```
DDDDDDDDDDDD     UUU        UUU   MMM          MMM   PPPPPPPPPPPP
DDDDDDDDDDDD     UUU        UUU   MMM          MMM   PPPPPPPPPPPP
DDDDDDDDDDDD     UUU        UUU   MMM          MMM   PPPPPPPPPPPP
DDD        DDD   UUU        UUU   MMMMMM    MMMMMM   PPP        PPP
DDD        DDD   UUU        UUU   MMMMMM    MMMMMM   PPP        PPP
DDD        DDD   UUU        UUU   MMMMMM    MMMMMM   PPP        PPP
DDD        DDD   UUU        UUU   MMM    MMM    MMM   PPP        PPP
DDD        DDD   UUU        UUU   MMM    MMM    MMM   PPP        PPP
DDD        DDD   UUU        UUU   MMM    MMM    MMM   PPP        PPP
DDD        DDD   UUU        UUU   MMM          MMM   PPPPPPPPPPPP
DDD        DDD   UUU        UUU   MMM          MMM   PPPPPPPPPPPP
DDD        DDD   UUU        UUU   MMM          MMM   PPPPPPPPPPPP
DDD        DDD   UUU        UUU   MMM          MMM   PPP
DDD        DDD   UUU        UUU   MMM          MMM   PPP
DDD        DDD   UUU        UUU   MMM          MMM   PPP
DDD        DDD   UUU        UUU   MMM          MMM   PPP
DDD        DDD   UUU        UUU   MMM          MMM   PPP
DDDDDDDDDDDD     UUUUUUUUUUUUUU   MMM          MMM   PPP
DDDDDDDDDDDD     UUUUUUUUUUUUUU   MMM          MMM   PPP
DDDDDDDDDDDD     UUUUUUUUUUUUUU   MMM          MMM   PPP
```

FILEID**DUMPFAOLN

```
DDDDDDD    UU      UU  MM      MM  PPPPPPPP    FFFFFFFFFF   AAAAAA      000000   LL          NN      NN
DDDDDDD    UU      UU  MM      MM  PPPPPPPP    FFFFFFFFFF   AAAAAA      000000   LL          NN      NN
DD    DD   UU      UU  MMMM  MMMM  PP      PP  FF           AA    AA    00    00  LL          NN      NN
DD    DD   UU      UU  MMMM  MMMM  PP      PP  Fr           AA    AA    00    00  LL          NN      NN
DD    DD   UU      UU  MM  MM  MM  PP      PP  FF           AA    AA    00    00  LL          NNNN    NN
DD    DD   UU      UU  MM  MM  MM  PP      PP  FF           AA    AA    00    00  LL          NNNN    NN
DD    DD   UU      UU  MM      MM  PPPPPPPP    FFFFFFF      AAAAAAAAA   00    00  LL          NN  NN  NN
DD    DD   UU      UU  MM      MM  PPPPPPPP    FFFFFFF      AAAAAAAAA   00    00  LL          NN  NN  NN
DD    DD   UU      UU  MM      MM  PP          FF           AAAAAAAAA   00    00  LL          NN    NNNN
DD    DD   UU      UU  MM      MM  PP          FF           AAAAAAAAA   00    00  LL          NN    NNNN
DD    DD   UU      UU  MM      MM  PP          FF           AA    AA    00    00  LL          NN      NN
DD    DD   UU      UU  MM      MM  PP          FF           AA    AA    00    00  LL          NN      NN
DDDDDDD    UUUUUUUUUU  MM      MM  PP          FF           AA    AA    000000   LLLLLLLLLL  NN      NN
DDDDDDD    UUUUUUUUUU  MM      MM  PP          FF           AA    AA    000000   LLLLLLLLLL  NN      NN


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

```
0000         1                    .TITLE  DUMP$FAO_LINE, format one line
0000         2                    .IDENT  'V04-000'
0000         3          ;---
0000         4          ;
0000         5          ;*******************************************************************
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0000        24          ;*                                                                *
0000        25          ;*                                                                *
0000        26          ;*******************************************************************
0000        27          ;
0000        28          ;++
0000        29          ; FACILITY:
0000        30          ;       File dump utility.
0000        31          ;
0000        32          ; ABSTRACT:
0000        33          ;       This module contains the routine to format one line.
0000        34          ;
0000        35          ; ENVIRONMENT:
0000        36          ;       VAX native, user mode.
0000        37          ;
0000        38          ; AUTHOR:  Benn Schreiber, Stephen Zalewski      CREATION DATE:  22-Jun-1981
0000        39          ;
0000        40          ; MODIFIED BY:
0000        41          ;
0000        42          ;       V02-001 MLJ0033        Martin L. Jack, 23-Aug-1981  9:48
0000        43          ;                 Minor cleanup to finish implementation.
0000        44          ;
0000        45          ;**
0000        46
0000        47
00000000    48                    .PSECT  $CODE$,EXE,NOWRT
```

```
                        0000   50              .SBTTL  DUMP$FAO_LINE, format one line
                        0000   51      ;
                        0000   52      ; Format one line of dump listing
                        0000   53      ;
                        0000   54      ; Inputs:
                        0000   55      ;
                        0000   56      ;       04(ap) = pointer to data to be dumped
                        0000   57      ;       08(ap) = number of entries per line
                        0000   58      ;       12(ap) = size of one entry
                        0000   59      ;       16(ap) = byte-offset value for side of line
                        0000   60      ;       20(ap) = number of entries in buffer
                        0000   61      ;       24(ap) = 0: longword, 1: word, 2: byte
                        0000   62      ;       28(ap) = address of descriptor for FAO control string
                        0000   63      ;       32(ap) = address of descriptor for output buffer
                        0000   64      ;
                  003C  0000   65              .entry  dump$fao_line,^M<R2,R3,R4,R5>
       53  08 AC  7D    0002   66              movq    8(ap),r3          ; R3 = entries per line, R4 = size of entry
           54  53  C4   0006   67              mull2   r3,r4             ; compute number of bytes this line
           10 AC  DD    0009   68              pushl   16(ap)            ; push index to print on right hand side
           04 AC  DD    000C   69              pushl   4(ap)             ; push buffer address
               54  DD   000F   70              pushl   r4                ; push number of bytes
       52  14 AC  D0    0011   71              movl    20(ap),r2         ; get number of entries in line
    08 AC  52     D1    0015   72              cmpl    r2,8(ap)          ; see if more than one line's worth
           04     15    0019   73              bleq    10$               ; if leq no
       52  08 AC  D0    001B   74              movl    8(ap),r2          ; yes, use max for one line
    51  04 AC     D0    001F   75  10$:        movl    4(ap),r1          ; copy input data pointer
    50  18 AC     D0    0023   76              movl    24(ap),r0         ; get/test field width
           13     13    0027   77              beql    40$               ; if eql then longwords
       08 50     E8     0029   78              blbs    r0,30$            ; branch if words
                        002C   79      ;
                        002C   80      ; push bytes onto stack
                        002C   81      ;
    7E  81     9A       002C   82  20$:        movzbl  (r1)+,-(sp)       ; push one byte
       FA 52     F5     002F   83              sobgtr  r2,20$            ; do them all
           0D     11    0032   84              brb     50$               ; go call fao
                        0034   85      ;
                        0034   86      ; push words onto stack
                        0034   87      ;
    7E  81     3C       0034   88  30$:        movzwl  (r1)+,-(sp)       ; push one word
       FA 52     F5     0037   89              sobgtr  r2,30$            ; do them all
           05     11    003A   90              brb     50$               ; go call fao
                        003C   91      ;
                        003C   92      ; push longwords onto stack
                        003C   93      ;
           81     DD    003C   94  40$:        pushl   (r1)+             ; push one longword
       FB 52     F5     003E   95              sobgtr  r2,40$            ; do them all
                        0041   96      ;
                        0041   97      ; call $FAO
                        0041   98      ;
           6E     9F    0041   99  50$:        pushab  (sp)              ; push address of arg list
       20 AC     DD     0043  100              pushl   32(ap)            ; push output buffer descr. addr
           6E     DD    0046  101              pushl   (sp)              ; also for output width
       1C AC     DD     0048  102              pushl   28(ap)            ; push fao control string addr
 00000000'GF  04  FB    004B  103              calls   #4,g^sys$faol     ; call sys$faol to format string
               04       0052  104              ret
                        0053  105
                        0053  106              .end
```

DUMP$FAO_LINE   , format one line   16-SEP-1984 01:26:20 VAX/VMS Macro V04-00   Page 3
Symbol table   5-SEP-1984 00:22:55 [DUMP.SRC]DUMPFAOLN.MAR;1   (2)

DUMP$FAO_LINE   00000000 RG   01
SYS$FAOL   ******** X   01

```
                              +-----------------+
                              ! Psect synopsis !
                              +-----------------+
```

PSECT name   Allocation   PSECT No. Attributes
----------   ----------   --------- ----------
. ABS .   00000000 (0.) 00 (0.) NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
$CODE$ 00000053 (83.) 01 (1.) NOPIC USR CON REL LCL NOSHR EXE   RD NOWRT NOVEC BYTE

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

Phase   Page faults   CPU Time   Elapsed Time
-----   -----------   --------   ------------
Initialization   29   00:00:00.08   00:00:01.09
Command processing   133   00:00:00.36   00:00:04.77
Pass 1   72   00:00:00.28   00:00:02.47
Symbol table sort   0   00:00:00.00   00:00:00.00
Pass 2   36   00:00:00.17   00:00:01.07
Symbol table output   2   00:00:00.00   00:00:00.00
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   275   00:00:00.91   00:00:09.42

The working set limit was 900 pages.
1493 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 2 non-local and 5 local symbols.
106 source lines were read in Pass 1, producing 14 object records in Pass 2.
0 pages of virtual memory were used to define 0 macros.

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

Macro library name   Macros defined
------------------   --------------
_255DUA28:[SYSLIB]STARLET.MLB;2   0

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:DUMPFAOLN/OBJ=OBJ$:DUMPFAOLN MSRC$:DUMPFAOLN/UPDATE=(ENH$:DUMPFAOLN)

DTSMAIN
LIS

DUMP
LIS

DUMPFILE
LIS

DTSMSG
LIS

DTSPARSE
LIS

DTRTEST
LIS

DUMPFAOLN
LIS

DUMPRE
REQ

DUMP

DUMP
MAP

DUMPHEADE
LIS

DTSAST
LIS

DTSTEST
LIS