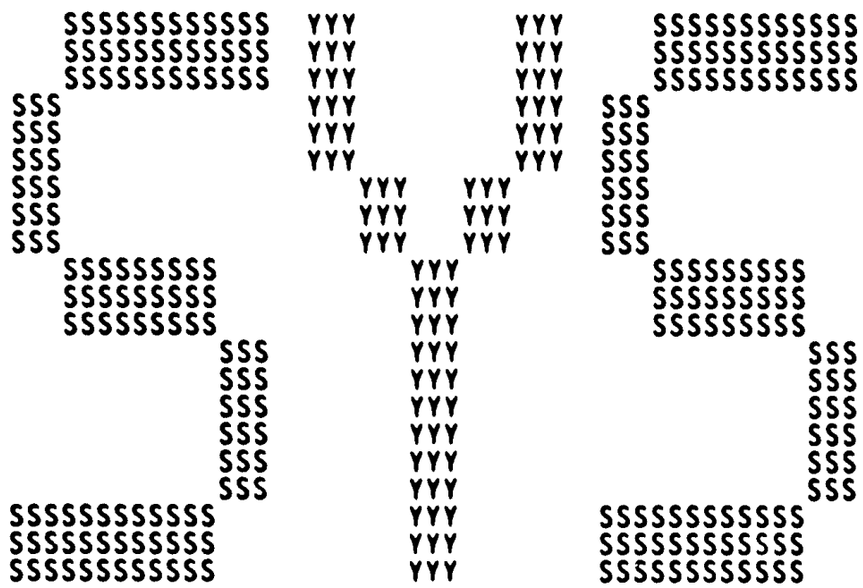

FILEID**SYSDEVALC

SV P-ICPSPSPCA T5T41 M--T1TM

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```
0000     1          .TITLE  SYSDEVALC - SYSTEM SERVICES FOR DEVICE ALLOCATION
0000     2          .IDENT  'V04-000'
0000     3
0000     4  ;
0000     5  ;****************************************************************************
0000     6  ;*                                                                          *
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0000    25  ;*                                                                          *
0000    26  ;****************************************************************************
0000    27  ;
0000    28  ; D. N. CUTLER 9-SEP-76
0000    29  ;
0000    30  ; MODIFIED BY:
0000    31  ;
0000    32  ;       V03-013 ACG0411         Andrew C. Goldstein,    22-Mar-1984  17:13
0000    33  ;               Unlock device if result buffer probe fails
0000    34  ;
0000    35  ;       V03-012 ACG0399         Andrew C. Goldstein,    24-Feb-1984  18:25
0000    36  ;               Rewrite I/O database search to handle cluster device
0000    37  ;               allocation correctly, move device lock routines to
0000    38  ;               IOSUBPAGD, allow devices with channels assigned to be
0000    39  ;               deallocated, rework "media_type" to use device name string
0000    40  ;               as the device type name, general code cleanup.
0000    41  ;
0000    42  ;       V03-011 LMP0185         L. Mark Pilant,         1-Feb-1984  14:02
0000    43  ;               Add support for device ACLs.
0000    44  ;
0000    45  ;       V03-010 ROW0240         Ralph O. Weber          11-OCT-1983
0000    46  ;               Correct calling sequence to IOC$CVT_DEVNAM used to create
0000    47  ;               physical device name to supply a R4, name-type, argument.
0000    48  ;               Use R4=-1 which produces the same results at the previous R4
0000    49  ;               PCB address value produced.
0000    50  ;
0000    51  ;       V03-009 TCM0005         Trudy C. Matthews       12-Sep-1983
0000    52  ;               Only take out a lock on the device if the system is
0000    53  ;               participating in a cluster.
0000    54  ;
0000    55  ;       V03-008 TCM0004         Trudy C. Matthews       15-Aug-1983
0000    56  ;               Take advantage of an $ENQ optimization that allows the
0000    57  ;               original device lock and its conversion to be collapsed into
```

```
0000     58 ;                  one call to $ENQ.
0000     59 ;
0000     60 ;       V03-007 TCM0003         Trudy C. Matthews       24-Jun-1983
0000     61 ;                  Move code that constructs allocation class name from
0000     62 ;                  EXE$LOCK_DEV to routine IOC$CVT_DEVNAM, so that it is
0000     63 ;                  available for use by other routines.  Move zeroing of
0000     64 ;                  UCB$L_LOCKID field from EXE$DALLOC_DEV to EXE$UNLOCK_DEV.
0000     65 ;
0000     66 ;       V03-006 TCM0002         Trudy C. Matthews       10-Jun-1983
0000     67 ;                  Fix bug in setting up input R4 register in calls to
0000     68 ;                  IOC$CVT_DEVNAM.  Add system facility name SYS$ to lock
0000     69 ;                  resource name.  Allow caller of EXE$LOCK_DEV to specify
0000     70 ;                  the address of a lock value block.
0000     71 ;
0000     72 ;       V03-005 TCM0001         Trudy C. Matthews       21-Apr-1983
0000     73 ;                  Use the lock manager to enforce cluster-wide device allocation.
0000     74 ;
0000     75 ;       V03-004 KTA3042         Kerbey T. Altmann       20-Mar-1983
0000     76 ;                  Fix scan of device data base in DEALL to include
0000     77 ;                  cluster-wide devices.
0000     78 ;
0000     79 ;       V03-003 ROW0135         Ralph O. Weber          21-OCT-1982
0000     80 ;                  Add test for UCB$V_TEMPLATE in UCB$L_STS of device to be
0000     81 ;                  allocated.  If bit is set (indicating a template UCB), return
0000     82 ;                  SS$_TEMPLATEDEV, "Template device cannot be allocated" error
0000     83 ;                  status.  Also move SS$_ACCVIO error return setup to fix broken
0000     84 ;                  branch destinations.
0000     85 ;
0000     86 ;       V03-002 KTA0101         Kerbey T. Altmann       07-Jun-1982
0000     87 ;                  Add support for optional 4th parameter, MEDIA_TYPE
0000     88 ;
0000     89 ;       V03-001 STJ0258         Steven T. Jeffreys,     12-Apr-1982
0000     90 ;                  If the device is mounted, do not deallocate it, and
0000     91 ;                  return SS$_DEVMOUNT as the status code.
0000     92 ;
0000     93 ;**
0000     94 ;
0000     95 ; System services for device allocation
0000     96 ;
0000     97 ;       Allocate device
0000     98 ;       Deallocate device
0000     99 ;
0000    100 ; Macro library calls
0000    101 ;
0000    102
0000    103         $CANDEF                         ; define cancel reason codes
0000    104         $DDTDEF                         ; define DDT offsets
0000    105         $DEVDEF                         ; define device characteristics
0000    106         $IOCDEF                         ; define search routine flags
0000    107         $PCBDEF                         ; define PCB offsets
0000    108         $SSDEF                          ; define system status values
0000    109         $UCBDEF                         ; define UCB offsets
0000    110
0000    111 ;
0000    112 ; Local symbols
0000    113 ;
0000    114 ; Argument list offset definitions for allocate device
```

```
                     0000    115 ;
                     0000    116
00000004             0000    117 DEVNAM=4                            ; address of device name string descriptor
00000008             0000    118 PHYLEN=8                            ; address to store length of physical name
0000000C             0000    119 PHYBUF=12                           ; address of physical name buffer descriptor
00000010             0000    120 ALACMODE=16                         ; access mode
00000014             0000    121 FLAGS=20                            ; flags longword, containing
00000000             0000    122         DEVICE_TYPE=0               ; device name is a device type string
                     0000    123
                     0000    124 ;
                     0000    125 ; Argument list offset definitions for deallocate device
                     0000    126 ;
                     0000    127
00000004             0000    128 DEVNAM=4                            ; address of device name string descriptor
00000008             0000    129 DLACMODE=8                          ; access mode
                     0000    130
                     0000    131
                00000000     132         .PSECT  Y$EXEPAGED
```

```
                                        J 11
0000    134          .SBTTL  Allocate Device
0000    135
0000    136 ;+
0000    137 ;
0000    138 ; EXE$ALLOC - allocate device
0000    139 ;
0000    140 ; This service provides the capability to reserve a device for exclusive
0000    141 ; use.
0000    142 ;
0000    143 ; INPUTS:
0000    144 ;
0000    145 ;       DEVNAM(AP) = address of device name string descriptor.
0000    146 ;       PHYLEN(AP) = address to store length of physical name.
0000    147 ;       PHYBUF(AP) = address of physical name buffer descriptor.
0000    148 ;       ALACMODE(AP) = access mode device is to be allocated to.
0000    149 ;       FLAGS(AP)  = flags longword (optional)
0000    150 ;
0000    151 ;       R4 = current process PCB address.
0000    152 ;
0000    153 ; OUTPUTS:
0000    154 ;
0000    155 ;       R0 low bit clear indicates failure to allocate device.
0000    156 ;
0000    157 ;               R0 = SS$_ACCVIO - device name string, device name string
0000    158 ;                    descriptor, or physical name buffer descriptor
0000    159 ;                    cannot be read by calling access mode, or physical
0000    160 ;                    name buffer cannot be written by calling access
0000    161 ;                    mode.
0000    162 ;
0000    163 ;               R0 = SS$_IVSTSFLG - invalid flag bits set
0000    164 ;
0000    165 ;               R0 = SS$_IVLOGNAM - zero or greater than maximum length
0000    166 ;                    device name string specified.
0000    167 ;
0000    168 ;               R0 = SS$_IVDEVNAM - device name string contains invalid
0000    169 ;                    characters or no device name string descriptor
0000    170 ;                    specified.
0000    171 ;
0000    172 ;               R0 = SS$_NONLOCAL - specified device exists on a remote
0000    173 ;                    system.
0000    174 ;
0000    175 ;               R0 = SS$_NOSUCHDEV - specified device does not exist on
0000    176 ;                    host system.
0000    177 ;
0000    178 ;               R0 = SS$_NODEVAVL - no allocatable unit can be found.
0000    179 ;
0000    180 ;               R0 = SS$_DEVALLOC - device already allocated to another
0000    181 ;                    process.
0000    182 ;
0000    183 ;               R0 = SS$_DEVMOUNT - device currently mounted and cannot
0000    184 ;                    be allocated.
0000    185 ;
0000    186 ;               R0 = SS$_DEVOFFLINE - device is marked offline or
0000    187 ;                    unavailable.
0000    188 ;
0000    189 ;               R0 = SS$_TEMPLATEDEV - device is a template and cannot
0000    190 ;                    be allocated
```

```
                     0000   191 ;
                     0000   192 ;               R0 = SS$_NOPRIV - device currently spooled and process does
                     0000   193 ;                    not have privilege to allocate, or device is
                     0000   194 ;                    protected against allocation.
                     0000   195 ;
                     0000   196 ;               R0 = SS$_EXENQLM - couldn't take out cluster-wide lock
                     0000   197 ;                    because process exceded its enqueue limit.
                     0000   198 ;
                     0000   199 ;               R0 = SS$_INSFMEM - couldn't take out cluster-wide lock
                     0000   200 ;                    because of insufficient dynamic memory to create
                     0000   201 ;                    the necessary data structures.
                     0000   202 ;
                     0000   203 ;       R0 low bit set indicates successful completion.
                     0000   204 ;
                     0000   205 ;               R0 = SS$_DEVALRALLOC - device is already allocated to calling
                     0000   206 ;                    process.
                     0000   207 ;
                     0000   208 ;               R0 = SS$_BUFFEROVF - normal completion, physical name over-
                     0000   209 ;                    flowed physical name buffer.
                     0000   210 ;
                     0000   211 ;               R0 = SS$_NORMAL - normal completion, physical name transfered
                     0000   212 ;                    to physical name buffer.
                     0000   213 ;-
                     0000   214
                     0000   215         .ENABLE LSB
                     0000   216
             FFFD'  30 0000   217 10$:   BSBW    IOC$UNLOCK_DEV          ; unlock the device
             011A   31 0003   218 15$:   BRW     ACCVIO                  ; common ACCVIO handling
                     0006   219
                007C 0006   220         .ENTRY  EXE$ALLOC,^M<R2,R3,R4,R5,R6>
56   0144 8F   3C 0008   221         MOVZWL  #SS$_IVDEVNAM,R6        ; assume invalid device name
       00FD   30 000D   222         BSBW    LOCK                    ; lock I/O data base and get device name
          24   13 0010   223         BEQL    40$                     ; if eql no device name specified
          52   7C 0012   224         CLRQ    R2                      ; zero flags and value block
     05   6C   91 0014   225         CMPB    (AP),#FLAGS/4           ; see if flags argument is present
          17   1F 0017   226         BLSSU   20$                     ; branch if not
                0019   227         IFNORD  #4,FLAGS(AP),15$        ; probe it, since it's optional
56   017C 8F   3C 0020   228         MOVZWL  #SS$_IVSTSFLG,R6        ; assume invalid flags
  01   14 AC   D1 0025   229         CMPL    FLAGS(AP),#1            ; test for valid bits
          05   1F 0029   230         BLSSU   20$                     ; zero - OK
          79   1A 002B   231         BGTRU   90$                     ; invalid bits set
     52   02   88 002D   232         BISB    #IOC$M_TYPE,R2          ; set device type mode
        FFCD'  30 0030   233 20$:    BSBW    IOC$SEARCH              ; search for generic allocatable device
                0033   234                                         ; note all checks made by search routine
     56   50   D0 0033   235 30$:    MOVL    R0,R6                   ; save search status
       6D 56   E9 0036   236 40$:    BLBC    R6,90$                  ; if lbc search failure
     55   51   D0 0039   237         MOVL    R1,R5                   ; save device UCB address
                003C   238 ;
                003C   239 ; Return physical device name
                003C   240 ;
  51   0C AC   D0 003C   241         MOVL    PHYBUF(AP),R1           ; get address of name buffer descriptor
          43   13 0040   242         BEQL    70$                     ; if eql none
                0042   243         IFNORD  #8,(R1),10$             ; can name buffer descriptor be read?
     50   61   3C 0048   244         MOVZWL  (R1),R0                 ; get length of name buffer
          38   13 004B   245         BEQL    70$                     ; if eql zero length buffer
00FF 8F   50   B1 004D   246         CMPW    R0,#255                 ; was buffer size reasonable?
          04   1B 0052   247         BLEQU   50$                     ; branch if ok
```

```
                50   FF 8F    9A  0054    248              MOVZBL  #255,R0                  ; use smaller, but still absurd size
                51   04 A1    D0  0058    249 50$:         MOVL    4(R1),R1                ; get address of name buffer
                                  005C    250              IFNOWRT R0,(R1),10$             ; can name buffer be written?
                53   08 AC    D0  0062    251              MOVL    PHYLEN(AP),R3           ; get address to store name length
                          06    13  0066    252              BEQL    60$                     ; if eql none
                                  0068    253              IFNOWRT #2,(R3),10$             ; can name length be written?
                     54   01    CE  006E    254 60$:         MNEGL   #1,R4                   ; use display format device name
                        FF8C'    30  0071    255              BSBW    IOC$CVT_DEVNAM          ; convert device name and unit
          54    00000000'EF    D0  0074    256              MOVL    CTL$GL_PCB,R4           ; restore PCB address in R4
                     56   50    D0  007B    257              MOVL    R0,R6                   ; save completion status
                          53    D5  007E    258              TSTL    R3                      ; address to store length specified?
                          03    13  0080    259              BEQL    70$                     ; if eql none specified
                     63   51    B0  0082    260              MOVW    R1,(R3)                 ; insert length of converted string
                                  0085    261 ;
                                  0085    262 ; Finish allocating the device. The lock, if any, was taken out by IOC$SEARCH.
                                  0085    263 ; All we have to do is mark up the UCB.
                                  0085    264 ;
             07 38 A5    17    E3  0085    265 70$:         BBCS    #DEV$V_ALL,UCB$L_DEVCHAR(R5),80$ ; if clr, device not allocated
              56   0641 8F    3C  008A    266              MOVZWL  #SS$_DEVALRALLOC,R6     ; set device already allocated status
                          15    11  008F    267              BRB     90$
                                  0091    268
     50   10 AC    02    00    EF  0091    269 80$:         EXTZV   #0,#2,ALACMODE(AP),R0   ; get specified access mode
                        FF66'    30  0097    270              BSBW    EXE$MAXACMODE           ; maximize access mode
                5F A5    50    90  009A    271              MOVB    R0,UCB$B_AMOD(R5)       ; set allocating access mode
                   5C A5    B6  009E    272              INCW    UCB$W_REFC(R5)          ; count a reference
             2C A5    60 A4    D0  00A1    273              MOVL    PCB$L_PID(R4),UCB$L_PID(R5) ; store owner PID
                     50   56    D0  00A6    274 90$:         MOVL    R6,R0                   ; set completion status
                        FF54'    31  00A9    275              BRW     IOC$UNLOCK              ;
                                  00AC    276
                                  00AC    277              .DISABLE LSB
```

```
                                                M 11
00AC    279          .SBTTL  Deallocate Device
00AC    280
00AC    281 ;+
00AC    282 ;
00AC    283 ; EXE$DALLOC - deallocate device
00AC    284 ;
00AC    285 ; This service provides the capability to relinquish exclusive use of a
00AC    286 ; device.
00AC    287 ;
00AC    288 ;       INPUTS:
00AC    289 ;
00AC    290 ;           DEVNAM(AP) = address of device name string descriptor. Zero
00AC    291 ;                        implies all.
00AC    292 ;           DLACMODE(AP) = access mode for deallocation.
00AC    293 ;
00AC    294 ;           R4 = current process PCB address.
00AC    295 ;
00AC    296 ; OUTPUTS:
00AC    297 ;
00AC    298 ;           R0 low bit clear indicates failure to deallocate device.
00AC    299 ;
00AC    300 ;                   R0 = SS$_ACCVIO - device name string or device name string
00AC    301 ;                        descriptor cannot be read by calling access mode.
00AC    302 ;
00AC    303 ;                   R0 = SS$_DEVASSIGN - device cannot be deallocated because
00AC    304 ;                        process still has channels assigned.
00AC    305 ;
00AC    306 ;                   R0 = SS$_DEVMOUNT - device cannot be deallocated because it
00AC    307 ;                        is still mounted.
00AC    308 ;
00AC    309 ;                   R0 = SS$_DEVNOTALLOC - device not allocated or not allocated
00AC    310 ;                        to process.
00AC    311 ;
00AC    312 ;                   R0 = SS$_IVDEVNAM - device name string contains invalid
00AC    313 ;                        characters.
00AC    314 ;
00AC    315 ;                   R0 = SS$_IVLOGNAM - zero or greater than maximum length
00AC    316 ;                        device name string specified.
00AC    317 ;
00AC    318 ;                   R0 = SS$_NOPRIV - calling access mode does not have privilege
00AC    319 ;                        to deallocate device.
00AC    320 ;
00AC    321 ;                   R0 = SS$_NOSUCHDEV - specified device does not exist on
00AC    322 ;                        host system.
00AC    323 ;
00AC    324 ;           R0 low bit set indicates successful completion.
00AC    325 ;
00AC    326 ;                   R0 = SS$_NORMAL - normal completion.
00AC    327 ;-
00AC    328
00AC    329          .ENTRY  EXE$DALLOC,^M<R2,R3,R4,R5,R8>
00AE    330          EXTZV   #0,#2,DLACMODE(AP),R0   ; get deallocation access mode
00B4    331          BSBW    EXE$MAXACMODE           ; maximize access mode
00B7    332          MOVL    R0,R5                   ; save maximized access mode
00BA    333          BSBB    LOCK                    ; lock I/O data base and search for device
00BC    334          BEQL    20$                     ; if eql no device name specified
00BE    335          BSBW    IOC$SEARCHDEV           ; search for physical device
```

```
                47 50   E9  00C1   336          BLBC    R0,60$                          ; if lbc search failure
        60 A4    2C A1  D1  00C4   337          CMPL    UCB$L_PID(R1),PCB$L_PID(R4) ; device allocated to current process?
                   3B   12  00C9   338          BNEQ    50$                             ; if neq no
           5F A1   55   91  00CB   339          CMPB    R5,UCB$B_AMOD(R1)               ; can specifed access mode deallocate device
                   02   15  00CF   340          BLEQ    10$                             ; if leq yes
                   52   11  00D1   341          BRB     NOPRIV                          ; if gtr no
                        00D3   342
        2E 38 A1   17   E1  00D3   343 10$:     BBC     #DEV$V_ALL,UCB$L_DEVCHAR(R1),50$ ; if clr, device not allocated
                   56   10  00D8   344          BSBB    DECREF                          ; decrement reference count and call driver
                   51   11  00DA   345          BRB     UNLOCK                          ;
                        00DC   346
                        00DC   347 ;
                        00DC   348 ; Null device name - deallocate all devices
                        00DC   349 ;
              7E    5A  7D  00DC   350 20$:     MOVQ    R10,-(SP)                       ; save some registers
                    5A  7C  00DF   351          CLRQ    R10                             ; initial conditions
                 FF1C' 30  00E1   352 30$:     BSBW    IOC$SCAN_IODB                   ; scan the IO database
                06 50   E8  00E4   353          BLBS    R0,40$                          ; got a good UCB
              5A    8E  7D  00E7   354          MOVQ    (SP)+,R10                       ; end of the line, restore registers
                 003D   31  00EA   355          BRW     NORMAL                          ; and get out
                        00ED   356
                2C AA   D1  00ED   357 40$:     CMPL    UCB$L_PID(R10),-
                60 A4       00F0   358                  PCB$L_PID(R4)                   ; device allocated to current process?
                   ED   12  00F2   359          BNEQ    30$                             ; if neq no
           5F AA   55   91  00F4   360          CMPB    R5,UCB$B_AMOD(R10)              ; can access mode deallocate device?
                   E7   14  00F8   361          BGTR    30$                             ; if gtr no
                   17   E1  00FA   362          BBC     #DEV$V_ALL,-
              E2 38 AA        00FC   363                  UCB$L_DEVCHAR(R10),30$  ; if clr, device not allocated
               51   5A  D0  00FF   364          MOVL    R10,R1                          ; transfer UCB pointer
                   2C   10  0102   365          BSBB    DECREF                          ; decrement reference count and call driver
                   DB   11  0104   366          BRB     30$                             ;
                        0106   367
        50    0858 8F   3C  0106   368 50$:     MOVZWL  #SS$_DEVNOTALLOC,R0             ; set device not allocated to process
                   20   11  010B   369 60$:     BRB     UNLOCK                          ;
```

```
                     010D   371          .SBTTL  Lock I/O Database and Probe Name Descriptor
                     010D   372
                     010D   373 ;
                     010D   374 ; Subroutine to lock I/O data base, search for device, and check for mailbox.
                     010D   375 ;
                     010D   376
                     010D   377 LOCK:                                        ; lock I/O data base and search for device
00000000'EF   16     010D   378          JSB     SCH$IOLOCKW                ; lock I/O database for write access
 51   04 AC   D0     0113   379          MOVL    DEVNAM(AP),R1              ; get address of device name string descript
         06   13     0117   380          BEQL    10$                        ; if eql none
                     0119   381          IFNORD  #8,(R1),ACCVIO             ; can device name descriptor be read?
         05   11     011F   382 10$:      RSB                                ;
                     0120   383 ;
                     0120   384 ; Miscellaneous exits
                     0120   385 ;
     50  0C   3C     0120   386 ACCVIO:  MOVZWL  #SS$_ACCVIO,R0              ; set access violation status
         08   11     0123   387          BRB     UNLOCK                     ;
                     0125   388
     50  24   3C     0125   389 NOPRIV:  MOVZWL  #SS$_NOPRIV,R0              ; set no privilege
         03   11     0128   390          BRB     UNLOCK                     ;
                     012A   391
     50  01   3C     012A   392 NORMAL:  MOVZWL  #SS$_NORMAL,R0              ; set normal completion
       FED0'  31     012D   393 UNLOCK:  BRW     IOC$UNLOCK                 ; unlock I/O data base and return
```

```
                     0130   395          .SBTTL  Decrement Reference Count, Clear Ownership, and Call Driver
                     0130   396
                     0130   397 ;
                     0130   398 ; Subroutine to decrement reference count, clear ownership, and call driver
                     0130   399 ;
                     0130   400
                     0130   401 DECREF:                                              ;
50   006C 8F    3C   0130   402          MOVZWL  #SS$_DEVMOUNT,R0                   ; assume device mounted
          13    E0   0135   403          BBS     #DEV$V_MNT,-                       ; branch if device mounted
     0B 38 A1         0137   404                  UCB$L_DEVCHAR(R1),10$              ;
          55    DD   013A   405          PUSHL   R5                                 ; save R5
     55   51    D0   013C   406          MOVL    R1,R5                              ; set address of device UCB
        FEBE'   30   013F   407          BSBW    IOC$DALLOC_DEV                     ; clear device allocation
     55   8E    D0   0142   408          MOVL    (SP)+,R5                           ; restore R5
          05    05   0145   409 10$:     RSB                                        ;
                     0146   410
                     0146   411
                     0146   412
                     0146   413          .END
```

```
ACCVIO                          00000120 R      02
ALACMODE                      = 00000010
CTL$GL_PCB                      ******** X    02
DECREF                          00000130 R      02
DEV$V_ALL                     = 00000017
DEV$V_MNT                     = 00000013
DEVICE_TYPE                   = 00000000
DEVNAM                        = 00000004
DLACMODE                      = 00000008
EXE$ALLOC                       00000006 RG     02
EXE$DALLOC                      000000AC RG     02
EXE$MAXACMODE                   ******** X    02
FLAGS                         = 00000014
IOC$CVT_DEVNAM                  ******** X    02
IOC$DALLOC_DEV                  ******** X    02
IOC$M_TYPE                    = 00000002
IOC$SCAN_IODB                   ******** X    02
IOC$SEARCH                      ******** X    02
IOC$SEARCHDEV                   ******** X    02
IOC$UNLOCK                      ******** X    02
IOC$UNLOCK_DEV                  ******** X    02
LOCK                            0000010D R      02
NOPRIV                          00000125 R      02
NORMAL                          0000012A R      02
PCB$L_PID                     = 00000060
PHYBUF                        = 0000000C
PHYLEN                        = 00000008
SCH$IOLOCKW                     ******** X    02
SS$_ACCVIO                    = 0000000C
SS$_DEVALRALLOC               = 00000641
SS$_DEVMOUNT                  = 0000006C
SS$_DEVNOTALLOC               = 00000858
SS$_IVDEVNAM                  = 00000144
SS$_IVSTSFLG                  = 0000017C
SS$_NOPRIV                    = 00000024
SS$_NORMAL                    = 00000001
UCB$B_AMOD                    = 0000005F
UCB$L_DEVCHAR                 = 00000038
UCB$L_PID                     = 0000002C
UCB$W_REFC                    = 0000005C
UNLOCK                          0000012D R      02
```

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
Y$EXEPAGED                      00000146  (  326.)  02 (  2.)  NOPIC   USR   CON   REL   LCL NOSHR   EXE   RD    WRT NOVEC BYTE
```

Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	37	00:00:00.08	00:00:00.79
Command processing	135	00:00:00.53	00:00:02.76
Pass 1	307	00:00:09.35	00:00:29.17
Symbol table sort	0	00:00:01.52	00:00:03.80
Pass 2	87	00:00:01.84	00:00:04.19
Symbol table output	7	00:00:00.08	00:00:00.42
Psect synopsis output	1	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	576	00:00:13.44	00:00:41.16

The working set limit was 1500 pages.
53116 bytes (104 pages) of virtual memory were used to buffer the intermediate code.
There were 60 pages of symbol table space allocated to hold 1028 non-local and 18 local symbols.
413 source lines were read in Pass 1, producing 19 object records in Pass 2.
16 pages of virtual memory were used to define 15 macros.

Macro library statistics

Macro library name	Macros defined
_255DUA28:[SYS.OBJ]LIB.MLB;1	7
_255DUA28:[SYSLIB]STARLET.MLB;2	5
TOTALS (all libraries)	12

1097 GETS were required to define 12 macros.

There were no errors, warnings or information messages.

```
MACRO/LIS=LIS$:SYSDEVALC/OBJ=OBJ$:SYSDEVALC MSRC$:SYSDEVALC/UPDATE=(ENH$:SYSDEVALC)+EXECML$/LIB
```

SYSCRMPSC
LIS

SYSDCLEXH
LIS

SYSDEVALC
LIS

SYSCVTIIM
LIS

SYSDGBLSC
LIS

SYSENQDEQ
LIS

SYSDCLCMH
LIS

SYSDERLMB
LIS

SYSDASSGN
LIS

SYSDELPRC
LIS