


```

LL      IIIIII  BBBB8888  RRRRRRRR  UU      UU  NN      NN  PPPPPPPP  RRRRRRRR  000000
LL      IIIIII  88888888  RRRRRRRR  UU      UU  NN      NN  PPPPPPPP  RRRRRRRR  000000
LL      II      88      88  RR      RR  UU      UU  NN      NN  PP      PP  RR      RR  00      00
LL      II      88      88  RR      RR  UU      UU  NN      NN  PP      PP  RR      RR  00      00
LL      II      88      88  RR      RR  UU      UU  NNNN     NN  PP      PP  RR      RR  00      00
LL      II      88888888  RRRRRRRR  UU      UU  NN      NN  PPPPPPPP  RRRRRRRR  00      00
LL      II      88888888  RRRRRRRR  UU      UU  NN      NN  PPPPPPPP  RRRRRRRR  00      00
LL      II      88      88  RR  RR  UU      UU  NN      NN  NNNN     PP      RR  RR  00      00
LL      II      88      88  RR  RR  UU      UU  NN      NN  NNNN     PP      RR  RR  00      00
LL      II      88      88  RR      RR  UU      UU  NN      NN  NN      PP      RR      RR  00      00
LL      II      88      88  RR      RR  UU      UU  NN      NN  NN      PP      RR      RR  00      00
LLLLLLLLLLLL IIIIII  88888888  RR      RR  UUUUUUUUUU  NN      NN  PP      RR      RR  000000
LLLLLLLLLLLL IIIIII  88888888  RR      RR  UUUUUUUUUU  NN      NN  PP      RR      RR  000000

```

```

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 LIB$RUN_PROGRAM ( ! RUN another program
2 0002 0 IDENT = '1-008' ! File: LIBRUNPRO.B32 Edit: SBL1008
3 0003 0
4 0004 0 ) =
5 0005 1 BEGIN
6 0006 1
7 0007 1 *****
8 0008 1 *
9 0009 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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26 0026 1 *
27 0027 1 *
28 0028 1 *****
29 0029 1
30 0030 1
31 0031 1 **
32 0032 1 FACILITY: General library
33 0033 1
34 0034 1 ABSTRACT:
35 0035 1
36 0036 1 This module causes the current program to end and another
37 0037 1 program to be run in its place.
38 0038 1
39 0039 1 ENVIRONMENT: VAX-11 User Mode
40 0040 1
41 0041 1 AUTHOR: John Sauter, CREATION DATE: 13-NOV-1979
42 0042 1
43 0043 1 MODIFIED BY:
44 0044 1
45 0045 1 1-001 - Original. JBS 15-NOV-1979
46 0046 1 1-002 - Correct entry point name. JBS 27-NOV-1979
47 0047 1 1-003 - Change STR$ codes to LIB$. JBS 22-JAN-1980
48 0048 1 1-004 - Restrict image name string to 132 bytes, since that's all that
49 0049 1 DCL can handle. SBL 27-Jan-1981
50 0050 1 1-005 - Remove use of process common, AST disabling, which are
51 0051 1 unnecessary. SBL 27-Jan-1981
52 0052 1 1-006 - Enhance to recognize additional classes of string descriptors
53 0053 1 by invoking LIB$ANALYZE_SDESC_R3 to extract length and
54 0054 1 address of 1st data byte from descriptor. RKR 27-MAY-1981.
55 0055 1 1-007 - Redirect jsb's from LIB$ANALYZE_SDESC_R3 to
56 0056 1 LIB$ANALYZE_SDESC_R2. RKR 18-NOV-1981.
57 0057 1 1-008 - Use CLIK_SRVDESC. Report LIB$_NOCLI and LIB$_UNECLIERR errors.

```

```
: 58      0058 1 !      Return an error if the file doesn't exist.  SBL 18-Dec-1981
: 59      0059 1 !--
: 60      0060 1
: 61      0061 1 !<BLF/PAGE>
```

```
63      0062 1 |
64      0063 1 | SWITCHES:
65      0064 1 |
66      0065 1 |
67      0066 1 | SWITCHES ADDRESSING_MODE
68      0067 1 |     (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
69      0068 1 |
70      0069 1 |
71      0070 1 | LINKAGES:
72      0071 1 |
73      0072 1 |     REQUIRE 'RTLIN:STRLNK';      ! Linkage for LIB$ANALYZE_SDESC_R2
74      0257 1 |
75      0258 1 | TABLE OF CONTENTS:
76      0259 1 |
77      0260 1 |
78      0261 1 | FORWARD ROUTINE
79      0262 1 |     LIBSRUN_PROGRAM;            ! End this program and start another
80      0263 1 |
81      0264 1 |
82      0265 1 | INCLUDE FILES:
83      0266 1 |
84      0267 1 |
85      0268 1 | REQUIRE 'RTLIN:RTLPSECT';      ! Macros for defining PSECTS
86      0363 1 |
87      0364 1 | LIBRARY 'RTLSTARLE';          ! System symbols
88      0365 1 |
89      0366 1 | REQUIRE 'RTLML:CLIMSG';       ! CLIS_ messages
90      0646 1 |
91      0647 1 |
92      0648 1 | MACROS:
93      0649 1 |
94      0650 1 |     NONE
95      0651 1 |
96      0652 1 | EQUATED SYMBOLS:
97      0653 1 |
98      0654 1 |     NONE
99      0655 1 |
100     0656 1 | PSECTS:
101     0657 1 |
102     0658 1 | DECLARE_PSECTS (LIB);         ! Declare psects for LIB$ facility
103     0659 1 |
104     0660 1 | OWN STORAGE:
105     0661 1 |
106     0662 1 |     NONE
107     0663 1 |
108     0664 1 | EXTERNAL REFERENCES:
109     0665 1 |
110     0666 1 |
111     0667 1 | EXTERNAL ROUTINE
112     0668 1 |     LIB$ANALYZE_SDESC_R2 : LIB$ANALYZE_SDESC_JSB_LINK, ! Extract length
113     0669 1 |                                                                ! and address of
114     0670 1 |                                                                ! 1st data byte
115     0671 1 |                                                                ! from descriptor
116     0672 1 |     SYSSCLI;                  ! Call the command language interpreter
117     0673 1 |
118     0674 1 | !+
119     0675 1 | ! The following are the error codes used in this module.
```

LIB\$RUN_PROGRAM
1-008

L 10
16-Sep-1984 01:13:04 VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:39:22 [LIBRTL.SRC]LIBRUNPRO.B32:1

```
: 120      0676 1 !-  
: 121      0677 1  
: 122      0678 1 EXTERNAL LITERAL  
: 123      0679 1     LIB$NOCLI,  
: 124      0680 1     LIB$UNECLFERR,  
: 125      0681 1     LIB$INVARG;  
: 126      0682 1
```

```
! No CLI to perform function  
! Unexpected CLI error  
! Invalid argument
```

**f

```
128 0683 1 GLOBAL ROUTINE LIB$RUN_PROGRAM (      ! RUN another program
129 0684 1
130 0685 1     PGM_NAME          ! Name of program to RUN
131 0686 1
132 0687 1     ) =
133 0688 1
134 0689 1 ++
135 0690 1 FUNCTIONAL DESCRIPTION:
136 0691 1
137 0692 1     Stop running this program and start running another.
138 0693 1
139 0694 1 CALLING SEQUENCE:
140 0695 1
141 0696 1     status.wlc.v = LIB$RUN_PROGRAM (PGM_NAME.rt.dx)
142 0697 1
143 0698 1 FORMAL PARAMETERS:
144 0699 1
145 0700 1     PGM_NAME.rt.dx  The name of the program to be run in place of
146 0701 1                   this one.
147 0702 1                   It may not be longer than 132 characters.
148 0703 1
149 0704 1 IMPLICIT INPUTS:
150 0705 1
151 0706 1     NONE
152 0707 1
153 0708 1 IMPLICIT OUTPUTS:
154 0709 1
155 0710 1     NONE
156 0711 1
157 0712 1 COMPLETION CODES:
158 0713 1
159 0714 1     LIB$NOCLI      No CLI present to perform function
160 0715 1     LIB$UNECLERR  Unexpected CLI error
161 0716 1     LIB$INVARG    Invalid argument
162 0717 1     RMS$_xxx      RMS error status
163 0718 1
164 0719 1 SIDE EFFECTS:
165 0720 1
166 0721 1     Does not normally return to its caller.
167 0722 1
168 0723 1 --
169 0724 1
170 0725 2 BEGIN
171 0726 2
172 0727 2 MAP
173 0728 2     PGM_NAME : REF BLOCK [8, BYTE];
174 0729 2
175 0730 2 LOCAL
176 0731 2     RET_STATUS : BLOCK [4, BYTE],           ! Status returned
177 0732 2     CLI_REQ_BLOCK : BLOCK [CLI$_SRVDESC, BYTE], ! CLI service
178 0733 2                                           ! block
179 0734 2     DESC_ADDR : REF BLOCK [8, BYTE],       ! Pointer to descriptor
180 0735 2                                           ! in req block
181 0736 2     PGM_NAME_LEN,                          ! Length of the
182 0737 2                                           ! program name provided.
183 0738 2     PGM_NAME_ADDR;                          ! Address of 1st data
184 0739 2                                           ! byte
```

```
185 0740 2
186 0741 2
187 0742 2
188 0743 2
189 0744 2
190 0745 2
191 0746 2
192 0747 2
193 0748 2
194 0749 2
195 0750 2
196 0751 2
197 0752 2
198 0753 2
199 0754 2
200 0755 2
201 0756 2
202 0757 2
203 0758 2
204 0759 2
205 0760 2
206 0761 2
207 0762 2
208 0763 2
209 0764 2
210 0765 2
211 0766 2
212 0767 2
213 0768 2
214 0769 2
215 0770 2
216 0771 2
217 0772 2
218 0773 3
219 0774 3
220 0775 3
221 0776 4
222 0777 4
223 0778 4
224 0779 4
225 0780 4
226 0781 4
227 0782 4
228 0783 3
229 0784 3
230 0785 2
231 0786 2
232 0787 2
233 0788 2
234 0789 2
235 0790 2
236 0791 2
237 0792 2
238 0793 2
239 0794 2
240 0795 2
241 0796 2

+
- Extract length and address of 1st data byte of parameter. If we
- fail, return status returned by LIB$ANALYZE_SDESC_R2.
RET_STATUS = LIB$ANALYZE_SDESC_R2 ( .PGM_NAME ;
PGM_NAME_LEN, PGM_NAME_ADDR ) ;

IF NOT .RET_STATUS THEN RETURN (.RET_STATUS) ;

+
- Don't allow too long a name.
IF (.PGM_NAME_LEN GTRU 132) THEN RETURN (LIB$_INVARG);

+
- Initialize CLI command request block.
CH$FILL (0, CLISK SRVDESC, CLI_REQ_BLOCK);
CLI_REQ_BLOCK [CLISB_RQTYPE] = CLISK CLISERV; ! Request a service.
CLI_REQ_BLOCK [CLISW_SERVCOD] = CLISK CHAIN; ! Service is 'CHAIN'
DESC_ADDR = CLI_REQ_BLOCK [CLISQ_RQDESC];

+
- Fill in the descriptor
DESC_ADDR [DSCSW_LENGTH] = .PGM_NAME_LEN;
DESC_ADDR [DSCSA_POINTER] = .PGM_NAME_ADDR;
RET_STATUS = SYSSCLI (CLI_REQ_BLOCK);

IF NOT .RET_STATUS
THEN
BEGIN
IF .RET_STATUS [STSSV_FAC_NO] EQL CLIS_FACILITY
THEN
BEGIN
IF .RET_STATUS EQLU CLIS_INVREQTYP
THEN
RETURN LIB$_NOCLI
ELSE
RETURN LIB$_UNECLIERR;
END
ELSE
RETURN .RET_STATUS;
END;

+
- Now, to get the chain to take effect, we must exit.
$EXIT (CODE = SSS_NORMAL);

+
- Its not likely that we'll get back from a call to $EXIT, but BLISS
- doesn't know that, so it insists that we return a value.
```


: 242 0797 2 RETURN (0);
: 243 0798 1 END;

! end of LIB\$RUN_PROGRAM

.TITLE LIB\$RUN_PROGRAM
.IDENT \1-008\
.EXTRN LIB\$ANALYZE_SDESC_R2
.EXTRN SYSSCLI, LIB\$NOCLI
.EXTRN LIB\$UNECLIERR, LIB\$_INVARG
.EXTRN SYS\$EXIT
.PSECT _LIB\$CODE, NOWRT, SHR, PIC, 2

.ENTRY LIB\$RUN_PROGRAM, Save R2,R3,R4,R5,R6,R7,R8 : 0683
MOVAB -84(SP), SP : 0745
MOVL PGM_NAME, R0
JSB LIB\$ANALYZE_SDESC_R2
MOVQ R0, RET_STATUS
MOVL R2, R8
BLBC RET_STATUS, 3\$: 0748
CMPL PGM_NAME_LEN, #132 : 0753
BLEQU 1\$
MOVL #LIB\$_INVARG, R0
RET
MOVC5 #0, (SP), #0, #84, CLI_REQ_BLOCK : 0758
MOVAB #5, CLI_REQ_BLOCK : 0759
MOVW #4, CLI_REQ_BLOCK+1 : 0760
MOVAB CLI_REQ_BLOCK+8, DESC_ADDR : 0761
MOVW PGM_NAME_LEN, (DESC_ADDR) : 0766
MOVL PGM_NAME_ADDR, 4(DESC_ADDR) : 0767
PUSHL SP : 0769
CALLS #1, SYSSCLI
MOVL R0, RET_STATUS
BLBS RET_STATUS, 4\$: 0771
CMPZV #16, #12, RET_STATUS, #3 : 0774
BNEQ 3\$
CMPL RET_STATUS, #231458 : 0777
BNEQ 2\$
MOVL #LIB\$_NOCLI, R0 : 0781
RET
MOVL #LIB\$_UNECLIERR, R0 : 0784
RET
MOVL RET_STATUS, R0 : 0784
RET
PUSHL #1 : 0790
CALLS #1, SYS\$EXIT : 0797
CLRL R0 : 0798
RET : 0798

01FC 00000
5E AC AE 9E 00002
50 04 AC D0 00006
00000000G 00 16 0000A
56 50 7D 00010
58 52 D0 00013
5A 56 E9 00016
00000084 8F 57 D1 00019
08 1B 00020
50 00000000G 8F D0 00022
04 00029
0054 8F 00 6E 00 2C 0002A 1\$:
6E 00031
01 6E 05 90 00032
AE 04 B0 00035
50 08 AE 9E 00039
60 57 B0 0003D
04 A0 58 D0 00040
5E DD 00044
00000000G 00 01 FB 00046
56 50 D0 0004D
24 56 E8 00050
03 56 OC 10 ED 00053
56 19 12 00058
00038822 8F 56 D1 0005A
08 12 00061
50 00000000G 8F D0 00063
04 0006A
50 00000000G 8F D0 0006B 2\$:
04 00072
50 56 D0 00073 3\$:
04 00076
00000000G 00 01 DD 00077 4\$:
01 FB 00079
50 D4 00080
04 00082

: Routine Size: 131 bytes, Routine Base: _LIB\$CODE + 0000

: 244 0799 1
: 245 0800 1 END
: 246 0801 1

! end of module LIB\$RUN_PROGRAM

: 247 0802 0 ELUDOM

PSECT SUMMARY

: Name Bytes Attributes
: _LIB\$CODE 131 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	16	0	581	00:00.8

COMMAND QUALIFIERS

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

: Size: 131 code + 0 data bytes
: Run Time: 00:09.8
: Elapsed Time: 00:39.3
: Lines/CPU Min: 4910
: Lexemes/CPU-Min: 96244
: Memory Used: 103 pages
: Compilation Complete

LIBPOLYG
LIS

LIBREMCHI
LIS

LIBSIGSTO
LIS

LIBRENAME
LIS

LIBSCANC
LIS

LIBRDOBU
LIS

LIBRINPRO
LIS

LIBSIGNAL
LIS

LIBPUTOUT
LIS

LIBREMOTI
LIS

LIBSIGRET
LIS

LIBSIMTRA
LIS

LIBPOLYH
LIS

LIBSCOPY
LIS

LIBREVERT
LIS