


```

LL      IIIIII  BBBB8888  GGGGGGGG  EEEEEEEEE  TTTTTTTTTT  MM      MM      SSSSSSSS  GGGGGGGG
LL      IIIIII  BBBB8888  GGGGGGGG  EEEEEEEEE  TTTTTTTTTT  MM      MM      SSSSSSSS  GGGGGGGG
LL      II      BB      BB  GG      GG      EE      TT      MMMM  MMMM  SS      GG
LL      II      BB      BB  GG      GG      EE      TT      MMMM  MMMM  SS      GG
LL      II      BB      BB  GG      GG      EE      TT      MM  MM  MM  SS      GG
LL      II      BBBB8888  GG      GG      EEEEEEEE  TT      MM      MM      SSSSSS  GG
LL      II      BBBB8888  GG      GG      EEEEEEEE  TT      MM      MM      SSSSSS  GG
LL      II      BB      BB  GG  GGGGGG  EE      TT      MM      MM      SS  GG  GGGGGG
LL      II      BB      BB  GG  GGGGGG  EE      TT      MM      MM      SS  GG  GGGGGG
LL      II      BB      BB  GG      GG  EE      TT      MM      MM      SS  GG      GG
LL      II      BB      BB  GG      GG  EE      TT      MM      MM      SS  GG      GG
LLLLLLLL  IIIIII  BBBB8888  GGGGGG  EEEEEEEEE  TT      MM      MM  SSSSSSSS  GGGGGG  ....
LLLLLLLL  IIIIII  BBBB8888  GGGGGG  EEEEEEEEE  TT      MM      MM  SSSSSSSS  GGGGGG  ....

```

```

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
LLLLLLLL  IIIIII  SSSSSSSS
LLLLLLLL  IIIIII  SSSSSSSS

```

```

1 0001 0 MODULE LIBSYS_GETMSG (
2 0002 0
3 0003 0 IDENT = '1-009' ! File: LIBGETMSG.B32 EDIT RKR1009
4 0004 0
5 0005 0 ) =
6 0006 1 BEGIN
7 0007 1
8 0008 1 *****
9 0009 1 *
10 0010 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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27 0027 1 *
28 0028 1 *
29 0029 1 *****
30 0030 1
31 0031 1
32 0032 1 +-
33 0033 1 FACILITY: General Library Support
34 0034 1
35 0035 1 ABSTRACT:
36 0036 1
37 0037 1 Calls $GETMSG with caller's input string, resultant string
38 0038 1 is returned using the semantics of the caller's string.
39 0039 1 Parameters MSGID and FLAGS are presented to this routine
40 0040 1 by-reference and are promoted to by-value for presentation to
41 0041 1 $GETMSG
42 0042 1
43 0043 1 ENVIRONMENT: VAX-11 User Mode
44 0044 1
45 0045 1 AUTHOR: R. Reichert, CREATION DATE: 20-SEPT-1979
46 0046 1
47 0047 1 MODIFIED BY:
48 0048 1
49 0049 1 1-001 - Original. RKR 20-SEPT-1979
50 0050 1 1-002 - Change name to LIBSYS_GETMSG. RKR 15-OCT-79
51 0051 1 1-003 - Change logic for status returned. Improve comments.
52 0052 1 RKR 20-OCT-79
53 0053 1 1-004 - Add logic to promote by-reference parameter to by-value.
54 0054 1 RKR 1-NOV-79
55 0055 1 1-005 - Change STR$ codes to LIB$ codes. RKR 22-JAN-80
56 0056 1 1-006 - Enhance to recognize additional classes of string descriptors
57 0057 1 on output by always getting data into internal buffer and

```

```

: 58      0058 1  : using LIBSSCOPY DXDX6 to deliver to caller's buffer.
: 59      0059 1  : LIBSANALYZE_SDESC_R3 is used to compute the number of bytes
: 60      0060 1  : actually copied after the copy operation completes.
: 61      0061 1  : Change to use LIBSSCOPY_DXDX6 instead of STRSCOPY_DX. This
: 62      0062 1  : avoids having to change STRS statuses to LIBS statuses and
: 63      0063 1  : eliminates need for a handler.
: 64      0064 1  : RKR 29-MAY-1981.
: 65      0065 1  : 1-007 - Add special-case code to process string descriptors that
: 66      0066 1  : "read" like fixed string descriptors. RKR 7-OCT-1981.
: 67      0067 1  : 1-008 - Redirect jsb's to LIBSANALYZE_SDESC_R3 to
: 68      0068 1  : LIBSANALYZE_SDESC_R2. Use LIBSSCOPY_R_DX6 to do copying.
: 69      0069 1  : RKR 18-NOV-1981.
: 70      0070 1  : 1-009 - Return non-success codes from $GETMSG as return codes from
: 71      0071 1  : this routine. RKR 11-AUG-1983.
: 72      0072 1  : --
: 73      0073 1  :
: 74      0074 1  : <BLF/PAGE>
```

```

76 0075 1 |
77 0076 1 | SWITCHES:
78 0077 1 |
79 0078 1 |
80 0079 1 | SWITCHES ADDRESSING MODE
81 0080 1 | (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
82 0081 1 |
83 0082 1 |
84 0083 1 | LINKAGES:
85 0084 1 |
86 0085 1 | REQUIRE 'RTLIN:STRLNK';
87 0270 1 |
88 0271 1 | TABLE OF CONTENTS:
89 0272 1 |
90 0273 1 |
91 0274 1 | FORWARD ROUTINE
92 0275 1 | LIB$SYS_GETMSG; ! Convert date and time
93 0276 1 |
94 0277 1 |
95 0278 1 | INCLUDE FILES:
96 0279 1 |
97 0280 1 |
98 0281 1 | REQUIRE 'RTLIN:RTLPSECT'; ! Macros for defining psects
99 0376 1 |
100 0377 1 | LIBRARY 'RTLSTARLE'; ! System symbols and macros
101 0378 1 |
102 0379 1 |
103 0380 1 | MACROS:
104 0381 1 |
105 0382 1 | NONE
106 0383 1 |
107 0384 1 | EQUATED SYMBOLS:
108 0385 1 |
109 0386 1 | LITERAL
110 0387 1 | LOCAL_BUF_SIZE = 256 ;
111 0388 1 |
112 0389 1 | PSECTS:
113 0390 1 |
114 0391 1 | DECLARE_PSECTS (LIB); ! Declare psects for LIB$ facility
115 0392 1 |
116 0393 1 | OWN STORAGE:
117 0394 1 |
118 0395 1 | NONE
119 0396 1 |
120 0397 1 | EXTERNAL REFERENCES:
121 0398 1 |
122 0399 1 |
123 0400 1 | EXTERNAL ROUTINE
124 0401 1 | LIB$ANALYZE_SDESC_R2 : LIB$ANALYZE_SDESC_JSB_LINK, ! Extract length
125 0402 1 | ! and address of
126 0403 1 | ! 1st data byte
127 0404 1 | ! from descriptor
128 0405 1 | LIB$COPY_R_DX6 : STRING_JSB; ! Copy string
```

```

130 0406 1 GLOBAL ROUTINE LIBSSYS_GETMSG ( ! Get system message
131 0407 1
132 0408 1
133 0409 1 MSGID, ! identification of message to be retrieved
134 0410 1
135 0411 1 MSGLEN, ! address of a word to receive length of string
136 0412 1 ! returned (optional)
137 0413 1
138 0414 1 BUFADR, ! address of buffer descriptor of buffer to
139 0415 1 ! receive string
140 0416 1
141 0417 1 FLAGS, ! flag bits for message content
142 0418 1
143 0419 1 OUTADR ! addr of a 4-byte array to receive msg string
144 0420 1 ) : =
145 0421 1
146 0422 1 **
147 0423 1 FUNCTIONAL DESCRIPTION:
148 0424 1
149 0425 1 Calls $GETMSG with caller's input string, resultant string
150 0426 1 is returned using the semantics of the caller's string.
151 0427 1 Parameters MSGID and FLAGS are presented to this routine
152 0428 1 by-reference and are promoted to by-value for presentation to
153 0429 1 $GETMSG
154 0430 1
155 0431 1 FORMAL PARAMETERS:
156 0432 1
157 0433 1 MSGID.rl.r Address of
158 0434 1 identification of message to be retrieved
159 0435 1
160 0436 1 MSGLEN.wv.r address of a word to receive length of string
161 0437 1 returned
162 0438 1
163 0439 1 BUFADR.wt.dx address of buffer descriptor of buffer to
164 0440 1 receive string
165 0441 1
166 0442 1 FLAGS.rl.r Address of
167 0443 1 flag bits for message content
168 0444 1 (Optional parameter)
169 0445 1 (macro default = 15)
170 0446 1
171 0447 1
172 0448 1 Bit Value Meaning
173 0449 1 --- ---- -
174 0450 1
175 0451 1 0 1 Include text
176 0452 1 0 0 Do not include text
177 0453 1 1 1 Include identifier
178 0454 1 0 0 Do not include identifier
179 0455 1 2 1 Include severity
180 0456 1 0 0 Do not include severity
181 0457 1 3 1 Include component
182 0458 1 0 0 Do not include component
183 0459 1
184 0460 1 OUTADR.wa.ra address of a 4-byte array to receive the msg
185 0461 1 string
186 0462 1 (Optional parameter)

```

LIB
Syn
CHF
CHF
MAN
INS
LIB
LIB
SS
SS
SS
PSE

\$AE
_LI
Pha

Ini
Con
Pas
Syn
Pas
Syn
Pse
Crc
Ass
The
211
The
172
9 p
Mac

_S
48
The
MA

```

187 0463 1
188 0464 1
189 0465 1
190 0466 1
191 0467 1
192 0468 1
193 0469 1
194 0470 1
195 0471 1
196 0472 1
197 0473 1
198 0474 1
199 0475 1
200 0476 1
201 0477 1
202 0478 1
203 0479 1
204 0480 1
205 0481 1
206 0482 1
207 0483 1
208 0484 1
209 0485 1
210 0486 1
211 0487 1
212 0488 1
213 0489 1
214 0490 1
215 0491 1
216 0492 1
217 0493 1
218 0494 1
219 0495 1
220 0496 1
221 0497 1
222 0498 1
223 0499 1
224 0500 1
225 0501 1
226 0502 2
227 0503 2
228 0504 2
229 0505 2
230 0506 2
231 0507 2
232 0508 2
233 0509 2
234 0510 2
235 0511 2
236 0512 2
237 0513 2
238 0514 2
239 0515 2
240 0516 2
241 0517 2
242 0518 2
243 0519 2

```

Byte	Contents
0	Reserved
1	Count of FAO arguments
2	User value
3	Reserved

```

IMPLICIT INPUTS:
    NONE
IMPLICIT OUTPUTS:
    NONE
COMPLETION CODES:
    SSS_NORMAL Procedure successfully completed
    From LIB$COPY R DX6
    LIB$STRTRD Success, but source string truncated
    LIB$INSVIRMEM Insufficient virtual memory
    LIB$INVSTRDES Invalid string descriptor
    LIB$INVARG Invalid argument ( usually unsupported class of
    descriptor)
    From $GETMSG
    SSS_BUFFEROVF Successfully completed but string returned
    overflowed the buffer provided and has been
    truncated
    SSS_MSGNOTFND Successfully completed, but message code does not
    have an associated message in file.
SIDE EFFECTS:
--
BEGIN
BUILTIN
    ACTUALCOUNT,
    NULLPARAMETER,
    ACTUALPARAMETER ;
LOCAL
    COPY_STATUS, ! status from copy operation
    STR_STATUS, ! status from $GETMSG call
    LOCAL_BUFF : VECTOR [LOCAL_BUF_SIZE, BYTE], ! Local buffer
    BUFFER_DESC : BLOCK [8, BYTE]; ! desc for local buffer
MAP
    MSGLEN : REF VECTOR [,WORD] ,
    BUFADR : REF BLOCK[,BYTE] ;
!+

```

```
244 0520 2 ! Construct a static descriptor to receive the message text from
245 0521 2 VAX/VMS
246 0522 2
247 0523 2 -
248 0524 2 BUFFER_DESC [DSC$W_LENGTH] = LOCAL_BUF_SIZE;
249 0525 2 BUFFER_DESC [DSC$B_DTYPE] = DSC$K_DTYPE_T;
250 0526 2 BUFFER_DESC [DSC$B_CLASS] = DSC$K_CLASS_S;
251 0527 2 BUFFER_DESC [DSC$A_POINTER] = LOCAL_BUFF;
252 0528 2
253 0529 2 +
254 0530 2 Call $GETMSG with the appropriate combination of caller's
255 0531 2 parameters, default parameters and local variables.
256 0532 2
257 0533 2 STR_STATUS = $GETMSG (
258 0534 2 MSGID = .ACTUALPARAMETER(1),
259 0535 2 MSGLEN = BUFFER_DESC,
260 0536 2 BUFADR = BUFFER_DESC,
261 0537 2 FLAGS = (IF NULLPARAMETER(4)
262 0538 2 THEN 15
263 0539 2 ELSE .ACTUALPARAMETER(4) ) ,
264 0540 2 OUTADR = (IF NULLPARAMETER(5)
265 0541 2 THEN 0
266 0542 2 ELSE ACTUALPARAMETER(5)) ) ;
267 0543 2
268 0544 2
269 0545 2 +
270 0546 2 Copy internal buffer to caller's buffer, letting LIB$COPY_R_DX6
271 0547 2 worry about its semantics.
272 0548 2
273 0549 2 COPY_STATUS = LIB$COPY_R_DX6 (.BUFFER_DESC [DSC$W_LENGTH],
274 0550 2 .BUFFER_DESC [DSC$A_POINTER],
275 0551 2 .BUFADR ) ;
276 0552 2
277 0553 2 +
278 0554 2 If caller supplied optional length parameter, update it.
279 0555 2 To do this accurately, we need to inspect the resulting descriptor
280 0556 2 as it appears after the copy. Get LIB$ANALYZE_SDESC_R2 to do it.
281 0557 2 No need to check LIB$ANALYZE_SDESC_R2 status. If RESULT_ADDR descr
282 0558 2 was bad, LIB$COPY_DXDX6 would have told us about it.
283 0559 2
284 0560 2 IF (NOT NULLPARAMETER(2))
285 0561 2 THEN
286 0562 2 BEGIN
287 0563 2 LOCAL
288 0564 2 RESULT_LEN, ! No. of bytes delivered to caller
289 0565 2 RESULT_ADDRESS; ! Address of 1st data byte of callers
290 0566 2 ! buffer
291 0567 2 IF .BUFADR [DSC$B_CLASS] GTRU DSC$K_CLASS_D
292 0568 2 THEN ! Use generalized length extract
293 0569 2 BEGIN
294 0570 2 LIB$ANALYZE_SDESC_R2 ( .BUFADR ;
295 0571 2 RESULT_LEN, RESULT_ADDRESS );
296 0572 2 END
297 0573 2
298 0574 2 ELSE ! Fetch length directly
299 0575 2
300 0576 2 RESULT_LEN = .BUFADR [DSC$W_LENGTH] ;
```



```

301 0577
302 0578
303 0579
304 0580
305 0581
306 0582
307 0583
308 0584
309 0585
310 0586
311 0587
312 0588
313 0589
314 0590
315 0591
316 0592
317 0593
318 0594
319 0595

```

```

MSGLEN [0] = MIN (.BUFFER_DESC [DSC$W_LENGTH], .RESULT_LEN) ;
END;

+
At this point we have 2 statuses that we could return to caller.
Determine which one is the "most meaningful".

+
If original $GETMSG call failed, tell him about that
else give him the copy status.

IF .STR_STATUS NEQ SS$ NORMAL
THEN ! Return $GETMSG status
RETURN (.STR_STATUS)

ELSE ! Return copy status
RETURN (.COPY_STATUS) ;

END; ! end of LIBSSYS_GETMSG

```

				.TITLE	LIBSSYS_GETMSG	
				.IDENT	\1-009\	
				.EXTRN	LIB\$ANALYZE_SDESC_R2	
				.EXTRN	LIB\$SCOPY_R_DX6	
				.EXTRN	SYSS\$GETMSG	
				.PSECT	_LIB\$CODE,NOWRT, SHR, PIC,2	
			01FC 0000	.ENTRY	LIBSSYS_GETMSG, Save R2,R3,R4,R5,R6,R7,R8	0406
	SE	FEFC	CE 9E 00002	MOVAB	-260(SP), SP	
		010E0100	8F DD 00007	PUSHL	#17694976	0523
04	AE	08	AE 9E 0000D	MOVAB	LOCAL_BUFF, BUFFER_DESC+4	0526
	05		6C 91 00012	CMPB	(AP), #5	0542
			05 1F 00015	BLSSU	1\$	
		14	AC D5 00017	TSTL	20(AP)	
			04 12 0001A	BNEQ	2\$	
			7E D4 0001C	CLRL	-(SP)	
			03 11 0001E	BRB	3\$	
		14	AC DD 00020	PUSHL	20(AP)	
	04		6C 91 00023	CMPB	(AP), #4	
			05 1F 00026	BLSSU	4\$	
		10	AC D5 00028	TSTL	16(AP)	
			04 12 0002B	BNEQ	5\$	
			0F DD 0002D	PUSHL	#15	
			03 11 0002F	BRB	6\$	
		10	BC DD 00031	PUSHL	@16(AP)	
	08		AE 9F 00034	PUSHAB	BUFFER_DESC	
	0C		AE 9F 00037	PUSHAB	BUFFER_DESC	
	04		BC DD 0003A	PUSHL	@4(AP)	
00000000G	00		05 FB 0003D	CALLS	#5, SYSS\$GETMSG	
	58		50 D0 00044	MOVL	R0, STR_STATUS	
	57	0C	AC D0 00047	MOVL	BUFADR, -R7	0551
	52		57 D0 0004B	MOVL	R7, R2	0549
	51	04	AE D0 0004E	MOVL	BUFFER_DESC+4, R1	
	50		6E 3C 00052	MOVZWL	BUFFER_DESC, R0	

53	00000000G	00	16	00055	JSB	LIB\$COPY_R DX6	
02		50	D0	0005B	MOVL	R0, COPY_STATUS	
		6C	91	0005E	CMPB	(AP), #2	0560
		28	1F	00061	BLSSU	10\$	
	08	AC	D5	00063	TSTL	8(AP)	
		23	13	00066	BEQL	10\$	
02	03	A7	91	00068	CMPB	3(R7), #2	0567
		0B	1B	0006C	BLEQU	7\$	
50		57	D0	0006E	MOVL	R7, R0	0570
	00000000G	00	16	00071	JSB	LIB\$ANALYZE_SDESC_R2	
		03	11	00077	BRB	8\$	0567
51		67	3C	00079	7\$: MOVZWL	(R7), RESULT_LEN	0576
50		6E	3C	0007C	8\$: MOVZWL	BUFFER_DESC, R0	0578
51		50	D1	0007F	C MPL	R0, RESULT_LEN	
		03	15	00082	BLEQ	9\$	
08	50	51	D0	00084	MOVL	RESULT_LEN, R0	
	BC	50	B0	00087	9\$: MOVW	R0, @MSGLEN	
	01	58	D1	0008B	10\$: C MPL	STR_STATUS, #1	0588
		04	13	0008E	BEQL	11\$	
	50	58	D0	00090	MOVL	STR_STATUS, R0	0593
		04	04	00093	RET		
	50	53	D0	00094	11\$: MOVL	COPY_STATUS, R0	
		04	04	00097	RET		0595

: Routine Size: 152 bytes, Routine Base: _LIB\$CODE + 0000

```

: 320      0596 1
: 321      0597 1 END
: 322      0598 1
: 323      0599 0 ELUDOM
! end of module LIBSSYS_GETMSG

```

PSECT SUMMARY

Name	Bytes	Attributes
_LIB\$CODE	152	NOVEC, NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC, ALIGN(2)

Library Statistics

File	-----		Percent	Pages Mapped	Processing Time
	Total	Symbols Loaded			
_\$255\$DUA28:[SYSLIB]STARLET.L32:1	9776	11	0	581	00:00.8

COMMAND QUALIFIERS

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

: Size: 152 code + 0 data bytes
: Run Time: 00:04.8
: Elapsed Time: 00:28.8
: Lines/CPU Min: 7456
: Lexemes/CPU-Min: 31456
: Memory Used: 82 pages
: Compilation Complete

