

FFFFFFFFFFF	111	111	XXX	XXX
FFFFFFFFFFF	111	111	XXX	XXX
FFFFFFFFFFF	111	111	XXX	XXX
FFF	111111	111111	XXX	XXX
FFF	111111	111111	XXX	XXX
FFF	111111	111111	XXX	XXX
FFF	111	111		
FFF	111	111	XXX	XXX
FFF	111	111	XXX	XXX
FFFFFFFFF,FFF	111	111		
FFFFFFFFFFFFF	111	111	XXX	
FFFFFFFFFFFFF	111	111	XXX	
FFF	111	111		
FFF	111	111	XXX	XXX
FFF	111	111	XXX	XXX
FFF	111	111	XXX	XXX
FFF	111	111		
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

Synt

 10C9
 10-C
 10-C
 10-C
 10-F
 10-S
 KICL

 KILL
 KILL
 LB_E
 LB_C
 LB_F
 LB_H
 LB_L
 LOCA
 LOCA
 LOCK

 LOCK
 LOCK
 LOCK
 LOC-
 LOC-
 L_CC
 L_CC
 L_DA
 L_DA
 MAIN
 MAKE
 MAKE
 MAKE
 MAKE
 MAKE
 MAKE

 MAKE
 MAKE
 MAP-
 MAP-

 MAP
 MAP
 MAP
 MAP
 MAP

```
GGGGGGGG  EEEEEEEEE  TTTTTTTTT  LL      000000  CCCCCCCC
GGGGGGGG  EEEEEEEEE  TTTTTTTTT  LL      000000  CCCCCCCC
GG      EE      TT      LL      00      00      CC
GG      EE      TT      LL      00      00      CC
GG      EE      TT      LL      00      00      CC
GG      EE      TT      LL      00      00      CC
GG      EEEEEEE  TT      LL      00      00      CC
GG      EEEEEEE  TT      LL      00      00      CC
GG      EEEEEEE  TT      LL      00      00      CC
GG      EEEEEEE  TT      LL      00      00      CC
GG      EEEEEEE  TT      LL      00      00      CC
GGGGGG  EEEEEEEEE  TT      LLLLLLLLL  000000  CCCCCCCC
GGGGGG  EEEEEEEEE  TT      LLLLLLLLL  000000  CCCCCCCC
      ....
      ....
      ....
      ....

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
LLLLLLLL  IIIIII  SSSSSSSS
LLLLLLLL  IIIIII  SSSSSSSS
```

```
1 0001 0 MODULE GETLOC (  
2 0002 0 LANGUAGE (BLISS32),  
3 0003 0 IDENT = 'V04-000'  
4 0004 0 ) =  
5 0005 1 BEGIN  
6 0006 1  
7 0007 1  
8 0008 1 *****  
9 0009 1 *  
10 0010 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY  
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26 0026 1 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.  
27 0027 1 *  
28 0028 1 *  
29 0029 1 *****  
30 0030 1  
31 0031 1 ++  
32 0032 1  
33 0033 1 FACILITY: F11ACP Structure Level 2  
34 0034 1  
35 0035 1 ABSTRACT:  
36 0036 1  
37 0037 1 This routine computes the desired placement LBN and RVN from the  
38 0038 1 placement control data supplied by the caller.  
39 0039 1  
40 0040 1 ENVIRONMENT:  
41 0041 1  
42 0042 1 STARLET operating system, including privileged system services  
43 0043 1 and internal exec routines.  
44 0044 1  
45 0045 1 --  
46 0046 1  
47 0047 1  
48 0048 1 AUTHOR: Andrew C. Goldstein, CREATION DATE: 11-Dec-1978 10:41  
49 0049 1  
50 0050 1 MODIFIED BY:  
51 0051 1  
52 0052 1 V03-001 CDS0001 Christian D. Saether 30-Dec-1983  
53 0053 1 Use L_NORM linkage and BIND_COMMON macro.  
54 0054 1  
55 0055 1 B0101 ACG0121 Andrew C. Goldstein, 16-Jan-1980 21:44  
56 0056 1 Make context save and restore into subroutines  
57 0057 1
```

GETLOC
V04-000

H 12
16-Sep-1984 00:33:02
14-Sep-1984 12:30:29

VAX-11 Bliss-32 V4.0-742
DISK\$VMSMASTER:[F11X.SRC]GETLOC.B32;1 Page (1)

```
: 58      0058 1 !**
: 59      0059 1
: 60      0060 1
: 61      0061 1 LIBRARY 'SYSS$LIBRARY:LIB.L32';
: 62      0062 1 REQUIRE 'SRC$:FCPDEF.B32';
```

```

64 1053 1 GLOBAL ROUTINE GET_LOC (FIB, LOCRVN, LOCLBN) : L_NORM NOVALUE =
65 1054 1
66 1055 1 !++
67 1056 1
68 1057 1 FUNCTIONAL DESCRIPTION:
69 1058 1
70 1059 1 This routine computes the desired placement LBN and RVN from the
71 1060 1 placement control data supplied by the caller.
72 1061 1
73 1062 1
74 1063 1 CALLING SEQUENCE:
75 1064 1 GET_LOC (ARG1, ARG2, ARG3)
76 1065 1
77 1066 1 INPUT PARAMETERS:
78 1067 1 ARG1: address of user FIB
79 1068 1
80 1069 1 IMPLICIT INPUTS:
81 1070 1 CURRENT_VCB: VCB of volume in process
82 1071 1 CURRENT_UCB: UCB of volume in process
83 1072 1
84 1073 1 OUTPUT PARAMETERS:
85 1074 1 ARG2: address to return placement RVN
86 1075 1 ARG3: address to return placement LBN
87 1076 1
88 1077 1 IMPLICIT OUTPUTS:
89 1078 1 NONE
90 1079 1
91 1080 1 ROUTINE VALUE:
92 1081 1 NONE
93 1082 1
94 1083 1 SIDE EFFECTS:
95 1084 1 volume context may be switched
96 1085 1
97 1086 1 --
98 1087 1
99 1088 2 BEGIN
100 1089 2
101 1090 2 MAP
102 1091 2 FIB : REF BBLOCK; ! user FIB arg
103 1092 2
104 1093 2 LITERAL
105 1094 2 MAX_CODE = MAXU (FIB$C_CYL, ! highest alignment code
106 1095 2 FIB$C_LBN,
107 1096 2 FIB$C_VBN,
108 1097 2 FIB$C_RFI);
109 1098 2
110 1099 2 LOCAL
111 1100 2 LBN, ! LBN resulting from map operation
112 1101 2 WINDOW : REF BBLOCK; ! window used to map related file
113 1102 2
114 1103 2 BIND_COMMON;
115 1104 2
116 1105 2 EXTERNAL ROUTINE
117 1106 2 SWITCH_VOLUME : L_NORM, ! switch context to specified volume
118 1107 2 SAVE_CONTEXT : L_NORM, ! save reentrant context area
119 1108 2 RESTORE_CONTEXT : L_NORM, ! restore reentrant context area
120 1109 2 OPEN_FILE : L_NORM, ! open file for internal use
```

```
121 1110 2      MAP_VBN      : L_NORM,      ! map virtual to logical block
122 1111 2      CLOSE_FILE  : L_NORM;      ! close internal file
123 1112 2
124 1113 2
125 1114 2      ! Case on the different alignment types, converting each to RVN and LBN.
126 1115 2      !
127 1116 2
128 1117 2      CASE .FIB[FIB$B_ALALIGN] FROM 0 TO MAX_CODE OF
129 1118 2      SET
130 1119 2
131 1120 2      [0]:      ! zero means no placement
132 1121 2      BEGIN
133 1122 2      .LOC RVN = 0;
134 1123 2      .LOC LBN = 0;
135 1124 2      END;
136 1125 2
137 1126 2      [FIB$C_CYL]:      ! cylinder number supplied
138 1127 2      BEGIN
139 1128 2      SWITCH VOLUME (.FIB[FIB$W_LOC_RVN]);
140 1129 2      .LOC LBN = .FIB[FIB$L_LOC_ADDR] *
141 1130 2      .CURRENT_UCB[UCB$B_SECTORS] *
142 1131 2      .CURRENT_UCB[UCB$B_TRACKS] /
143 1132 2      .CURRENT_VCB[VCB$B_BLOCKFACT];
144 1133 2      .LOC RVN = (IF .CURRENT_VCB[VCB$V_EXTFID]
145 1134 2      THEN .FIB[FIB$B_LOC_RVN]
146 1135 2      ELSE .FIB[FIB$W_LOC_RVN]
147 1136 2      );
148 1137 2      END;
149 1138 2
150 1139 2      [FIB$C_LBN]:      ! LBN supplied
151 1140 2      BEGIN
152 1141 2      .LOC LBN = .FIB[FIB$L_LOC_ADDR];
153 1142 2      .LOC RVN = (IF .CURRENT_VCB[VCB$V_EXTFID]
154 1143 2      THEN .FIB[FIB$B_LOC_RVN]
155 1144 2      ELSE .FIB[FIB$W_LOC_RVN]
156 1145 2      );
157 1146 2      END;
158 1147 2
159 1148 2      ! For both related file and VBN placement (the latter being being a special
160 1149 2      ! subset of the former), we open the specified file in secondary context and
161 1150 2      ! map the given VBN.
162 1151 2
163 1152 2
164 1153 2      [FIB$C_VBN, FIB$C_RFI]:
165 1154 2      BEGIN
166 1155 2      SAVE_CONTEXT ();
167 1156 2      CH$MOVE (FIB$C_LENGTH, FIB[FIB$W_FID], SECOND_FIB[FIB$W_FID]);
168 1157 2      IF .FIB[FIB$B_ALALIGN] EQL FIB$C_RFI
169 1158 2      AND (.FIB[FIB$W_LOC_NUM] NEQ 0
170 1159 2      OR .FIB[FIB$W_LOC_RVN] NEQ 0)
171 1160 2      THEN CH$MOVE (FIB$C_LENGTH, FIB[FIB$W_LOC_FID], SECOND_FIB[FIB$W_FID]);
172 1161 2
173 1162 2      WINDOW = OPEN_FILE (SECOND_FIB[FIB$W_FID], 2);
174 1163 2      LBN = MAP_VBN (.FIB[FIB$L_LOC_ADDR], .WINDOW);
175 1164 2      IF .LBN EQL -1
176 1165 2      THEN LBN = MAP_VBN (.B$BLOCK [.WINDOW[VCB$L_FCB], FCB$L_FILESIZE], .WINDOW);
177 1166 2
```

GETLOC
V04-000

K 12
16-Sep-1984 00:33:02
14-Sep-1984 12:30:29

VAX-11 Bliss-32 V4.0-742
DISK\$VMSMASTER:[F11X.SRC]GETLOC.B32;1 Page 5
(2)

```

: 178      1167      3      CLOSE FILE (.WINDOW);
: 179      1168      3      RESTORE_CONTEXT ();
: 180      1169      3
: 181      1170      3      .LOCLBN = .LBN + 1;
: 182      1171      3      .LOC RVN = .CURRENT_RVN;
: 183      1172      3
: 184      1173      3      END;
: 185      1174      3
: 186      1175      3      [OUTRANGE]:
: 187      1176      3      ERR_EXIT (SS$_BADPARAM);
: 188      1177      3
: 189      1178      3      TES;
: 190      1179      3
: 191      1180      1      END;
```

! convert -1 result to 0

! end of routine GET_LOC

```

0065      04      0044      0014      0000G      7E      26      A0      3C      00024      3$:
      56      0244      CA      9E      00000
      50      04      AC      D0      00007
      00      21      A0      8F      0000B
      000D      00010      1$:
      0065      00018
      14      BF      0001A
      08      BC      D4      0001C
      0C      BC      D4      0001D      2$:
      04      01      FB      00023
      26      A0      3C      00024      3$:
      04      AC      D0      00028
      94      AA      D0      0002D
      44      A0      9A      00031
      52      A1      52      C5      00035
      53      45      A0      9A      00039
      51      53      C4      00042
      50      98      AA      D0      00045
      52      52      A0      9A      00049
      51      52      C7      0004D
      0C      BC      05      11      00052
      0C      BC      28      A0      D0      00054      4$:
      50      04      AC      D0      00059      5$:
      51      98      AA      D0      0005D
      06      0B      A1      05      E1      00061
      50      26      A0      9A      00066
```

```

.TITLE GETLOC
.IDENT \V04-000\

.EXTRN SWITCH_VOLUME, SAVE_CONTEXT
.EXTRN RESTORE_CONTEXT
.EXTRN OPEN_FILE, MAP_VBN
.EXTRN CLOSE_FILE

.PSECT $CODE$,NOWRT,2

.ENTRY GET_LOC, Save R2,R3,R4,R5,R6
MOVAB 580(BASE), R6
MOVL FIB, R0
CASEB 33(R0), #0, #4
.WORD 2$-1$, -
      3$-1$, -
      4$-1$, -
      8$-1$, -
      8$-1$
CHMU #20
RET
CLRL @LOC RVN
CLRL @LOCLBN
RET
MOVZWL 38(R0), -(SP)
CALLS #1, SWITCH_VOLUME
MOVL FIB, R1
MOVL -108(BASE), R0
MOVZBL 68(R0), R2
MULL3 R2, 40(R1), R1
MOVZBL 69(R0), R3
MULL2 R3, R1
MOVL -104(BASE), R0
MOVZBL 82(R0), R2
DIVL3 R2, R1, @LOCLBN
BRB 5$
MOVL 40(R0), @LOCLBN
MOVL FIB, R0
MOVL -104(BASE), R1
BBC #5, 11(R1), 6$
MOVZBL 38(R0), R0
```

```

: 1053
: 1101
: 1117
:
: 1176
: 1122
: 1123
: 1117
: 1128
:
: 1129
: 1130
:
: 1131
: 1132
:
: 1134
: 1141
: 1143
: 1142
: 1143
```

GET
V04

			04	11	0006A	BRB	7\$		
		08	50	26	A0 3C 0006C	6\$: MOVZWL	38(R0), R0	:	1144
			BC		50 D0 00070	7\$: MOVL	R0, @LOCRVN	:	1142
		0000G	CF		04 00074	RET		:	1117
			50	04	00 FB 00075	8\$: CALLS	#0, SAVE_CONTEXT	:	1155
04	A6	04	A0		AC D0 0007A	MOVL	FIB, R0	:	1156
			50	04	06 28 0007E	MOVC3	#6, 4(R0), 4(R6)	:	
			04	21	AC D0 00084	MOVL	FIB, R0	:	1157
			04		A0 91 00088	CMPB	33(R0), #4	:	
				10	12 0008C	BNEQ	10\$	:	
				22	A0 B5 0008E	TSTW	34(R0)	:	1158
				05	12 00091	BNEQ	9\$	:	
				26	A0 B5 00093	TSTW	38(R0)	:	1159
				06	13 00096	BEQL	10\$	:	
04	A6	22	A0		06 28 00098	9\$: MOVC3	#6, 34(R0), 4(R6)	:	1160
				02	DD 0009E	10\$: PUSHL	#2	:	1162
		0000G	CF	04	A6 9F 000A0	PUSHAB	4(R6)	:	
			52		02 FB 000A3	CALLS	#2, OPEN_FILE	:	
				50	D0 000AB	MOVL	R0, WINDOW	:	
			50	04	DD 000AB	PUSHL	WINDOW	:	1163
				AC	D0 000AD	MOVL	FIB, R0	:	
			28	A0	DD 000B1	PUSHL	40(R0)	:	
		0000G	CF		02 FB 000B4	CALLS	#2, MAP_VBN	:	
			53		50 D0 000B9	MOVL	R0, LBN	:	
FFFFFFFF			8F		53 D1 000BC	CMPL	LBN, #-1	:	1164
				11	12 000C3	BNEQ	11\$	:	
				52	DD 000C5	PUSHL	WINDOW	:	1165
			50	18	A2 D0 000C7	MOVL	24(WINDOW), R0	:	
				38	A0 DD 000CB	PUSHL	56(R0)	:	
		0000G	CF		02 FB 000CE	CALLS	#2, MAP_VBN	:	
			53		50 D0 000D3	MOVL	R0, LBN	:	
				52	DD 000D6	11\$: PUSHL	WINDOW	:	1167
		0000G	CF		01 FB 000D8	CALLS	#1, CLOSE_FILE	:	
		0000G	CF		00 FB 000DD	CALLS	#0, RESTORE_CONTEXT	:	1168
		0C	BC	01	A3 9E 000E2	MOVAB	1(R3), @LOC[BN	:	1170
		08	BC	A0	AA D0 000E7	MOVL	-96(BASE), @LOCRVN	:	1171
					04 000EC	RET		:	1180

; Routine Size: 237 bytes, Routine Base: \$CODE\$ + 0000

: 192 1181 1
: 193 1182 1 END
: 194 1183 0 ELUDOM

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE\$	237	NOVEC, NOWRT, RD, EXE, NOSHR, LCL, REL, CON, NOPIC, ALIGN(2)

GETLOC
V04-000

M 12
16-Sep-1984 00:33:02
14-Sep-1984 12:30:29

VAX-11 Bliss-32 V4.0-742
DISK\$VMSMASTER:[F11X.SRC]GETLOC.B32;1 Page 7
(2)

Library Statistics

File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
_\$255\$DUA28:[SYSLIB]LIB.L32;1	18619	35	0	1000	00:01.9

COMMAND QUALIFIERS

BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS\$:GETLOC/OBJ=OBJ\$:GETLOC MSRC\$:GETLOC/UPDATE=(ENH\$:GETLOC)

: Size: 237 code + 0 data bytes
: Run Time: 00:17.6
: Elapsed Time: 00:33.7
: Lines/CPU Min: 4042
: Lexemes/CPU-Min: 50265
: Memory Used: 224 pages
: Compilation Complete

0170

AH-BT13A-SE
VAX/VMS V4.0

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