                    00001586' 1730    713           .ADDRESS         SCB_0EC
                                    000015AC' 1734    714           .ADDRESS         SCB_0F0
                                    000015D2' 1738    715           .ADDRESS         SCB_0F4
                                    000015F8' 173C    716           .ADDRESS         SCB_0F8
                                    0000161E' 1740    717           .ADDRESS         SCB_0FC
                                              1744    718
                                              1744    719 HIST_TIME_DSC::
6F 74 20 4C 5A 21 0000174C'010E0000'  1744    720           .ASCID  \!ZL to !ZL microsec  !_!ZL!_!AS!_!ZL!_!ZL!_!ZL!_!AC\
65 73 6F 72 63 69 6D 20 4C 5A 21 20  1752
41 21 5F 21 4C 5A 21 5F 21 20 20 63  175E
21 4C 5A 21 5F 21 4C 5A 21 5F 21 53  176A
         43 41 21 5F 21 4C 5A 21 5F  1776
                                              177F    721
                                              177F    722 HIST_RSCH_DSC::
6F 74 20 4C 5A 21 00001787'010E0000'  177F    723           .ASCID  \!ZL to !ZL microsec  !_!ZL!_!AS\
65 73 6F 72 63 69 6D 20 4C 5A 21 20  178D
41 21 5F 21 4C 5A 21 5F 21 20 20 63  1799
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                              53  17A5
                                  17A6
                              00000000         .PSECT  CODE BYTE,NOWRT,EXE
                                  0000  SHWPFM::
                                  0000         .ENABL  LSB
                            0000  0000         .WORD   0
                                  0002         $CMKRNL_S      GETDATA
                        59 50  E8  0011         BLBS    R0,10$
                          05FA  31  0014         BRW     ERROR
                                  0017  ;
                                  0017  ; GETDATA - This routine goes into kernel mode and copies the performance
                                  0017  ; data into a local buffer.
                                  0017  ;
                                  0017  GETDATA::
                            007C  0017         .WORD   ^M<R2,R3,R4,R5,R6>
                            50  D4  0019         CLRL    R0                                      ;Assume failure
               56   00000000'GF  D0  001B         MOVL    G^EXE$GL_MP,R6                          ;Get adr of loaded MP code
                            48  13  0022         BEQL    ERR_EXIT                                ;Br if MP not loaded
          50   56   00000000'8F  C1  0024         ADDL3   #PFM$L_START,R6,R0                      ;Find start of perf meas data
                         51  60  D0  002C         MOVL    (R0),R1                                 ;Get size of performance data
     00000000'EF    60      51  28  002F         MOVC3   R1,(R0),PFM_DATA                        ;Copy perf meas data to buffer
                                  0037         ASSUME  CPU2_NULLTIME EQ <CPU2TIME_DATA + 24>
          50   56   00000000'8F  C1  0037         ADDL3   #MPS$AL_CPUTIME,R6,R0                   ;Get adr of cpu time mode % vec
                         51  1C  9A  003F         MOVZBL  #28,R1                                  ;Seven longwords of data
     00003400'EF    60      51  28  0042         MOVC3   R1,(R0),CPU2TIME_DATA                   ;Copy cpu time mode % data
0000341C'EF    00000000'GF  18  28  004A         MOVC3   #24,G^PMS$GL_KERNEL,CPU1TIME_DATA ;Get cpu time mode % data
          50        00000000'GF  9E  0056         MOVAB   G^SCH$GL_NULLPCB,R0                     ;Get address of null job's pcb
                      50  6C A0  D0  005D         MOVL    PCB$L_PHD(R0),R0                        ;Get address of null job's phd
       00003434'EF        38 A0  D0  0061         MOVL    PHD$L_CPUTIM(R0),NULL_JOB_TIME          ;Copy accum null job cpu time
                    50       01  9A  0069         MOVZBL  #1,R0                                   ;Set success status
                                  006C  ERR_EXIT:
                              04  006C         RET
                                  006D  ;
                                  006D  ; NOW FORMAT AND OUTPUT DATA.
                                  006D  ;
                                  006D  10$:
          50        00000000'EF  9E  006D         MOVAB   HIST_SRV_PTR,R0                         ;Address of name text pointers
          51        00000984'EF  9E  0074         MOVAB   HIST_SRV_TBL,R1                         ;Address of table of CHMK codes
                                  007B                                                         ; and associated ASCII names
                                  007B  11$:
                    52       81  D0  007B         MOVL    (R1)+,R2                                ;Get CHMK code
                             61  D5  007E         TSTL    (R1)                                    ;Is this the end of the table?
                             14  13  0080         BEQL    13$                                     ;Br if end of table
          52        FFFFFF00 8F  D3  0082         BITL    #^XFFFFFF00,R2                          ;Check if loadable service
                             06  12  0089         BNEQ    12$                                     ;Br if loadable service, do nothing
                  6042       81  D0  008B         MOVL    (R1)+,(R0)[R2]                          ;Move adr of ASCII name into
                                  008F                                                         ; name text pointer table
                             EA  11  008F         BRB     11$                                     ;Loop for each kernel sys srv
                    51       04  C0  0091  12$:   ADDL    #4,R1                                   ;Point past adr of sys srv name
                             E5  11  0094         BRB     11$                                     ;Loop for each kernel sys srv
                                  0096  13$:
                                  0096
                    57       01  9A  0096         MOVZBL  #1,R7                                   ;Number of one liners to output
          58        0000033F'EF  9E  0099         MOVAB   TITLE_PTR,R8                            ;Address of FAO cmd descriptor
          59        00000000'EF  9E  00A0         MOVAB   PFM_DATA,R9                             ;Address of data to output
                          0570  30  00A7         BSBW    OUTPUT_LINE                             ;Call to output one line
                                  00AA
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                                     00AA           ASSUME  CPU2_NULLTIME EQ <CPU2TIME_DATA + 24>
                                     00AA           ASSUME  NULL_JOB_TIME EQ <CPU1TIME_DATA + 24>
                   50     06    9A   00AA           MOVZBL  #6,R0                            ;Get number of cpu time cells
              000037B8'EF       7C   00AD           CLRD    TIME1_SAMPLE_D                   ;Initialize cpu1 time sample
              000037C0'EF       7C   00B3           CLRD    TIME2_SAMPLE_D                   ;Initialize cpu2 time sample
        54    0000341C'EF       9E   00B9           MOVAB   CPU1TIME_DATA,R4                 ;Address of cpu time data
        55    00003400'EF       9E   00C0           MOVAB   CPU2TIME_DATA,R5                 ;Address of cpu time data
        58    000037C8'EF       9E   00C7           MOVAB   CPU1TIME_PERCENTS,R8             ;Address for % data
        59    00003800'EF       9E   00CE           MOVAB   CPU2TIME_PERCENTS,R9             ;Address for % data
              6840    6440      6E   00D5     20$:  CVTLD   (R4)[R0],(R8)[R0]                ;Convert time to double format
              6940    6540      6E   00DA           CVTLD   (R5)[R0],(R9)[R0]                ;Convert time to double format
                   F3 50        F4   00DF           SOBGEQ  R0,20$                           ;Once per mode: K,E,S,U,I,C,Null
                                     00E2
                   50     06    9A   00E2           MOVZBL  #6,R0                            ;Get index to idle time cell
                   51     04    9A   00E5           MOVZBL  #4,R1                            ;Get index to interrupt time
              6840    6940      62   00E8           SUBD2   (R9)[R0],(R8)[R0]                ;Subtract secondary idle time
                68    6840      62   00ED           SUBD2   (R8)[R0],(R8)                    ;Subtract idle from kernel time
              6941    6940      62   00F1           SUBD2   (R9)[R0],(R9)[R1]                ;Subtract idle from interrupt
              6440    6540      C2   00F6           SUBL    (R5)[R0],(R4)[R0]                ;Subtract secondary idle time
                64    6440      C2   00FB           SUBL    (R4)[R0],(R4)                    ;Subtract idle from kernel time
              6541    6540      C2   00FF           SUBL    (R5)[R0],(R5)[R1]                ;Subtract idle from interrupt
                                     0104
                   50     06    9A   0104           MOVZBL  #6,R0                            ;Get index to idle time cell
         000037B8'EF    6840    60   0107     30$:  ADDD    (R8)[R0],TIME1_SAMPLE_D          ;Accum cpu1 sample time in dbl
         000037C0'EF    6940    60   010F           ADDD    (R9)[R0],TIME2_SAMPLE_D          ;Accum cpu2 sample time in dbl
         000037A0'EF    6440    C0   0117           ADDL    (R4)[R0],TIME1_SAMPLE            ;Accumulate total time measured
         000037A8'EF    6540    C0   011F           ADDL    (R5)[R0],TIME2_SAMPLE            ;Accumulate total time measu,ed
                   DD 50        F4   0127           SOBGEQ  R0,30$                           ;Once per mode: K,E,S,U,I,C,Null
                                     012A
                   50     06    9A   012A           MOVZBL  #6,R0                            ;Get number of cpu time cells
 6840    00000000 000043C8 8F   64   012D     40$:  MULD2   #100,(R8)[R0]                    ;Amount of time * 100
 6940    00000000 000043C8 8F   64   0139           MULD2   #100,(R9)[R0]                    ;Amount of time * 100
        6840  000037B8'EF       66   0145           DIVD2   TIME1_SAMPLE_D,(R8)[R0]          ;Compute % of cpu time
              000037C0'EF       D5   014D           TSTL    TIME2_SAMPLE_D                   ;Is secondary active at all?
                          05    12   0153           BNEQ    45$                              ;Br on active
                        6940    7C   0155           CLRD    (R9)[R0]                         ;Indicate nothing to display
                          08    11   0158           BRB     46$                              ;Continue
        6940  000037C0'EF       66   015A     45$:  DIVD2   TIME2_SAMPLE_D,(R9)[R0]          ;Compute % of cpu time
                   C8 50        F4   0162     46$:  SOBGEQ  R0,40$                           ;Once per mode (K,E,S,U,I,C)
                                     0165
              00003838'EF       D4   0165           CLRL    ASCTIM_LENGTH
          0000388C'EF     10    D0   016B           MOVL    #16,ASCTIM_BUFFER_DSC            ;Initialize output buffer dsc
     000037A0'EF  000037A0'EF   CE   0172           MNEGL   TIME1_SAMPLE,TIME1_SAMPLE
 00  000037A0'EF  000186A0 8F   7A   017D           EMUL    #100000,TIME1_SAMPLE,#0,TIME1_SAMPLE
                  000037A0'EF        0189
                                     018E           $ASCTIM_S       TIMLEN=ASCTIM_LENGTH,-
                                     018E                   TIMBUF=ASCTIM_BUFFER_DSC,-
                                     018E                   TIMADR=TIME1_SAMPLE,-
                                     018E                   CVTFLG=#0
                   03 50        E8   01A9           BLBS    R0,50$
                        0462    31   01AC           BRW     ERROR
     0000388C'EF  00003838'EF   D0   01AF     50$:  MOVL    ASCTIM_LENGTH,ASCTIM_BUFFER_DSC
                   57     01    9A   01BA           MOVZBL  #1,R7                            ;Number of one liners to output
        58    000002EB'EF       9E   01BD           MOVAB   TIME1_DSC_PTR,R8                 ;Address of FAO cmd descriptor
        59    00003894'EF       9E   01C4           MOVAB   ASCTIM_DSC_PTR,R9                ;Address of data to output
                        044C    30   01CB           BSBW    OUTPUT_LINE                      ;Call to output one line
              00003838'EF       D4   01CE           CLRL    ASCTIM_LENGTH
```

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           0000388C'EF      10    D0  01D4   836          MOVL    #16,ASCTIM_BUFFER_DSC           ;Initialize output buffer dsc
    000037A8'EF    000037A8'EF    CE  01DB   837          MNEGL   TIME2_SAMPLE,TIME2_SAMPLE
00  000037A8'EF    000186A0 8F    7A  01E6   838          EMUL    #100000,TIME2_SAMPLE,#0,TIME2_SAMPLE
                   000037A8'EF        01F2
                                      01F7   839          $ASCTIM_S       TIMLEN=ASCTIM_LENGTH,-
                                      01F7   840                  TIMBUF=ASCTIM_BUFFER_DSC,-
                                      01F7   841                  TIMADR=TIME2_SAMPLE,-
                                      01F7   `42                  CVTFLG=#0
                        03 50     E8  0212   843          BLBS    R0,55$
                         03F9     31  0215   844          BRW     ERROR
    0000388C'EF    00003838'EF    D0  0218   845 55$:     MOVL    ASCTIM_LENGTH,ASCTIM_BUFFER_DSC
                        57  01    9A  0223   846          MOVZBL  #1,R7                           ;Number of one liners to output
              58   000002EF'EF    9E  0226   847          MOVAB   TIME2_DSC_PTR,R8                ;Address of FAO cmd descriptor
              59   00003894'EF    9E  022D   848          MOVAB   ASCTIM_DSC_PTR,R9               ;Address of data to output
                         03E3     30  0234   849          BSBW    OUTPUT_LINE                     ;Call to output one line
                                      0237   850
                        57  02    9A  0237   851          MOVZBL  #2,R7                           ;Number of one liners to output
              58   0000042C'EF    9E  023A   852          MOVAB   TIME_ARRAY_PTR,R8               ;Address of FAO cmd descriptor
              59   00000000'EF    9E  0241   853          MOVAB   PFM_DATA,R9                     ;Dummy address to make rtn work
                         03CF     30  0248   854          BSBW    OUTPUT_LINE                     ;Call to output one line
                                      024B   855
                        57  07    9A  024B   856          MOVZBL  #7,R7                           ;Number of one liners to output
              58   0000049A'EF    9E  024E   857          MOVAB   CPUTIM_DSC_PTR,R8               ;Address of FAO cmd descriptors
              59   000037C8'EF    9E  0255   858          MOVAB   CPU1TIME_PERCENTS,R9            ;Address of data to output
              5A   00003800'EF    9E  025C   859          MOVAB   CPU2TIME_PERCENTS,R10           ;Address of data to output
                         0605     30  0263   860          BSBW    OUTPUT_LINE_2                   ;Call to output one liners
                                      0266   861
                        57  07    9A  0266   862          MOVZBL  #7,R7                           ;Number of one liners to output
              59   00000000'EF    9E  0269   863          MOVAB   PFM_DATA+<PFM$L_CNT_CTXSW-PFM$L_START>,R9 ;Point past data size
              58   00000648'EF    9E  0270   864          MOVAB   CNTRS_DSC_PTR,R8                ;Address of FAO cmd descriptors
                         03A0     30  0277   865          BSBW    OUTPUT_LINE                     ;Call to output one liners
                                      027A   866
              59   00000000'EF    9E  027A   367          MOVAB   PFM_DATA+<PFM$A_HIST_TIME-PFM$L_START>,R9 ;Point past data size
                                      0281   868
                        50  69    D0  0281   869          MOVL    HST_L_CELLCOUNT(R9),R0          ;Index to overflow accumulator
              57   00003460'EF    9E  0284   870          MOVAB   HISTO_PERCENTS,R7               ;Address of percentage array
                   6740  08 A9    6E  028B   871          CVTLD   HST_Q_OVRFLOW(R9),(R7)[R0]      ;Convert overflow accumulator
                            11    18  0290   872          BGEQ    60$                             ;Br if bit 31 not set
                   6740   6740    72  0292   873          MNEGD   (R7)[R0],(R7)[R0]               ;Negate as bit 31 was set
   6740   00000000 00000000 8F    60  0297   874          ADDD2   #<2@31>,(R7)[R0]                ;Add in bit 31 count
           0000343C'EF     0C A9  6E  02A3   875 60$:     CVTLD   HST_Q_OVRFLOW+4(R9),TEMP        ;Convert high bits of overflow
    0000343C'EF    00003454'EF    64  02AB   876          MULD2   TWO_32,TEMP                     ;Raise to appropriate power
           6740    0000343C'EF    60  02B6   877          ADDD2   TEMP,(R7)[R0]                   ;Add in high order longword acc
           00003458'EF    6740    70  02BE   878          MOVD    (R7)[R0],HISTO_TOTAL            ;Add in overflow
                   50   69   01   C3  02C6   879          SUBL3   #1,HST_L_CELLCOUNT(R9),R0       ;Index into histogram
           00003444'EF     04 A9  6E  02CA   880          CVTLD   HST_L_CELLWIDTH(R9),TEMP1       ;Remember cell width
              0000344C'EF     69  6E  02D2   881          CVTLD   HST_L_CELLCOUNT(R9),TEMP2       ;Get count of cells
    0000344C'EF    00003444'EF    64  02D9   882          MULD2   TEMP1,TEMP2                     ;Get high limit of largest cell
           00003444'EF     04 A9  6E  02E4   883          CVTLD   HST_L_CELLWIDTH(R9),TEMP1       ;Get width of one cell
00003444'EF   00003444'EF     10  67  02EC   884          DIVD3   #2,TEMP1,TEMP1                  ;Get median of cell width
    0000344C'EF    00003444'EF    62  02F8   885          SUBD2   TEMP1,TEMP2                     ;Get median of last cell
           00003444'EF     04 A9  6E  0303   886          CVTLD   HST_L_CELLWIDTH(R9),TEMP1       ;Get width of one cell
                 6740   10 A940   6E  030B   887 70$:     CVTLD   HST_L_FIRSTCELL(R9)[R0],(R7)[R0] ;Convert number to float dbl
              52   0000344C'EF    6E  03.    888          CVTLD   TEMP2,R2
              51   00003444'EF    6E  0318   889          CVTLD   TEMP1,R1
           6740    0000344C'EF    64  031F   890          MULD2   TEMP2,(R7)[R0]                  ;Multiply by median cell value
           00003458'EF    6740    60  0327   891          ADDD2   (R7)[R0],HISTO_TOTAL            ;Accumulate total for % calc
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MPS
Sym

SCB
SCB
SCa
SCB
SCB
SCB
SCB
SCB
SCH
SCH
SET
SET
SET
SET
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SET
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SET
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SET
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SET
SET
SHW
SND
SRV
SRV
SUS
SYS
SYS
SYS
SYS
TEM
TEM
TEM
TIM
TIM
TIM
TIM
TIM
TIM
TIM
TIM
TIT
TIT
TRN
TWO
ULK
ULW
UPD
WAI
WAK
WFL
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              51    50    01   C1  032F    892          ADDL3    #1,R0,R1                        ;Get index to next cell
                  6740  6741   60  0333    893          ADDD2    (R7)[R1],(R7)[R0]               ;Add sum of other cells to this
   0000344C'EF   00003444'EF   62  0338    894          SUBD2    TEMP1,TEMP2                     ;Get median of next cell
                       C5 50   F4  0343    895          SOBGEQ   R0,70$                          ;Repeat for each cell
                                   0346    896
                    50    69   D0  0346    897          MOVL     HST_L_CELLCOUNT(R9),R0          ;Index into histogram
            57   00003460'EF   9E  0349    898          MOVAB    HISTO_PERCENTS,R7               ;Address of percentage array
  6740  00000000 000043C8 8F   64  0350    899 80$:     MULD2    #100,(R7)[R0]                   ;Get ready to calculate %
          6740   00003458'EF   66  035C    900          DIVD2    HISTO_TOTAL,(R7)[R0]            ;Calculate % time
                       E9 50   F4  0364    901          SOBGEQ   R0,80$                          ;Repeat for each cell & ovrflw
                                   0367    902
            58   000000DC'EF   9E  0367    903          MOVAB    HISTO_TIME_HDR,R8               ;Address of FAO cmd descriptors
                    57    03   9A  036E    904          MOVZBL   #3,R7                           ;Number of one liners to output
                        02A6   30  0371    905          BSBW     OUTPUT_LINE                     ;Call to output one liners
   00003A2C'EF   00001744'EF   9E  0374    906          MOVAB    HIST_TIME_DSC,HISTO_1_FAO_PTR ;Address of FAO cmd descriptors
            52   00000000'EF   9E  037F    907          MOVAB    PFM_DATA+<PFM$A_HIST_TIME-PFM$L_START>,R2 ;Skip past local indic
            53   00003460'EF   9E  0386    908          MOVAB    HISTO_PERCENTS,R3               ;Address of second FAO argument
            54   00000000'EF   9E  038D    909          MOVAB    PFM_DATA+<PFM$A_HIST_PGFL-PFM$L_START>,R4 ;Skip past local indic
            55   00000000'EF   9E  0394    910          MOVAB    PFM_DATA+<PFM$A_HIST_CHMK-PFM$L_START>,R5 ;Skip past local indic
            56   00000000'EF   9E  039B    911          MOVAB    PFM_DATA+<PFM$A_HIST_OTHR-PFM$L_START>,R6 ;Skip past local indic
            57   00000000'EF   9E  03A2    912          MOVAB    PFM_DATA+<PFM$A_HIST_SSRV-PFM$L_START>,R7 ;Skip past local indic
                        0360   30  03A9    913          BSBW     OUTPUT_HISTO_1                  ;Output an entire histogram
                                   03AC    914
            59   00000000'EF   9E  03AC    915          MOVAB    PFM_DATA+<PFM$A_HIST_SRV-PFM$L_START>,R9 ;Point past data size
                                   03B3    916
                    50    69   D0  03B3    917          MOVL     HST_L_CELLCOUN1(R9),R0          ;Index to overflow accumulator
            57   00003460'EF   9E  03B6    918          MOVAB    HISTO_PERCENTS,R7               ;Address of percentage array
               6740    08 A9   6E  03BD    919          CVTLD    HST_Q_OVRFLOW(R9),(R7)[R0]      ;Convert overflow accumulator
                          11   18  03C2    920          BGEQ     72$                             ;Br if bit 31 not set
                  6740  6740   72  03C4    921          MNEGD    (R7)[R0],(R7)[R0]               ;Negate as bit 31 was set
  6740  00000000 00000000 8F   60  03C9    922          ADDD2    #<2@31>,(R7)[R0]                ;Add in bit 31 count
     0000343C'EF       0C A9   6E  03D5    923 72$:     CVTLD    HST_Q_OVRFLOW+4(R9),TEMP        ;Convert high bits of overflow
   0000343C'EF   00003454'EF   64  03DD    924          MULD2    TWO_32,TEMP                     ;Raise to appropriate power
          6740   0000343C'EF   60  03E8    925          ADDD2    TEMP,(R7)[R0]                   ;Add in high order longword acc
       00003458'EF      6740   70  03F0    926          MOVD     (R7)[R0],HISTO_TOTAL            ;Add in overflow
              50    69    01   C3  03F8    927          SUBL3    #1,HST_L_CELLCOUNT(R9),R0       ;Index into histogram
                                   03FC    928
            6740     10 A940   6E  03FC    929 73$:     CVTLD    HST_L_FIRSTCELL(R9)[R0],(R7)[R0] ;Convert number to float dbl
       00003458'EF      6740   60  0402    930          ADDD2    (R7)[R0],HISTO_TOTAL            ;Accumulate total for % calc
                       EF 50   F4  040A    931          SOBGEQ   R0,73$                          ;Repeat for each cell
                                   040D    932
                    50    69   D0  040D    933          MOVL     HST_L_CELLCOUNT(R9),R0          ;Index into histogram
            57   00003460'EF   9E  0410    934          MOVAB    HISTO_PERCENTS,R7               ;Address of percentage array
  6740  00000000 000043C8 8F   64  0417    935 74$:     MULD2    #100,(R7)[R0]                   ;Get ready to calculate %
          6740   00003458'EF   66  0423    936          DIVD2    HISTO_TOTAL,(R7)[R0]            ;Calculate % sys srv
                       E9 50   F4  042B    937          SOBGEQ   R0,74$                          ;Repeat for each cell & ovrflw
                                   042E    938
            59   00000000'EF   9E  042E    939          MOVAB    PFM_DATA+<PFM$A_HIST_SRV-PFM$L_START>,R9 ;Skip past local indic
            58   000000E8'EF   9E  0435    940          MOVAB    HISTO_SRV_HDR,R8                ;Address of FAO cmd descriptors
                    57    01   9A  043C    941          MOVZBL   #1,R7                           ;Number of one liners to output
                        01D8   30  043F    942          BSBW     OUTPUT_LINE                     ;Call to output one liners
            59   00000000'EF   9E  0442    943          MOVAB    PFM_DATA+<PFM$A_HIST_SRV-PFM$L_START>,R9 ;Skip past local indic
            5A   00000000'EF   9E  0449    944          MOVAB    HIST_SRV_PTR,R10                ;Address of second FAO argument
            56   00003460'EF   9E  0450    945          MOVAB    HISTO_PERCENTS,R6               ;Address of third FAO argument
                        0217   30  0457    946          BSBW     OUTPUT_HISTO                    ;Output an entire histogram
            59   00000000'EF   9E  045A    947          MOVAB    PFM_DATA+<PFM$A_HIST_SRV-PFM$L_START>,R9 ;Get adr of srv histo
              50    69    04   C5  0461    948          MULL3    #4,HST_L_CELLCOUNT(R9),R0       ;Offset to overflow cell
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                 59    10  C0 0465         ADDL    #HST_L_FIRSTCELL,R9                ;Point to first cell
                 59    50  C0 0468         ADDL    R0,R9                              ;Point to overflow cell
                       69  D5 046B         TSTL    (R9)                               ;Any overflow?
                       0D  13 046D         BEQL    75$                                ;Br if none, no new sys srv
           58  00000100'EF 9E 046F         MOVAB   SRV_OVR_PTR,R8                     ;Address of FAO cmd descriptor
                 57    01  9A 0476         MOVZBL  #1,R7                              ;One line to output
                     019E  30 0479         BSBW    OUTPUT_LINE                        ;Call to output one line
                              047C  75$:
           59  00000000'EF 9E 047C         MOVAB   PFM_DATA+<PFM$A_HIST_CTX-PFM$L_START>,R9 ;Point past data size
                              0483
                 50    69  D0 0483         MOVL    HST_L_CELLCOUNT(R9),R0             ;Index to overflow accumulator
           57  00003460'EF 9E 0486         MOVAB   HISTO_PERCENTS,R7                  ;Address of percentage array
              6740  08 A9  6E 048D         CVTLD   HST_Q_OVRFLOW(R9),(R7)[R0]         ;Convert overflow accumulator
                       11  18 0492         BGEQ    76$                                ;Br if bit 31 not set
              6740   6740  72 0494         MNEGD   (R7)[R0],(R7)[R0]                  ;Negate as bit 31 was set
  6740  00000000 00000000 8F 60 0499        ADDD2   #<2@31>,(R7)[R0]                   ;Add in bit 31 count
      0000343C'EF    0C A9  6E 04A5  76$:  CVTLD   HST_Q_OVRFLOW+4(R9),TEMP           ;Convert high bits of overflow
   0000343C'EF  00003454'EF 64 04AD        MULD2   TWO_32,TEMP                        ;Raise to appropriate power
         6740   0000343C'EF 60 04B8        ADDD2   TEMP,(R7)[R0]                      ;Add in high order longword acc
       00003458'EF   6740  70 04C0         MOVD    (R7)[R0],HISTO_TOTAL               ;Add in overflow
              50    69   01 C3 04C8        SUBL3   #1,HST_L_CELLCOUNT(R9),R0          ;Index into histogram
                              04CC
          6740    10 A940  6E 04CC  77$:   CVTLD   HST_L_FIRSTCELL(R9)[R0],(R7)[R0] ;Convert number to float dbl
       00003458'EF   6740  60 04D2         ADDD2   (R7)[R0],HISTO_TOTAL               ;Accumulate total for % calc
                    EF 50  F4 04DA         SOBGEQ  R0,77$                             ;Repeat for each cell
                              04DD
                 50    69  D0 04DD         MOVL    HST_L_CELLCOUNT(R9),R0             ;Index into histogram
           57  00003460'EF 9E 04E0         MOVAB   HISTO_PERCENTS,R7                  ;Address of percentage array
  6740  00000000 000043C8 8F 64 04E7  78$:  MULD2   #100,(R7)[R0]                      ;Get ready to calculate %
         6740   00003458'EF 66 04F3        DIVD2   HISTO_TOTAL,(R7)[R0]               ;Calculate % SCB entries
                    E9 50  F4 04FB         SOBGEQ  R0,78$                             ;Repeat for each cell & ovrflw
                              04FE
                              04FE
           59  00000000'EF 9E 04FE         MOVAB   PFM_DATA+<PFM$A_HIST_CTX-PFM$L_START>,R9 ;Point past data size
           58  000000EC'EF 9E 0505         MOVAB   HISTO_CTX_HDR,R8                   ;Address of FAO cmd descriptors
                 57    01  9A 050C         MOVZBL  #1,R7                              ;Number of one liners to output
                     0108  30 050F         BSBW    OUTPUT_LINE                        ;Call to output one liners
           59  00000000'EF 9E 0512         MOVAB   PFM_DATA+<PFM$A_HIST_CTX-PFM$L_START>,R9 ;Skip past local indic
           5A  00001644'EF 9E 0519         MOVAB   HIST_CTX_PTR,R10                   ;Address of second FAO argument
           56  00003460'EF 9E 0520         MOVAB   HISTO_PERCENTS,R6                  ;Address of third FAO argument
                     0147  30 0527         BSBW    OUTPUT_HISTO                       ;Output an entire histogram
                              052A
                              052A       ;
                              052A       ; Output histogram of kernel system services executed on secondary.
                              052A       ;
                              052A
           59  00000000'EF 9E 052A         MOVAB   PFM_DATA+<PFM$A_HIST_KSRV-PFM$L_START>,R9 ;Point past data size
                              0531
                 50    69  D0 0531         MOVL    HST_L_CELLCOUNT(R9),R0             ;Index to overflow accumulator
           57  00003460'EF 9E 0534         MOVAB   HISTO_PERCENTS,R7                  ;Address of percentage array
              6740  08 A9  6E 053B         CVTLD   HST_Q_OVRFLOW(R9),(R7)[R0]         ;Convert overflow accumulator
                       11  18 0540         BGEQ    82$                                ;Br if bit 31 not set
              6740   6740  72 0542         MNEGD   (R7)[R0],(R7)[R0]                  ;Negate as bit 31 was set
  6740  00000000 00000000 8F 60 0547        ADDD2   #<2@31>,(R7)[R0]                   ;Add in bit 31 count
      0000343C'EF    0C A9  6E 0553  82$:  CVTLD   HST_Q_OVRFLOW+4(R9),TEMP           ;Convert high bits of overflow
   0000343C'EF  00003454'EF 64 055B        MULD2   TWO_32,TEMP                        ;Raise to appropriate power
         6740   0000343C'EF 60 0566        ADDD2   TEMP,(R7)[R0]                      ;Add in high order longword acc
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        00003458'EF    6740   70  056E  1006          MOVD    (R7)[R0],HISTO_TOTAL                  ;Add in overflow
              50   69    01   C3  0576  1007          SUBL3   #1,HST_L_CELLCOUNT(R9),R0             ;Index into histogram
                                  057A  1008
            6740   10  A940   6E  057A  1009 83$:     CVTLD   HST_L_FIRSTCELL(R9)[R0],(R7)[R0] ;Convert number to float dbl
        00003458'EF    6740   60  0580  1010          ADDD2   (R7)[R0],HISTO_TOTAL                  ;Accumulate total for % calc
                      EF 50   F4  0588  1011          SOBGEQ  R0,83$                                ;Repeat for each cell
                                  058B  1012
              50   69         D0  058B  1013          MOVL    HST_L_CELLCOUNT(R9),R0                ;Index into histogram
        57     00003460'EF    9E  058E  1014          MOVAB   HISTO_PERCENTS,R7                     ;Address of percentage array
 6740  00000000 000043C8 8F   64  0595  1015 84$:     MULD2   #100,(R7)[R0]                         ;Get ready to calculate %
     6740      00003458'EF    66  05A1  1016          DIVD2   HISTO_TOTAL,(R7)[R0]                  ;Calculate % sys KSRV
                      E9 50   F4  05A9  1017          SOBGEQ  R0,84$                                ;Repeat for each cell & ovrflw
                                  05AC  1018
        59     00000000'EF    9E  05AC  1019          MOVAB   PFM_DATA+<PFM$A_HIST_KSRV-PFM$L_START>,R9 ;Skip past local indic
        58     000000D8'EF    9E  05B3  1020          MOVAB   HISTO_KSRV_HDR,R8                     ;Address of FAO cmd descriptors
                   57    01   9A  05BA  1021          MOVZBL  #1,R7                                 ;Number of one liners to output
                       005A   30  05BD  1022          BSBW    OUTPUT_LINE                           ;Call to output one liners
        59     00000000'EF    9E  05C0  1023          MOVAB   PFM_DATA+<PFM$A_HIST_KSRV-PFM$L_START>,R9 ;Skip past local indic
        5A     00000000'EF    9E  05C7  1024          MOVAB   HIST_SRV_PTR,R10                      ;Address of second FAO argument
        56     00003460'EF    9E  05CE  1025          MOVAB   HISTO_PERCENTS,R6                     ;Address of third FAO argument
                       0099   30  05D5  1026          BSBW    OUTPUT_HISTO                          ;Output an entire histogram
        59     00000000'EF    9E  05D8  1027          MOVAB   PFM_DATA+<PFM$A_HIST_KSRV-PFM$L_START>,R9 ;Get adr of KSRV histo
              50   69    04   C5  05DF  1028          MULL3   #4,HST_L_CELLCOUNT(R9),R0             ;Offset to overflow cell
                   59    10   C0  05E3  1029          ADDL    #HST_L_FIRSTCELL,R9                   ;Point to first cell
                   59    50   C0  05E6  1030          ADDL    R0,R9                                 ;Point to overflow cell
                         69   D5  05E9  1031          TSTL    (R9)                                  ;Any overflow?
                         0D   13  05EB  1032          BEQL    85$                                   ;Br if none, no new sys KSRV
        58     00000100'EF    9E  05ED  1033          MOVAB   SRV_OVR_PTR,R8                        ;Address of FAO cmd descriptor
                   57    01   9A  05F4  1034          MOVZBL  #1,R7                                 ;One line to output
                       0020   30  05F7  1035          BSBW    OUTPUT_LINE                           ;Call to output one line
                                  05FA  1036 85$:
                                  05FA  1037
                                  05FA  1038
                                  05FA  1039 ;
                                  05FA  1040 ; Output number of times a process in a wait for event flag system service
                                  05FA  1041 ; was returned to the secondary for completion of the system service.
                                  05FA  1042 ;
        59     00000000'EF    9E  05FA  1043          MOVAB   PFM_DATA+<PFM$L_CNT_NWAIT-PFM$L_START>,R9 ;Point to nowait data
        58     00000664'EF    9E  0601  1044          MOVAB   CNT_NWAIT_PTR,R8                      ;Address of FAO cmd descriptor
                   57    01   9A  0608  1045          MOVZBL  #1,R7                                 ;Number of one liners to output
                       000C   30  060B  1046          BSBW    OUTPUT_LINE                           ;Call to output one liners
                                  060E  1047
                   50    01   9A  060E  1048          MOVZBL  #1,R0
                                  0611  1049 ERROR:
                                  0611  1050          $EXIT_S R0
                                  061A  1051
                                  061A  1052
                                  061A  1053 ;
                                  061A  1054 ; R7 - Number of one liners to output
                                  061A  1055 ; R8 - Address of FAO command descriptors
                                  061A  1056 ; R9 - Address of list of arguments (one per FAO command descriptor)
                                  061A  1057 ;
                                  061A  1058 OUTPUT_LINE::
               00003958'EF    D4  061A  1059          CLRL    OUTPUT_LENGTH
 00003A24'EF   000000C8 8F    D0  0620  1060          MOVL    #200,OUTPUT_BUFFER_DSC                ;INITIALIZE OUTPUT BUFFER DSC
                                  062B  1061          $FAO_S  CTRSTR=a(R8),-
                                  062B  1062                  OUTLEN=OUTPUT_LENGTH,-
```

```
                                   062B                     OUTBUF=OUTPUT_BUFFER_DSC,-
                                   062B                     P1=(R9)
                  03 50      E8    0643             BLBS    R0,300$
                   FFC8      31    0646             BRW     ERROR
 00003A24'EF  00003958'EF    D0    0649  300$:      MOVL    OUTPUT_LENGTH,OUTPUT_BUFFER_DSC
               00003A24'EF   7F    0654             PUSHAQ  OUTPUT_BUFFER_DSC
       00000000'GF    01     FB    065A             CALLS   #1,G^LIB$PUT_OUTPUT
                  03 50      E8    0661             BLBS    R0,310$
                   FFAA      31    0664             BRW     ERROR
             58    04        C0    0667  310$:      ADDL    #4,R8                           ;Point to next FAO cmd dsc
             59    04        C0    066A             ADDL    #4,R9                           ;Point to next argument
                  AA 57      F5    066D             SOBGTR  R7,OUTPUT_LINE
                     05            0670             RSB
                                   0671
                                   0671
                                   0671  ;
                                   0671  ; R9 - Address of first FAO argument for each output line
                                   0671  ; R10 - Address of second FAO argument for each output line
                                   0671  ; R6 - Address of third FAO argument for each output line
                                   0671  ;
                                   0671  OUTPUT_HISTO::
                                   0671  ;          MOVAB   HIST_DSC_PTR,R8
                                   0671  ;          PUSHR   #^M<R0,R1,R2,R3,R4,R5,R6,R7,R9,R10>
                                   0671  ;          MOVZBL  #2,R7
                                   0671  ;          ASSUME  HST_L_CELLCOUNT EQ 0
                                   0671  ;          ASSUME  HST_L_CELLWIDTH EQ <HST_L_CELLCOUNT + 4>
                                   0671  ;          BSBW    OUTPUT_LINE
                                   0671  ;          POPR    #^M<R0,R1,R2,R3,R4,R5,R6,R7,R9,R10>
                57    69     D0    0671             MOVL    HST_L_CELLCOUNT(R9),R7          ;Count of lines to output
        58    000000F8'EF    9E    0674             MOVAB   HIST_LIN_PTR,R8
             59    10 A9     9E    067B             MOVAB   HST_L_FIRSTCELL(R9),R9          ;Get address of first histo cell
                                   067F  NXT_LINE:
                      69     D5    067F             TSTL    (R9)                            ;Is this cell empty?
                      79     13    0681             BEQL    410$                            ;Br if empty, don't output line
              00003958'EF    D4    0683             CLRL    OUTPUT_LENGTH
 00003A24'EF  000000C8 8F    D0    0689             MOVL    #200,OUTPUT_BUFFER_DSC          ;Initialize output buffer dsc
       000038EC'EF    08     D0    0694             MOVL    #8,ASCII1_BUFFER_DSC            ;Set number of output characters
                                   069B
                      00     DD    069B             PUSHL   #0                              ;Number of digits in exponent
                      03     DD    069D             PUSHL   #3                              ;Number of digits in integer
                      00     DD    069F             PUSHL   #0                              ;No scale factor
                      04     DD    06A1             PUSHL   #4                              ;Number of digits in fraction
              000038EC'EF    9F    06A3             PUSHAB  ASCII1_BUFFER_DSC               ;Address of output string dsc
                      56     DD    06A9             PUSHL   R6                              ;Address of value to convert
       00000000'GF    06     FB    06AB             CALLS   #6,G^FOR$CVT_D_TF
                  03 50      E8    06B2             BLBS    R0,420$
                   FF59      31    06B5             BRW     ERROR
                                   06B8  420$:
                                   06B8             $FAO_S  CTRSTR=@(R8),-
                                   06B8                     OUTLEN=OUTPUT_LENGTH,-
                                   06B8                     OUTBUF=OUTPUT_BUFFER_DSC,-
                                   06B8                     P1=(R10),-
                                   06B8                     P2=(R9),-
                                   06B8                     P3=ASCII1_DSC_PTR
                  03 50      E8    06D8             BLBS    R0,400$
                   FF33      31    06DB             BRW     ERROR
 00003A24'EF  00003958'EF    D0    06DE  400$:      MOVL    OUTPUT_LENGTH,OUTPUT_BUFFER_DSC
```

```
            00003A24'EF    7F  06E9                PUSHAQ   OUTPUT_BUFFER_DSC
       00000000'GF    01   FB  06EF                CALLS    #1,G^LIB$PUT_OUTPUT
                 03 50     E8  06F6                BLBS     R0,410$
                  FF15     31  06F9                BRW      ERROR
              59   04      C0  06FC      410$:     ADDL     #4,R9                       ;Point to next argument
              5A   04      C0  06FF                ADDL     #4,R10                      ;Point to next argument
              56   08      C0  0702                ADDL     #8,R6                       ;Point to next argument
                 01 57     F5  0705                SOBGTR   R7,NXT_LINE1
                    05         0708                RSB
                               0709      NXT_LINE1:
                  FF73     31  0709                BRW      NXT_LINE
                               070C
                               070C      ;
                               070C      ;
                               070C      ; This outputs a histogram with descriptions that are the start and
                               070C      ; end of each cell, instead of a specific text.
                               070C      ;
                               070C      ; R2 - Address of first FAO argument for each output line
                               070C      ; R3 - Address of second FAO argument for each output line
                               070C      ; R4 - Address of third FAO argument for each output line
                               070C      ; R5 - Address of fourth FAO argument for each output line
                               070C      ; R6 - Address of fifth FAO argument for each output line
                               070C      ; R7 - Address of sixth FAO argument for each output line
                               070C      ; R8 - Address of FAO command descriptor
                               070C      ;
                               070C      OUTPUT_HISTO_1::
                               070C      ;         PUSHR    #^M<R0,R1,R2,R3,R4,R5,R6,R7,R8,R9,R10>
                               070C      ;         MOVL     R2,R9
                               070C      ;         MOVAB    HIST_DSC_PTR,R8
                               070C      ;         MOVZBL   #2,R7
                               070C      ;         ASSUME   HST_L_CELLCOUNT EQ 0
                               070C      ;         ASSUME   HST_L_CELLWIDTH EQ <HST_L_CELLCOUNT + 4>
                               070C      ;         BSBW     OUTPUT_LINE
                               070C      ;         POPR     #^M<R0,R1,R2,R3,R4,R5,R6,R7,R8,R9,R10>
            59    04 A2    D0  070C                MOVL     HST_L_CELLWIDTH(R2),R9      ;Remember cell width
                    5A     D4  0710                CLRL     R10                         ;Initialize cell boundary
         5B    59    01    C3  0712                SUBL3    #1,R9,R11                   ;Initial :e cell boundary
              58     62    D0  0716                MOVL     HST_L_CELLCOUNT(R2),R8      ;Count of lines to output
            52    10 A2    9E  0719                MOVAB    HST_L_FIRSTCELL(R2),R2      ;Get address of first histo cell
            54    10 A4    9E  071D                MOVAB    HST_L_FIRSTCELL(R4),R4      ;Get address of first histo cell
            55    10 A5    9E  0721                MOVAB    HST_L_FIRSTCELL(R5),R5      ;Get address of first histo cell
            56    10 A6    9E  0725                MOVAB    HST_L_FIRSTCELL(R6),R6      ;Get address of first histo cell
            57    10 A7    9E  0729                MOVAB    HST_L_FIRSTCELL(R7),R7      ;Get address of first histo cell
                               072D      NXT_LINE_1:
       0000388C'EF    08   D0  072D                MOVL     #8,ASCTIM_BUFFER_DSC        ;Set number of output characters
                      00   DD  0734                PUSHL    #0                          ;Number of digits in exponent
                      03   DD  0736                PUSHL    #3                          ;Number of digits in integer
                      00   DD  0738                PUSHL    #0                          ;No scale factor
                      04   DD  073A                PUSHL    #4                          ;Number of digits in fraction
            0000388C'EF    9F  073C                PUSHAB   ASCTIM_BUFFER_DSC           ;Address of output string dsc
                    53     DD  0742                PUSHL    R3                          ;Address of value to convert
       00000000'GF    06   FB  0744                CALLS    #6,G^FOR$CVT_D_TF
                 03 50     E8  074B                BLBS     R0,500$
                  FEC0     31  074E                BRW      ERROR
            00003958'EF    D4  0751      500$:     CLRL     OUTPUT_LENGTH
00003A24'EF 00000OC8 8F    D0  0757                MOVL     #200,OUTPUT_BUFFER_DSC      ;INITIALIZE OUTPUT BUFFER DSC
     50     00003A2C'EF    D0  0762                MOVL     HISTO_1_FAO_PTR,R0
```

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             51    67   D0  0769          MOVL    (R7),R1                         ;Get number of system service
     51   00000000'EF41 D0  076C          MOVL    HIST_SRV_PTR[R1],R1             ;Get name of system service
                            0774          $FAO_S  CTRSTR=(R0),-
                            0774                  OUTLEN=OUTPUT_LENGTH,-
                            0774                  OUTBUF=OUTPUT_BUFFER_DSC,-
                            0774                  P1=R10,-
                            0774                  P2=R11,-
                            0774                  P3=(R2),-
                            0774                  P4=ASCTIM_DSC_PTR,-
                            0774                  P5=(R4),-
                            0774                  P6=(R5),-
                            0774                  P7=(R6),-
                            0774                  P8=R1
             03 50      E8  079D          BLBS    R0,510$
              FE6E      31  07A0          BRW     ERROR
 00003A24'EF   00003958'EF  D0  07A3 510$:    MOVL    OUTPUT_LENGTH,OUTPUT_BUFFER_DSC
               00003A24'EF  7F  07AE          PUSHAQ  OUTPUT_BUFFER_DSC
      00000000'GF    01     FB  07B4          CALLS   #1,G^LIB$PUT_OUTPUT
             03 50      E8  07BB          BLBS    R0,520$
              FE50      31  07BE          BRW     ERROR
             52    04   C0  07C1 520$:    ADDL    #4,R2                           ;Point to next argument
             53    08   C0  07C4          ADDL    #8,R3                           ;Point to next argument
             54    04   C0  07C7          ADDL    #4,R4                           ;Point to next argument
             55    04   C0  07CA          ADDL    #4,R5                           ;Point to next argument
             56    04   C0  07CD          ADDL    #4,R6                           ;Point to next argument
             57    04   C0  07D0          ADDL    #4,R7                           ;Point to next argument
             5A    59   C0  07D3          ADDL    R9,R10                          ;Next cell boundary
             5B    59   C0  07D6          ADDL    R9,R11                          ;Next cell boundary
             02 58      F5  07D9          SOBGTR  R8,530$
                03      11  07DC          BRB     540$
              FF4C      31  07DE 530$:    BRW     NXT_LINE_1
           06FF 8F      BB  07E1 540$:    PUSHR   #^M<R0,R1,R2,R3,R4,R5,R6,R7,R9,R10>
      0000388C'EF    08     D0  07E5          MOVL    #8,ASCTIM_BUFFER_DSC            ;Set number of output characters
                   00   DD  07EC          PUSHL   #0                              ;Number of digits in exponent
                   03   DD  07EE          PUSHL   #3                              ;Number of digits in integer
                   00   DD  07F0          PUSHL   #0                              ;No scale factor
                   04   DD  07F2          PUSHL   #4                              ;Number of digits in fraction
           0000388C'EF  9F  07F4          PUSHAB  ASCTIM_BUFFER_DSC               ;Address of output string dsc
                   53   DD  07FA          PUSHL   R3                              ;Address of value to convert
      00000000'GF    06     FB  07FC          CALLS   #6,G^FOR$CVT_D_TF
             03 50      E8  0803          BLBS    R0,550$
              FE08      31  0806          BRW     ERROR
           00003958'EF  D4  0809 550$:    CLRL    OUTPUT_LENGTH
 00003A24'EF   000000C8 8F  D0  080F          MOVL    #200,OUTPUT_BUFFER_DSC          ;INITIALIZE OUTPUT BUFFER DSC
      50   00003A2C'EF  D0  081A          MOVL    HISTO_1_FAO_PTR,R0
                            0821          $FAO_S  CTRSTR=HISTO_OVERFLOW,-
                            0821                  OUTLEN=OUTPUT_LENGTH,-
                            0821                  OUTBUF=OUTPUT_BUFFER_DSC,-
                            0821                  P1=(R2),-
                            0821                  P2=ASCTIM_DSC_PTR
             03 50      E8  0842          BLBS    R0,560$
              FDC9      31  0845          BRW     ERROR
 00003A24'EF   00003958'EF  D0  0848 560$:    MOVL    OUTPUT_LENGTH,OUTPUT_BUFFER_DSC
               00003A24'EF  7F  0853          PUSHAQ  OUTPUT_BUFFER_DSC
      00000000'GF    01     FB  0859          CALLS   #1,G^LIB$PUT_OUTPUT
             03 50      E8  0860          BLBS    R0,570$
              FDAB      31  0863          BRW     ERROR
             06FF 8F     BA  0866  570$:    POPR     #^M<R0,R1,R2,R3,R4,R5,R6,R7,R9,R10>
                         05  086A           RSB
                             086B
                             086B  ;
                             086B  ; R7 - Number of one liners to output
                             086B  ; R8 - Address of FAO command descriptors
                             086B  ; R9 - Address of list of first argument (one per FAO command descriptor)
                             086B  ; R10 - Address of list of first argument (one per FAO command descriptor)
                             086B  ;
                             086B  OUTPUT_LINE_2::
          00003958'EF    D4  086B           CLRC     OUTPUT_LENGTH
 00003A24'EF  000000C8 8F    D0  0871           MOVL     #200,OUTPUT_BUFFER_DSC           ;INITIALIZE OUTPUT BUFFER DSC
      000038EC'EF    08      D0  087C           MOVL     #8,ASCII1_BUFFER_DSC             ;Set number of output characters
                     00      DD  0883           PUSHL    #0                               ;Number of digits in exponent
                     03      DD  0885           PUSHL    #3                               ;Number of digits in integer
                     00      DD  0887           PUSHL    #0                               ;No scale factor
                     04      DD  0889           PUSHL    #4                               ;Number of digits in fraction
          000038EC'EF    9F  088B           PUSHAB   ASCII1_BUFFER_DSC                ;Address of output string dsc
                     59      DD  0891           PUSHL    R9                               ;Address of value to convert
      00000000'GF    06      FB  0893           CALLS    #6,G^FOR$CVT_D_TF
                  03 50      E8  089A           BLBS     R0,600$
                   FD71      31  089D           BRW      ERROR
      0000394C'EF    08      D0  08A0  600$:    MOVL     #8,ASCII2_BUFFER_DSC             ;Set number of output characters
                     00      DD  08A7           PUSHL    #0                               ;Number of digits in exponent
                     03      DD  08A9           PUSHL    #3                               ;Number of digits in integer
                     00      DD  08AB           PUSHL    #0                               ;No scale factor
                     04      DD  08AD           PUSHL    #4                               ;Number of digits in fraction
          0000394C'EF    9F  08AF           PUSHAB   ASCII2_BUFFER_DSC                ;Address of output string dsc
                     5A      DD  08B5           PUSHL    R10                              ;Address of value to convert
      00000000'GF    06      FB  08B7           CALLS    #6,G^FOR$CVT_D_TF
                  03 50      E8  08BE           BLBS     R0,610$
                   FD4D      31  08C1           BRW      ERROR
          00003958'EF    D4  08C4  610$:    CLRL     OUTPUT_LENGTH
 00003A24'EF  000000C8 8F    D0  08CA           MOVL     #200,OUTPUT_BUFFER_DSC           ;INITIALIZE OUTPUT BUFFER DSC
                             08D5           $FAO_S   CTRSTR=@(R8),-
                             08D5                    OUTLEN=OUTPUT_LENGTH,-
                             08D5                    OUTBUF=OUTPUT_BUFFER_DSC,-
                             08D5                    P1=ASCII1_DSC_PTR,-
                             08D5                    P2=ASCII2_DSC_PTR
                  03 50      E8  08F7           BLBS     R0,620$
                   FD14      31  08FA           BRW      ERROR
 00003A24'EF  00003958'EF    D0  08FD  620$:    MOVL     OUTPUT_LENGTH,OUTPUT_BUFFER_DSC
          00003A24'EF    7F  0908           PUSHAQ   OUTPUT_BUFFER_DSC
      00000000'GF    01      FB  090E           CALLS    #1,G^LIB$PUT_OUTPUT
                  03 50      E8  0915           BLBS     R0,630$
                   FCF6      31  0918           BRW      ERROR
               58    04      C0  091B  630$:    ADDL     #4,R8                            ;Point to next FAO cmd dsc
               59    08      C0  091E           ADDL     #8,R9                            ;Point to next argument
               5A    08      C0  0921           ADDL     #8,R10                           ;Point to next argument
                  01 57      F5  0924           SOBGTR   R7,640$
                         05  0927           RSB
                   FF40      31  0928  640$:    BRW      OUTPUT_LINE_2
                             092B
                             092B  ;
                             092B  ;
                             092B  ; This outputs a histogram with descriptions that are the start and
                             092B  ; end of each cell, instead of a specific text.
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```
                                  092B  ;
                                  092B  ; R2 - Address of first FAO argument for each output line
                                  092B  ; R3 - Address of second FAO argument for each output line
                                  092B  ;
                                  092B  OUTPUT_HISTO_2::
                                  092B  ;          PUSHR    #^M<R0,R1,R2,R3,R4,R5,R6,R7,R8,R9,R10>
                                  092B  ;          MOVL     R2,R9
                                  092B  ;          MOVAB    HIST_DSC_PTR,R8
                                  092B  ;          MOVZBL   #2,R7
                                  092B  ;          ASSUME   HST_L_CELLCOUNT EQ 0
                                  092B  ;          ASSUME   HST_L_CELLWIDTH EQ <HST_L_CELLCOUNT + 4>
                                  092B  ;          BSBW     OUTPUT_LINE
                                  092B  ;          POPR     #^M<R0,R1,R2,R3,R4,R5,R6,R7,R8,R9,R10>
              59    04 A2    D0   092B             MOVL     HST_L_CELLWIDTH(R2),R9          ;Remember cell width
                          5A    D4   092F             CLRL     R10                             ;Initialize cell boundary
           5B    59    01    C3   0931             SUBL3    #1,R9,R11                       ;Initialize cell boundary
                    58    62    D0   0935             MOVL     HST_L_CELLCOUNT(R2),R8          ;Count of lines to output
              52    10 A2    9E   0938             MOVAB    HST_L_FIRSTCELL(R2),R2          ;Get address of first histo cell
                                  093C  NXT_LINE_2:
        0000388C'EF    08    D0   093C             MOVL     #8,ASCTIM_BUFFER_DSC            ;Set number of output characters
                          00    DD   0943             PUSHL    #0                              ;Number of digits in exponent
                          03    DD   0945             PUSHL    #3                              ;Number of digits in integer
                          00    DD   0947             PUSHL    #0                              ;No scale factor
                          04    DD   0949             PUSHL    #4                              ;Number of digits in fraction
              0000388C'EF    9F   094B             PUSHAB   ASCTIM_BUFFER_DSC               ;Address of output string dsc
                          53    DD   0951             PUSHL    R3                              ;Address of value to convert
        00000000'GF    06    FB   0953             CALLS    #6,G^FOR$CVT_D_TF
                       03 50    E8   095A             BLBS     R0,700$
                        FCB1    31   095D             BRW      ERROR
              00003958'EF    D4   0960  700$:      CLRL     OUTPUT_LENGTH
 00003A24'EF   000000C8 8F    D0   0966             MOVL     #200,OUTPUT_BUFFER_DSC           ;INITIALIZE OUTPUT BUFFER DSC
 50            00003A2C'EF    D0   0971             MOVL     HISTO_1_FAO_PTR,R0
                                  0978             $FAO_S   CTRSTR=(R0),-
                                  0978                      OUTLEN=OUTPUT_LENGTH,-
                                  0978                      OUTBUF=OUTPUT_BUFFER_DSC,-
                                  0978                      P1=R10,-
                                  0978                      P2=R11,-
                                  0978                      P3=(R2),-
                                  0978                      P4=ASCTIM_DSC_PTR
                       03 50    E8   0999             BLBS     R0,710$
                        FC72    31   099C             BRW      ERROR
 00003A24'EF   00003958'EF    D0   099F  710$:      MOVL     OUTPUT_LENGTH,OUTPUT_BUFFER_DSC
              00003A24'EF    7F   09AA             PUSHAQ   OUTPUT_BUFFER_DSC
        00000000'GF    01    FB   09B0             CALLS    #1,G^LIB$PUT_OUTPUT
                       03 50    E8   09B7             BLBS     R0,720$
                        FC54    31   09BA             BRW      ERROR
                    52    04    C0   09BD  720$:      ADDL     #4,R2                           ;Point to next argument
                    53    08    C0   09C0             ADDL     #8,R3                           ;Point to next argument
                    5A    59    C0   09C3             ADDL     R9,R10                          ;Next cell boundary
                    5B    59    C0   09C6             ADDL     R9,R11                          ;Next cell boundary
                    02 58    F5   09C9             SOBGTR   R8,730$
                          03    11   09CC             BRB      740$
                        FF6B    31   09CE  730$:      BRW      NXT_LINE_2
                     06FF 8F    BB   09D1  740$:      PUSHR    #^M<R0,R1,R2,R3,R4,R5,R6,R7,R9,R10>
        0000388C'EF    08    D0   09D5             MOVL     #8,ASCTIM_BUFFER_DSC            ;Set number of output characters
                          00    DD   09DC             PUSHL    #0                              ;Number of digits in exponent
                          03    DD   09DE             PUSHL    #3                              ;Number of digits in integer
```

```
                             00   DD  09E0            PUSHL   #0                                      ;No scale factor
                             04   DD  09E2            PUSHL   #4                                      ;Number of digits in fraction
                   0000388C'EF    9F  09E4            PUSHAB  ASCTIM_BUFFER_DSC                       ;Address of output string dsc
                             53   DD  09EA            PUSHL   R3                                      ;Address of value to convert
           00000000'GF       06   FB  09EC            CALLS   #6,G^FOR$CVT_D_TF
                          03 50   E8  09F3            BLBS    R0,750$
                           FC18   31  09F6            BRW     ERROR
                   00003958'EF    D4  09F9    750$:   CLRL    OUTPUT_LENGTH
   00003A24'EF     000000C8 8F    D0  09FF            MOVL    #200,OUTPUT_BUFFER_DSC                  ;INITIALIZE OUTPUT BUFFER DSC
            50     00003A2C'EF    D0  0A0A            MOVL    HISTO_1_FAO_PTR,R0
                                      0A11            $FAO_S  CTRSTR=HISTO_OVERFLOW,-
                                      0A11                    OUTLEN=OUTPUT_LENGTH,-
                                      0A11                    OUTBUF=OUTPUT_BUFFER_DSC,-
                                      0A11                    P1=(R2),-
                                      0A11                    P2=ASCTIM_DSC_PTR
                          03 50   E8  0A32            BLBS    R0,760$
                           FBD9   31  0A35            BRW     ERROR
   00003A24'EF     00003958'EF    D0  0A38    760$:   MOVL    OUTPUT_LENGTH,OUTPUT_BUFFER_DSC
                   00003A24'EF    7F  0A43            PUSHAQ  OUTPUT_BUFFER_DSC
           00000000'GF       01   FB  0A49            CALLS   #1,G^LIB$PUT_OUTPUT
                          03 50   E8  0A50            BLBS    R0,770$
                           FBBB   31  0A53            BRW     ERROR
                        06FF 8F   BA  0A56    770$:   POPR    #^M<R0,R1,R2,R3,R4,R5,R6,R7,R9,R10>
                                  05  0A5A            RSB
                                      0A5B
                                      0A5B            .END    SHWPFM
```

```
$$T2                    = 00000005                      CMK$C_DACEFC                    ********   X   03
ADJSTK                    000006B1 R     03             CMK$C_DALLOC                    ********   X   03
ADJWSL                    000006B8 R     03             CMK$C_DASSGN                    ********   X   03
ALCDNP                    000006BF R     03             CMK$C_DCLAST                    ********   X   03
ALLJDR                    000008EC R     03             CMK$C_DCLCMH                    ********   X   03
ALLOC                     000006C6 R     03             CMK$C_DCLEXH                    ********   X   03
ASCEFC                    C00006CC R     03             CMK$C_DCNJNLF                 = 0000403B
ASCII1_BUFFER             0000389C RG    02             CMK$C_DEALJDR                 = 0000402C
ASCII1_BUFFER_DSC         000038EC RG    02             CMK$C_DEASJNL_INT             = 0000402D
ASCII1_DSC_PTR            000038F4 RG    02             CMK$C_DELJNL                  = 0000402E
ASCII1_LENGTH             00003898 RG    02             CMK$C_DELLNM                    ********   X   03
ASCII2_BUFFER             000038FC RG    02             CMK$C_LELMBX                    ********   X   03
ASCII2_BUFFER_DSC         0000394C RG    02             CMK$C_DELPRC                    ********   X   03
ASCII2_DSC_PTR            00003954 RG    02             CMK$C_DELTVA                    ********   X   03
ASCII2_LENGTH             000038F8 RG    02             CMK$C_DEQ                       ********   X   03
ASCTIM_BUFFER             0000383C RG    02             CMK$C_DERLMB                    ********   X   03
ASCTIM_BUFFER_DSC         0000388C RG    02             CMK$C_DGBLSC                    ********   X   03
ASCTIM_DSC_PTR            00003894 RG    02             CMK$C_DLCDNP                    ********   X   03
ASCTIM_LENGTH             00003838 RG    02             CMK$C_DLCEFC                    ********   X   03
ASSIGN                    000006D3 R     03             CMK$C_DMTJMD                  = 0000402F
ASSJNL                    000008F3 R     03             CMK$C_DSPJNL                  = 00004030
BRKTHRU                   000008E4 R     03             CMK$C_ENQ                       ********   X   03
CANCEL                    000006DA R     03             CMK$C_ERAPAT                    ********   X   03
CANEXH                    0000086C R     03             CMK$C_EXIT                      ********   X   03
CANTIM                    000006E1 R     03             CMK$C_EXPREG                    ********   X   03
CANWAK                    000006E8 R     03             CMK$C_FORCEX                    ********   X   03
CLRAST                    000006AA R     03             CMK$C_GETCHN                    ********   X   03
CLREF                     00000704 R     03             CMK$C_GETDEV                    ********   X   03
CLRPAR                    000006F6 R     03             CMK$C_GETDVI                    ********   X   03
CMK$C_ADJSTK              ********   X   03             CMK$C_GETJNL                  = 00004031
CMK$C_ADJWSL              ********   X   03             CMK$C_GETJPI                    ********   X   03
CMK$C_ALCDNP              ********   X   03             CMK$C_GETLKI                    ********   X   03
CMK$C_ALLJDR            = 00004028                      CMK$C_GETPTI                    ********   X   03
CMK$C_ALLOC               ********   X   03             CMK$C_GETRUI                  = 00004032
CMK$C_ASCEFC              ********   X   03             CMK$C_GETSYI                    ********   X   03
CMK$C_ASSIGN              ********   X   03             CMK$C_HIBER                     ********   X   03
CMK$C_ASSJNL            = 00004029                      CMK$C_LCKPAG                    ********   X   03
CMK$C_BRKTHRU             ********   X   03             CMK$C_LKWSET                    ********   X   03
CMK$C_CANCEL              ********   X   03             CMK$C_MGBLSC                    ********   X   03
CMK$C_CANEXH              ********   X   03             CMK$C_MNTJMD                  = 00004038
CMK$C_CANTIM              ********   X   03             CMK$C_MODFLT                  = 00004033
CMK$C_CANWAK              ********   X   03             CMK$C_POSJNL                  = 00004034
CMK$C_CLRAST            = 00000000                      CMK$C_PURGWS                    ********   X   03
CMK$C_CLREF               ********   X   03             CMK$C_QIO                       ********   X   03
CMK$C_CLRPAR              ********   X   03             CMK$C_READEF                    ********   X   03
CMK$C_CMKRNL              ********   X   03             CMK$C_READJNL                 = 00004035
CMK$C_CNTREG              ********   X   03             CMK$C_RECOVER                 = 00004036
CMK$C_CONJNLF           = 0000403A                      CMK$C_RECOVERW                = 00004037
CMK$C_CONUIC            = 0000402A                      CMK$C_RESUME                    ********   X   03
CMK$C_CREJNL            = 0000402B                      CMK$C_RUNDWN                    ********   X   03
CMK$C_CRELNM              ********   X   03             CMK$C_SCHDWK                    ********   X   03
CMK$C_CRELNT              ********   X   03             CMK$C_SETAST                    ********   X   03
CMK$C_CREMBX              ********   X   03             CMK$C_SETEF                     ********   X   03
CMK$C_CRENWV            = 00004039                      CMK$C_SETEXV                    ********   X   03
CMK$C_CREPRC              ********   X   03             CMK$C_SETIME                    ********   X   03
CMK$C_CRETVA              ********   X   03             CMK$C_SETIMR                    ********   X   03
CMK$C_CRMPSC              ********   X   03             CMK$C_SETPFM                    ********   X   03
```

```
CMK$C_SETPRA                    ********   X    03        DACEFC                          0000072D R      03
CMK$C_SETPRI                    ********   X    03        DALLOC                          00000734 R      03
CMK$C_SETPRN                    ********   X    03        DASSGN                          0000073B R      03
CMK$C_SETPRT                    ********   X    03        DCLAST                          00000742 R      03
CMK$C_SETPRV                    ********   X    03        DCLCMH                          00000857 R      03
CMK$C_SETRWM                    ********   X    03        DCLEXH                          00000749 R      03
CMK$C_SETSFM                    ********   X    03        DCNJNLF                         0000097C R      03
CMK$C_SETSSF                    ********   X    03        DEALJDR                         00000908 R      03
CMK$C_SETSTK                    ********   X    03        DEASJNL_INT                     00000910 R      03
CMK$C_SETSWM                    ********   X    03        DELJNL                          0000091C R      03
CMK$C_SNDERR                    ********   X    03        DELLNM                          000008CF R      03
CMK$C_SUSPND                    ********   X    03        DELMBX                          00000750 R      03
CMK$C_TRNLNM                    ********   X    03        DELPRC                          00000757 R      03
CMK$C_ULKPAG                    ********   X    03        DELTVA                          0000075E R      03
CMK$C_ULWSET                    ********   X    03        DEQ                             0000089A R      03
CMK$C_UPDSEC                    ********   X    03        DERLMB                          00000865 R      03
CMK$C_WAITFR                    ********   X    03        DGBLSC                          00000765 R      03
CMK$C_WAKE                      ********   X    03        DLCDNP                          0000076C R      03
CMK$C_WFLAND                    ********   X    03        DLCEFC                          00000773 R      03
CMK$C_WFLOR                     ********   X    03        DMTJMD                          00000923 R      03
CMKRNL                          000006FD R      03        DSPJNL                          0000092A R      03
CNTREG                          0000070A R      03        ENQ                             00000896 R      03
CNTRS_DSC_PTR                   00000648 RG     03        ERAPAT                          000008BA R      03
CNT_ASTSC_DSC                   000005A5 RG     03        ERROR                           00000611 R      05
CNT_CTXSW_DSC                   000004B6 RG     03        ERR_EXIT                        0000006C R      05
CNT_EXCHG_DSC                   00000568 RG     03        EXE$GL_MP                       ********   X    05
CNT_INVAL_DSC                   000005E1 RG     03        EXIT                            00000788 R      03
CNT_IVWAIT_DSC                  00000610 RG     03        EXPREG                          0000078D R      03
CNT_NWAIT_DSC                   00000668 RG     03        FOR$CVT_D_TF                    ********   X    05
CNT_NWAIT_PTR                   00000664 RG     03        FORCEX                          00000794 R      03
CNT_RESCHD_DSC                  000004F1 RG     03        GETCHN                          00000873 R      03
CNT_SCHDS_DSC                   00000530 RG     03        GETDATA                         00000017 RG     05
CONJNLF                         00000974 R      03        GETDEV                          0000087A R      03
CONUIC                          000008FA R      03        GETDVI                          000008B3 R      03
CPU1TIME_DATA                   0000341C RG     02        GETJNL                          00000931 R      03
CPU1TIME_PERCENTS               000037C8 RG     02        GETJPI                          00000881 R      03
CPU2TIME_DATA                   00003400 RG     02        GETLKI                          000008DD R      03
CPU2TIME_PERCENTS               00003800 RG     02        GETPTI                          00000711 R      03
CPU2_NULLTIME                   00003418 R      02        GETRUI                          00000938 R      03
CPUTIM1_DSC_TOT                 000001B3 RG     03        GETSYI                          000008AC R      03
CPUTIM2_DSC_TOT                 000001F6 RG     03        HIBER                           0000079B R      03
CPUTIM_DSC_C                    000003EA RG     03        HISTO_1_FAO_PTR                 00003A2C RG     02
CPUTIM_DSC_E                    00000366 RG     03        HISTO_1_SUBTITLE                0000023B RG     03
CPUTIM_DSC_I                    000003C4 RG     03        HISTO_1_SUBTITLE2               00000292 RG     03
CPUTIM_DSC_K                    00000343 RG     03        HISTO_COUNT                     00000104 RG     03
CPUTIM_DSC_N                    00000410 RG     03        HISTO_CTX_DSC                   000000A2 RG     03
CPUTIM_DSC_PTR                  0000049A RG     03        HISTO_CTX_HDR                   000000EC RG     03
CPUTIM_DSC_S                    00000385 RG     03        HISTO_KSRV_DSC                  00000000 RG     03
CPUTIM_DSC_U                    000003A5 RG     03        HISTO_KSRV_HDR                  000000D8 RG     03
CREJNL                          00000901 R      03        HISTO_LINE                      0000015F RG     03
CRELNM                          000008C8 R      03        HISTO_OVERFLOW                  00000178 RG     03
CRELNT                          000008C1 R      03        HISTO_PERCENTS                  00003460 RG     02
CREMBX                          00000718 R      03        HISTO_SRV_DSC                   00000069 RG     03
CRENWV                          0000096D R      03        HISTO_SRV_HDR                   000000E8 RG     03
CREPRC                          0000071F R      03        HISTO_TIME_DSC                  0000003A RG     03
CRETVA                          00000726 R      03        HISTO_TIME_HDR                  000000DC RG     03
CRMPSC                          000006EF R      03        HISTO_TOTAL                     00003458 RG     02
```

```
HISTO_WIDTH                       00000132 RG     03        RUNDWN                           000007CF R      03
HIST_CTX_PTR                      00001644 RG     03        SCB_000                          00000CD4 R      03
HIST_DSC_PTR                      000000F0 RG     03        SCB_004                          00000CFA R      03
HIST_LIN_PTR                      000000F8 RG     03        SCB_008                          00000D20 R      03
HIST_OVR_PTR                      000000FC RG     03        SCB_00C                          00000D46 R      03
HIST_RSCH_DSC                     0000177F RG     03        SCB_010                          00000D6C R      03
HIST_SRV_PTR                      00000000 RG     04        SCB_014                          00000D92 R      03
HIST_SRV_TBL                      00000984 RG     03        SCB_018                          00000DB8 R      03
HIST_TIME_DSC                     00001744 RG     03        SCB_01C                          00000DDE R      03
HST_C_CELLCOUNT                 = 00000000                  SCB_020                          00000E04 R      03
HST_L_CELLWIDTH                 = 00000004                  SCB_024                          00000E2A R      03
HST_L_FIRSTCELL                 = 00000010                  SCB_028                          00000E50 R      03
HST_Q_OVRFLOW                   = 00000008                  SCB_02C                          00000E76 R      03
LCKPAG                            000007A1 R      03        SCB_030                          00000E9C R      03
LIB$PUT_OUTPUT                    ********    X   05        SCB_034                          00000EC2 R      03
LKWSET                            000007A8 R      03        SCB_033                          00000EE8 R      03
MGBLSC                            000007AF R      03        SCB_03C                          00000F0E R      03
MNTJMD                            00000966 R      03        SCB_040                          00000F34 R      03
MODFLT                            0000093F R      03        SCB_044                          00000F5A R      03
MPS$AL_CPUTIME                    ********    X   05        SCB_048                          00000F80 R      03
NULL_JOB_TIME                     00003434 RG     02        SCB_04C                          00000FA6 R      03
NULL_JOB_TIME_D                   00003438 RG     02        SCB_050                          00000FCC R      03
NXT_LINE                          0000067F R      05        SCB_054                          00000FF2 R      03
NXT_LINE1                         00000709 R      05        SCB_058                          00001018 R      03
NXT_LINE_1                        0000072D R      05        SCB_05C                          0000103E R      03
NXT_LINE_2                        0000093C R      05        SCB_060                          00001064 R      03
OUTPUT_BUFFER                     0000395C RG     02        SCB_064                          0000108A R      03
OUTPUT_BUFFER_DSC                 00003A24 RG     02        SCB_068                          000010B0 R      03
OUTPUT_HISTO                      00000671 RG     05        SCB_06C                          000010D6 R      03
OUTPUT_HISTO_1                    0000070C RG     05        SCB_070                          000010FC R      03
OUTPUT_HISTO_2                    0000092B RG     05        SCB_074                          00001122 R      03
OUTPUT_LENGTH                     00003958 RG     02        SCB_078                          00001148 R      03
OUTPUT_LINE                       0000061A RG     05        SCB_07C                          0000116E R      03
OUTPUT_LINE_2                     0000086B RG     05        SCB_080                          00001194 R      03
PCB$L_PHD                       = 0000006C                  SCB_084                          000011BA R      03
PFM$A_HIST_CHMK                   ********    X   05        SCB_088                          000011E0 R      03
PFM$A_HIST_CTX                    ********    X   05        SCB_08C                          0000120A R      03
PFM$A_HIST_KSRV                   ********    X   05        SCB_090                          00001230 R      03
PFM$A_HIST_OTHR                   ********    X   05        SCB_094                          00001256 R      03
PFM$A_HIST_PGFL                   ********    X   05        SCB_098                          0000127C R      03
PFM$A_HIST_SRV                    ********    X   05        SCB_09C                          000012A2 R      03
PFM$A_HIST_SSRV                   ********    X   05        SCB_0A0                          000012CB R      03
PFM$A_HIST_TIME                   ********    X   05        SCB_0A4                          000012F1 R      03
PFM$L_CNT_CTXSW                   ********    X   05        SCB_0A8                          00001317 R      03
PFM$L_CNT_NWAIT                   ********    X   05        SCB_0AC                          0000133D R      03
PFM$L_START                       ********    X   05        SCB_0B0                          00001363 R      03
PFM_DATA                          00000000 RG     02        SCB_0B4                          00001389 R      03
PHD$L_CPUTIM                    = 00000038                  SCB_0B8                          000013AF R      03
PMS$GL_KERNEL                     ********    X   05        SCB_0BC                          000013D5 R      03
POSJNL                            00000946 R      03        SCB_0C0                          000013FB R      03
PURGWS                            000007B6 R      03        SCB_0C4                          0000140A R      03
QIO                               000007BD R      03        SCB_0C8                          00001430 R      03
READEF                            000007C1 R      03        SCB_0CC                          00001456 R      03
READJNL                           0000094D R      03        SCB_0D0                          0000147C R      03
RECOVER                           00000955 R      03        SCB_0D4                          000014A2 R      03
RECOVERW                          0000095D R      03        SCB_0D8                          000014C8 R      03
RESUME                            000007C8 R      03        SCB_0DC                          000014EE R      03
```

```
SCB_0E0                         00001514 R      03          WFLOR                              00000851 R      03
SCB_0E4                         0000153A R      03
SCB_0E8                         00001560 R      03
SCB_0EC                         00001586 R      03
SCB_0F0                         000015AC R      03
SCB_0F4                         000015D2 R      03
SCB_0F8                         000015F8 R      03
SCB_0FC                         0000161E R      03
SCH$GL_NULLPCB                  ********    X   05
SCHDWK                          000007D6 R      03
SETAST                          000007DD R      03
SETEF                           000007E4 R      03
SETEXV                          000007EA R      03
SETIME                          00000888 R      03
SETIMR                          000007FF R      03
SETPFM                          0000085E R      03
SETPRA                          000007F8 R      03
SETPRI                          00000806 R      03
SETPRN                          000007F1 R      03
SETPRT                          0000080D R      03
SETPRV                          0000088F R      03
SETRWM                          00000814 R      03
SETSFM                          0000081B R      03
SETSSF                          0000089E R      03
SETSTK                          000008A5 R      03
SETSWM                          00000822 R      03
SHWPFM                          00000000 RG     05
SNDERR                          00000781 R      03
SRV_OVERFLOW                    00000199 RG     03
SRV_OVR_PTR                     00000100 RG     03
SUSPND                          00000829 R      03
SYS$ASCTIM                      ********   GX   05
SYS$CMKRNL                      ********   GX   05
SYS$EXIT                        ********   GX   05
SYS$FAO                         ********    X   05
TEMP                            0000343C RG     02
TEMP1                           00003444 RG     02
TEMP2                           0000344C RG     02
TIME1_DSC_PTR                   000002EB RG     03
TIME1_SAMPLE                    000037A0 RG     02
TIME1_SAMPLE_D                  000037B8 RG     02
TIME2_DSC_PTR                   000002EF RG     03
TIME2_SAMPLE                    000037A8 RG     02
TIME2_SAMPLE_D                  000037C0 RG     02
TIME_1_DSC                      00000434 RG     03
TIME_2_DSC                      0000046E RG     03
TIME_ARRAY_PTR                  0000042C RG     03
TITLE                           000002F3 RG     03
TITLE_PTR                       0000033F RG     03
TRNLNR                          000008D6 R      03
TWO_32                          00003454 RG     02
ULKPAG                          00000830 R      03
ULWSET                          00000837 R      03
UPDSEC                          0000077A R      03
WAITFR                          0000083E R      03
WAKE                            00000845 R      03
WFLAND                          0000084A R      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
RW_DATA                         00003A30  (14896.)  02 (  2.)  NOPIC   USR   CON   REL   LCL NOSHR NOEXE   RD     WRT NOVEC LONG
RO_DATA                         000017A6  ( 6054.)  03 (  3.)  NOPIC   USR   CON   REL   LCL NOSHR NOEXE   RD   NOWRT NOVEC LONG
HIST_SRV_PTR                    000001A4  (   420.)  04 (  4.)  NOPIC   USR   CON   REL   LCL NOSHR NOEXE   RD     WRT NOVEC LONG
CODE                            00000A5B  ( 2651.)  05 (  5.)  NOPIC   USR   CON   REL   LCL NOSHR   EXE   RD   NOWRT NOVEC BYTE

                              +------------------------+
                              ! Performance indicators !
                              +------------------------+

Phase                     Page faults    CPU Time       Elapsed Time
-----                     -----------    --------       ------------
Initialization                    36     00:00:00.11    00:00:00.36
Command processing               143     00:00:00.74    00:00:05.22
Pass 1                           328     00:00:10.68    00:00:29.19
Symbol table sort                  0     00:00:01.02    00:00:02.02
Pass 2                           319     00:00:04.93    00:00:14.04
Symbol table output               47     00:00:00.39    00:00:00.91
Psect synopsis output              3     00:00:00.03    00:00:00.03
Cross-reference output             0     00:00:00.00    00:00:00.00
Assembler run totals             879     00:00:17.90    00:00:51.78

The working set limit was 1950 pages.
71477 bytes (140 pages) of virtual memory were used to buffer the intermediate code.
There were 40 pages of symbol table space allocated to hold 649 non-local and 51 local symbols.
1373 source lines were read in Pass 1, producing 61 object records in Pass 2.
17 pages of virtual memory were used to define 15 macros.

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

Macro library name                          Macros defined
------------------                          --------------
_$255$DUA28:[MP.OBJ]MP.MLB;1                       0
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                     2
_$255$DUA28:[SYSLIB]STARLET.MLB;2                  9
TOTALS (all libraries)                            11

361 GETS were required to define 11 macros.

There were no errors, warnings or information messages.

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

0248 AH-BT13A-SE
VAX/VMS V4.0

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MPERRLOG
LIS

MPSCBVEC
LIS

MPINT
LIS

MPPFM
LIS

MPDAT
LIS

MPPWRFAIL
LIS

MPMCHECK
LIS

MPINTEXC
LIS

MPLOG
LIS

MPERRMSG
LIS

MPSCHED
LIS

MPSHWPFM
LIS

MPLOAD
LIS

MPINIT
LIS

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