D 14

```
MMM         MMM     AAAAAAAAA        IIIIIIIII     LLL
MMM         MMM     AAAAAAAAA        IIIIIIIII     LLL
MMM         MMM     AAAAAAAAA        IIIIIIIII     LLL
MMMMMM   MMMMMM  AAA         AAA        III        LLL
MMMMMM   MMMMMM  AAA         AAA        III        LLL
MMMMMM   MMMMMM  AAA         AAA        III        LLL
MMM   MMM   MMM  AAA         AAA        III        LLL
MMM   MMM   MMM  AAA         AAA        III        LLL
MMM   MMM   MMM  AAA         AAA        III        LLL
MMM         MMM  AAA         AAA        III        LLL
MMM         MMM  AAA         AAA        III        LLL
MMM         MMM  AAA         AAA        III        LLL
MMM         MMM  AAAAAAAAAAAAAAA        III        LLL
MMM         MMM  AAAAAAAAAAAAAAA        III        LLL
MMM         MMM  AAAAAAAAAAAAAAA        III        LLL
MMM         MMM  AAA         AAA        III        LLL
MMM         MMM  AAA         AAA        III        LLL
MMM         MMM  AAA         AAA        III        LLL
MMM         MMM  AAA         AAA     IIIIIIIII     LLLLLLLLLLLLLLL
MMM         MMM  AAA         AAA     IIIIIIIII     LLLLLLLLLLLLLLL
MMM         MMM  AAA         AAA     IIIIIIIII     LLLLLLLLLLLLLLL
```

FILEID**NETSUBS

N 11

```
NN      NN  EEEEEEEEEE  TTTTTTTTTT    SSSSSSSS  UU      UU  BBPBBBBB      SSSSSSSS
NN      NN  EEEEEEEEEE  TTTTTTTTTT    SSSSSSSS  UU      UU  BBBBBBBB      SSSSSSSS
NN      NN  EE              TT      SS          UU      UU  BB      BB  SS
NN      NN  EE              TT      SS          UU      UU  BB      BB  SS
NNNN    NN  EE              TT      SS          UU      UU  BB      BB  SS
NNNN    NN  EE              TT      SS          UU      UU  BB      BB  SS
NN  NN  NN  EEEEEEEE        TT        SSSSSS    UU      UU  BBBBBBBB      SSSSSS
NN  NN  NN  EEEEEEEE        TT        SSSSSS    UU      UU  BBBBBBBB      SSSSSS
NN    NNNN  EE              TT              SS  UU      UU  BB      BB          SS
NN    NNNN  EE              TT              SS  UU      UU  BB      BB          SS
NN      NN  EE              TT              SS  UU      UU  BB      BB          SS      ....
NN      NN  EE              TT              SS  UU      UU  BB      BB          SS      ....
NN      NN  EEEEEEEEEE      TT      SSSSSSSS    UUUUUUUUUU  BBBBBBBB    SSSSSSSS        ....
NN      NN  EEEEEEEEEE      TT      SSSSSSSS    UUUUUUUUUU  BBBBBBBB    SSSSSSSS        ....

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
```

```
0 MODULE MAIL$NETSUBS (
0         IDENT = 'V04-000'
0                 ) =
1 BEGIN
1
1 !
1 !****************************************************************************
1 !*                                                                          *
1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                 *
1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                  *
1 !*  ALL RIGHTS RESERVED.                                                    *
1 !*                                                                          *
1 !*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED   *
1 !*  ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE   *
1 !*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER   *
1 !*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY   *
1 !*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY   *
1 !*  TRANSFERRED.                                                            *
1 !*                                                                          *
1 !*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE   *
1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT   *
1 !*  CORPORATION.                                                            *
1 !*                                                                          *
1 !*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS   *
1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                 *
1 !*                                                                          *
1 !*                                                                          *
1 !****************************************************************************
1 !
1
1 !++
1 ! FACILITY:     VAX/VMS MAIL UTILITY
1 !
1 ! ABSTRACT:     Subroutines to speak to networks
1 !
1 ! ENVIRONMENT:  NATIVE/USER MODE
1 !
1 ! AUTHOR: Benn Schreiber, CREATION DATE: 10-Jul-1983
1 !
1 ! MODIFIED BY:
1 !
1 !
1 !       V03-015 ROP0030         Robert Posniak          24-JUL-1984
1 !               Allow VFC format files to be sent in
1 !               block mode.
1 !
1 !       V03-014 ROP0012         Robert Posniak          27-JUN-1984
1 !               Only send in block mode if input file has
1 !               variable length records.  Add check of
1 !               nodename for foreign protocol address
1 !               already exists test.
1 !
1 !       V03-013 ROP0001          Robert Posniak          24-MAY-1984
1 !               Check for oversized record when sending in record
1 !               mode.
1 !
1 !       V03-012 BLS0311         Benn Schreiber          1-MAY-1984
```

```
;   58          0058  1 !                   Don't send 0-address to $qio.
;   59          0059  1 !
;   60          0060  1 !           V03-011 BLS0292         Benn Schreiber          29-MAR-1984
;   61          0061  1 !                   Correct handling of alternate protocol per problems
;   62          0062  1 !                   reported by Peter Lipman.  Complete attachment for MR.
;   63          0063  1 !
;   64          0064  1 !           V03-010 BLS0280         Benn Schreiber           4-MAR-1984
;   65          0065  1 !                   Report errors in mail$get_input better.
;   66          0066  1 !
;   67          0067  1 !           V03-009 BLS0272         Benn Schreiber          18-FEB-1984 13:36:59
;   68          0068  1 !                   Complete alternate protocol hooks. Use LIB$FIND_IMAGE_SYMBOL
;   69          0069  1 !
;   70          0070  1 !           V03-008 BLS0263         Benn Schreiber           4-FEB-1984
;   71          0071  1 !                   Separate sending 0-end-of-username out into a routine
;   72          0072  1 !                   so that slave mails that timeout on usernames don't timeout.
;   73          0073  1 !
;   74          0074  1 !           V03-007 BLS0255         Benn Schreiber          28-Dec-1983
;   75          0075  1 !                   Convert to global flags.  Add routine to check addressee
;   76          0076  1 !                   already in list.  If createlink is called for node already
;   77          0077  1 !                   known dead, resignal the error for network master.  Insist
;   78          0078  1 !                   on getting an ncb back in the mailbox.  mail$get_input now
;   79          0079  1 !                   supports optional 3rd arg for output length.
;   80          0080  1 !
;   81          0081  1 !           V03-006 BLS0250         Benn Schreiber          12-Dec-1983
;   82          0082  1 !                   Clear block mode flag in accept_link if error.
;   83          0083  1 !
;   84          0084  1 !           V03-005 BLS0246         Benn Schreiber          28-Nov-1983
;   85          0085  1 !                   Allow ^C out of qio to access remote node.
;   86          0086  1 !
;   87          0087  1 !           V03-004 BLS0241         Benn Schreiber          27-Sep-1983
;   88          0088  1 !                   Fix maxmsg and bufquo args to ASN_WTH_MBX.
;   89          0089  1 !
;   90          0090  1 !           V03-003 BLS0240         Benn Schreiber          15-Sep-1983
;   91          0091  1 !                   Corrections to enable alternate net protocol.
;   92          0092  1 !
;   93          0093  1 !           V03-002 BLS0235         Benn Schreiber          23-Aug-1983
;   94          0094  1 !                   Fix loop problem while searching for existing link, and
;   95          0095  1 !                   ensure UBF set up correctly for sending messages.
;   96          0096  1 !
;   97          0097  1 !--
;   99          0098  1 !
;  100          0099  1 ! INCLUDE FILES
;  101          0100  1 !
;  102          0101  1     LIBRARY     'SYS$LIBRARY:STARLET';
;  103          0102  1     REQUIRE     'SRC$:MAILREQ';
;  104          0248  1     LIBRARY     'LIB$:MAILDEF';
;  105          0249  1
;  106          0250  1 EXTERNAL ROUTINE
;  107          0251  1     LIB$ASN_WTH_MBX,                    !Assign channel with mailbox
;  108          0252  1     LIB$GET_VM,                         !Allocate dynamic memory
;  109          0253  1     LIB$PUT_OUTPUT,                     !Output to SYS$OUTPUT
;  110          0254  1     LIB$SCOPY_R_DX,                     !String copy
;  111          0255  1     MAIL$ENABLE_CTRLC,                  !Enable main ctrl/c handling
;  112          0256  1     MAIL$DISABLE_CTRLC,                 ! and disable it
;  113          0257  1     MAIL$READ_ERROR_TEXT,               !Read error text from slave and signal
;  114          0258  1     SMG$READ_COMPOSED_LINE,             !SMG input routine
;  115          0259  1     SYS$FAOL,                           !Formatted ascii
;  116          0260  1     LIB$FIND_IMAGE_SYMBOL,              !Image activate and return address
;  117          0261  1     UTIL$REPORT_IO_ERROR;                Report io error
;  118          0262  1
;  119          0263  1 EXTERNAL
;  120          0264  1     MAIL$SD_LNM_FILE_DEV,               ! 'LNM$FILE_DEV'
;  121          0265  1     MAIL$G_CNCT : $BBLOCK,              !Static cnct for inbound connects
;  122          0266  1     MAIL$Q_ATTDESC : $BBLOCK,           !Descriptor of attachment file spec
;  123          0267  1     MAIL$Q_INPTRAN : $BBLOCK,           !Descriptor of SYS$NET translation
;  124          0268  1     MAIL$Q_PROTOCOL : $BBLOCK,          !Descriptor of protocol if alt input
;  125          0269  1     MAIL$L_SMG_KEYTABLE,                !SMG keytable index
;  126          0270  1     MAIL$L_SMG_KEYBOARD.                !SMG keyboard index
;  127          0271  1     MAIL$W_TTCHAN : WORD,               !Channel for terminal i/o
;  128          0272  1     MAIL$GL_SYSFLAGS : $BBLOCK,         !System-wide control flags
;  129          0273  1     MAIL$GL_FLAGS : $BBLOCK;            !control flags
;  130          0274  1
;  131          0275  1 EXTERNAL LITERAL
;  132          0276  1     SMG$_EOF;                           !End of file from SMG$ routines
;  133          0277  1
;  134          0278  1 OWN
;  135          0279  1     LINK_CHAN,                          !Channel for inbound logical link
;  136          0280  1     LINK_TFRADR,                        !Transfer address for alt prot. inb.
;  137          0281  1     LINK_CONTEXT,                       ! and it's context
;  138          0282  1     NETMBX_CHAN;                        !Network mailbox channel
;  139          0283  1
;  140          0284  1 GLOBAL
;  141          0285  1     MAIL$L_MBXBUF : LONG INITIAL(32),   !Size of mailbox buffer
;  142          0286  1     MAIL$L_MBXQUO : LONG INITIAL(96);   !Mailbox quota (3*mbxbuf)
;  143          0287  1
;  144          0288  1 BIND
;  145          0289  1     PROT_DESC = $DESCRIPTOR('MAIL$PROTOCOL') : $BBLOCK,         !..routine name
;  146          0290  1     X25_DESC = $DESCRIPTOR('PSIMAIL') : $BBLOCK,                !X25 image
;  147          0291  1     NETACP_DESC = $DESCRIPTOR('_NET:') : $BBLOCK,       !For speaking to netacp
;  148          0292  1     LINK_DESC = $DESCRIPTOR('SYS$NET') : $BBLOCK,       !Logical we look for
;  149          0293  1     OBJECT_DESC = $DESCRIPTOR('::"MAIL=') : $BBLOCK,    !Remote mail object
;  150          0294  1     PREFIX_DESC = $DESCRIPTOR('MAIL$PROTOCOL_') : $BBLOCK,
;  151          0295  1     SD_MAJOR = $DESCRIPTOR('MAIL$C_PROT_MAJOR'),
;  152          0296  1     SD_MINOR = $DESCRIPTOR('MAIL$C_PROT_MINOR');
;  153          0297  1
;  154          0298  1 GLOBAL BIND
;  155          0299  1     MAIL$Q_OBJDESC = OBJECT_DESC;       !For debugging private object type
;  156          0300  1 !
;  157          0301  1 ! Define shared messages
;  158          0302  1 !
;  159        P 0303  1 $SHR_MSGDEF(MAIL,126,LOCAL,
;  160          0304  1         (READERR,ERROR));
```

```
1 GLOBAL ROUTINE MAIL$ADDR_EXISTS(PROT_DESC,NODE_DESC,USER_DESC,ADRLST) =
1 !+++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !         Check whether the named addressee is already in the list.
1 !         Return true if found, false if not.
1 !
1 ! Inputs:
1 !
1 !         prot_desc = address of protocol descriptor
1 !         node_desc = address of nodename descriptor
1 !         user_desc = address of username descriptor
1 !         adrlst = address of address list listhead
1 !---
2 BEGIN
2 MAP
2     PROT_DESC : REF $BBLOCK,
2     NODE_DESC : REF $BBLOCK,
2     USER_DESC : REF $BBLOCK,
2     ADRLST : REF VECTOR[2,LONG];
2
2 LOCAL
2     DESC : VECTOR[2,LONG],
2     ADR : REF $BBLOCK,
2     LNK : REF $BBLOCK;
2
2 ADR = .ADRLST[0];
2 !
2 ! Loop through the addressee list
2 !
2 WHILE .ADR NEQ ADRLST[0]
3 DO BEGIN
3 !
3 ! First check the username
3 !
3     IF CH$EQL(.USER_DESC[DSC$W_LENGTH],.USER_DESC[DSC$A_POINTER],
3             .ADR[ADR_B_NAMLNG],ADR[ADR_T_NAME])
4     THEN BEGIN
4         LNK = .ADR[ADR_L_LLNK];
4 !
4 ! If protocol and node are 0, and this entry has no LNK pointer, then
4 ! this is a match
4 !
5         IF (.PROT_DESC[DSC$W_LENGTH] EQL 0)
5             AND (.NODE_DESC[DSC$W_LENGTH] EQL 0)
5             AND (.LNK EQL 0)
4             THEN RETURN TRUE;
4         IF .PROT_DESC[DSC$W_LENGTH] EQL 0
5         THEN BEGIN
5 !
5 ! Same nodename is a match
5 !
6             IF (.LNK NEQ 0)
6                 AND (.LNK[LNK_B_PNLEN] EQL 0)
5                 THEN IF CH$EQL(.NODE_DESC[DSC$W_LENGTH],.NODE_DESC[DSC$A_POINTER],
5                         .LNK[LNK_B_NODLEN],LNK[LNK_T_NODE])
5                 THEN RETURN TRUE;
```

```
;  219          0362  5           END
;  220          0363  5          !
;  221          0364  5          ! If foreign protocol, check protocol name and node name
;  222          0365  5          !
;  223          0366  4          ELSE IF (.LNK NEQ 0) AND (.LNK[LNK_B_PNLEN] NEQ 0) THEN
;  224          0367  4                IF CH$EQL(.PROT_DESC[DSC$W_LENGTH],
;  225          0368  4                   .PROT_DESC[DSC$A_POINTER],.LNK[LNK_B_PNLEN],LNK[LNK_T_PNAM])
;  226          0369  4                AND CH$EQL(.NODE_DESC[DSC$W_LENGTH],.NODE_DESC[DSC$A_POINTER],
;  227          0370  4                    .LNK[LNK_B_NODLEN],LNK[LNK_T_NODE])
;  228          0371  4                                                          THEN RETURN TRUE;
;  229          0372  3          END;
;  230          0373  3       ADR = .ADR[ADR_L_FLINK];                           !Move along the list
;  231          0374  2       END;
;  232          0375  2 RETURN FALSE
;  233          0376  1 END;


                                                                        .TITLE  MAIL$NETSUBS
                                                                        .IDENT  \V04-000\

                                                                        .PSECT  $CODE$,NOWRT,2

      4C 4F 43 4F 54 4F 52 50 24 4C 49 41 4D  00000 P.AAB:  .ASCII  \MAIL$PROTOCOL\          ;
                                              0000D         .BLKB   3
                                   0000000D   00010 P.AAA:  .LONG   13                       ;
                                   00000000'  00014         .ADDRESS P.AAB                   ;
                        4C 49 41 4D 49 53 50  00018 P.AAD:  .ASCII  \PSIMAIL\                ;
                                              0001F         .BLKB   1
                                   00000007   00020 P.AAC:  .LONG   7                        ;
                                   00000000'  00024         .ADDRESS P.AAD                   ;
                              3A 54 45 4E 5F  00028 P.AAF:  .ASCII  \_NET:\                  ;
                                              0002D         .BLKB   3
                                   00000005   00030 P.AAE:  .LONG   5                        ;
                                   00000000'  00034         .ADDRESS P.AAF                   ;
                        54 45 4E 24 53 59 53  00038 P.AAH:  .ASCII  \SYS$NET\                ;
                                              0003F         .BLKB   1
                                   00000007   00040 P.AAG:  .LONG   7                        ;
                                   00000000'  00044         .ADDRESS P.AAH                   ;
                     3D 4C 49 41 4D 22 3A 3A  00048 P.AAJ:  .ASCII  \::"MAIL=\               ;
                                   00000008   00050 P.AAI:  .LONG   8                        ;
                                   00000000'  00054         .ADDRESS P.AAJ                   ;
   5F 4C 4F 43 4F 54 4F 52 50 24 4C 49 41 4D  00058 P.AAL:  .ASCII  \MAIL$PROTOCOL_\         ;
                                              00066         .BLKB   2
                                   0000000E   00068 P.AAK:  .LONG   14                       ;
                                   00000000'  0006C         .ADDRESS P.AAL                   ;
4A 41 4D 5F 54 4F 52 50 5F 43 24 4C 49 41 4D  00070 P.AAN:  .ASCII  \MAIL$C_PROT_MAJOR\      ;
                                       52 4F  0007F                                          ;
                                              00081         .BLKB   3
                                   00000011   00084 P.AAM:  .LONG   17                       ;
                                   00000000'  00088         .ADDRESS P.AAN                   ;
4E 49 4D 5F 54 4F 52 50 5F 43 24 4C 49 41 4D  0008C P.AAP:  .ASCII  \MAIL$C_PROT_MINOR\      ;
                                       52 4F  0009B                                          ;
                                              0009D         .BLKB   3
                                   00000011   000A0 P.AAO:  .LONG   17                       ;
                                   00000000'  000A4         .ADDRESS P.AAP                   ;

                                                            .PSECT  $OWN$,NOEXE,2
```

```
                                                             00000 LINK_CHAN:
                                                                           .BLKB   4
                                                             00004 LINK_TFRADR:
                                                                           .BLKB   4
                                                             00008 LINK_CONTEXT:
                                                                           .BLKB   4
                                                             0000C NETMBX_CHAN:
                                                                           .BLKB   4

                                                                           .PSECT  $GLOBAL$,NOEXE,2

                                                   00000020  00000 MAIL$L_MBXBUF::
                                                                           .LONG   32                                           ;
                                                   00000060  00004 MAIL$L_MBXQUO::
                                                                           .LONG   96                                           ;

                                                                   PROT_DESC=          P.AAA
                                                                   X25_DESC=           P.AAC
                                                                   NETACP_DESC=        P.AAE
                                                                   LINK_DESC=          P.AAG
                                                                   OBJECT_DESC=        P.AAI
                                                                   PREFIX_DESC=        P.AAK
                                                                   SD_MAJOR=           P.AAM
                                                                   SD_MINOR=           P.AAO
                                                                   MAIL$Q_OBJDESC==    P.AAI
                                                                           .EXTRN  LIB$ASN_WTH_MBX
                                                                           .EXTRN  LIB$GET_VM, LIB$PUT_OUTPUT
                                                                           .EXTRN  LIB$SCOPY_R_DX, MAIL$ENABLE_CTRLC
                                                                           .EXTRN  MAIL$DISABLE_CTRLC
                                                                           .EXTRN  MAIL$READ_ERROR_TEXT
                                                                           .EXTRN  SMG$READ_COMPOSED_LINE
                                                                           .EXTRN  SYS$FAOL, LIB$FIND_IMAGE_SYMBOL
                                                                           .EXTRN  UTIL$REPORT_IO_ERROR
                                                                           .EXTRN  MAIL$SD_LNM_FILE_DEV
                                                                           .EXTRN  MAIL$G_CNCT, MAIL$Q_ATTDESC
                                                                           .EXTRN  MAIL$Q_INPTRAN, MAIL$Q_PROTOCOL
                                                                           .EXTRN  MAIL$L_SMG_KEYTABLE
                                                                           .EXTRN  MAIL$L_SMG_KEYBOARD
                                                                           .EXTRN  MAIL$W_TTCHAN, MAIL$GL_SYSFLAGS
                                                                           .EXTRN  MAIL$GL_FLAGS, SMG$_EOF

                                                                           .PSECT  $CODE$,NOWRT,2

                                                        007C 00000         .ENTRY  MAIL$ADDR_EXISTS, Save R2,R3,R4,R5,R6        ; 0305
                                        5E            08  C2 00002         SUBL2   #8, SP                                       ;
                                        55       10   BC  D0 00005         MOVL    @ADRLST, ADR                                 ; 0331
                                        56       0C   AC  D0 00009         MOVL    USER_DESC, R6                                ; 0340
                                   10   AC            55  D1 0000D 1$:     CMPL    ADR, ADRLST                                  ; 0335
                                                      66  13 00011         BEQL    7$                                           ;
                                        50       1D   A5  9A 00013         MOVZBL  29(ADR), R0                                  ; 0341
           50            00        04   B6       CC   BC  2D 00017         CMPC5   @USER_DESC, @4(R6), #0, R0, 30(ADR)          ;
                                                 1E   A5     0001E                                                              ;
                                                      52  12 00020         BNEQ    6$                                           ;
                                        54       08   A5  D0 00022         MOVL    8(ADR), LNK                                  ; 0343
                                        51       04   AC  D0 00026         MOVL    PROT_DESC, R1                                ; 0348
                                                      50  D4 0002A         CLRL    R0                                           ;
```

```
                                               61   B5 0002C           TSTW    (R1)                                    ;
                                               0B   12 0002E           BNEQ    2$                                      ;
                                               50   D6 00030           INCL    R0                                      ;
                                         08    BC   B5 00032           TSTW    @NODE_DESC                              ; 0349
                                               04   12 00035           BNEQ    2$                                      ;
                                               54   D5 00037           TSTL    LNK                                     ; 0350
                                               35   13 00039           BEQL    5$                                      ;
                                   09          50   E9 0003B 2$:       BLBC    R0, 3$                                  ; 0357
                                               54   D5 0003E           TSTL    LNK                                     ;
                                               32   13 00040           BEQL    6$                                      ;
                                         4F    A4   95 00042           TSTB    79(LNK)                                 ; 0358
                                               15   11 00045           BRB     4$                                      ;
                                               54   D5 00047 3$:       TSTL    LNK                                     ; 0366
                                               29   13 00049           BEQL    6$                                      ;
                                         4F    A4   95 0004B           TSTB    79(LNK)                                 ;
                                               24   13 0004E           BEQL    6$                                      ;
                                   50    4F    A4   9A 00050           MOVZBL  79(LNK), R0                             ; 0368
    50            00         04    B1          61   2D 00054           CMPC5   (R1), @4(R1), #0, R0, 80(LNK)           ;
                                         50    A4      0005A                                                           ;
                                               16   12 0005C 4$:       BNEQ    6$                                      ;
                                   50    08    AC   D0 0005E           MOVL    NODE_DESC, R0                           ; 0369
                                   51    2F    A4   9A 00062           MOVZBL  47(LNK), R1                             ; 0370
    51            00         04    B0          60   2D 00066           CMPC5   (R0), @4(R0), #0, R1, 48(LNK)           ;
                                         30    A4      0006C                                                           ;
                                               04   12 0006E           BNEQ    6$                                      ;
                                   50          01   D0 00070 5$:       MOVL    #1, R0                                  ; 0371
                                                    04 00073           RET                                             ;
                                   55          65   D0 00074 6$:       MOVL    (ADR), ADR                              ; 0373
                                               94   11 00077           BRB     1$                                      ; 0335
                                               50   D4 00079 7$:       CLRL    R0                                      ; 0375
                                                    04 0007B           RET                                             ; 0376

; Routine Size:  124 bytes,    Routine Base:  $CODE$ + 00A8
;  235          0377  1 ROUTINE CTRLCAST (LNKDESC) =
;  236          0378  1 !+++
;  237          0379  1 ! FUNCTIONAL DESCRIPTION:
;  238          0380  1 !
;  239          0381  1 !       Entered when a CTRL/C is detected while attempting connect to
;  240          0382  1 !       remote node.
;  241          0383  1 !---
;  242          0384  2 BEGIN
;  243          0385  2 MAP
;  244          0386  2     LNKDESC : REF $BBLOCK;
;  245          0387  2
;  246          0388  2 LOCAL
;  247          0389  2     DESC : VECTOR[2,LONG];
;  248          0390  2
;  249          0391  2 !
;  250          0392  2 ! Cancel network access qio, then fix up ctrl/c handler
;  251          0393  2 !
;  252          0394  2 $CANCEL(CHAN=.LNKDESC[LNK_W_CHAN]);
;  253          0395  2 LNKDESC[LNK_V_DEAD] = TRUE;
;  254          0396  2
;  255          0397  2 IF .MAIL$GL_FLAGS[MAIF_V_ITERM]
;  256          0398  3 THEN BEGIN
;  257          0399  3     $CANCEL(CHAN=.MAIL$W_TTCHAN);       !Cancel our ctrl/c ast
;  258          0400  3     MAIL$ENABLE_CTRLC();                !and enable main one
;  259          0401  3     END;
;  260          0402  2
;  261          0403  2 DESC[0] = .LNKDESC[LNK_B_NODLEN];
;  262          0404  2 DESC[1] = LNKDESC[LNK_T_NODE];
;  263          0405  2 SIGNAL(MAIL$_CONABORT,1,DESC,MAIL$_SENDABORT);  !Signal and unwind
;  264          0406  2
;  265          0407  2 RETURN 1
;  266          0408  1 END;


                                                        .EXTRN  SYS$CANCEL

                                    000C 00000 CTRLCAST:
                                                        .WORD   Save R2,R3                                        ; 0377
                53 00000000G   00   9E 00002            MOVAB   SYS$CANCEL, R3                                    ;
                5E             08   C2 00009            SUBL2   #8, SP                                            ;
                52       04    AC   D0 0000C            MOVL    LNKDESC, R2                                       ; 0394
                7E       2C    A2   3C 00010            MOVZWL  44(R2), -(SP)                                     ;
                63             01   FB 00014            CALLS   #1, SYS$CANCEL                                    ;
          2E    A2             02   88 00017            BISB2   #2, 46(R2)                                        ; 0395
 11 00000000G   00             02   E1 0001B            BBC     #2, MAIL$GL_FLAGS, 1$                             ; 0397
                7E 00000000G   00   3C 00023            MOVZWL  MAIL$W_TTCHAN, -(SP)                              ; 0399
                63             01   FB 0002A            CALLS   #1, SYS$CANCEL                                    ;
    00000000G   00             00   FB 0002D            CALLS   #0, MAIL$ENABLE_CTRLC                             ; 0400
                6E       2F    A2   9A 00034 1$:        MOVZBL  47(R2), DESC                                      ; 0403
          04    AE       30    A2   9E 00038            MOVAB   48(R2), DESC+4                                    ; 0404
                   007E805A    8F   DD 0003D            PUSHL   #8290394                                          ; 0405
                         04    AE   9F 00043            PUSHAB  DESC                                              ;
                               01   DD 00046            PUSHL   #1                                                ;
                   007E8112    8F   DD 00048            PUSHL   #8290578                                          ;
    00000000G   00             04   FB 0004E            CALLS   #4, LIB$SIGNAL                                    ;
                50             01   D0 00055            MOVL    #1, R0                                            ; 0407
```

```
                                                  04 00058          RET                                                 ; 0408

; Routine Size:  89 bytes,    Routine Base:  $CODE$ + 0124
;  268          0409  1 ROUTINE SEND_STRING (DESC) =
;  269          0410  1 !++
;  270          0411  1 ! FUNCTIONAL DESCRIPTION:
;  271          0412  1 !
;  272          0413  1 !       Write string to SYS$OUTPUT
;  273          0414  1 !
;  274          0415  1 !--
;  275          0416  2 BEGIN
;  276          0417  2
;  277          0418  2 LIB$PUT_OUTPUT(.DESC);
;  278          0419  2 RETURN 0
;  279          0420  1 END;


                                        0000 00000 SEND_STRING:
                                                          .WORD   Save nothing                              ; 0409
                                  04   AC  DD 00002       PUSHL   DESC                                      ; 0418
               00000000G  00           01  FB 00005       CALLS   #1, LIB$PUT_OUTPUT                        ;
                                       50  D4 0000C       CLRL    R0                                        ; 0419
                                           04 0000E       RET                                               ; 0420

; Routine Size:  15 bytes,    Routine Base:  $CODE$ + 017D
;   281          0421  1 GLOBAL ROUTINE MAIL$PRUNW_HANDLER (SIGARG,MECHARG) =
;   282          0422  1 !++
;   283          0423  1 ! FUNCTIONAL DESCRIPTION:
;   284          0424  1 !
;   285          0425  1 !       General handler to print message w/putmsg and then unwind if
;   286          0426  1 !       the signal is MAIL$_CONABORT
;   287          0427  1 !--
;   288          0428  2 BEGIN
;   289          0429  2 MAP
;   290          0430  2     SIGARG : REF $BBLOCK,
;   291          0431  2     MECHARG : REF $BBLOCK;
;   292          0432  2
;   293          0433  2 BIND
;   294          0434  2     SIGNAME = SIGARG[CHF$L_SIG_NAME] : $BBLOCK;
;   295          0435  2
;   296          0436  2 IF .SIGNAME EQL SS$_UNWIND
;   297          0437  2     THEN RETURN SS$_CONTINUE;
;   298          0438  2
;   299          0439  2 IF .SIGNAME NEQ MAIL$_CONABORT
;   300          0440  2     THEN RETURN SS$_RESIGNAL;
;   301          0441  2
;   302          0442  2 IF NOT .SIGNAME
;   303          0443  3 THEN BEGIN
;   304          0444  3     MECHARG[CHF$L_MCH_SAVR0] = .SIGNAME;
;   305          0445  3     SIGARG[CHF$L_SIG_ARGS] = .SIGARG[CHF$L_SIG_ARGS] - 2;
;   306        P 0446  3     $PUTMSG(MSGVEC=SIGARG[CHF$L_SIG_ARGS],
;   307          0447  3             ACTRTN = SEND_STRING);
;   308          0448  3     SIGARG[CHF$L_SIG_ARGS] = .SIGARG[CHF$L_SIG_ARGS] + 2;
;   309          0449  3     SIGNAME[STS$V_SEVERITY] = STS$K_WARNING;
;   310          0450  2     END;
;   311          0451  2
;   312          0452  2 SETUNWIND();
;   313          0453  2 RETURN 0
;   314          0454  1 END;


                                                          .EXTRN  SYS$PUTMSG

                                   0004 00000             .ENTRY  MAIL$PRUNW_HANDLER, Save R2             ; 0421
                  52      04   AC   D0 00002              MOVL    SIGARG, R2                              ; 0434
        00000920  8F      04   A2   D1 0C006              CMPL    4(R2), #2336                            ; 0436
                               04   12 0000E              BNEQ    1$                                      ;
                  50           01   D0 00010              MOVL    #1, R0                                  ; 0437
                                    04 00013              RET                                             ;
        007E8112  8F      04   A2   D1 00014 1$:          CMPL    4(R2), #8290578                         ; 0439
                               06   13 0001C              BEQL    2$                                      ;
                  50    0918   8F   3C 0001E              MOVZWL  #2328, R0                               ; 0440
                                    04 00023              RET                                             ;
                  21      04   A2   E8 00024 2$:          BLBS    4(R2), 3$                               ; 0442
                  50      08   AC   D0 00028              MOVL    MECHARG, R0                             ; 0444
              0C  A0      04   A2   D0 0002C              MOVL    4(R2), 12(R0)                           ;
                  62           02   C2 00031              SUBL2   #2, (R2)                                ; 0445
                               7E   7C 00034              CLRQ    -(SP)                                   ; 0447
                          B8   AF   9F 00036              PUSHAB  SEND_STRING                             ;
                               52   DD 00039              PUSHL   R2                                      ;
        00000000G 00           04   FB 0003B              CALLS   #4, SYS$PUTMSG                          ;
```

```
                          62          02  C0 00042          ADDL2   #2, (R2)                                   ; 0448
                    04    A2          07  8A 00045          BICB2   #7, 4(R2)                                  ; 0449
                                      7E  7C 00049 3$:      CLRQ    -(SP)                                      ; 0452
           00000000G      00          02  FB 0004B          CALLS   #2, SYS$UNWIND                             ;
                                      50  D4 00052          CLRL    R0                                         ; 0453
                                          04 00054          RET                                                ; 0454

; Routine Size:  85 bytes,    Routine Base:  $CODE$ + 018C
;  316          0455  1 ROUTINE ACCESS_NODE(LNKDESC, CNCTDESC, ALTOBJ_DESC) =
;  317          0456  1 !+++
;  318          0457  1 ! FUNCTIONAL DESCRIPTION:
;  319          0458  1 !
;  320          0459  1 !       Perform the access qio.
;  321          0460  1 !
;  322          0461  1 ! INPUTS:
;  323          0462  1 !
;  324          0463  1 !       lnkdesc = address of lnk descriptor block
;  325          0464  1 !       cnctdesc = address of cnct block
;  326          0465  1 !
;  327          0466  1 !--
;  328          0467  2 BEGIN
;  329          0468  2
;  330          0469  2 MAP
;  331          0470  2     LNKDESC : REF $BBLOCK,
;  332          0471  2     CNCTDESC : REF $BBLOCK,
;  333          0472  2     ALTOBJ_DESC : REF $BBLOCK;
;  334          0473  2
;  335          0474  2 BUILTIN
;  336          0475  2     NULLPARAMETER;
;  337          0476  2
;  338          0477  2 LOCAL
;  339          0478  2     STATUS,
;  340          0479  2     DESC : VECTOR[2,LONG],
;  341          0480  2     CNFREC : $BBLOCK[CNF_C_LENGTH],
;  342          0481  2     PTR : REF VECTOR[,BYTE],
;  343          0482  2     PTR1 : REF VECTOR[,BYTE],
;  344          0483  2     IOSB : VECTOR[4,WORD];
;  345          0484  2
;  346          0485  2 BIND
;  347          0486  2     TMPBUF = MAIL$G_CNCT[CNCT_T_BUFFER] : $BBLOCK,
;  348          0487  2     TMPWORD = TMPBUF : VECTOR[,WORD],
;  349          0488  2     TMPBYTE = TMPBUF : VECTOR[,BYTE];
;  350          0489  2
;  351          0490  2 IF .MAIL$GL_FLAGS[MAIF_V_ITERM]
;  352          0491  2     AND .MAIL$W_TTCHAN NEQ 0
;  353          0492  3 THEN BEGIN
;  354          0493  3     MAIL$DISABLE_CTRLC();
;  355        P 0494  3     IF_ERR($QIOW(CHAN=.MAIL$W_TTCHAN,
;  356        P 0495  3                 FUNC=IO$_SETMODE OR IO$M_CTRLCAST,
;  357        P 0496  3                 IOSB=IOSB,
;  358        P 0497  3                 P1=CTRLCAST,
;  359        P 0498  3                 P2=.LNKDESC),
;  360          0499  3             SIGNAL(.STATUS));
;  361          0500  3     IF NOT .IOSB[0]
;  362          0501  3         THEN SIGNAL(.IOSB[0]);
;  363          0502  2     END;
;  364          0503  2 !
;  365          0504  2 ! Set up configuration record
;  366          0505  2 !
;  367          0506  2 CNFREC[CNF_B_VERSION] = CNF_C_VERS;
;  368          0507  2 CNFREC[CNF_B_ECO] = CNF_C_ECO;
;  369          0508  2 CNFREC[CNF_B_CUSTECO] = 0;
;  370          0509  2 CNFREC[CNF_B_OS] = CNF_C_VAXVMS;
;  371          0510  2 CNFREC[CNF_L_OPTIONS] = 0;
;  372          0511  2 CNFREC[CNF_B_RFM] = .CNCTDESC[CNCT_B_FILRFM]; !Record format
;  373          0512  2 CNFREC[CNF_B_RAT] = .CNCTDESC[CNCT_B_FILRAT]; ! and attributes
;  374          0513  2 !
;  375          0514  2 ! We want to send in block mode only if the input file has var len records
;  376          0515  2 ! or VFC format
;  377          0516  2 !
;  378          0517  2 CNFREC[CNF_L_IOMODE] = 0;
;  379          0518  3 IF ((.CNFREC[CNF_B_RFM] EQL FAB$C_VAR) OR (.CNFREC[CNF_B_RFM] EQL FAB$C_VFC))
;  380          0519  2     THEN CNFREC[CNF_L_IOMODE] = CNF_M_BLKSEND;
;  381          0520  2 CNFREC[CNF_B_SPARE1] = 0;
;  382          0521  2 CNFREC[CNF_B_SPARE2] = 0;
;  383          0522  2 !
;  384          0523  2 ! Set up the ncb.  the format is:
;  385          0524  2 !       NODE::"MAIL=/<word of 0><count><'count' bytes><16 - 'count' 0's>"
;  386          0525  2 !
;  387          0526  2 PTR = CH$MOVE(.LNKDESC[LNK_B_NODLEN],LNKDESC[LNK_T_NODE],TMPBUF);
;  388          0527  2 IF NULLPARAMETER(3)
;  389          0528  2 THEN PTR = CH$MOVE(.OBJECT_DESC[DSC$W_LENGTH],.OBJECT_DESC[DSC$A_POINTER],.PTR)
;  390          0529  2 ELSE PTR = CH$MOVE(.ALTOBJ_DESC[DSC$W_LENGTH],
;  391          0530  2                     .ALTOBJ_DESC[DSC$A_POINTER],.PTR);
;  392          0531  2 PTR[0] = %C'/';
;  393          0532  2 PTR = PTR[1];
;  394          0533  2 PTR[0] = PTR[1] = 0;    !Create word of 0
;  395          0534  2 PTR = PTR[2];
;  396          0535  2 PTR[0] = CNF_C_LENGTH;  !Set length of configuration data
;  397          0536  2 PTR = PTR[1];
;  398          0537  2 PTR = CH$MOVE(CNF_C_LENGTH,CNFREC,.PTR); !move configuration data
;  399        L 0538  2 %IF 16-CNF_C_LENGTH GTRU 0
;  400        U 0539  2 %THEN
;  401        U 0540  2     PTR = CH$FILL(0,16-CNF_C_LENGTH,.PTR);             !Fill rest with 0s'
;  402          0541  2 %FI
;  403          0542  2 PTR[0] = %C'"';                                    !And a closing quotes
;  404          0543  2 PTR = PTR[1];
;  405          0544  2 DESC[0] = .PTR - TMPBUF;                           !Create descriptor of NCB
;  406          0545  2 DESC[1] = TMPBUF;
;  407          0546  2 !
;  408          0547  2 ! Do Access qio
;  409          0548  2 !
;  410        P 0549  2 STATUS = $QIOW(FUNC=IO$_ACCESS,
;  411        P 0550  2                CHAN=.LNKDESC[LNK_W_CHAN],
;  412        P 0551  2                IOSB=IOSB,
;  413          0552  2                P2=DESC);
;  414          0553  2
;  415          0554  2 IF .STATUS
;  416          0555  2     THEN STATUS = .IOSB[0];
;  417          0556  2
;  418          0557  2 IF .MAIL$GL_FLAGS[MAIF_V_ITERM]
;  419          0558  2     AND .MAIL$W_TTCHAN NEQ 0
;  420          0559  3 THEN BEGIN
;  421          0560  3     $CANCEL(CHAN=.MAIL$W_TTCHAN);        !Cancel our ctrl/c ast
;  422          0561  3     MAIL$ENABLE_CTRLC();                 !and enable main one
;  423          0562  2     END;
;  424          0563  2
;  425          0564  2 RETURN .STATUS
;  426          0565  1 END;
```

```
                                                 .EXTRN  SYS$QIOW

                          0FFC 00000 ACCESS_NODE:
                                                 .WORD    Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11       ; 0455
             5B 00000000G 00 9E 00002            MOVAB    LIB$SIGNAL, R11                            ;
             5A 00000000G 00 9E 00009            MOVAB    SYS$QIOW, R10                              ;
             59 00000000G 00 9E 00010            MOVAB    TMPBUF, R9                                 ;
             58      FF28 CF 9E 00017            MOVAB    CTRLCAST, R8                               ;
             57 00000000G 00 9E 0001C            MOVAB    MAIL$W_TTCHAN, R7                          ;
             5E              20 C2 00023         SUBL2    #32, SP                                    ;
37 00000000G 00              02 E1 00026         BBC      #2, MAIL$GL_FLAGS, 2$                      ; 0490
                             67 B5 0002E         TSTW     MAIL$W_TTCHAN                              ; 0491
                             33 13 00030         BEQL     2$                                         ;
   00000000G 00              00 FB 00032         CALLS    #0, MAIL$DISABLE_CTRLC                     ; 0493
                             7E 7C 00039         CLRQ     -(SP)                                      ; 0499
                             7E 7C 0003B         CLRQ     -(SP)                                      ;
                           04 AC DD 0003D        PUSHL    LNKDESC                                    ;
                             58 DD 00040         PUSHL    R8                                         ;
                             7E 7C 00042         CLRQ     -(SP)                                      ;
                           20 AE 9F 00044        PUSHAB   IOSB                                       ;
             7E      0123 8F 3C 00047            MOVZWL   #291, -(SP)                                ;
             7E              67 3C 0004C         MOVZWL   MAIL$W_TTCHAN, -(SP)                       ;
                             7E D4 0004F         CLRL     -(SP)                                      ;
             6A              0C FB 00051         CALLS    #12, SYS$QIOW                              ;
             05              50 E8 00054         BLBS     STATUS, 1$                                 ;
                             50 DD 00057         PUSHL    STATUS                                     ;
             6B              01 FB 00059         CALLS    #1, LIB$SIGNAL                             ;
             06              6E E8 0005C 1$:     BLBS     IOSB, 2$                                   ; 0500
             7E              6E 3C 0005F         MOVZWL   IOSB, -(SP)                                ; 0501
             6B              01 FB 00062         CALLS    #1, LIB$SIGNAL                             ;
          08 AE  07000003 8F D0 00065 2$:        MOVL     #117440515, CNFREC                         ; 0506
             50        08 AC D0 0006D            MOVL     CNCTDESC, R0                               ; 0511
          14 AE      0081 C0 90 00071            MOVB     129(R0), CNFREC+12                         ;
          15 AE      0080 C0 90 00077            MOVB     128(R0), CNFREC+13                         ; 0512
                       0C AE 7C 0007D            CLRQ     CNFREC+4                                   ; 0510
             02        14 AE 91 00080            CMPB     CNFREC+12, #2                              ; 0518
                             06 13 00084         BEQL     3$                                         ;
             03        14 AE 91 00086            CMPB     CNFREC+12, #3                              ;
                             04 12 0008A         BNEQ     4$                                         ;
          10 AE              01 D0 0008C 3$:     MOVL     #1, CNFREC+8                               ; 0519
                       16 AE B4 00090 4$:        CLRW     CNFREC+14                                  ; 0520
             56        04 AC D0 00093            MOVL     LNKDESC, R6                                ; 0526
             50        2F A6 9A 00097            MOVZBL   47(R6), R0                                 ;
69        30 A6              50 28 0009B         MOVC3    R0, 48(R6), TMPBUF                         ;
             03              6C 91 000A0         CMPB     (AP), #3                                   ; 0527
                             05 1F 000A3         BLSSU    5$                                         ;
                       0C AC D5 000A5            TSTL     12(AP)                                     ;
                             0D 12 000A8         BNEQ     6$                                         ;
             50      FDC5 CF D0 000AA 5$:        MOVL     OBJECT_DESC+4, R0                          ; 0528
63           60      FDBC CF 28 000AF            MOVC3    OBJECT_DESC, (R0), (PTR)                   ;
                             09 11 000B5         BRB      7$                                         ;
             50        0C AC D0 000B7 6$:        MOVL     ALTOBJ_DESC, R0                            ; 0529
63        04 B0              60 28 000BB         MOVC3    (R0), 4(R0), (PTR)                         ; 0530
             83              2F 90 000C0 7$:     MOVB     #47, (PTR)+                                ; 0531
                             83 B4 000C3         CLRW     (PTR)+                                     ; 0533
             83              10 90 000C5         MOVB     #16, (PTR)+                                ; 0535
63        08 AE              10 28 000C8         MOVC3    #16, CNFREC, (PTR)                         ; 0537
```

```
                               83         22  90 000CD            MOVB    #34, (PTR)+                      ; 0542
                               50         69  9E 000D0            MOVAB   TMPBUF, R0                       ; 0544
              18    AE         53         50  C3 000D3            SUBL3   R0, PTR, DESC                    ;
                         1C    AE         69  9E 000D8            MOVAB   TMPBUF, DESC+4                   ; 0545
                                          7E  7C 000DC            CLRQ    -(SP)                            ; 0552
                                          7E  7C 000DE            CLRQ    -(SP)                            ;
                                    28    AE  9F 000E0            PUSHAB  DESC                             ;
                                          7E  7C 000E3            CLRQ    -(SP)                            ;
                                          7E  D4 000E5            CLRL    -(SP)                            ;
                                    20    AE  9F 000E7            PUSHAB  IOSB                             ;
                                          32  DD 000EA            PUSHL   #50                              ;
                               7E   2C    A6  3C 000EC            MOVZWL  44(R6), -(SP)                    ;
                                          7E  D4 000F0            CLRL    -(SP)                            ;
                               6A         0C  FB 000F2            CALLS   #12, SYS$QIOW                    ;
                               52         50  D0 000F5            MOVL    R0, STATUS                       ;
                               03         52  E9 000F8            BLBC    STATUS, 8$                       ; 0554
                               52         6E  3C 000FB            MOVZWL  IOSB, STATUS                     ; 0555
              15 00000000G     00         02  E1 000FE 8$:        BBC     #2, MAIL$GL_FLAGS, 9$            ; 0557
                                          67  B5 00106            TSTW    MAIL$W_TTCHAN                    ; 0558
                                          11  13 00108            BEQL    9$                               ;
                               7E         67  3C 0010A            MOVZWL  MAIL$W_TTCHAN, -(SP)             ; 0560
                 00000000G     00         01  FB 0010D            CALLS   #1, SYS$CANCEL                   ;
                 00000000G     00         00  FB 00114            CALLS   #0, MAIL$ENABLE_CTRLC            ; 0561
                               50         52  D0 0011B 9$:        MOVL    STATUS, R0                       ; 0564
                                              04 0011E            RET                                      ; 0565

; Routine Size:  287 bytes,    Routine Base:  $CODE$ + 01E1
;  428        0566  1 ROUTINE CHECK_PROTOCOL_VERSION (IMAGE_DESC) =
;  429        0567  1 !++
;  430        0568  1 ! FUNCTIONAL DESCRIPTION:
;  431        0569  1 !
;  432        0570  1 !       Ensure that the symbols MAIL$C_PROT_MAJOR and MAIL$C_PROT_MINOR
;  433        0571  1 !       are defined, and that they have acceptable values
;  434        0572  1 !
;  435        0573  1 !--
;  436        0574  2 BEGIN
;  437        0575  2
;  438        0576  2 LOCAL
;  439        0577  2     MAJOR_P,
;  440        0578  2     MINOR_P;
;  441        0579  2
;  442      P 0580  2 IF_ERR(LIB$FIND_IMAGE_SYMBOL(.IMAGE_DESC,SD_MAJOR,MAJOR_P);,
;  443        0581  2         RETURN .STATUS);
;  444        0582  2 IF .MAJOR_P NEQ 1
;  445        0583  2     THEN RETURN SIGNAL(MAIL$_IVPROTVAL,3,
;  446        0584  2                 SD_MAJOR,.MAJOR_P,.IMAGE_DESC);
;  447        0585  2
;  448      P 0586  2 IF_ERR(LIB$FIND_IMAGE_SYMBOL(.IMAGE_DESC,SD_MINOR,MINOR_P);,
;  449        0587  2         RETURN .STATUS);
;  450        0588  2
;  451        0589  2 IF .MINOR_P NEQ 1
;  452        0590  2     THEN RETURN SIGNAL(MAIL$_IVPROTVAL,3,
;  453        0591  2                 SD_MINOR,.MINOR_P,.IMAGE_DESC);
;  454        0592  2
;  455        0593  2 RETURN TRUE
;  456        0594  1 END;
```

```
                                000C 00000 CHECK_PROTOCOL_VERSION:
                                                      .WORD   Save R2,R3                          ; 0566
53 00000000G    00     9E 00002                       MOVAB   LIB$FIND_IMAGE_SYMBOL, R3           ;
52      FD77    CF     9E 00009                       MOVAB   SD_MAJOR, R2                        ;
5E              08     C2 0000E                       SUBL2   #8, SP                              ;
        4004    8F     BB 00011                       PUSHR   #^M<R2,SP>                          ; 0581
          04    AC     DD 00015                       PUSHL   IMAGE_DESC                          ;
63              03     FB 00018                       CALLS   #3, LIB$FIND_IMAGE_SYMBOL           ;
40              50     E9 0001B                       BLBC    STATUS, 4$                          ;
01              6E     D1 0001E                       CMPL    MAJOR_P, #1                         ; 0582
                0A     13 00021                       BEQL    1$                                  ;
          04    AC     DD 00023                       PUSHL   IMAGE_DESC                          ; 0584
          04    AE     DD 00026                       PUSHL   MAJOR_P                             ;
                52     DD 00029                       PUSHL   R2                                  ; 0583
                1E     11 0002B                       BRB     2$                                  ;
          04    AE     9F 0002D 1$:                   PUSHAB  MINOR_P                             ; 0587
          1C    A2     9F 00030                       PUSHAB  SD_MINOR                            ;
          04    AC     DD 00033                       PUSHL   IMAGE_DESC                          ;
63              03     FB 00036                       CALLS   #3, LIB$FIND_IMAGE_SYMBOL           ;
22              50     E9 00039                       BLBC    STATUS, 4$                          ;
01        04    AE     D1 0003C                       CMPL    MINOR_P, #1                         ; 0589
                19     13 00040                       BEQL    3$                                  ;
          04    AC     DD 00042                       PUSHL   IMAGE_DESC                          ; 0591
```

```
                                   08    AE  DD 00045         PUSHL   MINOR_P                                    ;
                                   1C    A2  9F 00048         PUSHAB  SD_MINOR                                   ; 0590
                                         03  DD 0004B 2$:     PUSHL   #3                                         ;
                             007E8132    8F  DD 0004D         PUSHL   #8290610                                   ;
             00000000G  00               05  FB 00053         CALLS   #5, LIB$SIGNAL                             ;
                                             04 0005A         RET                                                ;
                        50               01  D0 0005B 3$:     MOVL    #1, R0                                     ; 0593
                                             04 0005E 4$:     RET                                                ; 0594

; Routine Size:  95 bytes,    Routine Base:  $CODE$ + 0300
```

```
  1 ROUTINE TRY_CONNECT(LNKDESC,CNCTDESC,ALTOBJ_DESC) =
  1 !++
  1 !
  1 ! Try to connect with the remote node, ensuring that a connect
  1 ! confirm message is received.
  1 !
  1 !--
  2 BEGIN
  2 MAP
  2     LNKDESC : REF $BBLOCK,
  2     CNCTDESC : REF $BBLOCK;
  2
  2 BUILTIN
  2     NULLPARAMETER;
  2
  2 LOCAL
  2     STATUS,
  2     OBJPTR,
  2     PTR : REF VECTOR[,BYTE],
  2     PTR1 : REF $BBLOCK;
  2
  2 BIND
  2     TMPBUF = MAIL$G_CNCT[CNCT_T_BUFFER] : $BBLOCK,
  2     TMPWORD = TMPBUF : VECTOR[,WORD],
  2     TMPBYTE = TMPBUF : VECTOR[,BYTE],
  2     QIOSB = LNKDESC[LNK_Q_IOSB] : VECTOR[,WORD];
  2
  2 OBJPTR = 0;
  2 IF NOT NULLPARAMETER(3)
  2     THEN OBJPTR = .ALTOBJ_DESC;
  2
  2 INCRU I FROM 1 TO 5
  3 DO BEGIN
  3     !
  3     ! Try up to 5 times to access the remote node.  The extra times
  3     ! are done in the instance that the connect was made but we
  3     ! failed to read the mailbox.
  3     !
  4     IF NOT (STATUS = ACCESS_NODE(.LNKDESC,.CNCTDESC,.OBJPTR))
  3         THEN EXITLOOP;
  3     !
  3     ! Read the mailbox to get the connect confirm message
  3     !
P 4     IF (STATUS = $QIOW(CHAN=.LNKDESC[LNK_W_MBXCHAN],
P 4                 FUNC=IO$_READVBLK,
P 4                 IOSB=QIOSB,
P 4                 P1=TMPBUF,
  4                 P2=.MAIL$L_MBXBUF))
  4             AND (STATUS = .QIOSB[0])
  4             AND (.TMPWORD[0] EQL MSG$_CONFIRM)  !ensure it's a connect confirm
  4     THEN BEGIN
  4         PTR1 = TMPBYTE[4] + .TMPBYTE[4] + 2;
  4         PTR = .PTR1 - 1;
  4         !
  4         ! See if receiver is up to block mode transfer.  Assume 1 block
  4         ! transfers for now.
  4         !
```

```
;  515         0652  5         IF (.PTR[0] EQL CNF_C_LENGTH)
;  516         0653  4             AND NOT .PTR1[CNF_V_BLKSEND]
;  517         0654  5             AND (.PTR1[CNF_B_VERSION] GEQU CNF_C_VERS)
;  518         0655  5                 THEN IF (.(PTR1[CNF_B_ECO])<0,8,1> GEQ CNF_C_ECO)
;  519         0656  4                     THEN LNKDESC[LNK_V_BLKMODE] = .PTR1[CNF_V_BLKRECV];
;  520         0657  4         EXITLOOP;
;  521         0658  3         END;
;  522         0659  3     !
;  523         0660  3     ! We failed to read the connect confirm.  Issue a Deaccess and
;  524         0661  3     ! try again.
;  525         0662  3     !
;  526       P 0663  3     $QIOW(CHAN=.LNKDESC[LNK_W_CHAN],
;  527       P 0664  3                 FUNC=IO$_DEACCESS,
;  528         0665  3                 IOSB=QIOSB);
;  529         0666  3     STATUS = SS$_NODATA;
;  530         0667  2     END;            !loop
;  531         0668  2
;  532         0669  2 RETURN .STATUS
;  533         0670  1 END;



                                     03FC 00000 TRY_CONNECT:
                                                       .WORD    Save R2,R3,R4,R5,R6,R7,R8,R9                       ; 0595
           59 00000000G  00  9E 00002                  MOVAB    SYS$QIOW, R9                                       ;
           58 00000000G  00  9E 00009                  MOVAB    TMPBUF, R8                                         ;
           54         04  AC  D0 00010                 MOVL     LNKDESC, R4                                        ; 0620
                          57  D4 00014                 CLRL     OBJPTR                                             ; 0622
           03             6C  91 00016                 CMPB     (AP), #3                                           ; 0623
                          09  1F 00019                 BLSSU    1$                                                 ;
                      0C  AC  D5 0001B                 TSTL     12(AP)                                             ;
                          04  13 0001E                 BEQL     1$                                                 ;
           57         0C  AC  D0 00020                 MOVL     ALTOBJ_DESC, OBJPTR                                ; 0624
           56             01  D0 00024 1$:             MOVL     #1, I                                              ; 0665
                          57  DD 00027 2$:             PUSHL    OBJPTR                                             ; 0633
                      08  AC  DD 00029                 PUSHL    CNCTDESC                                           ;
                          54  DD 0002C                 PUSHL    R4                                                 ;
      FE4F     CF         03  FB 0002E                 CALLS    #3, ACCESS_NODE                                    ;
               55         50  D0 00033                 MOVL     R0, STATUS                                         ;
               5C         55  E9 00036                 BLBC     STATUS, 3$                                         ;
                          7E  7C 00039                 CLRQ     -(SP)                                              ; 0642
                          7E  7C 0003B                 CLRQ     -(SP)                                              ;
                 00000000'  00  DD 0003D               PUSHL    MAIL$L_MBXBUF                                      ;
                          58  DD 00043                 PUSHL    R8                                                 ;
                          7E  7C 00045                 CLRQ     -(SP)                                              ;
                      14  A4  9F 00047                 PUSHAB   20(R4)                                             ;
                          31  DD 0004A                 PUSHL    #49                                                ;
           7E         2A  A4  3C 0004C                 MOVZWL   42(R4), -(SP)                                      ;
                          7E  D4 00050                 CLRL     -(SP)                                              ;
           69             0C  FB 00052                 CALLS    #12, SYS$QIOW                                      ;
           55             50  D0 00055                 MOVL     R0, STATUS                                         ;
           3C             55  E9 00058                 BLBC     STATUS, 4$                                         ;
           55         14  A4  3C 0005B                 MOVZWL   20(R4), STATUS                                     ; 0643
           35             55  E9 0005F                 BLBC     STATUS, 4$                                         ;
           31             68  B1 00062                 CMPW     TMPWORD, #49                                       ; 0644
```

```
                                                      30  12 00065              BNEQ    4$                                          ;
                                       50       06    A8  9E 00067              MOVAB   TMPBYTE+6, R0                               ; 0646
                                       52       04    A8  9A 0006B              MOVZBL  TMPBYTE+4, PTR1                             ;
                                       52             50  C0 0006F              ADDL2   R0, PTR1                                    ;
                                       53       FF    A2  9E 00072              MOVAB   -1(R2), PTR                                 ; 0647
                                       10             63  91 00076              CMPB    (PTR), #16                                  ; 0652
                                                      41  12 00079              BNEQ    5$                                          ;
                                       3D       08    A2  E8 0007B              BLBS    8(PTR1), 5$                                 ; 0653
                                       03             62  91 0007F              CMPB    (PTR1), #3                                  ; 0654
                                                      38  1F 00082              BLSSU   5$                                          ;
                                                01    A2  95 00084              TSTB    1(PTR1)                                     ; 0655
                                                      33  19 00087              BLSS    5$                                          ;
           50       08   A2            01             01  EF 00089              EXTZV   #1, #1, 8(PTR1), R0                         ; 0656
      2E   A4            01            04             50  F0 0008F              INSV    R0, #4, #1, 46(R4)                          ;
                                                      25  11 00095 3$:          BRB     5$                                          ; 0645
                                                      7E  7C 00097 4$:          CLRQ    -(SP)                                       ; 0665
                                                      7E  7C 00099              CLRQ    -(SP)                                       ;
                                                      7E  7C 0009B              CLRQ    -(SP)                                       ;
                                                      7E  7C 0009D              CLRQ    -(SP)                                       ;
                                                14    A4  9F 0009F              PUSHAB  20(R4)                                      ;
                                                      34  DD 000A2              PUSHL   #52                                         ;
                                       7E       2C    A4  3C 000A4              MOVZWL  44(R4), -(SP)                               ;
                                                      7E  D4 000A8              CLRL    -(SP)                                       ;
                                       69             0C  FB 000AA              CALLS   #12, SYS$QIOW                               ;
                                       55     01AC    8F  3C 000AD              MOVZWL  #428, STATUS                                ; 0666
                                                      56  D6 000B2              INCL    I                                           ; 0626
                                       05             56  D1 000B4              CMPL    I, #5                                       ;
                                                      03  1A 000B7              BGTRU   5$                                          ;
                                                    FF6B  31 000B9              BRW     2$                                          ;
                                       50             55  D0 000BC 5$:          MOVL    STATUS, R0                                  ; 0669
                                                          04 000BF              RET                                                 ; 0670

; Routine Size:  192 bytes,    Routine Base:  $CODE$ + 035F
```

```
1 ROUTINE CONNECT_LINK(LNKDESC,PROTOCOL_DESC,NODE_DESC,CNCTDESC) =
1 !+++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       Make an outbound connection with a remote node
1 !
1 ! INPUTS:
1 !
1 !       lnkdesc = address of lnk descriptor block
1 !       protocol_desc = address of protocol descriptor
1 !       node_desc = address of descriptor of node name
1 !       cnctdesc = address of cnct block for message
1 !
1 !--
2 BEGIN
2
2 MAP
2     LNKDESC : REF $BBLOCK,
2     PROTOCOL_DESC : REF $BBLOCK,
2     NODE_DESC : REF $BBLOCK,
2     CNCTDESC : REF $BBLOCK;
2
2 LOCAL
2     STATUS,
2     PTR : REF VECTOR[,BYTE],
2     PTR1 : REF $BBLOCK,
2     TRNLNMLST : $ITMLST_DECL(ITEMS=1),
2     DESC : VECTOR[2,LONG],
2     DESC_1 : VECTOR[2,LONG];
2
2 BIND
2     TMPBUF = MAIL$G_CNCT[CNCT_T_BUFFER] : $BBLOCK,
2     TMPWORD = TMPBUF : VECTOR[,WORD],
2     TMPBYTE = TMPBUF : VECTOR[,BYTE],
2     QIOSB = LNKDESC[LNK_Q_IOSB] : VECTOR[,WORD];
2
2 IF NOT .LNKDESC[LNK_V_ALTP]
3 THEN BEGIN
3 !
3 ! Use DECNET
3 !
3     !
3     ! Assign a channel to _NET.  Then, attempt to access the remote
3     ! node.
3     !
4     IF (STATUS = LIB$ASN_WTH_MBX(NETACP_DESC,
4                           MAIL$L_MBXBUF,MAIL$L_MBXQUO,LNKDESC[LNK_W_CHAN],
4                           LNKDESC[LNK_W_MBXCHAN]))
3     THEN STATUS = TRY_CONNECT(.LNKDESC,.CNCTDESC);
3     !
3     ! Check for control/c typed after we switched handlers.  unwind if
3     ! ctrl/c typed.
3     !
3     IF .MAIL$GL_FLAGS[MAIF_V_CTRLCFL]
4     THEN BEGIN
4         MAIL$GL_FLAGS[MAIF_V_CTRLCFL] = 0;
4         $DASSGN(CHAN=.LNKDESC[LNK_W_CHAN]);
```

```
  4                 SIGNAL(MAIL$_CONABORT,1,DESC,MAIL$_SENDABORT); !Will unwind
  3                 END;
  3             IF NOT .STATUS
  4             THEN BEGIN
  4                 $DASSGN(CHAN=.LNKDESC[LNK_W_CHAN]);
  4                 IF NOT .LNKDESC[LNK_V_DEAD]
  5                     THEN (SIGNAL(MAIL$_LOGLINK,1,.NODE_DESC,.STATUS);
  5                                 LNKDESC[LNK_L_STS] = .STATUS)
  4                     ELSE RETURN MAIL$_LOGLINK;
  3                 END;
  3             RETURN .STATUS
  3             END
  3         ELSE BEGIN
  3         !
  3         ! Alternate protocol.  Translate MAIL$PROTOCOL_pname
  3         ! If it translates, use that for the image name.  If it doesn't
  3         ! translate, use pname_MAILSHR
  3         !
  3             PTR = CH$MOVE(.PREFIX_DESC[DSC$W_LENGTH],
  3                                 .PREFIX_DESC[DSC$A_POINTER],TMPBUF);
  3             PTR = CH$MOVE(.PROTOCOL_DESC[DSC$W_LENGTH],
  3                                 .PROTOCOL_DESC[DSC$A_POINTER],.PTR);
  3
  3             DESC[0] = .PTR - TMPBUF;
  3             DESC[1] = TMPBUF;
P 3             $ITMLST_INIT(ITMLST=TRNLNMLST,
P 3                 (ITMCOD=LNM$_STRING,BUFADR=.DESC[1],
  3                         BUFSIZ=NAM$C_MAXRSS,RETLEN=DESC));
  3
P 3             IF NOT $TRNLNM(ATTR=%REF(LNM$M_CASE_BLIND),
P 3                 TABNAM=MAIL$SD_LNM_FILE_DEV,
P 3                 LOGNAM=DESC,
  4                 ITMLST=TRNLNMLST)
  4             THEN BEGIN
  4                 PTR = CH$MOVE(.PROTOCOL_DESC[DSC$W_LENGTH],
  4                                 .PROTOCOL_DESC[DSC$A_POINTER],TMPBUF);
  4                 PTR = CH$MOVE(8,UPLIT('_MAILSHR'),.PTR);
  4                 DESC[0] = .PTR - TMPBUF;
  4                 END
  3             ELSE IF .TMPBYTE[0] EQL %C'%'
  4             THEN BEGIN
  4                 !
  4                 ! If it has a leading percent, then strip it off and attempt
  4                 ! to connect to the resulting string. It should have the format
  4                 ! node::"task=taskname", STAR::"TASK=MAILX" for instance.
  4                 ! If successful, mail will speak mail-11 with the remote slave
  4                 !
  4                 DESC[0] = .DESC[0] - 1;
  4                 DESC[1] = .DESC[1] + 1;
  4                 DESC_1[0] = .DESC[0];
  4                 DESC_1[1] = .DESC[1];
  4                 IF NOT CH$FAIL(PTR = CH$FIND_CH(.DESC_1[0],.DESC_1[1],%C':'))
  4                         THEN DESC_1[0] = .PTR - .DESC_1[1];
  4                 DESC_1[0] = MINU(.DESC_1[0],LNK_S_NODE);        !Descriptor of node name
  4                 CH$MOVE(.DESC_1[0],.DESC_1[1],LNKDESC[LNK_T_NODE]); !Also put in lnkdesc
  4                 DESC_1[1] = LNKDESC[LNK_T_NODE];
  4                 LNKDESC[LNK_V_ALTP] = FALSE;
```

```
;  649          0785  4          LNKDESC[LNK_B_NODLEN] = 0;
;  650          0786  5          IF (STATUS = LIB$ASN_WTH_MBX(NETACP_DESC,
;  651          0787  5                              MAIL$L_MBXBUF,MAIL$L_MBXQUO,LNKDESC[LNK_W_CHAN],
;  652          0788  5                              LNKDESC[LNK_W_MBXCHAN]))
;  653          0789  4              THEN STATUS = TRY_CONNECT(.LNKDESC,.CNCTDESC,DESC);
;  654          0790  4          LNKDESC[LNK_B_NODLEN] = .DESC_1[0];
;  655          0791  4          IF NOT .STATUS
;  656          0792  5          THEN BEGIN
;  657          0793  5              $DASSGN(CHAN=.LNKDESC[LNK_W_CHAN]);
;  658          0794  5              IF NOT .LNKDESC[LNK_V_DEAD]
;  659          0795  6                  THEN (SIGNAL(MAIL$_LOGLINK,1,DESC_1,.STATUS);
;  660          0796  6                              LNKDESC[LNK_L_STS] = .STATUS)
;  661          0797  5                  ELSE RETURN MAIL$_LOGLINK;
;  662          0798  4              END;
;  663          0799  4          RETURN .STATUS;
;  664          0800  3          END;
;  665          0801  3      DESC_1[0] = .PREFIX_DESC[DSC$W_LENGTH] - 1;
;  666          0802  3      DESC_1[1] = .PREFIX_DESC[DSC$A_POINTER];
;  667        P 0803  3      IF_ERR(LIB$FIND_IMAGE_SYMBOL(DESC,DESC_1,LNKDESC[LNK_L_TFRADR]);,
;  668          0804  3                  RETURN .STATUS);
;  669        P 0805  3      IF_ERR(CHECK_PROTOCOL_VERSION(DESC);,
;  670          0806  3                  RETURN .STATUS);
;  671          0807  3      RETURN (.LNKDESC[LNK_L_TFRADR])(LNKDESC[LNK_L_CONTEXT],
;  672          0808  3                                      LNK_C_OUT_CONNECT,
;  673          0809  3                                      .PROTOCOL_DESC,
;  674          0810  3                                      .NODE_DESC,
;  675          0811  3                                      MAIL$_LOGLINK,
;  676          0812  3                                      .CNCTDESC[CNCT_B_FILRAT],
;  677          0813  3                                      .CNCTDESC[CNCT_B_FILRFM],
;  678          0814  3                                      .MAIL$GL_SYSFLAGS<16,16,0>,
;  679          0815  4                                      (IF .MAI[$GL_FLAGS[MAIF_V_ATTACHMENT]
;  680          0816  4                                              THEN MAIL$Q_ATTDESC
;  681          0817  3                                              ELSE 0));
;  682          0818  2      END;
;  683          0819  1 END;



                                              0041F             .BLKB    1
      52  48  53  4C  49  41  4D  5F  00420 P.AAQ:   .ASCII   \_MAILSHR\                                ;

                                                              .EXTRN   SYS$DASSGN, SYS$TRNLNM

                                       0FFC 00000 CONNECT_LINK:
                                                              .WORD    Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11      ; 0671
                  5B 00000000'   00   9E 00002               MOVAB    MAIL$L_MBXQUO, R11                        ;
                  5A 00000000G   00   9E 00009               MOVAB    TMPBUF, R10                               ;
                  59      FBF4   CF   9E 00010               MOVAB    NETACP_DESC, R9                           ;
                  5E             24   C2 00015               SUBL2    #36, SP                                   ;
                  56        04   AC   D0 00018               MOVL     LNKDESC, R6                               ; 0705
      79       2E   A6           02   E0 0001C               BBS      #2, 46(R6), 5$                            ; 0707
                            2A   A6   9F 00021               PUSHAB   42(R6)                                    ; 0718
                            2C   A6   9F 00024               PUSHAB   44(R6)                                    ; 0717
                                 5B   DD 00027               PUSHL    R11                                       ; 0716
                            FC   AB   9F 00029               PUSHAB   MAIL$L_MBXBUF                             ;
                                 59   DD 0002C               PUSHL    R9                                        ;
      00000000G  00              05   FB 0002E               CALLS    #5, LIB$ASN_WTH_MBX                       ; 0718
```

```
                      58              50 D0 00035       MOVL    R0, STATUS                              ;
                      0D              58 E9 00038       BLBC    STATUS, 1$                              ;
                                10    AC DD 0003B       PUSHL   CNCTDESC                                ; 0719
                                      56 DD 0003E       PUSHL   R6                                      ;
                FEF2  CF              02 FB 00040       CALLS   #2, TRY_CONNECT                         ;
                      58              50 D0 00045       MOVL    R0, STATUS                              ;
                      2A  0000000G    00 E9 00048 1$:   BLBC    MAIL$GL_FLAGS+1, 2$                     ; 0724
            0000000G  00              01 8A 0004F       BICB2   #1, MAIL$GL_FLAGS+1                     ; 0726
                      7E        2C    A6 3C 00056       MOVZWL  44(R6), -(SP)                           ; 0727
            0000000G  00              01 FB 0005A       CALLS   #1, SYS$DASSGN                          ;
                          007E805A    8F DD 00061       PUSHL   #8290394                                ; 0728
                                10    AE 9F 00067       PUSHAB  DESC                                    ;
                                      01 DD 0006A       PUSHL   #1                                      ;
                          007E8112    8F DD 0006C       PUSHL   #8290578                                ;
            0000000G  00              04 FB 00072       CALLS   #4, LIB$SIGNAL                          ;
                      03              58 E9 00079 2$:   BLBC    STATUS, 3$                              ; 0730
                                    0132 31 0007C       BRW     14$                                     ;
                      7E        2C    A6 3C 0007F 3$:   MOVZWL  44(R6), -(SP)                           ; 0732
            0000000G  00              01 FB 00083       CALLS   #1, SYS$DASSGN                          ;
      03          2E  A6              01 E1 0008A       BBC     #1, 46(R6), 4$                          ; 0733
                                    0117 31 0008F       BRW     13$                                     ;
                                      58 DD 00092 4$:   PUSHL   STATUS                                  ; 0734
                                0C    AC DD 00094       PUSHL   NODE_DESC                               ;
                                    00FA 31 00097       BRW     12$                                     ;
                      50        3C    A9 D0 0009A 5$:   MOVL    PREFIX_DESC+4, R0                       ; 0747
      6A              60        38    A9 28 0009E       MOVC3   PREFIX_DESC, (R0), TMPBUF               ; 0746
                      57        08    AC D0 000A3       MOVL    PROTOCOL_DESC, R7                       ; 0748
      63          04  B7              67 28 000A7       MOVC3   (R7), @4(R7), (PTR)                     ; 0749
                      50              6A 9E 000AC       MOVAB   TMPBUF, R0                              ; 0751
0C    AE              53              50 C3 000AF       SUBL3   R0, PTR, DESC                           ;
                  10  AE              6A 9E 000B4       MOVAB   TMPBUF, DESC+4                          ; 0752
                      50        14    AE 9E 000B8       MOVAB   TRNLNMLST, $$ITMBLKPTR                  ; 0755
                      80  000200FF    8F D0 000BC       MOVL    #131327, ($$ITMBLKPTR)+                 ;
                      80        10    AE D0 000C3       MOVL    DESC+4, ($$ITMBLKPTR)+                  ;
                      80        0C    AE 9E 000C7       MOVAB   DESC, ($$ITMBLKPTR)+                    ;
                                      80 D4 000CB       CLRL    ($$ITMBLKPTR)+                          ;
                                14    AE 9F 000CD       PUSHAB  TRNLNMLST                               ; 0760
                                      7E D4 000D0       CLRL    -(SP)                                   ;
                                14    AE 9F 000D2       PUSHAB  DESC                                    ;
                          0000000G    00 9F 000D5       PUSHAB  MAIL$SD_LNM_FILE_DEV                    ;
                  10  AE  02000000    8F D0 000DB       MOVL    #33554432, 16(SP)                       ;
                                10    AE 9F 000E3       PUSHAB  16(SP)                                  ;
            0000000G  00              05 FB 000E6       CALLS   #5, SYS$TRNLNM                          ;
                      16              50 E8 000ED       BLBS    R0, 7$                                  ;
      6A          04  B7              67 28 000F0       MOVC3   (R7), @4(R7), TMPBUF                    ; 0762
      63        03F0  C9              08 28 000F5       MOVC3   #8, P.AAQ, (PTR)                        ; 0764
                      50              6A 9E 000FB       MOVAB   TMPBUF, R0                              ; 0765
0C    AE              53              50 C3 000FE       SUBL3   R0, PTR, DESC                           ;
                                    00AF 31 00103 6$:   BRW     15$                                     ; 0757
                      25              6A 91 00106 7$:   CMPB    TMPBYTE, #37                            ; 0767
                                      F8 12 00109       BNEQ    6$                                      ;
                                0C    AE D7 0010B       DECL    DESC                                    ; 0775
                                10    AE D6 0010E       INCL    DESC+4                                  ; 0776
                  04  AE        0C    AE 7D 00111       MOVQ    DESC, DESC_1                            ; 0777
08    BE          04  AE              3A 3A 00116       LOCC    #58, DESC_T, @DESC_1+4                  ; 0779
                                      02 12 0011C       BNEQ    8$                                      ;
                                      51 D4 0011E       CLRL    R1                                      ;
```

```
                    53             51  D0 00120 8$:      MOVL    R1, PTR                                       ;
                                   06  13 00123          BEQL    9$                                            ;
04   AE             53       08    AE  C3 00125          SUBL3   DESC_1+4, PTR, DESC_1                         ; 0780
                    50       04    AE  D0 0012B 9$:      MOVL    DESC_1, R0                                    ; 0781
                    1F             50  D1 0012F          CMPL    R0, #31                                       ;
                    03             1B  00132             BLEQU   10$                                           ;
                    50             1F  D0 00134          MOVL    #31, R0                                       ;
               04   AE             50  D0 00137 10$:     MOVL    R0, DESC_1                                    ;
30   A6        08   BF       04    AE  28 0013B          MOVC3   DESC_1, @DESC_1+4, 48(R6)                     ; 0782
               08   AE       30    A6  9E 00142          MOVAB   48(R6), DESC_1+4                              ; 0783
               2E   A6     FF04    8F  AA 00147          BICW2   #65284, 46(R6)                                ; 0785
                             2A    A6  9F 0014D          PUSHAB  42(R6)                                        ; 0788
                             2C    A6  9F 00150          PUSHAB  44(R6)                                        ; 0787
                                   5B  DD 00153          PUSHL   R11                                           ; 0786
                             FC    AB  9F 00155          PUSHAB  MAIL$L_MBXBUF                                 ;
                                   59  DD 00158          PUSHL   R9                                            ;
        00000000G   00             05  FB 0015A          CALLS   #5, LIB$ASN_WTH_MBX                           ; 0788
                    58             50  D0 00161          MOVL    R0, STATUS                                    ;
                    10             58  E9 00164          BLBC    STATUS, 11$                                   ;
                             0C    AE  9F 00167          PUSHAB  DESC                                          ; 0789
                             10    AC  DD 0016A          PUSHL   CNCTDESC                                      ;
                                   56  DD 0016D          PUSHL   R6                                            ;
             FDC3   CF             03  FB 0016F          CALLS   #3, TRY_CONNECT                               ;
                    58             50  D0 00174          MOVL    R0, STATUS                                    ;
               2F   A6       04    AE  90 00177 11$:     MOVB    DESC_1, 47(R6)                                ; 0790
                    32             58  E8 0017C          BLBS    STATUS, 14$                                   ; 0791
                    7E       2C    A6  3C 0017F          MOVZWL  44(R6), -(SP)                                 ; 0793
        00000000G   00             01  FB 00183          CALLS   #1, SYS$DASSGN                                ;
     1A        2E   A6             01  E0 0018A          BBS     #1, 46(R6), 13$                               ; 0794
                                   58  DD 0018F          PUSHL   STATUS                                        ; 0795
                             08    AE  9F 00191          PUSHAB  DESC_1                                        ;
                                   01  DD 00194 12$:     PUSHL   #1                                            ;
                       007E802A    8F  DD 00196          PUSHL   #8290346                                      ;
        00000000G   00             04  FB 0019C          CALLS   #4, LIB$SIGNAL                                ;
               1C   A6             58  D0 001A3          MOVL    STATUS, 28(R6)                                ; 0796
                                   08  11 001A7          BRB     14$                                           ;
                    50 007E802A    8F  D0 001A9 13$:     MOVL    #8290346, R0                                  ; 0797
                                       04 001B0          RET                                                   ;
                    50             58  D0 001B1 14$:     MOVL    STATUS, R0                                    ; 0799
                                       04 001B4          RET                                                   ;
               04   AE       38    A9  3C 001B5 15$:     MOVZWL  PREFIX_DESC, DESC_1                           ; 0801
                             04    AE  D7 001BA          DECL    DESC_1                                        ;
               08   AE       3C    A9  D0 001BD          MOVL    PREFIX_DESC+4, DESC_1+4                       ; 0802
                             10    A6  9F 001C2          PUSHAB  16(R6)                                        ; 0804
                             08    AE  9F 001C5          PUSHAB  DESC_1                                        ;
                             14    AE  9F 001C8          PUSHAB  DESC                                          ;
        00000000G   00             03  FB 001CB          CALLS   #3, LIB$FIND_IMAGE_SYMBOL                     ;
                    49             50  E9 001D2          BLBC    STATUS, 18$                                   ;
                             0C    AE  9F 001D5          PUSHAB  DESC                                          ; 0806
             FCFB   CF             01  FB 001D8          CALLS   #1, CHECK_PROTOCOL_VERSION                    ;
                    3E             50  E9 001DD          BLBC    STATUS, 18$                                   ;
     0B 00000000G   00             03  E1 001E0          BBC     #3, MAIL$GL_FLAGS+2, 16$                      ; 0815
                    50 00000000G   00  9E 001E8          MOVAB   MAIL$Q_ATTDESC, R0                            ;
                                   50  DD 001EF          PUSHL   R0                                            ;
                                   02  11 001F1          BRB     17$                                           ;
                                   7E  D4 001F3 16$:     CLRL    -(SP)                                         ;
                    7E 00000000G   00  3C 001F5 17$:     MOVZWL  MAIL$GL_SYSFLAGS+2, -(SP)                     ; 0814
```

```
                                    50        10   AC   D0 001FC           MOVL    CNCTDESC, R0                                    ; 0813
                                    7E      0081   C0   9A 00200           MOVZBL  129(R0), -(SP)                                  ;
                                    7E      0080   C0   9A 00205           MOVZBL  128(R0), -(SP)                                  ; 0812
                                       007E802A   8F   DD 0020A           PUSHL   #8290346                                        ; 0807
                                              0C   AC   DD 00210           PUSHL   NODE_DESC                                       ; 0810
                                                   57   DD 00213           PUSHL   R7                                              ; 0809
                                                   7E   D4 00215           CLRL    -(SP)                                           ; 0807
                                              0C   A6   9F 00217           PUSHAB  12(R6)                                          ;
                               10   B6               09   FB 0021A           CALLS   #9, @16(R6)                                     ;
                                                        04 0021E 18$:      RET                                                     ; 0819

; Routine Size:  543 bytes,    Routine Base:  $CODE$ + 0428
```

```
1 GLOBAL ROUTINE MAIL$CREATELINK (PROTOCOL_DESC,NODE_DESC,CNCTDESC,RETADR) =
1 !+++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !           This routine is called to create a logical link to the
1 !           specified node. First, the existing logical link list is
1 !           searched to see if a link to that node already exists.  If
1 !           it does, then the address of the list entry is returned.
1 !           If a link does not exist, one is assigned and a logical link
1 !           list entry is created, entered in the list, and the address returned.
1 !
1 ! INPUTS:
1 !
1 !           protocol_desc = address of descriptor of protocol, 0 implies DECnet
1 !           node_desc = address of descriptor of node name
1 !           cnctdesc = address of cnct block
1 !           retadr = address of longword to return logical link list entry address
1 !
1 !---
2 BEGIN
2
2 MAP
2     PROTOCOL_DESC : REF $BBLOCK,
2     NODE_DESC : REF $BBLOCK,
2     CNCTDESC : REF $BBLOCK,
2     RETADR : REF VECTOR[,LONG];
2
2 BUILTIN
2     INSQUE;
2
2 LOCAL
2     STATUS,
2     PTR : REF $BBLOCK;
2
2 BIND
2     LNKLST = CNCTDESC[CNCT_Q_LNKLST] : VECTOR[,LONG];
2
2 PTR = .LNKLST[0];
2 !
2 ! See if link already exists
2 !
2 WHILE .PTR NEQ LNKLST[0]
3 DO BEGIN
3     IF CH$EQL(.NODE_DESC[DSC$W_LENGTH],.NODE_DESC[DSC$A_POINTER],
3             .PTR[LNK_B_NODLEN],PTR[LNK_T_NODE])
5     THEN IF ((.PTR[LNK_B_PNLEN] EQL 0)           !Check protocol spec match
4             AND (.PROTOCOL_DESC[DSC$W_LENGTH] EQL 0))
3             OR CH$EQL(.PROTOCOL_DESC[DSC$W_LENGTH],
3                       .PROTOCOL_DESC[DSC$A_POINTER],
3                       .PTR[LNK_B_PNLEN],PTR[LNK_T_PNAM])
4         THEN BEGIN
4             RETADR[0] = .PTR;                     !Return address of found lnk
4             IF .PTR[LNK_V_DEAD]
4                 AND .MAIL$GL_FLAGS[MAIF_V_NETJOB] !Only signal if net slave
4                 THEN SIGNAL(MAIL$_LOGLINK,1,.NODE_DESC,.PTR[LNK_L_STS]);
4             RETURN (NOT .PTR[LNK_V_DEAD]);        ! and whether it's dead or not
3             END;
```

```
;  742          0877  3     PTR = .PTR[LNK_L_FLINK];                    !Next block
;  743          0878  2     END;
;  744          0879  2 !
;  745          0880  2 ! Not found.  Create logical link list entry
;  746          0881  2 !
;  747        P 0882  2 IF_ERR(LIB$GET_VM(%REF(.PROTOCOL_DESC[DSC$W_LENGTH]+LNK_C_LENGTH),PTR);,
;  748        P 0883  2         SIGNAL(.STATUS);
;  749          0884  2         RETURN .STATUS);
;  750          0885  2
;  751          0886  2 !
;  752          0887  2 ! Insert into the list
;  753          0888  2 !
;  754          0889  2 CH$FILL(0,LNK_C_LENGTH,.PTR);
;  755          0890  2 INSQUE(.PTR,LNK[ST);
;  756          0891  2 PTR[LNK_B_NODLEN] = .NODE_DESC[DSC$W_LENGTH];
;  757          0892  2 CH$MOVE(.PTR[LNK_B_NODLEN],.NODE_DESC[DSC$A_POINTER],PTR[LNK_T_NODE]);
;  758          0893  2 !
;  759          0894  2 ! Copy protocol name if passed.  Set ALTP flag
;  760          0895  2 !
;  761          0896  2 IF (PTR[LNK_B_PNLEN] = .PROTOCOL_DESC[DSC$W_LENGTH]) NEQ 0
;  762          0897  3 THEN BEGIN
;  763          0898  3     CH$MOVE(.PTR[LNK_B_PNLEN],.PROTOCOL_DESC[DSC$A_POINTER],
;  764          0899  3                                 PTR[LNK_T_PNAM]);
;  765          0900  3     PTR[LNK_V_ALTP] = TRUE;
;  766          0901  2     END;
;  767          0902  2 !
;  768          0903  2 ! Create logical link to slave mail
;  769          0904  2 !
;  770          0905  2 RETADR[0] = .PTR;
;  771          0906  2 STATUS = CONNECT_LINK(.PTR,.PROTOCOL_DESC,.NODE_DESC,.CNCTDESC);
;  772          0907  2 $DASSGN(CHAN=.PTR[LNK_W_MBXCHAN]);              !Deassign mailbox now
;  773          0908  2 IF NOT .STATUS
;  774          0909  3     THEN BEGIN
;  775          0910  3         PTR[LNK_W_CHAN] = 0;
;  776          0911  3         PTR[LNK_V_DEAD] = TRUE;
;  777          0912  2         END;
;  778          0913  2
;  779          0914  2 RETURN .STATUS
;  780          0915  2
;  781          0916  1 END;




                                                         03FC 00000          .ENTRY   MAIL$CREATELINK, Save R2,R3,R4,R5,R6,R7,R8,-; 0820
                                                                                      R9                                          ;
                                       59 00000000G   00  9E 00002          MOVAB    LIB$SIGNAL, R9                              ;
                                       5E             08  C2 00009          SUBL2    #8, SP                                      ;
                        56        0C   AC             30  C1 0000C          ADDL3    #48, CNCTDESC, R6                           ; 0855
                                  04   AE             66  D0 00011          MOVL     (R6), PTR                                   ; 0857
                                       55        08   AC  D0 00015          MOVL     NODE_DESC, R5                               ; 0863
                                       54        04   AE  D0 00019 1$:      MOVL     PTR, R4                                     ; 0861
                                       56             54  D1 0001D          CMPL     R4, R6                                      ;
                                                      5D  13 00020          BEQL     6$                                          ;
                                       50        2F   A4  9A 00022          MOVZBL   47(R4), R0                                  ; 0864
           50           00        04   B5        08   BC  2D 00026          CMPC5    @NODE_DESC, @4(R5), #0, R0, 48(R4)          ;
```

```
                                               30   A4     0002D                                                           ;
                                                    48  12 0002F          BNEQ    5$                                        ;
                                               4F   A4  95 00031          TSTB    79(R4)                                    ; 0865
                                                    05  12 00034          BNEQ    2$                                        ;
                                               04   BC  B5 00036          TSTW    @PROTOCOL_DESC                            ; 0866
                                                    12  13 00039          BEQL    3$                                        ;
                                     50        04   AC  D0 0003B 2$:      MOVL    PROTOCOL_DESC, R0                         ; 0867
                                     51        4F   A4  9A 0003F          MOVZBL  79(R4), R1                                ; 0869
         51           00        04   B0             60  2D 00043          CMPC5   (R0), @4(R0), #0, R1, 80(R4)              ;
                                               50   A4     00049                                                           ;
                                                    2C  12 0004B          BNEQ    5$                                        ;
                                10   BC             54  D0 0004D 3$:      MOVL    R4, @RETADR                               ; 0871
                      19        2E   A4             01  E1 00051          BBC     #1, 46(R4), 4$                            ; 0872
                      11 00000000G   00             01  E1 00056          BBC     #1, MAIL$GL_FLAGS, 4$                     ; 0873
                                               1C   A4  DD 0005E          PUSHL   28(R4)                                    ; 0874
                                               08   AC  DD 00061          PUSHL   NODE_DESC                                 ;
                                                    01  DD 00064          PUSHL   #1                                        ;
                                         007E802A   8F  DD 00066          PUSHL   #8290346                                  ;
                                     69             04  FB 0006C          CALLS   #4, LIB$SIGNAL                            ;
         50      2E   A4             01             01  EF 0006F 4$:      EXTZV   #1, #1, 46(R4), R0                        ; 0875
                                     50             50  D2 00075          MCOML   R0, R0                                    ;
                                                        04 00078          RET                                               ;
                                04   AE             64  D0 00079 5$:      MOVL    (R4), PTR                                 ; 0877
                                                    9A  11 0007D          BRB     1$                                        ; 0861
                                               04   AE  9F 0007F 6$:      PUSHAB  PTR                                       ; 0884
                                04   AE        04   BC  3C 00082          MOVZWL  @PROTOCOL_DESC, 4(SP)                     ;
                                04   AE  00000050   8F  C0 00087          ADDL2   #80, 4(SP)                                ;
                                               04   AE  9F 0008F          PUSHAB  4(SP)                                     ;
                         00000000G   00             02  FB 00092          CALLS   #2, LIB$GET_VM                            ;
                                     52             50  D0 00099          MOVL    R0, STATUS                                ;
                                     07             52  E8 0009C          BLBS    STATUS, 7$                                ;
                                                    52  DD 0009F          PUSHL   STATUS                                    ;
                                     69             01  FB 000A1          CALLS   #1, LIB$SIGNAL                            ;
                                                    68  11 000A4          BRB     9$                                        ;
  0050   8F           00             6E             00  2C 000A6 7$:      MOVC5   #0, (SP), #0, #80, @PTR                   ; 0889
                                               04   BE     000AD                                                           ;
                                     66        04   BE  0E 000AF          INSQUE  @PTR, (R6)                                ; 0890
                                     56        04   AE  D0 000B3          MOVL    PTR, R6                                   ; 0891
                                     58        08   AC  D0 000B7          MOVL    NODE_DESC, R8                             ;
                                2F   A6             68  90 000BB          MOVB    (R8), 47(R6)                              ;
                                     50        2F   A6  9A 000BF          MOVZBL  47(R6), R0                                ; 0892
                 30   A6        04   B8             50  28 000C3          MOVC3   R0, @4(R8), 48(R6)                        ;
                                     57        04   AC  D0 000C9          MOVL    PROTOCOL_DESC, R7                         ; 0896
                                     50             67  3C 000CD          MOVZWL  (R7), R0                                  ;
                                4F   A6             50  90 000D0          MOVB    R0, 79(R6)                                ;
                                                    50  D5 000D4          TSTL    R0                                        ;
                                                    0E  13 000D6          BEQL    8$                                        ;
                                     50        4F   A6  9A 000D8          MOVZBL  79(R6), R0                                ; 0898
                 50   A6        04   B7             50  28 000DC          MOVC3   R0, @4(R7), 80(R6)                        ; 0899
                                2E   A6             04  88 000E2          BISB2   #4, 46(R6)                                ; 0900
                                10   BC             56  D0 000E6 8$:      MOVL    R6, @RETADR                               ; 0905
                                               0C   AC  DD 000EA          PUSHL   CNCTDESC                                  ; 0906
                                             01C0   8F  BB 000ED          PUSHR   #^M<R6,R7,R8>                             ;
                              FCEB   CF             04  FB 000F1          CALLS   #4, CONNECT_LINK                          ;
                                     52             50  D0 000F6          MOVL    R0, STATUS                                ;
                                     7E        2A   A6  3C 000F9          MOVZWL  42(R6), -(SP)                             ; 0907
                         00000000G   00             01  FB 000FD          CALLS   #1, SYS$DASSGN                            ;
```

```
                                  07          52  E8 00104          BLBS    STATUS, 9$                              ; 0908
                                        2C    A6  B4 00107          CLRW    44(R6)                                  ; 0910
                              2E  A6          02  88 0010A          BISB2   #2, 46(R6)                              ; 0911
                                  50          52  D0 0010E 9$:      MOVL    STATUS, R0                              ; 0914
                                                  04 00111          RET                                             ; 0916

; Routine Size:  274 bytes,    Routine Base:  $CODE$ + 0647
;  783         0917  1 ROUTINE WRITE_SLAVE(LNKDESC,OUT_DESC) =
;  784         0918  1 !++
;  785         0919  1 ! FUNCTIONAL DESCRIPTION:
;  786         0920  1 !
;  787         0921  1 !       Write a record to the remote node
;  788         0922  1 !
;  789         0923  1 ! Inputs:
;  790         0924  1 !
;  791         0925  1 !       lnkdesc = address of descriptor of lnk block
;  792         0926  1 !       out_desc = address of descriptor of record to write
;  793         0927  1 !
;  794         0928  1 !
;  795         0929  1 !       Errors are signalled as well as returned.
;  796         0930  1 !--
;  797         0931  2 BEGIN
;  798         0932  2
;  799         0933  2 MAP
;  800         0934  2     LNKDESC : REF $BBLOCK,
;  801         0935  2     OUT_DESC : REF $BBLOCK;
;  802         0936  2
;  803         0937  2 LOCAL
;  804         0938  2     STATUS;
;  805         0939  2
;  806         0940  2 BIND
;  807         0941  2     QIOSB = LNKDESC[LNK_Q_IOSB] : VECTOR[,WORD];
;  808         0942  2
;  809         0943  2 IF .LNKDESC[LNK_V_DEAD]
;  810         0944  2     THEN RETURN FALSE;
;  811         0945  2
;  812       P 0946  2 STATUS = $QIOW(CHAN=.LNKDESC[LNK_W_CHAN],
;  813       P 0947  2                 FUNC=IO$_WRITEVBLK,
;  814       P 0948  2                 IOSB=LNKDESC[LNK_Q_IOSB],
;  815       P 0949  2                 P1=(IF .OUT_DESC[DSC$A_POINTER] NEQ 0
;  816       P 0950  2                         THEN .OUT_DESC[DSC$A_POINTER]
;  817       P 0951  2                         ELSE OUT_DESC),
;  818         0952  2                 P2=.OUT_DESC[DSC$W_LENGTH]);
;  819         0953  2
;  820         0954  2 IF .STATUS
;  821         0955  2     THEN STATUS = .QIOSB[0];
;  822         0956  2
;  823         0957  2 IF NOT .STATUS
;  824         0958  3 THEN BEGIN
;  825         0959  3     SIGNAL(((SS$_PROTOCOL AND NOT STS$M_SEVERITY)
;  826         0960  3                         OR STS$K_ERROR OR MAIL$V_FACILITY),0,.STATUS);
;  827         0961  3     LNKDESC[LNK_V_DEAD] = TRUE;
;  828         0962  2     END;
;  829         0963  2
;  830         0964  2 RETURN .STATUS
;  831         0965  1 END;



                                                  000C 00000 WRITE_SLAVE:
                                                                    .WORD   Save R2,R3                       ; 0917
                                          52       04   AC  D0 00002        MOVL    LNKDESC, R2                      ; 0941
```

```
         55        2E   A2                01  E0 00006         BBS     #1, 46(R2), 5$                         ; 0943
                                          7E  7C 0000B         CLRQ    -(SP)                                  ; 0952
                                          7E  7C 0000D         CLRQ    -(SP)                                  ;
                        50          08    AC  D0 0000F         MOVL    OUT_DESC, R0                           ;
                        7E                60  3C 00013         MOVZWL  (R0), -(SP)                            ;
                                    04    A0  D5 00016         TSTL    4(R0)                                  ;
                                          05  13 00019         BEQL    1$                                     ;
                                    04    A0  DD 0001B         PUSHL   4(R0)                                  ;
                                          06  11 0001E         BRB     2$                                     ;
                        50          08    AC  9E 00020 1$:     MOVAB   OUT_DESC, R0                           ;
                                          50  DD 00024         PUSHL   R0                                     ;
                                          7E  7C 00026 2$:     CLRQ    -(SP)                                  ;
                                    14    A2  9F 00028         PUSHAB  20(R2)                                 ;
                                          30  DD 0002B         PUSHL   #48                                    ;
                        7E          2C    A2  3C 0002D         MOVZWL  44(R2), -(SP)                          ;
                                          7E  D4 00031         CLRL    -(SP)                                  ;
            00000000G   00                0C  FB 00033         CALLS   #12, SYS$QIOW                          ;
                        53                50  D0 0003A         MOVL    R0, STATUS                             ;
                        07                53  E9 0003D         BLBC    STATUS, 3$                             ; 0954
                        53          14    A2  3C 00040         MOVZWL  20(R2), STATUS                         ; 0955
                        15                53  E8 00044         BLBS    STATUS, 4$                             ; 0957
                                          53  DD 00047 3$:     PUSHL   STATUS                                 ; 0960
                                          7E  D4 00049         CLRL    -(SP)                                  ; 0959
                              007E2072    8F  DD 0004B         PUSHL   #8265842                               ;
            00000000G   00                03  FB 00051         CALLS   #3, LIB$SIGNAL                         ;
                   2E   A2                02  88 00058         BISB2   #2, 46(R2)                             ; 0961
                        50                53  D0 0005C 4$:     MOVL    STATUS, R0                             ; 0964
                                              04 0005F         RET                                            ;
                                          50  D4 00060 5$:     CLRL    R0                                     ; 0965
                                              04 00062         RET                                            ;

; Routine Size:  99 bytes,    Routine Base:  $CODE$ + 0759
;  833          0966  1 ROUTINE READ_SLAVE(LNKDESC,IN_DESC) =
;  834          0967  1 !++
;  835          0968  1 ! FUNCTIONAL DESCRIPTION:
;  836          0969  1 !
;  837          0970  1 !       Read a record from the remote node
;  838          0971  1 !
;  839          0972  1 ! Inputs:
;  840          0973  1 !
;  841          0974  1 !       lnkdesc = address of lnk block for node
;  842          0975  1 !       in_desc = address of descriptor of buffer
;  843          0976  1 !               length is modified in place to reflect amount actually read
;  R44          0977  1 !
;  845          0978  1 !       Errors are signalled as well as returned
;  846          0979  1 !--
;  847          0980  2 BEGIN
;  848          0981  2
;  849          0982  2 MAP
;  850          0983  2     LNKDESC : REF $BBLOCK,
;  851          0984  2     IN_DESC : REF $BBLOCK;
;  852          0985  2 BIND
;  853          0986  2     QIOSB = LNKDESC[LNK_Q_IOSB] : VECTOR[,WORD];
;  854          0987  2
;  855          0988  2 LOCAL
;  856          0989  2     STATUS;
;  857          0990  2
;  858          0991  2 IF .LNKDESC[LNK_V_DEAD]
;  859          0992  2     THEN RETURN FALSE;
;  860          0993  2
;  861        P 0994  2 STATUS = $QIOW(CHAN=.LNKDESC[LNK_W_CHAN],
;  862        P 0995  2                 FUNC=IO$_READVBLK,
;  863        P 0996  2                 IOSB=LNKDESC[LNK_Q_IOSB],
;  864        P 0997  2                 P1=.IN_DESC[DSC$A_POINTER],
;  865          0998  2                 P2=.IN_DESC[DSC$W_LENGTH]);
;  866          0999  2
;  867          1000  2 IN_DESC[DSC$W_LENGTH] = .QIOSB[1];
;  868          1001  2
;  869          1002  2 IF .STATUS
;  870          1003  2     THEN STATUS = .QIOSB[0];
;  871          1004  2
;  872          1005  2 IF NOT .STATUS
;  873          1006  3 THEN BEGIN
;  874          1007  4     SIGNAL((SS$_PROTOCOL AND NOT STS$M_SEVERITY
;  875          1008  3                     OR STS$K_ERROR OR MAIL$V_FACILITY),0,.STATUS);
;  876          1009  3     LNKDESC[LNK_V_DEAD] = TRUE;
;  877          1010  2     END;
;  878          1011  2
;  879          1012  2 RETURN .STATUS
;  880          1013  2
,  881          1014  1 END;



                                   003C 00000 READ_SLAVE:
                                                   .WORD   Save R2,R3,R4,R5                 ; 0966
                   52      04   AC  D0 00002        MOVL    LNKDESC, R2                      ; 0986
```

```
                        55        14   A2  9E 00006          MOVAB    20(R2), R5                               ; 0991
          4B      2E    A2             01  E0 0000A          BBS      #1, 46(R2), 3$                           ; 0998
                                       7E  7C 0000F          CLRQ     -(SP)                                    ;
                                       7E  7C 00011          CLRQ     -(SP)                                    ;
                        53        08   AC  D0 00013          MOVL     IN_DESC, R3                              ;
                        7E             63  3C 00017          MOVZWL   (R3), -(SP)                              ;
                                  04   A3  DD 0001A          PUSHL    4(R3)                                    ;
                                       7E  7C 0001D          CLRQ     -(SP)                                    ;
                                  14   A2  9F 0001F          PUSHAB   20(R2)                                   ;
                                       31  DD 00022          PUSHL    #49                                      ;
                        7E        2C   A2  3C 00024          MOVZWL   44(R2), -(SP)                            ;
                                       7E  D4 00028          CLRL     -(SP)                                    ;
            00000000G   00             0C  FB 0002A          CALLS    #12, SYS$QIOW                            ;
                        54             50  D0 00031          MOVL     R0, STATUS                               ;
                        63        02   A5  B0 00034          MOVW     2(R5), (R3)                              ; 1000
                        06             54  E9 00038          BLBC     STATUS, 1$                               ; 1002
                        54             65  3C 0003B          MOVZWL   (R5), STATUS                             ; 1003
                        15             54  E8 0003E          BLBS     STATUS, 2$                               ; 1005
                                       54  DD 00041 1$:      PUSHL    STATUS                                   ; 1008
                                       7E  D4 00043          CLRL     -(SP)                                    ; 1007
                            007E2072   8F  DD 00045          PUSHL    #8265842                                 ;
            00000000G   00             03  FB 0004B          CALLS    #3, LIB$SIGNAL                           ;
                   2E   A2             02  88 00052          BISB2    #2, 46(R2)                               ; 1009
                        50             54  D0 00056 2$:      MOVL     STATUS, R0                               ; 1012
                                           04 00059          RET                                               ;
                                       50  D4 0005A 3$:      CLRL     R0                                       ; 1014
                                           04 0005C          RET                                               ;

; Routine Size:  93 bytes,    Routine Base:  $CODE$ + 07BC
;  883          1015  1 ROUTINE CHECK_SLAVE_STATUS(LNKDESC) =
;  884          1016  1 !++
;  885          1017  1 ! FUNCTIONAL DESCRIPTION:
;  886          1018  1 !
;  887          1019  1 !       Reads a response from the remote node
;  888          1020  1 !
;  889          1021  1 ! Inputs:
;  890          1022  1 !
;  891          1023  1 !       lnkdesc = address of lnk descriptor for node
;  892          1024  1 !
;  893          1025  1 ! Read from the node, and treat the first 4 bytes as a longword value,
;  894          1026  1 ! indicating success or failure.  If failure, then read and print the
;  895          1027  1 ! error text to follow
;  896          1028  1 !
;  897          1029  1 !--
;  898          1030  2 BEGIN
;  899          1031  2
;  900          1032  2 MAP
;  901          1033  2     LNKDESC : REF $BBLOCK;
;  902          1034  2
;  903          1035  2 LOCAL
;  904          1036  2     STATUS,
;  905          1037  2     DESC : VECTOR[2,LONG],
;  906          1038  2     TMPBUF : $BBLOCK[MAIL$K_INBUFFSZ];
;  907          1039  2
;  908          1040  2 BIND
;  909          1041  2     TMPVEC = TMPBUF : VECTOR[,LONG];
;  910          1042  2
;  911          1043  2 DESC[0] = MAIL$K_INBUFFSZ;
;  912          1044  2 DESC[1] = TMPBUF;
;  913        P 1045  2 IF_ERR(READ_SLAVE(.LNKDESC,DESC);,
;  914          1046  2         RETURN .STATUS);
;  915          1047  2
;  916          1048  2 !
;  917          1049  2 ! Check the first longword read.  If lbs, then return success.
;  918          1050  2 ! Otherwise, call routine to read error text from remote node (until
;  919          1051  2 ! 1 byte record of 0) and then signal it
;  920          1052  2 !
;  921          1053  4 RETURN (IF (STATUS = .TMPVEC[0])
;  922          1054  3               THEN TRUE
;  923          1055  4               ELSE (MAIL$READ_ERROR_TEXT(.LNKDESC,READ_SLAVE);
;  924          1056  3                           .STATUS))
;  925          1057  1 END;



                                      000C 00000 CHECK_SLAVE_STATUS:
                                                        .WORD   Save R2,R3                        ; 1015
            53       9E    AF   9E 00002        MOVAB   READ_SLAVE, R3                    ;
            5E     FDF8    CE   9E 00006        MOVAB   -520(SP), SP                      ;
      F8    AD     0200    8F   3C 0000B        MOVZWL  #512, DESC                        ; 1043
      FC    AD             6E   9E 00011        MOVAB   TMPBUF, DESC+4                    ; 1044
                     F8    AD   9F 00015        PUSHAB  DESC                              ; 1046
                     04    AC   DD 00018        PUSHL   LNKDESC                           ;
            63             02   FB 0001B        CALLS   #2, READ_SLAVE                    ;
```

```
                                   1A          50  E9 0001E         BLBC     STATUS, 3$                                 ;
                                   52          6E  D0 00021         MOVL     TMPVEC, STATUS                             ; 1053
                                   05          52  E9 00024         BLBC     STATUS, 1$                                 ;
                                   52          01  D0 00027         MOVL     #1, R2                                     ;
                                               0C  11 0002A         BRB      2$                                         ;
                                               53  DD 0002C 1$:     PUSHL    R3                                         ; 1055
                                      04       AC  DD 0002E         PUSHL    LNKDESC                                    ;
                         00000000G  00         02  FB 00031         CALLS    #2, MAIL$READ_ERROR_TEXT                   ;
                                   50          52  D0 00038 2$:     MOVL     R2, R0                                     ; 1053
                                               04  0003B 3$:        RET                                                 ; 1057

; Routine Size:  60 bytes,    Routine Base:  $CODE$ + 0819
;  927        1058  1 ROUTINE WRITE_CHECK_SLAVE(LNKDESC,OUT_DESC) =
;  928        1059  1 !++
;  929        1060  1 ! FUNCTIONAL DESCRIPTION:
;  930        1061  1 !
;  931        1062  1 !       Write a record to the remote node, and then check the
;  932        1063  1 !       response sent back
;  933        1064  1 !
;  934        1065  1 ! Inputs:
;  935        1066  1 !
;  936        1067  1 !       lnkdesc = address of lnk descriptor
;  937        1068  1 !       outdesc = address of descriptor of record to send
;  938        1069  1 !
;  939        1070  1 ! The record is written to the remote node.  A response is read. If
;  940        1071  1 ! not success, the error text is read and signalled.
;  941        1072  1 !
;  942        1073  1 !--
;  943        1074  2 BEGIN
;  944        1075  2
;  945        1076  2 MAP
;  946        1077  2     LNKDESC : REF $BBLOCK,
;  947        1078  2     OUT_DESC : REF $BBLOCK;
;  948        1079  2
;  949        1080  2 BUILTIN
;  950        1081  2     CALLG,AP;
;  951        1082  2
;  952        1083  2 LOCAL
;  953        1084  2     STATUS;
;  954        1085  2
;  955        1086  3 IF NOT (STATUS = CALLG(.AP,WRITE_SLAVE))
;  956        1087  2     THEN RETURN .STATUS
;  957        1088  2     ELSE RETURN CHECK_SLAVE_STATUS(.LNKDESC)
;  958        1089  1 END;



                                         0000 00000 WRITE_CHECK_SLAVE:
                                                           .WORD   Save nothing                              ; 1058
                  FEFD   CF              6C  FA 00002      CALLG   (AP), WRITE_SLAVE                         ; 1086
                         51              50  D0 00007      MOVL    R0, STATUS                                ;
                         04              50  E8 0000A      BLBS    R0, 1$                                    ;
                         50              51  D0 0000D      MOVL    STATUS, R0                                ; 1088
                                             04 00010      RET                                               ;
                                    04   AC  DD 00011 1$:  PUSHL   LNKDESC                                   ;
                    AC   AF              01  FB 00014      CALLS   #1, CHECK_SLAVE_STATUS                    ;
                                             04 00018      RET                                               ; 1089

; Routine Size:  25 bytes,    Routine Base:  $CODE$ + 0855
;  960          1090  1 GLOBAL ROUTINE MAIL$NET_FROM(LNKDESC,SENDER_DESC) =
;  961          1091  1 !++
;  962          1092  1 ! FUNCTIONAL DESCRIPTION:
;  963          1093  1 !
;  964          1094  1 !       Send the sender's name to a remote node
;  965          1095  1 !
;  966          1096  1 ! Inputs:
;  967          1097  1 !
;  968          1098  1 !       lnkdesc = address of lnk descriptor
;  969          1099  1 !       sender_desc = address of descriptor of sender's name
;  970          1100  1 !
;  971          1101  1 !--
;  972          1102  1
;  973          1103  2 BEGIN
;  974          1104  2
;  975          1105  2 MAP
;  976          1106  2     LNKDESC : REF $BBLOCK,
;  977          1107  2     SENDER_DESC : REF $BBLOCK;
;  978          1108  2
;  979          1109  2 LOCAL
;  980          1110  2     DESC : VECTOR[2,LONG],
;  981          1111  2     STATUS;
;  982          1112  2
;  983          1113  2 BUILTIN
;  984          1114  2     CALLG,AP;
;  985          1115  2
;  986          1116  2 IF .LNKDESC[LNK_V_DEAD]
;  987          1117  2     OR .LNKDESC[LNK_V_FSENT]
;  988          1118  2     THEN RETURN TRUE;
;  989          1119  2
;  990          1120  2 IF .LNKDESC[LNK_V_ALTP]
;  991          1121  3 THEN BEGIN
;  992          1122  3     DESC[0] = .LNKDESC[LNK_B_NODLEN];
;  993          1123  3     DESC[1] = LNKDESC[LNK_T_NODE];
;  994          1124  4     STATUS = (IF .LNKDESC[LNK_L_TFRADR] NEQ 0
;  995          1125  4                     THEN (.LNKDESC[LNK_L_TFRADR])(LNKDESC[LNK_L_CONTEXT],
;  996          1126  4                                             LNK_C_OUT_SENDER,
;  997          1127  4                                             DESC,
;  998          1128  4                                             .SENDER_DESC)
;  999          1129  4                     ELSE TRUE)
; 1000          1130  3     END
; 1001          1131  2 ELSE STATUS = CALLG(.AP,WRITE_SLAVE);
; 1002          1132  2
; 1003          1133  2 LNKDESC[LNK_V_FSENT] = TRUE;
; 1004          1134  2 RETURN .STATUS
; 1005          1135  2
; 1006          1136  1 END;



                                       0000 00000        .ENTRY  MAIL$NET_FROM, Save nothing                  : 1090
                 5E                 08  C2 00002         SUBL2   #8, SP                                       :
                 50          04     AC  D0 00005         MOVL    LNKDESC, R0                                  : 1116
  05        2E   A0                 01  E0 00009         BBS     #1, 46(R0), 1$                               :
  04        2E   A0                 03  E1 0000E         BBC     #3, 46(R0), 2$                               : 1117
```

```
                                 50         01  D0 00013 1$:       MOVL    #1, R0                                              ; 1118
                                                04 00016           RET                                                         ;
                  24        2E   A0         02  E1 00017 2$:       BBC     #2, 46(R0), 4$                                      ; 1120
                                 6E     2F  AC  9A 0001C           MOVZBL  47(R0), DESC                                        ; 1122
                            04   AC     30  A0  9E 00020           MOVAB   48(R0), DESC+4                                      ; 1123
                                        10  A0  D5 00025           TSTL    16(R0)                                              ; 1124
                                            11  13 00028           BEQL    3$                                                  ;
                                        08  AC  DD 0002A           PUSHL   SENDER_DESC                                         ; 1128
                                        04  AE  9F 0002D           PUSHAB  DESC                                                ; 1125
                                            01  DD 00030           PUSHL   #1                                                  ;
                                        0C  A0  9F 00032           PUSHAB  12(R0)                                              ;
                            10   B0         04  FB 00035           CALLS   #4, @16(R0)                                         ;
                                            0A  11 00039           BRB     5$                                                  ;
                                 50         01  D0 0003B 3$:       MOVL    #1, STATUS                                          ; 1124
                                            05  11 0003E           BRB     5$                                                  ;
                          FEA6   CF         6C  FA 00040 4$:       CALLG   (AP), WRITE_SLAVE                                   ; 1131
                                 51     04  AC  D0 00045 5$:       MOVL    LNKDESC, R1                                         ; 1133
                            2E   A1         08  88 00049           BISB2   #8, 46(R1)                                          ;
                                                04 0004D           RET                                                         ; 1136

; Routine Size:  78 bytes,    Routine Base:  $CODE$ + 086E
; 1008          1137  1 GLOBAL ROUTINE MAIL$NET_ADDR(LNKDESC,ADDR_DESC) =
; 1009          1138  1 !++
; 1010          1139  1 ! FUNCTIONAL DESCRIPTION:
; 1011          1140  1 !
; 1012          1141  1 !       Check that an addressee exists on a remote node
; 1013          1142  1 !
; 1014          1143  1 ! Inputs:
; 1015          1144  1 !
; 1016          1145  1 !       lnkdesc = address of lnk descriptor for node
; 1017          1146  1 !       addr_desc = address of descriptor of addressee
; 1018          1147  1 !
; 1019          1148  1 ! Returns true if addressee exists, false if not
; 1020          1149  1 !
; 1021          1150  1 !--
; 1022          1151  2 BEGIN
; 1023          1152  2
; 1024          1153  2 MAP
; 1025          1154  2     LNKDESC : REF $BBLOCK,
; 1026          1155  2     ADDR_DESC : REF $BBLOCK;
; 1027          1156  2
; 1028          1157  2 LOCAL
; 1029          1158  2     DESC : VECTOR[2,LONG];
; 1030          1159  2 BUILTIN
; 1031          1160  2     CALLG,AP;
; 1032          1161  2
; 1033          1162  2 IF .LNKDESC[LNK_V_DEAD]
; 1034          1163  2     THEN RETURN FALSE;
; 1035          1164  2
; 1036          1165  2 IF .LNKDESC[LNK_V_ALTP]
; 1037          1166  3 THEN BEGIN
; 1038          1167  3     DESC[0] = .LNKDESC[LNK_B_NODLEN];
; 1039          1168  3     DESC[1] = LNKDESC[LNK_T_NODE];
; 1040          1169  4     RETURN (IF .LNKDESC[LNK_L_TFRADR] EQL 0
; 1041          1170  4                  THEN FALSE
; 1042          1171  4                  ELSE (.LNKDESC[LNK_L_TFRADR])(LNKDESC[LNK_L_CONTEXT],
; 1043          1172  4                                                LNK_C_OUT_CRUSER,
; 1044          1173  4                                                DESC,
; 1045          1174  4                                                .ADDR_DESC,
; 1046          1175  4                                                MAIL$READ_ERROR_TEXT))
; 1047          1176  3     END
; 1048          1177  2 ELSE IF .LNKDESC[LNK_W_CHAN] EQL 0
; 1049          1178  2         THEN RETURN FALSE
; 1050          1179  2         ELSE RETURN CALLG(.AP,WRITE_CHECK_SLAVE)
; 1051          1180  1 END;



                                 0000 00000         .ENTRY  MAIL$NET_ADDR, Save nothing              : 1137
              5E               08   C2 00002        SUBL2   #8, SP                                   :
              50        04     AC   D0 00005        MOVL    LNKDESC, R0                              : 1162
     34    2E A0               01   E0 00009        BBS     #1, 46(R0), 2$                           :
     24    2E A0               02   E1 0000E        BBC     #2, 46(R0), 1$                           : 1165
              6E        2F     A0   9A 00013        MOVZBL  47(R0), DESC                             : 1167
           04 AE        30     A0   9E 00017        MOVAB   48(R0), DESC+4                           : 1168
                        10     A0   D5 0001C        TSTL    16(R0)                                   : 1169
```

```
                                  21   13 0001F          BEQL     2$                                          ;
                       00000000G  00   9F 00021          PUSHAB   MAIL$READ_ERROR_TEXT                        ; 1171
                              08  AC   DD 00027          PUSHL    ADDR_DESC                                   ; 1174
                              08  AE   9F 0002A          PUSHAB   DESC                                        ; 1171
                                  02   DD 0002D          PUSHL    #2                                          ;
                              0C  A0   9F 0002F          PUSHAB   12(R0)                                      ;
              10    B0            05   FB 00032          CALLS    #5, @16(R0)                                 ;
                                       04 00036          RET                                                  ; 1177
                              2C  A0   B5 0C037 1$:      TSTW     44(R0)                                      ;
                                  06   13 0003A          BEQL     2$                                          ;
            FF58    CF            6C   FA 0003C          CALLG    (AP), WRITE_CHECK_SLAVE                     ; 1179
                                       04 00041          RET                                                  ; 1177
                                  50   D4 00042 2$:      CLRL     R0                                          ; 1180
                                       04 00044          RET                                                  ;

; Routine Size:  69 bytes,    Routine Base:  $CODE$ + 08BC
```

```
  1 ROUTINE SEND_MESSAGE(LNKDESC,CNCTDESC) =
  1 !++
  1 ! FUNCTIONAL DESCRIPTION:
  1 !
  1 !       Send text of message to remote node
  1 !
  1 ! Inputs:
  1 !
  1 !       lnkdesc = address of lnk descriptor for remote node
  1 !       cnctdesc = address of cnct descriptor for message
  1 !
  1 !--
  2 BEGIN
  2
  2 MAP
  2     LNKDESC : REF $BBLOCK,
  2     CNCTDESC : REF $BBLOCK;
  2
  2 BIND
  2     RAB = CNCTDESC[CNCT_T_RAB] : $BBLOCK;
  2
  2 LOCAL
  2     STATUS,
  2     DESC : VECTOR[2,LONG];
  2
  2 RAB[RAB$W_USZ] = MAIL$K_INBUFFSZ;
  2 RAB[RAB$L_UBF] = CNCTDESC[CNCT_T_BUFFER];       !Ensure User buffer is right
  2 !
  2 ! ensure rab is connected for BIO if sending in block mode
  2 !
  2 IF .LNKDESC[LNK_V_BLKMODE]
  3 THEN BEGIN
  3     IF NOT .RAB[RAB$V_BIO]
  4     THEN BEGIN
  4         $DISCONNECT(RAB=RAB,ERR=UTIL$REPORT_IO_ERROR);
  4         RAB[RAB$V_BIO] = TRUE;
P 4         IF_ERR($CONNECT(RAB=RAB,ERR=UTIL$REPORT_IO_ERROR);,
  4                 RETURN .STATUS);
  3         END;
  3     !
  3     ! Read from file and write to node until errors or end
  3     !
  3     WHILE (STATUS=$READ(RAB=RAB,ERR=UTIL$REPORT_IO_ERROR)) NEQ RMS$_EOF
  4     DO BEGIN
  4         IF NOT .STATUS THEN RETURN .STATUS;
  4         DESC[0] = .RAB[RAB$W_RSZ];
  4         DESC[1] = .RAB[RAB$L_RBF];
P 4         IF_ERR(WRITE_SLAVE(.LNKDESC,DESC);,
  4                         RETURN .STATUS);
  4         END
  3     END
  3 !
  3 ! Do it with records if we have to.  Make sure rab is connected for
  3 ! record i/o
  3 !
  3 ELSE BEGIN
  3     IF .RAB[RAB$V_BIO]
```

```
; 1110          1238  4       THEN BEGIN
; 1111          1239  4           $DISCONNECT(RAB=RAB,ERR=UTIL$REPORT_IO_ERROR);
; 1112          1240  4           RAB[RAB$V_BIO] = FALSE:
; 1113        P 1241  4           IF_ERR($CONNECT(RAB=RAB,ERR=UTIL$REPORT_IO_ERROR);,
; 1114          1242  4                   RETURN .STATUS);
; 1115          1243  3           END;
; 1116          1244  3       WHILE (STATUS=$GET(RAB=RAB,ERR=UTIL$REPORT_IO_ERROR)) NEQ RMS$_ECF
; 1117          1245  4       DO BEGIN
; 1118          1246  4           IF NOT .STATUS THEN RETURN .STATUS;
; 1119          1247  4           IF .RAB[RAB$W_RSZ] GTRU 255 THEN
; 1120          1248  4                   RETURN SIGNAL(RMS$_RTB,.RAB[RAB$W_RSZ]);
; 1121          1249  4           DESC[0] = .RAB[RAB$W_RSZ];
; 1122          1250  4           DESC[1] = .RAB[RAB$L_RBF];
; 1123          1251  6           IF NOT ((.RAB[RAB$W_RSZ] EQL 1)           !Don't send 1-byte records of 0
; 1124          1252  5               AND (.(.RAB[RAB$L_RBF])<0,8> EQL 0))          ! because they break protocol
; 1125        P 1253  4                   THEN IF_ERR(WRITE_SLAVE(.LNKDESC,DESC);,
; 1126          1254  4                           RETURN .STATUS);
; 1127          1255  3           END;
; 1128          1256  2       END;
; 1129          1257  2 DESC[0] = 1;                        !Make a descriptor
; 1130          1258  2 DESC[1] = DESC[0] + 2;              ! Describing 1 byte of 0
; 1131          1259  2 RETURN WRITE_SLAVE(.LNKDESC,DESC)         !Send the 1 byte of 0 and return
; 1132          1260  1 END;


                                                                        .EXTRN  SYS$DISCONNECT, SYS$CONNECT
                                                                        .EXTRN  SYS$READ, SYS$GET

                                                    01FC 00000 SEND_MESSAGE:
                                                                        .WORD   Save R2,R3,R4,R5,R6,R7,R8                       ; 1181
                                  58 00000000G  00   9E 00002           MOVAB   SYS$CONNECT, R8                                 ;
                                  57 00000000G  00   9E 00009           MOVAB   SYS$DISCONNECT, R7                              ;
                                  56      FE44  CF   9E 00010           MOVAB   WRITE_SLAVE, R6                                 ;
                                  55 00000000G  00   9E 00015           MOVAB   UTIL$REPORT_IO_ERROR, R5                        ;
                                  5E            08   C2 0001C           SUBL2   #8, SP                                          ;
                 52         08    AC 00000286   8F   C1 0001F           ADDL3   #646, CNCTDESC, R2                              : 1200
                            20    A2      0200  8F   B0 00028           MOVW    #512, 32(R2)                                    . 1206
          24     A2         08    AC 00000086   8F   C1 0002E           ADDL3   #134, CNCTDESC, 36(R2)                          ; 1207
                                  54        04  AC   D0 00038           MOVL    LNKDESC, R4                                     ; 1211
                 41         2E    A4            04   E1 0003C           BBC     #4, 46(R4), 3$                                  ;
                 10         05    A2            03   E0 00041           BBS     #3, 5(R2), 1$                                   ; 1213
                                                24   BB 00046           PUSHR   #^M<R2,R5>                                      ; 1215
                                  67            02   FB 00048           CALLS   #2, SYS$DISCONNECT                              ;
                            05    A2            08   88 0004B           BISB2   #8, 5(R2)                                       ; 1216
                                                24   BB 0004F           PUSHR   #^M<R2,R5>                                      ; 1218
                                  68            02   FB 00051           CALLS   #2, SYS$CONNECT                                 ;
                                                28   11 00054           BRB     2$                                              ;
                                                24   BB 00056 1$:       PUSHR   #^M<R2,R5>                                      ; 1223
                   00000000G      00            02   FB 00058           CALLS   #2, SYS$READ                                    ;
                                  53            50   D0 0005F           MOVL    R0, STATUS                                      ;
                   0001827A       8F            53   D1 00062           CMPL    STATUS, #98938                                  ;
                                                3F   13 00069           BEQL    5$                                              ;
                                  41            53   E9 0006B           BLBC    STATUS, 6$                                      ; 1225
                                  6E        22  A2   3C 0006E           MOVZWL  34(R2), DESC                                    ; 1226
                            04    AE        28  A2   D0 00072           MOVL    40(R2), DESC+4                                  ; 1227
                                          4010  8F   BB 00077           PUSHR   #^M<R4,SP>                                      ; 1229
```

```
                         66                02 FB 0007B        CALLS    #2, WRITE_SLAVE                 ;
                         D5                50 E8 0007E 2$:    BLBS     STATUS, 1$                      ;
                                              04 00081        RET                                      ;
        10          05   A2                03 E1 00082 3$:    BBC      #3, 5(R2), 4$                   ; 1237
                                           24 BB 00087        PUSHR    #^M<R2,R5>                      ; 1239
                         67                02 FB 00089        CALLS    #2, SYS$DISCONNECT              ;
                    05   A2                08 8A 0008C        BICB2    #8, 5(R2)                       ; 1240
                                           24 BB 00090        PUSHR    #^M<R2,R5>                      ; 1242
                         68                02 FB 00092        CALLS    #2, SYS$CONNECT                 ;
                                           51 11 00095        BRB      10$                             ;
                                           24 BB 00097 4$:    PUSHR    #^M<R2,R5>                      ; 1244
             00000000G   00                02 FB 00099        CALLS    #2, SYS$GET                     ;
                         53                50 D0 000A0        MOVL     R0, STATUS                      ;
              0001827A   8F                53 D1 000A3        CMPL     STATUS, #98938                  ;
                                           40 13 000AA 5$:    BEQL     11$                             ;
                         04                53 E8 000AC        BLBS     STATUS, 7$                      ; 1246
                         50                53 D0 000AF 6$:    MOVL     STATUS, R0                      ;
                                              04 000B2        RET                                      ;
                  00FF   8F           22   A2 B1 000B3 7$:    CMPW     34(R2), #255                    ; 1247
                                           12 1B 000B9        BLEQU    8$                              ;
                         7E           22   A2 3C 000BB        MOVZWL   34(R2), -(SP)                   ; 1248
                                000181A8   8F DD 000BF        PUSHL    #98728                          ;
             00000000G   00                02 FB 000C5        CALLS    #2, LIB$SIGNAL                  ;
                                              04 000CC        RET                                      ;
                         6E           22   A2 3C 000CD 8$:    MOVZWL   34(R2), DESC                    ; 1249
                    04   AE           28   A2 D0 000D1        MOVL     40(R2), DESC+4                  ; 1250
                         01           22   A2 B1 000D6        CMPW     34(R2), #1                      ; 1251
                                           05 12 000DA        BNEQ     9$                              ;
                                      28   B2 95 000DC        TSTB     @40(R2)                         ; 1252
                                           B6 13 000DF        BEQL     4$                              ;
                                    4010   8F BB 000E1 9$:    PUSHR    #^M<R4,SP>                      ; 1254
                         66                02 FB 000E5        CALLS    #2, WRITE_SLAVE                 ;
                         AC                50 E8 000E8 10$:   BLBS     STATUS, 4$                      ;
                                              04 000EB        RET                                      ;
                         6E                01 D0 000EC 11$:   MOVL     #1, DESC                        ; 1257
                    04   AE           02   AE 9E 000EF        MOVAB    DESC+2, DESC+4                  ; 1258
                                    4010   8F BB 000F4        PUSHR    #^M<R4,SP>                      ; 1259
                         66                02 FB 000F8        CALLS    #2, WRITE_SLAVE                 ;
                                              04 000FB        RET                                      ; 1260

; Routine Size:  252 bytes,    Routine Base:  $CODE$ + 0901
```

```
1 GLOBAL ROUTINE MAIL$NET_END_USERS(CNCTDESC) : NOVALUE =
1 !++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       Send the end of username flag (byte of 0) and the to-list
1 !       to all the remote nodes that are described by cnctdesc.
1 !
1 ! Inputs:
1 !
1 !       cnctdesc = address of cnct descriptor
1 !
1 !--
2 BEGIN
2 MAP
2     CNCTDESC : REF $BBLOCK;
2
2 LOCAL
2     DESC : VECTOR[2,LONG],
2     LNKDESC : REF $BBLOCK;
2
2 !
2 ! Form a descriptor of a byte of 0
2 !
2 DESC[0] = 1;
2 DESC[1] = DESC[0] + 2;
2 LNKDESC = .(CNCTDESC[CNCT_Q_LNKLST])<0,32,0>;
2 WHILE .LNKDESC NEQ CNCTDESC[CNCT_Q_LNKLST]
3 DO BEGIN
3     IF NOT .LNKDESC[LNK_V_ALTP]         !If sending with decnet
4     THEN BEGIN
4         IF WRITE_SLAVE(.LNKDESC,DESC)   !Send the 1 byte of 0
4             THEN WRITE_SLAVE(.LNKDESC,CNCTDESC[CNCT_Q_TODESC]); !send "to" list
4         END
4     ELSE BEGIN
4         LOCAL
4             NDESC : VECTOR[2,LONG];
4         !
4         ! Send with alternate protocol
4         !
4         IF .LNKDESC[LNK_L_TFRADR] NEQ 0
5         THEN BEGIN
5             NDESC[0] = .LNKDESC[LNK_B_NODLEN];
5             NDESC[1] = LNKDESC[LNK_T_NODE];
5             IF (.LNKDESC[LNK_L_TFRADR])(LNKDESC[LNK_L_CONTEXT],
5                                         LNK_C_OUT_CKUSER,
5                                         NDESC,
5                                         DESC,
5                                         MAIL$READ_ERROR_TEXT)
5                 THEN (.LNKDESC[LNK_L_TFRADR])(LNKDESC[LNK_L_CONTEXT],
5                                         LNK_C_OUT_TO,
5                                         NDESC,
5                                         CNCTDESC[CNCT_Q_TODESC]);
4             END;
3         END;
3     LNKDESC = .LNKDESC[LNK_L_FLINK];
2     END;
2 RETURN;
```

```
; 1191          1318  1 END;



                                001C 00000          .ENTRY  MAIL$NET_END_USERS, Save R2,R3,R4                   ; 1261
                54      FD56   CF  9E 00002          MOVAB   WRITE_SLAVE, R4                                     ;
                5E             10  C2 00007          SUBL2   #16, SP                                             ;
           08   AE             01  D0 0000A          MOVL    #1, DESC                                            ; 1284
           0C   AE        0A   AE  9E 0000E          MOVAB   DESC+2, DESC+4                                      ; 1285
                53        04   AC  D0 00013          MOVL    CNCTDESC, R3                                        ; 1286
                52        30   A3  D0 00017          MOVL    48(R3), LNKDESC                                     ;
                50        30   A3  9E 0001B 1$:      MOVAB   48(R3), R0                                          ; 1287
                50             52  D1 0001F          CMPL    LNKDESC, R0                                         ;
                               54  13 00022          BEQL    4$                                                  ;
     15    2E   A2             02  E0 00024          BBS     #2, 46(LNKDESC), 2$                                 ; 1289
                          08   AE  9F 00029          PUSHAB  DESC                                                ; 1291
                               52  DD 0002C          PUSHL   LNKDESC                                             ;
                64             02  FB 0002E          CALLS   #2, WRITE_SLAVE                                     ;
                3F             50  E9 00031          BLBC    R0, 3$                                              ;
                          10   A3  9F 00034          PUSHAB  16(R3)                                              ; 1292
                               52  DD 00037          PUSHL   LNKDESC                                             ;
                64             02  FB 00039          CALLS   #2, WRITE_SLAVE                                     ;
                               35  11 0003C          BRB     3$                                                  ; 1289
                          10   A2  D5 0003E 2$:      TSTL    16(LNKDESC)                                         ; 1300
                               30  13 00041          BEQL    3$                                                  ;
                6E        2F   A2  9A 00043          MOVZBL  47(LNKDESC), NDESC                                  ; 1302
           04   AE        30   A2  9E 00047          MOVAB   48(R2), NDESC+4                                     ; 1303
                   00000000G   00  9F 0004C          PUSHAB  MAIL$READ_ERROR_TEXT                                ; 1304
                          0C   AE  9F 00052          PUSHAB  DESC                                                ;
                          08   AE  9F 00055          PUSHAB  NDESC                                               ;
                               02  DD 00058          PUSHL   #2                                                  ;
                          0C   A2  9F 0005A          PUSHAB  12(LNKDESC)                                         ;
           10   B2             05  FB 0005D          CALLS   #5, @16(LNKDESC)                                    ;
                0F             50  E9 00061          BLBC    R0, 3$                                              ;
                          10   A3  9F 00064          PUSHAB  16(R3)                                              ; 1312
                          04   AE  9F 00067          PUSHAB  NDESC                                               ; 1309
                               03  DD 0006A          PUSHL   #3                                                  ; 1312
                          0C   A2  9F 0006C          PUSHAB  12(LNKDESC)                                         ; 1309
           10   B2             04  FB 0006F          CALLS   #4, @16(LNKDESC)                                    ; 1312
                52             62  D0 00073 3$:      MOVL    (LNKDESC), LNKDESC                                  ; 1315
                               A3  11 00076          BRB     1$                                                  ; 1287
                                   04 00078 4$:      RET                                                         ; 1318

; Routine Size:  121 bytes,    Routine Base:  $CODE$ + 09FD
; 1193          1319  1 GLOBAL ROUTINE MAIL$NET_SEND(ADRDESC,CNCTDESC) =
; 1194          1320  1 !++
; 1195          1321  1 ! FUNCTIONAL DESCRIPTION:
; 1196          1322  1 !
; 1197          1323  1 !       Send a message to the remote node.  The complete message is only sent
; 1198          1324  1 !       the first time.  After the message is sent, and each additional call
; 1199          1325  1 !       for a particular node, only the slave status is checked for each
; 1200          1326  1 !       addressee.
; 1201          1327  1 !
; 1202          1328  1 ! Inputs:
; 1203          1329  1 !
; 1204          1330  1 !       adrdesc = address of addressee descriptor
; 1205          1331  1 !       cnctdesc = address of cnct descriptor
; 1206          1332  1 !
; 1207          1333  1 !--
; 1208          1334  2 BEGIN
; 1209          1335  2
; 1210          1336  2 MAP
; 1211          1337  2     ADRDESC : REF $BBLOCK,
; 1212          1338  2     CNCTDESC : REF $BBLOCK;
; 1213          1339  2
; 1214          1340  2 BIND
; 1215          1341  2     LNKDESC = ADRDESC[ADR_L_LLNK] : REF $BBLOCK,
; 1216          1342  2     SUBJDESC = CNCTDESC[CNCT_Q_SUBJDESC] : $BBLOCK;
; 1217          1343  2
; 1218          1344  2 LOCAL
; 1219          1345  2     UDESC : VECTOR[2,LONG],
; 1220          1346  2     NDESC : VECTOR[2,LONG],
; 1221          1347  2     DESC : VECTOR[2,LONG];
; 1222          1348  2
; 1223          1349  2 IF .LNKDESC[LNK_V_DEAD]
; 1224          1350  2     THEN RETURN FALSE;
; 1225          1351  2
; 1226          1352  2 !
; 1227          1353  2 ! If the message hasn't been sent to this node yet, then
; 1228          1354  2 ! send it now
; 1229          1355  2 !
; 1230          1356  2 NDESC[0] = .LNKDESC[LNK_B_NODLEN];
; 1231          1357  2 NDESC[1] = LNKDESC[LNK_T_NODE];
; 1232          1358  2 UDESC[0] = .ADRDESC[ADR_B_NAMLNG];
; 1233          1359  2 UDESC[1] = ADRDESC[ADR_T_NAME];
; 1234          1360  2 IF NOT .LNKDESC[LNK_V_MSGSNT]
; 1235          1361  3 THEN BEGIN
; 1236          1362  3     DESC[0] = .SUBJDESC[DSC$W_LENGTH];
; 1237          1363  3     IF .DESC[0] NEQ 0
; 1238          1364  3         THEN DESC[1] = .SUBJDESC[DSC$A_POINTER]
; 1239          1365  3         ELSE DESC[1] = DESC[0];
; 1240          1366  3     IF NOT .LNKDESC[LNK_V_ALTP]         !If sending with decnet
; 1241          1367  4     THEN BEGIN
; 1242        P 1368  4         IF_ERR(WRITE_SLAVE(.LNKDESC,DESC);,
; 1243          1369  4                                 RETURN .STATUS);
; 1244          1370  4         !
; 1245          1371  4         ! Now send text of message
; 1246          1372  4         !
; 1247        P 1373  4         IF_ERR(SEND_MESSAGE(.LNKDESC,.CNCTDESC);,
; 1248          1374  4                 RETURN .STATUS);
; 1249          1375  4         LNKDESC[LNK_V_MSGSNT] = TRUE;
; 1250          1376  4             END
; 1251          1377  4         ELSE BEGIN
; 1252          1378  4             !
; 1253          1379  4             ! Send with alternate protocol
; 1254          1380  4             !
; 1255          1381  4             IF .LNKDESC[LNK_L_TFRADR] EQL 0
; 1256          1382  4                 THEN RETURN TRUE;
; 1257        P 1383  4             IF_ERR((.LNKDESC[LNK_L_TFRADR])(LNK)ESC[LNK_L_CONTEXT],
; 1258        P 1384  4                                     LNK_C_OUT_SUBJ,
; 1259        P 1385  4                                     NDESC,
; 1260        P 1386  4                                     DESC);,
; 1261          1387  4                     RETURN .STATUS);
; 1262        P 1388  4             IF_ERR((.LNKDESC[LNK_L_TFRADR])(LNKDESC[LNK_L_CONTEXT],
; 1263        P 1389  4                                     LNK_C_OUT_FILE,
; 1264        P 1390  4                                     NDESC,
; 1265        P 1391  4                                     CNCTDESC[CNCT_T_RAB],
; 1266        P 1392  4                                     UTIL$REPORT_IO_ERROR);,
; 1267          1393  4                     RETURN .STATUS);
; 1268          1394  4             LNKDESC[LNK_V_MSGSNT] = TRUE;
; 1269          1395  3             END;
; 1270          1396  2         END;
; 1271          1397  2 !
; 1272          1398  2 ! See how the send went to this user
; 1273          1399  2 !
; 1274          1400  3 RETURN (IF NOT .LNKDESC[LNK_V_ALTP]
; 1275          1401  3                 THEN CHECK_SLAVE_STATUS(.LNKDESC)
; 1276          1402  3                 ELSE (.LNKDESC[LNK_L_TFRADR])(LNKDESC[LNK_L_CONTEXT],
; 1277          1403  3                                                 LNK_C_OUT_CRSEND,
; 1278          1404  3                                                 NDESC,
; 1279          1405  3                                                 UDESC,
; 1280          1406  3                                                 MAIL$READ_ERROR_TEXT))
; 1281          1407  1 END;



                                  001C 00000            .ENTRY  MAIL$NET_SEND, Save R2,R3,R4                  ; 1319
               54      FCDD   CF    9E 00002            MOVAB   WRITE_SLAVE, R4                               ;
               5E             18    C2 00007            SUBL2   #24, SP                                       ;
               50       04    AC    D0 0000A            MOVL    ADRDESC, R0                                   ; 1341
     51   08   AC             18    C1 0000E            ADDL3   #24, CNCTDESC, R1                             ; 1342
               52       08    A0    D0 00013            MOVL    8(R0), R2                                     ; 1349
               53       2E    A2    9E 00017            MOVAB   46(R2), R3                                    ;
     03        63             01    E1 0001B            BBC     #1, (R3), 1$                                  ;
                            00A0    31 0001F            BRW     9$                                            ;
          08   AE       2F    A2    9A 00022 1$:        MOVZBL  47(R2), NDESC                                 ; 1356
          0C   AE       30    A2    9E 00027            MOVAB   48(R2), NDESC+4                               ; 1357
          10   AE       1D    A0    9A 0002C            MOVZBL  29(R0), UDESC                                 ; 1358
          14   AE       1E    A0    9E 00031            MOVAB   30(R0), UDESC+4                               ; 1359
               67             63    E8 00036            BLBS    (R3), 7$                                      ; 1360
               6E             61    3C 00039            MOVZWL  (R1), DESC                                    ; 1362
                              07    13 0003C            BEQL    2$                                            ; 1363
          04   AE       04    A1    D0 0003E            MOVL    4(R1), DESC+4                                 ; 1364
                              04    11 00043            BRB     3$                                            ;
          04   AE             6E    9E 00045 2$:        MOVAB   DESC, DESC+4                                  ; 1365
     18        63             02    E0 00049 3$:        BBS     #2, (R3), 4$                                  ; 1366
```

```
                              4004  8F  BB 0004D        PUSHR   #^M<R2,SP>                        ; 1369
                   64               02  FB 00051        CALLS   #2, WRITE_SLAVE                   ;
                   6D               50  E9 00054        BLBC    STATUS, 10$                       ;
                                08  AC  DD 00057        PUSHL   CNCTDESC                          ; 1374
                                    52  DD 0005A        PUSHL   R2                                ;
            01A8   C4               02  FB 0005C        CALLS   #2, SEND_MESSAGE                  ;
                   39               50  E8 00061        BLBS    STATUS, 6$                        ;
                                        04 00064        RET                                       ; 1375
                                10  A2  D5 00065 4$:    TSTL    16(R2)                            ; 1381
                                    04  12 00068        BNEQ    5$                                ;
                   50               01  D0 0006A        MOVL    #1, R0                            ; 1382
                                        04 0006D        RET                                       ;
                                    5E  DD 0006E 5$:    PUSHL   SP                                ; 1387
                                0C  AE  9F 00070        PUSHAB  NDESC                             ;
                                    04  DD 00073        PUSHL   #4                                ;
                                0C  A2  9F 00075        PUSHAB  12(R2)                            ;
              10   B2               04  FB 00078        CALLS   #4, @16(R2)                       ;
                   45               50  E9 0007C        BLBC    STATUS, 10$                       ;
                         00000000G  00  9F 0007F        PUSHAB  UTIL$REPORT_IO_ERROR              ; 1393
      7E      08   AC     00000286  8F  C1 00085        ADDL3   #646, CNCTDESC, -(SP)             ;
                                10  AE  9F 0008E        PUSHAB  NDESC                             ;
                                    05  DD 00091        PUSHL   #5                                ;
                                0C  A2  9F 00093        PUSHAB  12(R2)                            ;
              10   B2               05  FB 00096        CALLS   #5, @16(R2)                       ;
                   27               50  E9 0009A        BLBC    STATUS, 10$                       ;
                   63               01  88 0009D 6$:    BISB2   #1, (R3)                          ; 1394
      08           63               02  E0 000A0 7$:    BBS     #2, (R3), 8$                      ; 1400
                                    52  DD 000A4        PUSHL   R2                                ; 1401
            00C0   C4               01  FB 000A6        CALLS   #1, CHECK_SLAVE_STATUS            ;
                                        04 000AB        RET                                       ;
                         00000000G  00  9F 000AC 8$:    PUSHAB  MAIL$READ_ERROR_TEXT              ; 1402
                                14  AE  9F 000B2        PUSHAB  UDESC                             ;
                                10  AE  9F 000B5        PUSHAB  NDESC                             ;
                                    06  DD 000B8        PUSHL   #6                                ;
                                0C  A2  9F 000BA        PUSHAB  12(R2)                            ;
              10   B2               05  FB 000BD        CALLS   #5, @16(R2)                       ;
                                        04 000C1        RET                                       ; 1400
                                    50  D4 000C2 9$:    CLRL    R0                                ; 1407
                                        04 000C4 10$:   RET                                       ;

; Routine Size:  197 bytes,    Routine Base:  $CODE$ + 0A76
; 1283          1408  1 GLOBAL ROUTINE MAIL$READ_FOREIGN_FILE(OUTRAB) =
; 1284          1409  1 !++
; 1285          1410  1 ! FUNCTIONAL DESCRIPTION:
; 1286          1411  1 !
; 1287          1412  1 !       Calls a foreign net protocol routine to read message text
; 1288          1413  1 !       from the remote node and store it in the output file
; 1289          1414  1 !
; 1290          1415  1 !--
; 1291          1416  2 BEGIN
; 1292          1417  2 MAP
; 1293          1418  2     OUTRAB : $BBLOCK;
; 1294          1419  2
; 1295          1420  2 RETURN (.LINK_TFRADR)(LINK_CONTEXT,LNK_C_IN_FILE,0,.OUTRAB,
; 1296          1421  2                         UTIL$REPORT_IO_ERROR)
; 1297          1422  1 END;



                                         0000 00000        .ENTRY  MAIL$READ_FOREIGN_FILE, Save nothing      ; 1408
                          50 00000000'  00   D0 00002        MOVL    LINK_TFRADR, R0                           ; 1420
                             00000000G  00   9F 00009        PUSHAB  UTIL$REPORT_IO_ERROR                      ;
                                    04  AC   DD 0000F        PUSHL   OUTRAB                                    ;
                          7E             0D   7D 00012        MOVQ    #13, -(SP)                                ;
                             00000000'  00   9F 00015        PUSHAB  LINK_CONTEXT                              ;
                          60             05   FB 0001B        CALLS   #5, (R0)                                  ;
                                              04 0001E        RET                                               ; 1422

; Routine Size:  31 bytes,    Routine Base:  $CODE$ + 0B3B
```

```
1 ROUTINE ACCEPT_LINK =
1 !++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !         Accept a connection from a remote node
1 !
1 ! Inputs:
1 !
1 !         none
1 !
1 ! Implicit inputs:
1 !
1 !         network server data base and own storage
1 !--
2 BEGIN
2 LOCAL
2     STATUS,
2     RMSRAT,
2     RMSRFM,
2     PFLAGS,
2     PTR : REF VECTOR[,BYTE],
2     PTR1 : REF $BBLOCK,
2     LEN,
2     QIOSB : VECTOR[4,WORD];
2
2 LINK_CHAN = 0;
2 MAIL$G_CNCT[CNCT_B_FILRAT] = FAB$M_CR;
2 MAIL$G_CNCT[CNCT_B_FILRFM] = FAB$C_VAR;
2 IF .MAIL$Q_PROTOCOL[DSC$W_LENGTH] EQL 0
3 THEN BEGIN
3     !
3     ! See if SYS$NET translated is a DECnet NCB.  If so, decode the
3     ! NCB and store in CNCT
3     !
3     IF NOT CH$FAIL(PTR = CH$FIND_CH(.MAIL$Q_INPTRAN[DSC$W_LENGTH],
3                     .MAIL$Q_INPTRAN[DSC$A_POINTER],%C'/'))
4     THEN BEGIN
4         LEN = .PTR - .MAIL$Q_INPTRAN[DSC$A_POINTER] - 4;        !"/", word, cnt count
4         PTR = .PTR + 3;                                         !Skip to cnf count
4         PTR1 = PTR[1];                                          !PTR1 points to cnfdata
4         IF .LEN-CNF_C_LENGTH GEQU 0
4             AND .PTR[0] EQL CNF_C_LENGTH
4             AND .PTR1[CNF_B_VERSION] GEQU CNF_C_VERS
4             AND .PTR1[CNF_B_ECO] GEQU CNF_C_ECO
5         THEN BEGIN
5             !
5             ! It seems to be a valid CNF from another MAIL.  Store away the
5             !  info and modify accordingly
5             !
5             PTR1[CNF_V_PFXSEND] = 0;            !Clear his bit
5             PTR1[CNF_V_CCSEND] = 0;             !Clear his bit
5             PTR1[CNF_B_VERSION] = CNF_C_VERS;   !Send back our protocol ver
5             PTR1[CNF_B_ECO] = CNF_C_ECO;        ! and eco level
5             IF .PTR1[CNF_V_BLKSEND]             !Sending block mode?
6             THEN BEGIN
6                 PTR1[CNF_V_BLKSEND] = 0;        !Clear his send bit
6                 PTR1[CNF_V_BLKRECV] = 1;        !Set my receive bit
```

```
; 1356      1480 6             MAIL$G_CNCT[CNCT_B_FILRFM] = .PTR1[CNF_B_RFM];
; 1357      1481 6             MAIL$G_CNCT[CNCT_B_FILRAT] = .PTR1[CNF_B_RAT];
; 1358      1482 6             MAIL$G_CNCT[CNCT_V_BLKMODE] = TRUE;
; 1359      1483 6             PTR1[CNF_B_RFM] = 1;            !Will send 1 block at a time
; 1360      1484 5             END;
; 1361      1485 4          END;
; 1362      1486 3       END;
; 1363      1487 3    !
; 1364      1488 3    ! Assign a channel to _NET:.  Then attempt to accept the connection.
; 1365      1489 3    ! If that fails, then give up.
; 1366      1490 3    !
; 1367      1491 4    IF (STATUS = LIB$ASN_WTH_MBX(NETACP_DESC,
; 1368      1492 4                         MAIL$L_MBXBUF,MAIL$L_MBXQUO,LINK_CHAN,
; 1369      1493 4                         NETMBX_CHAN))
; 1370    P 1494 5       AND ((STATUS = $QIOW(FUNC=IO$_ACCESS,
; 1371    P 1495 5                   CHAN=.LINK_CHAN,
; 1372    P 1496 5                   IOSB=QIOSB,
; 1373      1497 5                   P2=MAIL$Q_INPTRAN))
; 1374      1498 4          AND (STATUS = .QIOSB[0]))
; 1375      1499 4    THEN ($DASSGN(CHAN=.NETMBX_CHAN); RETURN TRUE)            !All done if DECnet
; 1376      1500 4    ELSE BEGIN
; 1377      1501 4       $DASSGN(CHAN=.NETMBX_CHAN);
; 1378      1502 4       MAIL$G_CNCT[CNCT_V_BLKMODE] = FALSE;
; 1379      1503 4       RETURN .STATUS;
; 1380      1504 3       END;
; 1381      1505 3    END
; 1382      1506 3 ELSE BEGIN
; 1383      1507 3    !
; 1384      1508 3    ! The /protocol qualifier was used in starting up inbound network
; 1385      1509 3    ! mail.  Merge in the specified file and use it.
; 1386      1510 3    !
; 1387      1511 3    PFLAGS = 0;
; 1388    P 1512 3    IF_ERR(LIB$FIND_IMAGE_SYMBOL(MAIL$Q_PROTOCOL,PROT_DESC,LINK_TFRADR);,
; 1389      1513 3             RETURN .STATUS);
; 1390    P 1514 3    IF_ERR(CHECK_PROTOCOL_VERSION(MAIL$Q_PROTOCOL);,
; 1391      1515 3             RETURN .STATUS);
; 1392    P 1516 3    IF_ERR((.LINK_TFRADR)(LINK_CONTEXT,
; 1393    P 1517 3                               LNK_C_IN_CONNECT,
; 1394    P 1518 3                               MAIL$Q_INPTRAN,
; 1395    P 1519 3                               RMSRAT,RMSRFM,
; 1396    P 1520 3                               .MAIL$GL_SYSFLAGS<16,16,0>,
; 1397    P 1521 3                               MAIL$Q_PROTOCOL,
; 1398    P 1522 3                               PFLAGS);,
; 1399      1523 3             RETURN .STATUS);
; 1400      1524 3    LINK_CHAN = MAIL$GL_FLAGS[MAIF_V_ALTP] = 1;
; 1401      1525 3    MAIL$G_CNCT[CNCT_B_FILRFM] = .RMSRFM;
; 1402      1526 3    MAIL$G_CNCT[CNCT_B_FILRAT] = .RMSRAT;
; 1403      1527 3    MAIL$GL_FLAGS[MAIF_V_SERVERLOOP] = .PFLAGS<0,1,0>;
; 1404      1528 3    RETURN TRUE
; 1405      1529 2    END;
; 1406      1530 1 END;




                                         01FC 00000 ACCEPT_LINK:
```

```
                                                    .WORD    Save R2,R3,R4,R5,R6,R7,R8                ; 1423
               58   00000000G   00 9E 00002         MOVAB    SYS$DASSGN, R8                           ;
               57        F4C9   CF 9E 00009         MOVAB    NETACP_DESC, R7                          ;
               56   00000000G   00 9E 0000E         MOVAB    MAIL$Q_INPTRAN, R6                       ;
               55   00000000G   00 9E 00015         MOVAB    MAIL$Q_PROTOCOL, R5                      ;
               54   00000000G   00 9E 0001C         MOVAB    MAIL$G_CNCT+128, R4                      ;
               53   00000000'   00 9E 00023         MOVAB    LINK_CHAN, R3                            ;
               5E               14 C2 0002A         SUBL2    #20, SP                                  ;
                                63 D4 0002D         CLRL     LINK_CHAN                                ; 1448
               64        0202   8F B0 0002F         MOVW     #514, MAIL$G_CNCT+128                    ; 1449
                                65 B5 00034         TSTW     MAIL$Q_PROTOCOL                          ; 1451
                                03 13 00036         BEQL     1$                                       ;
                              00AE 31 00038         BRW      5$                                       ;
               52          04   A6 D0 0003B 1$:     MOVL     MAIL$Q_INPTRAN+4, R2                     ; 1458
62             66               2F 3A 0003F         LOCC     #47, MAIL$Q_INPTRAN, (R2)                ; 1457
                                02 12 00043         BNEQ     2$                                       ;
                                51 D4 00045         CLRL     R1                                       ;
               50               51 D0 00047 2$:     MOVL     R1, PTR                                  ;
                                40 13 0004A         BEQL     3$                                       ; 1458
51             50               52 C3 0004C         SUBL3    R2, PTR, R1                              ; 1460
               52          FC   A1 9E 00050         MOVAB    -4(R1), LEN                              ;
               50               03 C0 00054         ADDL2    #3, PTR                                  ; 1461
               51          01   A0 9E 00057         MOVAF    1(R0), PTR1                              ; 1462
               52               10 C2 0005B         SUBL2    #16, R2                                  ; 1463
               10               60 91 0005E         CMPB     (PTR), #16                               ; 1464
                                29 12 00061         BNEQ     3$                                       ;
               03               61 91 00063         CMPE     (PTR1), #3                               ; 1465
                                24 1F 00066         BLSSU    3$                                       ;
               50          08   A1 9E 00068         MOVAB    8(PTR1), R0                              ; 1472
               60               14 8A 0006C         BICB2    #20, (R0)                                ; 1473
               61               03 B0 0006F         MOVW     #3, (PTR1)                               ; 1474
               17               60 E9 00072         BLBC     (R0), 3$                                 ; 1476
               60               01 8A 00075         BICB2    #1, (R0)                                 ; 1478
               60               02 88 00078         BISB2    #2, (R0)                                 ; 1479
            01 A4          0C   A1 90 0007B         MOVB     12(PTR1), MAIL$G_CNCT+129                ; 1480
               64          0D   A1 90 00080         MOVB     13(PTR1), MAIL$G_CNCT+128                ; 1481
            04 A4               04 88 00084         BISB2    #4, MAIL$G_CNCT+T32                      ; 1482
            0C A1               01 90 00088         MOVB     #1, 12(PTRT)                             ; 1483
                           0C   A3 9F 0008C 3$:     PUSHAB   NETMBX_CHAN                              ; 1491
                                53 DD 0008F         PUSHL    R3                                       ;
                    00000000'   00 9F 00091         PUSHAB   MAIL$L_MBXQUO                            ;
                    00000000'   00 9F 00097         PUSHAB   MAIL$L_MBXBUF                            ;
                                57 DD 0009D         PUSHL    R7                                       ;
     00000000G 00               05 FB 0009F         CALLS    #5, LIB$ASN_WTH_MBX                      ;
               52               50 D0 000A6         MOVL     R0, STATUS                               ;
               2F               52 E9 000A9         BLBC     STATUS, 4$                               ;
                                7E 7C 000AC         CLRQ     -(SP)                                    ; 1497
                                7E 7C 000AE         CLRQ     -(SP)                                    ;
                                56 DD 000B0         PUSHL    R6                                       ;
                                7E 7C 000B2         CLRQ     -(SP)                                    ;
                                7E D4 000B4         CLRL     -(SP)                                    ;
                           2C   AE 9F 000B6         PUSHAB   QIOSB                                    ;
                                32 DD 000B9         PUSHL    #50                                      ;
                                63 DD 000BB         PUSHL    LINK_CHAN                                ;
                                7E D4 000BD         CLRL     -(SP)                                    ;
     00000000G 00               0C FB 000BF         CALLS    #12, SYS$QIOW                            ;
               52               50 D0 000C6         MOVL     R0, STATUS                               ;
```

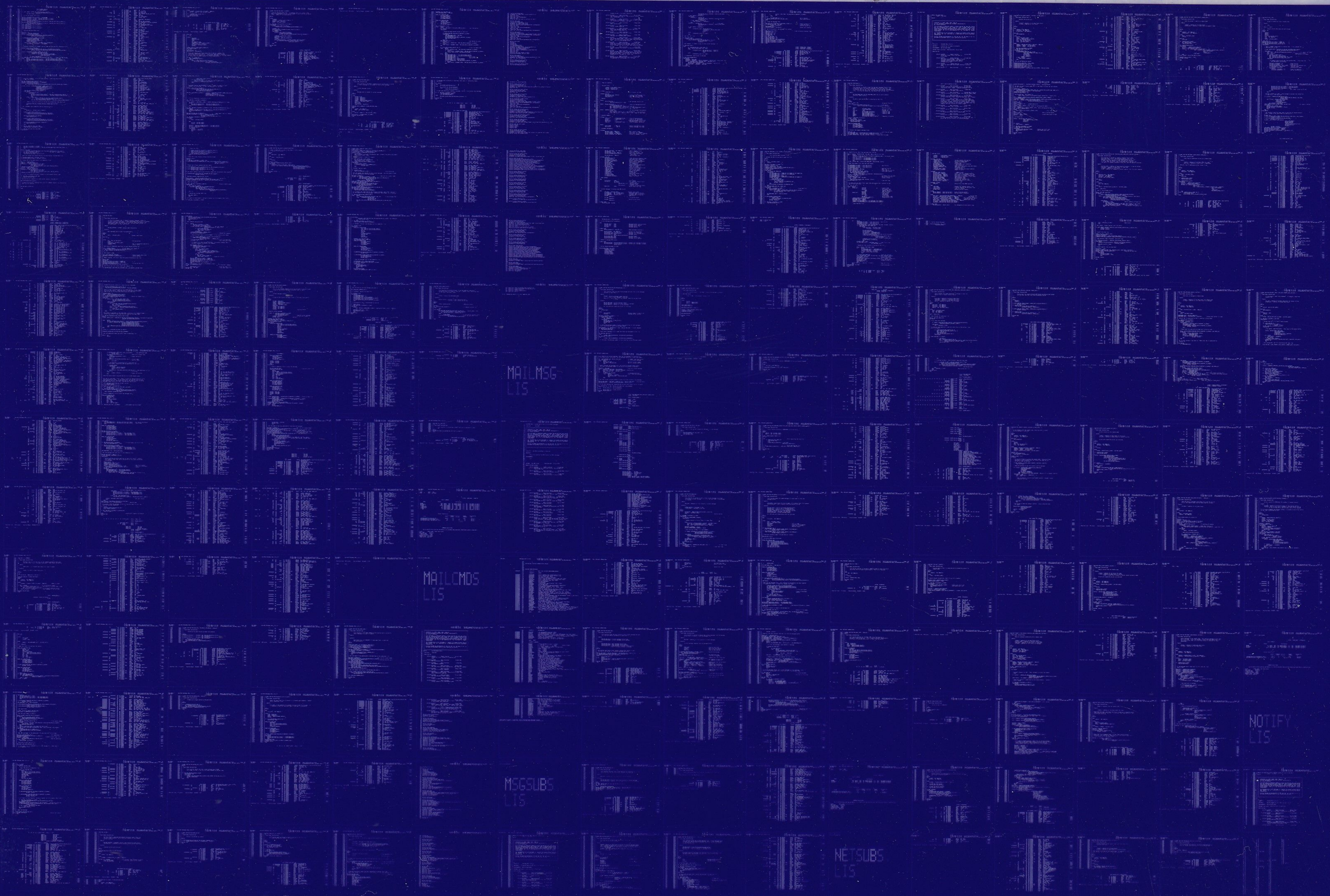
```
                                       0F            52  E9 000C9         BLBC    STATUS, 4$                                   ;
                                       52        0C  AE  3C 000CC         MOVZWL  QIOSB, STATUS                                ; 1498
                                       08            52  E9 000D0         BLBC    STATUS, 4$                                   ;
                                                 0C  A3  DD 000D3         PUSHL   NETMBX_CHAN                                  ; 1499
                                       68            01  FB 000D6         CALLS   #1, SYS$DASSGN                               ;
                                                     6A  11 000D9         BRB     6$                                           ; 1500
                                                 0C  A3  DD 000DB 4$:     PUSHL   NETMBX_CHAN                                  ; 1501
                                       68            01  FB 000DE         CALLS   #1, SYS$DASSGN                               ;
                                   04  A4            04  8A 000E1         BICB2   #4, MAIL$G_CNCT+132                          ; 1502
                                       50            52  D0 000E5         MOVL    STATUS, R0                                   ; 1503
                                                         04 000E8         RET                                                  ; 1506
                                                     6E  D4 000E9 5$:     CLRL    PFLAGS                                       ; 1511
                                                 04  A3  9F 000EB         PUSHAB  LINK_TFRADR                                  ; 1513
                                                 E0  A7  9F 000EE         PUSHAB  PROT_DESC                                    ;
                                                     55  DD 000F1         PUSHL   R5                                           ;
                            00000000G  00            03  FB 000F3         CALLS   #3, LIB$FIND_IMAGE_SYMBOL                    ;
                                       4B            50  E9 000FA         BLBC    STATUS, 7$                                   ;
                                                     55  DD 000FD         PUSHL   R5                                           ; 1515
                                 F6A2  CF            01  FB 000FF         CALLS   #1, CHECK_PROTOCOL_VERSION                   ;
                                       41            50  E9 00104         BLBC    STATUS, 7$                                   ;
                                       50        04  A3  D0 00107         MOVL    LINK_TFRADR, R0                              ; 1523
                                               4020  8F  BB 0010B         PUSHR   #^M<R5,SP>                                   ;
                                       7E 00000000G  00  3C 0010F         MOVZWL  MAIL$GL_SYSFLAGS+2, -(SP)                    ;
                                                 10  AE  9F 00116         PUSHAB  RMSRFM                                       ;
                                                 18  AE  9F 00119         PUSHAB  RMSRAT                                       ;
                                                     56  DD 0011C         PUSHL   R6                                           ;
                                                     08  DD 0011E         PUSHL   #8                                           ;
                                                 08  A3  9F 00120         PUSHAB  LINK_CONTEXT                                 ;
                                       60            08  FB 00123         CALLS   #8, (R0)                                     ;
                                       1F            50  E9 00126         BLBC    STATUS, 7$                                   ;
                            00000000G  00            04  88 00129         BISB2   #4, MAIL$GL_FLAGS+1                          ; 1524
                                       63            01  D0 00130         MOVL    #1, LINK_CHAN                                ;
                                   01  A4        04  AE  90 00133         MOVB    RMSRFM, MAIL$G_CNCT+129                      ; 1525
                                       64        08  AE  90 00138         MOVB    RMSRAT, MAIL$G_CNCT+128                      ; 1526
00000000G  00            01            02            6E  F0 0013C         INSV    PFLAGS, #2, #1, MAIL$GL_FLAGS+2              ; 1527
                                       50            01  D0 00145 6$:     MOVL    #1, R0                                       ; 1528
                                                         04 00148 7$:     RET                                                  ; 1530

; Routine Size:  329 bytes,    Routine Base:  $CODE$ + 0B5A
; 1408            1531  1 GLOBAL ROUTINE MAIL$GET_INPUT (OUT_DESC,PROMPT_DESC,OUTLEN) =
; 1409            1532  1 !++
; 1410            1533  1 ! FUNCTIONAL DESCRIPTION:
; 1411            1534  1 !
; 1412            1535  1 !       If non-network, read from SYS$INPUT.  If network, read from
; 1413            1536  1 !       network link
; 1414            1537  1 !
; 1415            1538  1 ! Inputs:
; 1416            1539  1 !
; 1417            1540  1 !       out_desc = address of dynamic desciptor for output string
; 1418            1541  1 !       prompt_desc = address of prompt descriptor
; 1419            1542  1 !
; 1420            1543  1 !--
; 1421            1544  2 BEGIN
; 1422            1545  2
; 1423            1546  2 MAP
; 1424            1547  2     OUTLEN : REF VECTOR[,WORD];
; 1425            1548  2
; 1426            1549  2 BUILTIN
; 1427            1550  2     NULLPARAMETER;
; 1428            1551  2
; 1429            1552  2 LOCAL
; 1430            1553  2     TEMPLEN : WORD,
; 1431            1554  2     STATUS;
; 1432            1555  2
; 1433            1556  2 BIND
; 1434            1557  2     QIOSB = MAIL$G_CNCT[CNCT_Q_IOSB] : VECTOR[,WORD];
; 1435            1558  2
; 1436            1559  2 IF .MAIL$GL_FLAGS[MAIF_V_NETJOB]
; 1437            1560  3 THEN BEGIN
; 1438            1561  3     !
; 1439            1562  3     ! Accept the link if it hasn't been already.
; 1440            1563  3     !
; 1441            1564  3     IF .LINK_CHAN EQL 0
; 1442          P 1565  3         THEN IF_ERR(ACCEPT_LINK();,
; 1443            1566  3                         RETURN .STATUS);
; 1444            1567  3     IF NOT .MAIL$GL_FLAGS[MAIF_V_ALTP]
; 1445            1568  4     THEN BEGIN
; 1446            1569  4         !
; 1447            1570  4         ! For decnet, read the buffer.  Then copy to the output buffer
; 1448            1571  4         !
; 1449          P 1572  4         STATUS = $QIOW(CHAN=.LINK_CHAN,
; 1450          P 1573  4                         FUNC=IO$_READVBLK,
; 1451          P 1574  4                         IOSB=QIOSB,
; 1452          P 1575  4                         P1=MAIL$G_CNCT[CNCT_T_BUFFER],
; 1453            1576  4                         P2=MAIL$K_INBUFFSZ);
; 1454            1577  4         IF .STATUS
; 1455            1578  4             THEN STATUS = .QIOSB[0];
; 1456            1579  4         IF NOT .STATUS
; 1457            1580  4             THEN RETURN .STATUS;
; 1458            1581  4         LIB$SCOPY_R_DX(QIOSB[1],MAIL$G_CNCT[CNCT_T_BUFFER],.OUT_DESC);
; 1459            1582  4         RETURN TRUE
; 1460            1583  4         END
; 1461            1584  4     !
; 1462            1585  4     ! For foreign net, let it's routine do the copy, too
; 1463            1586  4     !
; 1464            1587  3     ELSE RETURN (.LINK_TFRADR)(LINK_CONTEXT,.PROMPT_DESC,.OUT_DESC);
; 1465          1588  3      END
; 1466          1589  3  ELSE BEGIN
; 1467          1590  3      !
; 1468          1591  3      ! Not network job.
; 1469          1592  3      !
; 1470          1593  3      STATUS = SMG$READ_COMPOSED_LINE(MAIL$L_SMG_KEYBOARD,
; 1471          1594  3                                               MAIL$L_SMG_KEYTABLE,
; 1472          1595  3                                               .OUT_DESC,.PROMPT_DESC,TEMPLEN);
; 1473          1596  3      IF .STATUS EQL SMG$_EOF
; 1474          1597  3         THEN STATUS = RMS$_EOF;
; 1475          1598  4      IF (.STATUS EQL RMS$_TNS)
; 1476          1599  4         OR (.STATUS EQL SS$_DATAOVERUN)
; 1477          1600  3         THEN STATUS = SS$_NORMAL;
; 1478          1601  3      IF .MAIL$GL_FLAGS[MAIF_V_CTRLCFL]
; 1479          1602  4         THEN (STATUS = RMS$_EOF;
; 1480          1603  3               MAIL$GL_FLAGS[MAIF_V_CTRLCFL] = 0);
; 1481          1604  3      IF NOT NULLPARAMETER(3)
; 1482          1605  3         AND .STATUS
; 1483          1606  3         THEN OUTLEN[0] = .TEMPLEN;
; 1484          1607  3      IF NOT .STATUS
; 1485          1608  4         AND (.STATUS NEQ RMS$_EOF)
; 1486          1609  3         THEN SIGNAL(MAIL$_READERR,1,MAIL$Q_INPTRAN,.STATUS);
; 1487          1610  3      RETURN .STATUS
; 1488          1611  2      END;
; 1489          1612  2
; 1490          1613  1  END;



                                              003C 00000          .ENTRY  MAIL$GET_INPUT, Save R2,R3,R4,R5              ; 1531
                       55 00000000G     00    9E 00002          MOVAB   MAIL$GL_FLAGS, R5                             ;
                       54 00000000'     00    9E 00009          MOVAB   LINK_CHAN, R4                                 ;
                       53 00000000G     00    9E 00010          MOVAB   MAIL$G_CNCT+134, R3                           ;
                       5E               04    C2 00017          SUBL2   #4, SP                                        ;
        63             65               01    E1 0001A          BBC     #1, MAIL$GL_FLAGS, 5$                         ; 1559
                                        64    D5 0001E          TSTL    LINK_CHAN                                     ; 1564
                                        09    12 00020          BNEQ    1$                                            ;
                 FE90  CF               00    FB 00022          CALLS   #0, ACCEPT_LINK                               ; 1566
                       01               50    E8 00027          BLBS    STATUS, 1$                                    ;
                                              04 0002A          RET                                                   ;
        40         01  A5               02    E0 0002B 1$:      BBS     #2, MAIL$GL_FLAGS+1, 4$                       ; 1567
                                        7E    7C 00030          CLRQ    -(SP)                                         ; 1576
                                        7E    7C 00032          CLRQ    -(SP)                                         ;
                       7E       0200    8F    3C 00034          MOVZWL  #512, -(SP)                                   ;
                                        53    DD 00039          PUSHL   R3                                            ;
                                        7E    7C 0003B          CLRQ    -(SP)                                         ;
                                BA      A3    9F 0003D          PUSHAB  QIOSB                                         ;
                                        31    DD 00040          PUSHL   #49                                           ;
                                        64    DD 00042          PUSHL   LINK_CHAN                                     ;
                                        7E    D4 00044          CLRL    -(SP)                                         ;
            00000000G  00               0C    FB 00046          CALLS   #12, SYS$QIOW                                 ;
                       52               50    D0 0004D          MOVL    R0, STATUS                                    ;
                       04               52    E9 00050          BLBC    STATUS, 2$                                    ; 1577
                       52       BA      A3    3C 00053          MOVZWL  QIOSB, STATUS                                 ; 1578
                       03               52    E8 00057 2$:      BLBS    STATUS, 3$                                    ; 1579
```

```
                      00A8 31 0005A        BRW      12$                                     ;
                   04   AC DD 0005D 3$:    PUSHL    OUT_DESC                                ; 1581
                        53 DD 00060        PUSHL    R3                                      ;
                   BC   A3 9F 00062        PUSHAB   QIOSB+2                                 ;
00000000G 00            03 FB 00065        CALLS    #3, LIB$SCOPY_R_DX                      ;
          50            01 D0 0006C        MOVL     #1, R0                                  ; 1587
                           04 0006F        RET                                              ;
          50       04   A4 D0 00070 4$:    MOVL     LINK_TFRADR, R0                         ;
                   04   AC DD 00074        PUSHL    OUT_DESC                                ;
                   08   AC DD 00077        PUSHL    PROMPT_DESC                             ;
                   08   A4 9F 0007A        PUSHAB   LINK_CONTEXT                            ;
          60            03 FB 0007D        CALLS    #3, (R0)                                ;
                           04 00080        RET                                              ; 1589
                        5E DD 00081 5$:    PUSHL    SP                                      ; 1593
          7E       04   AC 7D 00083        MOVQ     OUT_DESC, -(SP)                         ; 1595
             00000000G  00 9F 00087        PUSHAB   MAIL$L_SMG_KEYTABLE                     ; 1593
             00000000G  00 9F 0008D        PUSHAB   MAIL$L_SMG_KEYBOARD                     ;
00000000G 00            05 FB 00093        CALLS    #5, SMG$READ_COMPOSED_LINE              ;
          52            50 D0 0009A        MOVL     R0, STATUS                              ;
00000000G 8F            52 D1 0009D        CMPL     STATUS, #SMG$_EOF                       ; 1596
                        07 12 000A4        BNEQ     6$                                      ;
          52 0001827A   8F D0 000A6        MOVL     #98938, STATUS                          ; 1597
000181B8  8F            52 D1 000AD 6$:    CMPL     STATUS, #98744                          ; 1598
                        09 13 000B4        BEQL     7$                                      ;
00000838  8F            52 D1 000B6        CMPL     STATUS, #2104                           ; 1599
                        03 12 000BD        BNEQ     8$                                      ;
          52            01 D0 000BF 7$:    MOVL     #1, STATUS                              ; 1600
          0B       01   A5 E9 000C2 8$:    BLBC     MAIL$GL_FLAGS+1, 9$                     ; 1601
          52 0001827A   8F D0 000C6        MOVL     #98938, STATUS                          ; 1602
      01  A5            01 8A 000CD        BICB2    #1, MAIL$GL_FLAGS+1                     ; 1603
          03            6C 91 000D1 9$:    CMPB     (AP), #3                                ; 1604
                        0C 1F 000D4        BLSSU    10$                                     ;
                   0C   AC D5 000D6        TSTL     12(AP)                                  ;
                        07 13 000D9        BEQL     10$                                     ;
          07            52 E9 000DB        BLBC     STATUS, 11$                             ; 1605
      0C  BC            6E B0 000DE        MOVW     TEMPLEN, @OUTLEN                        ; 1606
          20            52 E8 000E2 10$:   BLBS     STATUS, 12$                             ; 1607
0001827A  8F            52 D1 000E5 11$:   CMPL     STATUS, #98938                          ; 1608
                        17 13 000EC        BEQL     12$                                     ;
                        52 DD 000EE        PUSHL    STATUS                                  ; 1609
             00000000G  00 9F 000F0        PUSHAB   MAIL$Q_INPTRAN                          ;
                        01 DD 000F6        PUSHL    #1                                      ;
             007E10B2   8F DD 000F8        PUSHL    #8261810                                ;
00000000G 00            04 FB 000FE        CALLS    #4, LIB$SIGNAL                          ;
          50            52 D0 00105 12$:   MOVL     STATUS, R0                              ; 1610
                           04 00108        RET                                              ; 1613

; Routine Size:  265 bytes,    Routine Base:  $CODE$ + 0CA3
; 1492          1614  1 GLOBAL ROUTINE MAIL$PUT_OUTPUT(BUFDESC,FAOARGS) =
; 1493          1615  1 !++
; 1494          1616  1 ! FUNCTIONAL DESCRIPTION:
; 1495          1617  1 !
; 1496          1618  1 !       Write a record to sys$output (or sys$net if network server)
; 1497          1619  1 !
; 1498          1620  1 ! Inputs:
; 1499          1621  1 !
; 1500          1622  1 !       bufdesc = address of string to output or fao control string
; 1501          1623  1 !       faoargs = start of fao args if bufdesc is an fao control string
; 1502          1624  1 !               for fao strings which take no args, use a 0 for faoargs
; 1503          1625  1 !
; 1504          1626  1 ! If 2 or more arguments are passed, bufdesc is assumed to be an fao control
; 1505          1627  1 ! string, and is processed as such
; 1506          1628  1 !
; 1507          1629  1 !--
; 1508          1630  2 BEGIN
; 1509          1631  2 BUILTIN
; 1510          1632  2     ACTUALCOUNT;
; 1511          1633  2
; 1512          1634  2 LOCAL
; 1513          1635  2     TMPBUF : $BBLOCK[MAIL$K_INBUFFSZ],
; 1514          1636  2     STATUS,
; 1515          1637  2     QIOSB : VECTOR[4,WORD],
; 1516          1638  2     OUTDESC : REF $BBLOCK,
; 1517          1639  2     DESC : VECTOR[2,LONG];
; 1518          1640  2
; 1519          1641  2 OUTDESC = .BUFDESC;
; 1520          1642  2 IF ACTUALCOUNT() GEQU 2
; 1521          1643  3 THEN BEGIN
; 1522          1644  3     DESC[0] = MAIL$K_INBUFFSZ;
; 1523          1645  3     DESC[1] = TMPBUF;
; 1524        P 1646  3     $FAOL(CTRSTR=.OUTDESC,OUTLEN=DESC,
; 1525          1647  3         OUTBUF=DESC,PRMLST=FAOARGS);
; 1526          1648  3     OUTDESC = DESC;
; 1527          1649  2     END;
; 1528          1650  2 IF NOT .MAIL$GL_FLAGS[MAIF_V_NETJOB]
; 1529          1651  2 THEN RETURN LIB$PUT_OUTPUT(.OUTDESC)
; 1530          1652  3 ELSE BEGIN
; 1531          1653  3     IF .LINK_CHAN EQL 0
; 1532        P 1654  3         THEN IF_ERR(ACCEPT_LINK();,
; 1533          1655  3                         RETURN .STATUS);
; 1534          1656  3     IF NOT .MAIL$GL_FLAGS[MAIF_V_ALTP]
; 1535          1657  4     THEN BEGIN
; 1536        P 1658  4         STATUS = $QIOW(CHAN=.LINK_CHAN,
; 1537        P 1659  4                         FUNC=IO$_WRITEVBLK,
; 1538        P 1660  4                         IOSB=QIOSB,
; 1539        P 1661  4                         P1=.OUTDESC[DSC$A_POINTER],
; 1540          1662  4                         P2=.OUTDESC[DSC$W_LENGTH]);
; 1541          1663  4         IF .STATUS
; 1542          1664  4             THEN STATUS = .QIOSB[0];
; 1543          1665  4         RETURN .STATUS
; 1544          1666  4         END
; 1545          1667  3     ELSE RETURN (.LINK_TFRADR)(LINK_CONTEXT,LNK_C_IO_WRITE,.OUTDESC);
; 1546          1668  2     END;
; 1547          1669  1 END;
```

```
                                    000C 00000          .ENTRY  MAIL$PUT_OUTPUT, Save R2,R3                  ; 1614
                53 00000000'   00   9E 00002            MOVAB   LINK_CHAN, R3                                ;
                5E     FDF0    CE   9E 00009            MOVAB   -528(SP), SP                                 ;
                52       04    AC   D0 0000E            MOVL    BUFDESC, OUTDESC                             ; 1641
                02             6C   91 00012            CMPB    (AP), #2                                     ; 1642
                               1F   1F 00015            BLSSU   1$                                           ;
                6E     0200    8F   3C 00017            MOVZWL  #512, DESC                                   ; 1644
          04    AE       10    AE   9E 0001C            MOVAB   TMPBUF, DESC+4                               ; 1645
                         08    AC   9F 00021            PUSHAB  FAOARGS                                      ; 1647
                         04    AE   9F 00024            PUSHAB  DESC                                         ;
                         08    AE   9F 00027            PUSHAB  DESC                                         ;
                               52   DD 0002A            PUSHL   OUTDESC                                      ;
     00000000G  00             04   FB 0002C            CALLS   #4, SYS$FAOL                                 ;
                52             6E   9E 00033            MOVAB   DESC, OUTDESC                                ; 1648
  0A 00000000G  00             01   E0 00036 1$:        BBS     #1, MAIL$GL_FLAGS, 2$                        ; 1650
                               52   DD 0003E            PUSHL   OUTDESC                                      ; 1651
     00000000G  00             01   FB 00040            CALLS   #1, LIB$PUT_OUTPUT                           ;
                                    04 00047            RET                                                  ; 1652
                               63   D5 00048 2$:        TSTL    LINK_CHAN                                    ; 1653
                               08   12 0004A            BNEQ    3$                                           ;
          FD5D  CF             00   FB 0004C            CALLS   #0, ACCEPT_LINK                              ; 1655
                3A             50   E9 00051            BLBC    STATUS, 5$                                   ;
  24 00000000G  00             02   E0 00054 3$:        BBS     #2, MAIL$GL_FLAGS+1, 4$                      ; 1656
                               7E   7C 0005C            CLRQ    -(SP)                                        ; 1662
                               7E   7C 0005E            CLRQ    -(SP)                                        ;
                7E             62   3C 00060            MOVZWL  (OUTDESC), -(SP)                             ;
                         04    A2   DD 00063            PUSHL   4(OUTDESC)                                   ;
                               7E   7C 00066            CLRQ    -(SP)                                        ;
                         28    AE   9F 00068            PUSHAB  QIOSB                                        ;
                               30   DD 0006B            PUSHL   #48                                          ;
                               63   DD 0006D            PUSHL   LINK_CHAN                                    ;
                               7E   D4 0006F            CLRL    -(SP)                                        ;
     00000000G  00             0C   FB 00071            CALLS   #12, SYS$QIOW                                ;
                13             50   E9 00078            BLBC    STATUS, 5$                                   ; 1663
                50       08    AE   3C 0007B            MOVZWL  QIOSB, STATUS                                ; 1664
                                    04 0007F            RET                                                  ; 1667
                50       04    A3   D0 00080 4$:        MOVL    LINK_TFRADR, R0                              ;
                               52   DD 00084            PUSHL   OUTDESC                                      ;
                               0F   DD 00086            PUSHL   #15                                          ;
                         08    A3   9F 00088            PUSHAB  LINK_CONTEXT                                 ;
                60             03   FB 0008B            CALLS   #3, (R0)                                     ;
                                    04 0008E 5$:        RET                                                  ; 1669

; Routine Size:  143 bytes,    Routine Base:  $CODE$ + 0DAC
; 1549          1670  0 END ELUDOM



                                                                         .EXTRN  LIB$SIGNAL, SYS$UNWIND

;                                        PSECT SUMMARY
;
;       Name                         Bytes                      Attributes
;
;    $OWN$                                 16  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;    $GLOBAL$                               8  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;    $CODE$                              3643  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)




;                               Library Statistics
;
;                                              -------- Symbols --------      Pages       Processing
;       File                                   Total    Loaded   Percent      Mapped      Time
;
;    _$255$DUA28:[SYSLIB]STARLET.L32;1          9776        74         0       581          00:00.8
;    _$255$DUA28:[MAIL.OBJ]MAILDEF.L32;1         457        71        15        26          00:00.2





;                                         COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:NETSUBS/OBJ=OBJ$:NETSUBS MSRC$:NETSUBS/UPDATE=(ENH$:NETSUBS)

; Size:          3466 code + 201 data bytes
; Run Time:         00:42.5
; Elapsed Time:     02:41.0
; Lines/CPU Min:      2357
; Lexemes/CPU-Min: 36069
; Memory Used:  225 pages
; Compilation Complete
```

0230 AH-BT13A-SE
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION
CONFIDENTIAL AND PROPRIETARY



MAILMSG
LIS

MAILCMDS
LIS

NOTIFY
LIS

MSGSUBS
LIS

NETSUBS
LIS