```
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        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**OTSCCBDAT

```
  OOOOOO    TTTTTTTTTT    SSSSSSSS    CCCCCCCC    CCCCCCCC  BBBBBBBB    DDDDDDDD      AAAAAA    TTTTTTTTTT
  OOOOOO    TTTTTTTTTT    SSSSSSSS    CCCCCCCC    CCCCCCCC  BBBBBBBB    DDDDDDDD      AAAAAA    TTTTTTTTTT
OO      OO      TT      SS          CC          CC          BB      BB  DD      DD  AA      AA      TT
OO      OO      TT      SS          CC          CC          BB      BB  DD      DD  AA      AA      TT
OO      OO      TT      SS          CC          CC          BB      BB  DD      DD  AA      AA      TT
OO      OO      TT      SS          CC          CC          BB      BB  DD      DD  AA      AA      TT
OO      OO      TT        SSSSSS    CC          CC          BBBBBBBB    DD      DD  AA      AA      TT
OO      OO      TT        SSSSSS    CC          CC          BBBBBBBB    DD      DD  AA      AA      TT
OO      OO      TT              SS  CC          CC          BB      BB  DD      DD  AAAAAAAAAA      TT
OO      OO      TT              SS  CC          CC          BB      BB  DD      DD  AAAAAAAAAA      TT
OO      OO      TT              SS  CC          CC          BB      BB  DD      DD  AA      AA      TT      ....
OO      OO      TT              SS  CC          CC          BB      BB  DD      DD  AA      AA      TT      ....
  OOOOOO        TT      SSSSSSSS      CCCCCCCC    CCCCCCCC  BBBBBBBB    DDDDDDDD    AA      AA      TT      ....
  OOOOOO        TT      SSSSSSSS      CCCCCCCC    CCCCCCCC  BBBBBBBB    DDDDDDDD    AA      AA      TT      ....

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
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

```
;     1          0001  0 MODULE OTS$$CCB_DATA (                        ! Data base for LUB/ISB/RAB
;     2          0002  0                 IDENT = '1-002'               ! File: OTSCCBDAT.B32 Edit: JBS1002
;     3          0003  0                 ) =
;     4          0004  1 BEGIN
;     5          0005  1 !
;     6          0006  1 !**************************************************************************
;     7          0007  1 !*                                                                        *
;     8          0008  1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                               *
;     9          0009  1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                 *
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;    24          0024  1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                *
;    25          0025  1 !*                                                                        *
;    26          0026  1 !*                                                                        *
;    27          0027  1 !**************************************************************************
;    28          0028  1
;    29          0029  1 !++
;    30          0030  1 ! FACILITY: language support library
;    31          0031  1 !
;    32          0032  1 ! ABSTRACT:
;    33          0033  1 !
;    34          0034  1 !       This module holds the OWN storage for manipulating
;    35          0035  1 !       the CCB (the LUB/ISB/RAB).  The data in this module
;    36          0036  1 !       is referenced by OTS$$CCB and FOR$$CB.
;    37          0037  1 !
;    38          0038  1 ! ENVIRONMENT: User mode, AST level or not or mixed
;    39          0039  1 !
;    40          0040  1 ! AUTHOR:  John Sauter, 16-AUG-1979
;    41          0041  1 !
;    42          0042  1 ! MODIFIED BY:
;    43          0043  1 !
;    44          0044  1 ! 1-001 - Original, from OTS$$CCB version 1-047.  JBS 16-AUG-1979
;    45          0045  1 ! 1-002 - Initialize OTS$$L_CUR_LUN and OTS$$L_LVL_CTR at link time,
;    46          0046  1 !           since FORTRAN doesn't call any initialization code.
;    47          0047  1 !           JBS 14-JAN-1980
;    48          0048  1 !--
;    49          0049  1
;    50          0050  1 !<BLF/PAGE>
```

```
;    52          0051  1 !
;    53          0052  1 ! SWITCHES:
;    54          0053  1 !
;    55          0054  1
;    56          0055  1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
;    57          0056  1
;    58          0057  1 !
;    59          0058  1 ! LINKAGES:
;    60          0059  1 !
;    61          0060  1 !       NONE
;    62          0061  1 !
;    63          0062  1 ! TABLE OF CONTENTS:
;    64          0063  1 !
;    65          0064  1 !       NONE
;    66          0065  1 !
;    67          0066  1 ! INCLUDE FILES:
;    68          0067  1 !
;    69          0068  1
;    70          0069  1 REQUIRE 'RTLML:OTSISB';                         ! get length of ISB
;    71          0237  1
;    72          0238  1 REQUIRE 'RTLML:OTSLUB';                         ! get length of LUB
;    73          0378  1
;    74          0379  1 REQUIRE 'RTLIN:RTLPSECT';                       ! Define DECLARE_PSECTs macro
;    75          0474  1
;    76          0475  1 REQUIRE 'RTLIN:OTSCCBREQ';                      ! Define interface to  OTS$PUSH_CCB
;    77          0573  1
;    78          0574  1 LIBRARY 'RTLSTARLE';                            ! STARLET library for macros and symbols
;    79          0575  1
;    80          0576  1 !
;    81          0577  1 ! MACROS:
;    82          0578  1 !
;    83          0579  1 !       NONE
;    84          0580  1 !
;    85          0581  1 ! EQUATED SYMBOLS:
;    86          0582  1 !
;    87          0583  1 !       NONE
;    88          0584  1 !
;    89          0585  1 ! PSECT DECLARATIONS:
;    90          0586  1 !
;    91          0587  1 DECLARE_PSECTS (OTS);                           ! declare PSECTs for OTS$ facility
;    92          0588  1
;    93          0589  1 ! GLOBAL STORAGE:
;    94          0590  1 !
;    95          0591  1
;    96          0592  1 GLOBAL
;    97          0593  1     OTS$$A_CUR_LUB : INITIAL (0),               ! Contains the address of the current I/O
;    98          0594  1 !+
;    99          0595  1 ! Bit 0 of the following longword is zero if the queue headers have not
;   100          0596  1 ! yet been set up.
;   101          0597  1 !-
;   102          0598  1     OTS$$V_CCB_INIT : VOLATILE INITIAL (0),
;   103          0599  1 !+
;   104          0600  1 ! The following quadwords constitute queue headers, one for each LUN.
;   105          0601  1 ! Each queue will normally either be empty (meaning that no LUB is
;   106          0602  1 ! allocated) or contain one item, the LUB.  The field LUB$Q_QUEUE is
;   107          0603  1 ! used for the queue linkage.  Under certain circumstances a second
;   108          0604  1 ! LUB may be plared in the queue and then quickly removed.
```

```
;  109          0605  1 !-
;  110          0606  1     OTS$$AA_LUB_TAB : VOLATILE OTS$$LUB_TAB_ST  !
;  111          0607  1         [-LUB$K_ILUN_MIN + LUB$K_LUN_MAX + 1, LUB$K_ILUN_MIN],
;  112          0608  1 !+
;  113          0609  1 ! Each bit of the following BITVECTOR corresponds to a LUN.  The bit is
;  114          0610  1 ! set if there is any I/O activity outstanding for the LUN.  The bit
;  115          0611  1 ! must be kept here rather than in the LUB because there can be I/O
;  116          0612  1 ! activity outstanding even before the LUB is allocated.
;  117          0613  1 !-
;  118          0614  1     OTS$$V_IOINPROG : VOLATILE BITVECTOR        !
;  119          0615  1         [(1-LUB$K_ILUN_MIN + LUB$K_LUN_MAX + %BPVAL)/%BPVAL)*%BP  L],
;  120          0616  1 !+
;  121          0617  1 ! The following cell contains the logical unit number of the current
;  122          0618  1 ! unit.  It is used in place of OTS$$AA_CUR_LUB when pushing to avoid
;  123          0619  1 ! a problem with removing the LUB from the LUB table prior to
;  124          0620  1 ! deallocating it.  When it contains a value one greater than the max
;  125          0621  1 ! permitted value then there is no current LUB.
;  126          0622  1 !-
;  127          0623  1     OTS$$L_CUR_LUN : INITIAL (LUB$K_LUN_MAX + 1),
;  128          0624  1 !+
;  129          0625  1 ! The following cell acts as a level counter.  For efficiency the
;  130          0626  1 ! LUN pushing and popping routines are not called at the top level
;  131          0627  1 ! because, first, they would have nothing useful to do and, second,
;  132          0628  1 ! the top level is used much more frequently than the lower levels.
;  133          0629  1 !-
;  134          0630  1     OTS$$L_LVL_CTR : INITIAL (-1),
;  135          0631  1 !+
;  136          0632  1 ! The following vector of bits is used to record ownership of each LUN.
;  137          0633  1 ! If the bit corresponding to a particular language is set, the language
;  138          0634  1 ! owns the LUN.
;  139          0635  1 !-
;  140          0636  1     OTS$$V_LUN_OWNR : BLOCKVECTOR [-LUB$K_ILUN_MIN + LUB$K_LUN_MAX + 1,        !
;  141          0637  1             ((LUB$K_LANG_MAX + %BPUNIT)/%BPUNIT), BYTE];
;  142          0638  1
;  143          0639  1 !
;  144          0640  1 ! EXTERNAL REFERENCES:
;  145          0641  1 !
;  146          0642  1 !       NONE
;  147          0643  1 !
;  148          0644  1 END                                         ! End of module OTS$$CCB_DATA
;  149          0645  1
;  150          0646  0 ELUDOM


                                                    .TITLE  OTS$$CCB_DATA
                                                    .IDENT  \1-002\

                                                    .PSECT  _OTS$DATA,NOEXE,  PIC,2

                                    00000000  00000 OTS$$A_CUR_LUB::
                                                    .LONG   0                       ;
                                    00000000  00004 OTS$$V_CCB_INIT::
                                                    .LONG   0                       ;
                                              00008 OTS$$AA_LUB_TAB::
                                                    .BLKB   1024
                                              00408 OTS$$V_IOINPROG::
                                                    .BLKB   16
```

```
00000078  00418 OTS$$L_CUR_LUN::
                       .LONG   120                              ;
FFFFFFFF  0041C OTS$$L_LVL_CTR::
                       .LONG   -1                               ;
          00420 OTS$$V_LUN_OWNR::
                       .BLKB   128
```

```
;                        PSECT SUMMARY
;
;       Name                    Bytes                   Attributes
;
;  _OTS$DATA                     1184  NOVEC, WRT, RD ,NOEXE,NOSHR, LCL, REL, CON, PIC,ALIGN(2)


;                        Library Statistics
;
;                                    -------- Symbols --------      Pages      Processing
;       File                         Total    Load.d   Percent      Mapped     Time
;
;  _$255$DUA28:[SYSLIB]STARLET.L32;1  9776       0         0          581       00:00.8


;                        COMMAND QUALIFIERS
;
;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS$:OTSCCBDAT/OBJ=OBJ$:OTSCCBDAT MSRC$:OTSCCBDAT/UPDATE=(ENH$:OTSCCBDAT
;       )

; Size:         0 code + 1184 data bytes
; Run Time:        00:04.3
; Elapsed Time:    00:23.7
; Lines/CPU Min:    9120
; Lexemes/CPU-Min: 63190
; Memory Used:  86 pages
; Compilation Complete
```

OTSCCB
LIS

OTSCCBDAT
LIS

OTSCVTDP
LIS

OTSCNVOUT
LIS

OTSCVTFP
LIS

OTSCVTLT
LIS

LIBVECTR2
LIS

LIBWAIT
LIS

OTSCLOSEF
LIS

OTSCVTHP
LIS

LIBVECTOR
LIS

OTSCVTDT
LIS

LIBVM
LIS

OTSCVTGP
LIS