

```
FFFFFFFFFFFFFFFF 111 111 XXX XXX
FFFFFFFFFFFFFFFF 111 111 XXX XXX
FFFFFFFFFFFFFFFF 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
FFFFFFFFFFFFFF 111 111 XXX XXX
FFFFFFFFFFFFFF 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 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
```

Symb

IOCL
IO_C
IO_C
IO_C
IO_F
IO_S
KICL

KILL
KILL
LB_E
LB_C
LB_F
LB_L
LOCAL
LOCK

LOCK
LOCK
LOCK

LOC
LOC
L_CC

L_CC
L_DA
L_DA

MAIA
MAKE
MAKE
MAKE
MAKE

MAKE
MAKE
MAP
MAP

MAP
MAR
MAR
MAR
MAR

```

PPPPPPPP      AAAAAA      RRRRRRRR      SSSSSSSS      NN      NN      MM      MM
PPPPPPPP      AAAAAA      RRRRRRRR      SSSSSSSS      NN      NN      MM      MM
PP      PP      AA      AA      RR      RR      SS      NN      NN      MMMM      MMMM
PP      PP      AA      AA      RR      RR      SS      NNNN      NN      MM      MM
PP      PP      AA      AA      RR      RR      SS      NNNN      NN      MM      MM
PPPPPPPP      AA      AA      RRRRRRRR      SSSSSS      NN      NN      NN      MM      MM
PPPPPPPP      AA      AA      RRRRRRRR      SSSSSS      NN      NN      NN      MM      MM
PP      AAAAAAAAAA      RR      RR      SS      NN      NNNN      MM      MM
PP      AAAAAAAAAA      RR      RR      SS      NN      NNNN      MM      MM
PP      AA      AA      RR      RR      SS      NN      NN      MM      MM
PP      AA      AA      RR      RR      SS      NN      NN      MM      MM
PP      AA      AA      RR      RR      SSSSSSSS      NN      NN      MM      MM
PP      AA      AA      RR      RR      SSSSSSSS      NN      NN      MM      MM

```

```

. . . .
. . . .
. . . .
. . . .

```

```

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

```

.....

```

1 0001 0 MODULE PARSNM (
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
11 0011 1 *  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.
12 0012 1 *  ALL RIGHTS RESERVED.
13 0013 1 *
14 0014 1 *  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED
15 0015 1 *  ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE
16 0016 1 *  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER
17 0017 1 *  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY
18 0018 1 *  OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY
19 0019 1 *  TRANSFERRED.
20 0020 1 *
21 0021 1 *  THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE
22 0022 1 *  AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT
23 0023 1 *  CORPORATION.
24 0024 1 *
25 0025 1 *  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
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 parses a file name string.
38 0038 1
39 0039 1 ENVIRONMENT:
40 0040 1
41 0041 1     STARLET operating system, including privileged system services
42 0042 1     and internal exec routines.
43 0043 1
44 0044 1 --
45 0045 1
46 0046 1
47 0047 1 AUTHOR: Andrew C. Goldstein, CREATION DATE: 3-Jan-1978 18:30
48 0048 1
49 0049 1 MODIFIED BY:
50 0050 1
51 0051 1     V03-003 CDS0002      Christian D. Saether      2-Jan-1984
52 0052 1     Force longword addressing on FIL$CVT_DTB.
53 0053 1
54 0054 1     V03-002 CDS0001      Christian D. Saether      6-Dec-1983
55 0055 1     Change LIB$ references to FIL$.
56 0056 1
57 0057 1     V03-001 ACG0302      Andrew C. Goldstein,    3-Dec-1982 11:19

```

```
.. 58      0058 1 |      Add support for long file names and $ and _
.. 59      0059 1 |
.. 60      0060 1 |      V02-002 ACG0208      Andrew C. Goldstein,      31-Oct-1981  0:01
.. 61      0061 1 |      Allow negative version numbers; interface change for
.. 62      0062 1 |      string buffer
.. 63      0063 1 |
.. 64      0064 1 |      V02-001 ACG0167      Andrew C. Goldstein,      16-Apr-1980  19:27
.. 65      0065 1 |      Previous revision history moved to f11B.REV
.. 66      0066 1 |      **
.. 67      0067 1 |
.. 68      0068 1 |
.. 69      0069 1 |      LIBRARY 'SYS$LIBRARY:LIB.L32';
.. 70      0070 1 |      REQUIRE 'SRC$:FCPDEF.B32';
```

```

72 1061 1 GLOBAL ROUTINE PARSE_NAME (NAME_DESC, NAME_BUFFER, COUNT, STRING, FLAGS) : NOVALUE =
73 1062 1
74 1063 1  +-+
75 1064 1
76 1065 1  FUNCTIONAL DESCRIPTION:
77 1066 1
78 1067 1      This routine parses a file name string.
79 1068 1
80 1069 1
81 1070 1  CALLING SEQUENCE:
82 1071 1      PARSE_NAME (ARG1, ARG2, ARG3, ARG4, ARG5)
83 1072 1
84 1073 1  INPUT PARAMETERS:
85 1074 1      ARG3: character count of name string
86 1075 1      ARG4: address of name string
87 1076 1      ARG5: name control flag bits
88 1077 1
89 1078 1  IMPLICIT INPUTS:
90 1079 1      NONE
91 1080 1
92 1081 1  OUTPUT PARAMETERS:
93 1082 1      ARG1: address of name descriptor block
94 1083 1      ARG2: address of name string buffer to use
95 1084 1
96 1085 1  IMPLICIT OUTPUTS:
97 1086 1      NONE
98 1087 1
99 1088 1  ROUTINE VALUE:
100 1089 1      NONE
101 1090 1
102 1091 1  SIDE EFFECTS:
103 1092 1      NONE
104 1093 1
105 1094 1  --
106 1095 1
107 1096 2 BEGIN
108 1097 2
109 1098 2 MAP
110 1099 2     NAME_DESC      : REF BBLOCK,      ! name descriptor block arg
111 1100 2     NAME_BUFFER  : REF VECTOR [,BYTE]; ! name string buffer arg
112 1101 2
113 1102 2 LOCAL
114 1103 2     DP              : REF BBLOCK,      ! local pointer to descriptor
115 1104 2     WILD_BIT,        :                  ! copy of wild name and type bit
116 1105 2     J              :                  ! character counter
117 1106 2     P1,            :                  ! pointer to scan string
118 1107 2     P2,            :                  ! pointer to build output string
119 1108 2     C              : BYTE,            ! character in process
120 1109 2     CCOUNT,       :                  ! number of significant chars in string
121 1110 2     DOT_COUNT,    :                  ! count of "." encountered
122 1111 2     NEG,           :                  ! flag indicating negative version
123 1112 2
124 1113 2 EXTERNAL ROUTINE
125 1114 2     FIL$CVT_DTB     : ADDRESSING_MODE (GENERAL); ! convert decimal to binary
126 1115 2
127 1116 2
128 1117 2 ! Load a local pointer to the name descriptor block. Once the compiler

```

```

1118 2 | learns how to address structures through formals, this code can be removed.
1119 2 |
1120 2 |
1121 2 | DP = .NAME_DESC;
1122 2 |
1123 2 | Iterate on the characters, copying alphanumerics in upper case.
1124 2 | If a wild card is present if name or type, we leave that field null.
1125 2 | Dots and semicolons delimit the name and type strings; once two have been
1126 2 | seen, get the version number. Note that a semicolon seen without a dot is
1127 2 | processed twice to produce a null type field. We stuff dots at the end
1128 2 | if necessary to get the descriptors completed.
1129 2 |
1130 2 |
1131 2 | CH$FILL (0, FND_LENGTH, .DP);
1132 2 | DP[FND_FLAGS] = .FLAGS AND NOT $FIELDMASK (FIBSV_WILD);
1133 2 | WILD_BIT = .DP[FND_WILD_NAME];
1134 2 | J = .COUNT;
1135 2 | P1 = .STRING;
1136 2 | P2 = .NAME_BUFFER;
1137 2 | CCOUNT = 0;
1138 2 | DOT_COUNT = 0;
1139 2 | DP[FND_STRING] = .P2;
1140 2 |
1141 2 | WHILE 1 DO
1142 2 | BEGIN
1143 2 | IF (J = .J - 1) GEQ 0
1144 2 | THEN
1145 2 | C = CH$RCHAR_A (P1)
1146 2 | ELSE
1147 2 | BEGIN
1148 2 | C = '.';
1149 2 | J = .J + 1;
1150 2 | END;
1151 2 |
1152 2 | IF .P2 = .NAME_BUFFER GTRU FILENAME_LENGTH
1153 2 | THEN ERR_EXIT (SS$BADFILENAME);
1154 2 |
1155 2 | SELECTONEU .C OF
1156 2 | SET
1157 2 |
1158 2 | ['A' TO 'Z', '0' TO '9', '$', '_']:
1159 2 | BEGIN
1160 2 | CCOUNT = .CCOUNT + 1;
1161 2 | IF NOT .WILD_BIT
1162 2 | THEN CH$WCHAR_A (.C, P2);
1163 2 | END;
1164 2 |
1165 2 | ['a' TO 'z']:
1166 2 | BEGIN
1167 2 | C = .C AND NOT %X'20';
1168 2 | CCOUNT = .CCOUNT + 1;
1169 2 | IF NOT .WILD_BIT
1170 2 | THEN CH$WCHAR_A (.C, P2);
1171 2 | END;
1172 2 |
1173 2 | ['.', ';']:
1174 2 | BEGIN
1175 2 |
1176 2 |
1177 2 |
1178 2 |
1179 2 |
1180 2 |
1181 2 |
1182 2 |
1183 2 |
1184 2 |
1185 2 |

```

```

186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242

```

```

1175 4
1176 4
1177 4
1178 4
1179 5
1180 5
1181 5
1182 6
1183 6
1184 6
1186 5
1187 5
1188 6
1189 6
1190 6
1191 5
1192 5
1193 5
1194 5
1195 5
1196 5
1197 5
1198 4
1199 5
1200 5
1201 5
1202 6
1203 6
1204 6
1205 5
1206 5
1207 4
1208 3
1209 3
1210 4
1211 4
1212 4
1213 4
1214 4
1215 3
1216 3
1217 4
1218 4
1219 4
1220 4
1221 4
1222 3
1223 3
1224 3
1225 3
1226 3
1227 3
1228 3
1229 3
1230 2
1231 2

IF .CCOUNT GTRU 39
THEN ERR_EXIT (SS$_BADFILENAME);
IF NOT .DOT_COUNT
THEN
  BEGIN
    IF .WILD_BIT
    THEN
      BEGIN
        DP[FND_WILD] = 1;
        CH$WCHAR_A ('*', P2);
      END;
    IF .C EQL ':'
    THEN
      BEGIN
        P1 = .P1 - 1;
        J = .J + 1;
      END;
    CH$WCHAR_A ('.', P2);
    WILD_BIT = .DP[FND_WILD_TYPE];
    CCOUNT = 0;
    DOT_COUNT = .DOT_COUNT + 1;
  END
ELSE
  BEGIN
    IF .WILD_BIT
    THEN
      BEGIN
        DP[FND_WILD] = 1;
        CH$WCHAR_A ('*', P2);
      END;
    EXITLOOP;
  END;
END;

['X']: BEGIN
DP[FND_WILD] = 1;
CCOUNT = .CCOUNT + 1;
IF NOT .WILD_BIT
THEN CH$WCHAR_A (.C, P2);
END;

['*']: BEGIN
DP[FND_WILD] = 1;
IF CH$RCHAR (.P1-2) NEQ '*'
AND NOT .WILD_BIT
THEN CH$WCHAR_A (.C, P2);
END;

[OTHERWISE]:
ERR_EXIT (SS$_BADFILENAME);

YES;

END; ! end of character loop

```

```

243 1232 2 Record the length of the generated string. Then convert and check the
244 1233 2 version number.
245 1234 2
246 1235 2
247 1236 2 DP[FND_COUNT] = .P2 - .DP[FND_STRING];
248 1237 2 IF .J EQL 1
249 1238 2 AND CHSRCHAR (.P1) EQL '*'
250 1239 2 THEN DP[FND_WILD_VER] = 1;
251 1240 2
252 1241 2 NEG = 0;
253 1242 2 IF NOT .DP[FND_WILD_VER]
254 1243 2 THEN
255 1244 2 BEGIN
256 1245 2 IF .J GTR 0
257 1246 2 AND CHSRCHAR (.P1) EQL '-'
258 1247 2 THEN
259 1248 2 BEGIN
260 1249 2 NEG = 1;
261 1250 2 J = .J - 1;
262 1251 2 P1 = .P1 + 1;
263 1252 2 END;
264 1253 2 IF NOT FIL$CVT_DTB (.J, .P1, DP[FND_VERSION])
265 1254 2 THEN ERR_EXIT (SS$_BADFILEVER);
266 1255 2 END;
267 1256 2
268 1257 2 IF (.DP[FND_VERSION]) < 0, 32 > GTRU 32768
269 1258 2 THEN ERR_EXIT (SS$_BADFILEVER);
270 1259 2
271 1260 2 IF .NEG
272 1261 2 THEN
273 1262 2 BEGIN
274 1263 2 DP[FND_VERSION] = -.DP[FND_VERSION];
275 1264 2 IF .DP[FND_VERSION] EQL 0
276 1265 2 THEN DP[FND_VERSION] = -32768;
277 1266 2 END;
278 1267 2
279 1268 1 END;

```

! end of routine PARSE_NAME

						.TITLE	PARSNM		
						.IDENT	\V04-000\		
						.EXTRN	FIL\$CVT_DTB		
						.PSECT	\$CODE\$,NOWRT,2		
						.ENTRY	PARSE_NAME, Save R2,R3,R4,R5,R6,R7,R8	:	1061
10	00	56	04	AC	DO	MOV _L	NAME_DESC, DP	:	1121
		6E		00	2C	MOV _C	#0, (SP), #0, #16, (DP)	:	1131
				66				:	
	66	14	AC	0100	8F	BIC _W	#256, FLAGS, (DP)	:	1132
54	66				05	EXT _{ZV}	#5, #1, (DP), WILD_BIT	:	1133
					57	MOV _L	COUNT, J	:	1134
					55	MOV _L	STRING, P1	:	1135
					50	MOV _L	NAME_BUFFER, P2	:	1136
					53	CL _R	CCOUNT	:	1137
					58	CL _R	DOT_COUNT	:	1138

08	A6	50	D0	00028	MOV	P2, 8(DP)	1139
		57	D7	0002C	DECL	J	1143
		05	19	0002E	BLSS	2\$	
	51	85	90	00030	MOVB	(P1)+, C	1145
		05	11	00033	BRB	3\$	
	51	2E	90	00035	MOV	#46, C	1148
		57	D6	00038	INCL	J	1149
52	00000050	50	AC	00J3A	SUBL3	NAME BUFFER, P2, R2	1152
		8F	52	D1	0003F	CMPL	R2, #80
			3F	1A	00046	BGTRU	8\$
	24	51	91	00048	CMPB	C, #36	1158
		75	13	0004B	BEQL	13\$	
	30	51	91	0004D	CMPB	C, #48	
		05	1F	00050	BLSSU	4\$	
	39	51	91	00052	CMPB	C, #57	
		6B	1B	00055	BLEQU	13\$	
	41	8F	51	91	00057	CMPB	C, #65
			06	1F	0005B	BLSSU	5\$
	5A	8F	51	91	0005D	CMPB	C, #90
			5F	1B	00061	BLEQU	13\$
	5F	8F	51	91	00063	CMPB	C, #95
			59	13	00067	BEQL	13\$
	61	8F	51	91	00069	CMPB	C, #97
			0B	1F	0006D	BLSSU	6\$
	7A	8F	51	91	0006F	CMPB	C, #122
			05	1A	00073	BGTRU	6\$
	51		20	8A	00075	BICB2	#32, C
			48	11	00078	BRB	13\$
	2E		51	91	0007A	CMPB	C, #46
			05	13	0007D	BEQL	7\$
	3B		51	91	0007F	CMPB	C, #59
			35	12	00082	BNEQ	12\$
	27		53	D1	00084	CMPL	CCOUNT, #39
			55	1A	00087	BGTRU	17\$
	21		58	E8	00089	BLBS	DOT_COUNT, 11\$
	07		54	E9	0008C	BLBC	WILD_BIT, 9\$
	01	A6	01	88	0008F	BISB2	#1, T(DP)
		80	2A	90	00093	MOVB	#42, (P2)+
		3B	51	91	00096	CMPB	C, #59
			04	12	00099	BNEQ	10\$
			55	D7	0009B	DECL	P1
			57	D6	0009D	INCL	J
	80		2E	90	0009F	MOVB	#46, (P2)+
54	66	01	04	EF	000A2	EXTZV	#4, #1, (DP), WILD_BIT
			53	D4	000A7	CLRL	CCOUNT
			58	D6	000A9	INCL	DOT_COUNT
			2E	11	000AB	BRB	16\$
	33		54	E9	000AD	BLBC	WILD_BIT, 18\$
	01	A6	01	88	000B0	BISB2	#1, T(DP)
		80	2A	90	000B4	MOVB	#42, (P2)+
			2A	11	000B7	BRB	18\$
	25		51	91	000B9	CMPB	C, #37
			08	12	000BC	BNEQ	14\$
	01	A6	01	88	000BE	BISB2	#1, 1(DP)
			53	D6	000C2	INCL	CCOUNT
			0F	11	000C4	BRB	15\$
	2A		51	91	000C6	CMPB	C, #42

01	A6		13	12	000C9		BNEQ	17\$		
	2A	FE	01	88	000CB		BISB2	#1, 1(DP)		1218
			A5	91	000CF		CMPB	-2(P1), #42		1219
	03		06	13	000D3		BEQL	16\$		
	80		54	E8	000D5	15\$:	BLBS	WILD BIT, 16\$		1220
			51	90	000D8		MOVB	C (P2)+		1221
			FF4E	31	000DB	16\$:	BRW	1\$		1155
		0818	8F	BF	000DE	17\$:	CHMU	#2072		1226
				04	000E2		RET			
04	A6		50	A6	C3	000E3	18\$:	SUBL3	8(DP), P2, 4(DP)	1236
			01	57	G1	000E9		CMP	J, #1	1237
				08	12	000EC		BNEQ	19\$	
	2A			65	91	000EE		CMPB	(P1), #42	1238
				03	12	000F1		BNEQ	19\$	
	66			08	88	000F3		BISB2	#8, (DP)	1239
				53	D4	000F6	19\$:	CLRL	NEG	1241
	21			03	E0	000F8		BBS	#3, (DP), 21\$	1242
				57	D5	000FC		TSTL	J	1245
				0C	15	000FE		BLEQ	20\$	
	2D			65	91	00100		CMPB	(P1), #45	1246
				07	12	00103		BNEQ	20\$	
				53	01	D0	00105	MOVL	#1, NEG	1249
				57	D7	00108		DECL	J	1250
				55	D6	0010A		INCL	P1	1251
				0C	A6	9F	0010C	20\$:	PUSHAB	12(DP)
				55	DD	0010F		PUSHL	P1	1253
				57	DD	00111		PUSHL	J	
	00000000G	00		03	FB	00113		CALLS	#3, FIL\$CVT_DTB	
		0A		50	E9	0011A		BLBC	R0, 22\$	
	00008000	8F		0C	A6	D1	0011D	21\$:	CMP	12(DP), #32768
				05	1B	00125		BLEQU	23\$	
				0820	8F	BF	00127	22\$:	CHMU	#2080
						04	0012B		RET	
				53	E9	0012C	23\$:	BLBC	NEG, 24\$	1260
	0C	A6		0C	A6	AE	0012F		MNEGW	12(DP), 12(DP)
				06	12	00134		BNEQ	24\$	1264
	0C	A6		8000	8F	B0	00136		MOVW	#-32768, 12(DP)
					04	0013C	24\$:	RET		1268

: Routine Size: 317 bytes, Routine Base: \$CODE\$ + 0000

: 280 1269 1
: 281 1270 1 END
: 282 1271 0 ELUDOM

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE\$	317	NOVEC,NOWRT, RD, EXE,NOSHR, LCL, REL, CON,NOPI,ALIGN(2)

Library Statistics

File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
_\$255\$DUA28:[SYSLIB]LIB.L32;1	18619	20	0	1000	00:01.9

COMMAND QUALIFIERS

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

: Size: 317 code + 0 data bytes
: Run Time: 00:13.8
: Elapsed Time: 00:34.4
: Lines/CPU Min: 5522
: Lexemes/CPU-Min: 23539
: Memory Used: 216 pages
: Compilation Complete

0171 AH-BT13A-SE
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION
CONFIDENTIAL AND PROPRIETARY

