


```

PPPPPPPP      AAAAAA      SSSSSSSS      IIIIII      000000      HH      HH      AAAAAA      NN      NN      DDDDDDDD
PPPPPPPP      AAAAAA      SSSSSSSS      IIIIII      000000      HH      HH      AAAAAA      NN      NN      DDDDDDDD
PP      PP      AA      AA      SS      II      00      00      HH      HH      AA      AA      NN      NN      DD      DD
PP      PP      AA      AA      SS      II      00      00      HH      HH      AA      AA      NN      NN      DD      DD
PP      PP      AA      AA      SS      II      00      00      HH      HH      AA      AA      NNNN      NN      DD      DD
PP      PP      AA      AA      SS      II      00      00      HH      HH      AA      AA      NNNN      NN      DD      DD
PPPPPPPP      AA      AA      SSSSSS      II      00      00      HHHHHHHHHH      AA      AA      NN      NN      DD      DD
PPPPPPPP      AA      AA      SSSSSS      II      00      00      HHHHHHHHHH      AA      AA      NN      NN      DD      DD
PP      AAAAAAAAAA      SS      II      00      00      HH      HH      AAAAAAAAAA      NN      NNNN      DD      DD
PP      AAAAAAAAAA      SS      II      00      00      HH      HH      AAAAAAAAAA      NN      NNNN      DD      DD
PP      AA      AA      SS      II      00      00      HH      HH      AA      AA      NN      NN      DD      DD
PP      AA      AA      SS      II      00      00      HH      HH      AA      AA      NN      NN      DD      DD
PP      AA      AA      SSSSSSSS      IIIIII      000000      HH      HH      AA      AA      NN      NN      DDDDDDDD
PP      AA      AA      SSSSSSSS      IIIIII      000000      HH      HH      AA      AA      NN      NN      DDDDDDDD

```

```

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      IIIIII      SSSSSSSS
LLLLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLLLL      IIIIII      SSSSSSSS

```

```

1 0001 0 MODULE PASSIO_HANDLER ( %TITLE 'I/O Error Handler'
2 0002 0 IDENT = '1-003' ! File: PASIOHAND.B32 Edit: SBL1003
3 0003 0 ) =
4 0004 1 BEGIN
5 0005 1
6 0006 1 *****
7 0007 1 *
8 0008 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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26 0026 1 *
27 0027 1 *****
28 0028 1
29 0029 1
30 0030 1 **
31 0031 1 FACILITY: Pascal Language Support
32 0032 1
33 0033 1 ABSTRACT:
34 0034 1
35 0035 1 This module contains PASSIO_HANDLER, the condition handler established
36 0036 1 by all Pascal I/O procedures.
37 0037 1
38 0038 1 ENVIRONMENT: User mode - AST reentrant
39 0039 1
40 0040 1 AUTHOR: Steven B. Lionel, CREATION DATE: 1-April-1981
41 0041 1
42 0042 1 MODIFIED BY:
43 0043 1
44 0044 1 1-001 - Original. SBL 1-April-1981
45 0045 1 1-002 - If a zero-level access violation occurs while in PASSVALIDATE_PFV,
46 0046 1 convert the message to PASS_INVFILVAR. SBL 14-July-1982
47 0047 1 1-003 - Check for PASS_CONTINUE regardless of whether ERROR:=CONTINUE
48 0048 1 was specified. SBL 29-Oct-1982
49 0049 1 --
50 0050 1

```

```
52 0051 1 %SBTTL 'Declarations'
53 0052 1
54 0053 1 : PROLOGUE DEFINITIONS:
55 0054 1 :
56 0055 1
57 0056 1 REQUIRE 'RTLIN:PA$PROLOG':           ! Externals, linkages, PSECTs, structures
58 0120 1
59 0121 1 :
60 0122 1 : TABLE OF CONTENTS:
61 0123 1 :
62 0124 1
63 0125 1 FORWARD ROUTINE
64 0126 1 PASS$IO_HANDLER;                   ! I/O error handler
65 0127 1
66 0128 1 :
67 0129 1 : MACROS:
68 0130 1 :
69 0131 1 : NONE
70 0132 1 :
71 0133 1 : EQUATED SYMBOLS:
72 0134 1 :
73 0135 1 : NONE
74 0136 1 :
75 0137 1 : FIELDS:
76 0138 1 :
77 0139 1 : NONE
78 0140 1 :
79 0141 1 : OWN STORAGE:
80 0142 1 :
81 0143 1 : NONE
```

```
83 0144 1 %SBTTL 'PASS$IO_HANDLER - I/O Error handler'
84 0145 1 GLOBAL ROUTINE PASS$IO_HANDLER (      : I/O error handler
85 0146 1     SIGNAL_ARGS: REF BLOCK [, BYTE],    : Signal arguments array
86 0147 1     MECH_ARGS: REF BLOCK [, BYTE],    : Mechanism arguments array
87 0148 1     ENAB[E_ARGS: REF VECTOR [, LONG]  : Enable arguments array
88 0149 1 ) =
89 0150 1
90 0151 1 ++
91 0152 1 FUNCTIONAL DESCRIPTION:
92 0153 1
93 0154 1     This is the condition handler enabled by all VAX-11 Pascal I/O
94 0155 1     procedures. It implements the ERROR:=CONTINUE specifier by
95 0156 1     unwinding to the address specified in the enable argument ERROR_ADDR.
96 0157 1
97 0158 1     Upon an unwind, if the file is not fully opened, it is closed. The
98 0159 1     file is unlocked on unwind.
99 0160 1
100 0161 1 CALLING SEQUENCE:
101 0162 1
102 0163 1     status.wlc.v = PASS$IO_HANDLER (SIGNAL_ARGS.rl.ra, MECH_ARGS.rl.ra
103 0164 1     , ENAB[E_ARGS.rl.ra)
104 0165 1
105 0166 1 FORMAL PARAMETERS:
106 0167 1
107 0168 1     SIGNAL_ARGS - The signal argument list.
108 0169 1
109 0170 1     MECH_ARGS - The mechanism argument list.
110 0171 1
111 0172 1     ENABLE_ARGS - An array with the following
112 0173 1     format:
113 0174 1
114 0175 1     +-----+
115 0176 1     | ENB_COUNT | <-- ENABLE_ARGS
116 0177 1     +-----+
117 0178 1     | ENB_PFV_ADDR |
118 0179 1     +-----+
119 0180 1     | ENB_UNWIND_ACT |
120 0181 1     +-----+
121 0182 1     | ENB_ERROR_ADDR |
122 0183 1     +-----+
123 0184 1
124 0185 1     ENB_COUNT is the count of following enable arguments.
125 0186 1     The count is always at least 2.
126 0187 1
127 0188 1     ENB_PFV_ADDR - If non-zero, the address of a longword
128 0189 1     containing the PFV our establisher is operating on.
129 0190 1
130 0191 1     ENB_UNWIND_ACT - Specifies the action
131 0192 1     to take on an unwind. The values are:
132 0193 1     PASSK_UNWIND_NOP - Do nothing
133 0194 1     PASSK_UNWIND_UNLOCK - Unlock PFV
134 0195 1
135 0196 1     ENB_ERROR_ADDR - If present and non-zero, the address
136 0197 1     of a longword containing the PC of an instruction to
137 0198 1     unwind to. This is present if the user specified
138 0199 1     Error:=Continue in the I/O statement.
139 0200 1
```

```

140 0201 1 | IMPLICIT INPUTS:
141 0202 1 |
142 0203 1 |     The signaller's PFV placed as the first FAO argument in the primary
143 0204 1 |     signalled message.
144 0205 1 |
145 0206 1 | IMPLICIT OUTPUTS:
146 0207 1 |
147 0208 1 |     May clear PFV$V_LOCK upon unwind.
148 0209 1 |
149 0210 1 | ROUTINE VALUE:
150 0211 1 |
151 0212 1 |     SSS_RESIGNAL
152 0213 1 |
153 0214 1 | SIDE EFFECTS:
154 0215 1 |
155 0216 1 |     May cause an unwind.
156 0217 1 |
157 0218 1 |     If a zero-level access violation occurs while in PASS$VALIDATE_PFV,
158 0219 1 |     the signal is converted to PASS_INVFILVAR.
159 0220 1 |
160 0221 1 | --
161 0222 1 |
162 0223 2 | BEGIN
163 0224 2 |
164 0225 2 | LITERAL
165 0226 2 |     ENB_COUNT = 0,           ! Count of enable arguments
166 0227 2 |     ENB_PFV_ADDR = 1,      ! Address of address of PFV
167 0228 2 |     ENB_UNWIND_ACT = 2,    ! Address of unwind action
168 0229 2 |     ENB_ERROR_ADDR = 3;    ! Address of address of unwind PC
169 0230 2 |
170 0231 2 | BUILTIN
171 0232 2 |     ACTUALCOUNT;
172 0233 2 |
173 0234 2 | !+
174 0235 2 | ! Determine if this is an unwind.
175 0236 2 | !-
176 0237 2 |
177 0238 2 | IF .SIGNAL_ARGS [CHF$L_SIG_NAME] EQLU SSS_UNWIND
178 0239 2 | THEN
179 0240 3 |     BEGIN
180 0241 3 |     IF ..ENABLE_ARGS [ENB_UNWIND_ACT] NEQ PASS$K_UNWIND_NOP
181 0242 3 |     THEN
182 0243 4 |         BEGIN
183 0244 4 |
184 0245 4 |         !+
185 0246 4 |         ! Get our establisher's PFV.
186 0247 4 |         !-
187 0248 4 |
188 0249 4 |         LOCAL
189 0250 4 |         PFV: REF $PASS$PFV FILE VARIABLE;
190 0251 4 |         PFV = ..ENABLE_ARGS [ENB_PFV_ADDR]; ! Get PFV address
191 0252 4 |
192 0253 4 |         PFV [PFV$V_LOCK] = 0;           ! Unlock rfv
193 0254 3 |         END;
194 0255 3 |     END
195 0256 3 |
196 0257 2 | ELSE

```

```

197      0258      2
198      0259      3
199      0260      3
200      0261      3
201      0262      3
202      0263      3
203      0264      3
204      0265      3
205      0266      3
206      0267      3
207      0268      3
208      0269      3
209      0270      3
210      0271      3
211      0272      3
212      0273      3
213      0274      3
214      0275      3
215      0276      4
216      0277      3
217      0278      3
218      0279      3
219      0280      3
220      0281      3
221      0282      4
222      0283      3
223      0284      4
224      0285      4
225      0286      4
226      0287      4
227      0288      4
228      0289      3
229      0290      3
230      0291      3
231      0292      3
232      0293      3
233      0294      3
234      0295      3
235      0296      3
236      0297      3
237      0298      3
238      0299      3
239      0300      3
240      0301      3
241      0302      3
242      0303      3
243      0304      3
244      0305      3
245      0306      3
246      0307      4
247      0308      4
248      0309      4
249      0310      4
250      0311      4
251      0312      4
252      0313      4
253      0314      4

BEGIN
LOCAL
COND_NAME: BLOCK [4, BYTE]; ! Primary condition name
!+
! Get primary condition name.
!-
COND_NAME = .SIGNAL_ARGS [CHF$L_SIG_NAME];
!+
! If this is a zero-level access violation, and if the PC is inside
! PASS$VALIDATE_PFV, we assume that we have been passed an invalid
! file variable. Convert the signal to PASS_INVFILVAR.
!-
IF (.COND_NAME EQLU SSS_ACCVIO) AND (.MECH_ARGS [CHF$L_MCH_DEPTH] EQL 0)
THEN
!+
! Compare PC against range for PASS$VALIDATE_PFV.
!-
IF (.SIGNAL_ARGS [16,0,32,0] GEQA PASS$VALIDATE_PFV) AND
(.SIGNAL_ARGS [16,0,32,0] LSSA PASS$VALIDATE_PFV_END)
THEN
BEGIN
SIGNAL_ARGS [CHF$L_SIG_NAME] = PASS_INVFILVAR;
SIGNAL_ARGS [8,0,32,0] = 1; ! FAO count
SIGNAL_ARGS [12,0,32,0] = .ENABLE_ARGS [ENB_PFV_ADDR];
COND_NAME = .SIGNAL_ARGS [CHF$L_SIG_NAME];
END;
!+
! Is this a PASS$ error? If not, resignal.
!-
IF .COND_NAME [STSS$V_FAC_NO] NEQU PASS_FACILITY
THEN
RETURN SSS_RESIGNAL;
!+
! See if the PFVs match. The signaller's PFV is the
! first FAO parameter in the primary message. If so, then
! continue with Pascal-specific processing.
!-
IF .SIGNAL_ARGS [12,0,32,0] EQLA ..ENABLE_ARGS [ENB_PFV_ADDR]
THEN
BEGIN
!+
! Check to see if the current exception code is PASS$CONTINUE.
! This is generated by PASS$SIGNAL if a user condition handler
! continued from the signal. If so, do a default unwind to
! the caller of our establisher.
!-

```

```

254 0315 4
255 0316 4      IF .COND_NAME EQLU PASS_CONTINUE
256 0317 4      THEN
257 0318 5          IF NOT $UNWIND ( )
258 0319 4          THEN
259 0320 4              $PASS$BUGCHECK (BUG_UNWINDFAIL);
260 0321 4
261 0322 4      +
262 0323 4      | Has ERROR:=CONTINUE been specified by our establisher? This
263 0324 4      | is determined by having ENB_ERROR_ADDR be non-zero. If so,
264 0325 4      | we may want to unwind.
265 0326 4      -
266 0327 4
267 0328 4      IF .ENABLE_ARGS [ENB_COUNT] GEQU ENB_ERROR_ADDR
268 0329 4      THEN
269 0330 5          BEGIN
270 0331 5              IF ..ENABLE_ARGS [ENB_ERROR_ADDR] NEQ 0
271 0332 5              THEN
272 0333 6                  BEGIN
273 0334 6
274 0335 6                  +
275 0336 6                  | See if the error message is one which is "trapped"
276 0337 6                  | by ERROR:=CONTINUE. This is done by comparing the
277 0338 6                  | message number against a select range.
278 0339 6                  -
279 0340 6
280 0341 6                  IF .COND_NAME [ST$V_CODE] GEQU PASS$K_MSGCONTLO AND ! Lowest number
281 0342 6                  .COND_NAME [ST$V_CODE] LEQU PASS$K_MSGCONTHI
282 0343 6                  THEN
283 0344 7                      BEGIN
284 0345 7
285 0346 7                      +
286 0347 7                      | We want to do the ERROR:=CONTINUE. Unwind to the caller
287 0348 7                      | of our establisher at the specified PC.
288 0349 7                      -
289 0350 7
290 0351 8                      IF NOT $UNWIND (MEWPC = ..ENABLE_ARGS [ENB_ERROR_ADDR])
291 0352 7                      THEN
292 0353 7                          $PASS$BUGCHECK (BUG_UNWINDFAIL);
293 0354 6                      END;
294 0355 5                  END;
295 0356 4              END;
296 0357 3          END;
297 0358 2      END;
298 0359 2
299 0360 2      RETURN SS$_RESIGNAL;          ! Resignal error
300 0361 2
301 0362 1      END;                          ! End of routine PASS$IO_HANDLER

```

```

.TITLE PASS$IO_HANDLER I/O Error Handler
.IDENT \1-003\

.EXTRN PASS$IO_HANDLER
.EXTRN PASS$VALIDATE_P$V
.EXTRN PASS$VALIDATE_P$V_END
.EXTRN PASS_INVFILVAR, PASS_FACILITY

```


					.EXTRN	PASS\$ CONTINUE, SYSSUNWIND	
					.EXTRN	PASS\$BUGCHECK, PASS\$K_MSGCONTLO	
					.EXTRN	PASS\$K_MSGCONTHI	
					.PSECT	_PASS\$CODE, NOWRT, SHR, PIC, 2	
					.ENTRY	PASS\$IO_HANDLER, Save R2, R3, R4	: 0145
		54	00000000G	00	MOVAB	SYSSUNWIND, R4	: 0241
		52	0C	AC	MOVL	ENABLE_ARGS, R2	: 0238
		50	04	AC	MOVL	SIGNAL_ARGS, R0	
	00000920	8F	04	A0	CPL	4(R0), #2336	
				11	BNEQ	2\$	
				08	TSTL	@8(R2)	: 0241
				09	BEQL	1\$	
		51	04	B2	MOVL	@4(R2), PFV	: 0251
	07	A1	80	8F	BICB2	#128, 7(PFV)	: 0253
				009A	BRW	6\$: 0238
		53	04	A0	MOVL	4(R0), COND_NAME	: 0268
		0C		53	CPL	COND_NAME, #12	: 0276
				3C	BNEQ	3\$	
		51	08	AC	MOVL	MECH_ARGS, R1	
				08	TSTL	8(R1)	
				33	BNEQ	3\$	
		51	00000000G	00	MOVAB	PASS\$VALIDATE_PFV, R1	: 0281
		51	10	A0	CPL	16(R0), R1	
				26	BLSSU	3\$	
		51	00000000G	00	MOVAB	PASS\$VALIDATE_PFV_END, R1	: 0282
		51	10	A0	CPL	16(R0), R1	
				19	BGEQU	3\$	
		04	A0	00000000G	MOVL	#PASS_INVFILVAR, 4(R0)	: 0285
		08	A0	01	MOVL	#1, 8(R0)	: 0286
				51	MOVL	ENABLE_ARGS, R1	: 0287
		0C	A0	04	MOVL	@4(R1), 12(R0)	
				53	MOVL	4(R0), COND_NAME	: 0288
	00G			0C	CMPZV	#16, #12, COND_NAME, S^PASS_FACILITY	: 0295
				4E	BNEQ	6\$	
		04	B2	0C	CPL	12(R0), @4(R2)	: 0305
				47	BNEQ	6\$	
		00000000G	8F	53	CPL	COND_NAME, #PASS_CONTINUE	: 0316
				08	BNEQ	4\$	
				7E	CLRQ	-(SP)	: 0318
		64		02	CALLS	#2, SYSSUNWIND	
		2B		50	BLBC	R0, 5\$	
		03		62	CPL	(R2), #3	: 0328
				31	BLSSU	6\$	
				0C	TSTL	@12(R2)	: 0331
				2C	BEQL	6\$	
		00000000G	8F	53	CMPZV	#3, #12, COND_NAME, #PASS\$K_MSGCONTLO	: 0341
				21	BLSSU	6\$	
		00000000G	8F	53	CMPZV	#3, #12, COND_NAME, #PASS\$K_MSGCONTHI	: 0342
				03	BGTRU	6\$	
				16	PUSHL	@12(R2)	: 0351
				0C	CLRL	-(SP)	
		64		02	CALLS	#2, SYSSUNWIND	
		0B		50	BLBS	R0, 6\$	
				03	PUSHL	#3	: 0353
		00000000G	00	01	CALLS	#1, PASS\$BUGCHECK	

PASS\$IO_HANDLER
1-003

I/O Error Handler
PASS\$IO_HANDLER - I/O Error handler

F 3
16-Sep-1984 01:42:08
14-Sep-1984 12:51:33

VAX-11 Bliss-32 V4.0-742
[PASRTL.SRC]PASIOHAND.B32;1

Page 8
(3)

50	0918	06	11	000C4		BRB	7\$
		8F	3C	000C6	6\$:	MOVZWL	#2328, R0
			04	000CB		RET	
		50	D4	000CC	7\$:	CLRL	R0
			04	000CE		RET	

:
: 0360
:
: 0362
:

: Routine Size: 207 bytes, Routine Base: _PASS\$CODE + 0000

: 302 0363 1

PASS\$IO_HANDLER I/O Error Handler
1-003 PASS\$IO_HANDLER - I/O Error handler

G 3
16-Sep-1984 01:42:08 VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:51:33 [PASRTL.SRC]PASIOHAND.B32;1

Page 9
(4)

: 304 0364 1 END
: 305 0365 1
: 306 0366 0 ELUDOM

! End of module PASS\$IO_HANDLER

PSECT SUMMARY

Name Bytes Attributes
_PASS\$CODE 207 NOVEC, NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC, ALIGN(2)

Library Statistics

File	Total	Symbols Loaded	Percent	Pages Mapped	Processing Time
\$255\$DUA28:[SYSLIB]STARLET.L32;1	9776	9	0	581	00:01.0
\$255\$DUA28:[PASRTL.OBJ]PASLIB.L32;1	427	32	7	33	00:00.4

COMMAND QUALIFIERS

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

: Size: 207 code + 0 data bytes
: Run Time: 00:07.0
: Elapsed Time: 00:31.1
: Lines/CPU Min: 3150
: Lexemes/CPU-Min: 12086
: Memory Used: 91 pages
: Compilation Complete

