J 4

```
   AAAAAAAAA     NNN         NNN     AAAAAAAAA     LLL              YYY         YYY  ZZZZZZZZZZZZZZZ
   AAAAAAAAA     NNN         NNN     AAAAAAAAA     LLL              YYY         YYY  ZZZZZZZZZZZZZZZ
   AAAAAAAAA     NNN         NNN     AAAAAAAAA     LLL              YYY         YYY  ZZZZZZZZZZZZZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLL              YYY         YYY              ZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLL              YYY         YYY              ZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLL              YYY         YYY              ZZZ
AAA         AAA  NNNNNN      NNN  AAA         AAA  LLL                 YYY   YYY              ZZZ
AAA         AAA  NNNNNN      NNN  AAA         AAA  LLL                 YYY   YYY              ZZZ
AAA         AAA  NNNNNN      NNN  AAA         AAA  LLL                 YYY   YYY              ZZZ
AAA         AAA  NNN   NNN   NNN  AAA         AAA  LLL                    YYY              ZZZ
AAA         AAA  NNN   NNN   NNN  AAA         AAA  LLL                    YYY              ZZZ
AAA         AAA  NNN   NNN   NNN  AAA         AAA  LLL                    YYY              ZZZ
AAAAAAAAAAAAAAA  NNN      NNNNNN  AAAAAAAAAAAAAAA  LLL                    YYY           ZZZ
AAAAAAAAAAAAAAA  NNN      NNNNNN  AAAAAAAAAAAAAAA  LLL                    YYY           ZZZ
AAAAAAAAAAAAAAA  NNN      NNNNNN  AAAAAAAAAAAAAAA  LLL                    YYY           ZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLL                    YYY        ZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLL                    YYY        ZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLL                    YYY        ZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLLLLLLLLLLLLLL        YYY        ZZZZZZZZZZZZZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLLLLLLLLLLLLLL        YYY        ZZZZZZZZZZZZZZZ
AAA         AAA  NNN         NNN  AAA         AAA  LLLLLLLLLLLLLLL        YYY        ZZZZZZZZZZZZZZZ
```

```
**FILE**ID**EXESTUFF                                        H 16
```

```
EEEEEEEEEE  XX      XX  EEEEEEEEEE    SSSSSSSS  TTTTTTTTTT  UU      UU  FFFFFFFFFF  FFFFFFFFFF
EEEEEEEEEE  XX      XX  EEEEEEEEEE    SSSSSSSS  TTTTTTTTTT  UU      UU  FFFFFFFFFF  FFFFFFFFFF
EE          XX      XX  EE          SS              TT      UU      UU  FF          FF
EE          XX      XX  EE          SS              TT      UU      UU  FF          FF
EE            XX  XX    EE          SS              TT      UU      UU  FF          FF
EE            XX  XX    EE          SS              TT      UU      UU  FF          FF
EEEEEEEE        XX      EEEEEEEE      SSSSSS        TT      UU      UU  FFFFFFFF    FFFFFFFF
EEEEEEEE        XX      EEEEEEEE      SSSSSS        TT      UU      UU  FFFFFFFF    FFFFFFFF
EE            XX  XX    EE                  SS      TT      UU      UU  FF          FF
EE            XX  XX    EE                  SS      TT      UU      UU  FF          FF
EE          XX      XX  EE                  SS      TT      UU      UU  FF          FF              ....
EE          XX      XX  EE                  SS      TT      UU      UU  FF          FF              ....
EEEEEEEEEE  XX      XX  EEEEEEEEEE  SSSSSSSS        TT      UUUUUUUUUU  FF          FF              ....
EEEEEEEEEE  XX      XX  EEEEEEEEEE  SSSSSSSS        TT      UUUUUUUUUU  FF          FF              ....

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 %title 'EXESTUFF - Analyze Various Parts of an Image'
0         module exestuff (
1                         ident='V04-001') = begin
1
1 !
1 !****************************************************************************
1 !*                                                                          *
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1 !*                                                                          *
1 !*                                                                          *
1 !****************************************************************************
1 !
1
1 !++
1 ! Facility:     VAX/VMS Analyze Facility, Analyze Parts of an Image
1 !
1 ! Abstract:     This module is responsible for  nalyzing various parts of
1 !               an image, including the header, patch text, and global
1 !               symbol table.
1 !
1 !
1 ! Environment:
1 !
1 ! Author: Paul C. Anagnostopoulos, Creation Date: 31 March 1981
1 !
1 ! Modified By:
1 !
1 !       V04-001 MSH0074         Michael S. Harvey       7-Sep-1984
1 !               Recognize global demand zero ISDs when validating
1 !               the ISD's length.
1 !
1 !       V03-008 ROP0022         Robert Posniak          14-JUL-1984
1 !               Shift proper field for ISD base virtual
1 !               address output.
1 !
1 !       V03-007 ROP0008         Robert Posniak          14-JUN-1984
1 !               Change allocation of local_described_buffers from
1 !               80 to 512.
1 !
1 !       V03-006 MCN0168         Maria del C. Nasr       08-May-1984
1 !               If the image being analyzed was created by V3 or earlier,
1 !                 then use old offsets to get image name and identification
1 !                 information.
1 !
1 !         V03-005 MCN0158          Maria del C. Nasr       22-Mar-1984
1 !                 Use SHL$C_MAXNAMLNG as the image name length to pass
1 !                 to ANL$CHECK_SYMBOL.  Also, eliminate declaration of
1 !                 local loop counter.
1 !
1 !         V03-004 LJA0115          Laurie J. Anderson       2-Mar-1984
1 !                 Move the variable 'alias' from local (stack) storage to
1 !                 own storage.  This masks the problem that if you say:
1 !                 anal/image image1,image2 the second image gets the error
1 !                 "not a VAX/VMS image".  Do not know why, except has to
1 !                 to do with the stack.
1 !
1 !         V03-003 LJA0106          Laurie J. Anderson      26-Jan-1984
1 !                 1) Change the calls to ANL$GET_IMAGE_BLOCK to the new image
1 !                    decode routines.
1 !                 2) Check for header block count of 0. Return error if so.
1 !                 3) Also, print out any indirect message filenames when
1 !                    processing the ISD's.
1 !                 4) Plus in answer to SPR 11-62167, the maximum number of
1 !                    characters in the patch text is increased from 80 to
1 !                    something more reasonable, 255.
1 !
1 !         V03-002 PCA1011          Paul C. Anagnostopoulos  1-Apr-1983
1 !                 Change the message prefix to ANLOBJ$_ to ensure that
1 !                 message symbols are unique across all ANALYZEs.  This
1 !                 is necessitated by the new merged message files.
1 !
1 !         V03-001 JWT0075          Jim Teague              14-Dec-1982
1 !                 Update to accomodate changes in image header: 1)CLI images,
1 !                 2)IHD$V_DBGDMT bit, 3)IHS$L_DMTVBN, 4)IHS$L_DMTBYTES.
1 !
1 !--
```

```
1 %sbttl 'Module Declarations'
1 !
1 ! Libraries and Requires:
1 !
1
1 library 'lib';
1 require 'imgmsgdef';
1 require 'objexereq';
1
1 !
1 ! Table of Contents:
1 !
1
1 forward routine
1         anl$image_header,
1         anl$image_isd: novalue,
1         anl$image_patch_text,
1         anl$image_gst;
1
1 !
1 ! External References:
1 !
1
1 external routine
1         anl$check_flags,
1         anl$check_symbol,
1         anl$format_error,
1         anl$format_flags,
1         anl$format_hex,
1         anl$format_line,
1         anl$get_image_block,
1         anl$object_eom,
1         anl$object_gsd,
1         anl$object_hdr,
1         anl$interact,
1         anl$object_record_size,
1         anl$report_line,
1         anl$report_page,
1         anl$get_image_header,
1         anl$get_isd;
1
1 external
1         anl$gb_interactive: byte;
1
1 !
1 ! Own Variables:
1 !
1 ! The following table defines the match control values used throughout.
1
1 own
1         match_control: vector[8,long] initial(
1                                         uplit byte(%ascic 'ISD$K_MATALL'),
1                                         uplit byte(%ascic 'ISD$K_MATEQU'),
1                                         uplit byte(%ascic 'ISD$K_MATLEQ'),
1                                         uplit byte(%ascic 'ISD$K_MATNEV'));
```

```
1 %sbttl 'ANL$IMAGE_HEADER - Analyze Image Header'
1 !++
1 ! Functional Description:
1 !       This routine is responsible for analyzing an image header.  THis
1 !       includes formatting it in the report and checking its contents.
1 !
1 ! Formal Parameters:
1 !       image_base      Return starting address of image here.
1 !       fixup_size      If a fixup section exists, return size here,
1 !       fixup_vbn       and VBN here.
1 !
1 ! Implicit Inputs:
1 !       global data
1 !
1 ! Implicit Outputs:
1 !       global data
1 !
1 ! Returned Value:
1 !       If interactive session: true if we are to continue, false if not.
1 !
1 ! Side Effects:
1 !
1 !--
1
1
2 global routine anl$image_header(image_base,fixup_size,fixup_vbn) = begin
2
2 own
2       link_flags_def: vector[7,long] initial(
2                               5,
2                               uplit byte(%ascic 'IHD$V_LNKDEBUG'),
2                               uplit byte(%ascic 'IHD$V_LNKNOTFR'),
2                               uplit byte(%ascic 'IHD$V_NOPOBUFS'),
2                               uplit byte(%ascic 'IHD$V_PICIMG'),
2                               uplit byte(%ascic 'IHD$V_POIMAGE'),
2                               uplit byte(%ascic 'IHD$V_DBGDMT')),
2       alias : word;
2
2 local
2       status: long,
2       hp: ref block[,byte],
2       sp: ref block[,byte],
2       vbn: long,
2       fixup_address: long;
2
2 ! Offsets to image name and identification information in images created by
2 ! VMS V3.x or earlier.
2 !
2 macro
2       IHI$_IMGNAM = 0,0,0,0 %,
2       IHI$_IMGID = 16,0,0,0 %,
2       IHI$_LINKTIME = 32,0,0,0 %,
2       IHI$_LINKID = 40,0,0,0 %;
2
2 bind
2       v3_majorid = uplit (%ascii'02'),        ! linker major id in V3
2       v3_minorid = uplit (%ascii'04');        ! linker minor id in V3
```

```
2
2 ! We are going to analyze the image header.  Get it.
2
2 anl$format_line(0,0,anlobj$_exehdr);
2 anl$report_line(-1);
2
2 status = anl$get_image_header(hp,alias);
2
2 ! If we couldn't get the first header block, or if it doesn't end with
2 ! a %x'ffff' or %x'0003' or %x'0002', then this can't be a native image.
2 !       -1 = produced by the VAX-11 Linker
2 !        0  = RSX compatibility mode
2 !        1  = Activate BPA
2 !        2  = Name of image to activate is in image header
2 !        3  = It's a CLI
2 !
2 if not .status or
3    (.alias nequ %x'ffff' and .alias nequ %x'0003' and .alias nequ %x'0002')
3 then (anl$format_error(anlobj$_exenotnative);
2     return false;);
2
2 ! Begin with the fixed fields at the beginning of the header.
2
2 anl$format_line(3,1,anlobj$_exehdrfixed);
2 anl$report_line(-1);
2
2 ! Analyze the image identification info.
2
2 anl$format_line(0,2,anlobj$_exehdrimageid,2,hp[ihd$w_majorid],2,hp[ihd$w_minorid]);
2
2 ! Analyze the header block count.  If the count is zero, this is a bad
2 ! image.  The image activator will not activate it.
2
2 if .hp[ihd$b_hdrblkcnt] eqlu 0
2 then
2     anl$format_error(anlobj$_badhdrblkcount,.hp[ihd$b_hdrblkcnt])
2 else
2     anl$format_line(0,2,anlobj$_exehdrblkcount,.hp[ihd$b_hdrblkcnt]);
2
2 ! Analyze the image type code.  If shared, print the global section IDs and
2 ! the match control.
2
2 selectoneu .hp[ihd$b_imgtype] of set
2 [ihd$k_exe]:    anl$format_line(0,2,anlobj$_exehdrtypeexe);
2
3 [ihd$k_lim]:    (anl$format_line(2,2,anlobj$_exehdrtypelim);
3                 anl$format_line(0,3,anlobj$_exehdrgblident,.hp[ihd$l_ident]);
3                 selectoneu .hp[ihd$v_matchctl] of set
3                 [isd$k_matall,
3                  isd$k_matequ,
3                  isd$k_matleq,
3                  isd$k_matnev]: anl$format_line(0,3,anlobj$_exehdrmatch,
3                                         .match_control[.hp[ihd$v_matchctl]]);
3                 [otherwise]:    anl$format_error(anlobj$_exebadmatch,.hp[ihd$v_matchctl]);
2                 tes;);
2
2 [otherwise]:    anl$format_error(anlobj$_exebadtype,.hp[ihd$b_imgtype]);
```

```
2 tes;
2
2 ! Analyze the I/O channel count.
2
2 if .hp[ihd$w_iochancnt] eqlu 0 then
2         anl$format_line(0,2,anlobj$_exehdrchandef)
2 else
2         anl$format_line(0,2,anlobj$_exehdrchancount,.hp[ihd$w_iochancnt]);
2
2 ! Analyze the I/O section page count.
2
2 if .hp[ihd$w_imgiocnt] eqlu 0 then
2         anl$format_line(0,2,anlobj$_exehdrpagedef)
2 else
2         anl$format_line(0,2,anlobj$_exehdrpagecount,.hp[ihd$w_imgiocnt]);
2
2 ! Analyze the linker-produced flags.  Don't get confused by the match control.
2
2 anl$format_flags(2,anlobj$_exehdrflags,.hp[ihd$l_lnkflags] and %x'00ffffff',link_flags_def);
2 anl$check_flags(.hp[ihd$l_lnkflags] and %x'00ffffff',link_flags_def);
2
2 ! Analyze the system version, if specified.
2
2 if .hp[ihd$l_sysver] nequ 0 then
2         anl$format_line(0,2,anlobj$_exehdrsysver,4,hp[ihd$l_sysver]);
2
2 ! If the fixed portion is long enough to accomodate a fixup section
2 ! virtual address (V3A and later), then remember the address.
2
2 if .hp+.hp[ihd$w_activoff] gtra hp[ihd$l_iafva] then
2         fixup_address = .hp[ihd$l_iafva]
2 else
2         fixup_address = 0;
2
2 ! If this is an interactive session, give the user a chance to quit.
2
2 if .anl$gb_interactive then
2         if not anl$interact() then
2                 return false;
```

```
2 ! Now we are going to analyze the information in the activation section.
2 ! It is always present.
2
2 anl$report_line(-1);
2 anl$format_line(3,1,anlobj$_exehdractive);
2 anl$report_line(-1);
2
2 sp = .hp + .hp[ihd$w_activoff];
2
2 ! Analyze the three transfer addresses.
2
2 anl$format_line(0,2,anlobj$_exehdrxfer1,.sp[iha$l_tfradr1]);
2 anl$format_line(0,2,anlobj$_exehdrxfer2,.sp[iha$l_tfradr2]);
2 anl$format_line(0,2,anlobj$_exehdrxfer3,.sp[iha$l_tfradr3]);
2
2 ! Make sure the thing ends with a trailing zero.
2
2 if .sp[12,0,32,0] nequ 0 then
2         anl$format_error(anlobj$_exebadxfer0);
2
2 ! If this is an interactive session, give the user a chance to quit.
2
2 if .anl$gb_interactive then
2         if not anl$interact() then
2                 return false;
```

```
2 ! Now we are going to analyze the stuff in the symbol table and debug section.
2 ! It is always present.
2
2 anl$report_line(-1);
2 anl$format_line(3,1,anlobj$_exehdrsymdbg);
2 anl$report_line(-1);
2
2 sp = .hp + .hp[ihd$w_symdbgoff];
2
2 ! Analyze the debug symbol table VBN and block count.
2
2 anl$format_line(0,2,anlobj$_exehdrdst,.sp[ihs$l_dstvbn],.sp[ihs$w_dstblks]);
2
2 ! Analyze the global symbol table VBN and record count.
2
2 anl$format_line(0,2,anlobj$_exehdrgst,.sp[ihs$l_gstvbn],.sp[ihs$w_gstrecs]);
2
2 ! Analyze the Debugger DMT, if present
2
2 if .hp[ihd$v_dbgdmt]
2 then
2     anl$format_line(0,2,anlobj$_exehdrdmt,.sp[ihs$l_dmtvbn],.sp[ihs$l_dmtbytes]);
2
2 ! If this is an interactive session, give the user a chance to quit.
2
2 if .anl$gb_interactive then
2         if not anl$interact() then
2                 return false;
```

```
2 ! Now we are going to tackle the image identification section.
2 ! It is always present.
2
2 anl$report_line(-1);
2 anl$format_line(3,1,anlobj$_exehdrident);
2 anl$report_line(-1);
2
2 sp = .hp + .hp[ihd$w_imgidoff];
2
3 begin
3 local
3         name_dsc: descriptor;
3
3 ! Analyze the image name, image identification, date and time of linking,
3 ! and linker identification.  If the image was linked with V3 linker, then
3 ! use old offsets to get information, otherwise use latest values.
3 !
3
3 if .hp[ihd$w_majorid] gtr .v3_majorid
3   or .hp[ihd$w_minorid] gtr .v3_minorid
3 then                                                   ! after V3 linker
4         begin
4         anl$format_line(0,2,anlobj$_exehdrname,sp[ihi$t_imgnam]);
4         build_descriptor(name_dsc,.sp[0,0,8,0],sp[1,0,8,0]);
4         anl$check_symbol(name_dsc, shl$c_maxnamlng);
4         anl$format_line(0,2,anlobj$_exehdrfileid,sp[ihi$t_imgid]);
4         anl$format_line(0,2,anlobj$_exehdrtime,sp[ihi$g_linktime]);
4         anl$format_line(0,2,anlobj$_exehdrlinkid,sp[ihi$t_linkid]);
4         end
3 else                                                   ! V3 or earlier
4         begin
4         anl$format_line(0,2,anlobj$_exehdrname,sp[ihi$_imgnam]);
4         build_descriptor(name_dsc,.sp[0,0,8,0],sp[1,0,8,0]);
4         anl$check_symbol(name_dsc, shl$c_maxnamlng);
4         anl$format_line(0,2,anlobj$_exehdrfileid,sp[ihi$_imgid]);
4         anl$format_line(0,2,anlobj$_exehdrtime,sp[ihi$_linktime]);
4         anl$format_line(0,2,anlobj$_exehdrlinkid,sp[ihi$_linkid]);
3         end;
2 end;                           ! of local "name_dsc"
2
2
2 ! If this is an interactive session, give the user a chance to quit.
2
2 if .anl$gb_interactive then
2         if not anl$interact() then
2                 return false;
```

```
2 ! Now we are going to analyze the patch section.
2 ! It may not necessarily exist.
2
2 anl$report_line(-1);
2 anl$format_line(3,1,anlobj$_exehdrpatch);
2 anl$report_line(-1);
2
3 if .hp[ihd$w_patchoff] nequ 0 then (
3         sp = .hp + .hp[ihd$w_patchoff];
3
3         ! Begin with the Digital ECO bits.
3
3         anl$format_line(0,2,anlobj$_exehdrdececo,.sp[ihp$l_eco1],.sp[ihp$l_eco2],.sp[ihp$l_eco3]);
3
3         ! And the user ECO bits.
3
3         anl$format_line(0,2,anlobj$_exehdrusereco,.sp[ihp$l_eco4]);
3
3         ! Analyze the read/write and read-only patch area info.
3
3         anl$format_line(0,2,anlobj$_exehdrrwpatch,.sp[ihp$l_rw_patadr],.sp[ihp$l_rw_patsiz]);
3         anl$format_line(0,2,anlobj$_exehdrropatch,.sp[ihp$l_ro_patadr],.sp[ihp$l_ro_patsiz]);
3
3         ! Now the VBN of the patch command text.
3
3         anl$format_line(0,2,anlobj$_exehdrtextvbn,.sp[ihp$l_patcomtxt]);
3
3         ! And the date of most recent patch.
3
3         anl$format_line(0,2,anlobj$_exehdrpatchdate,sp[ihp$q_patdate]);
3
3         ! If this is an interactive session, give the user a chance to quit.
3
3         if .anl$gb_interactive then
3                 if not anl$interact() then
3                         return false;
3 ) else (
3
3         ! There is no patch section now.
3
3         anl$format_line(0,2,anlobj$_exehdrnopatch);
2 );
```

```
2 ! Analyze the image section descriptors.  These begin after all the above
2 ! sections and can go on for multiple blocks.
2 ! We also use this loop to search for the fixup section.  If we don't find
2 ! one, we will inform the caller with zero fixup parameters.
2
2 .fixup_size = .fixup_vbn = 0;
2
2 anl$report_line(-1);
2 anl$format_line(3,1,anlobj$_exehdrisd);
2
2 vbn = 1;
3 incru isd from 1 do (
3
3         ! First we see if we have run out of ISDs in this block.  If so,
3         ! we advance to the next block.  This routine keeps track of how
3         ! many ISD's we've looked at so far.
3
3         status = anl$get_isd(hp);
3
3         ! Now we see if we are all done with the ISDs.  The return status
3         ! is IMG$_ENDOFHDR
3
3 exitif (.status eqlu img$_endofhdr);
3
3         increment (vbn);
4         if not .status then (
4                 anl$format_error(.status);
4 exitloop;
3         );
3         sp = .hp;
3
3
3         ! Seems we have an ISD to analyze.  Make sure it fits completely
3         ! within the block.
3
4         if .sp[isd$w_size] gtru .hp+512-.sp then (
4                 anl$format_error(anlobj$_exehdrisdlong);
4 exitloop;
3         );
3
3         ! Format and analyze the ISD.
3
3         anl$image_isd(.sp,.isd);
3
3         ! If this is the first ISD, then we want to return its base address,
3         ! which is the starting address of the entire image.
3
3         if .isd eqlu 1 then
3                 .image_base = .sp[isd$v_vpn]^9;
3
3         ! If we have a fixup section, let's see if this is it.  If so,
3         ! return its size and VBN.  If they are bad, tell the user.
3
3         if .fixup_address neqa 0 then
3                 if .fixup_address eqla .sp[isd$v_vpg]^9 then
3                         if .sp[isd$w_pagcnt] eqlu 0 or .sp[isd$l_vbn] eqlu 0 then
3                                 anl$format_error(anlobj$_exebadfixupisd)
;  506          1019  4                     else (
;  507          1020  4                             .fixup_size = .sp[isd$w_pagcnt];
;  508          1021  4                             .fixup_vbn  = .sp[isd$l_vbn];
;  509          1022  3                     );
;  510          1023  3
;  511          1024  3             ! If this is an interactive session, give the user a chance to quit.
;  512          1025  3
;  513          1026  3             if .anl$gb_interactive then
;  514          1027  3                     if not anl$interact() then
;  515          1028  3                             return false;
;  516          1029  3
;  517          1030  2     );
;  518          1031  2
;  519          1032  2     return true;
;  520          1033  2
;  521          1034  1     end;


                                                                              .TITLE  EXESTUFF EXESTUFF - Analyze Various Parts of an
;                                                                                               Image
                                                                              .IDENT  \V04-001\

                                                                              .PSECT  $PLIT$,NOWRT,NOEXE,2

        4C  4C  41  54  41  4D  5F  4B  24  44  53  49  0C  00000 P.AAA:  .ASCII  <12>\ISD$K_MATALL\                                ;
        55  51  45  54  41  4D  5F  4B  24  44  53  49  0C  0000D P.AAB:  .ASCII  <12>\ISD$K_MATEQU\                                ;
        51  45  4C  54  41  4D  5F  4B  24  44  53  49  0C  0001A P.AAC:  .ASCII  <12>\ISD$K_MATLEQ\                                ;
        56  45  4E  54  41  4D  5F  4B  24  44  53  49  0C  00027 P.AAD:  .ASCII  <12>\ISD$K_MATNEV\                                ;
47  55  42  45  44  4B  4E  4C  5F  56  24  44  48  49  0E  00034 P.AAE:  .ASCII  <14>\IHD$V_LNKDEBUG\                              ;
52  46  54  4F  4E  4B  4E  4C  5F  56  24  44  48  49  0E  00043 P.AAF:  .ASCII  <14>\IHD$V_LNKNOTFR\                              ;
53  46  55  42  30  50  4F  4E  5F  56  24  44  48  49  0E  00052 P.AAG:  .ASCII  <14>\IHD$V_NOPOBUFS\                              ;
        47  4D  49  43  49  50  5F  56  24  44  48  49  0C  00061 P.AAH:  .ASCII  <12>\IHD$V_PICIMG\                                ;
    45  47  41  4D  49  30  50  5F  56  24  44  48  49  0D  0006E P.AAI:  .ASCII  <13>\IHD$V_P0IMAGE\                               ;
        54  4D  44  47  42  44  5F  56  24  44  48  49  0C  0007C P.AAJ:  .ASCII  <12>\IHD$V_DBGDMT\                                ;
                                                            00089         .BLKB   3
                                            00  00  32  30  0008C P.AAK:  .ASCII  \02\<0><0>                                        ;
                                            00  00  34  30  00090 P.AAL:  .ASCII  \04\<0><0>                                        ;

                                                                              .PSECT  $OWN$,NOEXE,2

                  00000000' 00000000' 00000000' 00000000'  00000 MATCH_CONTROL:
                                                                          .ADDRESS P.AAA. P.AAB, P.AAC, P.AAD                    ;
                                                           00010          .BLKB   16
                                                 00000005  00020 LINK_FLAGS_DEF:
                                                                          .LONG   5
00000000' 00000000' 00000000' 00000000' 00000000' 00000000'  00024        .ADDRESS P.AAE, P.AAF, P.AAG, P.AAH, P.AAI, P.AAJ     ;
                                                           0003C ALIAS:   .BLKB   2

                                                                 V3_MAJORID=          P.AAK
                                                                 V3_MINORID=          P.AAL
                                                                          .EXTRN  ANLOBJ$_OK, ANLOBJ$_ANYTHING
                                                                          .EXTRN  ANLOBJ$_DATATYPE
                                                                          .EXTRN  ANLOBJ$_ERRORCOUNT
                                                                          .EXTRN  ANLOBJ$_ERRORNONE
                                                                          .EXTRN  ANLOBJ$_ERRORS, ANLOBJ$_EXEFIXA
                                                                          .EXTRN  ANLOBJ$_EXEFIXAIMAGE
                                                                          .EXTRN  ANLOBJ$_EXEFIXALINE
        .EXTRN  ANLOBJ$_EXEFIXCOUNT
        .EXTRN  ANLOBJ$_EXEFIXEXTRA
        .EXTRN  ANLOBJ$_EXEFIXFIXED
        .EXTRN  ANLOBJ$_EXEFIXFLAGS
        .EXTRN  ANLOBJ$_EXEFIXG
        .EXTRN  ANLOBJ$_EXEFIXGIMAGE
        .EXTRN  ANLOBJ$_EXEFIXGLINE
        .EXTRN  ANLOBJ$_EXEFIXLIST
        .EXTRN  ANLOBJ$_EXEFIXNAME
        .EXTRN  ANLOBJ$_EXEFIXNAMEO
        .EXTRN  ANLOBJ$_EXEFIXP
        .EXTRN  ANLOBJ$_EXEFIXPSECT
        .EXTRN  ANLOBJ$_EXEFIXUP
        .EXTRN  ANLOBJ$_EXEFIXUPNONE
        .EXTRN  ANLOBJ$_EXEGST, ANLOBJ$_EXEHDR
        .EXTRN  ANLOBJ$_EXEHDRACTIVE
        .EXTRN  ANLOBJ$_EXEHDRBLKCOUNT
        .EXTRN  ANLOBJ$_EXEHDRCHANCOUNT
        .EXTRN  ANLOBJ$_EXEHDRCHANDEF
        .EXTRN  ANLOBJ$_EXEHDRDECECO
        .EXTRN  ANLOBJ$_EXEHDRDMT
        .EXTRN  ANLOBJ$_EXEHDRDST
        .EXTRN  ANLOBJ$_EXEHDRFILEID
        .EXTRN  ANLOBJ$_EXEHDRFIXED
        .EXTRN  ANLOBJ$_EXEHDRFLAGS
        .EXTRN  ANLOBJ$_EXEHDRGBLIDENT
        .EXTRN  ANLOBJ$_EXEHDRGST
        .EXTRN  ANLOBJ$_EXEHDRIDENT
        .EXTRN  ANLOBJ$_EXEHDRIMAGEID
        .EXTRN  ANLOBJ$_EXEHDRISD
        .EXTRN  ANLOBJ$_EXEHDRISDBASE
        .EXTRN  ANLOBJ$_EXEHDRISDCOUNT
        .EXTRN  ANLOBJ$_EXEHDRISDFLAGS
        .EXTRN  ANLOBJ$_EXEHDRISDGBLNAM
        .EXTRN  ANLOBJ$_EXEHDRISDNUM
        .EXTRN  ANLOBJ$_EXEHDRISDPFCDEF
        .EXTRN  ANLOBJ$_EXEHDRISDPFCSIZ
        .EXTRN  ANLOBJ$_EXEHDRISDTYPE
        .EXTRN  ANLOBJ$_EXEHDRISDVBN
        .EXTRN  ANLOBJ$_EXEHDRLINKID
        .EXTRN  ANLOBJ$_EXEHDRMATCH
        .EXTRN  ANLOBJ$_EXEHDRNAME
        .EXTRN  ANLOBJ$_EXEHDRNOPATCH
        .EXTRN  ANLOBJ$_EXEHDRPAGECOUNT
        .EXTRN  ANLOBJ$_EXEHDRPAGEDEF
        .EXTRN  ANLOBJ$_EXEHDRPATCH
        .EXTRN  ANLOBJ$_EXEHDRPATCHDATE
        .EXTRN  ANLOBJ$_EXEHDRPRIV
        .EXTRN  ANLOBJ$_EXEHDRROPATCH
        .EXTRN  ANLOBJ$_EXEHDRRWPATCH
        .EXTRN  ANLOBJ$_EXEHDRSYMDBG
        .EXTRN  ANLOBJ$_EXEHDRSYSVER
        .EXTRN  ANLOBJ$_EXEHDRTEXTVBN
        .EXTRN  ANLOBJ$_EXEHDRTIME
        .EXTRN  ANLOBJ$_EXEHDRTYPEEXE
        .EXTRN  ANLOBJ$_EXEHDRTYPELIM
        .EXTRN  ANLOBJ$_EXEHDRUSERECO
```

```
                                        .EXTRN  ANLOBJ$_EXEHDRXFER1
                                        .EXTRN  ANLOBJ$_EXEHDRXFER2
                                        .EXTRN  ANLOBJ$_EXEHDRXFER3
                                        .EXTRN  ANLOBJ$_EXEHEADING
                                        .EXTRN  ANLOBJ$_EXEPATCH
                                        .EXTRN  ANLOBJ$_FLAG, ANLOBJ$_HEXDATA
                                        .EXTRN  ANLOBJ$_HEXHEADING1
                                        .EXTRN  ANLOBJ$_HEXHEADING2
                                        .EXTRN  ANLOBJ$_INDMSGSEC
                                        .EXTRN  ANLOBJ$_INTERACT
                                        .EXTRN  ANLOBJ$_MASK, ANLOBJ$_OBJCPRREC
                                        .EXTRN  ANLOBJ$_OBJDBGREC
                                        .EXTRN  ANLOBJ$_OBJENV, ANLOBJ$_OBJEOMFLAGS
                                        .EXTRN  ANLOBJ$_OBJEOMREC
                                        .EXTRN  ANLOBJ$_OBJEOMSEVABT
                                        .EXTRN  ANLOBJ$_OBJEOMSEVERR
                                        .EXTRN  ANLOBJ$_OBJEOMSEVIGN
                                        .EXTRN  ANLOBJ$_OBJEOMSEVRES
                                        .EXTRN  ANLOBJ$_OBJEOMSEVSUC
                                        .EXTRN  ANLOBJ$_OBJEOMSEVWRN
                                        .EXTRN  ANLOBJ$_OBJEOMWREC
                                        .EXTRN  ANLOBJ$_OBJFADPASSMECH
                                        .EXTRN  ANLOBJ$_OBJGSDENV
                                        .EXTRN  ANLOBJ$_OBJGSDENVFLAGS
                                        .EXTRN  ANLOBJ$_OBJGSDENVPAR
                                        .EXTRN  ANLOBJ$_OBJGSDEPM
                                        .EXTRN  ANLOBJ$_OBJGSDEPMW
                                        .EXTRN  ANLOBJ$_OBJGSDIDC
                                        .EXTRN  ANLOBJ$_OBJGSDIDCENT
                                        .EXTRN  ANLOBJ$_OBJGSDIDCFLAGS
                                        .EXTRN  ANLOBJ$_OBJGSDIDCMATCH
                                        .EXTRN  ANLOBJ$_OBJGSDIDCOBJ
                                        .EXTRN  ANLOBJ$_OBJGSDIDCVALA
                                        .EXTRN  ANLOBJ$_OBJGSDIDCVALB
                                        .EXTRN  ANLOBJ$_OBJGSDLEPM
                                        .EXTRN  ANLOBJ$_OBJGSDLPRO
                                        .EXTRN  ANLOBJ$_OBJGSDLSY
                                        .EXTRN  ANLOBJ$_OBJGSDPRO
                                        .EXTRN  ANLOBJ$_OBJGSDPROW
                                        .EXTRN  ANLOBJ$_OBJGSDPSC
                                        .EXTRN  ANLOBJ$_OBJGSDPSCALIGN
                                        .EXTRN  ANLOBJ$_OBJGSDPSCALLOC
                                        .EXTRN  ANLOBJ$_OBJGSDPSCBASE
                                        .EXTRN  ANLOBJ$_OBJGSDPSCFLAGS
                                        .EXTRN  ANLOBJ$_OBJGSDREC
                                        .EXTRN  ANLOBJ$_OBJGSDSPSC
                                        .EXTRN  ANLOBJ$_OBJGSDSYM
                                        .EXTRN  ANLOBJ$_OBJGSDSYMW
                                        .EXTRN  ANLOBJ$_OBJGTXREC
                                        .EXTRN  ANLOBJ$_OBJHDRIGNREC
                                        .EXTRN  ANLOBJ$_OBJHEADING
                                        .EXTRN  ANLOBJ$_OBJLITINDEX
                                        .EXTRN  ANLOBJ$_OBJLNKREC
                                        .EXTRN  ANLOBJ$_OBJLNMREC
                                        .EXTRN  ANLOBJ$_OBJMHDCREATE
                                        .EXTRN  ANLOBJ$_OBJMHDNAME
                                        .EXTRN  ANLOBJ$_OBJMHDPATCH
```

```
        .EXTRN  ANLOBJ$_OBJMHDREC
        .EXTRN  ANLOBJ$_OBJMHDRECSIZ
        .EXTRN  ANLOBJ$_OBJMHDSTRLVL
        .EXTRN  ANLOBJ$_OBJMHDVERSION
        .EXTRN  ANLOBJ$_OBJMTCCORRECT
        .EXTRN  ANLOBJ$_OBJMTCINPUT
        .EXTRN  ANLOBJ$_OBJMTCNAME
        .EXTRN  ANLOBJ$_OBJMTCREC
        .EXTRN  ANLOBJ$_OBJMTCSEQNUM
        .EXTRN  ANLOBJ$_OBJMTCUIC
        .EXTRN  ANLOBJ$_OBJMTCVERSION
        .EXTRN  ANLOBJ$_OBJMTCWHEN
        .EXTRN  ANLOBJ$_OBJPROARGCOUNT
        .EXTRN  ANLOBJ$_OBJPROARGNUM
        .EXTRN  ANLOBJ$_OBJPSECT
        .EXTRN  ANLOBJ$_OBJSRCREC
        .EXTRN  ANLOBJ$_OBJSTATHEADING1
        .EXTRN  ANLOBJ$_OBJSTATHEADING2
        .EXTRN  ANLOBJ$_OBJSTATLINE
        .EXTRN  ANLOBJ$_OBJSTATTOTAL
        .EXTRN  ANLOBJ$_OBJSYMBOL
        .EXTRN  ANLOBJ$_OBJSYMFLAGS
        .EXTRN  ANLOBJ$_OBJTIRARGINDEX
        .EXTRN  ANLOBJ$_OBJTIRCMD
        .EXTRN  ANLOBJ$_OBJTIRCMDSTK
        .EXTRN  ANLOBJ$_OBJTBTREC
        .EXTRN  ANLOBJ$_OBJTIRREC
        .EXTRN  ANLOBJ$_OBJTIRSTOIM
        .EXTRN  ANLOBJ$_OBJTIRVIELD
        .EXTRN  ANLOBJ$_OBJTTLREC
        .EXTRN  ANLOBJ$_OBJVALUE
        .EXTRN  ANLOBJ$_OBJUVALUE
        .EXTRN  ANLOBJ$_PROTECTION
        .EXTRN  ANLOBJ$_SEVERITY
        .EXTRN  ANLOBJ$_TEXT, ANLOBJ$_TEXTHDR
        .EXTRN  ANLOBJ$_NOSUCHMOD
        .EXTRN  ANLOBJ$_BADDATE
        .EXTRN  ANLOBJ$_BADHDRBLKCOUNT
        .EXTRN  ANLOBJ$_BADSEVERITY
        .EXTRN  ANLOBJ$_BADSYM1ST
        .EXTRN  ANLOBJ$_BADSYMCHAR
        .EXTRN  ANLOBJ$_BADSYMLEN
        .EXTRN  ANLOBJ$_EXEBADFIXUPEND
        .EXTRN  ANLOBJ$_EXEBADFIXUPISD
        .EXTRN  ANLOBJ$_EXEBADFIXUPVBN
        .EXTRN  ANLOBJ$_EXEBADISDS1
        .EXTRN  ANLOBJ$_EXEBADISDTYPE
        .EXTRN  ANLOBJ$_EXEBADMATCH
        .EXTRN  ANLOBJ$_EXEBADPATCHLEN
        .EXTRN  ANLOBJ$_EXEBADOBJ
        .EXTRN  ANLOBJ$_EXEBADTYPE
        .EXTRN  ANLOBJ$_EXEBADXFERO
        .EXTRN  ANLOBJ$_EXEHDRISDLONG
        .EXTRN  ANLOBJ$_EXEHDRLONG
        .EXTRN  ANLOBJ$_EXEISDLENDZRO
        .EXTRN  ANLOBJ$_EXEISDLENGBL
        .EXTRN  ANLOBJ$_EXEISDLENPRIV
```

```
                                                .EXTRN  ANLOBJ$_EXENOTNATIVE
                                                .EXTRN  ANLOBJ$_EXTRABYTES
                                                .EXTRN  ANLOBJ$_FIELDFIT
                                                .EXTRN  ANLOBJ$_FLAGERROR
                                                .EXTRN  ANLOBJ$_NOTOK, ANLOBJ$_OBJBADIDCMATCH
                                                .EXTRN  ANLOBJ$_OBJBADNUM
                                                .EXTRN  ANLOBJ$_OBJBADPOP
                                                .EXTRN  ANLOBJ$_OBJBADPUSH
                                                .EXTRN  ANLOBJ$_OBJBADTYPE
                                                .EXTRN  ANLOBJ$_OBJBADVIELD
                                                .EXTRN  ANLOBJ$_OBJEOMBADSEV
                                                .EXTRN  ANLOBJ$_OBJEOMMISSING
                                                .EXTRN  ANLOBJ$_OBJFADBADAVC
                                                .EXTRN  ANLOBJ$_OBJFADBADRBC
                                                .EXTRN  ANLOBJ$_OBJGSDBADALIGN
                                                .EXTRN  ANLOBJ$_OBJGSDBADSUBTYP
                                                .EXTRN  ANLOBJ$_OBJHDRRES
                                                .EXTRN  ANLOBJ$_OBJMHDBADRECSIZ
                                                .EXTRN  ANLOBJ$_OBJMHDBADSTRLVL
                                                .EXTRN  ANLOBJ$_OBJMHDMISSING
                                                .EXTRN  ANLOBJ$_OBJNONTIRCMD
                                                .EXTRN  ANLOBJ$_OBJNOPSC
                                                .EXTRN  ANLOBJ$_OBJNULLREC
                                                .EXTRN  ANLOBJ$_OBJPOSPACE
                                                .EXTRN  ANLOBJ$_OBJPROMINMAX
                                                .EXTRN  ANLOBJ$_OBJPSCABSLEN
                                                .EXTRN  ANLOBJ$_OBJRECTOOBIG
                                                .EXTRN  ANLOBJ$_OBJTIRRES
                                                .EXTRN  ANLOBJ$_OBJUNDEFENV
                                                .EXTRN  ANLOBJ$_OBJUNDEFLIT
                                                .EXTRN  ANLOBJ$_OBJUNDEFPSC
                                                .EXTRN  ANALYZE$_FACILITY
                                                .EXTRN  ANL$CHECK_FLAGS
                                                .EXTRN  ANL$CHECK_SYMBOL
                                                .EXTRN  ANL$FORMAT_ERROR
                                                .EXTRN  ANL$FORMAT_FLAGS
                                                .EXTRN  ANL$FORMAT_HEX, ANL$FORMAT_LINE
                                                .EXTRN  ANL$GET_IMAGE_BLOCK
                                                .EXTRN  ANL$OBJECT_EOM, ANL$OBJECT_GSD
                                                .EXTRN  ANL$OBJECT_HDR, ANL$INTERACT
                                                .EXTRN  ANL$OBJECT_RECORD_SIZE
                                                .EXTRN  ANL$REPORT_LINE
                                                .EXTRN  ANL$REPORT_PAGE
                                                .EXTRN  ANL$GET_IMAGE_HEADER
                                                .EXTRN  ANL$GET_ISD, ANL$GB_INTERACTIVE

                                                .PSECT  $CODE$,NOWRT,2

                           0FFC 00000           .ENTRY  ANL$IMAGE_HEADER, Save R2,R3,R4,R5,R6,R7,-  ; 0693
                                                        R8,R9,R10,R11                               ;
5B        0000G    CF    9E 00002               MOVAB   ANL$GB_INTERACTIVE, R11                     ;
5A        0000G    CF    9E 00007               MOVAB   ANL$FORMAT_ERROR, R10                       ;
59        0000G    CF    9E 0000C               MOVAB   ANL$REPORT_LINE, R9                         ;
58        0000G    CF    9E 00011               MOVAB   ANL$FORMAT_LINE, R8                         ;
5E                 0C    C2 00016               SUBL2   #12, SP                                     ;
     00000000G     8F    DD 00019               PUSHL   #ANLOBJ$_EXEHDR                             ; 0728
                   7E    7C 0001F               CLRQ    -(SP)                                       ;
```

```
                  68          03  FB 00021           CALLS    #3, ANL$FORMAT_LINE                ;
                  7E          01  CE 00024           MNEGL    #1, -(SP)                          ; 0729
                  69          01  FB 00027           CALLS    #1, ANL$REPORT_LINE                ;
                       0000'  CF  9F 0002A           PUSHAB   ALIAS                              ; 0731
                          04  AE  9F 0002E           PUSHAB   HP                                 ;
             0000G  CF        02  FB 00031           CALLS    #2, ANL$GET_IMAGE_HEADER           ;
                  57          50  D0 00036           MOVL     R0, STATUS                         ;
                  16          57  E9 00039           BLBC     STATUS, 1$                         ; 0741
                  50   0000'  CF  3C 0003C           MOVZWL   ALIAS, R0                          ; 0742
             FFFF   8F        50  B1 00041           CMPW     R0, #65535                         ;
                              16  13 00046           BEQL     2$                                 ;
                  03          50  B1 00048           CMPW     R0, #3                             ;
                              11  13 0004B           BEQL     2$                                 ;
                  02          50  B1 0004D           CMPW     R0, #2                             ;
                              0C  13 00050           BEQL     2$                                 ;
             00000000G        8F  DD 00052 1$:       PUSHL    #ANLOBJ$_EXENOTNATIVE              ; 0743
                  6A          01  FB 00058           CALLS    #1, ANL$FORMAT_ERROR               ;
                            0471  31 0005B           BRW      41$                                ; 0744
             00000000G        8F  DD 0005E 2$:       PUSHL    #ANLOBJ$_EXEHDRFIXED               ; 0748
                              01  DD 00064           PUSHL    #1                                 ;
                              03  DD 00066           PUSHL    #3                                 ;
                  68          03  FB 00068           CALLS    #3, ANL$FORMAT_LINE                ;
                  7E          01  CE 0006B           MNEGL    #1, -(SP)                          ; 0749
                  69          01  FB 0006E           CALLS    #1, ANL$REPORT_LINE                ;
                  53          6E  D0 00071           MOVL     HP, R3                             ; 0753
                          0E  A3  9F 00074           PUSHAB   14(R3)                             ;
                              02  DD 00077           PUSHL    #2                                 ;
                          0C  A3  9F 00079           PUSHAB   12(R3)                             ;
                              02  DD 0007C           PUSHL    #2                                 ;
             00000000G        8F  DD 0007E           PUSHL    #ANLOBJ$_EXEHDRIMAGEID             ;
                              02  DD 00084           PUSHL    #2                                 ;
                              7E  D4 00086           CLRL     -(SP)                              ;
                  68          07  FB 00088           CALLS    #7, ANL$FORMAT_LINE                ;
                  50      10  A3  9A 0008B           MOVZBL   16(R3), R0                         ; 0758
                              0D  12 0008F           BNEQ     3$                                 ;
                              50  DD 00091           PUSHL    R0                                 ; 0760
             00000000G        8F  DD 00093           PUSHL    #ANLOBJ$_BADHDRBLKCOUNT            ;
                  6A          02  FB 00099           CALLS    #2, ANL$FORMAT_ERROR               ;
                              0F  11 0009C           BRB      4$                                 ;
                              50  DD 0009E 3$:       PUSHL    R0                                 ; 0762
             00000000G        8F  DD 000A0           PUSHL    #ANLOBJ$_EXEHDRBLKCOUNT            ;
                              02  DD 000A6           PUSHL    #2                                 ;
                              7E  D4 000A8           CLRL     -(SP)                              ;
                  68          04  FB 000AA           CALLS    #4, ANL$FORMAT_LINE                ;
                  50      11  A3  9A 000AD 4$:       MOVZBL   17(R3), R0                         ; 0767
                  01          50  91 000B1           CMPB     R0, #1                             ; 0768
                              0F  12 000B4           BNEQ     5$                                 ;
             00000000G        8F  DD 000B6           PUSHL    #ANLOBJ$_EXEHDRTYPEEXE             ;
                              02  DD 000BC           PUSHL    #2                                 ;
                              7E  D4 000BE           CLRL     -(SP)                              ;
                  68          03  FB 000C0           CALLS    #3, ANL$FORMAT_LINE                ;
                              56  11 000C3           BRB      9$                                 ;
                  02          50  91 000C5 5$:       CMPB     R0, #2                             ; 0770
                              46  12 000C8           BNEQ     7$                                 ;
             00000000G        8F  DD 000CA           PUSHL    #ANLOBJ$_EXEHDRTYPELIM             ;
                              02  DD 000D0           PUSHL    #2                                 ;
                              02  DD 000D2           PUSHL    #2                                 ;
```

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                                                                    N  1
EXESTUFF        EXESTUFF - Analyze Various Parts of an Image    15-Sep-1984 23:49:08    VAX-11 Bliss-32 V4.0-742           Page  18
V04-001         ANL$IMAGE_HEADER - Analyze Image Header         14-Sep-1984 11:52:45    [ANALYZ.SRC]EXESTUFF.B32;2              (8)

                             68                03 FB 000D4       CALLS    #3, ANL$FORMAT_LINE                    ;
                                            24 A3 DD 000D7       PUSHL    36(R3)                                 ; 0771
                                     00000000G 8F DD 000DA       PUSHL    #ANLOBJ$_EXEHDRGBLIDENT                ;
                                               03 DD 000E0       PUSHL    #3                                     ;
                                               7E D4 000E2       CLRL     -(SP)                                  ;
                             68                04 FB 000E4       CALLS    #4, ANL$FORMAT_LINE                    ;
50          23    A3         03                00 EF 000E7       EXTZV    #0, #3, 35(R3), R0                     ; 0772
                             03                50 D1 000ED       CMPL     R0, #3                                 ; 0773
                                               14 1A 000F0       BGTRU    6$                                     ;
                                         0000'CF40 DD 000F2       PUSHL    MATCH_CONTROL[R0]                      ; 0777
                                     00000000G 8F DD 000F7       PUSHL    #ANLOBJ$_EXEHDRMATCH                   ; 0776
                                               03 DD 000FD       PUSHL    #3                                     ;
                                               7E D4 000FF       CLRL     -(SP)                                  ;
                             68                04 FB 00101       CALLS    #4, ANL$FORMAT_LINE                    ;
                                               15 11 00104       BRB      9$                                     ;
                                               50 DD 00106  6$:  PUSHL    R0                                     ; 0778
                                     00000000G 8F DD 00108       PUSHL    #ANLOBJ$_EXEBADMATCH                   ;
                                               08 11 0010E       BRB      8$                                     ;
                                               50 DD 00110  7$:  PUSHL    R0                                     ; 0781
                                     00000000G 8F DD 00112       PUSHL    #ANLOBJ$_EXEBADTYPE                    ;
                             6A                02 FB 00118  8$:  CALLS    #2, ANL$FORMAT_ERROR                   ;
                                            1C A3 B5 0011B  9$:  TSTW     28(R3)                                 ; 0786
                                               0F 12 0011E       BNEQ     10$                                    ;
                                     00000000G 8F DD 00120       PUSHL    #ANLOBJ$_EXEHDRCHANDEF                 ; 0787
                                               02 DD 00126       PUSHL    #2                                     ;
                                               7E D4 00128       CLRL     -(SP)                                  ;
                             68                03 FB 0012A       CALLS    #3, ANL$FORMAT_LINE                    ;
                                               11 11 0012D       BRB      11$                                    ;
                             7E             1C A3 3C 0012F  10$: MOVZWL   28(R3), -(SP)                          ; 0789
                                     00000000G 8F DD 00133       PUSHL    #ANLOBJ$_EXEHDRCHANCOUNT               ;
                                               02 DD 00139       PUSHL    #2                                     ;
                                               7E D4 0013B       CLRL     -(SP)                                  ;
                             68                04 FB 0013D       CALLS    #4, ANL$FORMAT_LINE                    ;
                                            1E A3 B5 00140  11$: TSTW     30(R3)                                 ; 0793
                                               0F 12 00143       BNEQ     12$                                    ;
                                     00000000G 8F DD 00145       PUSHL    #ANLOBJ$_EXEHDRPAGEDEF                 ; 0794
                                               02 DD 0014B       PUSHL    #2                                     ;
                                               7E D4 0014D       CLRL     -(SP)                                  ;
                             68                03 FB 0014F       CALLS    #3, ANL$FORMAT_LINE                    ;
                                               11 11 00152       BRB      13$                                    ;
                             7E             1E A3 3C 00154  12$: MOVZWL   30(R3), -(SP)                          ; 0796
                                     00000000G 8F DD 00158       PUSHL    #ANLOBJ$_EXEHDRPAGECOUNT               ;
                                               02 DD 0015E       PUSHL    #2                                     ;
                                               7E D4 00160       CLRL     -(SP)                                  ;
                             68                04 FB 00162       CALLS    #4, ANL$FORMAT_LINE                    ;
                                         0000' CF 9F 00165  13$: PUSHAB   LINK_FLAGS_DEF                         ; 0800
7E          20    A3         18                00 EF 00169       EXTZV    #0, #24, 32(R3), -(SP)                 ;
                                     00000000G 8F DD 0016F       PUSHL    #ANLOBJ$_EXEHDRFLAGS                   ;
                                               02 DD 00175       PUSHL    #2                                     ;
                      0000G  CF                04 FB 00177       CALLS    #4, ANL$FORMAT_FLAGS                   ;
                                         0000' CF 9F 0017C       PUSHAB   LINK_FLAGS_DEF                         ; 0801
7E          20    A3         18                00 EF 00180       EXTZV    #0, #24, 32(R3), -(SP)                 ;
                      0000G  CF                02 FB 00186       CALLS    #2, ANL$CHECK_FLAGS                    ;
                                            28 A3 D5 0018B       TSTL     40(R3)                                 ; 0805
                                               12 13 0018E       BEQL     14$                                    ;
                                            28 A3 9F 00190       PUSHAB   40(R3)                                 ; 0806
                                               04 DD 00193       PUSHL    #4                                     ;
```

```
                     00000000G  8F  DD 00195          PUSHL   #ANLOBJ$_EXEHDRSYSVER                     ;
                                02  DD 0019B          PUSHL   #2                                        ;
                                7E  D4 0019D          CLRL    -(SP)                                     ;
             68                 05  FB 0019F          CALLS   #5, ANL$FORMAT_LINE                       ;
             52         02      A3  3C 001A2 14$:     MOVZWL  2(R3), R2                                 ; 0811
             52                 53  C0 001A6          ADDL2   R3, R2                                    ;
             50         2C      A3  9E 001A9          MOVAB   44(R3), R0                                ;
             50                 52  D1 001AD          CMPL    R2, R0                                    ;
                                06  1B 001B0          BLEQU   15$                                       ;
             56         2C      A3  D0 001B2          MOVL    44(R3), FIXUP_ADDRESS                     ; 0812
                                02  11 001B6          BRB     16$                                       ;
                                56  D4 001B8 15$:     CLRL    FIXUP_ADDRESS                             ; 0814
             08                 6B  E9 001BA 16$:     BLBC    ANL$GB_INTERACTIVE, 17$                   ; 0818
       0000G CF                 00  FB 001BD          CALLS   #0, ANL$INTERACT                          ; 0819
             5E                 50  E9 001C2          BLBC    R0, 19$                                   ;
             7E                 01  CE 001C5 17$:     MNEGL   #1, -(SP)                                 ; 0824
             69                 01  FB 001C8          CALLS   #1, ANL$REPORT_LINE                       ;
                     00000000G  8F  DD 001CB          PUSHL   #ANLOBJ$_EXEHDRACTIVE                     ; 0825
                                01  DD 001D1          PUSHL   #1                                        ;
                                03  DD 001D3          PUSHL   #3                                        ;
             68                 03  FB 001D5          CALLS   #3, ANL$FORMAT_LINE                       ;
             7E                 01  CE 001D8          MNEGL   #1, -(SP)                                 ; 0826
             69                 01  FB 001DB          CALLS   #1, ANL$REPORT_LINE                       ;
                                62  DD 001DE          PUSHL   (SP)                                      ; 0832
                     00000000G  8F  DD 001E0          PUSHL   #ANLOBJ$_EXEHDRXFER1                      ;
                                02  DD 001E6          PUSHL   #2                                        ;
                                7E  D4 001E8          CLRL    -(SP)                                     ;
             68                 04  FB 001EA          CALLS   #4, ANL$FORMAT_LINE                       ;
                        04      A2  DD 001ED          PUSHL   4(SP)                                     ; 0833
                     00000000G  8F  DD 001F0          PUSHL   #ANLOBJ$_EXEHDRXFER2                      ;
                                02  DD 001F6          PUSHL   #2                                        ;
                                7E  D4 001F8          CLRL    -(SP)                                     ;
             68                 04  FB 001FA          CALLS   #4, ANL$FORMAT_LINE                       ;
                        08      A2  DD 001FD          PUSHL   8(SP)                                     ; 0834
                     00000000G  8F  DD 00200          PUSHL   #ANLOBJ$_EXEHDRXFER3                      ;
                                02  DD 00206          PUSHL   #2                                        ;
                                7E  D4 00208          CLRL    -(SP)                                     ;
             68                 04  FB 0020A          CALLS   #4, ANL$FORMAT_LINE                       ;
                        0C      A2  D5 0020D          TSTL    12(SP)                                    ; 0838
                                09  13 00210          BEQL    18$                                       ;
                     00000000G  8F  DD 00212          PUSHL   #ANLOBJ$_EXEBADXFER0                      ; 0839
             6A                 01  FB 00218          CALLS   #1, ANL$FORMAT_ERROR                      ;
             08                 6B  E9 0021B 18$:     BLBC    ANL$GB_INTERACTIVE, 20$                   ; 0843
       0000G CF                 00  FB 0021E          CALLS   #0, ANL$INTERACT                          ; 0844
             65                 50  E9 00223 19$:     BLBC    R0, 22$                                   ;
             7E                 01  CE 00226 20$:     MNEGL   #1, -(SP)                                 ; 0849
             69                 01  FB 00229          CALLS   #1, ANL$REPORT_LINE                       ;
                     00000000G  8F  DD 0022C          PUSHL   #ANLOBJ$_EXEHDRSYMDBG                     ; 0850
                                01  DD 00232          PUSHL   #1                                        ;
                                03  DD 00234          PUSHL   #3                                        ;
             68                 03  FB 00236          CALLS   #3, ANL$FORMAT_LINE                       ;
             7E                 01  CE 00239          MNEGL   #1, -(SP)                                 ; 0851
             69                 01  FB 0023C          CALLS   #1, ANL$REPORT_LINE                       ;
             52         04      A3  3C 0023F          MOVZWL  4(R3), SP                                 ; 0853
             52                 53  C0 00243          ADDL2   R3, SP                                    ;
             7E         08      A2  3C 00246          MOVZWL  8(SP), -(SP)                              ; 0857
                                62  DD 0024A          PUSHL   (SP)                                      ;
                                00000000G  8F   DD 0024C          PUSHL   #ANLOBJ$_EXEHDRDST                  :
                                           02   DD 00252          PUSHL   #2                                  :
                                           7E   D4 00254          CLRL    -(SP)                               :
                              68           05   FB 00256          CALLS   #5, ANL$FORMAT_LINE                 :
                              7E        0A A2   3C 00259          MOVZWL  10(SP), -(SP)                       : 0861
                                        04 A2   DD 0025D          PUSHL   4(SP)                               :
                                00000000G  8F   DD 00260          PUSHL   #ANLOBJ$_EXEHDRGST                  :
                                           02   DD 00266          PUSHL   #2                                  :
                                           7E   D4 00268          CLRL    -(SP)                               :
                              68           05   FB 0026A          CALLS   #5, ANL$FORMAT_LINE                 :
                 11      20   A3           05   E1 0026D          BBC     #5, 32(R3), 21$                     : 0865
                              7E        0C A2   7D 00272          MOVQ    12(SP), -(SP)                       : 0867
                                00000000G  8F   DD 00276          PUSHL   #ANLOBJ$_EXEHDRDMT                  :
                                           02   DD 0027C          PUSHL   #2                                  :
                                           7E   D4 0027E          CLRL    -(SP)                               :
                              68           05   FB 00280          CALLS   #5, ANL$FORMAT_LINE                 :
                              0B           6B   E9 00283 21$:     BLBC    ANL$GB_INTERACTIVE, 23$             : 0871
                        0000G CF           00   FB 00286          CALLS   #0, ANL$INTERACT                    : 0872
                              03           50   E8 0028B 22$:     BLBS    R0, 23$                             :
                                         023E   31 0028E          BRW     41$                                 :
                              7E           01   CE 00291 23$:     MNEGL   #1, -(SP)                           : 0877
                              69           01   FB 00294          CALLS   #1, ANL$REPORT_LINE                 :
                                00000000G  8F   DD 00297          PUSHL   #ANLOBJ$_EXEHDRIDENT                : 0878
                                           01   DD 0029D          PUSHL   #1                                  :
                                           03   DD 0029F          PUSHL   #3                                  :
                              68           03   FB 002A1          CALLS   #3, ANL$FORMAT_LINE                 :
                              7E           01   CE 002A4          MNEGL   #1, -(SP)                           : 0879
                              69           01   FB 002A7          CALLS   #1, ANL$REPORT_LINE                 :
                              52        06 A3   3C 002AA          MOVZWL  6(R3), SP                           : 0881
                              52           53   C0 002AF          ADDL2   R3, SP                              :
                              54        01 A2   9E 002B1          MOVAB   1(R2), R4                           : 0897
                              55        28 A2   9E 002B5          MOVAB   40(R2), R5                          : 0899
     0000'  CF       0C  A3   10           00   ED 002B9          CMPZV   #0, #16, 12(R3), V3_MAJORID         : 0892
                                           0A   14 002C1          BGTR    24$                                 :
     0000'  CF       0E  A3   10           00   ED 002C3          CMPZV   #0, #16, 14(R3), V3_MINORID         : 0893
                                           45   15 002CB          BLEQ    25$                                 :
                                           52   DD 002CD 24$:     PUSHL   SP                                  : 0896
                                00000000G  8F   DD 002CF          PUSHL   #ANLOBJ$_EXEHDRNAME                 :
                                           02   DD 002D5          PUSHL   #2                                  :
                                           7E   D4 002D7          CLRL    -(SP)                               :
                              68           04   FB 002D9          CALLS   #4, ANL$FORMAT_LINE                 :
                         04   AE           62   9A 002DC          MOVZBL  (SP), NAME_DSC                      : 0897
                         08   AE           54   D0 002E0          MOVL    R4, NAME_DSC+4                      :
                                           27   DD 002E4          PUSHL   #39                                 : 0898
                                        08 AE   9F 002E6          PUSHAB  NAME_DSC                            :
                        0000G CF           02   FB 002E9          CALLS   #2, ANL$CHECK_SYMBOL                :
                                           55   DD 002EE          PUSHL   R5                                  : 0899
                                00000000G  8F   DD 002F0          PUSHL   #ANLOBJ$_EXEHDRFILEID               :
                                           02   DD 002F6          PUSHL   #2                                  :
                                           7E   D4 002F8          CLRL    -(SP)                               :
                              68           04   FB 002FA          CALLS   #4, ANL$FORMAT_LINE                 :
                                        38 A2   9F 002FD          PUSHAB  56(SP)                              : 0900
                                00000000G  8F   DD 00300          PUSHL   #ANLOBJ$_EXEHDRTIME                 :
                                           02   DD 00306          PUSHL   #2                                  :
                                           7E   D4 00308          CLRL    -(SP)                               :
                              68           04   FB 0030A          CALLS   #4, ANL$FORMAT_LINE                 :
                                        40 A2   9F 0030D          PUSHAB  64(SP)                              : 0901
```

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                                   43  11 00310        BRB     26$                             ;
                                   52  DD 00312 25$:   PUSHL   SP                              ; 0905
                        00000000G  8F  DD 00314        PUSHL   #ANLOBJ$_EXEHDRNAME             ;
                                   02  DD 0031A        PUSHL   #2                              ;
                                   7E  D4 0031C        CLRL    -(SP)                           ;
                  68               04  FB 0031E        CALLS   #4, ANL$FORMAT_LINE             ;
            04    AE               62  9A 00321        MOVZBL  (SP), NAME_DSC                  ; 0906
            08    AE               54  D0 00325        MOVL    R4, NAME_DSC+4                  ;
                                   27  DD 00329        PUSHL   #39                             ; 0907
                            08     AE  9F 0032B        PUSHAB  NAME_DSC                        ;
         0000G    CF               02  FB 0032E        CALLS   #2, ANL$CHECK_SYMBOL            ;
                            10     A2  9F 00333        PUSHAB  16(SP)                          ; 0908
                        00000000G  8F  DD 00336        PUSHL   #ANLOBJ$_EXEHDRFILEID           ;
                                   02  DD 0033C        PUSHL   #2                              ;
                                   7E  D4 0033E        CLRL    -(SP)                           ;
                  68               04  FB 00340        CALLS   #4, ANL$FORMAT_LINE             ;
                            20     A2  9F 00343        PUSHAB  32(SP)                          ; 0909
                        00000000G  8F  DD 00346        PUSHL   #ANLOBJ$_EXEHDRTIME             ;
                                   02  DD 0034C        PUSHL   #2                              ;
                                   7E  D4 0034E        CLRL    -(SP)                           ;
                  68               04  FB 00350        CALLS   #4, ANL$FORMAT_LINE             ;
                                   55  DD 00353        PUSHL   R5                              ; 0910
                        00000000G  8F  DD 00355 26$:   PUSHL   #ANLOBJ$_EXEHDRLINKID           ;
                                   02  DD 0035B        PUSHL   #2                              ;
                                   7E  D4 0035D        CLRL    -(SP)                           ;
                  68               04  FB 0035F        CALLS   #4, ANL$FORMAT_LINE             ;
                  0B               6B  E9 00362        BLBC    ANL$GB_INTERACTIVE, 27$         ; 0917
         0000G    CF               00  FB 00365        CALLS   #0, ANL$INTERACT                ; 0918
                  03               50  E8 0036A        BLBS    R0, 27$                         ;
                                 015F  31 0036D        BRW     41$                             ;
                  7E               01  CE 00370 27$:   MNEGL   #1, -(SP)                       ; 0923
                  69               01  FB 00373        CALLS   #1, ANL$REPORT_LINE             ;
                        00000000G  8F  DD 00376        PUSHL   #ANLOBJ$_EXEHDRPATCH            ; 0924
                                   01  DD 0037C        PUSHL   #1                              ;
                                   03  DD 0037E        PUSHL   #3                              ;
                  68               03  FB 00380        CALLS   #3, ANL$FORMAT_LINE             ;
                  7E               01  CE 00383        MNEGL   #1, -(SP)                       ; 0925
                  69               01  FB 00386        CALLS   #1, ANL$REPORT_LINE             ;
                            08     A3  B5 00389        TSTW    8(R3)                           ; 0927
                                   7E  13 0038C        BEQL    28$                             ;
                  52        08     A3  3C 0038E        MOVZWL  8(R3), SP                       ; 0928
                  52               53  C0 00392        ADDL2   R3, SP                          ;
                  7E        04     A2  7D 00395        MOVQ    4(SP), -(SP)                    ; 0932
                                   62  DD 00399        PUSHL   (SP)                            ;
                        00000000G  8F  DD 0039B        PUSHL   #ANLOBJ$_EXEHDRDECECO           ;
                                   02  DD 003A1        PUSHL   #2                              ;
                                   7E  D4 003A3        CLRL    -(SP)                           ;
                  68               06  FB 003A5        CALLS   #6, ANL$FORMAT_LINE             ;
                            0C     A2  DD 003A8        PUSHL   12(SP)                          ; 0936
                        00000000G  8F  DD 003AB        PUSHL   #ANLOBJ$_EXEHDRUSERECO          ;
                                   02  DD 003B1        PUSHL   #2                              ;
                                   7E  D4 003B3        CLRL    -(SP)                           ;
                  68               04  FB 003B5        CALLS   #4, ANL$FORMAT_LINE             ;
                            10     A2  DD 003B8        PUSHL   16(SP)                          ; 0940
                            14     A2  DD 003BB        PUSHL   20(SP)                          ;
                        00000000G  8F  DD 003BE        PUSHL   #ANLOBJ$_EXEHDRRWPATCH          ;
                                   02  DD 003C4        PUSHL   #2                              ;
```

```
                                           7E  D4 003C6           CLRL    -(SP)                                        ;
                             6B            05  FB 003C8           CALLS   #5, ANL$FORMAT_LINE                          ;
                                    18     A2  DD 003CB           PUSHL   24(SP)                                       ; 0941
                                    1C     A2  DD 003CE           PUSHL   28(SP)                                       ;
                             00000000G     8F  DD 003D1           PUSHL   #ANLOBJ$_EXEHDRROPATCH                       ;
                                           02  DD 003D7           PUSHL   #2                                           ;
                                           7E  D4 003D9           CLRL    -(SP)                                        ;
                             6B            05  FB 003DB           CALLS   #5, ANL$FORMAT_LINE                          ;
                                    20     A2  DD 003DE           PUSHL   32(SP)                                       ; 0945
                             00000000G     8F  DD 003E1           PUSHL   #ANLOBJ$_EXEHDRTEXTVBN                       ;
                                           02  DD 003E7           PUSHL   #2                                           ;
                                           7E  D4 003E9           CLRL    -(SP)                                        ;
                             6B            04  FB 003EB           CALLS   #4, ANL$FORMAT_LINE                          ;
                                    24     A2  9F 003EE           PUSHAB  36(SP)                                       ; 0949
                             00000000G     8F  DD 003F1           PUSHL   #ANLOBJ$_EXEHDRPATCHDATE                     ;
                                           02  DD 003F7           PUSHL   #2                                           ;
                                           7E  D4 003F9           CLRL    -(SP)                                        ;
                             6B            04  FB 003FB           CALLS   #4, ANL$FORMAT_LINE                          ;
                             18            6B  E9 003FE           BLBC    ANL$GB_INTERACTIVE, 29$                      ; 0953
                   0000G     CF            00  FB 00401           CALLS   #0, ANL$INTERACT                             ; 0954
                             10            50  E8 00406           BLBS    R0, 29$                                      ;
                                      00C3 31 00409               BRW     41$                                          ; 0955
                             00000000G     8F  DD 0040C  28$:     PUSHL   #ANLOBJ$_EXEHDRNOPATCH                       ; 0960
                                           02  DD 00412           PUSHL   #2                                           ;
                                           7E  D4 00414           CLRL    -(SP)                                        ;
                             6B            03  FB 00416           CALLS   #3, ANL$FORMAT_LINE                          ;
                                    0C     BC  D4 00419  29$:     CLRL    @FIXUP_VBN                                   ; 0967
                                    08     BC  D4 0041C           CLRL    @FIXUP_SIZE                                  ;
                             7E            01  CE 0041F           MNEGL   #1, -(SP)                                    ; 0969
                             69            01  FB 00422           CALLS   #1, ANL$REPORT_LINE                          ;
                             00000000G     8F  DD 00425           PUSHL   #ANLOBJ$_EXEHDRISD                           ; 0970
                                           01  DD 0042B           PUSHL   #1                                           ;
                                           03  DD 0042D           PUSHL   #3                                           ;
                             6B            03  FB 0042F           CALLS   #3, ANL$FORMAT_LINE                          ;
                             54            01  D0 00432           MOVL    #1, VBN                                      ; 0972
                             53            01  D0 00435           MOVL    #1, ISD                                      ; 1015
                                           5E  DD 00438  30$:     PUSHL   SP                                           ; 0979
                   0000G     CF            01  FB 0043A           CALLS   #1, ANL$GET_ISD                              ;
                             57            50  D0 0043F           MOVL    R0, STATUS                                   ;
              084D8640       8F            57  D1 00442           CMPL    STATUS, #139298368                           ; 0984
                             25            13 00449               BEQL    33$                                          ;
                                           54  D6 0044B           INCL    VBN                                          ; 0986
                             04            57  E8 0044D           BLBS    STATUS, 31$                                  ; 0987
                                           57  DD 00450           PUSHL   STATUS                                       ; 0988
                                           19  11 00452           BRB     32$                                          ;
                             52            6E  D0 00454  31$:     MOVL    HP, SP                                       ; 0991
             50              6E            52  C3 00457           SUBL3   SP, HP, R0                                   ; 0997
                             50      0200  C0  9E 0045B           MOVAB   512(R0), R0                                  ;
      50     62              10            00  ED 00460           CMPZV   #0, #16, (SP), R0                            ;
                                           0B  1B 00465           BLEQU   34$                                          ;
                             00000000G     8F  DD 00467           PUSHL   #ANLOBJ$_EXEHDRISDLONG                       ; 0998
                             6A            01  FB 0046D  32$:     CALLS   #1, ANL$FORMAT_ERROR                         ;
                                           59  11 00470  33$:     BRB     40$                                          ; 0997
                                           0C  BB 00472  34$:     PUSHR   #^M<R2,R3>                                   ; 1004
                   0000V     CF            02  FB 00474           CALLS   #2, ANL$IMAGE_ISD                            ;
                             01            53  D1 00479           CMPL    ISD, #1                                      ; 1009
                                           0B  12 0047C           BNEQ    35$                                          ;
```

```
     50      04   A2           15              00  EF 0047E        EXTZV   #0, #21, 4(SP), R0                     ; 1010
             04   BC           50              09  78 00484        ASHL    #9, R0, @IMAGE_BASE                    ;
                                               56  D5 00489 35$:   TSTL    FIXUP_ADDRESS                          ; 1015
                                               2E  13 0048B        BEQL    38$                                    ;
     50      04   A2           17              00  EF 0048D        EXTZV   #0, #23, 4(SP), R0                     ; 1016
                  50           50              09  78 00493        ASHL    #9, R0, R0                             ;
                               50              56  D1 00497        CMPL    FIXUP_ADDRESS, R0                      ;
                                               1F  12 0049A        BNEQ    38$                                    ;
                                         02    A2  B5 0049C        TSTW    2(SP)                                  ; 1017
                                               05  13 0049F        BEQL    36$                                    ;
                                         0C    A2  D5 004A1        TSTL    12(SP)                                 ;
                                               0B  12 004A4        BNEQ    37$                                    ;
                                  00000000G    8F  DD 004A6 36$:   PUSHL   #ANLOBJ$_EXEBADFIXUPISD                ; 1018
                               6A              01  FB 004AC        CALLS   #1, ANL$FORMAT_ERROR                   ;
                                               0A  11 004AF        BRB     38$                                    ;
                        08     BC        02    A2  3C 004B1 37$:   MOVZWL  2(SP), @FIXUP_SIZE                     ; 1020
                        0C     BC        0C    A2  D0 004B6        MOVL    12(SP), @FIXUP_VBN                     ; 1021
                               08              6B  E9 004BB 38$:   BLBC    ANL$GB_INTERACTIVE, 39$                ; 1026
                     0000G     CF              00  FB 004BE        CALLS   #0, ANL$INTERACT                       ; 1027
                               09              50  E9 004C3        BLBC    R0, 41$                                ;
                                               53  D6 004C6 39$:   INCL    ISD                                    ; 0973
                                             FF6D  31 004C8        BRW     30$                                    ;
                               50              01  D0 004CB 40$:   MOVL    #1, R0                                 ; 1032
                                                   04 004CE        RET                                            ;
                                               50  D4 004CF 41$:   CLRL    R0                                     ; 1034
                                                   04 004D1        RET                                            ;

; Routine Size:  1234 bytes,    Routine Base:  $CODE$ + 0000
```

```
1 %sbttl 'ANL$IMAGE_ISD - Analyze ISD Structure'
1 !++
1 ! Functional Description:
1 !       This routine is responsible for formatting and analyzing an
1 !       Image Section Descriptor.
1 !
1 ! Formal Parameters:
1 !       the_isd         Address of the ISD.
1 !       isd_number      The sequence number of this ISD.
1 !
1 ! Implicit Inputs:
1 !       global data
1 !
1 ! Implicit Outputs:
1 !       global data
1 !
1 ! Returned Value:
1 !       none
1 !
1 ! Side Effects:
1 !
1 !--
1
1
2 global routine anl$image_isd(the_isd,isd_number): novalue = begin
2
2 bind
2       sp = the_isd: ref block[,byte];
2
2 own
2       space_names: vector[4,long] initial(
2                               uplit byte (%ascic 'P0'),
2                               uplit byte (%ascic 'P1'),
2                               uplit byte (%ascic 'S0'),
2                               uplit byte (%ascic 'S1???')),
2
2       isd_flags_def: vector[20,long] initial(
2                               18,
2                               uplit byte(%ascic 'ISD$V_GBL'),
2                               uplit byte(%ascic 'ISD$V_CRF'),
2                               uplit byte(%ascic 'ISD$V_DZRO'),
2                               uplit byte(%ascic 'ISD$V_WRT'),
2                               0,0,0,
2                               uplit byte(%ascic 'ISD$V_LASTCLU'),
2                               uplit byte(%ascic 'ISD$V_COPYALWAY'),
2                               uplit byte(%ascic 'ISD$V_BASED'),
2                               uplit byte(%ascic 'ISD$V_FIXUPVEC'),
2                               0,0,0,0,0,0,
2                               uplit byte(%ascic 'ISD$V_VECTOR'),
2                               uplit byte(%ascic 'ISD$V_PROTECT')),
2
2       isd_types: vector[5,long] initial(
2                               uplit byte (%ascic 'NORMAL'),
2                               uplit byte (%ascic 'SHRFXD'),
2                               uplit byte (%ascic 'PRVFXD'),
2                               uplit byte (%ascic 'SHRPIC'),
2                               uplit byte (%ascic 'PRVPIC'));
```

```
2
2 local
2         blk_ptr: ref block[, byte],
2         status;
2
2 literal
2         section_suffix_size = 4,
2         long_c  = 4;
2
2 macro
2         long_u = 0, 0, 32, 0 %;
2
2 ! It is assumed that the ISD fits in the header block.  We can freely
2 ! reference the fields.
2
2 ! Begin with a heading line for this ISD.
2
2 anl$report_line(-1);
2 anl$format_line(3,2,anlobj$_exehdrisdnum,.isd_number,.sp[isd$w_size]);
2
2 ! Analyze the page count.
2
2 anl$format_line(0,3,anlobj$_exehdrisdcount,.sp[isd$w_pagcnt]);
2
2 ! Analyze the base virtual page number and space bits.
2
2 anl$format_line(0,3,anlobj$_exehdrisdbase,.sp[isd$v_vpg]^9,.space_names[.sp[4,21,2,0]]);
2 if .sp[isd$v_p1] and .sp[isd$v_system] then
2         anl$format_error(anlobj$_exebadisds1);
2
2 ! Analyze the page fault cluster size.
2
2 if .sp[isd$b_pfc] eqlu 0 then
2         anl$format_line(0,3,anlobj$_exehdrisdpfcdef)
2 else
2         anl$format_line(0,3,anlobj$_exehdrisdpfcsiz,.sp[isd$b_pfc]);
2
2 ! Analyze the ISD flags, ignoring the match control bits.
2
2 anl$format_flags(3,anlobj$_exehdrisdflags,.sp[isd$l_flags] and %x'00ffff8f',isd_flags_def);
2 anl$check_flags(.sp[isd$l_flags] and %x'00ffff8f',isd_flags_def);
2
2 ! Analyze the ISD type code.
2
2 selectoneu .sp[isd$b_type] of set
2 [0 to 4]:                anl$format_line(0,3,anlobj$_exehdrisdtype,.isd_types[.sp[isd$b_type]]);
2
2 [isd$k_usrstack]:        anl$format_line(0,3,anlobj$_exehdrisdtype,uplit byte (%ascic 'USRSTACK'));
2
2 [otherwise]:             anl$format_error(anlobj$_exebadisdtype,.sp[isd$b_type]);
2 tes;
2
2 ! If this is a demand-zero section, we are done.
2
3 if .sp[isd$v_dzro] then (
4         if .sp[isd$w_size] gtru (
4                 if .sp[isd$v_gbl] then isd$c_maxlenglbl
4                 else isd$c_lendzro)
3         then
3                 anl$format_error(anlobj$_exeisdlendzro);
3         return;
2 );
2
2 ! Analyze the base VBN.
2
2 anl$format_line(0,3,anlobj$_exehdrisdvbn,.sp[isd$l_vbn]);
2
2 ! Before we leave, let's see if this ISD points to an indirect message
2 ! file.  If so, print out this filename.  To check this, the vector and
2 ! protect flags must be set, and the page count is 1.  If the page count
2 ! is greater than 1, this ISD is probably a "direct" message section in
2 ! which the messages in text have spanned more than one block, so don't
2 ! bother continuing, we only want indirect.  Then reading the VBN which
2 ! this ISD points to, the type field will tell if it's a privileged sharable
2 ! image or a user written system service, or a message section.  Only if it
2 ! is an indirect message section, is any further information given.
2
3 if .sp[isd$v_vector] and .sp[isd$v_protect] and (.sp[isd$w_pagcnt] eqlu 1)
2 then
3     begin
3     status = anl$get_image_block( .sp[isd$l_vbn], blk_ptr );
3     if not .status
3     then
3         return (.status);
3     if .blk_ptr[plv$l_type ] eqlu plv$c_typ_msg
3     then
4         begin
4         blk_ptr = .blk_ptr + $byteoffset(plv$l_usrundwn);
4         while .blk_ptr[long_u] nequ 0 do
5             begin
5             bind msc_ptr = .blk_ptr + .blk_ptr[long_u] : block[,byte];
5             if .msc_ptr[ msc$b_type ] eqlu msc$c_ind
5             then
5                 anl$format_line(0,3,anlobj$_indmsgsec,msc_ptr[msc$b_indnamlen]);
5             blk_ptr = .blk_ptr + long_c;        ! Add the size of a longword
4             end;
3         end;
2     end;
2
2 ! If this isn't a global section, we're done.
2
3 if not .sp[isd$v_gbl] then (
3         if .sp[isd$w_size] gtru isd$c_lenpriv then
3                 anl$format_error(anlobj$_exeisdlenpriv);
3         return;
2 );
2
2 ! Analyze the global section identification.
2
2 anl$format_line(0,3,anlobj$_exehdrgblident,.sp[isd$l_ident]);
2
2 ! Analyze the match control.
2
2 selectoneu .sp[isd$v_matchctl] of set
```

```
                                                          J 2
EXESTUFF        EXESTUFF - Analyze Various Parts of an Image    15-Sep-1984 23:49:08    VAX-11 Bliss-32 V4.0-742            Page  27
V04-001         ANL$IMAGE_ISD - Analyze ISD Structure           14-Sep-1984 11:52:45    [ANALYZ.SRC]EXESTUFF.B32;2            (9)

;  694          1206  2 [isd$k_matall,
;  695          1207  2  isd$k_matequ,
;  696          1208  2  isd$k_matleq,
;  697          1209  2  isd$k_matnev]: anl$format_line(0,3,anlobj$_exehdrmatch,.match_control[.sp[isd$v_matchctl]]);
;  698          1210  2
;  699          1211  2 [otherwise]:     anl$format_error(anlobj$_exebadmatch,.sp[isd$v_matchctl]);
;  700          1212  2 tes;
;  701          1213  2
;  702          1214  2 ! Analyze the global section name.
;  703          1215  2
;  704          1216  2 anl$format_line(0,3,anlobj$_exehdrisdgblnam,sp[isd$t_gblnam]);
;  705          1217  3 begin
;  706          1218  3 local
;  707          1219  3         name_dsc: descriptor;
;  708          1220  3
;  709          1221  3 build_descriptor(name_dsc,.sp[20,0,8,0],sp[21,0,8,0]);
;  710          1222  3 anl$check_symbol(name_dsc, shl$c_maxnamlng+section_suffix_size);
;  711          1223  2 end;
;  712          1224  2
;  713          1225  2 ! We are done.
;  714          1226  2
;  715          1227  2 if .sp[isd$w_size] gtru isd$c_lenglbl then
;  716          1228  2         anl$format_error(anlobj$_exeisdlengbl);
;  717          1229  2
;  718          1230  2 return;
;  719          1231  2
;  720          1232  1 end;



                                                                                                         .PSECT  $PLIT$,NOWRT,NOEXE,2

                                                                        30    50    02    00094 P.AAM:   .ASCII  <2>\P0\                              ;
                                                                        31    50    02    00097 P.AAN:   .ASCII  <2>\P1\                              ;
                                                                        30    53    02    0009A P.AAO:   .ASCII  <2>\S0\                              ;
                                                      3F    3F    3F    31    53    05    0009D P.AAP:   .ASCII  <5>\S1???\                           ;
                              4C    42    47    5F    56    24    44    53    49    09    000A3 P.AAQ:   .ASCII  <9>\ISD$V_GBL\                       ;
                              46    52    43    5F    56    24    44    53    49    09    000AD P.AAR:   .ASCII  <9>\ISD$V_CRF\                       ;
                        4F    52    5A    44    5F    56    24    44    53    49    0A    000B7 P.AAS:   .ASCII  <10>\ISD$V_DZRO\                     ;
                              54    52    57    5F    56    24    44    53    49    09    000C2 P.AAT:   .ASCII  <9>\ISD$V_WRT\                       ;
      55    4C    43    54    53    41    4C    5F    56    24    44    53    49    0D    000CC P.AAU:   .ASCII  <13>\ISD$V_LASTCLU\                  ;
41    57    4C    41    59    50    4F    43    5F    56    24    44    53    49    0F    000DA P.AAV:   .ASCII  <15>\ISD$V_COPYALWAY\                ;
                                                                                    59    000E9                                                     ;
                  44    45    53    41    42    5F    56    24    44    53    49    0B    000EA P.AAW:   .ASCII  <11>\ISD$V_BASED\                    ;
43    45    56    50    55    58    49    46    5F    56    24    44    53    49    0E    000F6 P.AAX:   .ASCII  <14>\ISD$V_FIXUPVEC\                 ;
            52    4F    54    43    45    56    5F    56    24    44    53    49    0C    00105 P.AAY:   .ASCII  <12>\ISD$V_VECTOR\                   ;
      54    43    45    54    4F    52    50    5F    56    24    44    53    49    0D    00112 P.AAZ:   .ASCII  <13>\ISD$V_PROTECT\                  ;
                                                4C    41    4D    52    4F    4E    06    00120 P.ABA:   .ASCII  <6>\NORMAL\                          ;
                                                44    58    46    52    48    53    06    00127 P.ABB:   .ASCII  <6>\SHRFXD\                          ;
                                                44    58    46    56    52    50    06    0012E P.ABC:   .ASCII  <6>\PRVFXD\                          ;
                                                43    49    50    52    48    53    06    00135 P.ABD:   .ASCII  <6>\SHRPIC\                          ;
                                                43    49    50    56    52    50    06    0013C P.ABE:   .ASCII  <6>\PRVPIC\                          ;
                                    4B    43    41    54    53    52    53    55    08    00143 P.ABF:   .ASCII  <8>\USRSTACK\                        ;

                                                                                                         .PSECT  $OWN$,NOEXE,2

                                                                                          0003E          .BLKB   2
```

```
                    00000000' 00000000' 00000000' 00000000' 00040 SPACE_NAMES:
                                                                          .ADDRESS P.AAM, P.AAN, P.AAO, P.AAP                  ;
                                                      00000012  00050 ISD_FLAGS_DEF:
                                                                          .LONG   18                                           ;
                    00000000' 00000000' 00000000' 00000000' 00054         .ADDRESS P.AAQ, P.AAR, P.AAS, P.AAT                  ;
                              00000000  00000000  00000000  00064         .LONG   0, 0, 0                                      ;
                    00000000' 00000000' 00000000' 00000000' 00070         .ADDRESS P.AAU, P.AAV, P.AAW, P.AAX                  ;
00000000  00000000  00000000  00000000  00000000  00000000  00080         .LONG   0, 0, 0, 0, 0, 0                             ;
                                        00000000' 00000000' 00098         .ADDRESS P.AAY, P.AAZ                                ;
          00000000' 00000000' 00000000' 00000000' 00000000' 000A0 ISD_TYPES:
                                                                          .ADDRESS P.ABA, P.ABB, P.ABC, P.ABD, P.ABE           ;



                                                                          .PSECT  $CODE$,NOWRT,2

                                                   00FC 00000             .ENTRY  ANL$IMAGE_ISD, Save R2,R3,R4,R5,R6,R7        ; 1059
                               57       0000G  CF    9E 00002             MOVAB   ANL$FORMAT_ERROR, R7                         ;
                               56       0000'  CF    9E 00007             MOVAB   ISD_FLAGS_DEF, R6                            ;
                               55       0000G  CF    9E 0000C             MOVAB   ANL$FORMAT_LINE, R5                          ;
                               5E              0C    C2 00011             SUBL2   #12, SP                                      ;
                               7E              01    CE 00014             MNEGL   #1, -(SP)                                    ; 1109
                      0000G    CF              01    FB 00017             CALLS   #1, ANL$REPORT_LINE                          ;
                               52         04   AC    D0 0001C             MOVL    SP, R2                                       ; 1110
                               7E              62    3C 00020             MOVZWL  (R2), -(SP)                                  ;
                                          08   AC    DD 00023             PUSHL   ISD_NUMBER                                   ;
                                   00000000G   8F    DD 00026             PUSHL   #ANLOBJ$_EXEHDRISDNUM                        ;
                                               02    DD 0002C             PUSHL   #2                                           ;
                                               03    DD 0002E             PUSHL   #3                                           ;
                               65              05    FB 00030             CALLS   #5, ANL$FORMAT_LINE                          ;
                               7E         02   A2    3C 00033             MOVZWL  2(R2), -(SP)                                 ; 1114
                                   00000000G   8F    DD 00037             PUSHL   #ANLOBJ$_EXEHDRISDCOUNT                      ;
                                               03    DD 0003D             PUSHL   #3                                           ;
                                               7E    D4 0003F             CLRL    -(SP)                                        ;
                               65              04    FB 00041             CALLS   #4, ANL$FORMAT_LINE                          ;
          50        06   A2    02              05    EF 00044             EXTZV   #5, #2, 6(R2), R0                            ; 1118
                                       F0 A640       DD 0004A             PUSHL   SPACE_NAMES[R0]                              ;
          50        04   A2    17              00    EF 0004E             EXTZV   #0, #23, 4(R2), R0                           ;
                         7E    50              09    78 00054             ASHL    #9, R0, -(SP)                                ;
                                   00000000G   8F    DD 00058             PUSHL   #ANLOBJ$_EXEHDRISDBASE                       ;
                                               03    DD 0005E             PUSHL   #3                                           ;
                                               7E    D4 00060             CLRL    -(SP)                                        ;
                               65              05    FB 00062             CALLS   #5, ANL$FORMAT_LINE                          ;
                         0E        06   A2     05    E1 00065             BBC     #5, 6(R2), 1$                                ; 1119
                         09        06   A2     06    E1 0006A             BBC     #6, 6(R2), 1$                                ;
                                   00000000G   8F    DD 0006F             PUSHL   #ANLOBJ$_EXEBADISDS1                         ; 1120
                               67              01    FB 00075             CALLS   #1, ANL$FORMAT_ERROR                         ;
                                          07   A2    95 00078 1$:         TSTB    7(R2)                                        ; 1124
                                               0F    12 0007B             BNEQ    2$                                           ;
                                   00000000G   8F    DD 0007D             PUSHL   #ANLOBJ$_EXEHDRISDPFCDEF                     ; 1125
                                               03    DD 00083             PUSHL   #3                                           ;
                                               7E    D4 00085             CLRL    -(SP)                                        ;
                               65              03    FB 00087             CALLS   #3, ANL$FORMAT_LINE                          ;
                                               11    11 0008A             BRB     3$                                           ;
                               7E         07   A2    9A 0008C 2$:         MOVZBL  7(R2), -(SP)                                 ; 1127
                                   00000000G   8F    DD 00090             PUSHL   #ANLOBJ$_EXEHDRISDPFCSIZ                     ;
                                               03    DD 00096             PUSHL   #3                                           ;
```

```
                                 7E  D4 00098        CLRL    -(SP)                              ;
                   65            04  FB 0009A        CALLS   #4, ANL$FORMAT_LINE                ;
                                 56  DD 0009D 3$:    PUSHL   R6                                 ; 1131
                   54      08    A2  9E 0009F        MOVAB   8(R2), R4                          ;
          53       64 FF000070   8F  CB 000A3        BICL3   #-16777104, (R4), R3               ;
                                 53  DD 000AB        PUSHL   R3                                 ;
                      00000000G  8F  DD 000AD        PUSHL   #ANLOBJ$_EXEHDRISDFLAGS            ;
                                 03  DD 000B3        PUSHL   #3                                 ;
              0000G  CF          04  FB 000B5        CALLS   #4, ANL$FORMAT_FLAGS               ;
                           0048  8F  BB 000BA        PUSHR   #^M<R3,R6>                         ; 1132
              0000G  CF          02  FB 000BE        CALLS   #2, ANL$CHECK_FLAGS                ;
                     50    0B    A2  9A 000C3        MOVZBL  11(R2), R0                         ; 1136
                     04          50  91 000C7        CMPB    R0, #4                             ; 1137
                                 06  1A 000CA        BGTRU   4$                                 ;
                           50 A640   DD 000CC        PUSHL   ISD_TYPES[R0]                      ;
                                 0A  11 000D0        BRB     5$                                 ;
                  FD 8F          50  91 000D2 4$:    CMPB    R0, #253                           ; 1139
                                 13  12 000D6        BNEQ    6$                                 ;
                          0000'  CF  9F 000D8        PUSHAB  P.ABF                              ;
                      00000000G  8F  DD 000DC 5$:    PUSHL   #ANLOBJ$_EXEHDRISDTYPE             ;
                                 03  DD 000E2        PUSHL   #3                                 ;
                                 7E  D4 000E4        CLRL    -(SP)                              ;
                     65          04  FB 000E6        CALLS   #4, ANL$FORMAT_LINE                ;
                                 0B  11 000E9        BRB     7$                                 ;
                                 50  DD 000EB 6$:    PUSHL   R0                                 ; 1141
                      00000000G  8F  DD 000ED        PUSHL   #ANLOBJ$_EXEBADISDTYPE             ;
                     67          02  FB 000F3        CALLS   #2, ANL$FORMAT_ERROR               ;
          1B         64          02  E1 000F6 7$:    BBC     #2, (R4), 10$                      ; 1146
                     06          64  E9 000FA        BLBC    (R4), 8$                           ; 1148
                     50    40    8F  9A 000FD        MOVZBL  #64, R0                            ;
                                 03  11 00101        BRB     9$                                 ;
                     50          0C  D0 00103 8$:    MOVL    #12, R0                            ;
  50      62         10          00  ED 00106 9$:    CMPZV   #0, #16, (R2), R0                  ; 1147
                                 66  1B 0010B        BLEQU   15$                                ;
                      00000000G  8F  DD 0010D        PUSHL   #ANLOBJ$_EXEISDLENDZRO             ; 1151
                                 66  11 00113        BRB     16$                                ;
                           0C    A2  DD 00115 10$:   PUSHL   12(R2)                             ; 1157
                      00000000G  8F  DD 00118        PUSHL   #ANLOBJ$_EXEHDRISDVBN              ;
                                 03  DD 0011E        PUSHL   #3                                 ;
                                 7E  D4 00120        CLRL    -(SP)                              ;
                     65          04  FB 00122        CALLS   #4, ANL$FORMAT_LINE                ;
          44         64          11  E1 00125        BBC     #17, (R4), 14$                     ; 1169
          40         64          12  E1 00129        BBC     #18, (R4), 14$                     ;
                     01    02    A2  B1 0012D        CMPW    2(R2), #1                          ;
                                 3A  12 00131        BNEQ    14$                                ;
                                 5E  DD 00133        PUSHL   SP                                 ; 1172
                           0C    A2  DD 00135        PUSHL   12(R2)                             ;
              0000G  CF          02  FB 00138        CALLS   #2, ANL$GET_IMAGE_BLOCK            ;
                     01          50  E8 0013D        BLBS    STATUS, 11$                        ; 1173
                                     04 00140        RET                                        ;
                     02    00    BE  D1 00141 11$:   CMPL    @BLK_PTR, #2                       ; 1176
                                 26  12 00145        BNEQ    14$                                ;
                     6E          10  C0 00147        ADDL2   #16, BLK_PTR                       ; 1179
                           00    BE  D5 0014A 12$:   TSTL    @BLK_PTR                           ; 1180
                                 1E  13 0014D        BEQL    14$                                ;
          50         7E          9E  C1 0014F        ADDL3   @BLK_PTR, BLK_PTR, R0              ; 1182
                     01          60  91 00153        CMPB    (R0), #1                           ; 1183
```

```
                                      10  12 00156          BNEQ    13$                                   ;
                                08    A0  9F 00158          PUSHAB  8(R0)                                 ; 1185
                         00000000G    8F  DD 0015B          PUSHL   #ANLOBJ$_INDMSGSEC                    ;
                                      03  DD 00161          PUSHL   #3                                    ;
                                      7E  D4 00163          CLRL    -(SP)                                 ;
                        65            04  FB 00165          CALLS   #4, ANL$FORMAT_LINE                   ;
                        6E            04  C0 00168 13$:     ADDL2   #4, BLK_PTR                           ; 1186
                                      DD  11 0016B          BRB     12$                                   ; 1180
                        0D            64  E8 0016D 14$:     BLBS    (R4), 17$                             ; 1193
                        10            62  B1 00170          CMPW    (R2), #16                             ; 1194
                                      72  1B 00173 15$:     BLEQU   21$                                   ;
                         00000000G    8F  DD 00175          PUSHL   #ANLOBJ$_EXEISDLENPRIV                ; 1195
                                      67  11 0017B 16$:     BRB     20$                                   ;
                                10    A2  DD 0017D 17$:     PUSHL   16(R2)                                ; 1201
                         00000000G    8F  DD 00180          PUSHL   #ANLOBJ$_EXEHDRGBLIDENT               ;
                                      03  DD 00186          PUSHL   #3                                    ;
                                      7E  D4 00188          CLRL    -(SP)                                 ;
                        65            04  FB 0018A          CALLS   #4, ANL$FORMAT_LINE                   ;
    50            64    03            04  EF 0018D          EXTZV   #4, #3, (R4), R0                      ; 1205
                        03            50  D1 00192          CMPL    R0, #3                                ; 1206
                                      13  1A 00195          BGTRU   18$                                   ;
                             80 A640  DD 00197          PUSHL   MATCH_CONTROL[R0]                     ; 1209
                         00000000G    8F  DD 0019B          PUSHL   #ANLOBJ$_EXEHDRMATCH                  ;
                                      03  DD 001A1          PUSHL   #3                                    ;
                                      7E  D4 001A3          CLRL    -(SP)                                 ;
                        65            04  FB 001A5          CALLS   #4, ANL$FORMAT_LINE                   ;
                                      0B  11 001A8          BRB     19$                                   ;
                                      50  DD 001AA 18$:     PUSHL   R0                                    ; 1211
                         00000000G    8F  DD 001AC          PUSHL   #ANLOBJ$_EXEBADMATCH                  ;
                        67            02  FB 001B2          CALLS   #2, ANL$FORMAT_ERROR                  ;
                                14    A2  9F 001B5 19$:     PUSHAB  20(R2)                                ; 1216
                         00000000G    8F  DD 001B8          PUSHL   #ANLOBJ$_EXEHDRISDGBLNAM              ;
                                      03  DD 001BE          PUSHL   #3                                    ;
                                      7E  D4 001C0          CLRL    -(SP)                                 ;
                        65            04  FB 001C2          CALLS   #4, ANL$FORMAT_LINE                   ;
                   04   AE      14    A2  9A 001C5          MOVZBL  20(R2), NAME_DSC                      ; 1221
                   08   AE      15    A2  9E 001CA          MOVAB   21(R2), NAME_DSC+4                    ;
                                      2B  DD 001CF          PUSHL   #43                                   ; 1222
                                08    AE  9F 001D1          PUSHAB  NAME_DSC                              ;
                0000G   CF            02  FB 001D4          CALLS   #2, ANL$CHECK_SYMBOL                  ;
                        24            62  B1 001D9          CMPW    (R2), #36                             ; 1227
                                      09  1B 001DC          BLEQU   21$                                   ;
                         00000000G    8F  DD 001DE          PUSHL   #ANLOBJ$_EXEISDLENGBL                 ; 1228
                        67            01  FB 001E4 20$:     CALLS   #1, ANL$FORMAT_ERROR                  ;
                                      04  001E7 21$:        RET                                           ; 1232

; Routine Size:  488 bytes,    Routine Base:  $CODE$ + 04D2
```

```
1 %sbttl 'ANL$IMAGE_PATCH_TEXT - Print Image Patch Text'
1 !++
1 ! Functional Description:
1 !       This routine is responsible for printing the patch text in the
1 !       analysis report.
1 !
1 ! Formal Parameters:
1 !       none
1 !
1 ! Implicit Inputs:
1 !       global data
1 !
1 ! Implicit Outputs:
1 !       global data
1 !
1 ! Returned Value:
1 !       If interactive session: true if we are to continue, false otherwise.
1 !
1 ! Side Effects:
1 !
1 !--
1
1
2 global routine anl$image_patch_text = begin
2
2 local
2       bp: ref block[,byte],
2       sp: ref block[,byte],
2       patch_vbn: long,
2       length: signed long,
2       take: long,
2       alias,
2       local_described_buffer(out_record_dsc,512);
2
2
2 ! The image header patch section has already been checked.  If this image
2 ! doesn't have any patches, then we can leave.
2
2 anl$get_image_header(bp,alias);
2 if .bp[ihd$w_patchoff] eqlu 0 then
2       return true;
2 sp = .bp + .bp[ihd$w_patchoff];
2 if .sp[ihp$l_patcomtxt] eqlu 0 then
2       return true;
2
2 ! We seem to have patch text.  Let's eject the page and start with a heading.
2
2 anl$report_page();
2 anl$format_line(0,0,anlobj$_exepatch);
2 anl$report_line(0);
2 anl$report_line(0);
2
2 ! We need the VBN of the patch text.  Get the first block.
2
2 patch_vbn = .sp[ihp$l_patcomtxt];
2 anl$get_image_block(.patch_vbn,bp);
2 sp = .bp;
```

```
2
2 ! OK, now we are going to loop through the patch records in the patch
2 ! text area.  We construct each record from the blocks of the image and
2 ! print them.
2
3 loop (
3
3               ! Sit in a loop and build the next patch record.  PATCH_VBN is the
3               ! block number we are at.  SP points to the beginning of the record,
3               ! which is a length.  If not positive, that's the end of the
3               ! patch text.
3
3               length = .sp[0,0,16,1];
3 exitif (.length leq 0);
3
4               if .length gtru 255 then (
4                       anl$format_error(anlobj$_exebadpatchlen,255);
4 exitloop;
3               );
3               sp = .sp + 2;
3
3               out_record_dsc[len] = 0;
4               loop (
4
4                       ! If we have run off the end of this block, let's get another.
4
5                       if .sp geqa .bp+512 then (
5                               increment (patch_vbn);
5                               anl$get_image_block(.patch_vbn, bp);
5                               sp = .bp;
4                       );
4
4                       ! If we have built the entire record, drop out.
4
4               exitif (.length eql 0);
4
4                       ! Take as many bytes as we can from this block to build
4                       ! the record.  Adjust things.
4
4                       take = minu(.length, .bp+512-.sp);
4                       ch$move(.take,.sp, .out_record_dsc[ptr]+.out_record_dsc[len]);
4                       out_record_dsc[len] = .out_record_dsc[len] + .take;
4                       sp = .sp + .take + .take mod 2;
4                       length = .length - .take;
3               );
3
3               ! Now we print the record.
3
3               anl$format_line(0,1,anlobj$_anything,out_record_dsc);
2 );
2
2 ! If this is an interactive session, let's find out if the user wants to
2 ! continue or quit.
2
2 if .anl$gb_interactive then
2               return anl$interact()
2 else
```

```
;  836          1347  2          return true;
;  837          1348  2
;  838          1349  1  end;



                                        07FC 00000          .ENTRY  ANL$IMAGE_PATCH_TEXT, Save R2,R3,R4,R5,R6,- ; 1256
                                                                    R7,R8,R9,R10                                 ;
                  5E      FDF0    CE    9E 00002          MOVAB   -528(SP), SP                                   ;
            08    AE      0200    8F    3C 00007          MOVZWL  #512, OUT_RECORD_DSC                           ; 1265
            0C    AE        10    AE    9E 0000D          MOVAB   OUT_RECORD_DSC+8, OUT_RECORD_DSC+4             ;
                                  5E    DD 00012          PUSHL   SP                                             ; 1271
                            08    AE    9F 00014          PUSHAB  BP                                             ;
         0000G    CF              02    FB 00017          CALLS   #2, ANL$GET_IMAGE_HEADER                       ;
                  50        04    AE    D0 0001C          MOVL    BP, R0                                         ; 1272
                            08    A0    B5 00020          TSTW    8(R0)                                          ;
                                  0A    13 00023          BEQL    1$                                             ;
                  57        08    A0    3C 00025          MOVZWL  8(R0), SP                                      ; 1274
                  57              50    C0 00029          ADDL2   R0, SP                                         ;
                            20    A7    D5 0002C          TSTL    32(SP)                                         ; 1275
                                  03    12 0002F  1$:     BNEQ    2$                                             ;
                                00DB    31 00031          BRW     11$                                            ;
         0000G    CF              00    FB 00034  2$:     CALLS   #0, ANL$REPORT_PAGE                            ; 1280
                         00000000G  8F    DD 00039          PUSHL   #ANLOBJ$_EXEPATCH                              ; 1281
                                  7E    7C 0003F          CLRQ    -(SP)                                          ;
         0000G    CF              03    FB 00041          CALLS   #3, ANL$FORMAT_LINE                            ;
                                  7E    D4 00046          CLRL    -(SP)                                          ; 1282
         0000G    CF              01    FB 00048          CALLS   #1, ANL$REPORT_LINE                            ;
                                  7E    D4 0004D          CLRL    -(SP)                                          ; 1283
         0000G    CF              01    FB 0004F          CALLS   #1, ANL$REPORT_LINE                            ;
                  5A        20    A7    D0 00054          MOVL    32(SP), PATCH_VBN                              ; 1287
                            04    AE    9F 00058          PUSHAB  BP                                             ; 1288
                                  5A    DD 0005B          PUSHL   PATCH_VBN                                      ;
         0000G    CF              02    FB 0005D          CALLS   #2, ANL$GET_IMAGE_BLOCK                        ;
                  57        04    AE    D0 00062          MOVL    BP, SP                                         ; 1289
                  56              67    32 00066  3$:     CVTWL   (SP), LENGTH                                   ; 1302
                                  18    15 00069          BLEQ    4$                                             ; 1303
      000000FF    8F              56    D1 0006B          CMPL    LENGTH, #255                                   ; 1305
                                  11    1B 00072          BLEQU   5$                                             ;
                  7E        FF    8F    9A 00074          MOVZBL  #255, -(SP)                                    ; 1306
                         00000000G  8F    DD 00078          PUSHL   #ANLOBJ$_EXEBADPATCHLEN                        ;
         0000G    CF              02    FB 0007E          CALLS   #2, ANL$FORMAT_ERROR                           ;
                                  7F    11 00083  4$:     BRB     10$                                            ; 1305
                  57              02    C0 00085  5$:     ADDL2   #2, SP                                         ; 1309
                            08    AE    B4 00088          CLRW    OUT_RECORD_DSC                                 ; 1311
  58        04    AE  00000200    8F    C1 0008B          ADDL3   #512, BP, R8                                   ; 1316
                  58              57    D1 00094  6$:     CMPL    SP, R8                                         ;
                                  10    1F 00097          BLSSU   7$                                             ;
                                  5A    D6 00099          INCL    PATCH_VBN                                      ; 1317
                            04    AE    9F 0009B          PUSHAB  BP                                             ; 1318
                                  5A    DD 0009E          PUSHL   PATCH_VBN                                      ;
         0000G    CF              02    FB 000A0          CALLS   #2, ANL$GET_IMAGE_BLOCK                        ;
                  57        04    AE    D0 000A5          MOVL    BP, SP                                         ; 1319
                                  56    D5 000A9  7$:     TSTL    LENGTH                                         ; 1324
                                  42    13 000AB          BEQL    9$                                             ;
                         58        04    AE 00000200    8F   C1 000AD          ADDL3   #512, BP, R8                              : 1329
                         51              58             57   C3 000B6          SUBL3   SP, R8, R1                                :
                                         50             56   D0 000BA          MOVL    LENGTH, R0                                :
                                         51             50   D1 000BD          CMPL    R0, R1                                    :
                                                        03   1B 000C0          BLEQU   8$                                        :
                                         50             51   D0 000C2          MOVL    R1, R0                                    :
                                         59             50   D0 000C5  8$:     MOVL    R0, TAKE                                  :
                                         50        08   AE   3C 000C8          MOVZWL  OUT_RECORD_DSC, R0                        : 1330
                                         50        0C   AE   C0 000CC          ADDL2   OUT_RECORD_DSC+4, R0                      :
                         60              67             59   28 000D0          MOVC3   TAKE, (SP), (R0)                          :
                                   08    AE             59   A0 000D4          ADDW2   TAKE, OUT_RECORD_DSC                      : 1331
                         51              57             59   C1 000D8          ADDL3   TAKE, SP, R1                              : 1332
               7E        00              59             01   7A 000DC          EMUL    #1, TAKE, #0, -(SP)                       :
               50        50              8E             02   7B 000E1          EDIV    #2, (SP)+, R0, R0                         :
                         57              51             50   C1 000E6          ADDL3   R0, R1, SP                                :
                                         56             59   C2 000EA          SUBL2   TAKE, LENGTH                              : 1333
                                                        A5   11 000ED          BRB     6$                                        : 1311
                                                   08   AE   9F 000EF  9$:     PUSHAB  OUT_RECORD_DSC                            : 1338
                                              00000000G 8F   DD 000F2          PUSHL   #ANL$OBJ$_ANYTHING                        :
                                                        01   DD 000F8          PUSHL   #1                                        :
                                                        7E   D4 000FA          CLRL    -(SP)                                     :
                                 0000G   CF             04   FB 000FC          CALLS   #4, ANL$FORMAT_LINE                       :
                                                      FF62   31 00101          BRW     3$                                        : 1289
                                         06       0000G CF   E9 00104  10$:    BLBC    ANL$GB_INTERACTIVE, 11$                   : 1344
                                 0000G   CF             00   FB 00109          CALLS   #0, ANL$INTERACT                          : 1345
                                                             04 0010E          RET                                               : 1347
                                         50             01   D0 0010F  11$:    MOVL    #1, R0                                    :
                                                             04 00112          RET                                               : 1349

; Routine Size:  275 bytes,    Routine Base:  $CODE$ + 06BA
```

```
  %sbttl 'ANL$IMAGE_GST - Analyze Global Symbol Table'
1 !++
1 ! Functional Description:
1 !       This routine is responsible for analyzing the global symbol table
1 !       of a shareable image.  We format the information in the report and
1 !       check its validity.
1 !
1 ! Formal Parameters:
1 !       none
1 !
1 ! Implicit Inputs:
1 !       global data
1 !
1 ! Implicit Outputs:
1 !       global data
1 !
1 ! Returned Value:
1 !       If interactive session:  true if we are to continue, false if not.
1 !
1 ! Side Effects:
1 !
1 !--
1
1
2 global routine anl$image_gst = begin
2
2 local
2       bp: ref block[,byte],
2       sp: ref block[,byte],
2       gst_vbn: long,
2       gst_record_count: long,
2       length: long,
2       take: long,
2       alias,
2       local_described_buffer(record_dsc,512);
2
2
2 ! The global symbol table origin information has already been checked.
2 ! If this isn't a shareable image or the information is missing, forget it.
2
2 anl$get_image_header(bp,alias);
2 if .bp[ihd$b_imgtype] nequ ihd$k_lim or .bp[ihd$w_symdbgoff] eqlu 0 then
2       return true;
2 sp = .bp + .bp[ihd$w_symdbgoff];
2 if .sp[ihs$l_gstvbn] eqlu 0 then
2       return true;
2
2 ! We seem to have a GST.  Let's eject the page and start with a heading.
2
2 anl$report_page();
2 anl$format_line(0,0,anlobj$_exegst);
2 anl$report_line(0);
2 anl$report_line(0);
2
2 ! We need the VBN of the global symbol table and its record count.  Get
2 ! the first block of the table.
2
```

```
2 gst_vbn = .sp[ihs$l_gstvbn];
2 gst_record_count = .sp[ihs$w_gstrecs];
2 anl$get_image_block(.gst_vbn,bp);
2 sp = .bp;
2
2 ! OK, now we are going to loop through the object records in the global
2 ! symbol table.  We construct each record from the blocks of the image and
2 ! analyze them using the object file analysis routines.
2
3 incru record_number from 1 to .gst_record_count do (
3
3         ! Sit in a loop and build the next object record.  GST_VBN is the
3         ! block number we are at.  SP points to the beginning of the record,
3         ! which is a length.
3
3         length = .sp[0,0,16,0];
3         sp = .sp + 2;
3         record_dsc[len] = 0;
3
4         loop (
4
4                 ! If we have run off the end of this block, let's get another.
4
5                 if .sp geqa .bp+512 then (
5                         increment (gst_vbn);
5                         anl$get_image_block(.gst_vbn, bp);
5                         sp = .bp;
4                 );
4
4                 ! If we have built the entire record, drop out.
4
4         exitif (.length eqlu 0);
4
4                 ! Take as many bytes as we can from this block to build
4                 ! the record.  Adjust things.
4
4                 take = minu(.length, .bp+512-.sp);
4                 ch$move(.take,.sp, .record_dsc[ptr]+.record_dsc[len]);
4                 record_dsc[len] = .record_dsc[len] + .take;
4                 sp = .sp + .take + .take mod 2;
4                 length = .length - .take;
3         );
3
3         ! Now we can analyze the record, assuming it is a least one byte
3         ! in length.  Select on its type.
3
4         if .record_dsc[len] gequ 1 then (
4
4                 selectoneu ch$rchar(.record_dsc[ptr]) of set
4                 [obj$c_hdr]:    anl$object_hdr(.record_number,record_dsc);
4
4                 [obj$c_gsd]:    anl$object_gsd(.record_number,record_dsc);
4
4                 [obj$c_eom]:    anl$object_eom(.record_number,record_dsc);
4
5                 [otherwise]:    (anl$format_error(anlobj$_exebadobj,.record_number,ch$rchar(.record_dsc[ptr]
4                                 anl$format_hex(1,record_dsc););
;  954        1464  4                      tes;
;  955        1465  4
;  956        1466  4                      ! Make sure that this record isn't longer than the maximum size
;  957        1467  4                      ! specified in the module header.
;  958        1468  4
;  959        1469  4                      anl$object_record_size(.record_dsc[len]);
;  960        1470  4
;  961        1471  4                      ! Skip a couple of lines to make it look nice.
;  962        1472  4
;  963        1473  4                      anl$report_line(-1);
;  964        1474  4                      anl$report_line(-1);
;  965        1475  4
;  966        1476  4                      ! If this is an interactive session, let's find out if the
;  967        1477  4                      ! user wants to continue or quit.
;  968        1478  4
;  969        1479  4                      if .anl$gb_interactive then
;  970        1480  4                              if not anl$interact() then
;  971        1481  4                                      return false;
;  972        1482  4
;  973        14[illegible]  4              ) else (
;  974        1484  4
;  975        1485  4                      ! There was no record type.  Tell the user.
;  976        1486  4
;  977        1487  4                      anl$format_error(anlobj$_objnullrec,.record_number);
;  978        1488  4                      anl$report_line(-1);
;  979        1489  4                      anl$report_line(-1);
;  980        1490  3              );
;  981        1491  2 );
;  982        1492  2
;  983        1493  2 return true;
;  984        1494  2
;  985        1495  1 end;



                                  OFFC 00000          .ENTRY   ANL$IMAGE_GST, Save R2,R3,R4,R5,R6,R7,R8,-    ; 1374
                                                               R9,R10,R11                                    ;
          5E        FDEC    CE    9E 00002           MOVAB    -532(SP), SP                                  ;
     0C   AE        0200    8F    3C 00007           MOVZWL   #512, RECORD_DSC                              ; 1384
     10   AE          14    AE    9E 0000D           MOVAB    RECORD_DSC+8, RECORD_DSC+4                    ;
                      04    AE    9F 00012           PUSHAB   ALIAS                                         ; 1390
                      0C    AE    9F 00015           PUSHAB   BP                                            ;
  0000G   CF                02    FB 00018           CALLS    #2, ANL$GET_IMAGE_HEADER                      ;
          50          08    AE    D0 0001D           MOVL     BP, R0                                        ; 1391
          02          11    A0    91 00021           CMPB     17(R0), #2                                    ;
                            03    13 00025           BEQL     2$                                            ;
                    0158    31    00027  1$:         BRW      15$                                           ;
                      04    A0    B5 0002A  2$:      TSTW     4(R0)                                         ;
                            F8    13 0002D           BEQL     1$                                            ;
          57          04    A0    3C 0002F           MOVZWL   4(R0), SP                                     ; 1393
          57                50    C0 00033           ADDL2    R0, SP                                        ;
                      04    A7    D5 00036           TSTL     4(SP)                                         ; 1394
                            EC    13 00039           BEQL     1$                                            ;
  0000G   CF                00    FB 0003B           CALLS    #0, ANL$REPORT_PAGE                           ; 1399
              00000000G     8F    DD 00040           PUSHL    #ANLOBJ$_EXEGST                               ; 1400
```

```
                                      7E  7C 00046         CLRQ    -(SP)                                  :
                 0000G  CF            03  FB 00048         CALLS   #3, ANL$FORMAT_LINE                    :
                                      7E  D4 0004D         CLRL    -(SP)                                  : 1401
                 0000G  CF            01  FB 0004F         CALLS   #1, ANL$REPORT_LINE                    :
                                      7E  D4 00054         CLRL    -(SP)                                  : 1402
                 0000G  CF            01  FB 00056         CALLS   #1, ANL$REPORT_LINE                    :
                        5B        04  A7  D0 0005B         MOVL    4(SP), GST_VBN                         : 1407
                        6E        0A  A7  3C 0005F         MOVZWL  10(SP), GST_RECORD_COUNT               : 1408
                                  08  AE  9F 00063         PUSHAB  BP                                     : 1409
                                      5B  DD 00066         PUSHL   GST_VBN                                :
                 0000G  CF            02  FB 00068         CALLS   #2, ANL$GET_IMAGE_BLOCK                :
                        57        08  AE  D0 0006D         MOVL    BP, SP                                 : 1410
                        58            01  D0 00071         MOVL    #1, RECORD_NUMBER                      : 1416
                                    0103  31 00074         BRW     14$                                    :
                        56            87  3C 00077 3$:     MOVZWL  (SP)+, LENGTH                          : 1422
                                  0C  AE  B4 0007A         CLRW    RECORD_DSC                             : 1424
         59        08   AE 00000200   8F  C1 0007D         ADDL3   #512, BP, R9                           : 1430
                        59            57  D1 00086 4$:     CMPL    SP, R9                                 :
                                      10  1F 00089         BLSSU   5$                                     :
                                      5B  D6 0008B         INCL    GST_VBN                                : 1431
                                  08  AE  9F 0008D         PUSHAB  BP                                     : 1432
                                      5B  DD 00090         PUSHL   GST_VBN                                :
                 0000G  CF            02  FB 00092         CALLS   #2, ANL$GET_IMAGE_BLOCK                :
                        57        08  AE  D0 00097         MOVL    BP, SP                                 : 1433
                                      56  D5 0009B 5$:     TSTL    LENGTH                                 : 1438
                                      42  13 0009D         BEQL    7$                                     :
         59        08   AE 00000200   8F  C1 0009F         ADDL3   #512, BP, R9                           : 1443
         51             59            57  C3 000A8         SUBL3   SP, R9, R1                             :
                        50            56  D0 000AC         MOVL    LENGTH, R0                             :
                        51            50  D1 000AF         CMPL    R0, R1                                 :
                                      03  1B 000B2         BLEQU   6$                                     :
                        50            51  D0 000B4         MOVL    R1, R0                                 :
                        5A            50  D0 000B7 6$:     MOVL    R0, TAKE                               :
                        50        0C  AE  3C 000BA         MOVZWL  RECORD_DSC, R0                         : 1444
                        50        10  AE  C0 000BE         ADDL2   RECORD_DSC+4, R0                       :
         60             67            5A  28 000C2         MOVC3   TAKE, (SP), (R0)                       :
                   0C   AE            5A  A0 000C6         ADDW2   TAKE, RECORD_DSC                       : 1445
         51             57            5A  C1 000CA         ADDL3   TAKE, SP, R1                           : 1446
 7E      00             5A            01  7A 000CE         EMUL    #1, TAKE, #0, -(SP)                    :
 50      50             8E            02  7B 000D3         EDIV    #2, (SP)+, R0, R0                      :
         57             51            50  C1 000D8         ADDL3   R0, R1, SP                             :
                        56            5A  C2 000DC         SUBL2   TAKE, LENGTH                           : 1447
                                      A5  11 000DF         BRB     4$                                     : 1424
                                  0C  AE  B5 000E1 7$:     TSTW    RECORD_DSC                             : 1453
                                      75  13 000E4         BEQL    12$                                    :
                        52        10  BE  9A 000E6         MOVZBL  @RECORD_DSC+4, R2                      : 1455
                                      0C  12 000EA         BNEQ    8$                                     : 1456
                                  0C  AE  9F 000EC         PUSHAB  RECORD_DSC                             :
                                      58  DD 000EF         PUSHL   RECORD_NUMBER                          :
                 0000G  CF            02  FB 000F1         CALLS   #2, ANL$OBJECT_HDR                     :
                                      3B  11 000F6         BRB     11$                                    :
                        01            52  91 000F8 8$:     CMPB    R2, #1                                 : 1458
                                      0C  12 000FB         BNEQ    9$                                     :
                                  0C  AE  9F 000FD         PUSHAB  RECORD_DSC                             :
                                      58  DD 00100         PUSHL   RECORD_NUMBER                          :
                 0000G  CF            02  FB 00102         CALLS   #2, ANL$OBJECT_GSD                     :
                                      2A  11 00107         BRB     11$                                    :
```

```
                 03             52  91 00109 9$:       CMPB     R2, #3                                          ; 1460
                                0C  12 0010C           BNEQ     10$                                             ;
                        0C      AE  9F 0010E           PUSHAB   RECORD_DSC                                      ;
                                58  DD 00111           PUSHL    RECORD_NUMBER                                   ;
          0000G  CF             02  FB 00113           CALLS    #2, ANL$OBJECT_EOM                              ;
                                19  11 00118           BRB      11$                                             ;
                                52  DD 0011A 10$:      PUSHL    R2                                              ; 1462
                                58  DD 0011C           PUSHL    RECORD_NUMBER                                   ;
                   00000000G    8F  DD 0011E           PUSHL    #ANLOBJ$_EXEBADOBJ                              ;
          0000G  CF             03  FB 00124           CALLS    #3, ANL$FORMAT_ERROR                            ;
                        0C      AE  9F 00129           PUSHAB   RECORD_DSC                                      ; 1463
                                01  DD 0012C           PUSHL    #1                                              ;
          0000G  CF             02  FB 0012E           CALLS    #2, ANL$FORMAT_HEX                              ;
                 7E     0C      AE  3C 00133 11$:      MOVZWL   RECORD_DSC, -(SP)                               ; 1469
          0000G  CF             01  FB 00137           CALLS    #1, ANL$OBJECT_RECORD_SIZE                      ;
                 7E             01  CE 0013C           MNEGL    #1, -(SP)                                       ; 1473
          0000G  CF             01  FB 0013F           CALLS    #1, ANL$REPORT_LINE                             ;
                 7E             01  CE 00144           MNEGL    #1, -(SP)                                       ; 1474
          0000G  CF             01  FB 00147           CALLS    #1, ANL$REPORT_LINE                             ;
                 27     0000G   CF  E9 0014C           BLBC     ANL$GB_INTERACTIVE, 13$                         ; 1479
          0000G  CF             00  FB 00151           CALLS    #0, ANL$INTERACT                                ; 1480
                 1F             50  E8 00156           BLBS     R0, 13$                                         ;
                                2B  11 00159           BRB      16$                                             ; 1481
                                58  DD 0015B 12$:      PUSHL    RECORD_NUMBER                                   ; 1487
                   00000000G    8F  DD 0015D           PUSHL    #ANLOBJ$_OBJNULLREC                             ;
          0000G  CF             02  FB 00163           CALLS    #2, ANL$FORMAT_ERROR                            ;
                 7E             01  CE 00168           MNEGL    #1, -(SP)                                       ; 1488
          0000G  CF             01  FB 0016B           CALLS    #1, ANL$REPORT_LINE                             ;
                 7E             01  CE 00170           MNEGL    #1, -(SP)                                       ; 1489
          0000G  CF             01  FB 00173           CALLS    #1, ANL$REPORT_LINE                             ;
                                58  D6 00178 13$:      INCL     RECORD_NUMBER                                   ; 1416
                 6E             58  D1 0017A 14$:      CMPL     RECORD_NUMBER, GST_RECORD_COUNT                 ;
                                03  1A 0017D           BGTRU    15$                                             ;
                              FEF5  31 0017F           BRW      3$                                              ;
                 50             01  D0 00182 15$:      MOVL     #1, R0                                          ; 1493
                                    04 00185           RET                                                      ;
                                50  D4 00186 16$:      CLRL     R0                                              ; 1495
                                    04 00188           RET                                                      ;

; Routine Size:  393 bytes,    Routine Base:  $CODE$ + 07CD


;  986          1496  1
;  987          1497  0 end eludom



;                                   PSECT SUMMARY
;
;       Name                      Bytes                           Attributes
;
;  $PLIT$                           332  NOVEC,NOWRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $OWN$                            180  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $CODE$                          2390  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]LIB.L32;1                  18619        88          0       1000          00:01.8



;                                       COMMAND QUALIFIERS

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

; Size:           2390 code + 512 data bytes
; Run Time:          00:40.8
; Elapsed Time:      01:58.6
; Lines/CPU Min:       2202
; Lexemes/CPU-Min:  15132
; Memory Used:  392 pages
; Compilation Complete
```

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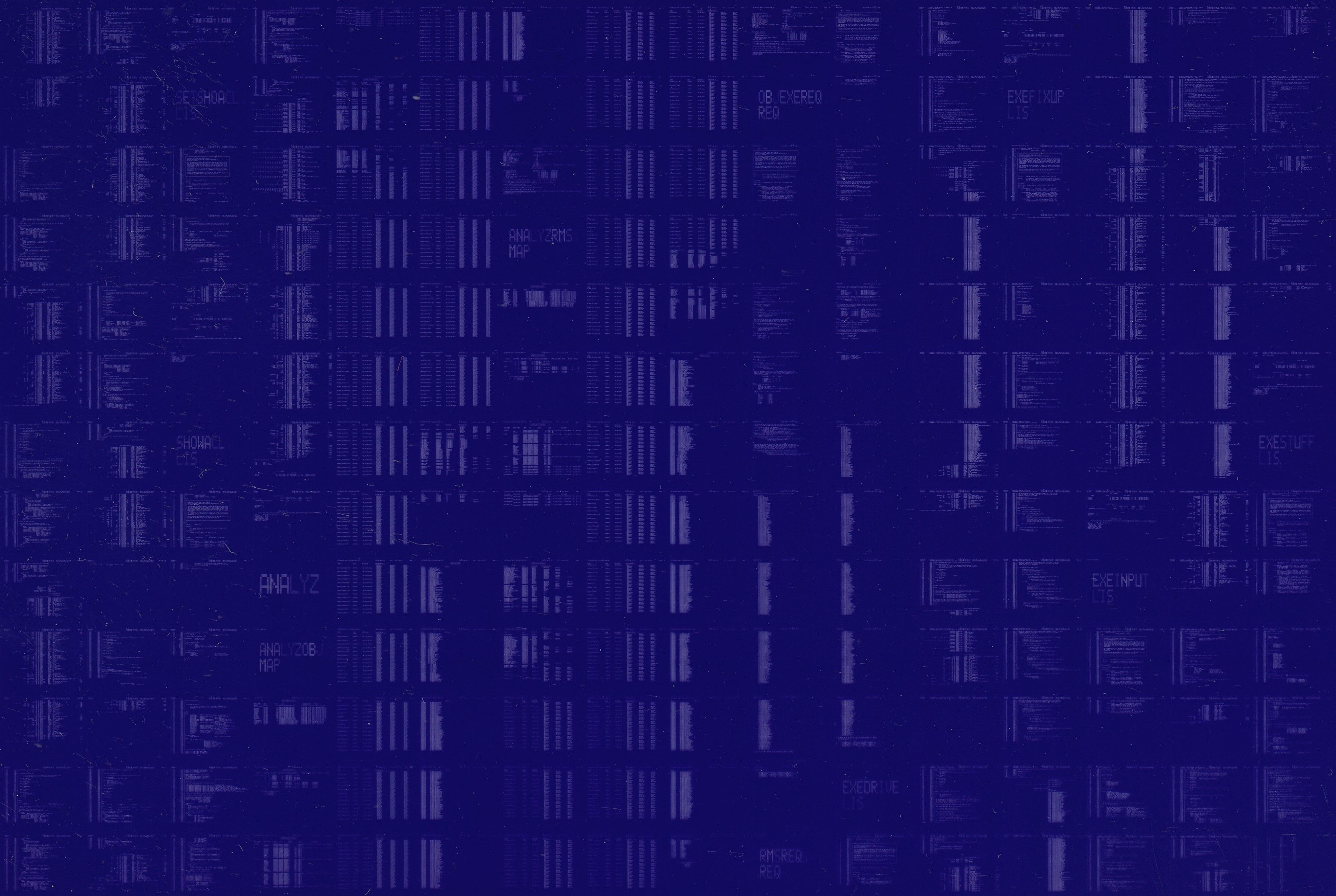

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