D 8

```
LLL               IIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR    TTTTTTTTTTTTTTT   LLL
LLL               IIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR    TTTTTTTTTTTTTTT   LLL
LLL               IIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR    TTTTTTTTTTTTTTT   LLL
LLL                  III      BBB      BBB   RRR       RRR         TTT         LLL
LLL                  III      BBB      BBB   RRR       RRR         TTT         LLL
LLL                  III      BBB      BBB   RRR       RRR         TTT         LLL
LLL                  III      BBB      BBB   RRR       RRR         TTT         LLL
LLL                  III      BBB      BBB   RRR       RRR         TTT         LLL
LLL                  III      BBB      BBB   RRR       RRR         TTT         LLL
LLL                  III      BBBBBBBBBBBB   RRRRRRRRRRRR              TTT         LLL
LLL                  III      BBBBBBBBBBBB   RRRRRRRRRRRR              TTT         LLL
LLL                  III      BBBBBBBBBBBB   RRRRRRRRRRRR              TTT         LLL
LLL                  III      BBB      BBB   RRR   RRR                 TTT         LLL
LLL                  III      BBB      BBB   RRR   RRR                 TTT         LLL
LLL                  III      BBB      BBB   RRR   RRR                 TTT         LLL
LLL                  III      BBB      BBB   RRR     RRR               TTT         LLL
LLL                  III      BBB      BBB   RRR     RRR               TTT         LLL
LLL                  III      BBB      BBB   RRR     RRR               TTT         LLL
LLLLLLLLLLLLLLL   IIIIIIIII   BBBBBBBBBBBB   RRR       RRR         TTT         LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL   IIIIIIIII   BBBBBBBBBBBB   RRR       RRR         TTT         LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL   IIIIIIIII   BBBBBBBBBBBB   RRR       RRR         TTT         LLLLLLLLLLLLLLL
```

FILEID**LIBRUNPRO

LIBRUNPRO.

LIS

```
0 MODULE LIB$RUN_PROGRAM (                      ! RUN another program
0               IDENT = '1-008'         ! File: LIBRUNPRO.B32 Edit: SBL1008
0
0                       ) =
1 BEGIN
1 !
1 !****************************************************************************
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1 !*                                                                          *
1 !****************************************************************************
1 !
1
1 !++
1 ! FACILITY:  General library
1 !
1 ! ABSTRACT:
1 !
1 !       This module causes the current program to end and another
1 !       program to be run in its place.
1 !
1 ! ENVIRONMENT:  VAX-11 User Mode
1 !
1 ! AUTHOR: John Sauter, CREATION DATE: 13-NOV-1979
1 !
1 ! MODIFIED BY:
1 !
1 ! 1-001 - Original.  JBS 15-NOV-1979
1 ! 1-002 - Correct entry point name.  JBS 27-NOV-1979
1 ! 1-003 - Change STR$ codes to LIB$.  JBS 22-JAN-1980
1 ! 1-004 - Restrict image name string to 132 bytes, since that's all that
1 !               DCL can handle.  SBL 27-Jan-1981
1 ! 1-005 - Remove use of process common, AST disabling, which are
1 !               unnecessary. SBL 27-Jan-1981
1 ! 1-006 - Enhance to recognize additional classes of string descriptors
1 !               by invoking LIB$ANALYZE_SDESC_R3 to extract length and
1 !               address of 1st data byte from descriptor.  RKR 27-MAY-1981.
1 ! 1-007 - Redirect jsb's from LIB$ANALYZE_SDESC_R3 to
1 !               LIB$ANALYZE_SDESC_R2.  RKR 18-NOV-1981.
1 ! 1-008 - Use CLI$K_SRVDESC.  Report LIB$_NOCLI and LIB$_UNECLIERR errors.
```

```
;   1 !             Return an error if the file doesn't exist.  SBL 18-Dec-1981
;   1 !--
;   1
;   1 !<BLF/PAGE>
```

```
1 !
1 ! SWITCHES:
1 !
1
1 SWITCHES ADDRESSING_MODE
1         (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
1
1 !
1 ! LINKAGES:
1 !
1    REQUIRE 'RTLIN:STRLNK';         ! Linkage for LIB$ANALYZE_SDESC_R2
1 !
1 ! TABLE OF CONTENTS:
1 !
1
1 FORWARD ROUTINE
1     LIB$RUN_PROGRAM;               ! End this program and start another
1
1 !
1 ! INCLUDE FILES:
1 !
1
1 REQUIRE 'RTLIN:RTLPSECT';          ! Macros for defining PSECTs
1
1 LIBRARY 'RTLSTARLE';               ! System symbols
1
1 REQUIRE 'RTLML:CLIMSG';            ! CLI$_ messages
1
1 !
1 ! MACROS:
1 !
1         NONE
1 !
1 ! EQUATED SYMBOLS:
1 !
1         NONE
1 !
1 ! PSECTS:
1 !
1 DECLARE_PSECTS (LIB);              ! Declare psects for LIB$ facility
1 !
1 ! OWN STORAGE:
1 !
1         NONE
1 !
1 ! EXTERNAL REFERENCES:
1 !
1
1 EXTERNAL ROUTINE
1     LIB$ANALYZE_SDESC_R2 : LIB$ANALYZE_SDESC_JSB_LINK, ! Extract length
1                                                        ! and address of
1                                                        ! 1st data byte
1                                                        ! from descriptor
1     SYS$CLI;                       ! Call the command language interpreter
1
1 !+
1 ! The following are the error codes used in this module.
```

```
!-

EXTERNAL LITERAL
    LIB$_NOCLI,                 ! No CLI to perform function
    LIB$_UNECLIERR,             ! Unexpected CLI error
    LIB$_INVARG;                ! Invalid argument

```

```
1 GLOBAL ROUTINE LIB$RUN_PROGRAM (          ! RUN another program
1
1       PGM_NAME                    ! Name of program to RUN
1
1                                   ) =
1
1 !++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !     Stop running this program and start running another.
1 !
1 ! CALLING SEQUENCE:
1 !
1 !     status.wlc.v =  LIB$RUN_PROGRAM (PGM_NAME.rt.dx)
1 !
1 ! FORMAL PARAMETERS:
1 !
1 !     PGM_NAME.rt.dx  The name of the program to be run in place of
1 !                     this one.
1 !                     It may not be longer than 132 characters.
1 !
1 ! IMPLICIT INPUTS:
1 !
1 !     NONE
1 !
1 ! IMPLICIT OUTPUTS:
1 !
1 !     NONE
1 !
1 ! COMPLETION CODES:
1 !
1 !     LIB$_NOCLI       No CLI present to perform function
1 !     LIB$_UNECLIERR   Unexpected CLI error
1 !     LIB$_INVARG      Invalid argument
1 !     RMS$_xxx         RMS error status
1 !
1 ! SIDE EFFECTS:
1 !
1 !     Does not normally return to its caller.
1 !
1 !--
1
2     BEGIN
2
2     MAP
2       PGM_NAME : REF BLOCK [8, BYTE];
2
2     LOCAL
2       RET_STATUS : BLOCK [4, BYTE],                  ! Status returned
2       CLI_REQ_BLOCK : BLOCK [CLI$K_SRVDESC, BYTE],   ! CLI service
2                                                      ! block
2       DESC_ADDR : REF BLOCK [8, BYTE],       ! Pointer to descriptor
2                                              ! in req block
2       PGM_NAME_LEN,                          ! Length of the
2                                              ! program name provided.
2       PGM_NAME_ADDR;                         ! Address of 1st data
2                                              ! byte
```

```
2
2 !+
2 ! Extract length and address of 1st data byte of parameter.  If we
2 ! fail, return status returned by LIB$ANALYZE_SDESC_R2.
2 !-
2     RET_STATUS = LIB$ANALYZE_SDESC_R2 ( .PGM_NAME ;
2                                         PGM_NAME_LEN, PGM_NAME_ADDR ) ;
2
2     IF NOT .RET_STATUS THEN RETURN (.RET_STATUS) ;
2
2 !+
2 ! Don't allow too long a name.
2 !-
2     IF (.PGM_NAME_LEN GTRU 132) THEN RETURN (LIB$_INVARG);
2
2 !+
2 ! Initialize CLI command request block.
2 !-
2     CH$FILL (0, CLI$K_SRVDESC, CLI_REQ_BLOCK);
2     CLI_REQ_BLOCK [CLI$B_RQTYPE] = CLI$K_CLISERV;   ! Request a service
2     CLI_REQ_BLOCK [CLI$W_SERVCOD] = CLI$K_CHAIN;    ! Service is "CHAIN"
2     DESC_ADDR = CLI_REQ_BLOCK [CLI$Q_RQDESC];
2
2 !+
2 ! Fill in the descriptor
2 !-
2     DESC_ADDR [DSC$W_LENGTH] = .PGM_NAME_LEN;
2     DESC_ADDR [DSC$A_POINTER] = .PGM_NAME_ADDR;
2
2     RET_STATUS = SYS$CLI (CLI_REQ_BLOCK);
2
2     IF  NOT .RET_STATUS
2     THEN
3         BEGIN
3         IF .RET_STATUS [STS$V_FAC_NO] EQL CLI$_FACILITY
3         THEN
4             BEGIN
4             IF .RET_STATUS EQLU CLI$_INVREQTYP
4             THEN
4                 RETURN LIB$_NOCLI
4             ELSE
4                 RETURN LIB$_UNECLIERR;
4             END
3         ELSE
3             RETURN .RET_STATUS;
2         END;
2
2 !+
2 ! Now, to get the chain to take effect, we must exit.
2 !-
2     $EXIT (CODE = SS$_NORMAL);
2 !+
2 ! Its not likely that we'll get back from a call to $EXIT, but BLISS
2 ! doesn't know that, so it insists that we return a value.
2 !-
2
2
```

```
;  242          0797  2     RETURN (0);
;  243          0798  1     END;                                ! end of LIB$RUN_PROGRAM


                                                                .TITLE  LIB$RUN_PROGRAM
                                                                .IDENT  \1-008\

                                                                .EXTRN  LIB$ANALYZE_SDESC_R2
                                                                .EXTRN  SYS$CLI, LIB$_NOCLI
                                                                .EXTRN  LIB$_UNECLIERR, LIB$_INVARG
                                                                .EXTRN  SYS$EXIT

                                                                .PSECT  _LIB$CODE,NOWRT,  SHR,  PIC,2

                                              01FC 00000        .ENTRY  LIB$RUN_PROGRAM, Save R2,R3,R4,R5,R6,R7,R8  ; 0683
                         5E        AC   AE   9E 00002           MOVAB   -84(SP), SP
                         50        04   AC   D0 00006           MOVL    PGM_NAME, R0                                ; 0745
                           00000000G    00   16 0000A           JSB     LIB$ANALYZE_SDESC_R2
                         56             50   7D 00010           MOVQ    R0, RET_STATUS
                         58             52   D0 00013           MOVL    R2, R8
                         5A             56   E9 00016           BLBC    RET_STATUS, 3$                              ; 0748
          00000084       8F             57   D1 00019           CMPL    PGM_NAME_LEN, #132                          ; 0753
                         08             1B      00020           BLEQU   1$
          50 00000000G   8F             D0      00022           MOVL    #LIB$_INVARG, R0
                         04                     00029           RET
  0054  8F          00   6E             00   2C 0002A 1$:       MOVC5   #0, (SP), #0, #84, CLI_REQ_BLOCK            ; 0758
                         6E                     00031
                         6E             05   90 00032           MOVB    #5, CLI_REQ_BLOCK                           ; 0759
                   01    AE             04   B0 00035           MOVW    #4, CLI_REQ_BLOCK+1                         ; 0760
                         50        08   AE   9E 00039           MOVAB   CLI_REQ_BLOCK+8, DESC_ADDR                  ; 0761
                         60             57   B0 0003D           MOVW    PGM_NAME_LEN, (DESC_ADDR)                   ; 0766
                   04    A0             58   D0 00040           MOVL    PGM_NAME_ADDR, 4(DESC_ADDR)                 ; 0767
                                        5E   DD 00044           PUSHL   SP                                          ; 0769
          00000000G      00             01   FB 00046           CALLS   #1, SYS$CLI
                         56             50   D0 0004D           MOVL    R0, RET_STATUS
                         24             56   E8 00050           BLBS    RET_STATUS, 4$                              ; 0771
     03             56   0C             10   ED 00053           CMPZV   #16, #12, RET_STATUS, #3                    ; 0774
                         19             12      00058           BNEQ    3$
          00038822       8F             56   D1 0005A           CMPL    RET_STATUS, #231458                         ; 0777
                         08             12      00061           BNEQ    2$
          50 00000000G   8F             D0      00063           MOVL    #LIB$_NOCLI, R0                             ; 0781
                         04                     0006A           RET
          50 00000000G   8F             D0      0006B 2$:       MOVL    #LIB$_UNECLIERR, R0
                         04                     00072           RET                                                 ; 0784
          50                            56   D0 00073 3$:       MOVL    RET_STATUS, R0
                         04                     00076           RET
                                        01   DD 00077 4$:       PUSHL   #1                                          ; 0790
          00000000G      00             01   FB 00079           CALLS   #1, SYS$EXIT
                                        50   D4 00080           CLRL    R0                                          ; 0797
                                        04      00082           RET                                                 ; 0798

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


;  244          0799  1
;  245          0800  1 END                                     ! end of module LIB$RUN_PROGRAM
;  246          0801  1
```

```
; 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
;
;                                         -------- Symbols --------       Pages       Processing
;     File                                Total   Loaded   Percent       Mapped      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
```

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LIS

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LIS

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