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LL      NN      NN      KK      KK      DDDDDDDD      AAAAAA      TTTTTTTTTT      BBBB8888      AAAAAA      SSSSSSSS
LL      NN      NN      KK      KK      DDDDDDDD      AAAAAA      TTTTTTTTTT      BBBB8888      AAAAAA      SSSSSSSS
LL      NN      NN      KK      KK      DD      DD      AA      AA      TT      BB      BB      AA      AA      SS
LL      NN      NN      KK      KK      DD      DD      AA      AA      TT      BB      BB      AA      AA      SS
LL      NNNN      NN      KK      KK      DD      DD      AA      AA      TT      BB      BB      AA      AA      SS
LL      NNNN      NN      KK      KK      DD      DD      AA      AA      TT      BB      BB      AA      AA      SS
LL      NN      NN      NN      KKKKKK      DD      DD      AA      AA      TT      BBBB8888      AA      AA      SSSSSS
LL      NN      NN      NN      KKKKKK      DD      DD      AA      AA      TT      BBBB8888      AA      AA      SSSSSS
LL      NN      NNNN      KK      KK      DD      DD      AAAAAAAAAA      TT      BB      BB      AAAAAAAAAA      SS
LL      NN      NNNN      KK      KK      DD      DD      AAAAAAAAAA      TT      BB      BB      AAAAAAAAAA      SS
LL      NN      NN      KK      KK      DD      DD      AA      AA      TT      BB      BB      AA      AA      SS
LL      NN      NN      KK      KK      DD      DD      AA      AA      TT      BB      BB      AA      AA      SS
LLLLLLLLLLLL      NN      NN      KK      KK      DDDDDDDD      AA      AA      TT      BB888888      AA      AA      SSSSSSSS
LLLLLLLLLLLL      NN      NN      KK      KK      DDDDDDDD      AA      AA      TT      BBBB8888      AA      AA      SSSSSSSS

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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
LLLLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLLLL      IIIIII      SSSSSSSS

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```
0001 0 MODULE LNK_DATABASE
0002 0         (IDENT = 'V04-000') =
0003 0
0004 1 BEGIN
0005 1
0006 1
0007 1 *****
0008 1 *
0009 1 *   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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0025 1 *   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0026 1 *
0027 1 *
0028 1 *****
0029 1
0030 1
0031 1
0032 1
0033 1
0034 1 ++
0035 1
0036 1 MODULE: LNK_DATABASE
0037 1
0038 1 FACILITY: LINKER
0039 1
0040 1 ABSTRACT: GLOBAL DATA BASE OF THE LINKER
0041 1
0042 1 HISTORY:
0043 1
0044 1     VERSION: X01.00
0045 1
0046 1     AUTHOR: T.J. PORTER 15-JAN-77
0047 1
0048 1     MODIFIED BY:
0049 1
0050 1     V03-002 ADE0001      Alan D. Eldridge      18-Apr-1984
0051 1           Removed 'map' from DEF$C_LNKCTL.
0052 1
0053 1     V03-001 JWT0152     Jim Teague           20-Feb-1984
0054 1           Implement variable length ISDs.
0055 1
0056 1 --
```

```

58 0057 1 |
59 0058 1 |++
60 0059 1 |
61 0060 1 | FUNCTIONAL DESCRIPTION:
62 0061 1 |
63 0062 1 |     This module contains the data base required throughout the whole
64 0063 1 |     of the linker in addition to some global definitions.
65 0064 1 |
66 0065 1 | --
67 0066 1 |
68 0067 1 | LIBRARY
69 0068 1 |     'STARLETL32' ;
70 0069 1 | REQUIRE
71 0070 1 |     'PREFIX' ;                               ! some general macros and defintions
72 0185 1 | LIBRARY
73 0186 1 |     'DATBAS' ;
74 0187 1 |
75 0188 1 | GLOBAL LITERAL
76 0189 1 |     LNK$K_MAX_FILENAME_LENGTH = 39,         ! Maximum filename length
77 0190 1 |     LNK$K_DZROMIN = 5,                       ! Default minimum empty page size before compression
78 0191 1 |     LNK$K_ISDMAX = 95 ;                     ! Default limit on isections created
79 0192 1 | !
80 0193 1 | GLOBAL
81 0194 1 |     LNK$GL_CTLMSK : BLOCK [1] ;             ! Control flags for this link
82 0195 1 |
83 0196 1 | GLOBAL LITERAL
84 0197 1 |     DEF$C_LNKCTL = LNK$M_IMAGE OR           ! define the flag bits
85 0198 1 |                   LNK$M_EXE OR             ! Default control flags
86 0199 1 |                   LNK$M_SUPSYS OR         ! -- produce an executable
87 0200 1 |                   LNK$M_SUPDBG OR        ! With system and debugger
88 0201 1 |                   LNK$M_PICIMG OR        ! Symbols suppressed
89 0202 1 |                   LNK$M_SYSLIB OR        ! Initially assumed pic
90 0203 1 |                   LNK$M_SYSSHR OR        ! But with system library search enabled
91 0204 1 | !                                           ! As well as shareable image
92 0205 1 | GLOBAL
93 0206 1 |     LNK$GL_SHRSYMS,                          ! Number of symbols referenced into shareabl
94 0207 1 |     LNK$GL_SHRIMGs,                          ! Number of shareable images referenced
95 0208 1 |     LNK$GL_CLUTREE : REF BLOCK [ ,BYTE] INITIAL (0), ! Listhead for cluster tree
96 0209 1 |     LNK$GL_CLULST : VECTOR [2]              ! List of cluster descriptors
97 0210 1 |                   INITIAL (0, LNK$GL_CLULST),
98 0211 1 |     LNK$GL_DEFCLU : BBLOCK [CLUS$SIZE]      ! Establish the default cluster
99 0212 1 |                   INITIAL (0,              ! Not yet linked and no fdb's yet
100 0213 1 |                   0,                       ! No previous cluster yet
101 0214 1 |                   0, LNK$GL_DEFCLU [CLUS$FSTFDB]
102 0215 1 |                   0, 0,
103 0216 1 |                   0, LNK$GL_DEFCLU [CLUS$FSTISD] ! Listheads for global and non-global psects
104 0217 1 |                   0, 0,                    ! Singly linked i-section list
105 0218 1 |                   0, 0,                    ! Cluoffset and lastcluster are 0
106 0219 1 |                   0, 0,                    ! Special g^ ref list
107 0220 1 |                   0, 0,                    ! Number of shr image symbols and list head
108 0221 1 |                   0, LNK$GL_DEFCLU [CLUS$FSTADRL] ! Number of .addr refs, number left in curre
109 0222 1 |                   0,                       ! Singly linked list of .ADDRESS VA offse
110 0223 1 |                   0,                       ! No fixup image section
111 0224 1 |                   0, 0,                    ! No image sections in cluster
112 0225 1 |                   0,                       ! Zero base and size
113 0226 1 |                   0,                       ! No owning cluster
114 0227 1 |                   .WORD (0)                ! No flags set
                                           ! No pfc

```

```

: 115      0228 1      ,BYTE (0) ! Round up to longword boundary
: 116      0229 1      )COUNTEDSTRING ('DEFAULT_CLUSTER')
: 117      0230 1
: 118      0231 1      LNK$GL_CURCLU : REF BBLOCK ! Current cluster initially the default
: 119      0232 1      INITIAL (LNK$GL_DEFCLU [CLUSL_NXTCLU]),
: 120      0233 1 !
: 121      0234 1      LNK$GL_FVMLST, ! Initially empty free virtual memory list
: 122      0235 1      LNK$GL_IMGFI : REF BBLOCK, ! Pointer to the image file descriptor
: 123      0236 1      LNK$GL_MAPFI : REF BBLOCK, ! Pointer to map file descriptor
: 124      0237 1      LNK$GL_SYMFI : REF BBLOCK, ! Pointer to symbol table file descriptor
: 125      0238 1 !
: 126      0239 1      LNK$GT_IMGNA : VECTOR [LNK$K_MAX_FILENAME_LENGTH + 1, BYTE], ! Image name counted string
: 127      0240 1      LNK$GT_IMGID : VECTOR [SYM$C_MAX[ENG + 1, BYTE], ! Image ident counted string
: 128      0241 1      LNK$GW_MISECT : WORD INITIAL (LNK$K_ISDMAX), ! Maximum number of image sections
: 129      0242 1      LNK$GW_DZROMIN : WORD INITIAL (LNK$K_DZROMIN), ! Threshold on minimum size of empty
: 130      0243 1 ! regions before compressing
: 131      0244 1 !
: 132      0245 1      LNK$GB_PASS : BYTE ; ! Current pass
: 133      0246 1 !
: 134      0247 1 GLOBAL BIND
: 135      0248 1      LNK$GL_DEFBAS = LNK$GL_DEFCLU [CLUSL_BASE],
: 136      0249 1      LNK$GW_DEFLAG = LNK$GL_DEFCLU [CLUSW_FLAGS],
: 137      0250 1      LNK$GL_LASTCLU = LNK$GL_CLULST [1] ; ! Pointer to last cluster descriptor
: 138      0251 1
: 139      0252 0 END ELUDOM

```

```

.TITLE LNK_DATABASE
.IDENT \V04-000\

.PSECT $GLOBAL$,NOEXE,2

0000 LNK$GL_CTLMSK::
      .BLKB 4
0004 LNK$GL_SHRSYMS::
      .BLKB 4
0008 LNK$GL_SHRIMGs::
      .BLKB 4
00000000 0000C LNK$GL_CLUTREE::
      .LONG 0
00000000 00010 LNK$GL_CLULST::
      .LONG 0
00000000' 00014 .ADDRESS LNK$GL_CLULST
00000000 00018 LNK$GL_DEFCLU::
      .LONG 0, 0, 0
00000000' 00024 .ADDRESS LNK$GL_DEFCLU+8
00000000 00028 .LONG 0, 0, 0
00000000' 00034 .ADDRESS LNK$GL_DEFCLU+24
00000000 00038 .LONG 0, 0, 0, 0, 0, 0, 0, 0
00000000 00050
00000000' 00058 .ADDRESS LNK$GL_DEFCLU+60
00000000 0005C .LONG 0, 0, 0, 0, 0
0000 00070 .WORD 0
00 00072 .BYTE 0
00 00073 .BYTE 0
0F 00074 .BYTE 15
52 45 54 53 55 4C 43 5F 54 4C 55 41 46 45 44 00075 .ASCII \DEFAULT_CLUSTER\

```

```

00000000' 00084 .BLKB 28
           000A0 LNK$GL_CURCLU::
           .ADDRESS LNK$GL_DEFCLU
           000A4 LNK$GL_FVMLST::
           .BLKB 4
           000A8 LNK$GL_IMGFIL::
           .BLKB 4
           000AC LNK$GL_MAPFIL::
           .BLKB 4
           000B0 LNK$GL_SYMFIL::
           .BLKB 4
           000B4 LNK$GT_IMGNAM::
           .BLKB 40
           000DC LNK$GT_IMGID::
           .BLKB 32
005F 000FC LNK$GW_MISECTS::
           .WORD 95
0005 000FE LNK$GW_DZROMIN::
           .WORD 5
00100 LNK$GB_PASS::
           .BLKB 1

```

```

LNK$K_MAX_FILENAME_LENGTH==
39
LNK$K_DZROMIN==
5
LNK$K_ISDMAX==
95
DEF$C_LNKCTL==
1229827
LNK$GL_DEFBAS==
LNK$GL_DEFCLU+76
LNK$GW_DEFLAGS==
LNK$GL_DEFCLU+88
LNK$GL_LASTCLU==
LNK$GL_CLULST+4

```

PSECT SUMMARY

Name	Bytes	Attributes
\$GLOBALS	257	NOVEC, WRT, RD, NOEXE, NOSHR, LCL, REL, CON, NOPIC, ALIGN(2)
. ABS .	0	NOVEC, NOWRT, NORD, NOEXE, NOSHR, LCL, ABS, CON, NOPIC, ALIGN(0)

Library Statistics

file	Symbols		Pages Mapped	Processing Time
	Total	Loaded Percent		
\$_255\$DUA28:[SYSLIB]STARLET.L32;1	9776	6 0	581	00:01.1
\$_255\$DUA28:[LINKER.OBJ]DATBAS.L32;1	538	15 2	28	00:00.5

LNK_DATABASE
V04=000

8 2
15-Sep-1984 23:56:06
14-Sep-1984 12:40:28

VAX-11 Bliss-32 V4.0-742
[LINKER.SRC]LNKDATBAS.B32;1

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(2)

LNK
V04

COMMAND QUALIFIERS

BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LISS:LNKDATBAS/OBJ=OBJ\$:LNKDATBAS MSRCS:LNKDATBAS/UPDATE=(ENHS:LNKDATBAS)

: Size: 0 code + 257 data bytes
: Run Time: 00:04.4
: Elapsed Time: 00:14.1
: Lines/CPU Min: 3405
: Lexemes/CPU-Min: 12378
: Memory Used: 40 pages
: Compilation Complete

0216 AH-BT13A-SE
VAX/VMS V4.0

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