```
FFFFFFFFFFFFFFF        111              111         XXX              XXX
FFFFFFFFFFFFFF         111              111         XXX              XXX
FFFFFFFFFFFFFF         111              111         XXX              XXX
FFF                  111111           111111        XXX              XXX
FFF                  111111           111111        XXX              XXX
FFF                  111111           111111         XXX            XXX
FFF                    111              111           XXX          XXX
FFF                    111              111            XXX        XXX
FFF                    111              111            XXX        XXX
FFFFFFFF.FFF           111              111             XXX      XXX
FFFFFFFFFFFFF          111              111              XXX    XXX
FFFFFFFFFFFFF          111              111              XXX
FFF                    111              111             XXX      XXX
FFF                    111              111            XXX        XXX
FFF                    111              111            XXX        XXX
FFF                    111              111           XXX          XXX
FFF                    111              111          XXX            XXX
FFF                    111              111         XXX              XXX
FFF                  111111111        111111111     XXX              XXX
FFF                  111111111        111111111     XXX              XXX
FFF                  111111111        111111111     XXX              XXX
```

```
RRRRRRR    EEEEEEEEEE    QQQQQ      UU      UU   EEEEEEEEEE   UU      UU
RRRRRRR    EEEEEEEEEE    QQQQQ      UU      UU   EEEEEEEEEE   UU      UU
RR     RR  EE           QQ    QQ    UU      UU   EE           UU      UU
RR     RR  EE           QQ    QQ    UU      UU   EE           UU      UU
RR     RR  EE           QQ    QQ    UU      UU   EE           UU      UU
RRRRRRR    EEEEEEE      QQ    QQ    UU      UU   EEEEEEE      UU      UU
RRRRRRR    EEEEEEE      QQ    QQ    UU      UU   EEEEEEE      UU      UU
RR   RR    EE          QQ  QQ QQ    UU      UU   EE           UU      UU
RR    RR   EE          QQ  QQ QQ    UU      UU   EE           UU      UU
RR     RR  EE          QQ     QQ    UU      UU   EE           UU      UU
RR     RR  EE          QQ     QQ    UU      UU   EE           UU      UU
RR     RR  EEEEEEEEEE    QQQQ QQ    UUUUUUUUUU   EEEEEEEEEE   UUUUUUUUUU   ....
RR     RR  EEEEEEEEEE    QQQQ QQ    UUUUUUUUUU   EEEEEEEEEE   UUUUUUUUUU   ....

LL           IIIIII      SSSSSSSS
LL           IIIIII      SSSSSSSS
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      SSSSSSS
```

```
0000     1          .TITLE  REQUEU - REQUEUE REQUEST TO DRIVER
0000     2          .IDENT  'V04-000'
0000     3
0000     4
0000     5 ;*******************************************************************
0000     6 ;*                                                                 *
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0000    24 ;*                                                                 *
0000    25 ;*                                                                 *
0000    26 ;*******************************************************************
0000    27
0000    28 ;++
0000    29
0000    30 ; FACILITY:  F11ACP STRUCTURE LEVEL 1
0000    31
0000    32 ; ABSTRACT:
0000    33
0000    34 ;       THIS ROUTINE REQUEUES THE INDICATED I/O PACKET TO THE DEVICE
0000    35 ;       DRIVER FOR WHICH IT WAS ORIGINALLY INTENDED.
0000    36
0000    37 ; ENVIRONMENT:
0000    38
0000    39 ;       STARLET OPERATING SYSTEM, INCLUDING PRIVILEGED SYSTEM SERVICES
0000    40 ;       AND INTERNAL EXEC ROUTINES. THIS ROUTINE MUST BE CALLED IN
0000    41 ;       KERNEL MODE.
0000    42
0000    43 ;--
0000    44
0000    45 ; AUTHOR:  ANDREW C. GOLDSTEIN  14-MAR-78  10:43
0000    46
0000    47 ; MODIFIED BY:
0000    48
0000    49 ;       V03-003 ROW0348          Ralph O. Weber          12-APR-1984
0000    50 ;               Change maximum byte count, UCB$L_MAXBCNT, tests to be
0000    51 ;               unsigned.  This should have been done in ROW0218, when
0000    52 ;               SYSACPFDT and IOCIOPOST were fixed, but what can I say,
0000    53 ;               "Nobody's perfect."
0000    54
0000    55 ;       V03-002 ACG0408          Andrew C. Goldstein,    23-Mar-1984  11:01
0000    56 ;               Make all of global storage based
0000    57 ;
```

REQUEU   - REQUEUE REQUEST TO DRIVER   15-SEP-1984 23:44:44   VAX/VMS Macro V04-00   Page 2
V04-000   5-SEP-1984 01:14:50   [F11X.SRC]REQUEU.MAR;1   (1)

                                        I 10

```
          0000    58 ;       V03-001 RLRMXBCNT      Robert L. Rappaport    11-Mar-1983
          0000    59 ;               Allow for segmentation of Logical I/O (and Virtual)
          0000    60 ;               based on the UCB$L_MAXBCNT field.
          0000    61 ;**
          0000    62 ;**
          0000    63 ;
          0000    64 ;
          0000    65 ; EQUATED SYMBOLS:
          0000    66 ;
00000004  0000    67 PACKET  =  4                              ; ADDRESS OF I/O PACKET ARG
00000008  0000    68 LBN     =  8                              ; STARTING LBN OF TRANSFER
0000000C  0000    69 UNMAPPED= 12                              ; COUNT OF UNMAPPED BLOCKS
          0000    70
          0000    71         $IRPDEF                            ; DEFINE I/O PACKET OFFSETS
          0000    72         $IODEF                             ; DEFINE I/O FUNCTION CODES
          0000    73         $UCBDEF                            ; DEFINE UCB OFFSETS
```

```
                              0000      75  ;++
                              0000      76  ;
                              0000      77  ; FUNCTIONAL DESCRIPTION:
                              0000      78  ;
                              0000      79  ;     THIS ROUTINE REQUEUES THE INDICATED I/O PACKET TO THE DEVICE
                              0000      80  ;     DRIVER FOR WHICH IT WAS ORIGINALLY INTENDED. IT TRANSLATES THE
                              0000      81  ;     LBN INTO THE CORRESPONDING PHYSICAL BLOCK NUMBER AND CONVERTS THE
                              0000      82  ;     I/O FUNCTION CODE INTO THE APPROPRIATE PHYSICAL FUNCTION.
                              0000      83  ;     THE NUMBER OF UNMAPPED BLOCKS IS DEDUCTED FROM THE BYTE COUNT.
                              0000      84  ;
                              0000      85  ; CALLING SEQUENCE:
                              0000      86  ;     CALL REQUEUE_REQ (ARG1, ARG2, ARG3)
                              0000      87  ;
                              0000      88  ; INPUT PARAMETERS:
                              0000      89  ;     ARG1: ADDRESS OF I/O PACKET
                              0000      90  ;     ARG2: STARTING LBN OF TRANSFER
                              0000      91  ;     ARG3: NUMBER OF BLOCKS UNMAPPED
                              0000      92  ;
                              0000      93  ; IMPLICIT INPUTS:
                              0000      94  ;     CURRENT_UCB: ADDRESS OF REQUEST UCB
                              0000      95  ;
                              0000      96  ; OUTPUT PARAMETERS:
                              0000      97  ;     NONE
                              0000      98  ;
                              0000      99  ; IMPLICIT OUTPUTS:
                              0000     100  ;     NONE
                              0000     101  ;
                              0000     102  ; ROUTINE VALUE:
                              0000     103  ;     NONE
                              0000     104  ;
                              0000     105  ; SIDE EFFECTS:
                              0000     106  ;     REQUEST QUEUED TO UCB
                              0000     107  ;
                              0000     108  ;--
                              0000     109
                          00000000     110          .PSECT  $CODE$,NOWRT,LONG
                              0000     111
                              0000     112  REQUEUE_REQ::
                    003C      0000     113          .WORD   ^M<R2,R3,R4,R5>          ; SAVE REGISTERS
           53    04 AC   D0  0002     114          MOVL    PACKET(AP),R3           ; GET PACKET ADDRESS
           55  0000'CA   D0  0006     115          MOVL    W^CURRENT_UCB(R10),R5   ; GET UCB ADDRESS
           1C A3     55   D0  000B     116          MOVL    R5,IRP$L_UCB(R3)        ; STORE POSSIBLY CHANGED UCB ADDRESS
     50    0C AC   09   78  000F     117          ASHL    #9,UNMAPPED(AP),R0      ; GET BYTE COUNT OF UNMAPPED BLOCKS
                     12   13  0014     118          BEQL    10$                    ; BRANCH IF ALL MAPPED - NO FIXUP
           32 A3     50   C2  0016     119          SUBL    R0,IRP$L_BCNT(R3)      ; AND SUBTRACT FROM TRANSFER COUNT
  32 A3 000001FF 8F   C0  001A     120          ADDL    #511,IRP$L_BCNT(R3)    ; ROUND BYTE COUNT TO NEXT BLOCK BOUNDARY
     32 A3   01FF 8F   AA  0022     121          BICW    #511,IRP$L_BCNT(R3)    ; IN CASE FULL BYTE COUNT CONTAINS A PARTIAL
     50  00B4 C5   D0  0028     122  10$:    MOVL    UCB$L_MAXBCNT(R5),R0   ; R0 = 0 or Max. permissible BCNT.
                     05   12  002D     123          BNEQ    20$                    ; NEQ implies Max. permissible BCNT in R0.
     50  FE00 8F   3C  002F     124          MOVZWL  #512*127,R0            ; If 0, use default Max. permissible.
                          0034     125  20$:
           32 A3     50   D1  0034     126          CMPL    R0,IRP$L_BCNT(R3)     ; See if BCNT too large.
                     04   1E  0038     127          BGEQU   30$                    ; GEQU implies we are OK.
           32 A3     50   D0  003A     128          MOVL    R0,IRP$L_BCNT(R3)     ; Else scale down to maximum allowed.
                          003E     129  30$:
     50    08 AC   D0  003E     130          MOVL    LBN(AP),R0             ; GET STARTING LBN
      00000000'9F   16  0042     131          JSB     @#IOC$CVTLOGPHY        ; CONVERT TO PHYSICAL BLOCK
```

```
00000000'9F    16  0048  132              JSB      @#EXE$INSIOQ              ; AND QUEUE TO DRIVER
               04  004E  133              RET
                   004F  134
                   004F  135
                   004F  136
                   004F  137              .END
```

```
ACL_TYPE                   = 00000007
AQB_TYPE                   = 00000005
BITMAP_TYPE                = 00000001
CACHE_TYPE                 = 00000006
CHIP_TYPE                  = 00000008
CURRENT_UCB                ********        X   02
DATA_TYPE                  = 00000004
DIRECTORY_TYPE             = 00000002
EXE$INSIOQ                 ********        X   02
FCB_TYPE                   = 00000000
HEADER_TYPE                = 00000000
INDEX_TYPE                 = 00000003
IOC$CVTLOGPHY              ********        X   02
IRP$L_BCNT                 = 00000032
IRP$L_UCB                  = 0000001C
LBN                        = 00000008
MVL_TYPE                   = 00000004
PACKET                     = 00000004
QUOTA_TYPE                 = 00000005
REQUEUE_REQ                  00000000      RG   02
RVT_TYPE                   = 00000003
UCB$L_MAXBCNT              = 000000B4
UNMAPPED                   = 0000000C
VCB_TYPE                   = 00000002
WCB_TYPE                   = 00000001
```

```
                          +------------------+
                          ! 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
$CODE$                  0000004F (   79.)  02 (  2.)  NOPIC  USR  CON  REL  LCL NOSHR  EXE   RD   NOWRT NOVEC LONG

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

Phase                   Page faults   CPU Time      Elapsed Time
-----                   -----------   --------      ------------
Initialization               29       00:00:00.09   00:00:00.52
Command processing          106       00:00:00.72   00:00:02.83
Pass 1                      268       00:00:07.26   00:00:15.66
Symbol table sort             0       00:00:01.42   00:00:02.86
Pass 2                       44       00:00:01.42   00:00:03.71
Symbol table output           4       00:00:00.03   00:00:00.17
Psect synopsis output         2       00:00:00.03   00:00:00.19
Cross-reference output        0       00:00:00.00   00:00:00.00
Assembler run totals        456       00:00:10.97   00:00:25.94
```

The working set limit was 1200 pages.
41385 bytes (81 pages) of virtual memory were used to buffer the intermediate code.
There were 50 pages of symbol table space allocated to hold 875 non-local and 3 local symbols.
238 source lines were read in Pass 1, producing 13 object records in Pass 2.
12 pages of virtual memory were used to define 11 macros.

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

Macro library name                       Macros defined
------------------                       --------------
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                 2
_$255$DUA28:[SYSLIB]STARLET.MLB;2              4
TOTALS (all libraries)                         6
```

920 GETS were required to define 6 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:REQUEU/OBJ=OBJ$:REQUEU MSRC$:FCPPRE/UPDATE=(ENH$:FCPPRE)+MSRC$:REQUEU/UPDATE=(ENH$:REQUEU)+EXECML$/LIB

RWVB
LIS

RDBLOK
LIS

REQUEU
LIS

RWAITR
LIS

REMOVE
LIS

RDHEDR
LIS

RETDIR
LIS