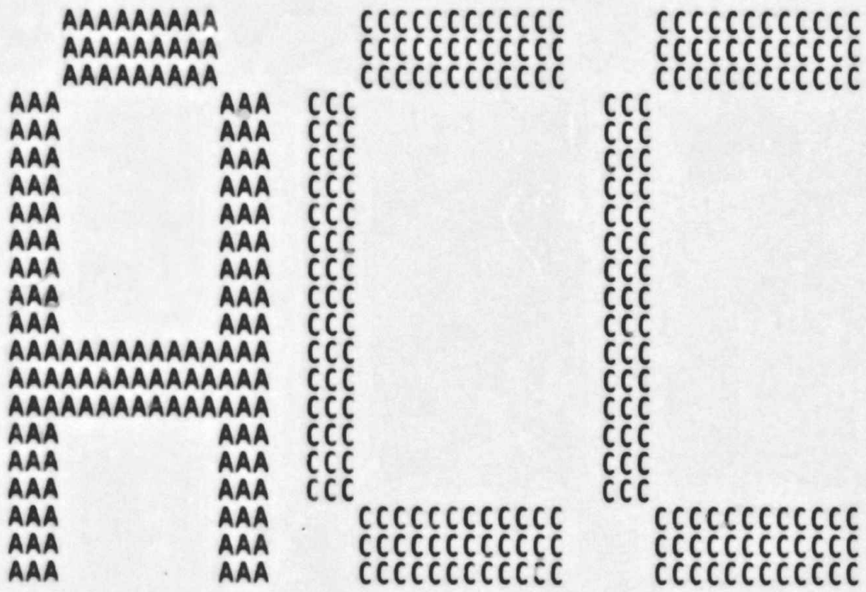
TITLE1**AH-BI13A-BE
TITLE2**VAX/VMS V4.0
FICHENUMBER**1



```
  AAAAAA      CCCCCCCC    CCCCCCCC
  AAAAAA      CCCCCCCC    CCCCCCCC
AA      AA  CC          CC
AA      AA  CC          CC
AA      AA  CC          CC
AA      AA  CC          CC
AA      AA  CC          CC
AA      AA  CC          CC
AAAAAAAAAA  CC          CC
AAAAAAAAAA  CC          CC
AA      AA  CC          CC                ....
AA      AA  CC          CC                ....
AA      AA    CCCCCCCC    CCCCCCCC        ....
AA      AA    CCCCCCCC    CCCCCCCC        ....

LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

```
;     1          0001  0 MODULE
;     2          0002  0 ACC (IDENT = 'V04-000', MAIN = ACC) =
;     3          0003  1 BEGIN
;     4          0004  1
;     5          0005  1 !
;     6          0006  1 !*****************************************************************************
;     7          0007  1 !*                                                                           *
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;    25          0025  1 !*                                                                           *
;    26          0026  1 !*                                                                           *
;    27          0027  1 !*****************************************************************************
;    28          0028  1
;    29          0029  1 !++
;    30          0030  1 ! FACILITY:  ACC, Account file dumper
;    31          0031  1 !
;    32          0032  1 ! ABSTRACT:
;    33          0033  1 !
;    34          0034  1 !       This utility dumps the system accounting file in a readable, labelled
;    35          0035  1 !       format, and allows searching for particular entries.  Also, two
;    36          0036  1 !       binary output files may be created containing the selected and
;    37          0037  1 !       unselected records respectively.
;    38          0038  1 !
;    39          0039  1 ! ENVIRONMENT:
;    40          0040  1 !
;    41          0041  1 !       VAX/VMS operating system. unprivileged user mode,
;    42          0042  1 !
;    43          0043  1 ! AUTHOR:  Greg Robert and Steve Forgey, January 1982
;    44          0044  1 !
;    45          0045  1 ! Modified by:
;    46          0046  1 !
;    47          0047  1 !       V03-021 DAS0010         David Solomon           16-Jul-1984
;    48          0048  1 !               Translate UIC from binary to alphanumeric only for /SUMMARY=UIC.
;    49          0049  1 !               Do translation for /FULL in FORMAT\SHOW_FULL only if we need to
;    50          0050  1 !               display it.
;    51          0051  1 !
;    52          0052  1 !       V03-020 DAS0009         David Solomon           09-Jul-1984
;    53          0053  1 !               Fix bug in string comparison of "-" for /UIC (SPR 11-68680).
;    54          0054  1 !
;    55          0055  1 !       V03-019 DAS0008         David Solomon           28-Jun-1984
;    56          0056  1 !               Fix order of key table so that summary by UIC, elapased time,
;    57          0057  1 !               priority, volumes, pages printed, and symbiont gets and qios
```

```
;    58          0058  1 !                operates on the correct summary key. Close file before returning
;    59          0059  1 !                to LIB$FILE_SCAN. SPR 11-57832: 1) increase size of elasped
;    60          0060  1 !                time and CPU time accumulator from 3 to 4 longwords, 2) signal
;    61          0061  1 !                errors during PROCESS_FILE instead of ignoring them and stopping
;    62          0062  1 !                processing of the input file. SPR 11-CS00112: fix UIC exclusion.
;    63          0063  1 !
;    64          0064  1 !            V03-018 DAS0007         David Solomon           27-Jun-1984
;    65          0065  1 !                Only translate UIC if /SUMMARY=UIC instead of just /SUMMARY.
;    66          0066  1 !
;    67          0067  1 !            V03-017 DAS0006         David Solomon           12-Apr-1984
;    68          0068  1 !                Fix bug parsing image filespecs (due to image filespecs now
;    69          0069  1 !                being unconcealed). Use $FILESCAN to parse it now.
;    70          0070  1 !
;    71          0071  1 !            V03-016 DAS0005         David Solomon           28-Feb-1984
;    72          0072  1 !                Add context longword to call to LIB$FILE_SCAN to make
;    73          0073  1 !                stickyness work correctly with search lists.
;    74          0074  1 !
;    75          0075  1 !            V03-015 DAS0004         David Solomon           23-Jan-1984
;    76          0076  1 !                Extend length of queue names to 31 and job names to 39 bytes.
;    77          0077  1 !                Don't perform conversion to alphanumeric UICs unless doing
;    78          0078  1 !                summary or full output. Fix bug where selection of a zero group
;    79          0079  1 !                or member UIC number was resulting in wildcard selection for
;    80          0080  1 !                that field.
;    81          0081  1 !
;    82          0082  1 !            V03-014 DAS0003         David Solomon           12-Jan-1984
;    83          0083  1 !                Get ACCDEF.REQ from SRC$, not MSRC$.
;    84          0084  1 !
;    85          0085  1 !            V03-013 DAS0002         David Solomon           02-Jan-1984
;    86          0086  1 !                Use unique symbol table index for summation table (was using 7,
;    87          0087  1 !                which was the index for the /IDENTIFICATION symbol table). If
;    88          0088  1 !                no files are selected, exit immediately (don't incorrectly call
;    89          0089  1 !                SORT routines, try and close output files, etc.). Improve
;    90          0090  1 !                recovery from bogus records in accounting file. Set key start
;    91          0091  1 !                position in SORT_TABLE correctly in PARSE_KEYS.
;    92          0092  1 !
;    93          0093  1 !            V03-012 LMP0140         L. Mark Pilant,         19-Aug-1983  11:09
;    94          0094  1 !                Add support for alphanumeric UICs.
;    95          0095  1 !
;    96          0096  1 !            V03-011 DAS0001         David Solomon   25-Jul-1983
;    97          0097  1 !                Now that the Job Controller fills in ACR$Q_BEGTIME, correctly
;    98          0098  1 !                compute the elapsed time as end time minus begin time.
;    99          0099  1 !
;   100          0100  1 !            V03-010 SPF0205         Steve Forgey    29-Jan-1983
;   101          0101  1 !                SPR #51632
;   102          0102  1 !                Fix UIC exclusion bug.
;   103          0103  1 !
;   104          0104  1 !            V03-009 SPF0204         Steve Forgey    29-Jan-1983
;   105          0105  1 !                SPR #51768
;   106          0106  1 !                Properly handle UICs with more than 3 digits per field.
;   107          0107  1 !
;   108          0108  1 !            V03-008 SPF0203         Steve Forgey    29-Jan-1983
;   109          0109  1 !                SPR #51083
;   110          0110  1 !                Expand "days" field in time values in summary reports from
;   111          0111  1 !                2 to 4 digits.
;   112          0112  1 !
;   113          0113  1 !            V03-007 SPF0202         Steve Forgey    29-Jan-1983
;   114          0114  1 !                SPR #50610
```

```
;  115          0115  1 !                 Fix input file wildcarding problem.
;  116          0116  1 !
;  117          0117  1 !       V03-006 SPF0201         Steve Forgey    29-Jan-1983
;  118          0118  1 !               SPR #48396
;  119          0119  1 !               Eliminate erroneous data in summary report.
;  120          0120  1 !
;  121          0121  1 !       V03-005 SPF0113         Steve Forgey    19-Apr-1982
;  122          0122  1 !               Don't use RETURN_IF_ERROR macro where the variable STATUS
;  123          0123  1 !               is already defined.
;  124          0124  1 !
;  125          0125  1 !       V03-004 SPF0112         Steve Forgey    10-Apr-1982
;  126          0126  1 !               Format pre-Version 3 queue names as counted ASCII strings.
;  127          0127  1 !
;  128          0128  1 !       V03-003 SPF0105         Steve Forgey    27-Mar-1982
;  129          0129  1 !               Get input file defaults from previous input file specs.
;  130          0130  1 !
;  131          0131  1 !       V03-002 SPF0104         Steve Forgey    27-Mar-1982
;  132          0132  1 !               Specify correct max record size to SOR$INIT_SORT.
;  133          0133  1 !
;  134          0134  1 !       V03-001 SPF0102         Steve Forgey    27-Mar-1982
;  135          0135  1 !               Don't add null value to selection list when parsing the
;  136          0136  1 !               exclusion qualifier, "-".
;  137          0137  1 !
;  138          0138  1 !       V02-002 SPF0081         Steve Forgey    Feb-06-1982
;  139          0139  1 !               Fix value errors.
;  140          0140  1 !
;  141          0141  1 !       V02-001 SPF0070         Steve Forgey    Jan-23-1982
;  142          0142  1 !               Accept <> as directory delimiters in image file spec as well
;  143          0143  1 !               as [].  Also improve SORT performance.
;  144          0144  1 !
;  145          0145  1 !--
;  146          0146  1
;  147          0147  1 !----------------------------------------------------------------------+
;  148          0148  1 !                                                                      !
;  149          0149  1 !                               INCLUDE  FILES                         !
;  150          0150  1 !                                                                      !
;  151          0151  1 !----------------------------------------------------------------------+
;  152          0152  1
;  153          0153  1 REQUIRE 'SRC$:ACCDEF';          ! Common ACC definitions
```

```
;  155     0992  1 !----------------------------------------------------------------------+
;  156     0993  1 !                                                                      |
;  157     0994  1 !                          TABLE  OF  CONTENTS                         |
;  158     0995  1 !                                                                      |
;  159     0996  1 !----------------------------------------------------------------------+
;  160     0997  1
;  161     0998  1 FORWARD ROUTINE
;  162     0999  1         ACC,                            ! Top level routine
;  163     1000  1         ACC_CONTROL,                    ! Main control loop
;  164     1001  1         PROCESS_FILE,                   ! Processes one input file
;  165     1002  1         PROCESS_RECORD,                 ! Analyze input record
;  166     1003  1         PROCESS_V2_RECORD,              ! Analyze V2 record
;  167     1004  1         PROCESS_V3_RECORD,              ! Analyze V3 record
;  168     1005  1         RECORD_SELECTED,                ! Determine output disposition
;  169     1006  1         PARSE_COMMAND,                  ! Analyze command line
;  170     1007  1         PARSE_DATES,                    ! Handles /DATE, /BEFORE, /SINCE
;  171     1008  1         PARSE_KEYS;                     ! Handles /REPORT, /SORT, /SUMMARY
;  172     1009  1
```

```
;  174          1010  1 !----------------------------------------------------------------------+
;  175          1011  1 !                                                                      !
;  176          1012  1 !                          EXTERNAL STORAGE  DEFINITIONS               !
;  177          1013  1 !                                                                      !
;  178          1014  1 !----------------------------------------------------------------------+
;  179          1015  1
;  180          1016  1 EXTERNAL
;  181          1017  1         INPUT_NAM:      BBLOCK [],
;  182          1018  1         INPUT_FAB:      BBLOCK [],
;  183          1019  1         INPUT_RAB:      BBLOCK [],
;  184          1020  1         OUTPUT_FAB:     BBLOCK [],
;  185          1021  1         OUTPUT_RAB:     BBLOCK [],
;  186          1022  1         REJECTED_FAB:   BBLOCK [],
;  187          1023  1         REJECTED_RAB:   BBLOCK [];
```

```
;  189     1024  1 !----------------------------------------------------------------------+
;  190     1025  1 !                                                                      |
;  191     1026  1 !                        GLOBAL STORAGE  DEFINITIONS                   |
;  192     1027  1 !                                                                      |
;  193     1028  1 !----------------------------------------------------------------------+
;  194     1029  1
;  195     1030  1 GLOBAL
;  196     1031  1
;  197     1032  1 KEY_BUF: BBLOCK [1024],                 ! Key/record buffer
;  198     1033  1
;  199     1034  1 HOLD_BIOCNT,
;  200     1035  1 HOLD_DIOCNT,
;  201     1036  1 HOLD_ELAPSED: VECTOR [2],
;  202     1037  1 HOLD_EXECUTION,
;  203     1038  1 HOLD_PAGEFLTS,
;  204     1039  1 HOLD_GETCNT,
;  205     1040  1 HOLD_QIOCNT,
;  206     1041  1 HOLD_PAGCNT,
;  207     1042  1 HOLD_PGFLPEAK,
;  208     1043  1 HOLD_PAGEREADS,
;  209     1044  1 HOLD_WSPEAK,
;  210     1045  1 HOLD_CPUTIM: VECTOR [2],
;  211     1046  1 HOLD_VOLUMES,
;  212     1047  1
;  213     1048  1 CUSTOMER,                               ! Customer type (V3 format only)
;  214     1049  1 RECORD_LENGTH,                          ! Record length
;  215     1050  1 RECORD_SUBTYPE,                         ! Record subtype (V3 format only)
;  216     1051  1 RECORD_TYPE,                            ! Record type
;  217     1052  1 VERSION,                                ! Record format version
;  218     1053  1
;  219     1054  1 GROUP,                                  ! UIC group
;  220     1055  1 MEMBER,                                 ! UIC member
;  221     1056  1 CONVERTED_UIC,                          ! Converted UIC
;  222     1057  1
;  223     1058  1 QUAD_CPU_TIME:  VECTOR [2],             ! CPU time (quadword format)
;  224     1059  1 ELAPSED_TIME:   VECTOR [2],             ! Calculated elapsed time
;  225     1060  1 WAIT_TIME:      VECTOR [2],             ! Calculated queue wait time
;  226     1061  1
;  227     1062  1 ACCOUNT_DESC:           VECTOR [2],     ! Describes account name
;  228     1063  1 ADDRESS_DESC:           VECTOR [2],     ! Describes remote node address
;  229     1064  1 BUFFERED_IO_DESC:       VECTOR [2],     ! Describes buffered I/O count
;  230     1065  1 CPU_TIME_DESC:          VECTOR [2],     ! Describes cpu time
;  231     1066  1 DIRECT_IO_DESC:         VECTOR [2],     ! Describes direct I/O count
;  232     1067  1 ENTRY_DESC:            VECTOR [2],     ! Describes job id number
;  233     1068  1 ELAPSED_DESC:          VECTOR [2],     ! Describes elapsed time
;  234     1069  1 EXECUTION_DESC:        VECTOR [2],     ! Describes image execution count
;  235     1070  1 FILE_DESC:             VECTOR [2],     ! Describes file name
;  236     1071  1 FINISH_TIME_DESC:      VECTOR [2],     ! Describes finish time
;  237     1072  1 IDENT_DESC:            VECTOR [2],     ! Describes process id (IDENT)
;  238     1073  1 IMAGE_FILE_DESC:       VECTOR [2],     ! Describes image file specification
;  239     1074  1 IMAGE_DESC:            VECTOR [2],     ! Describes image name
;  240     1075  1 JOB_DESC:              VECTOR [2],     ! Describes job name
;  241     1076  1 NODE_DESC:             VECTOR [2],     ! Describes remote node name
;  242     1077  1 OWNER_DESC:            VECTOR [2],     ! Describes owner IDENT
;  243     1078  1 PAGE_FAULTS_DESC:      VECTOR [2],     ! Describes page fault count
;  244     1079  1 PAGE_FILE_DESC:        VECTOR [2],     ! Describes page file peak usage
;  245     1080  1 PAGE_READS_DESC:       VECTOR [2],     ! Describes page read count
```

```
;  246          1081  1 PRIORITY_DESC:          VECTOR [2],     ! Describes process base priority
;  247          1082  1 PRIVILEGE_DESC:         VECTOR [2],     ! Describes process privilege mask
;  248          1083  1 PROCESS_DESC:           VECTOR [2],     ! Describes process type
;  249          1084  1 QUEUE_DESC:             VECTOR [2],     ! Describes queue name
;  250          1085  1 QUEUE_TIME_DESC:        VECTOR [2],     ! Describes queue time
;  251          1086  1 REMOTE_ID_DESC:        VECTOR [2],     ! Describes remote id
;  252          1087  1 START_TIME_DESC:        VECTOR [2],     ! Describes start time
;  253          1088  1 STATUS_DESC:           VECTOR [2],     ! Describes final exit status code
;  254          1089  1 STATUS_TEXT_DESC:      VECTOR [2],     ! Describes final exit status text
;  255          1090  1 SUBTYPE_DESC:          VECTOR [2],     ! Describes record subtype
;  256          1091  1 SYM_GET_DESC:          VECTOR [2],     ! Describes symbiont get count
;  257          1092  1 SYM_QIO_DESC:          VECTOR [2],     ! Describes symbiont qio count
;  258          1093  1 SYM_PAGE_DESC:         VECTOR [2],     ! Describes symbiont page count
;  259          1094  1 TERMINAL_DESC:         VECTOR [2],     ! Describes terminal name
;  260          1095  1 TYPE_DESC:             VECTOR [2],     ! Describes record type
;  261          1096  1 TYPE_TEXT_DESC:        VECTOR [2],     ! Describes full record type text
;  262          1097  1 UIC_BINARY_DESC:       VECTOR [2],     ! Describes process UIC (binary)
;  263          1098  1 UIC_GROUP_DESC:        VECTOR [2],     ! Describes process UIC group (binary)
;  264          1099  1 UIC_MEMBER_DESC:       VECTOR [2],     ! Describes process UIC member (binary)
;  265          1100  1 UIC_DESC:              VECTOR [2],     ! Describes process UIC (ascii)
;  266          1101  1 USER_DATA_DESC:        VECTOR [2],     ! Describes user data
;  267          1102  1 USER_DESC:            VECTOR [2],     ! Describes user name
;  268          1103  1 VOLUMES_DESC:         VECTOR [2],     ! Describes volume mount count
;  269          1104  1 WORKING_SET_DESC:     VECTOR [2],     ! Describes working set peak
;  270          1105  1
;  271          1106  1 !
;  272          1107  1 ! When selection qualifiers are specified these switches indicate
;  273          1108  1 ! whether the qualifier "selects" or "rejects" records.  If true
;  274          1109  1 ! then members of the list are selected, if false then rejected.
;  275          1110  1 ! If the qualifier is not specified then the switch is never interogated.
;  276          1111  1 !
;  277          1112  1
;  278          1113  1 ACCOUNT_SWITCH,
;  279          1114  1 ADDRESS_SWITCH,
;  280          1115  1 ENTRY_SWITCH,
;  281          1116  1 IDENT_SWITCH,
;  282          1117  1 IMAGE_SWITCH,
;  283          1118  1 JOB_SWITCH,
;  284          1119  1 NODE_SWITCH,
;  285          1120  1 OWNER_SWITCH,
;  286          1121  1 PRIORITY_SWITCH,
;  287          1122  1 PROCESS_SWITCH,
;  288          1123  1 QUEUE_SWITCH,
;  289          1124  1 REMOTE_ID_SWITCH,
;  290          1125  1 STATUS_SWITCH,
;  291          1126  1 TERMINAL_SWITCH,
;  292          1127  1 TYPE_SWITCH,
;  293          1128  1 UIC_SWITCH,
;  294          1129  1 UIC_GROUP_SWITCH,
;  295          1130  1 UIC_MEMBER_SWITCH,
;  296          1131  1 USER_SWITCH,
;  297          1132  1
;  298          1133  1 SELECTED,                ! Count of selected records - this file
;  299          1134  1 TOTAL_SELECTED,          ! Count of selected records - all files
;  300          1135  1 TOTAL_REJECTED,          ! Count of rejected records - all files
;  301          1136  1
;  302          1137  1 SORT_KEY_SIZE,          ! Total length of sort keys
```

```
;  303          1138  1
;  304          1139  1 DATE_HEADER,              ! Holds pointer to descriptor
;  305          1140  1
;  306          1141  1 STATUS_TEXT_BUFFER: BBLOCK [80],
;  307          1142  1
;  308          1143  1 !
;  309          1144  1 ! STORAGE FOR QUALIFIER VALUES AND COUNTS  --
;  310          1145  1 !
;  311          1146  1 UIC_BUF:          VECTOR [67, BYTE],      ! process UIC (ascii)
;  312          1147  1 A_DATE_BUF:       VECTOR [23, BYTE],      ! DD-MMM-YYYY HH:MM:SS.CC
;  313          1148  1 A_DATE_DESC:      VECTOR [2]              ! Describes date in ascii
;  314          1149  1   INITIAL        (23, A_DATE_BUF),
;  315          1150  1
;  316          1151  1 NUMERIC_DATE:     VECTOR [7, WORD],       ! Holds date in numeric format
;  317          1152  1                                          ! Year, month, hour, day, minute,
;  318          1153  1                                          ! second, hundredths -- binary words
;  319          1154  1
;  320          1155  1 S_DATE_BUF:       VECTOR [10, BYTE]       ! YYYY MM DD
;  321          1156  1   INITIAL        (BYTE('          ')),
;  322          1157  1 S_DATE_DESC:      VECTOR [2]              ! Describes date in ascii (sort format)
;  323          1158  1   INITIAL        (10, S_DATE_BUF),
;  324          1159  1
;  325          1160  1 YEAR_DESC:        VECTOR [2]              ! Ascii year
;  326          1161  1   INITIAL        (4, S_DATE_BUF + 0),
;  327          1162  1
;  328          1163  1 MONTH_DESC:       VECTOR [2]              ! Ascii number string from 01 - 12
;  329          1164  1   INITIAL        (2, S_DATE_BUF + 5),
;  330          1165  1
;  331          1166  1 DAY_DESC:         VECTOR [2]              ! Ascii number string from 01 - 31
;  332          1167  1   INITIAL        (2, S_DATE_BUF + 8),
;  333          1168  1
;  334          1169  1 WEEKDAY,                                 ! Day of week
;  335          1170  1 WEEKDAY_DESC:     VECTOR [2]              ! Ascii number string from 0 - 6
;  336          1171  1   INITIAL        (1, WEEKDAY),
;  337          1172  1
;  338          1173  1 HOUR_DESC:        VECTOR [2]              ! Ascii number string from 00 - 23
;  339          1174  1   INITIAL        (2, A_DATE_BUF + 12),
;  340          1175  1
;  341          1176  1 MESSAGE_DESC:     VECTOR [2],             ! Descibes user message text
;  342          1177  1
;  343          1178  1 REPORT_HDR1_FAO:BBLOCK [DSC$K_D_BLN]     ! FAO for /REPORT header 1
;  344          1179  1   PRESET([DSC$B_CLASS] = DSC$K_CLASS_D),
;  345          1180  1 REPORT_HDR2_FAO:BBLOCK [DSC$K_D_BLN]     ! FAO for /REPORT header 2
;  346          1181  1   PRESET([DSC$B_CLASS] = DSC$K_CLASS_D),
;  347          1182  1 REPORT_HDR3_FAO:BBLOCK [DSC$K_D_BLN]     ! FAO for /REPORT header 3
;  348          1183  1   PRESET([DSC$B_CLASS] = DSC$K_CLASS_D),
;  349          1184  1 REPORT_DET_FAO: BBLOCK [DSC$K_D_BLN]     ! FAO for /REPORT detail line
;  350          1185  1   PRESET([DSC$B_CLASS] = DSC$K_CLASS_D),
;  351          1186  1 REPORT_VALUE:    VECTOR [MAX_REPORT],    ! Holds /REPORT values
;  352          1187  1 REPORT_ITEMS,                            ! Holds number of report items
;  353          1188  1 BUCKET_SIZE,                            ! Size of summation bucket in bytes
;  354          1189  1
;  355          1190  1 SUM_KEY_FAO:     BBLOCK [DSC$K_D_BLN]    ! FAO for /SUMMARY keys
;  356          1191  1   PRESET([DSC$B_CLASS] = DSC$K_CLASS_D),
;  357          1192  1 SUM_KEY_VALUE:   VECTOR [MAX_SUM],      ! Argument table for key FAO
;  358          1193  1 DATE_DESC_ADDR,                         ! Address of selected date desc
;  359          1194  1
```

```
;  360          1195  1 BEFORE_DATE:                            ! Selection cuttof date
;  361          1196  1         BLOCKVECTOR [2, LONG, BYTE]     !  -allocate one quadword
;  362          1197  1         INITIAL                         !  -initial value is:
;  363          1198  1         (%X'FFFFFFFF',%X'7FFFFFFF'),    !  -futurest describable date
;  364          1199  1
;  365          1200  1 SINCE_DATE:                             ! Selection cutoff date
;  366          1201  1         VECTOR [2, LONG]                !  -allocate one quadword
;  367          1202  1         INITIAL (0,0),                  !  -default = oldest describable date
;  368          1203  1
;  369          1204  1 LAST_DATE:                              ! Last date encountered
;  370          1205  1         VECTOR [2, LONG]                !  -allocate one quadword
;  371          1206  1         INITIAL (0,0),                  !  -default = oldest describable date
;  372          1207  1
;  373          1208  1 FIRST_DATE:                             ! Earliest date encountered
;  374          1209  1         BLOCKVECTOR [2, LONG, BYTE]     !  -allocate one quadword
;  375          1210  1         INITIAL                         !  -initial value is:
;  376          1211  1         (%X'FFFFFFFF',%X'7FFFFFFF'),    !  -futurest describable date
;  377          1212  1
;  378          1213  1
;  379          1214  1 !
;  380          1215  1 ! POSITION DEPENDENT DATA
;  381          1216  1 !       The next two items, SORT_KEY_COUNT and SORT_TABLE must be
;  382          1217  1 !       in the given order.  They are passed as a unit to the sort
;  383          1218  1 !
;  384          1219  1
;  385          1220  1 SORT_KEY_COUNT: WORD,                    ! Number of sort keys
;  386          1221  1 SORT_TABLE:                              ! Sort key list
;  387          1222  1         BLOCKVECTOR [MAX_SORT+1, QUAD, BYTE],
;  388          1223  1 SORT_INDEX_TABLE:                        ! Sort key index table (each byte
;  389          1224  1         VECTOR [MAX_SORT+1, BYTE];      ! contains the index number in the
;  390          1225  1                                         ! SORT_KEYWORD table for the key).
;  391          1226  1
;  392          1227  1 OWN
;  393          1228  1     SUMMARY_UIC;                        ! Flag if /SUMMARY=UIC specified.
;  394          1229  1
;  395          1230  1 $init_state (uic_stb, uic_ktb);        ! UIC parse state table
;  396          1231  1
;  397        P 1232  1 $state  (,
;  398        P 1233  1          (TPA$_IDENT,,,,CONVERTED_UIC)
;  399          1234  1          );
;  400        P 1235  1 $state  (,
;  401        P 1236  1          (tpa$_eos, tpa$_exit)
;  402          1237  1          );
```

```
;  404     1238  1 ROUTINE ACC =                         ! Main routine for ACC
;  405     1239  1
;  406     1240  1 !++
;  407     1241  1 ! Functional description
;  408     1242  1 !
;  409     1243  1 !       This is the top level routine for the ACC facility.
;  410     1244  1 !       It calls the main control loop.  Any errors encountered
;  411     1245  1 !       will be passed back to this routine.
;  412     1246  1 !
;  413     1247  1 ! Calling sequence
;  414     1248  1 !
;  415     1249  1 !       ACC () from the command language interpreter
;  416     1250  1 !
;  417     1251  1 ! Input parameters
;  418     1252  1 !
;  419     1253  1 !       AP = Address of argument list passed from CLI
;  420     1254  1 !
;  421     1255  1 ! Output parameters
;  422     1256  1 !
;  423     1257  1 !       None
;  424     1258  1 !
;  425     1259  1 ! Routine value
;  426     1260  1 !
;  427     1261  1 !       Worst error is returned.
;  428     1262  1 !
;  429     1263  1 !----
;  430     1264  1
;  431     1265  2 BEGIN
;  432     1266  2
;  433     1267  2 EXTERNAL worst_error;
;  434     1268  2
;  435     1269  2 LOCAL channel, status;
;  436     1270  2
;  437     1271  2 !
;  438     1272  2 !SET UP HANDLERS ---
;  439     1273  2 ! Declare condition handler to record severest
;  440     1274  2 ! error message issued, to be returned on exit of image.
;  441     1275  2 !
;  442     1276  2
;  443     1277  2 ENABLE handler;
;  444     1278  2
;  445     1279  2
;  446     1280  2
;  447     1281  2 !
;  448     1282  2 !CALL MAIN CONTROL ---
;  449     1283  2 ! Invoke the main subroutine.  If any errors are encountered they
;  450     1284  2 ! will be returned immediately, if fatal, or saved in WORST_ERROR
;  451     1285  2 ! for exit processing.
;  452     1286  2 !
;  453     1287  2
;  454     1288  2 Perform (acc_control ());
;  455     1289  2
;  456     1290  2
;  457     1291  2 !
;  458     1292  2 !RETURN TO USER ---
;  459     1293  2 !       Return to the user.  Variable WORST_ERROR is maintained by
;  460     1294  2 !       the error handler (see routine HANDLER).  If no messages have
```

```
;  461          1295  2 !       been signaled then the initial value of WORST_ERROR, SS$_NORMAL,
;  462          1296  2 !       will be returned.
;  463          1297  2 !
;  464          1298  2
;  465          1299  2 Return .worst_error;            ! Return contents of WORST_ERROR
;  466          1300  2
;  467          1301  1 END;


                                        .TITLE  ACC
                                        .IDENT  \V04-000\

                                        .PSECT  _LIB$STATE$,NOWRT,  SHR,  PIC,1

                                00000 UIC_STB::
                                        .BLKB   0
                                45EC  00000 ;TPA$TYPE
                                U.2:    .WORD   17900                                   ;
                            00000000* 00002 ;TPA$ADDR
                                U.3:    .LONG   <<CONVERTED_UIC-U.3>-4>                 ;
                                15F7  00006 ;TPA$TYPE
                                U.4:    .WORD   5623                                    ;
                                FFFF  00008 ;TPA$TARGET
                                U.5:    .WORD   -1                                      ;

                                        .PSECT  _LIB$KEY0$,NOWRT,  SHR,  PIC,1

                                00000 UIC_KTB::
                                        .BLKB   0
                                00000 ;TPA$KEY0
                                U.1:    .BLKB   0

                                        .PSECT  DATA,NOEXE,2

                            00000 KEY_BUF::
                                        .BLKB   1024
                            00400 HOLD_BIOCNT::
                                        .BLKB   4
                            00404 HOLD_DIOCNT::
                                        .BLKB   4
                            00408 HOLD_ELAPSED::
                                        .BLKB   8
                            00410 HOLD_EXECUTION::
                                        .BLKB   4
                            00414 HOLD_PAGEFLTS::
                                        .BLKB   4
                            00418 HOLD_GETCNT::
                                        .BLKB   4
                            0041C HOLD_QIOCNT::
                                        .BLKB   4
                            00420 HOLD_PAGCNT::
                                        .BLKB   4
                            00424 HOLD_PGFLPEAK::
                                        .BLKB   4
                            00428 HOLD_PAGEREADS::
                                        .BLKB   4
                            0042C HOLD_WSPEAK::
```

```
                        .BLKB   4
00430 HOLD_CPUTIM::
                        .BLKB   8
00438 HOLD_VOLUMES::
                        .BLKB   4
0043C CUSTOMER::
                        .BLKB   4
00440 RECORD_LENGTH::
                        .BLKB   4
00444 RECORD_SUBTYPE::
                        .BLKB   4
00448 RECORD_TYPE::
                        .BLKB   4
0044C VERSION::
                        .BLKB   4
00450 GROUP::  .BLKB    4
00454 MEMBER::.BLKB     4
00458 CONVERTED_UIC::
                        .BLKB   4
0045C QUAD_CPU_TIME::
                        .BLKB   8
00464 ELAPSED_TIME::
                        .BLKB   8
0046C WAIT_TIME::
                        .BLKB   8
00474 ACCOUNT_DESC::
                        .BLKB   8
0047C ADDRESS_DESC::
                        .BLKB   8
00484 BUFFERED_IO_DESC::
                        .BLKB   8
0048C CPU_TIME_DESC::
                        .BLKB   8
00494 DIRECT_IO_DESC::
                        .BLKB   8
0049C ENTRY_DESC::
                        .BLKB   8
004A4 ELAPSED_DESC::
                        .BLKB   8
004AC EXECUTION_DESC::
                        .BLKB   8
004B4 FILE_DESC::
                        .BLKB   8
004BC FINISH_TIME_DESC::
                        .BLKB   8
004C4 IDENT_DESC::
                        .BLKB   8
004CC IMAGE_FILE_DESC::
                        .BLKB   8
004D4 IMAGE_DESC::
                        .BLKB   8
004DC JOB_DESC::
                        .BLKB   8
004E4 NODE_DESC::
                        .BLKB   8
004EC OWNER_DESC::
                        .BLKB   8
```

```
004F4 PAGE_FAULTS_DESC::
                .BLKB   8
004FC PAGE_FILE_DESC::
                .BLKB   8
00504 PAGE_READS_DESC::
                .BLKB   8
0050C PRIORITY_DESC::
                .BLKB   8
00514 PRIVILEGE_DESC::
                .BLKB   8
0051C PROCESS_DESC::
                .BLKB   8
00524 QUEUE_DESC::
                .BLKB   8
0052C QUEUE_TIME_DESC::
                .BLKB   8
00534 REMOTE_ID_DESC::
                .BLKB   8
0053C START_TIME_DESC::
                .BLKB   8
00544 STATUS_DESC::
                .BLKB   8
0054C STATUS_TEXT_DESC::
                .BLKB   8
00554 SUBTYPE_DESC::
                .BLKB   8
0055C SYM_GET_DESC::
                .BLKB   8
00564 SYM_QIO_DESC::
                .BLKB   8
0056C SYM_PAGE_DESC::
                .BLKB   8
00574 TERMINAL_DESC::
                .BLKB   8
0057C TYPE_DESC::
                .BLKB   8
00584 TYPE_TEXT_DESC::
                .BLKB   8
0058C UIC_BINARY_DESC::
                .BLKB   8
00594 UIC_GROUP_DESC::
                .BLKB   8
0059C UIC_MEMBER_DESC::
                .BLKB   8
005A4 UIC_DESC::
                .BLKB   8
005AC USER_DATA_DESC::
                .BLKB   8
005B4 USER_DESC::
                .BLKB   8
005BC VOLUMES_DESC::
                .BLKB   8
005C4 WORKING_SET_DESC::
                .BLKB   8
005CC ACCOUNT_SWITCH::
                .BLKB   4
005D0 ADDRESS_SWITCH::
```

```
                        005D4 ENTRY_SWITCH::
                              .BLKB   4
                        005D8 IDENT_SWITCH::
                              .BLKB   4
                        005DC IMAGE_SWITCH::
                              .BLKB   4
                        005E0 JOB_SWITCH::
                              .BLKB   4
                        005E4 NODE_SWITCH::
                              .BLKB   4
                        005E8 OWNER_SWITCH::
                              .BLKB   4
                        005EC PRIORITY_SWITCH::
                              .BLKB   4
                        005F0 PROCESS_SWITCH::
                              .BLKB   4
                        005F4 QUEUE_SWITCH::
                              .BLKB   4
                        005F8 REMOTE_ID_SWITCH::
                              .BLKB   4
                        005FC STATUS_SWITCH::
                              .BLKB   4
                        00600 TERMINAL_SWITCH::
                              .BLKB   4
                        00604 TYPE_SWITCH::
                              .BLKB   4
                        00608 UIC_SWITCH::
                              .BLKB   4
                        0060C UIC_GROUP_SWITCH::
                              .BLKB   4
                        00610 UIC_MEMBER_SWITCH::
                              .BLKB   4
                        00614 USER_SWITCH::
                              .BLKB   4
                        00618 SELECTED::
                              .BLKB   4
                        0061C TOTAL_SELECTED::
                              .BLKB   4
                        00620 TOTAL_REJECTED::
                              .BLKB   4
                        00624 SORT_KEY_SIZE::
                              .BLKB   4
                        00628 DATE_HEADER::
                              .BLKB   4
                        0062C STATUS_TEXT_BUFFER::
                              .BLKB   80
                        0067C UIC_BUF::
                              .BLKB   67
                        006BF         .BLKB   1
                        006C0 A_DATE_BUF::
                              .BLKB   23
                        006D7         .BLKB   1
00000017                006D8 A_DATE_DESC::
                              .LONG   23
00000000'               006DC         .ADDRESS A_DATE_BUF
                        006E0 NUMERIC_DATE::
```

```
                                                        .BLKB   14
                                        006EE           .BLKB   2
                20  20  20  20  20  20  20  20  20  20  006F0 S_DATE_BUF::
                                                        .ASCII  \           \                                   ;
                                        006FA           .BLKB   2
                                0000000A  006FC S_DATE_DESC::
                                                        .LONG   10
                                00000000' 00700         .ADDRESS S_DATE_BUF                                 ;
                                00000004  00704 YEAR_DESC::
                                                        .LONG   4
                                00000000' 00708         .ADDRESS S_DATE_BUF                                 ;
                                00000002  0070C MONTH_DESC::
                                                        .LONG   2
                                00000000' 00710         .ADDRESS S_DATE_BUF+5                               ;
                                00000002  00714 DAY_DESC::
                                                        .LONG   2
                                00000000' 00718         .ADDRESS S_DATE_BUF+8                               ;
                                          0071C WEEKDAY::
                                                        .BLKB   4
                                00000001  00720 WEEKDAY_DESC::
                                                        .LONG   1
                                00000000' 00724         .ADDRESS WEEKDAY                                    ;
                                00000002  00728 HOUR_DESC::
                                                        .LONG   2
                                00000000' 0072C         .ADDRESS A_DATE_BUF+12                              ;
                                          00730 MESSAGE_DESC::
                                                        .BLKB   8
                                      00# 00738 REPORT_HDR1_FAO::
                                                        .BYTE   0[3]
                                      02  0073B        .BYTE   2                                           ;
                                          0073C         .BLKB   4
                                      00# 00740 REPORT_HDR2_FAO::
                                                        .BYTE   0[3]
                                      02  00743        .BYTE   2                                           ;
                                          00744         .BLKB   4
                                      00# 00748 REPORT_HDR3_FAO::
                                                        .BYTE   0[3]
                                      02  0074B        .BYTE   2                                           ;
                                          0074C         .BLKB   4
                                      00# 00750 REPORT_DET_FAO::
                                                        .BYTE   0[3]
                                      02  00753        .BYTE   2                                           ;
                                          00754         .BLKB   4
                                          00758 REPORT_VALUE::
                                                        .BLKB   120
                                          007D0 REPORT_ITEMS::
                                                        .BLKB   4
                                          007D4 BUCKET_SIZE::
                                                        .BLKB   4
                                      00# 007D8 SUM_KEY_FAO::
                                                        .BYTE   0[3]
                                      02  007DB        .BYTE   2                                           ;
                                          007DC         .BLKB   4
                                          007E0 SUM_KEY_VALUE::
                                                        .BLKB   120
                                          00858 DATE_DESC_ADDR::
                                                        .BLKB   4
```

```
                7FFFFFFF  FFFFFFFF  0085C BEFORE_DATE::
                                            .LONG   -1, 2147483647                                  ;
                00000000  00000000  00864 SINCE_DATE::
                                            .LONG   0, 0                                            ;
                00000000  00000000  0086C LAST_DATE::
                                            .LONG   0, 0                                            ;
                7FFFFFFF  FFFFFFFF  00874 FIRST_DATE::
                                            .LONG   -1, 2147483647                                  ;
                                    0087C SORT_KEY_COUNT::
                                            .BLKB   2
                                    0087E   .BLKB   2
                                    00880 SORT_TABLE::
                                            .BLKB   88
                                    008D8 SORT_INDEX_TABLE::
                                            .BLKB   11
                                    008E3   .BLKB   1
                                    008E4 SUMMARY_UIC:
                                            .BLKB   4

                                            .EXTRN  ACC$_INVACCREC, ACC$_TOTAL
                                            .EXTRN  ACC$_MERGE, ACC$_INPUT
                                            .EXTRN  ACC$_TITLETRUNC
                                            .EXTRN  ADD_SYMBOL, ALLOCATE
                                            .EXTRN  FIND_WATERMARK, HANDLER
                                            .EXTRN  LIB$ADDX, LIB$CVT_DTB
                                            .EXTRN  LIB$CVT_HTB, LIB$CVT_TIME
                                            .EXTRN  LIB$DAY, LIB$FILE_SCAN
                                            .EXTRN  LIB$ICHAR, LIB$LOOKUP_KEY
                                            .EXTRN  LIB$SUBX, LIB$SYS_ASCTIM
                                            .EXTRN  LIB$SYS_FAO, LIB$SYS_FAOL
                                            .EXTRN  LIB$TPARSE, LOG_FILENAME
                                            .EXTRN  LOOKUP_SYMBOL, MAP_QUALIFIERS
                                            .EXTRN  PARSE_OUTPUT_FILES
                                            .EXTRN  RELEASE_TO_SORT
                                            .EXTRN  SCAN_SYMBOLS, SHOW_RECORD
                                            .EXTRN  SOR$END_SORT, SOR$INIT_SORT
                                            .EXTRN  SOR$RELEASE_REC
                                            .EXTRN  SOR$RETURN_REC, SOR$SORT_MERGE
                                            .EXTRN  STR$APPEND, STR$COMPARE
                                            .EXTRN  STR$DUPL_CHAR, STR$LEFT
                                            .EXTRN  STR$PREFIX, STR$REPLACE
                                            .EXTRN  STR$RIGHT, STRIP_NEGATOR
                                            .EXTRN  STRIP_TRAIL, SUMMARIZE
                                            .EXTRN  SYS$NUMTIM, TRANSLATE_STATUS
                                            .EXTRN  WRITE_BAR_GRAPH
                                            .EXTRN  WRITE_BINARY, WRITE_SUMMARY
                                            .EXTRN  WRITE_TOTALS, INPUT_NAM
                                            .EXTRN  INPUT_FAB, INPUT_RAB
                                            .EXTRN  OUTPUT_FAB, OUTPUT_RAB
                                            .EXTRN  REJECTED_FAB, REJECTED_RAB
                                            .EXTRN  WORST_ERROR

                                            .PSECT  CODE,NOWRT,2

                                    0000 00000 ACC:     .WORD   Save nothing                        ; 1238
                        6D      0011    CF  DE 00002    MOVAL   2$, (FP)                            ; 1265
                0000V   CF              00  FB 00007    CALLS   #0, ACC_CONTROL                     ; 1288
```

```
                                07              50  E9 0000C            BLBC    STATUS, 1$                                      ;
                                50 00000000G    00  D0 0000F            MOVL    WORST_ERROR, R0                                 ; 1299
                                                    04 00016 1$:        RET                                                     ; 1301
                                                0000 00017 2$:          .WORD   Save nothing                                    ; 1265
                                                7E  D4 00019            CLRL    -(SP)                                           ;
                                                5E  DD 0001B            PUSHL   SP                                              ;
                                7E              04  AC 7D 0001D         MOVQ    4(AP), -(SP)                                    ;
                        00000000G   00              03  FB 00021         CALLS   #3, HANDLER                                     ;
                                                        04 00028        RET                                                     ;

; Routine Size:  41 bytes,    Routine Base:  CODE + 0000
```

```
;  469          1302  1 ROUTINE ACC_CONTROL =                 ! Main control routine
;  470          1303  1
;  471          1304  1 !++
;  472          1305  1 ! Functional description
;  473          1306  1 !
;  474          1307  1 !       This is the main control routine for the ACC facility.
;  475          1308  1 !       It calls the main loop.  Any errors encountered
;  476          1309  1 !       will be passed back to this routine.
;  477          1310  1 !
;  478          1311  1 ! Calling sequence
;  479          1312  1 !
;  480          1313  1 !       ACC_CONTROL ()
;  481          1314  1 !
;  482          1315  1 ! Input parameters
;  483          1316  1 !
;  484          1317  1 !       AP = Address of argument list passed from CLI
;  485          1318  1 !
;  486          1319  1 ! Output parameters
;  487          1320  1 !
;  488          1321  1 !       None
;  489          1322  1 !
;  490          1323  1 ! Routine value
;  491          1324  1 !
;  492          1325  1 !       Worst error is returned.
;  493          1326  1 !
;  494          1327  1 !----
;  495          1328  1
;  496          1329  2 BEGIN
;  497          1330  2
;  498          1331  2 EXTERNAL
;  499          1332  2     worst_error;                       ! Worst error status
;  500          1333  2
;  501          1334  2 LOCAL
;  502          1335  2     temp_file_count,                   ! Place to save input file count
;  503          1336  2     desc:       vector [2, long],      ! Work descriptor
;  504          1337  2     scan_context: initial( 0 ),        ! LIB$FILE_SCAN sticky filespec context
;  505          1338  2     status;                            ! Local variable used as a "catch-all"
;  506          1339  2                                        !  bucket for R0 values returned by
;  507          1340  2                                        !  called procedures
;  508          1341  2
;  509          1342  2 OWN
;  510          1343  2     input_desc: bblock [dsc$k_d_bln]   ! Allocate dynamic descriptor
;  511          1344  2                 preset([dsc$b_class] = dsc$k_class_d);
;  512          1345  2
;  513          1346  2
;  514          1347  2
;  515          1348  2 !
;  516          1349  2 ! PROCESS THE COMMAND LINE ---
;  517          1350  2 !  Call CLI interface routines to parse the command line.  Set up
;  518          1351  2 !  internal tables as needed for further processing
;  519          1352  2 !
;  520          1353  2
;  521          1354  2 Perform (parse_command ());           ! Analyze the command line
;  522          1355  2
;  523          1356  2
;  524          1357  2
;  525          1358  2
```

```
;  526     1359  2 !
;  527     1360  2 !PARSE INPUT FILES --
;  528     1361  2 !       Get the list of input files from the CLI.  Call FILE_SCAN
;  529     1362  2 !       with each input file name.  FILE_SCAN will handle wild-carding
;  530     1363  2 !       and stickiness and call PROCESS_FILE for each matching file
;  531     1364  2 !       that is found.
;  532     1365  2 !
;  533     1366  2
;  534     1367  2 While GET_VALUE ('INPUT', input_desc) do
;  535     1368  3         BEGIN
;  536     1369  3         input_fab [fab$b_fns] = .input_desc [dsc$w_length];
;  537     1370  3         input_fab [fab$l_fna] = .input_desc [dsc$a_pointer];
;  538     1371  3         input_fab [fab$l_ctx] = msg$_searchfail;! Load the error message
;  539     1372  3         lib$file_scan (                         ! Call file scanner with
;  540     1373  3                 input_fab,                      !  -address of FAB
;  541     1374  3                 process_file,                   !  -success action routine
;  542     1375  3                 log_filename,                   !  -error action routine
;  543     1376  3                 scan_context);                  !  -file scan context
;  544     1377  2         END;
;  545     1378  2
;  546     1379  2
;  547     1380  2
;  548     1381  2 !
;  549     1382  2 ! SAVE INPUT FILE COUNT --
;  550     1383  2 !       The input file count is simply the highest value of the file
;  551     1384  2 !       number field that is prepended to each record to be carried
;  552     1385  2 !       through the sort.  Save the contents of this field prior to
;  553     1386  2 !       beginning the sort.
;  554     1387  2 !
;  555     1388  2
;  556     1389  2
;  557     1390  3 BEGIN
;  558     1391  3 BIND    input_file_count = key_buf + .sort_key_size;
;  559     1392  3         temp_file_count = .input_file_count;            ! Save input file count
;  560     1393  2 END;
;  561     1394  2
;  562     1395  2 !
;  563     1396  2 ! If no files were selected, then simply return.
;  564     1397  2 !
;  565     1398  2 IF .temp_file_count EQLU 0
;  566     1399  2 THEN
;  567     1400  2     RETURN TRUE;
;  568     1401  2
;  569     1402  2 !
;  570     1403  2 !COMPLETE THE SORT --
;  571     1404  2 !       If sort processing is active then trigger the merge phase with
;  572     1405  2 !       a call to SOR$SORT_MERGE.  When the merge reaches the final pass,
;  573     1406  2 !       get the sorted records with calls to SOR$RETURN_REC and dispatch
;  574     1407  2 !       them to the output routines.
;  575     1408  2 !
;  576     1409  2
;  577     1410  2
;  578     1411  2
;  579     1412  2 If PRESENT (SORT) then                   ! If sorting is active
;  580     1413  3    BEGIN
;  581     1414  3    BIND input_buf = key_buf + rec_prefix;       ! Locate record
;  582     1415  3    LOCAL temp;                                  ! Sort insists on a bucket
```

```
;  583          1416  3
;  584          1417  3     if PRESENT (LOG) then signal (acc$_merge, 1, .total_selected);
;  585          1418  3
;  586          1419  3     perform (sor$sort_merge ());                    ! Do merge phases
;  587          1420  3
;  588          1421  3     desc [0] = 512;                                 ! Initialize descriptor
;  589          1422  3     desc [1] = key_buf,
;  590          1423  3
;  591          1424  3     while status = sor$return_rec (desc, temp)      ! While input remains
;  592          1425  4        do BEGIN
;  593          1426  4           if PRESENT (BINARY) then
;  594          1427  5                perform (write_binary (input_buf, output_rab))
;  595          1428  5           ELSE BEGIN
;  596          1429  5                perform (process_record (input_buf));      !  -handle formats
;  597          1430  5                perform (show_record (input_buf, output_rab));!  -call output routines
;  598          1431  5                END;
;  599          1432  4           END;
;  600          1433  3
;  601          1434  3     if not (.status eql ss$_endoffile) then         ! If not normal end then
;  602          1435  3        signal (.status);                            !  signal the user
;  603          1436  3
;  604          1437  3     perform (sor$end_sort ());                      ! End the sort
;  605          1438  3     END;
;  606          1439  2
;  607          1440  2  !
;  608          1441  2  ! SET UP REPORT --
;  609          1442  2  !       Establish the "From" "To" dates for the report.  If explicit
;  610          1443  2  !       dates were specified then use them, else allow the earliest
;  611          1444  2  !       and latest dates incountered stand.
;  612          1445  2  !
;  613          1446  2
;  614          1447  2  If PRESENT (SINCE) then MOVE_QUAD (since_date, first_date);
;  615          1448  2
;  616          1449  2  If PRESENT (BEFORE) then MOVE_QUAD (before_date, last_date);
;  617          1450  2
;  618          1451  2
;  619          1452  2
;  620          1453  2  !
;  621          1454  2  ! DO SUMMARY AND TOTALS --
;  622          1455  2  !       If /SUMMARY was specified then call the routines that
;  623          1456  2  !       output the summary report and a totals page.
;  624          1457  2  !
;  625          1458  2
;  626          1459  3  If PRESENT (SUMMARY)                               ! If /SUMMARY
;  627          1460  3  then if PRESENT (BAR_GRAPH)                        ! If bar graphs
;  628          1461  3  then BEGIN
;  629        P 1462  3    perform (scan_symbols (
;  630          1463  3          summation_table, find_watermark));        ! Find all high watermarks
;  631          1464  3  !  incru i to .report_items do
;  632        P 1465  3          perform (scan_symbols (                   ! Graph each summed field
;  633          1466  3          summation_table, write_bar_graph));
;  634          1467  3    END
;  635        P 1468  2  else perform (scan_symbols                         ! Call write_summary for
;  636          1469  2                (summation_table, write_summary)); ! each summation record
;  637          1470  2  Perform (write_totals (3));                       ! Write a totals page
;  638          1471  2
;  639          1472  2
```

```
;  640          1473  2
;  641          1474  2 !
;  642          1475  2 ! LOG RESULTS --
;  643          1476  2 !       If logging was requested and the saved input file count is
;  644          1477  2 !       greater than 1 then display the totals message.
;  645          1478  2 !
;  646          1479  2
;  647          1480  2
;  648          1481  2 if PRESENT (LOG) and                          !  If logging requested
;  649          1482  2    .temp_file_count gtru 1 then               !  and more than one input file
;  650          1483  2    signal (acc$_total, 3,                     !  then notify the user with
;  651          1484  2    .total_selected,                           !   -total selected
;  652          1485  2    .total_rejected,                           !   -total rejected
;  653          1486  2    .temp_file_count);                         !   -number of files
;  654          1487  2
;  655          1488  2
;  656          1489  2
;  657          1490  2 !
;  658          1491  2 !CLOSE OUTPUT FILES --
;  659          1492  2 !       Assign the error messages to be used and close the output
;  660          1493  2 !       files.  The files are closed only if they have been created.
;  661          1494  2 !       Creation is inferred if contents of stream pointers is non-zero.
;  662          1495  2 !
;  663          1496  2
;  664          1497  2
;  665          1498  2 Output_fab [fab$l_ctx] = msg$_closeout;       ! Assign error message
;  666          1499  2 Rejected_fab [fab$l_ctx] = msg$_closeout;     ! Assign error message
;  667          1500  2
;  668          1501  3 If PRESENT (OUTPUT) and PRESENT (BINARY)     ! If local FAB is open
;  669        P 1502  2    then perform ($close (                     ! -then close it
;  670        P 1503  2                  fab = output_fab,           ! --address of FAB
;  671          1504  2                  err = log_filename));       ! --error action routine
;  672          1505  2
;  673          1506  3 If PRESENT (REJECTED)                       ! If secondary output open
;  674        P 1507  2    then perform ($close (                     ! -then close it
;  675        P 1508  2                  fab = rejected_fab,         ! --address of FAB
;  676          1509  2                  err = log_filename));       ! --error action routine
;  677          1510  2
;  678          1511  2
;  679          1512  2 !
;  680          1513  2 !RETURN TO USER ---
;  681          1514  2 !       Return to the user.  Variable WORST_ERROR is maintained by
;  682          1515  2 !       the error handler (see routine HANDLER).  If no messages have
;  683          1516  2 !       been signaled then the initial value of WORST_ERROR, SS$_NORMAL,
;  684          1517  2 !       will be returned.
;  685          1518  2 !
;  686          1519  2
;  687          1520  2 Return .worst_error;              ! Return contents of WORST_ERROR
;  688          1521  2
;  689          1522  1 END;


                                                00029          .BLKB   3
                    00  00  00  54  55  50  4E  49  0002C P.AAB:  .ASCII  \INPUT\<0><0><0>                    ;
                                                00000005  00034 P.AAA:  .LONG   5                            ;
                                                00000000' 00038         .ADDRESS P.AAB                      ;
```

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

                                00# 00000 INPUT_DESC:
                                        .BYTE   0[3]
                                02  00003      .BYTE   2                                                   ;
                                    00004      .BLKB   4

                                           INPUT_BUF=          KEY_BUF+8
                                        .EXTRN  CLI$GET_VALUE, QUALIFIERS
                                        .EXTRN  SYS$CLOSE

                                        .PSECT  CODE,NOWRT,2

                                0FFC 00000 ACC_CONTROL:
                                        .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11                    ; 1302
                    5B 00000000G   00   9E 00002       MOVAB   SYS$CLOSE, R11                          ;
                    5A 00000000G   00   9E 00009       MOVAB   SCAN_SYMBOLS, R10                       ;
                    59 00000000G   00   9E 00010       MOVAB   OUTPUT_RAB, R9                          ;
                    58 00000000G   00   9E 00017       MOVAB   LIB$SIGNAL, R8                          ;
                    57 00000000G   00   9E 0001E       MOVAB   LOG_FILENAME, R7                        ;
                    56 00000000G   00   9E 00025       MOVAB   INPUT_FAB+52, R6                        ;
                    55 00000000G   00   9E 0002C       MOVAB   QUALIFIERS, R5                          ;
                    54 00000000'   EF   9E 00033       MOVAB   INPUT_BUF, R4                           ;
                    5E             0C   C2 0003A       SUBL2   #12, SP                                 ;
                                   7E   D4 0003D       CLRL    SCAN_CONTEXT                            ; 1329
                0000V  CF          00   FB 0003F       CALLS   #0, PARSE_COMMAND                       ; 1354
                       6A          50   E9 00044       BLBC    STATUS, 5$                              ;
                             0000' CF   9F 00047 1$:   PUSHAB  INPUT_DESC                              ; 1367
                               AA  AF   9F 0004B       PUSHAB  P.AAA                                   ;
                00000000G      00       02 FB 0004E       CALLS   #2, CLI$GET_VALUE                    ;
                               27       50 E9 00055       BLBC    R0, 2$                               ;
                               66  0000' CF 90 00058       MOVB    INPUT_DESC, INPUT_FAB+52             ; 1369
                            F8 A6  0000' CF DO 0005D       MOVL    INPUT_DESC+4, INPUT_FAB+44           ; 1370
                            E4 A6 009F123A 8F DO 00063     MOVL    #10424890, INPUT_FAB+24              ; 1371
                                   4080 8F BB 0006B        PUSHR   #^M<R7,SP>                           ; 1372
                                   0000V CF 9F 0006F       PUSHAB  PROCESS_FILE                         ;
                                     CC A6 9F 00073        PUSHAB  INPUT_FAB                            ;
                00000000G      00       04 FB 00076       CALLS   #4, LIB$FILE_SCAN                    ;
                                        C8 11 0007D       BRB     1$                                   ; 1367
                               50   F8   A4 9E 0007F 2$:   MOVAB   KEY_BUF, R0                        ; 1390
                               50 061C   C4 C0 00083       ADDL2   SORT_KEY_SIZE, R0                    ; 1391
                               53        60 DO 00088       MOVL    (R0), TEMP_FILE_COUNT                ; 1392
                                         04 12 0008B       BNEQ    3$                                   ; 1398
                               50        01 DO 0008D       MOVL    #1, R0                               ; 1400
                                         04 00090          RET                                          ;
                                   02    A5 95 00091 3$:   TSTB    QUALIFIERS+2                         ; 1412
                                         7E 18 00094       BGEQ    12$                                  ;
                0F       01    A5                 02 E1 00096       BBC     #2, QUALIFIERS+1, 4$         ; 1417
                                   0614  C4 DD 0009B       PUSHL   TOTAL_SELECTED                       ;
                                         01 DD 0009F       PUSHL   #1                                   ;
                                00000000G  8F DD 000A1     PUSHL   #ACC$_MERGE                          ;
                               68        03 FB 000A7       CALLS   #3, LIB$SIGNAL                       ;
                00000000G      00        00 FB 000AA 4$:   CALLS   #0, SOR$SORT_MERGE                   ; 1419
                               5D        50 E9 000B1 5$:   BLBC    STATUS, 11$                          ;
                            08 AE   0200 8F 3C 000B4       MOVZWL  #512, DESC                           ; 1421
                            0C AE     F8 A4 9E 000BA       MOVAB   KEY_BUF, DESC+4                      ; 1422
```

```
                                04   AE  9F 000BF 6$:     PUSHAB  TEMP                                    ; 1424
                                0C   AE  9F 000C2        PUSHAB  DESC                                    ;
    00000000G   00                   02  FB 000C5        CALLS   #2, SOR$RETURN_REC                      ;
                52                   50  D0 000CC        MOVL    R0, STATUS                              ;
                2A                   52  E9 000CF        BLBC    STATUS, 9$                              ;
0D              65                   03  E1 000D2        BBC     #3, QUALIFIERS, 7$                      ; 1426
                          0210       8F  BB 000D6        PUSHR   #^M<R4,R9>                              ; 1427
    00000000G   00                   02  FB 000DA        CALLS   #2, WRITE_BINARY                        ;
                                     15  11 000E1        BRB     8$                                      ;
                                     54  DD 000E3 7$:     PUSHL   R4                                      ; 1429
        0000V   CF                   01  FB 000E5        CALLS   #1, PROCESS_RECORD                      ;
                71                   50  E9 000EA        BLBC    STATUS, 18$                             ;
                          0210       8F  BB 000ED        PUSHR   #^M<R4,R9>                              ; 1430
    00000000G   00                   02  FB 000F1        CALLS   #2, SHOW_RECORD                         ;
                C4                   50  E8 000F8 8$:     BLBS    STATUS, 8$                              ;
                                     04  000FB          RET                                             ;
    00000870    8F                   52  D1 000FC 9$:     CMPL    STATUS, #2160                           ; 1434
                                     05  13 00103        BEQL    10$                                     ;
                                     52  DD 00105        PUSHL   STATUS                                  ; 1435
                68                   01  FB 00107        CALLS   #1, LIB$SIGNAL                          ;
    00000000G   00                   00  FB 0010A 10$:     CALLS   #0, SOR$END_SORT                        ; 1437
                4A                   50  E9 00111 11$:     BLBC    STATUS, 18$                             ;
07        02    A5                   05  E1 00114 12$:     BBC     #5, QUALIFIERS+2, 13$                   ; 1447
      086C    C4       085C        C4  7D 00119        MOVQ    SINCE_DATE, FIRST_DATE                  ;
07              65                   02  E1 00120 13$:     BBC     #2, QUALIFIERS, 14$                     ; 1449
      0864    C4       0854        C4  7D 00124        MOVQ    BEFORE_DATE, LAST_DATE                  ;
                28         03        A5  E9 0012B 14$:     BLBC    QUALIFIERS+3, 17$                       ; 1459
16              65                   01  E1 0012F        BBC     #1, QUALIFIERS, 15$                     ; 1460
                      00000000G      00  9F 00133        PUSHAB  FIND_WATERMARK                          ; 1463
                                     3F  DD 00139        PUSHL   #63                                     ;
                6A                   02  FB 0013B        CALLS   #2, SCAN_SYMBOLS                        ;
                79                   50  E9 0013E        BLBC    STATUS, 21$                             ;
                      00000000G      00  9F 00141        PUSHAB  WRITE_BAR_GRAPH                         ; 1466
                                     06  11 00147        BRB     16$                                     ;
                      00000000G      00  9F 00149 15$:     PUSHAB  WRITE_SUMMARY                           ; 1469
                                     3F  DD 0014F 16$:     PUSHL   #63                                     ;
                6A                   02  FB 00151        CALLS   #2, SCAN_SYMBOLS                        ;
                6D                   50  E9 00154        BLBC    STATUS, 23$                             ;
    00000000G   00                   00  FB 00157 17$:     CALLS   #0, WRITE_TOTALS                        ; 1470
                63                   50  E9 0015E 18$:     BLBC    STATUS, 23$                             ;
17        01    A5                   02  E1 00161        BBC     #2, QUALIFIERS+1, 19$                   ; 1481
                01                   53  D1 00166        CMPL    TEMP_FILE_COUNT, #1                     ; 1482
                                     12  1B 00169        BLEQU   19$                                     ;
                                     53  DD 0016B        PUSHL   TEMP_FILE_COUNT                         ; 1486
                7E       0614        C4  7D 0016D        MOVQ    TOTAL_SELECTED, -(SP)                   ; 1484
                                     03  DD 00172        PUSHL   #3                                      ; 1483
                      00000000G      8F  DD 00174        PUSHL   #ACC$_TOTAL                             ;
                68                   05  FB 0017A        CALLS   #5, LIB$SIGNAL                          ;
    00000000G   00   009F105A        8F  D0 0017D 19$:     MOVL    #10424410, OUTPUT_FAB+24                ; 1498
    00000000G   00   009F105A        8F  D0 00188        MOVL    #10424410, REJECTED_FAB+24              ; 1499
12        01    A5                   06  E1 00193        BBC     #6, QUALIFIERS+1, 20$                   ; 1501
0E              65                   03  E1 00198        BBC     #3, QUALIFIERS, 20$                     ;
                                     57  DD 0019C        PUSHL   R7                                      ; 1504
                      00000000G      00  9F 0019E        PUSHAB  OUTPUT_FAB                              ;
                6B                   02  FB 001A4        CALLS   #2, SYS$CLOSE                           ;
                1A                   50  E9 001A7        BLBC    STATUS, 23$                             ;
0E        02    A5                   02  E1 001AA 20$:     BBC     #2, QUALIFIERS+2, 22$                   ; 1506
```

```
                          57  DD 001AF          PUSHL   R7                                      ; 1509
                    00000000G 00  9F 001B1          PUSHAB  REJECTED_FAB                            ;
                          6B  02  FB 001B7          CALLS   #2, SYS$CLOSE                           ;
                          07      50  E9 001BA 21$:       BLBC    STATUS, 23$                     ;
                       50 00000000G 00  D0 001BD 22$:       MOVL    WORST_ERROR, R0                 ; 1520
                                    04 001C4 23$:       RET                                     ; 1522

; Routine Size:  453 bytes,    Routine Base:  CODE + 003C
```

```
;   691          1523  1 ROUTINE PROCESS_FILE (FAB) =
;   692          1524  1
;   693          1525  1 !----
;   694          1526  1 !
;   695          1527  1 ! Functional description
;   696          1528  1 !
;   697          1529  1 !       This routine processes one input file.  It is called as an action
;   698          1530  1 !       routine from FILESCAN.
;   699          1531  1 !
;   700          1532  1 ! Input parameters
;   701          1533  1 !
;   702          1534  1 !
;   703          1535  1 ! Output parameters
;   704          1536  1 !
;   705          1537  1 !       Record processing routines are called as necessary.
;   706          1538  1 !       Any errors encountered are RETURNed immediately.
;   707          1539  1 !       TRUE is returned on a normal exit.
;   708          1540  1 !
;   709          1541  1 !----
;   710          1542  1
;   711          1543  2 BEGIN
;   712          1544  2
;   713          1545  2 MAP
;   714          1546  2         fab:    ref bblock;             ! Define as a block structure
;   715          1547  2
;   716          1548  2 EXTERNAL
;   717          1549  2         related_nam: BBLOCK [],         ! Related NAM block for input parse
;   718          1550  2         input_xabfhc: BBLOCK [],        ! Input file FHC XAB block
;   719          1551  2         key_table;
;   720          1552  2
;   721          1553  2 BIND
;   722          1554  2         input_file_count        = key_buf + .sort_key_size,
;   723          1555  2         record_number           = key_buf + .sort_key_size + 4,
;   724          1556  2         input_buf               = key_buf + .sort_key_size + rec_prefix;
;   725          1557  2
;   726          1558  2 LOCAL
;   727          1559  2         status: bblock [long],          ! Local "catch all" status return
;   728          1560  2         desc:   vector [2, long];       ! Temporary string descriptor
;   729          1561  2
;   730          1562  2 OWN
;   731          1563  2         sort_init: initial (false);     ! Sort initialization flag
;   732          1564  2
;   733          1565  2 !
;   734          1566  2 ! ESTABLISH THE BUFFER ADDRESS --
;   735          1567  2 !
;   736          1568  2
;   737          1569  2 input_rab [rab$l_ubf] = input_buf;      ! Set input buffer address
;   738          1570  2
;   739          1571  2
;   740          1572  2 !
;   741          1573  2 ! OPEN AND CONNECT ---
;   742          1574  2 !       To the input accounting file.  Exit immediately if any errors
;   743          1575  2 !       are detected. The error handlers will have been invoked if an
;   744          1576  2 !       error occured, and the user will have been notified.  The error
;   745          1577  2 !       message used by the LOG_FILENAME routine is drawn from the
;   746          1578  2 !       CTX field of the FAB or INPUT_RAB as needed.
;   747          1579  2 !
```

```
;  748          1580  2
;  749          1581  2 fab [fab$l_ctx] = msg$_openin;                        ! Load the error mess.
;  750          1582  2 perform ($open (fab=.fab, err=log_filename));         ! OPEN the input file
;  751          1583  2 perform ($connect (rab=input_rab, err=log_filename)); ! CONNECT to input file
;  752          1584  2
;  753          1585  2 !
;  754          1586  2 ! INITIALIZE THE SORT --
;  755          1587  2 !       If sorting was requested then initialize the sort.
;  756          1588  2 !
;  757          1589  2
;  758          1590  2 (sort_key_count+2)<0,16> = .sort_key_count;     ! *** HACK
;  759          1591  2
;  760          1592  2 If PRESENT (SORT) AND (.sort_init eql false) then
;  761          1593  3    BEGIN
;  762          1594  3    LOCAL
;  763          1595  3         lrl, ebk;
;  764          1596  3    lrl = .input_xabfhc [xab$w_lrl] + .sort_key_size + rec_prefix;
;  765          1597  3    ebk = .input_xabfhc [xab$l_ebk];
;  766          1598  3    signal_if_error (sor$init_sort (sort_key_count+2, lrl, ebk));
;  767          1599  3    sort_init = true;
;  768          1600  3    END;
;  769          1601  2
;  770          1602  2
;  771          1603  2
;  772          1604  2 !
;  773          1605  2 !INITIALIZE OUTPUT FILES --
;  774          1606  2 !       The processing of the output files has been deferred until now
;  775          1607  2 !       so that a fully parsed input file name would be available (as
;  776          1608  2 !       a related file name) for default file name components
;  777          1609  2 !
;  778          1610  2
;  779          1611  2 If .input_file_count eql 0 then                       ! If this is the first pass
;  780          1612  2    signal_if_error (parse_output_files ());           ! then open the output files
;  781          1613  2
;  782          1614  2 input_file_count = .input_file_count + 1;             ! Bump the file count.
;  783          1615  2
;  784          1616  2
;  785          1617  2
;  786          1618  2
;  787          1619  2 !
;  788          1620  2 !RESET THE RECORD COUNTERS--
;  789          1621  2 !       Reset the file-relative record number such that records in each
;  790          1622  2 !       file will be numbered in ascending order beginning with one.
;  791          1623  2 !       Reset the selected count so it is also on a per-file basis.
;  792          1624  2 !
;  793          1625  2
;  794          1626  2 record_number = 0;                                    ! Reset the record number
;  795          1627  2 selected = 0;                                         ! Reset file select count
;  796          1628  2
;  797          1629  2
;  798          1630  2
;  799          1631  2
;  800          1632  2 !
;  801          1633  2 !READ AND LOOP UNTIL EOF ---
;  802          1634  2 !       Now read the file until EOF or an error is detected.  Process
;  803          1635  2 !       each record as specified in the command line
;  804          1636  2 !
```

```
;   805          1637  2
;   806          1638  2 While status = $get (rab=input_rab, err=log_filename) do ! Read a record
;   807          1639  3    BEGIN
;   808          1640  3    record_number = .record_number + 1;          ! Update the record number
;   809          1641  3    if not process_record (input_buf)            ! Analyze the record
;   810          1642  3    then
;   811          1643  4         begin
;   812          1644  4         desc [0] = .input_nam [nam$b_rsl];       !  then notify the user
;   813          1645  4         desc [1] = .input_nam [nam$l_rsa];       !  with file and counts
;   814          1646  4         signal( msg$_readerr, 1, desc, acc$_invaccrec, 1, .record_number );
;   815          1647  4         end
;   816          1648  3    else
;   817          1649  3         if record_selected (input_buf)
;   818          1650  3         then
;   819          1651  4             if PRESENT (SORT)
;   820          1652  3             then
;   821        P 1653  3                 signal_if_error (release_to_sort (input_buf,sort_table,key_table,
;   822          1654  4                                  key_buf))
;   823          1655  3             else
;   824          1656  4                 if PRESENT (BINARY)
;   825          1657  3                 then
;   826          1658  4                     signal_if_error (write_binary (input_buf, output_rab))
;   827          1659  3                 else
;   828          1660  4                     signal_if_error (show_record (input_buf, output_rab))
;   829          1661  3         else
;   830          1662  4             if PRESENT (REJECTED)                ! If secondary stream open
;   831          1663  3             then
;   832          1664  3                 signal_if_error (write_binary (input_buf, rejected_rab));
;   833          1665  2    END;
;   834          1666  2
;   835          1667  2 Fab [fab$l_ctx] = msg$_closein;                      ! Assign error message
;   836          1668  2 Perform ($close (fab=.fab, err=log_filename));        ! Close the input file
;   837          1669  2
;   838          1670  2 Total_selected = .total_selected + .selected;   ! Accumulate totals
;   839          1671  2 Total_rejected = .total_rejected + (.record_number - .selected);
;   840          1672  2
;   841          1673  2 !
;   842          1674  2 !CHECK STATUS AT END OF LOOP ---
;   843          1675  2 ! Now check the return status to make sure it was a normal EOF.  If not,
;   844          1676  2 ! notify the user.
;   845          1677  2 !
;   846          1678  2
;   847          1679  3 If not (.status eql rms$_eof)              ! If any status other than
;   848          1680  2    then return .status;                     !  expected eof, return it
;   849          1681  2
;   850          1682  2 !
;   851          1683  2 ! CLOSE ---
;   852          1684  2 !       Input file processing is now complete.  Revise the stored error
;   853          1685  2 !       message (which is passed to the error routine via the 'user context'
;   854          1686  2 !       field [CTX] of the FAB) and $CLOSE the input file.
;   855          1687  2 !
;   856          1688  2
;   857          1689  2
;   858          1690  2 If PRESENT (LOG) then                          ! If logging requested
;   859          1691  3    BEGIN
;   860          1692  3    desc [0] = .input_nam [nam$b_rsl];                !  then notify the user
;   861          1693  3    desc [1] = .input_nam [nam$l_rsa];                !  with file and counts
```

```
;  862          1694  3    signal (acc$_input, 3, desc, .selected, .record_number - .selected);
;  863          1695  2    END;
;  864          1696  2
;  865          1697  2 Return true;
;  866          1698  2
;  867          1699  1 END;


                                                        .PSECT  $OWN$,NOEXE,2

                                        00000000  00008 SORT_INIT:
                                                        .LONG   0                                       ;

                                                        .EXTRN  RELATED_NAM, INPUT_XABFHC
                                                        .EXTRN  KEY_TABLE, SYS$OPEN
                                                        .EXTRN  SYS$CONNECT, SYS$GET

                                                        .PSECT  CODE,NOWRT,2

                                            0FFC 00000 PROCESS_FILE:
                                                        .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11    ; 1523
                                    5B 00000000G   00   9E 00002       MOVAB   INPUT_RAB, R11
                                    5A 00000000G   00   9E 00009       MOVAB   INPUT_NAM+3, R10
                                    59 00000000G   00   9E 00010       MOVAB   LOG_FILENAME, R9
                                    58 00000000G   00   9E 00017       MOVAB   QUALIFIERS, R8
                                    57 00000000'   EF   9E 0001E       MOVAB   SORT_KEY_SIZE, R7
                                    5E                 10   C2 00025    SUBL2   #16, SP
                                    50                 67   D0 00028    MOVL    SORT_KEY_SIZE, R0          ; 1554
                                    55             F9DC C740 9E 0002B    MOVAB   KEY_BUF[R0], R5
                                    56             F9E0 C740 9E 00031    MOVAB   KEY_BUF+4[R0], R6          ; 1555
                                    54             F9E4 C740 9E 00037    MOVAB   KEY_BUF+8[R0], R4          ; 1556
                                24  AB                 54   D0 0003D    MOVL    R4, INPUT_RAB+36           ; 1569
                                    52                 04   AC D0 00041  MOVL    FAB, R2                    ; 1581
                                18  A2         009F109A   8F   D0 00045  MOVL    #10424474, 24(R2)
                                               0204   8F   BB 0004D    PUSHR   #^M<R2,R9>                 ; 1582
                            00000000G   00             02   FB 00051    CALLS   #2, SYS$OPEN
                                        0B             50   E9 00058    BLBC    STATUS, 1$
                                                       59   DD 0005B    PUSHL   R9                         ; 1583
                                                       5B   DD 0005D    PUSHL   R11
                            00000000G   00             02   FB 0005F    CALLS   #2, SYS$CONNECT
                                        01             50   E8 00066 1$: BLBS    STATUS, 2$
                                                       04   00069       RET
                                025A    C7         0258   C7   B0 0006A 2$: MOVW    SORT_KEY_COUNT, SORT_KEY_COUNT+2   ; 1590
                                                     02   A8   95 00071    TSTB    QUALIFIERS+2               ; 1592
                                                          37   18 00074    BGEQ    3$
                                                   0000'  CF   D5 00076    TSTL    SORT_INIT
                                                          31   12 0007A    BNEQ    3$
                                                50 00000000G   00   3C 0007C    MOVZWL  INPUT_XABFHC+10, R0        ; 1596
                                                50             67   C0 00083    ADDL2   SORT_KEY_SIZE, R0
                                    04          AE         08   A0   9E 00086  MOVAB   8(R0), LRL
                                                6E 00000000G   00   D0 0008B    MOVL    INPUT_XABFHC+16, EBK       ; 1597
                                                               5E   DD 00092    PUSHL   SP                         ; 1598
                                                             08   AE   9F 00094  PUSHAB  LRL
                                                         025A  C7   9F 00097    PUSHAB  SORT_KEY_COUNT+2
                                                00000000G   00             03   FB 0009B    CALLS   #3, SOR$INIT_SORT
                                                            53             50   D0 000A2    MOVL    R0, STATUS
```

```
                    13              53  E9 000A5          BLBC    STATUS, 4$                                          ;
                0000'  CF           01  D0 000A8          MOVL    #1, SORT_INIT                                       ; 1599
                                    65  D5 000AD 3$:      TSTL    (R5)                                                ; 1611
                                    10  12 000AF          BNEQ    5$                                                  ;
                00000000G  00       00  FB 000B1          CALLS   #0, PARSE_OUTPUT_FILES                              ; 1612
                           53       50  D0 000B8          MOVL    R0, STATUS                                          ;
                           03       53  E8 000BB 4$:      BLBS    STATUS, 5$                                          ;
                                00AD 31  000BE          BRW     15$                                                 ;
                                    65  D6 000C1 5$:      INCL    (R5)                                                ; 1614
                                    66  D4 000C3          CLRL    (R6)                                                ; 1626
                                F4  A7  D4 000C5          CLRL    SELECTED                                            ; 1627
                                    59  DD 000C8 6$:      PUSHL   R9                                                  ; 1638
                                    5B  DD 000CA          PUSHL   R11                                                 ;
                00000000G  00       02  FB 000CC          CALLS   #2, SYS$GET                                         ;
                           55       50  D0 000D3          MOVL    R0, STATUS                                          ;
                           03       55  E8 000D6          BLBS    STATUS, 7$                                          ;
                                009F 31  000D9          BRW     16$                                                 ;
                                    66  D6 000DC 7$:      INCL    (R6)                                                ; 1640
                                    54  DD 000DE          PUSHL   R4                                                  ; 1641
                0000V  CF           01  FB 000E0          CALLS   #1, PROCESS_RECORD                                  ;
                       27           50  E8 000E5          BLBS    R0, 9$                                              ;
                  08   AE           6A  9A 000E8          MOVZBL  INPUT_NAM+3, DESC                                   ; 1644
                  0C   AE       01  AA  D0 000EC          MOVL    INPUT_NAM+4, DESC+4                                 ; 1645
                                    66  DD 000F1          PUSHL   (R6)                                                ; 1646
                                    01  DD 000F3          PUSHL   #1                                                  ;
                            00000000G   8F  DD 000F5          PUSHL   #ACC$_INVACCREC                                 ;
                                  14    AE  9F 000FB          PUSHAB  DESC                                            ;
                                    01  DD 000FE          PUSHL   #1                                                  ;
                            009F10B2    8F  DD 00100          PUSHL   #10424498                                       ;
                00000000G  00           06  FB 00106          CALLS   #6, LIB$SIGNAL                                  ;
                                    B9  11  0010D 8$:      BRB     6$                                                  ; 1641
                                    54  DD 0010F 9$:      PUSHL   R4                                                  ; 1649
                      0000V  CF         01  FB 00111          CALLS   #1, RECORD_SELECTED                             ;
                             3B         50  E9 00116          BLBC    R0, 12$                                         ;
                                   02   A8  95 00119          TSTB    QUALIFIERS+2                                    ; 1651
                                    19  18  0011C          BGEQ    10$                                                 ;
                                F9DC    C7  9F 0011E          PUSHAB  KEY_BUF                                         ; 1654
                            00000000G   00  9F 00122          PUSHAB  KEY_TABLE                                       ;
                                  025C  C7  9F 00128          PUSHAB  SORT_TABLE                                      ;
                                    54  DD 0012C          PUSHL   R4                                                  ;
                00000000G  00           04  FB 0012E          CALLS   #4, RELEASE_TO_SORT                             ;
                                    31  11  00135          BRB     14$                                                 ;
            08         68               03  E1 00137 10$:      BBC     #3, QUALIFIERS, 11$                             ; 1656
                            00000000G   00  9F 0013B          PUSHAB  OUTPUT_RAB                                      ; 1658
                                    1C  11  00141          BRB     13$                                                 ;
                            00000000G   00  9F 00143 11$:      PUSHAB  OUTPUT_RAB                                      ; 1660
                                    54  DD 00149          PUSHL   R4                                                  ;
                00000000G  00           02  FB 0014B          CALLS   #2, SHOW_RECORD                                 ;
                                    14  11  00152          BRB     14$                                                 ;
            B4        02   A8           02  E1 00154 12$:      BBC     #2, QUALIFIERS+2, 8$                            ; 1662
                            00000000G   00  9F 00159          PUSHAB  REJECTED_RAB                                    ; 1664
                                    54  DD 0015F 13$:      PUSHL   R4                                                  ;
                00000000G  00           02  FB 00161          CALLS   #2, WRITE_BINARY                                ;
                           53           50  D0 00168 14$:      MOVL    R0, STATUS                                      ;
                           9F           53  E8 0016B          BLBS    STATUS, 8$                                      ;
                                    53  DD 0016E 15$:      PUSHL   STATUS                                              ;
                00000000G  00           01  FB 00170          CALLS   #1, LIB$SIGNAL                                  ;
```

```
                        50              53  D0 00177          MOVL    STATUS, R0                                      ;
                                            04 0017A          RET                                                     ;
                    18  A2 009F1052        8F  D0 0017B 16$:   MOVL    #10424402, 24(R2)                               ; 1667
                                0204        8F  BB 00183        PUSHR   #^M<R2,R9>                                      ; 1668
            00000000G   00                  02  FB 00187        CALLS   #2, SYS$CLOSE                                   ;
                        42                  50  E9 0018E        BLBC    STATUS, 19$                                     ;
                        50          F4      A7  D0 00191        MOVL    SELECTED, R0                                    ; 1670
                    F8  A7                  50  C0 00195        ADDL2   R0, TOTAL_SELECTED                              ;
                51      66                  50  C3 00199        SUBL3   R0, (R6), R1                                    ; 1671
                    FC  A7                  51  C0 0019D        ADDL2   R1, TOTAL_REJECTED                              ;
            0001827A    8F                  55  D1 001A1        CMPL    STATUS, #98938                                  ; 1679
                                            04  13 001A8        BEQL    17$                                             ;
                        50                  55  D0 001AA        MOVL    STATUS, R0                                      ; 1680
                                            04  001AD           RET                                                     ;
            1D      01  A8                  02  E1 001AE 17$:   BBC     #2, QUALIFIERS+1, 18$                           ; 1690
                    08  AE                  6A  9A 001B3        MOVZBL  INPUT_NAM+3, DESC                               ; 1692
                    0C  AE          01      AA  D0 001B7        MOVL    INPUT_NAM+4, DESC+4                             ; 1693
                                            03  BB 001BC        PUSHR   #^M<R0,R1>                                      ; 1694
                                    10      AE  9F 001BE        PUSHAB  DESC                                            ;
                                            03  DD 001C1        PUSHL   #3                                              ;
                                00000000G   8F  DD 001C3        PUSHL   #ACC$_INPUT                                     ;
            00000000G   00                  05  FB 001C9        CALLS   #5, LIB$SIGNAL                                  ;
                        50                  01  D0 001D0 18$:   MOVL    #1, R0                                          ; 1697
                                            04  001D3 19$:   RET                                                     ; 1699

; Routine Size:  468 bytes,    Routine Base:  CODE + 0201
```

```
;   869          1700  1 ROUTINE PROCESS_RECORD (BUFFER) =
;   870          1701  1
;   871          1702  1 !----
;   872          1703  1 !
;   873          1704  1 ! Functional description
;   874          1705  1 !
;   875          1706  1 !       This routine is called to analyze a record from the system
;   876          1707  1 !       accounting file.
;   877          1708  1 !
;   878          1709  1 ! Input parameters
;   879          1710  1 !
;   880          1711  1 !       BUFFER = Address of a buffer containing the record to be detailed.
;   881          1712  1 !                The record can be of any type from the V2 and V3 accounting
;   882          1713  1 !                formats
;   883          1714  1 !
;   884          1715  1 ! Output parameters
;   885          1716  1 !
;   886          1717  1 !       Based on the contents of the record, values are established.
;   887          1718  1 !       These values are used in later processing.
;   888          1719  1 !       Any errors encountered are RETURNed immediately.
;   889          1720  1 !       TRUE is returned on a normal exit.
;   890          1721  1 !
;   891          1722  1 !----
;   892          1723  1
;   893          1724  2 BEGIN
;   894          1725  2
;   895          1726  2 MAP
;   896          1727  2         buffer: ref bblock;             ! Define buffer format
;   897          1728  2
;   898          1729  2 LOCAL
;   899          1730  2         day_number,                     ! Temporary output of LIB$DAY
;   900          1731  2         day_time;                       ! Temporary output of LIB$DAY
;   901          1732  2
;   902          1733  2
;   903          1734  2 !
;   904          1735  2 ! Initialize descriptors
;   905          1736  2 !
;   906          1737  2 customer                = 0;
;   907          1738  2 record_length          = 0;
;   908          1739  2 record_type            = 0;
;   909          1740  2 record_subtype         = 0;
;   910          1741  2 version                 = 0;
;   911          1742  2
;   912          1743  2 account_desc [0]       = 0;
;   913          1744  2 account_desc [1]       = 0;
;   914          1745  2 address_desc [0]       = 0;
;   915          1746  2 address_desc [1]       = 0;
;   916          1747  2 buffered_io_desc [0]   = 0;
;   917          1748  2 buffered_io_desc [1]   = 0;
;   918          1749  2 cpu_time_desc [0]      = 0;
;   919          1750  2 cpu_time_desc [1]      = 0;
;   920          1751  2 direct_io_desc [0]     = 0;
;   921          1752  2 direct_io_desc [1]     = 0;
;   922          1753  2 elapsed_desc [0]      = 0;
;   923          1754  2 elapsed_desc [1]      = elapsed_time;
;   924          1755  2 elapsed_time [0]      = 0;
;   925          1756  2 elapsed_time [1]      = 0;
```

```
;   926          1757  2 execution_desc [0]      = 0;
;   927          1758  2 execution_desc [1]      = 0;
;   928          1759  2 file_desc [0]           = 0;
;   929          1760  2 file_desc [1]           = 0;
;   930          1761  2 finish_time_desc [0]    = 0;
;   931          1762  2 finish_time_desc [1]    = 0;
;   932          1763  2 image_file_desc [0]     = 0;
;   933          1764  2 image_file_desc [1]     = 0;
;   934          1765  2 image_desc [0]          = 0;
;   935          1766  2 image_desc [1]          = 0;
;   936          1767  2 entry_desc [0]          = 0;
;   937          1768  2 entry_desc [1]          = 0;
;   938          1769  2 job_desc [0]            = 0;
;   939          1770  2 job_desc [1]            = 0;
;   940          1771  2 node_desc [0]           = 0;
;   941          1772  2 node_desc [1]           = 0;
;   942          1773  2 owner_desc [0]          = 0;
;   943          1774  2 owner_desc [1]          = 0;
;   944          1775  2 page_faults_desc [0]    = 0;
;   945          1776  2 page_faults_desc [1]    = 0;
;   946          1777  2 page_file_desc [0]      = 0;
;   947          1778  2 page_file_desc [1]      = 0;
;   948          1779  2 page_reads_desc [0]     = 0;
;   949          1780  2 page_reads_desc [1]     = 0;
;   950          1781  2 ident_desc [0]          = 0;
;   951          1782  2 ident_desc [1]          = 0;
;   952          1783  2 priority_desc [0]       = 0;
;   953          1784  2 priority_desc [1]       = 0;
;   954          1785  2 privilege_desc [0]      = 0;
;   955          1786  2 privilege_desc [1]      = 0;
;   956          1787  2 process_desc [0]        = 0;
;   957          1788  2 process_desc [1]        = 0;
;   958          1789  2 quad_cpu_time [0]       = 0;
;   959          1790  2 quad_cpu_time [1]       = 0;
;   960          1791  2 queue_desc [0]          = 0;
;   961          1792  2 queue_desc [1]          = 0;
;   962          1793  2 queue_time_desc [0]     = 0;
;   963          1794  2 queue_time_desc [1]     = 0;
;   964          1795  2 remote_id_desc [0]     = 0;
;   965          1796  2 remote_id_desc [1]     = 0;
;   966          1797  2 start_time_desc [0]    = 0;
;   967          1798  2 start_time_desc [1]    = 0;
;   968          1799  2 status_desc [0]        = 0;
;   969          1800  2 status_desc [1]        = 0;
;   970          1801  2 status_text_desc [0]   = 0;
;   971          1802  2 status_text_desc [1]   = 0;
;   972          1803  2 subtype_desc [0]       = 0;
;   973          1804  2 subtype_desc [1]       = 0;
;   974          1805  2 sym_get_desc [0]       = 0;
;   975          1806  2 sym_get_desc [1]       = 0;
;   976          1807  2 sym_page_desc [0]      = 0;
;   977          1808  2 sym_page_desc [1]      = 0;
;   978          1809  2 sym_qio_desc [0]       = 0;
;   979          1810  2 sym_qio_desc [1]       = 0;
;   980          1811  2 terminal_desc [0]      = 0;
;   981          1812  2 terminal_desc [1]      = 0;
;   982          1813  2 type_desc [0]          = 0;
```

```
;  983          1814  2 type_desc [1]               = 0;
;  984          1815  2 type_text_desc [0]          = 0;
;  985          1816  2 type_text_desc [1]          = 0;
;  986          1817  2 uic_desc [0]                = 0;
;  987          1818  2 uic_desc [1]                = 0;
;  988          1819  2 uic_binary_desc [0]         = 0;
;  989          1820  2 uic_binary_desc [1]         = 0;
;  990          1821  2 uic_group_desc [0]         = 0;
;  991          1822  2 uic_group_desc [1]         = 0;
;  992          1823  2 uic_member_desc [0]        = 0;
;  993          1824  2 uic_member_desc [1]        = 0;
;  994          1825  2 user_data_desc [0]        = 0;
;  995          1826  2 user_data_desc [1]        = 0;
;  996          1827  2 user_desc [0]             = 0;
;  997          1828  2 user_desc [1]             = 0;
;  998          1829  2 volumes_desc [0]         = 0;
;  999          1830  2 volumes_desc [1]         = 0;
; 1000          1831  2 wait_time [0]            = 0;
; 1001          1832  2 wait_time [1]            = 0;
; 1002          1833  2 working_set_desc [0]     = 0;
; 1003          1834  2 working_set_desc [1]     = 0;
; 1004          1835  2
; 1005          1836  2 hold_biocnt              = 0;
; 1006          1837  2 hold_diocnt              = 0;
; 1007          1838  2 hold_elapsed [0]         = 0;
; 1008          1839  2 hold_elapsed [1]         = 0;
; 1009          1840  2 hold_execution           = 0;
; 1010          1841  2 hold_pageflts            = 0;
; 1011          1842  2 hold_getcnt              = 0;
; 1012          1843  2 hold_qiocnt              = 0;
; 1013          1844  2 hold_pagcnt              = 0;
; 1014          1845  2 hold_pgflpeak            = 0;
; 1015          1846  2 hold_pagereads           = 0;
; 1016          1847  2 hold_wspeak              = 0;
; 1017          1848  2 hold_cputim [0]          = 0;
; 1018          1849  2 hold_cputim [1]          = 0;
; 1019          1850  2 hold_volumes             = 0;
; 1020          1851  2
; 1021          1852  2 version = .buffer [acr$v_version];
; 1022          1853  2
; 1023          1854  2 SELECTONEU .version of
; 1024          1855  2         SET
; 1025          1856  2         [acr$k_version2]:
; 1026          1857  2                 perform (process_v2_record(.buffer));
; 1027          1858  2         [acr$k_version3t, acr$k_version3]:
; 1028          1859  2                 perform (process_v3_record(.buffer));
; 1029          1860  2         [OTHERWISE]:
; 1030          1861  2                 return false;
; 1031          1862  2         TES;
; 1032          1863  2
; 1033          1864  3 If PRESENT (REPORT)
; 1034          1865  3         THEN BEGIN
; 1035          1866  3         IF .buffered_io_desc [0] neq 0
; 1036          1867  4                 THEN BEGIN
; 1037          1868  4                 hold_biocnt = ..buffered_io_desc [1];
; 1038          1869  3                 END;
; 1039          1870  3         IF .cpu_time_desc [0] neq 0
```

```
;  1040          1871  4                 THEN BEGIN
;  1041          1872  4                 hold_cputim [0] = .quad_cpu_time [0];
;  1042          1873  4                 hold_cputim [1] = .quad_cpu_time [1];
;  1043          1874  3                 END;
;  1044          1875  3             IF .direct_io_desc [0] neq 0
;  1045          1876  4                 THEN BEGIN
;  1046          1877  4                 hold_diocnt = ..direct_io_desc [1];
;  1047          1878  3                 END;
;  1048          1879  3             hold_elapsed [0] = .elapsed_time [0];
;  1049          1880  3             hold_elapsed [1] = .elapsed_time [1];
;  1050          1881  3 !           perform (lib$day (day_number, hold_elapsed, day_time));
;  1051          1882  3 !           hold_elapsed [0] = (.day_time/10000) + (.day_number * 24 * 60 * 60);
;  1052          1883  3 !           hold_elapsed [1] = 0;
;  1053          1884  3             IF .execution_desc [0] neq 0
;  1054          1885  4                 THEN BEGIN
;  1055          1886  4                 hold_execution = ..execution_desc [1];
;  1056          1887  3                 END;
;  1057          1888  3             IF .page_faults_desc [0] neq 0
;  1058          1889  4                 THEN BEGIN
;  1059          1890  4                 hold_pageflts = ..page_faults_desc [1];
;  1060          1891  3                 END;
;  1061          1892  3             IF .page_file_desc [0] neq 0
;  1062          1893  4                 THEN BEGIN
;  1063          1894  4                 hold_pgflpeak = ..page_file_desc [1];
;  1064          1895  3                 END;
;  1065          1896  3             IF .page_reads_desc [0] neq 0
;  1066          1897  4                 THEN BEGIN
;  1067          1898  4                 hold_pagereads = ..page_reads_desc [1];
;  1068          1899  3                 END;
;  1069          1900  3             IF .sym_get_desc [0] neq 0
;  1070          1901  4                 THEN BEGIN
;  1071          1902  4                 hold_getcnt = ..sym_get_desc [1];
;  1072          1903  3                 END;
;  1073          1904  3             IF .sym_qio_desc [0] neq 0
;  1074          1905  4                 THEN BEGIN
;  1075          1906  4                 hold_qiocnt = ..sym_qio_desc [1];
;  1076          1907  3                 END;
;  1077          1908  3             IF .sym_page_desc [0] neq 0
;  1078          1909  4                 THEN BEGIN
;  1079          1910  4                 hold_pagcnt = ..sym_page_desc [1];
;  1080          1911  3                 END;
;  1081          1912  3             IF .volumes_desc [0] neq 0
;  1082          1913  4                 THEN BEGIN
;  1083          1914  4                 hold_volumes = ..volumes_desc [1];
;  1084          1915  3                 END;
;  1085          1916  3             IF .working_set_desc [0] neq 0
;  1086          1917  4                 THEN BEGIN
;  1087          1918  4                 hold_wspeak = ..working_set_desc [1];
;  1088          1919  3                 END;
;  1089          1920  2             END;
;  1090          1921
;  1091          1922  2 If PRESENT (SORT) OR PRESENT (EXPAND_DATE)
;  1092          1923  2             THEN BEGIN
;  1093          1924  2             !
;  1094          1925  2             ! Form an ascii date string in the form:
;  1095          1926  2             !
;  1096          1927  3             !                           DD-MMM-YYYY HH:MM:SS.CC
```

```
;  1097          1928  3          !
;  1098          1929  3
;  1099          1930  3          Perform (lib$sys_asctim (0, a_date_desc, ..date_desc_addr, 0));
;  1100          1931  3          END;
;  1101          1932  3
;  1102          1933  3  If PRESENT (EXPAND_DATE)
;  1103          1934  3          THEN BEGIN
;  1104          1935  3
;  1105          1936  3          !
;  1106          1937  3          ! Calculate day-of-week in binary byte range of 0-6
;  1107          1938  3          ! First get total days since epoch date
;  1108          1939  3          ! Shift it 3 days to make 0 = Sunday
;  1109          1940  3          ! Convert to modulo 7
;  1110          1941  3          ! Convert to ascii byte as a temporary hack
;  1111          1942  3          !
;  1112          1943  3
;  1113          1944  3          perform (lib$day (weekday, ..date_desc_addr));
;  1114          1945  3
;  1115          1946  3          weekday = ((.weekday + 3) mod 7) + '0';
;  1116          1947  3
;  1117          1948  3
;  1118          1949  3          !
;  1119          1950  3          ! Form an ascii date string suitable for sorting in the form:
;  1120          1951  3          !
;  1121          1952  3          !                          YYYY MM DD
;  1122          1953  3          !
;  1123          1954  3
;  1124          1955  3          perform (sys$numtim (numeric_date, ..date_desc_addr));
;  1125          1956  3
;  1126        P 1957  3          perform (lib$sys_fao (ad ('!4ZW !2ZW !2ZW'),
;  1127        P 1958  3                                0,                          ! No output length
;  1128        P 1959  3                                s_date_desc,                ! Output buf desc
;  1129        P 1960  3                                .numeric_date [0],          ! Year
;  1130        P 1961  3                                .numeric_date [1],          ! Month
;  1131        P 1962  3                                .numeric_date [2]           ! Day of month
;  1132          1963  3                           ));
;  1133          1964  2          END;
;  1134          1965  2
;  1135          1966  2  return true;
;  1136          1967  2
;  1137          1968  1  END;


                                                    003D5                .BLKB   3
00  57  5A  32  21  20  57  5A  32  21  20  57  5A  34  21  003D8 P.AAD:   .ASCII  \!4ZW !2ZW !2ZW\<0><0>                    ;
                                                        00  003E7                                                          ;
                                                0000000E    003E8 P.AAC:   .LONG   14                                      ;
                                                00000000'   003EC          .ADDRESS P.AAD                              ;


                                                    000C 00000 PROCESS_RECORD:
                                                                 .WORD   Save R2,R3                                    ; 1700
                                        53 00000000G    00  9E 00002     MOVAB   QUALIFIERS, R3                        ;
                                        52 00000000'    EF  9E 00009     MOVAB   VERSION, R2                           ;
                                                FC      A2  7C 00010     CLRQ    CUSTOMER                              ; 1737
```

```
                F8   A2  7C 00013          CLRQ    RECORD_SUBTYPE                          ;1740
                     62  D4 00016          CLRL    VERSION                                 ;1741
                28   A2  7C 00018          CLRQ    ACCOUNT_DESC                            ;1743
                30   A2  7C 0001B          CLRQ    ADDRESS_DESC                            ;1745
                38   A2  7C 0001E          CLRQ    BUFFERED_IO_DESC                        ;1747
                40   A2  7C 00021          CLRQ    CPU_TIME_DESC                           ;1749
                48   A2  7C 00024          CLRQ    DIRECT_IO_DESC                          ;1751
          5C    A2     18   A2  9E 00027    MOVAB   ELAPSED_TIME, ELAPSED_DESC+4            ;1754
                18   A2  7C 0002C          CLRQ    ELAPSED_TIME                            ;1755
                60   A2  7C 0002F          CLRQ    EXECUTION_DESC                          ;1757
                68   A2  7C 00032          CLRQ    FILE_DESC                               ;1759
                70   A2  7C 00035          CLRQ    FINISH_TIME_DESC                        ;1761
              0080   C2  7C 00038          CLRQ    IMAGE_FILE_DESC                         ;1763
              0088   C2  7C 0003C          CLRQ    IMAGE_DESC                              ;1765
                50   A2  D4 00040          CLRL    ENTRY_DESC                              ;1767
                54   A2  7C 00043          CLRQ    ENTRY_DESC+4                            ;1768
              0090   C2  7C 00046          CLRQ    JOB_DESC                                ;1769
              0098   C2  7C 0004A          CLRQ    NODE_DESC                               ;1771
              00A0   C2  7C 0004E          CLRQ    OWNER_DESC                              ;1773
              00A8   C2  7C 00052          CLRQ    PAGE_FAULTS_DESC                        ;1775
              00B0   C2  7C 00056          CLRQ    PAGE_FILE_DESC                          ;1777
              00B8   C2  7C 0005A          CLRQ    PAGE_READS_DESC                         ;1779
                78   A2  7C 0005E          CLRQ    IDENT_DESC                              ;1781
              00C0   C2  7C 00061          CLRQ    PRIORITY_DESC                           ;1783
              00C8   C2  7C 00065          CLRQ    PRIVILEGE_DESC                          ;1785
              00D0   C2  7C 00069          CLRQ    PROCESS_DESC                            ;1787
                10   A2  7C 0006D          CLRQ    QUAD_CPU_TIME                           ;1789
              00D8   C2  7C 00070          CLRQ    QUEUE_DESC                              ;1791
              00E0   C2  7C 00074          CLRQ    QUEUE_TIME_DESC                         ;1793
              00E8   C2  7C 00078          CLRQ    REMOTE_ID_DESC                          ;1795
              00F0   C2  7C 0007C          CLRQ    START_TIME_DESC                         ;1797
              00F8   C2  7C 00080          CLRQ    STATUS_DESC                             ;1799
              0100   C2  7C 00084          CLRQ    STATUS_TEXT_DESC                        ;1801
              0108   C2  7C 00088          CLRQ    SUBTYPE_DESC                            ;1803
              0110   C2  7C 0008C          CLRQ    SYM_GET_DESC                            ;1805
              0120   C2  7C 00090          CLRQ    SYM_PAGE_DESC                           ;1807
              0118   C2  7C 00094          CLRQ    SYM_QIO_DESC                            ;1809
              0128   C2  7C 00098          CLRQ    TERMINAL_DESC                           ;1811
              0130   C2  7C 0009C          CLRQ    TYPE_DESC                               ;1813
              0138   C2  7C 000A0          CLRQ    TYPE_TEXT_DESC                          ;1815
              0158   C2  7C 000A4          CLRQ    UIC_DESC                                ;1817
              0140   C2  7C 000A8          CLRQ    UIC_BINARY_DESC                         ;1819
              0148   C2  7C 000AC          CLRQ    UIC_GROUP_DESC                          ;1821
              0150   C2  7C 000B0          CLRQ    UIC_MEMBER_DESC                         ;1823
              0160   C2  7C 000B4          CLRQ    USER_DATA_DESC                          ;1825
              0168   C2  7C 000B8          CLRQ    USER_DESC                               ;1827
              0170   C2  7C 000BC          CLRQ    VOLUMES_DESC                            ;1829
                20   A2  7C 000C0          CLRQ    WAIT_TIME                               ;1831
              0178   C2  7C 000C3          CLRQ    WORKING_SET_DESC                        ;1833
                B4   A2  7C 000C7          CLRQ    HOLD_BIOCNT                             ;1836
                BC   A2  7C 000CA          CLRQ    HOLD_ELAPSED                            ;1838
                C4   A2  7C 000CD          CLRQ    HOLD_EXECUTION                          ;1840
                CC   A2  7C 000D0          CLRQ    HOLD_GETCNT                             ;1842
                D4   A2  7C 000D3          CLRQ    HOLD_PAGCNT                             ;1844
                DC   A2  7C 000D6          CLRQ    HOLD_PAGEREADS                          ;1846
                E4   A2  7C 000D9          CLRQ    HOLD_CPUTIM                             ;1848
                EC   A2  D4 000DC          CLRL    HOLD_VOLUMES                            ;1850
```

```
                62      04  BC          03          0C  EF 000DF          EXTZV   #12, #3, @BUFFER, VERSION                  ; 1852
                                        50          62  D0 000E5          MOVL    VERSION, R0                                ; 1854
                                                    0A  12 000E8          BNEQ    1$                                         ; 1856
                                                04  AC  DD 000EA          PUSHL   BUFFER                                     ; 1857
                                          0000V CF      01  FB 000ED      CALLS   #1, PROCESS_V2_RECORD
                                                        10  11 000F2      BRB     3$
                                              02        50  D1 000F4 1$:   CMPL    R0, #2                                     ; 1858
                                                        03  1B 000F7      BLEQU   2$
                                                  0123  31  000F9         BRW     21$
                                                04  AC  DD 000FC 2$:     PUSHL   BUFFER                                     ; 1859
                                          0000V CF      01  FB 000FF      CALLS   #1, PROCESS_V3_RECORD
                                              01        50  E8 00104 3$:   BLBS    STATUS, 4$
                                                        04  00107        RET
                        03      02  A3              04  E0 00108 4$:     BBS     #4, QUALIFIERS+2, 5$                       ; 1864
                                                  008D  31  0010D         BRW     17$
                                            38  A2      D5  00110 5$:     TSTL    BUFFERED_IO_DESC                           ; 1866
                                                        05  13 00113      BEQL    6$
                                      B4    A2      3C  B2  D0 00115      MOVL    @BUFFERED_IO_DESC+4, HOLD_BIOCNT           ; 1868
                                            40  A2      D5  0011A 6$:     TSTL    CPU_TIME_DESC                              ; 1870
                                                        05  13 0011D      BEQL    7$
                                      E4    A2      10  A2  7D 0011F      MOVQ    QUAD_CPU_TIME, HOLD_CPUTIM                 ; 1872
                                            48  A2      D5  00124 7$:     TSTL    DIRECT_IO_DESC                             ; 1875
                                                        05  13 00127      BEQL    8$
                                      B8    A2      4C  B2  D0 00129      MOVL    @DIRECT_IO_DESC+4, HOLD_DIOCNT             ; 1877
                                      BC    A2      18  A2  7D 0012E 8$:     MOVQ    ELAPSED_TIME, HOLD_ELAPSED                 ; 1879
                                            60  A2      D5  00133         TSTL    EXECUTION_DESC                             ; 1884
                                                        05  13 00136      BEQL    9$
                                      C4    A2      64  B2  D0 00138      MOVL    @EXECUTION_DESC+4, HOLD_EXECUTION          ; 1886
                                                00A8  C2  D5 0013D 9$:     TSTL    PAGE_FAULTS_DESC                           ; 1888
                                                        06  13 00141      BEQL    10$
                                      C8    A2      00AC  D2  D0 00143      MOVL    @PAGE_FAULTS_DESC+4, HOLD_PAGEFLTS         ; 1890
                                                00B0  C2  D5 00149 10$:    TSTL    PAGE_FILE_DESC                             ; 1892
                                                        06  13 0014D      BEQL    11$
                                      D8    A2      00B4  D2  D0 0014F      MOVL    @PAGE_FILE_DESC+4, HOLD_PGFLPEAK           ; 1894
                                                00B8  C2  D5 00155 11$:    TSTL    PAGE_READS_DESC                            ; 1896
                                                        06  13 00159      BEQL    12$
                                      DC    A2      00BC  D2  D0 0015B      MOVL    @PAGE_READS_DESC+4, HOLD_PAGEREADS         ; 1898
                                                0110  C2  D5 00161 12$:    TSTL    SYM_GET_DESC                               ; 1900
                                                        06  13 00165      BEQL    13$
                                      CC    A2      0114  D2  D0 00167      MOVL    @SYM_GET_DESC+4, HOLD_GETCNT               ; 1902
                                                0118  C2  D5 0016D 13$:    TSTL    SYM_QIO_DESC                               ; 1904
                                                        06  13 00171      BEQL    14$
                                      D0    A2      011C  D2  D0 00173      MOVL    @SYM_QIO_DESC+4, HOLD_QIOCNT               ; 1906
                                                0120  C2  D5 00179 14$:    TSTL    SYM_PAGE_DESC                              ; 1908
                                                        06  13 0017D      BEQL    15$
                                      D4    A2      0124  D2  D0 0017F      MOVL    @SYM_PAGE_DESC+4, HOLD_PAGCNT              ; 1910
                                                0170  C2  D5 00185 15$:    TSTL    VOLUMES_DESC                               ; 1912
                                                        06  13 00189      BEQL    16$
                                      EC    A2      0174  D2  D0 0018B      MOVL    @VOLUMES_DESC+4, HOLD_VOLUMES              ; 1914
                                                0178  C2  D5 00191 16$:    TSTL    WORKING_SET_DESC                           ; 1916
                                                        06  13 00195      BEQL    17$
                                      E0    A2      017C  D2  D0 00197      MOVL    @WORKING_SET_DESC+4, HOLD_WSPEAK           ; 1918
                                                  02    A3  95  0019D 17$:    TSTB    QUALIFIERS+2                               ; 1922
                                                        05  19  001A0      BLSS    18$
                                                  03    A3  95  001A2      TSTB    QUALIFIERS+3
                                                        16  18  001A5      BGEQ    19$
                                                        7E  D4  001A7 18$:    CLRL    -(SP)                                      ; 1930
```

```
                                040C   D2  DD 001A9          PUSHL   @DATE_DESC_ADDR                                  ;
                                028C   C2  9F 001AD          PUSHAB  A_DATE_DESC                                      ;
                                       7E  D4 001B1          CLRL    -(SP)                                            ;
                00000000G       00     04  FB 001B3          CALLS   #4, LIB$SYS_ASCTIM                               ;
                                64     50  E9 001BA          BLBC    STATUS, 22$                                      ;
                                   03  A3  95 001BD 19$:     TSTB    QUALIFIERS+3                                     ; 1933
                                       59  18 001C0          BGEQ    20$                                              ;
                                040C   D2  DD 001C2          PUSHL   @DATE_DESC_ADDR                                  ; 1944
                                02D0   C2  9F 001C6          PUSHAB  WEEKDAY                                          ;
                00000000G       00     02  FB 001CA          CALLS   #2, LIB$DAY                                      ;
                                4D     50  E9 001D1          BLBC    STATUS, 22$                                      ;
          7E        03    02D0   C2     01  7A 001D4          EMUL    #1, WEEKDAY, #3, -(SP)                           ; 1946
          50        50          8E     07  7B 001DB          EDIV    #7, (SP)+, R0, R0                                ;
                02D0   C2     30  A0 9E 001E0                MOVAB   48(R0), WEEKDAY                                  ;
                                040C   D2  DD 001E6          PUSHL   @DATE_DESC_ADDR                                  ; 1955
                                0294   C2  9F 001EA          PUSHAB  NUMERIC_DATE                                     ;
                00000000G       00     02  FB 001EE          CALLS   #2, SYS$NUMTIM                                   ;
                                29     50  E9 001F5          BLBC    STATUS, 22$                                      ;
                                   7E  0298 C2 3C 001F8      MOVZWL  NUMERIC_DATE+4, -(SP)                            ; 1963
                                   7E  0296 C2 3C 001FD      MOVZWL  NUMERIC_DATE+2, -(SP)                            ;
                                   7E  0294 C2 3C 00202      MOVZWL  NUMERIC_DATE, -(SP)                              ;
                                02B0   C2  9F 00207          PUSHAB  S_DATE_DESC                                      ;
                                       7E  D4 0020B          CLRL    -(SP)                                            ;
                                FDE7   CF  9F 0020D          PUSHAB  P.AAC                                            ;
                00000000G       00     06  FB 00211          CALLS   #6, LIB$SYS_FAO                                  ;
                                06     50  E9 00218          BLBC    STATUS, 22$                                      ;
                                50     01  D0 0021B 20$:     MOVL    #1, R0                                           ; 1966
                                           04 0021E          RET                                                      ;
                                       50  D4 0021F 21$:     CLRL    R0                                               ; 1968
                                           04 00221 22$:     RET                                                      ;

; Routine Size:  546 bytes,    Routine Base:  CODE + 03F0
```

```
;  1139     1969  1 ROUTINE PROCESS_V2_RECORD (BUFFER) =
;  1140     1970  1
;  1141     1971  1 !----
;  1142     1972  1 !
;  1143     1973  1 ! Functional description
;  1144     1974  1 !
;  1145     1975  1 !       This routine is called to analyze a record from the system
;  1146     1976  1 !       accounting file.
;  1147     1977  1 !
;  1148     1978  1 ! Input parameters
;  1149     1979  1 !
;  1150     1980  1 !       BUFFER = Address of a buffer containing the record to be detailed.
;  1151     1981  1 !                The record can be any type of record from the V2 format.
;  1152     1982  1 !                -- (ACC$W_MSGTYP can have any value)
;  1153     1983  1 !
;  1154     1984  1 ! Output parameters
;  1155     1985  1 !
;  1156     1986  1 !       Based on the contents of the record, values are established.
;  1157     1987  1 !       These values are used in later processing.
;  1158     1988  1 !       Any errors encountered are RETURNed immediately.
;  1159     1989  1 !       TRUE is returned on a normal exit.
;  1160     1990  1 !
;  1161     1991  1 !----
;  1162     1992  1
;  1163     1993  2 BEGIN
;  1164     1994  2
;  1165     1995  2 MAP
;  1166     1996  2         buffer: ref bblock;             ! Define buffer block format
;  1167     1997  2
;  1168     1998  2 LOCAL
;  1169     1999  2         day_number,                     ! Temporary output of LIB$DAY
;  1170     2000  2         day_time;                       ! Temporary output of LIB$DAY
;  1171     2001  2
;  1172     2002  2
;  1173     2003  2 record_type             = .buffer [acc$w_msgtyp];
;  1174     2004  2 SELECTONEU .record_type of
;  1175     2005  2         SET
;  1176     2006  2         [acc$k_logtrm]:                         ! Login failure
;  1177     2007  2                 BEGIN
;  1178     2008  2                 type_desc [0]           = 7;
;  1179     2009  2                 type_desc [1]           = uplit ('LOGFAIL');
;  1180     2010  2                 type_text_desc [0]      = 13;
;  1181     2011  2                 type_text_desc [1]      = uplit ('LOGIN FAILURE');
;  1182     2012  2                 END;
;  1183     2013  2
;  1184     2014  2         [acc$k_insmsg]:                         ! Arbitrary message
;  1185     2015  2                 BEGIN
;  1186     2016  2                 type_desc [0]           = 4;
;  1187     2017  2                 type_desc [1]           = uplit ('USER');
;  1188     2018  2                 type_text_desc [0]      = 12;
;  1189     2019  2                 type_text_desc [1]      = uplit ('USER Message');
;  1190     2020  2                 END;
;  1191     2021  2
;  1192     2022  2         [acc$k_inttrm]:                         ! Interactive process
;  1193     2023  2                 BEGIN
;  1194     2024  3                 type_desc [0]           = 7;
;  1195     2025  3                 type_desc [1]           = uplit ('PROCESS');
```

```
;  1196        2026  3                subtype_desc [0]        = 11;
;  1197        2027                   subtype_desc [1]        = uplit ('INTERACTIVE');
;  1198        2028                   process_desc [0]        = .subtype_desc [0];
;  1199        2029                   process_desc [1]        = .subtype_desc [1];
;  1200        2030                   type_text_desc [0]      = 19;
;  1201        2031                   type_text_desc [1]      = uplit ('Process Termination');
;  1202        2032                   END;
;  1203        2033           [acc$k_prctrm]:                         ! Non-interactive process
;  1204        2034                   BEGIN
;  1205        2035                   type_desc [0]           = 7;
;  1206        2036                   type_desc [1]           = uplit ('PROCESS');
;  1207        2037                   type_text_desc [0]      = 19;
;  1208        2038                   type_text_desc [1]      = uplit ('Process Termination');
;  1209        2039                   if      .buffer [acc$l_owner] NEQ 0
;  1210        2040                   then
;  1211        2041  4                        BEGIN
;  1212        2042  4                        subtype_desc [0]        = 10;
;  1213        2043  4                        subtype_desc [1]        = uplit ('SUBPROCESS');
;  1214        2044  4                        END
;  1215        2045  3                ELSE
;  1216        2046  4                        BEGIN
;  1217        2047  4                        subtype_desc [0]        = 8;
;  1218        2048  4                        subtype_desc [1]        = uplit ('DETACHED');
;  1219        2049  4                        END;
;  1220        2050                   process_desc [0]        = .subtype_desc [0];
;  1221        2051                   process_desc [1]        = .subtype_desc [1];
;  1222        2052                   END;
;  1223        2053
;  1224        2054           [acc$k_battrm]:                         ! Batch job
;  1225        2055                   BEGIN
;  1226        2056                   type_desc [0]           = 7;
;  1227        2057                   type_desc [1]           = uplit ('PROCESS');
;  1228        2058                   subtype_desc [0]        = 5;
;  1229        2059                   subtype_desc [1]        = uplit ('BATCH');
;  1230        2060                   process_desc [0]        = .subtype_desc [0];
;  1231        2061                   process_desc [1]        = .subtype_desc [1];
;  1232        2062                   type_text_desc [0]      = 19;
;  1233        2063                   type_text_desc [1]      = uplit ('Process Termination');
;  1234        2064                   END;
;  1235        2065
;  1236        2066           [acc$k_prtjob]:                         ! Print job
;  1237        2067                   BEGIN
;  1238        2068                   type_desc [0]   = 5;
;  1239        2069                   type_desc [1]   = uplit ('PRINT');
;  1240        2070                   type_text_desc [0]      = 21;
;  1241        2071                   type_text_desc [1]      = uplit ('PRINT Job Termination');
;  1242        2072                   END;
;  1243        2073
;  1244        2074           [otherwise]:                            ! Unknown record type
;  1245        2075                   BEGIN
;  1246        2076                   type_desc [0]   = 7;
;  1247        2077                   type_desc [1]   = uplit ('UNKNOWN');
;  1248        2078                   type_text_desc [0]      = 19;
;  1249        2079                   type_text_desc [1]      = uplit ('UNKNOWN Record Type');
;  1250        2080                   END;
;  1251        2081           TES;
;  1252        2082  2
```

```
;  1253          2083  2 record_length             = .buffer [acc$w_msgsiz];
;  1254          2084  2 status_desc [0]           = 4;
;  1255          2085  2 status_desc [1]           = buffer [acc$l_finalsts];
;  1256          2086  2 status_text_desc [0]      = 80;
;  1257          2087  2 status_text_desc [1]      = status_text_buffer;
;  1258          2088  2 translate_status (..status_desc [1], status_text_desc);
;  1259          2089  2 ident_desc [0]           = 4;
;  1260          2090  2 ident_desc [1]           = buffer [acc$l_pid];
;  1261          2091  2 if .buffer [acc$l_jobid] NEQ 0 then
;  1262          2092  3         BEGIN
;  1263          2093  3         entry_desc [0]  = 4;
;  1264          2094  3         entry_desc [1]  = buffer [acc$l_jobid];
;  1265          2095  2         END;
;  1266          2096  2 finish_time_desc [0]     = 8;
;  1267          2097  2 finish_time_desc [1]     = buffer [acc$q_termtime];
;  1268          2098  2 account_desc [0]         = acc$s_account;
;  1269          2099  2 account_desc [1]         = buffer [acc$t_account];
;  1270          2100  2 strip_trail              (account_desc);
;  1271          2101  2 user_desc [0]            = acc$s_username;
;  1272          2102  2 user_desc [1]            = buffer [acc$t_username];
;  1273          2103  2 strip_trail              (user_desc);
;  1274          2104  2
;  1275          2105  2 SELECTU .record_type of
;  1276          2106  2         SET
;  1277          2107  2         [acc$k_inttrm, acc$k_prctrm, acc$k_battrm, acc$k_logtrm]:
;  1278          2108  3                 BEGIN
;  1279          2109  3
;  1280          2110  3                 BUILTIN emul;
;  1281          2111  3
;  1282          2112  3                 cpu_time_desc [0]       = 4;
;  1283          2113  3                 cpu_time_desc [1]       = buffer [acc$l_cputim];
;  1284          2114  3                 emul (%ref(100000), buffer [acc$l_cputim], %ref(0),
;  1285          2115  3                         quad_cpu_time [0]);
;  1286          2116  3                 page_faults_desc [0]    = 4;
;  1287          2117  3                 page_faults_desc [1]    = buffer [acc$l_pageflts];
;  1288          2118  3                 page_file_desc [0]      = 4;
;  1289          2119  3                 page_file_desc [1]      = buffer [acc$l_pgflpeak];
;  1290          2120  3                 working_set_desc [0]    = 4;
;  1291          2121  3                 working_set_desc [1]    = buffer [acc$l_wspeak];
;  1292          2122  3                 buffered_io_desc [0]    = 4;
;  1293          2123  3                 buffered_io_desc [1]    = buffer [acc$l_biocnt];
;  1294          2124  3                 direct_io_desc [0]      = 4;
;  1295          2125  3                 direct_io_desc [1]      = buffer [acc$l_diocnt];
;  1296          2126  3                 volumes_desc [0]        = 4;
;  1297          2127  3                 volumes_desc [1]        = buffer [acc$l_volumes];
;  1298          2128  3                 start_time_desc [0]     = 8;
;  1299          2129  3                 start_time_desc [1]     = buffer [acc$q_login];
;  1300        P 2130  3                 perform (lib$subx (
;  1301        P 2131  3                         .finish_time_desc [1],
;  1302        P 2132  3                         .start_time_desc [1],
;  1303          2133  3                         elapsed_time, %ref(2)));
;  1304          2134  3                 elapsed_desc [0]        = 8;
;  1305          2135  3                 owner_desc [0]          = 4;
;  1306          2136  3                 owner_desc [1]          = buffer [acc$l_owner];
;  1307          2137  3                 END;
;  1308          2138  2
;  1309          2139  2         [acc$k_battrm]:
```

```
;  1310          2140  3                BEGIN
;  1311          2141  3                job_desc [0]            = acc$s_job_name;
;  1312          2142  3                job_desc [1]            = buffer [acc$t_job_name];
;  1313          2143  3                strip_trail             (job_desc);
;  1314          2144  3                queue_desc [0]          = .(buffer [acc$t_job_que])<0,8>;
;  1315          2145  3                queue_desc [1]          = buffer [acc$t_job_que] + 1;
;  1316          2146  2                END;
;  1317          2147  2
;  1318          2148  2           [acc$k_prtjob]:
;  1319          2149  3                BEGIN
;  1320          2150  3
;  1321          2151  3                BUILTIN emul;
;  1322          2152  3
;  1323          2153  3                cpu_time_desc [0]       = 4;
;  1324          2154  3                cpu_time_desc [1]       = buffer [acc$l_cputim];
;  1325          2155  3                emul (%ref(100000), buffer [acc$l_cputim], %ref(0),
;  1326          2156  3                      quad_cpu_time [0]);
;  1327          2157  3                sym_page_desc [0]       = 4;
;  1328          2158  3                sym_page_desc [1]       = buffer [acc$l_pagcnt];
;  1329          2159  3                sym_qio_desc [0]        = 4;
;  1330          2160  3                sym_qio_desc [1]        = buffer [acc$l_qiocnt];
;  1331          2161  3                sym_get_desc [0]        = 4;
;  1332          2162  3                sym_get_desc [1]        = buffer [acc$l_getcnt];
;  1333          2163  3                queue_time_desc [0]     = 8;
;  1334          2164  3                queue_time_desc [1]     = buffer [acc$q_quetime];
;  1335        P 2165  3                perform (lib$subx (
;  1336        P 2166  3                      .finish_time_desc [1],
;  1337        P 2167  3                      .queue_time_desc [1],
;  1338          2168  3                      elapsed_time, %ref(2)));
;  1339          2169  3                elapsed_desc [0]        = 8;
;  1340          2170  3                job_desc [0]            = acc$s_prt_name;
;  1341          2171  3                job_desc [1]            = buffer [acc$t_prt_name];
;  1342          2172  3                strip_trail             (job_desc);
;  1343          2173  3                queue_desc [0]          = .(buffer [acc$t_prt_que])<0,8>;
;  1344          2174  3                queue_desc [1]          = buffer [acc$t_prt_que] + 1;
;  1345          2175  2                END;
;  1346          2176  2
;  1347          2177  2           [acc$k_insmsg]:
;  1348          2178  3                BEGIN
;  1349          2179  3                user_data_desc [0]      = .(buffer [acc$t_user_data])<0,8>;
;  1350          2180  3                user_data_desc [1]      = buffer [acc$t_user_data] + 1;
;  1351          2181  3                strip_trail             (user_data_desc);
;  1352          2182  2                END;
;  1353          2183  2           TES;
;  1354          2184  2
;  1355          2185  2
;  1356          2186  2 return true;
;  1357          2187  2
;  1358          2188  1 END;


                                                                00612                   .BLKB   2
                                                                00614 P.AAE:    .ASCII  \LOGFAIL\<0>
00  00  45  52  55  4C  49  41  46  20  4E  49  47  4F  4C      0061C P.AAF:    .ASCII  \LOGIN FAILURE\<0><0><0>
                                                                00  0062B
                                                    52  45  53  55  0062C P.AAG:    .ASCII  \USER\
```

```
                        65  67  61  73  73  65  4D  20  52  45  53  55  00630 P.AAH:  .ASCII  \USER Message\                          ;
                        00  53  53  45  43  4F  52  50  00643 P.AAI:  .ASCII  \PROCESS\<0>                                          ;
                    00  45  56  49  54  43  41  52  45  54  4E  49  00644 P.AAJ:  .ASCII  \INTERACTIVE\<0>                             ;
61  6E  69  6D  72  65  54  20  73  73  65  63  6F  72  50  00650 P.AAK:  .ASCII  \Process Termination\<0>                          ;
                                    00  6E  6F  69  74  0065F                                                                     ;
                        00  53  53  45  43  4F  52  50  00664 P.AAL:  .ASCII  \PROCESS\<0>                                          ;
61  6E  69  6D  72  65  54  20  73  73  65  63  6F  72  50  0066C P.AAM:  .ASCII  \Process Termination\<0>                          ;
                                    00  6E  6F  69  74  0067B                                                                     ;
                    00  00  53  53  45  43  4F  52  50  42  55  53  00680 P.AAN:  .ASCII  \SUBPROCESS\<0><0>                        ;
                            44  45  48  43  41  54  45  44  0068C P.AAO:  .ASCII  \DETACHED\                                       ;
                            00  53  53  45  43  4F  52  50  00694 P.AAP:  .ASCII  \PROCESS\<0>                                     ;
                            00  00  00  48  43  54  41  42  0069C P.AAQ:  .ASCII  \BATCH\<0><0><0>                                 ;
61  6E  69  6D  72  65  54  20  73  73  65  63  6F  72  50  006A4 P.AAR:  .ASCII  \Process Termination\<0>                          ;
                                    00  6E  6F  69  74  006B3                                                                     ;
                            00  00  00  54  4E  49  52  50  006B8 P.AAS:  .ASCII  \PRINT\<0><0><0>                                 ;
69  6D  72  65  54  20  62  6F  4A  20  54  4E  49  52  50  006C0 P.AAT:  .ASCII  \PRINT Job Termination\<0><0><0>                  ;
                        00  00  00  6E  6F  69  74  61  6E  006CF                                                                 ;
                            00  4E  57  4F  4E  4B  4E  55  006D8 P.AAU:  .ASCII  \UNKNOWN\<0>                                     ;
20  64  72  6F  63  65  52  20  4E  57  4F  4E  4B  4E  55  006E0 P.AAV:  .ASCII  \UNKNOWN Record Type\<0>                         ;
                                    00  65  70  79  54  006EF                                                                     ;



                                                    00FC 00000 PROCESS_V2_RECORD:
                                                               .WORD   Save R2,R3,R4,R5,R6,R7                                   ; 1969
                                    57 00000000G   00   9E 00002          MOVAB   LIB$SUBX, R7                                    ;
                                    56 00000000G   00   9E 00009          MOVAB   STRIP_TRAIL, R6                                 ;
                                    55       FF0C  CF   9E 00010          MOVAB   P.AAE, R5                                       ;
                                    54 00000000'   EF   9E 00015          MOVAB   TYPE_DESC, R4                                   ;
                                    5E             04   C2 0001C          SUBL2   #4, SP                                          ;
                                    52         04  AC   D0 0001F          MOVL    BUFFER, R2                                      ; 2003
                                FECC   C4          62   3C 00023          MOVZWL  (R2), RECORD_TYPE                               ;
                                    50     FECC    C4   D0 00028          MOVL    RECORD_TYPE, R0                                 ; 2004
                                    04             50   D1 0002D          CMPL    R0, #4                                          ; 2006
                                                   12   12 00030          BNEQ    1$                                              ;
                                    64             07   D0 00032          MOVL    #7, TYPE_DESC                                   ; 2008
                                04  A4             65   9E 00035          MOVAB   P.AAE, TYPE_DESC+4                              ; 2009
                                08  A4             0D   D0 00039          MOVL    #13, TYPE_TEXT_DESC                             ; 2010
                                0C  A4         08  A5   9E 0003D          MOVAB   P.AAF, TYPE_TEXT_DESC+4                         ; 2011
                                                   72   11 00042          BRB     6$                                              ; 2004
                                    11             50   D1 00044 1$:      CMPL    R0, #17                                         ; 2014
                                                   13   12 00047          BNEQ    2$                                              ;
                                    64             04   D0 00049          MOVL    #4, TYPE_DESC                                   ; 2016
                                04  A4         18  A5   9E 0004C          MOVAB   P.AAG, TYPE_DESC+4                              ; 2017
                                08  A4             0C   D0 00051          MOVL    #12, TYPE_TEXT_DESC                             ; 2018
                                0C  A4         1C  A5   9E 00055          MOVAB   P.AAH, TYPE_TEXT_DESC+4                         ; 2019
                                                   5A   11 0005A          BRB     6$                                              ; 2004
                                    03             50   D1 0005C 2$:      CMPL    R0, #3                                          ; 2022
                                                   21   12 0005F          BNEQ    3$                                              ;
                                    64             07   D0 00061          MOVL    #7, TYPE_DESC                                   ; 2024
                                04  A4         28  A5   9E 00064          MOVAB   P.AAI, TYPE_DESC+4                              ; 2025
                                D8  A4             0B   D0 00069          MOVL    #11, SUBTYPE_DESC                               ; 2026
                                DC  A4         30  A5   9E 0006D          MOVAB   P.AAJ, SUBTYPE_DESC+4                           ; 2027
                                A0  A4         D8  A4   7D 00072          MOVQ    SUBTYPE_DESC, PROCESS_DESC                      ; 2028
                                08  A4             13   D0 00077          MOVL    #19, TYPE_TEXT_DESC                             ; 2030
                                0C  A4         3C  A5   9E 0007B          MOVAB   P.AAK, TYPE_TEXT_DESC+4                         ; 2031
                                                   77   11 00080          BRB     9$                                              ; 2004
```

```
                01              50  D1 00082 3$:    CMPL    R0, #1                                  ; 2033
                                31  12 00085       BNEQ    7$
                64              07  D0 00087       MOVL    #7, TYPE_DESC                           ; 2035
            04  A4      50     A5  9E 0008A       MOVAB   P.AAL, TYPE_DESC+4                      ; 2036
            08  A4              13  D0 0008F       MOVL    #19, TYPE_TEXT_DESC                     ; 2037
            0C  A4      58     A5  9E 00093       MOVAB   P.AAM, TYPE_TEXT_DESC+4                 ; 2038
                        50     A2  D5 00098       TSTL    80(R2)                                  ; 2039
                               0B  13 0009B       BEQL    4$
            D8  A4              0A  D0 0009D       MOVL    #10, SUBTYPE_DESC                       ; 2042
            DC  A4      6C     A5  9E 000A1       MOVAB   P.AAN, SUBTYPE_DESC+4                   ; 2043
                               09  11 000A6       BRB     5$                                      ; 2039
            D8  A4              08  D0 000A8 4$:    MOVL    #8, SUBTYPE_DESC                        ; 2047
            DC  A4      78     A5  9E 000AC       MOVAB   P.AAO, SUBTYPE_DESC+4                   ; 2048
            A0  A4      D8     A4  7D 000B1 5$:    MOVQ    SUBTYPE_DESC, PROCESS_DESC              ; 2050
                               56  11 000B6 6$:    BRB     11$                                     ; 2004
                02              50  D1 000B8 7$:    CMPL    R0, #2                                  ; 2054
                               24  12 000BB       BNEQ    8$
                64              07  D0 000BD       MOVL    #7, TYPE_DESC                           ; 2056
            04  A4      0080   C5  9E 000C0       MOVAB   P.AAP, TYPE_DESC+4                      ; 2057
            D8  A4              05  D0 000C6       MOVL    #5, SUBTYPE_DESC                        ; 2058
            DC  A4      0088   C5  9E 000CA       MOVAB   P.AAQ, SUBTYPE_DESC+4                   ; 2059
            A0  A4        D8   A4  7D 000D0       MOVQ    SUBTYPE_DESC, PROCESS_DESC              ; 2060
            08  A4              13  D0 000D5       MOVL    #19, TYPE_TEXT_DESC                     ; 2062
            0C  A4      0090   C5  9E 000D9       MOVAB   P.AAR, TYPE_TEXT_DESC+4                 ; 2063
                               2D  11 000DF       BRB     11$                                     ; 2004
                10              50  D1 000E1 8$:    CMPL    R0, #16                                 ; 2066
                               15  12 000E4       BNEQ    10$
                64              05  D0 000E6       MOVL    #5, TYPE_DESC                           ; 2068
            04  A4      00A4   C5  9E 000E9       MOVAB   P.AAS, TYPE_DESC+4                      ; 2069
            08  A4              15  D0 000EF       MOVL    #21, TYPE_TEXT_DESC                     ; 2070
            0C  A4      00AC   C5  9E 000F3       MOVAB   P.AAT, TYPE_TEXT_DESC+4                 ; 2071
                               13  11 000F9 9$:    BRB     11$                                     ; 2004
                64              07  D0 000FB 10$:   MOVL    #7, TYPE_DESC                           ; 2076
            04  A4      00C4   C5  9E 000FE       MOVAB   P.AAU, TYPE_DESC+4                      ; 2077
            08  A4              13  D0 00104       MOVL    #19, TYPE_TEXT_DESC                     ; 2078
            0C  A4      00CC   C5  9E 00108       MOVAB   P.AAV, TYPE_TEXT_DESC+4                 ; 2079
        FEC4    C4        02    A2  3C 0010E 11$:   MOVZWL  2(R2), RECORD_LENGTH                    ; 2083
            C8  A4              04  D0 00114       MOVL    #4, STATUS_DESC                         ; 2084
            CC  A4        04    A2  9E 00118       MOVAB   4(R2), STATUS_DESC+4                    ; 2085
            D0  A4        50    8F  9A 0011D       MOVZBL  #80, STATUS_TEXT_DESC                   ; 2086
            D4  A4      00B0   C4  9E 00122       MOVAB   STATUS_TEXT_BUFFER, STATUS_TEXT_DESC+4  ; 2087
                          D0    A4  9F 00128       PUSHAB  STATUS_TEXT_DESC                        ; 2088
                          CC    B4  DD 0012B       PUSHL   @STATUS_DESC+4
  00000000G     00              02  FB 0012E       CALLS   #2, TRANSLATE_STATUS
        FF48    C4              04  D0 00135       MOVL    #4, IDENT_DESC                          ; 2089
        FF4C    C4        08    A2  9E 0013A       MOVAB   8(R2), IDENT_DESC+4                     ; 2090
                          0C    A2  D5 00140       TSTL    12(R2)                                  ; 2091
                               0B  13 00143       BEQL    12$
        FF20    C4              04  D0 00145       MOVL    #4, ENTRY_DESC                          ; 2093
        FF24    C4        0C    A2  9E 0014A       MOVAB   12(R2), ENTRY_DESC+4                    ; 2094
        FF40    C4              08  D0 00150 12$:   MOVL    #8, FINISH_TIME_DESC                    ; 2096
        FF44    C4        10    A2  9E 00155       MOVAB   16(R2), FINISH_TIME_DESC+4              ; 2097
        FEF8    C4              08  D0 0015B       MOVL    #8, ACCOUNT_DESC                        ; 2098
        FEFC    C4        18    A2  9E 00160       MOVAB   24(R2), ACCOUNT_DESC+4                  ; 2099
                        FEF8    C4  9F 00166       PUSHAB  ACCOUNT_DESC                            ; 2100
                64              01  FB 0016A       CALLS   #1, STRIP_TRAIL
            38  A4              0C  D0 0016D       MOVL    #12, USER_DESC                          ; 2101
```

```
                        3C    A4        20    A2  9E 00171          MOVAB   32(R2), USER_DESC+4                      ; 2102
                              A4        38    A4  9F 00176          PUSHAB  USER_DESC                               ; 2103
                              66              01  FB 00179          CALLS   #1, STRIP_TRAIL                         ;
                              53        FECC  C4  D0 0017C          MOVL    RECORD_TYPE, R3                         ; 2105
                                              03  12 00181          BNEQ    14$                                     ; 2107
                                        0088  31  00183 13$:        BRW     16$                                     ;
                              04              53  D1 00186 14$:     CMPL    R3, #4                                  ;
                                              F8  1A 00189          BGTRU   13$                                     ;
                           FF10   C4          04  D0 0018B          MOVL    #4, CPU_TIME_DESC                       ; 2112
                           FF14   C4    2C    A2  9E 00190          MOVAB   44(R2), CPU_TIME_DESC+4                 ; 2113
FEE0    C4          00      2C    A2 000186A0 8F  7A 00196          EMUL    #100000, 44(R2), #0, QUAD_CPU_TIME      ; 2115
                           FF78   C4          04  D0 001A2          MOVL    #4, PAGE_FAULTS_DESC                    ; 2116
                           FF7C   C4    30    A2  9E 001A7          MOVAB   48(R2), PAGE_FAULTS_DESC+4              ; 2117
                             80   A4          04  D0 001AD          MOVL    #4, PAGE_FILE_DESC                      ; 2118
                             84   A4    34    A2  9E 001B1          MOVAB   52(R2), PAGE_FILE_DESC+4                ; 2119
                             48   A4          04  D0 001B6          MOVL    #4, WORKING_SET_DESC                    ; 2120
                             4C   A4    38    A2  9E 001BA          MOVAB   56(R2), WORKING_SET_DESC+4              ; 2121
                           FF08   C4          04  D0 001BF          MOVL    #4, BUFFERED_IO_DESC                    ; 2122
                           FF0C   C4    3C    A2  9E 001C4          MOVAB   60(R2), BUFFERED_IO_DESC+4              ; 2123
                           FF18   C4          04  D0 001CA          MOVL    #4, DIRECT_IO_DESC                      ; 2124
                           FF1C   C4    40    A2  9E 001CF          MOVAB   64(R2), DIRECT_IO_DESC+4                ; 2125
                             40   A4          04  D0 001D5          MOVL    #4, VOLUMES_DESC                        ; 2126
                             44   A4    44    A2  9E 001D9          MOVAB   68(R2), VOLUMES_DESC+4                  ; 2127
                             C0   A4          08  D0 001DE          MOVL    #8, START_TIME_DESC                     ; 2128
                             C4   A4    48    A2  9E 001E2          MOVAB   72(R2), START_TIME_DESC+4               ; 2129
                                  6E          02  D0 001E7          MOVL    #2, (SP)                                ; 2133
                                              5E  DD 001EA          PUSHL   SP                                      ;
                                        FEE8  C4  9F 001EC          PUSHAB  ELAPSED_TIME                            ;
                                          C4  A4  DD 001F0          PUSHL   START_TIME_DESC+4                       ;
                                        FF44  C4  DD 001F3          PUSHL   FINISH_TIME_DESC+4                      ;
                                  67          04  FB 001F7          CALLS   #4, LIB$SUBX                            ;
                                  01          50  E8 001FA          BLBS    STATUS, 15$                             ;
                                              04  001FD          RET                                             ;
                           FF28   C4          08  D0 001FE 15$:     MOVL    #8, ELAPSED_DESC                        ; 2134
                           FF70   C4          04  D0 00203          MOVL    #4, OWNER_DESC                          ; 2135
                           FF74   C4    50    A2  9E 00208          MOVAB   80(R2), OWNER_DESC+4                    ; 2136
                                  02          53  D1 0020E 16$:     CMPL    R3, #2                                  ; 2139
                                              1C  12 00211          BNEQ    17$                                     ;
                           FF60   C4          08  D0 00213          MOVL    #8, JOB_DESC                            ; 2141
                           FF64   C4    54    A2  9E 00218          MOVAB   84(R2), JOB_DESC+4                      ; 2142
                                        FF60  C4  9F 0021E          PUSHAB  JOB_DESC                                ; 2143
                                  66          01  FB 00222          CALLS   #1, STRIP_TRAIL                         ;
                             A8   A4    5C    A2  9A 00225          MOVZBL  92(R2), QUEUE_DESC                      ; 2144
                             AC   A4    5D    A2  9E 0022A          MOVAB   93(R2), QUEUE_DESC+4                    ; 2145
                                  10          53  D1 0022F 17$:     CMPL    R3, #16                                 ; 2148
                                              72  12 00232          BNEQ    18$                                     ;
                           FF10   C4          04  D0 00234          MOVL    #4, CPU_TIME_DESC                       ; 2153
                           FF14   C4    2C    A2  9E 00239          MOVAB   44(R2), CPU_TIME_DESC+4                 ; 2154
FEE0    C4          00      2C    A2 000186A0 8F  7A 0023F          EMUL    #100000, 44(R2), #0, QUAD_CPU_TIME      ; 2156
                             F0   A4          04  D0 0024B          MOVL    #4, SYM_PAGE_DESC                       ; 2157
                             F4   A4    30    A2  9E 0024F          MOVAB   48(R2), SYM_PAGE_DESC+4                 ; 2158
                             E8   A4          04  D0 00254          MOVL    #4, SYM_QIO_DESC                        ; 2159
                             EC   A4    34    A2  9E 00258          MOVAB   52(R2), SYM_QIO_DESC+4                  ; 2160
                             E0   A4          04  D0 0025D          MOVL    #4, SYM_GET_DESC                        ; 2161
                             E4   A4    38    A2  9E 00261          MOVAB   56(R2), SYM_GET_DESC+4                  ; 2162
                             B0   A4          08  D0 00266          MOVL    #8, QUEUE_TIME_DESC                     ; 2163
                             B4   A4    3C    A2  9E 0026A          MOVAB   60(R2), QUEUE_TIME_DESC+4               ; 2164
```

```
                    6E              02  D0 0026F           MOVL    #2, (SP)                                    ; 2168
                                    5E  DD 00272           PUSHL   SP                                          ;
                              FEE8  C4  9F 00274           PUSHAB  ELAPSED_TIME                                ;
                                B4  A4  DD 00278           PUSHL   QUEUE_TIME_DESC+4                           ;
                              FF44  C4  DD 0027B           PUSHL   FINISH_TIME_DESC+4                          ;
                    67              04  FB 0027F           CALLS   #4, LIB$SUBX                                ;
                    39              50  E9 00282           BLBC    STATUS, 20$                                 ;
            FF28    C4              08  D0 00285           MOVL    #8, ELAPSED_DESC                            ; 2169
            FF60    C4              08  D0 0028A           MOVL    #8, JOB_DESC                                ; 2170
            FF64    C4          44  A2  9E 0028F           MOVAB   68(R2), JOB_DESC+4                          ; 2171
                              FF60  C4  9F 00295           PUSHAB  JOB_DESC                                    ; 2172
                    66              01  FB 00299           CALLS   #1, STRIP_TRAIL                             ;
              A8    A4          4C  A2  9A 0029C           MOVZBL  76(R2), QUEUE_DESC                          ; 2173
              AC    A4          4D  A2  9E 002A1           MOVAB   77(R2), QUEUE_DESC+4                        ; 2174
                    11              53  D1 002A6 18$:      CMPL    R3, #17                                     ; 2177
                                    10  12 002A9           BNEQ    19$                                         ;
              30    A4          2C  A2  9A 002AB           MOVZBL  44(R2), USER_DATA_DESC                      ; 2179
              34    A4          2D  A2  9E 002B0           MOVAB   45(R2), USER_DATA_DESC+4                    ; 2180
                                30  A4  9F 002B5           PUSHAB  USER_DATA_DESC                              ; 2181
                    66              01  FB 002B8           CALLS   #1, STRIP_TRAIL                             ;
                    50              01  D0 002BB 19$:      MOVL    #1, R0                                      ; 2186
                                        04 002BE 20$:      RET                                                 ; 2188

; Routine Size:  703 bytes,    Routine Base:  CODE + 06F4
```

```
;  1360          2189  1 ROUTINE PROCESS_V3_RECORD (BUFFER) =
;  1361          2190  1
;  1362          2191  1 !----
;  1363          2192  1 !
;  1364          2193  1 ! Functional description
;  1365          2194  1 !
;  1366          2195  1 !       This routine is called to analyze a record from the system
;  1367          2196  1 !       accounting file.
;  1368          2197  1 !
;  1369          2198  1 ! Input parameters
;  1370          2199  1 !
;  1371          2200  1 !       BUFFER = Address of a buffer containing the record to be detailed.
;  1372          2201  1 !                The record can be any type of record from the V3 format.
;  1373          2202  1 !                -- (ACR$W_TYPE can have any value)
;  1374          2203  1 !
;  1375          2204  1 ! Output parameters
;  1376          2205  1 !
;  1377          2206  1 !       Based on the contents of the record, values are established.
;  1378          2207  1 !       These values are used in later processing.
;  1379          2208  1 !       Any errors encountered are RETURNed immediately.
;  1380          2209  1 !       TRUE is returned on a normal exit.
;  1381          2210  1 !
;  1382          2211  1 !----
;  1383          2212  1
;  1384          2213  2 BEGIN
;  1385          2214  2
;  1386          2215  2 MAP
;  1387          2216  2         buffer: ref bblock;             ! Define buffer block format
;  1388          2217  2
;  1389          2218  2 LABEL
;  1390          2219  2         pkt;
;  1391          2220  2
;  1392          2221  2 OWN
;  1393          2222  2         packet;
```

```
;  1395          2223  2 !----------------------------------------------------------------------------
;  1396          2224  2 !
;  1397          2225  2 ! Record header
;  1398          2226  2 !
;  1399          2227  2 !----------------------------------------------------------------------------
;  1400          2228  2 !
;  1401          2229  2 ! Record type and subtype
;  1402          2230  2 !
;  1403          2231  2 if      .buffer [acr$v_packet]
;  1404          2232  2 then    return false;
;  1405          2233  2 record_type     = .buffer [acr$v_type];
;  1406          2234  2 record_subtype  = .buffer [acr$v_subtype];
;  1407          2235  2 customer        = .buffer [acr$v_customer];
;  1408          2236  2 if      NOT .customer
;  1409          2237  2 then
;  1410          2238  3         BEGIN
;  1411          2239  3         SELECTU .record_type of
;  1412          2240  3         SET
;  1413          2241  3         [acr$k_prcdel, acr$k_prcpur, acr$k_imgdel, acr$k_imgdel]:
;  1414          2242  4                 BEGIN
;  1415          2243  4                 SELECTONEU .record_subtype of
;  1416          2244  4                 SET
;  1417          2245  4                 [acr$k_interactive]:
;  1418          2246  5                         BEGIN
;  1419          2247  5                         process_desc [0] = 11;
;  1420          2248  5                         process_desc [1] = uplit ('INTERACTIVE');
;  1421          2249  4                         END;
;  1422          2250  4                 [acr$k_subprocess]:
;  1423          2251  5                         BEGIN
;  1424          2252  5                         process_desc [0] = 10;
;  1425          2253  5                         process_desc [1] = uplit ('SUBPROCESS');
;  1426          2254  4                         END;
;  1427          2255  4                 [acr$k_detached]:
;  1428          2256  5                         BEGIN
;  1429          2257  5                         process_desc [0] = 8;
;  1430          2258  5                         process_desc [1] = uplit ('DETACHED');
;  1431          2259  4                         END;
;  1432          2260  4                 [acr$k_batch]:
;  1433          2261  5                         BEGIN
;  1434          2262  5                         process_desc [0] = 5;
;  1435          2263  5                         process_desc [1] = uplit ('BATCH');
;  1436          2264  4                         END;
;  1437          2265  4                 [acr$k_network]:
;  1438          2266  5                         BEGIN
;  1439          2267  5                         process_desc [0] = 7;
;  1440          2268  5                         process_desc [1] = uplit ('NETWORK');
;  1441          2269  4                         END;
;  1442          2270  4                 TES;
;  1443          2271  3                 END;
;  1444          2272  3         [acr$k_prcdel, acr$k_prcpur]:
;  1445          2273  4                 BEGIN
;  1446          2274  4                 type_desc [0] = 7;
;  1447          2275  4                 type_desc [1] = uplit ('PROCESS');
;  1448          2276  4                 type_text_desc [0]      = 19;
;  1449          2277  4                 type_text_desc [1]      = uplit ('Process Termination');
;  1450          2278  4                 subtype_desc [0] = .process_desc [0];
;  1451          2279  4                 subtype_desc [1] = .process_desc [1];
```

```
;  1452     2280  3                END;
;  1453     2281  3            [acr$k_imgdel, acr$k_imgpur]:
;  1454     2282  4                BEGIN
;  1455     2283  4                type_desc [0] = 5;
;  1456     2284  4                type_desc [1] = uplit ('IMAGE');
;  1457     2285  4                type_text_desc [0]      = 17;
;  1458     2286  4                type_text_desc [1]      = uplit ('Image Termination');
;  1459     2287  3                END;
;  1460     2288  3            [acr$k_sysinit]:
;  1461     2289  4                BEGIN
;  1462     2290  4                type_desc [0] = 7;
;  1463     2291  4                type_desc [1] = uplit ('SYSINIT');
;  1464     2292  4                type_text_desc [0]      = 21;
;  1465     2293  4                type_text_desc [1]      = uplit ('SYSTEM INITIALIZATION');
;  1466     2294  3                END;
;  1467     2295  3            [acr$k_settime]:
;  1468     2296  4                BEGIN
;  1469     2297  4                type_desc [0] = 7;
;  1470     2298  4                type_desc [1] = uplit ('SETTIME');
;  1471     2299  4                type_text_desc [0]      = 18;
;  1472     2300  4                type_text_desc [1]      = uplit ('System Time Change');
;  1473     2301  3                END;
;  1474     2302  3            [acr$k_logfail]:
;  1475     2303  4                BEGIN
;  1476     2304  4                type_desc [0] = 7;
;  1477     2305  4                type_desc [1] = uplit ('LOGFAIL');
;  1478     2306  4                type_text_desc [0]      = 13;
;  1479     2307  4                type_text_desc [1]      = uplit ('LOGIN FAILURE');
;  1480     2308  3                END;
;  1481     2309  3            [acr$k_print]:
;  1482     2310  4                BEGIN
;  1483     2311  4                type_desc [0] = 5;
;  1484     2312  4                type_desc [1] = uplit ('PRINT');
;  1485     2313  4                type_text_desc [0]      = 21;
;  1486     2314  4                type_text_desc [1]      = uplit ('PRINT Job Termination');
;  1487     2315  3                END;
;  1488     2316  3            [acr$k_user]:
;  1489     2317  4                BEGIN
;  1490     2318  4                type_desc [0] = 4;
;  1491     2319  4                type_desc [1] = uplit ('USER');
;  1492     2320  4                type_text_desc [0]      = 12;
;  1493     2321  4                type_text_desc [1]      = uplit ('USER Message');
;  1494     2322  3                END;
;  1495     2323  3            [acr$k_enable]:
;  1496     2324  4                BEGIN
;  1497     2325  4                type_desc [0] = 6;
;  1498     2326  4                type_desc [1] = uplit ('ENABLE');
;  1499     2327  4                type_text_desc [0]      = 17;
;  1500     2328  4                type_text_desc [1]      = uplit ('Enable Accounting');
;  1501     2329  3                END;
;  1502     2330  3            [acr$k_disable]:
;  1503     2331  4                BEGIN
;  1504     2332  4                type_desc [0] = 7;
;  1505     2333  4                type_desc [1] = uplit ('DISABLE');
;  1506     2334  4                type_text_desc [0]      = 18;
;  1507     2335  4                type_text_desc [1]      = uplit ('Disable Accounting');
;  1508     2336  3                END;
```

```
;  1509          2337  3          [acr$k_altacm]:
;  1510          2338  4                  BEGIN
;  1511          2339  4                  type_desc [0] = 6;
;  1512          2340  4                  type_desc [1] = uplit ('ALTACM');
;  1513          2341  4                  type_text_desc [0]      = 28;
;  1514          2342  4                  type_text_desc [1]      = uplit ('Alternate Accounting Manager');
;  1515          2343  3                  END;
;  1516          2344  3          [acr$k_file_bl]:
;  1517          2345  4                  BEGIN
;  1518          2346  4                  type_desc [0] = 4;
;  1519          2347  4                  type_desc [1] = uplit ('FILE_BL');
;  1520          2348  4                  type_text_desc [0]      = 32;
;  1521          2349  4                  type_text_desc [1]      = uplit
;  1522          2350  4                                            ('ACCOUNTING FILE backward pointer');
;  1523          2351  3                  END;
;  1524          2352  3          [acr$k_file_fl]:
;  1525          2353  4                  BEGIN
;  1526          2354  4                  type_desc [0] = 4;
;  1527          2355  4                  type_desc [1] = uplit ('FILE_FL');
;  1528          2356  4                  type_text_desc [0]      = 31;
;  1529          2357  4                  type_text_desc [1]      = uplit
;  1530          2358  4                                            ('ACCOUNTING FILE forward pointer');
;  1531          2359  3                  END;
;  1532          2360  3          [OTHERWISE]:
;  1533          2361  4                  BEGIN
;  1534          2362  4                  type_desc [0] = 7;
;  1535          2363  4                  type_desc [1] = uplit ('UNKNOWN');
;  1536          2364  4                  type_text_desc [0]      = 19;
;  1537          2365  4                  type_text_desc [1]      = uplit ('UNKNOWN Record Type');
;  1538          2366  3                  END;
;  1539          2367  3          TES;
;  1540          2368  3          END
;  1541          2369  2  else
;  1542          2370  3          BEGIN
;  1543          2371  3          type_desc [0] = 8;
;  1544          2372  3          type_desc [1] = uplit ('CUSTOMER');
;  1545          2373  3          type_text_desc [0]      = 20;
;  1546          2374  3          type_text_desc [1]      = uplit ('CUSTOMER Record Type');
;  1547          2375  2          END;
;  1548          2376  2  !
;  1549          2377  2  ! Record length
;  1550          2378  2  !
;  1551          2379  2  record_length    = .buffer [acr$w_length];
;  1552          2380  2  !
;  1553          2381  2  ! Record creation time
;  1554          2382  2  !
;  1555          2383  2  if       .(buffer [acr$q_systime])<0,32> NEQ 0 OR
;  1556          2384  2           .(buffer [acr$q_systime] + 4)<0,32> NEQ 0
;  1557          2385  2  then
;  1558          2386  3          BEGIN
;  1559          2387  3          finish_time_desc [0]    = 8;
;  1560          2388  3          finish_time_desc [1]    = buffer [acr$q_systime];
;  1561          2389  2          END;
```

```
;  1563          2390  2 !----------------------------------------------------------------------
;  1564          2391  2 !
;  1565          2392  2 ! Packet processing
;  1566          2393  2 !
;  1567          2394  2 !----------------------------------------------------------------------
;  1568          2395  2 !
;  1569          2396  2 ! Find and detail all known packets
;  1570          2397  2 !
;  1571          2398  2 packet  = .buffer + $BYTEOFFSET(acr$k_hdrlen);
;  1572          2399  2 while   .packet LSSU .buffer + .record_length do
;  1573          2400  3         BEGIN
;  1574          2401  3         MAP
;  1575          2402  3                 packet:         ref bblock;
;  1576          2403  4                 PKT: BEGIN
;  1577          2404  4                 if (.packet [acr$v_packet] EQL 0) then return false;
;  1578          2405  4                 if (.packet [acr$v_customer] NEQ 0) then leave pkt;
;  1579          2406  4                 SELECTONEU .packet [acr$v_type] of
;  1580          2407  4                 SET
;  1581          2408  4                 [acr$k_id]:
;  1582          2409  4                         !
;  1583          2410  4                         ! ID packet
;  1584          2411  4                         !
;  1585          2412  5                         BEGIN
;  1586          2413  5
;  1587          2414  5                         BIND
;  1588          2415  5                                 id = .packet:   bblock;
;  1589          2416  5
;  1590          2417  6                         BEGIN
;  1591          2418  6                         ident_desc [0] = 4;
;  1592          2419  6                         ident_desc [1] = id [acr$l_pid];
;  1593          2420  5                         END;
;  1594          2421  5
;  1595          2422  5                         if (.id [acr$l_owner] NEQ 0) then
;  1596          2423  6                                 BEGIN
;  1597          2424  6                                 owner_desc [0] = 4;
;  1598          2425  6                                 owner_desc [1] = id [acr$l_owner];
;  1599          2426  5                                 END;
;  1600          2427  5
;  1601          2428  6                         BEGIN
;  1602          2429  6                         uic_binary_desc [0] = 4;
;  1603          2430  6                         uic_binary_desc [1] = id [acr$l_uic];
;  1604          2431  6                         uic_group_desc [0]  = 2;
;  1605          2432  6                         uic_group_desc [1]  = id [acr$w_grp];
;  1606          2433  6                         uic_member_desc [0] = 2;
;  1607          2434  6                         uic_member_desc [1] = id [acr$w_mem];
;  1608          2435  6                         !+
;  1609          2436  6                         ! If /SUMMARY=UIC then do UIC conversion. For
;  1610          2437  6                         ! /BRIEF, /BINARY, or a /SUMMARY but not by UIC, we
;  1611          2438  6                         ! won't need it, so avoid it. For /FULL, do it in
;  1612          2439  6                         ! FORMAT\SHOW_FULL.
;  1613          2440  6                         !-
;  1614          2441  6                         if .SUMMARY_UIC
;  1615          2442  6                         then
;  1616          2443  7                             begin
;  1617          2444  7                             uic_desc [0] = 67;
;  1618          2445  7                             uic_desc [1] = uic_buf;
;  1619        P 2446  7                             perform (lib$sys_fao (ad('!%I'),
```

```
;  1620        P 2447  7                       uic_desc [0],
;  1621        P 2448  7                       uic_desc [0],
;  1622          2449  7                       .id [acr$l_uic]));
;  1623          2450  6                   end;
;  1624          2451  5               END;
;  1625          2452  5
;  1626          2453  6               BEGIN
;  1627          2454  6               privilege_desc [0] = 8;
;  1628          2455  6               privilege_desc [1] = id [acr$q_priv];
;  1629          2456  5               END;
;  1630          2457  5
;  1631          2458  6               BEGIN
;  1632          2459  6               priority_desc [0] = 1;
;  1633          2460  6               priority_desc [1] = id [acr$b_pri];
;  1634          2461  5               END;
;  1635          2462  5
;  1636          2463  5               if (.id [acr$w_username] NEQ 0) then
;  1637          2464  6                       BEGIN
;  1638          2465  6                       user_desc [0] =
;  1639          2466  6                               .(id + .id [acr$w_username])<0,8>;
;  1640          2467  6                       user_desc [1] =
;  1641          2468  6                               id + .id [acr$w_username] + 1;
;  1642          2469  5                       END;
;  1643          2470  5               if (.id [acr$w_account] NEQ 0) then
;  1644          2471  6                       BEGIN
;  1645          2472  6                       account_desc [0] =
;  1646          2473  6                               .(id + .id [acr$w_account])<0,8>;
;  1647          2474  6                       account_desc [1] =
;  1648          2475  6                               id + .id [acr$w_account] + 1;
;  1649          2476  5                       END;
;  1650          2477  5               if (.id [acr$w_nodename] NEQ 0) then
;  1651          2478  6                       BEGIN
;  1652          2479  6                       node_desc [0] =
;  1653          2480  6                               .(id + .id [acr$w_nodename])<0,8>;
;  1654          2481  6                       node_desc [1] =
;  1655          2482  6                               id + .id [acr$w_nodename] + 1;
;  1656          2483  5                       END;
;  1657          2484  5               if (.id [acr$w_terminal] NEQ 0) then
;  1658          2485  6                       BEGIN
;  1659          2486  6                       terminal_desc [0] =
;  1660          2487  6                               .(id + .id [acr$w_terminal])<0,8>;
;  1661          2488  6                       terminal_desc [1] =
;  1662          2489  6                               id + .id [acr$w_terminal] + 1;
;  1663          2490  5                       END;
;  1664          2491  5               if (.id [acr$w_jobname] NEQ 0) then
;  1665          2492  6                       BEGIN
;  1666          2493  6                       job_desc [0] =
;  1667          2494  6                               .(id + .id [acr$w_jobname])<0,8>;
;  1668          2495  6                       job_desc [1] =
;  1669          2496  6                               id + .id [acr$w_jobname] + 1;
;  1670          2497  5                       END;
;  1671          2498  5               if (.id [acr$l_jobid] NEQ 0) then
;  1672          2499  6                       BEGIN
;  1673          2500  6                       entry_desc [0] = 4;
;  1674          2501  6                       entry_desc [1] = id [acr$l_jobid];
;  1675          2502  5                       END;
;  1676          2503  5               if (.id [acr$w_queue] NEQ 0) then
```

```
;  1677          2504  6                    BEGIN
;  1678          2505  6                    queue_desc [0] =
;  1679          2506  6                        .(id + .id [acr$w_queue])<0,8>;
;  1680          2507  6                    queue_desc [1] =
;  1681          2508  6                        id + .id [acr$w_queue] + 1;
;  1682          2509  5                    END;
;  1683          2510  5                if (.version EQL acr$k_version3) then
;  1684          2511  6                    BEGIN
;  1685          2512  6                    if (.id [acr$w_nodeaddr] NEQ 0) then
;  1686          2513  7                        BEGIN
;  1687          2514  7                        address_desc [0] =
;  1688          2515  7                            .(id + .id [acr$w_nodeaddr])<0,8>;
;  1689          2516  7                        address_desc [1] =
;  1690          2517  7                            id + .id [acr$w_nodeaddr] + 1;
;  1691          2518  6                        END;
;  1692          2519  6                    if (.id [acr$w_remoteid] NEQ 0) then
;  1693          2520  7                        BEGIN
;  1694          2521  7                        remote_id_desc [0] =
;  1695          2522  7                            .(id + .id [acr$w_remoteid])<0,8>;
;  1696          2523  7                        remote_id_desc [1] =
;  1697          2524  7                            id + .id [acr$w_remoteid] + 1;
;  1698          2525  6                        END;
;  1699          2526  5                    END;
;  1700          2527  4                END;
;  1701          2528  4
;  1702          2529  4            [acr$k_resource]:
;  1703          2530  4                    !
;  1704          2531  4                    ! Resource packets
;  1705          2532  4                    !
;  1706          2533  5                    BEGIN
;  1707          2534  5
;  1708          2535  5                    BIND
;  1709          2536  5                        resource = .packet:     bblock;
;  1710          2537  5
;  1711          2538  6                    BEGIN
;  1712          2539  6                    start_time_desc [0] = 8;
;  1713          2540  6                    start_time_desc [1] = resource [acr$q_login];
;  1714          2541  6                    if .finish_time_desc [0] NEQ 0 then
;  1715          2542  7                        BEGIN
;  1716        P 2543  7                        perform (lib$subx (
;  1717        P 2544  7                            .finish_time_desc [1],
;  1718        P 2545  7                            .start_time_desc [1],
;  1719          2546  7                            elapsed_time, %ref(2)));
;  1720          2547  7                        elapsed_desc [0] = 8;
;  1721          2548  6                        END;
;  1722          2549  5                    END;
;  1723          2550  5
;  1724          2551  6                    BEGIN
;  1725          2552  6                    status_desc [0] = 4;
;  1726          2553  6                    status_desc [1] = resource [acr$l_status];
;  1727          2554  6                    status_text_desc [0] = 80;
;  1728          2555  6                    status_text_desc [1] = status_text_buffer;
;  1729          2556  6                    translate_status
;  1730          2557  6                        (..status_desc [1], status_text_desc);
;  1731          2558  5                    END;
;  1732          2559  5
;  1733          2560  6                    BEGIN
```

```
;  1734        2561  6                    execution_desc [0] = 4;
;  1735        2562  6                    execution_desc [1] = resource [acr$l_imgcnt];
;  1736        2563  5                    END;
;  1737        2564  5
;  1738        2565  6                    BEGIN
;  1739        2566  6
;  1740        2567  6                    BUILTIN emul;
;  1741        2568  6
;  1742        2569  6                    cpu_time_desc [0] = 4;
;  1743        2570  6                    cpu_time_desc [1] = resource [acr$l_cputime];
;  1744        2571  6                    emul (%ref(100000), resource [acr$l_cputime],
;  1745        2572  6                          %ref(0),quad_cpu_time [0]);
;  1746        2573  5                    END;
;  1747        2574  5
;  1748        2575  6                    BEGIN
;  1749        2576  6                    page_faults_desc [0] = 4;
;  1750        2577  6                    page_faults_desc [1] = resource [acr$l_faults];
;  1751        2578  5                    END;
;  1752        2579  5
;  1753        2580  6                    BEGIN
;  1754        2581  6                    page_reads_desc [0] = 4;
;  1755        2582  6                    page_reads_desc [1] = resource [acr$l_faultio];
;  1756        2583  5                    END;
;  1757        2584  5
;  1758        2585  6                    BEGIN
;  1759        2586  6                    working_set_desc [0] = 4;
;  1760        2587  6                    working_set_desc [1] = resource [acr$l_wspeak];
;  1761        2588  5                    END;
;  1762        2589  5
;  1763        2590  6                    BEGIN
;  1764        2591  6                    page_file_desc [0] = 4;
;  1765        2592  6                    page_file_desc [1] = resource [acr$l_pagefl];
;  1766        2593  5                    END;
;  1767        2594  5
;  1768        2595  6                    BEGIN
;  1769        2596  6                    direct_io_desc [0] = 4;
;  1770        2597  6                    direct_io_desc [1] = resource [acr$l_diocnt];
;  1771        2598  5                    END;
;  1772        2599  5
;  1773        2600  6                    BEGIN
;  1774        2601  6                    buffered_io_desc [0] = 4;
;  1775        2602  6                    buffered_io_desc [1] = resource [acr$l_biocnt];
;  1776        2603  5                    END;
;  1777        2604  5
;  1778        2605  6                    BEGIN
;  1779        2606  6                    volumes_desc [0] = 4;
;  1780        2607  6                    volumes_desc [1] = resource [acr$l_volumes];
;  1781        2608  5                    END;
;  1782        2609  4                    END;
;  1783        2610  4
;  1784        2611  4                [acr$k_imagename]:
;  1785        2612  4                    !
;  1786        2613  4                    ! Imagename packets
;  1787        2614  4                    !
;  1788        2615  5                    BEGIN
;  1789        2616  5
;  1790        2617  5                    BIND
```

```
;  1791          2618  5                    image = .packet:        bblock;
;  1792          2619  5            LOCAL
;  1793          2620  5                    name_end;
;  1794          2621  5
;  1795          2622  5            if (.(image [acr$t_imagename])<0,8> NEQ 0) then
;  1796          2623  6                    BEGIN
;  1797          2624  6
;  1798          2625  6                    MACRO
;  1799          2626  6                        ITMLST$K_LENGTH = 8 %,                  ! Item list member size.
;  1800          2627  6                        ITMLST$W_RETLEN = 0,0,16,0 %,           ! Return length.
;  1801          2628  6                        ITMLST$W_ITMCOD = 2,0,16,0 %,           ! Item code.
;  1802          2629  6                        ITMLST$A_BUFADR = 4,0,32,0 %            ! Address of component.
;  1803          2630  6                        ;
;  1804          2631  6
;  1805          2632  6                    LOCAL
;  1806          2633  6                        itmlst: block[ ( itmlst$k_length * 1 ) +
;  1807          2634  6                            %upval, byte],
;  1808          2635  6                            ! $FILESCAN item list (plus ending zero)
;  1809          2636  6                        status;
;  1810          2637  6
;  1811          2638  6                    MAP
;  1812          2639  6                        itmlst: blockvector[, itmlst$k_length, byte];
;  1813          2640  6
;  1814          2641  6                    image_file_desc [0] =
;  1815          2642  6                            .(image [acr$t_imagename])<0,8>;
;  1816          2643  6                    image_file_desc [1] =
;  1817          2644  6                            image [acr$t_imagename] + 1;
;  1818          2645  6
;  1819          2646  6                    !+
;  1820          2647  6                    ! Do $FILESCAN to get filename.
;  1821          2648  6                    !-
;  1822          2649  6                    itmlst[0, itmlst$w_itmcod] = fscn$_name;
;  1823          2650  6                    itmlst[1, 0, 0, 32, 0 ] = 0;
;  1824        P 2651  6                    status = $filescan(
;  1825        P 2652  6                                        srcstr = image_file_desc,
;  1826          2653  6                                        valuelst = itmlst );
;  1827          2654  6                    if not .status
;  1828          2655  6                    then return .status;
;  1829          2656  6
;  1830          2657  6                    subtype_desc [0] = image_desc[0] =
;  1831          2658  6                            .itmlst[0, itmlst$w_retlen];    ! Length
;  1832          2659  6                    subtype_desc [1] = image_desc[1] =
;  1833          2660  6                            .itmlst[0, itmlst$a_bufadr];    ! Address
;  1834          2661  6
;  1835          2662  5                    END;
;  1836          2663  4                END;
;  1837          2664  4
;  1838          2665  4            [acr$k_filename]:
;  1839          2666  4                    !
;  1840          2667  4                    ! Filename packets
;  1841          2668  4                    !
;  1842          2669  5                    BEGIN
;  1843          2670  5
;  1844          2671  5                    BIND
;  1845          2672  5                            file = .packet: bblock;
;  1846          2673  5
;  1847          2674  5                    if (.(file [acr$t_filename])<0,8> NEQ 0) then
```

```
;  1848          2675  6                    BEGIN
;  1849          2676  6                    file_desc [0] = .(file [acr$t_filename])<0,8>;
;  1850          2677  6                    file_desc [1] =   file [acr$t_filename] + 1;
;  1851          2678  5                    END;
;  1852          2679  4                END;
;  1853          2680  4
;  1854          2681  4            [acr$k_user_data]:
;  1855          2682  4                !
;  1856          2683  4                ! User data packets
;  1857          2684  4                !
;  1858          2685  5                BEGIN
;  1859          2686  5
;  1860          2687  5                BIND
;  1861          2688  5                    user_data = .packet:    bblock;
;  1862          2689  5
;  1863          2690  5                if (.(user_data [acr$t_user_data])<0,8> NEQ 0) then
;  1864          2691  6                    BEGIN
;  1865          2692  6                    user_data_desc [0] =
;  1866          2693  6                            .(user_data [acr$t_user_data])<0,8>;
;  1867          2694  6                    user_data_desc [1] =
;  1868          2695  6                            user_data [acr$t_user_data] + 1;
;  1869          2696  5                    END;
;  1870          2697  4                END;
;  1871          2698  4
;  1872          2699  4            [acr$k_print]:
;  1873          2700  4                !
;  1874          2701  4                ! Print resource packets
;  1875          2702  4                !
;  1876          2703  5                BEGIN
;  1877          2704  5
;  1878          2705  5                BIND
;  1879          2706  5                    print = .packet:        bblock;
;  1880          2707  5
;  1881          2708  6                    BEGIN
;  1882          2709  6                    status_desc [0] = 4;
;  1883          2710  6                    status_desc [1] = print [acr$l_printsts];
;  1884          2711  6                    status_text_desc [0] = 80;
;  1885          2712  6                    status_text_desc [1] = status_text_buffer;
;  1886          2713  6                    translate_status
;  1887          2714  6                            (..status_desc [1], status_text_desc);
;  1888          2715  5                    END;
;  1889          2716  5                if (.(print [acr$q_begtime])<0,32> NEQ 0) OR
;  1890          2717  5                   (.(print [acr$q_begtime] + 4)<0,32> NEQ 0) then
;  1891          2718  6                    BEGIN
;  1892          2719  6                    start_time_desc [0] = 8;
;  1893          2720  6                    start_time_desc [1] = print [acr$q_begtime];
;  1894          2721  6                    if .finish_time_desc [0] NEQ 0 then
;  1895          2722  7                        BEGIN
;  1896        P 2723  7                        perform (lib$subx (
;  1897        P 2724  7                                .finish_time_desc [1],
;  1898        P 2725  7                                .start_time_desc [1],
;  1899          2726  7                                elapsed_time, %ref(2)));
;  1900          2727  7                        elapsed_desc [0] = 8;
;  1901          2728  6                        END;
;  1902          2729  6                    END
;  1903          2730  5                else if (.(print [acr$q_quetime])<0,32> NEQ 0) OR
;  1904          2731  5                   (.(print [acr$q_quetime] + 4)<0,32> NEQ 0) then
```

```
;  1905          2732  6                        BEGIN
;  1906          2733  6                        queue_time_desc [0] = 8;
;  1907          2734  6                        queue_time_desc [1] = print [acr$q_quetime];
;  1908          2735  6                        if .finish_time_desc [0] NEQ 0 then
;  1909        P 2736  6                            perform (lib$subx (
;  1910        P 2737  6                                        .finish_time_desc [1],
;  1911        P 2738  6                                        .queue_time_desc [1],
;  1912          2739  6                                        elapsed_time, %ref(2)));
;  1913          2740  5                        END;
;  1914          2741  5
;  1915          2742  6                    BEGIN
;  1916          2743  6
;  1917          2744  6                    BUILTIN emul;
;  1918          2745  6
;  1919          2746  6                    cpu_time_desc [0] = 4;
;  1920          2747  6                    cpu_time_desc [1] = print [acr$l_symcputim];
;  1921          2748  6                    emul (%ref(100000), print [acr$l_symcputim],
;  1922          2749  6                        %ref(0), quad_cpu_time [0]);
;  1923          2750  5                    END;
;  1924          2751  5
;  1925          2752  6                    BEGIN
;  1926          2753  6                    sym_page_desc [0] = 4;
;  1927          2754  6                    sym_page_desc [1] = print [acr$l_pagecnt];
;  1928          2755  5                    END;
;  1929          2756  5
;  1930          2757  6                    BEGIN
;  1931          2758  6                    sym_qio_desc [0] = 4;
;  1932          2759  6                    sym_qio_desc [1] = print [acr$l_qiocnt];
;  1933          2760  5                    END;
;  1934          2761  5
;  1935          2762  6                    BEGIN
;  1936          2763  6                    sym_get_desc [0] = 4;
;  1937          2764  6                    sym_get_desc [1] = print [acr$l_getcnt];
;  1938          2765  5                    END;
;  1939          2766  4                    END;
;  1940          2767  4
;  1941          2768  4                [OTHERWISE]:
;  1942          2769  4                    !
;  1943          2770  4                    ! Unknown packet type
;  1944          2771  4                    !
;  1945          2772  4                    return false;
;  1946          2773  4
;  1947          2774  4                TES;
;  1948          2775  3                END;
;  1949          2776  3            packet = .packet + .packet [acr$w_length];
;  1950          2777  2            END;
;  1951          2778  2
;  1952          2779  2
;  1953          2780  2 return true;
;  1954          2781  2
;  1955          2782  1 END;


                                                    00983           .BLKB   1
00  45  56  49  54  43  41  52  45  54  4E  49       00984 P.AAW:    .ASCII  \INTERACTIVE\<0>                        ;
00  00  53  53  45  43  4F  52  50  42  55  53       009C0 P.AAX:    .ASCII  \SUBPROCESS\<0><0>                      ;
```

```
                                        44 45 48 43 41 54 45 44 009CC P.AAY:   .ASCII  \DETACHED\
                                        00 00 00 48 43 54 41 42 009D4 P.AAZ:   .ASCII  \BATCH\<0><0><0>
                                        00 4B 52 4F 57 54 45 4E 009DC P.ABA:   .ASCII  \NETWORK\<0>
                                        00 53 53 45 43 4F 52 50 009E4 P.ABB:   .ASCII  \PROCESS\<0>
61 6E 69 6D 72 65 54 20 73 73 65 63 6F 72 50 009EC P.ABC:   .ASCII  \Process Termination\<0>
                                                 00 6E 6F 69 74 009FB
                                        00 00 00 45 47 41 4D 49 00A00 P.ABD:   .ASCII  \IMAGE\<0><0><0>
69 74 61 6E 69 6D 72 65 54 20 65 67 61 6D 49 00A08 P.ABE:   .ASCII  \Image Termination\<0><0><0>
                                              00 00 00 6E 6F 00A17
                                        00 54 49 4E 49 53 59 53 00A1C P.ABF:   .ASCII  \SYSINIT\<0>
49 4C 41 49 54 49 4E 49 20 4D 45 54 53 59 53 00A24 P.ABG:   .ASCII  \SYSTEM INITIALIZATION\<0><0><0>
                                  00 00 00 4E 4F 49 54 41 5A 00A33
                                        00 45 4D 49 54 54 45 53 00A3C P.ABH:   .ASCII  \SETTIME\<0>
61 68 43 20 65 6D 69 54 20 6D 65 74 73 79 53 00A44 P.ABI:   .ASCII  \System Time Change\<0><0>
                                              00 00 65 67 6E 00A53
                                        00 4C 49 41 46 47 4F 4C 00A58 P.ABJ:   .ASCII  \LOGFAIL\<0>
00 00 45 52 55 4C 49 41 46 20 4E 49 47 4F 4C 00A60 P.ABK:   .ASCII  \LOGIN FAILURE\<0><0><0>
                                                 00 00A6F
                                        00 00 00 54 4E 49 52 50 00A70 P.ABL:   .ASCII  \PRINT\<0><0><0>
69 6D 72 65 54 20 62 6F 4A 20 54 4E 49 52 50 00A78 P.ABM:   .ASCII  \PRINT Job Termination\<0><0><0>
                                  00 00 00 6E 6F 69 74 61 6E 00A87
                                              52 45 53 55 00A90 P.ABN:   .ASCII  \USER\
                     65 67 61 73 73 65 4D 20 52 45 53 55 00A94 P.ABO:   .ASCII  \USER Message\
                                        00 00 45 4C 42 41 4E 45 00AA0 P.ABP:   .ASCII  \ENABLE\<0><0>
69 74 6E 75 6F 63 63 41 20 65 6C 62 61 6E 45 00AA8 P.ABQ:   .ASCII  \Enable Accounting\<0><0><0>
                                              00 00 00 67 6E 00AB7
                                        00 45 4C 42 41 53 49 44 00ABC P.ABR:   .ASCII  \DISABLE\<0>
74 6E 75 6F 63 63 41 20 65 6C 62 61 73 69 44 00AC4 P.ABS:   .ASCII  \Disable Accounting\<0><0>
                                              00 00 67 6E 69 00AD3
                                        00 00 4D 43 41 54 4C 41 00AD8 P.ABT:   .ASCII  \ALTACM\<0><0>
75 6F 63 63 41 20 65 74 61 6E 72 65 74 6C 41 00AE0 P.ABU:   .ASCII  \Alternate Accounting Manager\
      72 65 67 61 6E 61 4D 20 67 6E 69 74 6E 00AEF
                                        00 4C 42 5F 45 4C 49 46 00AFC P.ABV:   .ASCII  \FILE_BL\<0>
45 4C 49 46 20 47 4E 49 54 4E 55 4F 43 43 41 00B04 P.ABW:   .ASCII  \ACCOUNTING FILE backward pointer\
74 6E 69 6F 70 20 64 72 61 77 6B 63 61 62 20 00B13
                                                 72 65 00B22
                                        00 4C 46 5F 45 4C 49 46 00B24 P.ABX:   .ASCII  \FILE_FL\<0>
45 4C 49 46 20 47 4E 49 54 4E 55 4F 43 43 41 00B2C P.ABY:   .ASCII  \ACCOUNTING FILE forward pointer\<0>
65 74 6E 69 6F 70 20 64 72 61 77 72 6F 66 20 00B3B
                                                 00 72 00B4A
                                        00 4E 57 4F 4E 4B 4E 55 00B4C P.ABZ:   .ASCII  \UNKNOWN\<0>
20 64 72 6F 63 65 52 20 4E 57 4F 4E 4B 4E 55 00B54 P.ACA:   .ASCII  \UNKNOWN Record Type\<0>
                                              00 65 70 79 54 00B63
                                        52 45 4D 4F 54 53 55 43 00B68 P.ACB:   .ASCII  \CUSTOMER\
64 72 6F 63 65 52 20 52 45 4D 4F 54 53 55 43 00B70 P.ACC:   .ASCII  \CUSTOMER Record Type\
                                              65 70 79 54 20 00B7F
                                              00 49 25 21 00B84 P.ACE:   .ASCII  \!%I\<0>
                                                 00000003 00B88 P.ACD:   .LONG   3
                                                 00000000' 00B8C         .ADDRESS P.ACE

                                                           .PSECT  $OWN$,NOEXE,2

                                                 0000C PACKET: .BLKB   4

                                                           .EXTRN  SYS$FILESCAN

                                                           .PSECT  CODE,NOWRT,2
```

```
                                                01FC 00000 PROCESS_V3_RECORD:
                                                           .WORD   Save R2,R3,R4,R5,R6,R7,R8                       ; 2189
                                             58 00000000G   00   9E 00002         MOVAB   TRANSLATE_STATUS, R8                    ;
                                             57      0000'  CF   9E 00009         MOVAB   PACKET, R7                              ;
                                             56 00000000G   00   9E 0000E         MOVAB   LIB$SUBX, R6                            ;
                                             55        FE0B CF   9E 00015         MOVAB   P.AAW, R5                               ;
                                             54 00000000'   FF   9E 0001A         MOVAB   TYPE_DESC, R4                           ;
                                             5E          10 C2 00021              SUBL2   #16, SP                                 ;
                                             53          04 AC D0 00024           MOVL    BUFFER, R3                              ; 2231
                                             03             63 E9 00028           BLBC    (R3), 1$                                ;
                                                      0564  31 0002B              BRW     57$                                     ;
FECC   C4          63                        07             01 EF 0002E 1$:       EXTZV   #1, #7, (R3), RECORD_TYPE               ; 2233
FEC8   C4       01 A3                        04             00 EF 00035           EXTZV   #0, #4, 1(R3), RECORD_SUBTYPE           ; 2234
FEC0   C4          63                        01             0F EF 0003D           EXTZV   #15, #1, (R3), CUSTOMER                 ; 2235
                                             03       FEC0  C4 E9 00044           BLBC    CUSTOMER, 2$                            ; 2236
                                                      01BD  31 00049              BRW     20$                                     ;
                                             51       FECC  C4 D0 0004C 2$:       MOVL    RECORD_TYPE, R1                         ; 2239
                                             52             01 D0 00051           MOVL    #1, R2                                  ;
                                                            51 D5 00054           TSTL    R1                                      ; 2241
                                                            59 13 00056           BEQL    7$                                      ;
                                             03             51 D1 00058           CMPL    R1, #3                                  ;
                                                            54 1A 0005B           BGTRU   7$                                      ;
                                                            52 D4 0005D           CLRL    R2                                      ;
                                             50       FEC8  C4 D0 0005F           MOVL    RECORD_SUBTYPE, R0                      ; 2243
                                             01             50 D1 00064           CMPL    R0, #1                                  ; 2245
                                                            0A 12 00067           BNEQ    3$                                      ;
                                          A0 A4             0B D0 00069           MOVL    #11, PROCESS_DESC                       ; 2247
                                          A4 A4             65 9E 0006D           MOVAB   P.AAW, PROCESS_DESC+4                   ; 2248
                                                            3E 11 00071           BRB     7$                                      ; 2243
                                             02             50 D1 00073 3$:       CMPL    R0, #2                                  ; 2250
                                                            0B 12 00076           BNEQ    4$                                      ;
                                          A0 A4             0A D0 00078           MOVL    #10, PROCESS_DESC                       ; 2252
                                          A4 A4          0C A5 9E 0007C           MOVAB   P.AAX, PROCESS_DESC+4                   ; 2253
                                                            2E 11 00081           BRB     7$                                      ; 2243
                                             03             50 D1 00083 4$:       CMPL    R0, #3                                  ; 2255
                                                            0B 12 00086           BNEQ    5$                                      ;
                                          A0 A4             08 D0 00088           MOVL    #8, PROCESS_DESC                        ; 2257
                                          A4 A4          18 A5 9E 0008C           MOVAB   P.AAY, PROCESS_DESC+4                   ; 2258
                                                            1E 11 00091           BRB     7$                                      ; 2243
                                             04             50 D1 00093 5$:       CMPL    R0, #4                                  ; 2260
                                                            0B 12 00096           BNEQ    6$                                      ;
                                          A0 A4             05 D0 00098           MOVL    #5, PROCESS_DESC                        ; 2262
                                          A4 A4          20 A5 9E 0009C           MOVAB   P.AAZ, PROCESS_DESC+4                   ; 2263
                                                            0E 11 000A1           BRB     7$                                      ; 2243
                                             05             50 D1 000A3 6$:       CMPL    R0, #5                                  ; 2265
                                                            09 12 000A6           BNEQ    7$                                      ;
                                          A0 A4             07 D0 000A8           MOVL    #7, PROCESS_DESC                        ; 2267
                                          A4 A4          28 A5 9E 000AC           MOVAB   P.ABA, PROCESS_DESC+4                   ; 2268
                                                            51 D5 000B1 7$:       TSTL    R1                                      ; 2272
                                                            1D 13 000B3           BEQL    8$                                      ;
                                             02             51 D1 000B5           CMPL    R1, #2                                  ;
                                                            18 1A 000B8           BGTRU   8$                                      ;
                                                            52 D4 000BA           CLRL    R2                                      ;
                                             64             07 D0 000BC           MOVL    #7, TYPE_DESC                           ; 2274
                                          04 A4          30 A5 9E 000BF           MOVAB   P.ABB, TYPE_DESC+4                      ; 2275
                                          08 A4             13 D0 000C4           MOVL    #19, TYPE_TEXT_DESC                     ; 2276
```

```
                OC  A4      38  A5  9E 000C8          MOVAB   P.ABC, TYPE_TEXT_DESC+4                 ; 2277
                D8  A4      A0  A4  7D 000CD          MOVQ    PROCESS_DESC, SUBTYPE_DESC              ; 2278
                    03          51  D1 000D2 8$:      CMPL    R1, #3                                  ; 2281
                                18  1F 000D5          BLSSU   9$                                      ;
                    04          51  D1 000D7          CMPL    R1, #4                                  ;
                                13  1A 000DA          BGTRU   9$                                      ;
                                52  D4 000DC          CLRL    R2                                      ;
                    64          05  D0 000DE          MOVL    #5, TYPE_DESC                           ; 2283
                04  A4      4C  A5  9E 000E1          MOVAB   P.ABD, TYPE_DESC+4                      ; 2284
                08  A4          11  D0 000E6          MOVL    #17, TYPE_TEXT_DESC                     ; 2285
                OC  A4      54  A5  9E 000EA          MOVAB   P.ABE, TYPE_TEXT_DESC+4                 ; 2286
                    05          51  D1 000EF 9$:      CMPL    R1, #5                                  ; 2288
                                13  12 000F2          BNEQ    10$                                     ;
                                52  D4 000F4          CLRL    R2                                      ;
                    64          07  D0 000F6          MOVL    #7, TYPE_DESC                           ; 2290
                04  A4      68  A5  9E 000F9          MOVAB   P.ABF, TYPE_DESC+4                      ; 2291
                08  A4          15  D0 000FE          MOVL    #21, TYPE_TEXT_DESC                     ; 2292
                OC  A4      70  A5  9E 00102          MOVAB   P.ABG, TYPE_TEXT_DESC+4                 ; 2293
                    06          51  D1 00107 10$:     CMPL    R1, #6                                  ; 2295
                                15  12 0010A          BNEQ    11$                                     ;
                                52  D4 0010C          CLRL    R2                                      ;
                    64          07  D0 0010E          MOVL    #7, TYPE_DESC                           ; 2297
                04  A4      0088    C5  9E 00111      MOVAB   P.ABH, TYPE_DESC+4                      ; 2298
                08  A4          12  D0 00117          MOVL    #18, TYPE_TEXT_DESC                     ; 2299
                OC  A4      0090    C5  9E 0011B      MOVAB   P.ABI, TYPE_TEXT_DESC+4                 ; 2300
                    07          51  D1 00121 11$:     CMPL    R1, #7                                  ; 2302
                                15  12 00124          BNEQ    12$                                     ;
                                52  D4 00126          CLRL    R2                                      ;
                    64          07  D0 00128          MOVL    #7, TYPE_DESC                           ; 2304
                04  A4      00A4    C5  9E 0012B      MOVAB   P.ABJ, TYPE_DESC+4                      ; 2305
                08  A4          0D  D0 00131          MOVL    #13, TYPE_TEXT_DESC                     ; 2306
                OC  A4      00AC    C5  9E 00135      MOVAB   P.ABK, TYPE_TEXT_DESC+4                 ; 2307
                    08          51  D1 0013B 12$:     CMPL    R1, #8                                  ; 2309
                                15  12 0013E          BNEQ    13$                                     ;
                                52  D4 00140          CLRL    R2                                      ;
                    64          05  D0 00142          MOVL    #5, TYPE_DESC                           ; 2311
                04  A4      00BC    C5  9E 00145      MOVAB   P.ABL, TYPE_DESC+4                      ; 2312
                08  A4          15  D0 0014B          MOVL    #21, TYPE_TEXT_DESC                     ; 2313
                OC  A4      00C4    C5  9E 0014F      MOVAB   P.ABM, TYPE_TEXT_DESC+4                 ; 2314
                    09          51  D1 00155 13$:     CMPL    R1, #9                                  ; 2316
                                15  12 00158          BNEQ    14$                                     ;
                                52  D4 0015A          CLRL    R2                                      ;
                    64          04  D0 0015C          MOVL    #4, TYPE_DESC                           ; 2318
                04  A4      00DC    C5  9E 0015F      MOVAB   P.ABN, TYPE_DESC+4                      ; 2319
                08  A4          0C  D0 00165          MOVL    #12, TYPE_TEXT_DESC                     ; 2320
                OC  A4      00E0    C5  9E 00169      MOVAB   P.ABO, TYPE_TEXT_DESC+4                 ; 2321
                    0A          51  D1 0016F 14$:     CMPL    R1, #10                                 ; 2323
                                15  12 00172          BNEQ    15$                                     ;
                                52  D4 00174          CLRL    R2                                      ;
                    64          06  D0 00176          MOVL    #6, TYPE_DESC                           ; 2325
                04  A4      00EC    C5  9E 00179      MOVAB   P.ABP, TYPE_DESC+4                      ; 2326
                08  A4          11  D0 0017F          MOVL    #17, TYPE_TEXT_DESC                     ; 2327
                OC  A4      00F4    C5  9E 00183      MOVAB   P.ABQ, TYPE_TEXT_DESC+4                 ; 2328
                    0B          51  D1 00189 15$:     CMPL    R1, #11                                 ; 2330
                                15  12 0018C          BNEQ    16$                                     ;
                                52  D4 0018E          CLRL    R2                                      ;
                    64          07  D0 00190          MOVL    #7, TYPE_DESC                           ; 2332
```

```
                04   A4      0108   C5  9E 00193          MOVAB   P.ABR, TYPE_DESC+4                    ; 2333
                08   A4             12  D0 00199          MOVL    #18, TYPE_TEXT_DESC                   ; 2334
                0C   A4      0110   C5  9E 0019D          MOVAB   P.ABS, TYPE_TEXT_DESC+4               ; 2335
                     0C             51  D1 001A3 16$:     CMPL    R1, #12                               ; 2337
                                    15  12 001A6          BNEQ    17$                                   ;
                                    52  D4 001A8          CLRL    R2                                    ;
                     64             06  D0 001AA          MOVL    #6, TYPE_DESC                         ; 2339
                04   A4      0124   C5  9E 001AD          MOVAB   P.ABT, TYPE_DESC+4                    ; 2340
                08   A4             1C  D0 001B3          MOVL    #28, TYPE_TEXT_DESC                   ; 2341
                0C   A4      012C   C5  9E 001B7          MOVAB   P.ABU, TYPE_TEXT_DESC+4               ; 2342
                     0E             51  D1 001BD 17$:     CMPL    R1, #14                               ; 2344
                                    15  12 001C0          BNEQ    18$                                   ;
                                    52  D4 001C2          CLRL    R2                                    ;
                     64             04  D0 001C4          MOVL    #4, TYPE_DESC                         ; 2346
                04   A4      0148   C5  9E 001C7          MOVAB   P.ABV, TYPE_DESC+4                    ; 2347
                08   A4             20  D0 001CD          MOVL    #32, TYPE_TEXT_DESC                   ; 2348
                0C   A4      0150   C5  9E 001D1          MOVAB   P.ABW, TYPE_TEXT_DESC+4               ; 2349
                     0D             51  D1 001D7 18$:     CMPL    R1, #13                               ; 2352
                                    15  12 001DA          BNEQ    19$                                   ;
                                    52  D4 001DC          CLRL    R2                                    ;
                     64             04  D0 001DE          MOVL    #4, TYPE_DESC                         ; 2354
                04   A4      0170   C5  9E 001E1          MOVAB   P.ABX, TYPE_DESC+4                    ; 2355
                08   A4             1F  D0 001E7          MOVL    #31, TYPE_TEXT_DESC                   ; 2356
                0C   A4      0178   C5  9E 001EB          MOVAB   P.ABY, TYPE_TEXT_DESC+4               ; 2357
                     28             52  E9 001F1 19$:     BLBC    R2, 21$                               ; 2360
                     64             07  D0 001F4          MOVL    #7, TYPE_DESC                         ; 2362
                04   A4      0198   C5  9E 001F7          MOVAB   P.ABZ, TYPE_DESC+4                    ; 2363
                08   A4             13  D0 001FD          MOVL    #19, TYPE_TEXT_DESC                   ; 2364
                0C   A4      01A0   C5  9E 00201          MOVAB   P.ACA, TYPE_TEXT_DESC+4               ; 2365
                                    13  11 00207          BRB     21$                                   ; 2236
                     64             08  D0 00209 20$:     MOVL    #8, TYPE_DESC                         ; 2371
                04   A4      01B4   C5  9E 0020C          MOVAB   P.ACB, TYPE_DESC+4                    ; 2372
                08   A4             14  D0 00212          MOVL    #20, TYPE_TEXT_DESC                   ; 2373
                0C   A4      01BC   C5  9E 00216          MOVAB   P.ACC, TYPE_TEXT_DESC+4               ; 2374
              FEC4   C4        02   A3  3C 0021C 21$:     MOVZWL  2(R3), RECORD_LENGTH                  ; 2379
                               04   A3  D5 00222          TSTL    4(R3)                                 ; 2383
                                    05  12 00225          BNEQ    22$                                   ;
                               08   A3  D5 00227          TSTL    8(R3)                                 ; 2384
                                    0B  13 0022A          BEQL    23$                                   ;
              FF40   C4              08  D0 0022C 22$:     MOVL    #8, FINISH_TIME_DESC                  ; 2387
              FF44   C4        04   A3  9E 00231          MOVAB   4(R3), FINISH_TIME_DESC+4             ; 2388
                     67        0C   A3  9E 00237 23$:     MOVAB   12(R3), PACKET                        ; 2398
                     50             67  D0 0023B 24$:     MOVL    PACKET, R0                            ; 2399
          51         53      FEC4   C4  C1 0023E          ADDL3   RECORD_LENGTH, R3, R1                 ;
                     51             50  D1 00244          CMPL    R0, R1                                ;
                                    03  1F 00247          BLSSU   25$                                   ;
                                  0342  31 00249          BRW     56$                                   ;
                     03             60  E8 0024C 25$:     BLBS    (R0), 26$                             ; 2404
                                  0340  31 0024F          BRW     57$                                   ;
                                    60  B5 00252 26$:     TSTW    (R0)                                  ; 2405
                                    03  18 00254          BGEQ    27$                                   ;
                                  0328  31 00256          BRW     55$                                   ;
01        60             07           01  ED 00259 27$:     CMPZV   #1, #7, (R0), #1                      ; 2408
                                    03  13 0025E          BEQL    28$                                   ;
                                  011D  31 00260          BRW     40$                                   ;
                     52             50  D0 00263 28$:     MOVL    R0, R2                                ; 2415
              FF48   C4              04  D0 00266          MOVL    #4, IDENT_DESC                        ; 2418
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                FF4C   C4      04   A2  9E 0026B          MOVAB   4(R2), IDENT_DESC+4                     ; 2419
                               08   A2  D5 00271          TSTL    8(R2)                                   ; 2422
                                    0B  13 00274          BEQL    29$                                     ;
                FF70   C4           04  D0 00276          MOVL    #4, OWNER_DESC                          ; 2424
                FF74   C4           08  A2 9E 0027B       MOVAB   8(R2), OWNER_DESC+4                     ; 2425
                  10   A4           04  D0 00281 29$:     MOVL    #4, UIC_BINARY_DESC                     ; 2429
                  14   A4           0C  A2 9E 00285       MOVAB   12(R2), UIC_BINARY_DESC+4               ; 2430
                  18   A4           02  D0 0028A          MOVL    #2, UIC_GROUP_DESC                      ; 2431
                  1C   A4           0E  A2 9E 0028E       MOVAB   14(R2), UIC_GROUP_DESC+4                ; 2432
                  20   A4           02  D0 00293          MOVL    #2, UIC_MEMBER_DESC                     ; 2433
                  24   A4           0C  A2 9E 00297       MOVAB   12(R2), UIC_MEMBER_DESC+4               ; 2434
                       23      0368   C4  E9 0029C       BLBC    SUMMARY_UIC, 30$                        ; 2441
                  28   A4       4[illegible]  8F  9A 002A1       MOVZBL  #67, UIC_DESC                   ; 2444
                  2C   A4      010[illegible]  C4  9E 002A6       MOVAB   UIC_BUF, UIC_DESC+4             ; 2445
                                0C  A2  DD 002AC          PUSHL   12(R2)                                  ; 2449
                                28  A4  9F 002AF          PUSHAB  UIC_DESC                                ;
                                28  A4  9F 002B2          PUSHAB  UIC_DESC                                ;
                              01D4  C5  9F 002B5          PUSHAB  P.ACD                                   ;
        00000000G   00              04  FB 002B9          CALLS   #4, LIB$SYS_FAO                         ;
                    01              50  E8 002C0          BLBS    STATUS, 30$                             ;
                                    04 002C3              RET                                             ;
                  98   A4           08  D0 002C4 30$:     MOVL    #8, PRIVILEGE_DESC                      ; 2454
                  9C   A4       10  A2  9E 002C8          MOVAB   16(R2), PRIVILEGE_DESC+4                ; 2455
                  90   A4           01  D0 002CD          MOVL    #1, PRIORITY_DESC                       ; 2459
                  94   A4       18  A2  9E 002D1          MOVAB   24(R2), PRIORITY_DESC+4                 ; 2460
                       50       1A  A2  3C 002D6          MOVZWL  26(R2), R0                              ; 2463
                                    0B  13 002DA          BEQL    31$                                     ;
                  38   A4         6042  9A 002DC          MOVZBL  (R0)[R2], USER_DESC                     ; 2466
                  3C   A4       01 A042  9E 002E1          MOVAB   1(R0)[R2], USER_DESC+4                  ; 2468
                       50       1C  A2  3C 002E7 31$:     MOVZWL  28(R2), R0                              ; 2470
                                    0D  13 002EB          BEQL    32$                                     ;
                FEF8   C4         6042  9A 002ED          MOVZBL  (R0)[R2], ACCOUNT_DESC                  ; 2473
                FEFC   C4       01 A042  9E 002F3          MOVAB   1(R0)[R2], ACCOUNT_DESC+4               ; 2475
                       50       1E  A2  3C 002FA 32$:     MOVZWL  30(R2), R0                              ; 2477
                                    0D  13 002FE          BEQL    33$                                     ;
                FF68   C4         6042  9A 00300          MOVZBL  (R0)[R2], NODE_DESC                     ; 2480
                FF6C   C4       01 A042  9E 00306          MOVAB   1(R0)[R2], NODE_DESC+4                  ; 2482
                       50       20  A2  3C 0030D 33$:     MOVZWL  32(R2), R0                              ; 2484
                                    0B  13 00311          BEQL    34$                                     ;
                   F8   A4         6042  9A 00313          MOVZBL  (R0)[R2], TERMINAL_DESC                 ; 2487
                   FC   A4       01 A042  9E 00318          MOVAB   1(R0)[R2], TERMINAL_DESC+4              ; 2489
                       50       22  A2  3C 0031E 34$:     MOVZWL  34(R2), R0                              ; 2491
                                    0D  13 00322          BEQL    35$                                     ;
                FF60   C4         6042  9A 00324          MOVZBL  (R0)[R2], JOB_DESC                      ; 2494
                FF64   C4       01 A042  9E 0032A          MOVAB   1(R0)[R2], JOB_DESC+4                   ; 2496
                                24  A2  D5 00331 35$:     TSTL    36(R2)                                  ; 2498
                                    0B  13 00334          BEQL    36$                                     ;
                FF20   C4           04  D0 00336          MOVL    #4, ENTRY_DESC                          ; 2500
                FF24   C4       24  A2  9E 0033B          MOVAB   36(R2), ENTRY_DESC+4                    ; 2501
                       50       28  A2  3C 00341 36$:     MOVZWL  40(R2), R0                              ; 2503
                                    0B  13 00345          BEQL    37$                                     ;
                   A8   A4         6042  9A 00347          MOVZBL  (R0)[R2], QUEUE_DESC                    ; 2506
                   AC   A4       01 A042  9E 0034C          MOVAB   1(R0)[R2], QUEUE_DESC+4                 ; 2508
                       02     FED0   C4  D1 00352 37$:     CMPL    VERSION, #2                             ; 2510
                                    24  12 00357          BNEQ    39$                                     ;
                       50       2A  A2  3C 00359          MOVZWL  42(R2), R0                              ; 2512
                                    0D  13 0035D          BEQL    38$                                     ;
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                FF00    C4          6042  9A 0035F          MOVZBL  (R0)[R2], ADDRESS_DESC                          ; 2515
                FF04    C4       01 A042  9E 00365          MOVAB   1(R0)[R2], ADDRESS_DESC+4                       ; 2517
                        50    2C    A2  3C 0036C 38$:       MOVZWL  44(R2), R0                                      ; 2519
                                    0B  13 00370             BEQL    39$                                             ;
                    B8  A4          6042  9A 00372          MOVZBL  (R0)[R2], REMOTE_ID_DESC                        ; 2522
                    BC  A4       01 A042  9E 00377          MOVAB   1(R0)[R2], REMOTE_ID_DESC+4                     ; 2524
                                0201  31 0037D 39$:         BRW     55$                                             ; 2406
    02          60              07    01  ED 00380 40$:     CMPZV   #1, #7, (R0), #2                                ; 2529
                                      03  13 00385           BEQL    41$                                             ;
                                    00B4  31 00387           BRW     44$                                             ;
                        52              50  D0 0038A 41$:     MOVL    R0, R2                                          ; 2536
                    C0  A4              08  D0 0038D         MOVL    #8, START_TIME_DESC                             ; 2539
                    C4  A4          04  A2  9E 00391         MOVAB   4(R2), START_TIME_DESC+4                        ; 2540
                            FF40    C4  D5 00396             TSTL    FINISH_TIME_DESC                                ; 2541
                                    1C  13 0039A             BEQL    43$                                             ;
                        6E              02  D0 0039C         MOVL    #2, (SP)                                        ; 2546
                                        5E  DD 0039F         PUSHL   SP                                              ;
                            FEE8        C4  9F 003A1         PUSHAB  ELAPSED_TIME                                    ;
                                C4      A4  DD 003A5         PUSHL   START_TIME_DESC+4                               ;
                            FF44        C4  DD 003A8         PUSHL   FINISH_TIME_DESC+4                              ;
                        66              04  FB 003AC         CALLS   #4, LIB$SUBX                                    ;
                        01              50  E8 003AF         BLBS    STATUS, 42$                                     ;
                                            04 003B2         RET                                                     ;
                FF28    C4              08  D0 003B3 42$:     MOVL    #8, ELAPSED_DESC                                ; 2547
                    C8  A4              04  D0 003B8 43$:     MOVL    #4, STATUS_DESC                                 ; 2552
                    CC  A4          0C  A2  9E 003BC         MOVAB   12(R2), STATUS_DESC+4                           ; 2553
                    D0  A4          50  8F  9A 003C1         MOVZBL  #80, STATUS_TEXT_DESC                           ; 2554
                    D4  A4      00B0    C4  9E 003C6         MOVAB   STATUS_TEXT_BUFFER, STATUS_TEXT_DESC+4          ; 2555
                                    D0  A4  9F 003CC         PUSHAB  STATUS_TEXT_DESC                                ; 2557
                                    CC  B4  DD 003CF         PUSHL   @STATUS_DESC+4                                  ;
                        68              02  FB 003D2         CALLS   #2, TRANSLATE_STATUS                            ;
                    FF30    C4          04  D0 003D5         MOVL    #4, EXECUTION_DESC                              ; 2561
                    FF34    C4      10  A2  9E 003DA         MOVAB   16(R2), EXECUTION_DESC+4                        ; 2562
                    FF10    C4          04  D0 003E0         MOVL    #4, CPU_TIME_DESC                               ; 2569
                    FF14    C4      14  A2  9E 003E5         MOVAB   20(R2), CPU_TIME_DESC+4                         ; 2570
FEE0    C4          00      14  A2 000186A0 8F  7A 003EB     EMUL    #100000, 20(R2), #0, QUAD_CPU_TIME              ; 2572
                    FF78    C4          04  D0 003F7         MOVL    #4, PAGE_FAULTS_DESC                            ; 2576
                    FF7C    C4      18  A2  9E 003FC         MOVAB   24(R2), PAGE_FAULTS_DESC+4                      ; 2577
                        88  A4          04  D0 00402         MOVL    #4, PAGE_READS_DESC                             ; 2581
                        8C  A4      1C  A2  9E 00406         MOVAB   28(R2), PAGE_READS_DESC+4                       ; 2582
                        48  A4          04  D0 0040B         MOVL    #4, WORKING_SET_DESC                            ; 2586
                        4C  A4      20  A2  9E 0040F         MOVAB   32(R2), WORRING_SET_DESC+4                      ; 2587
                        80  A4          04  D0 00414         MOVL    #4, PAGE_FILE_DESC                              ; 2591
                        84  A4      24  A2  9E 00418         MOVAB   36(R2), PAGE_FILE_DESC+4                        ; 2592
                    FF18    C4          04  D0 0041D         MOVL    #4, DIRECT_IO_DESC                              ; 2596
                    FF1C    C4      28  A2  9E 00422         MOVAB   40(R2), DIRECT_IO_DESC+4                        ; 2597
                    FF08    C4          04  D0 00428         MOVL    #4, BUFFERED_IO_DESC                            ; 2601
                    FF0C    C4      2C  A2  9E 0042D         MOVAB   44(R2), BUFFERED_IO_DESC+4                      ; 2602
                        40  A4          04  D0 00433         MOVL    #4, VOLUMES_DESC                                ; 2606
                        44  A4      30  A2  9E 00437         MOVAB   48(R2), VOLUMES_DESC+4                          ; 2607
                                    7F  11 0043C             BRB     48$                                             ; 2406
        03          60              07    01  ED 0043E 44$:     CMPZV   #1, #7, (R0), #3                            ; 2611
                                          48  12 00443         BNEQ    46$                                             ;
                                    04    A0  95 00445         TSTB    4(R0)                                           ; 2622
                                          73  13 00448         BEQL    48$                                             ;
                    FF50    C4          04  A0  9A 0044A     MOVZBL  4(R0), IMAGE_FILE_DESC                          ; 2642
                    FF54    C4          05  A0  9E 00450     MOVAB   5(R0), IMAGE_FILE_DESC+4                        ; 2644
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                        06   AE          06   B0  00456          MOVW    #6, ITMLST+2                                    ; 2649
                                     0C   AE   D4  0045A          CLRL    ITMLST+8                                        ; 2650
                                     7E   D4   D4  0045D          CLRL    -(SP)                                           ; 2653
                                     08   AE   9F  0045F          PUSHAB  ITMLST                                          ;
                                   FF50   C4   9F  00462          PUSHAB  IMAGE_FILE_DESC                                 ;
                00000000G          00        03  FB  00466          CALLS   #3, SYS$FILESCAN                                ;
                                   01        50  E8  0046D          BLBS    STATUS, 45$                                     ; 2654
                                             04  00470          RET                                                     ;
                                   50    04   AE  3C  00471  45$:   MOVZWL  ITMLST, R0                                     ; 2658
                                FF58   C4        50  D0  00475          MOVL    R0, IMAGE_DESC                          ;
                                  D8   A4        50  D0  0047A          MOVL    R0, SUBTYPE_DESC                        ; 2657
                                   50    08   AE  D0  0047E          MOVL    ITMLST+4, R0                                ; 2660
                                FF5C   C4        50  D0  00482          MOVL    R0, IMAGE_DESC+4                        ;
                                  DC   A4        50  D0  00487          MOVL    R0, SUBTYPE_DESC+4                      ; 2659
                                             30  11  0048B          BRB     48$                                             ; 2406
        04          60                 07        01  ED  0048D  46$:   CMPZV   #1, #7, (R0), #4                               ; 2665
                                             13  12  00492          BNEQ    47$                                             ;
                                     04    A0  95  00494          TSTB    4(R0)                                           ; 2674
                                             24  13  00497          BEQL    48$                                             ;
                                FF38   C4    04  A0  9A  00499          MOVZBL  4(R0), FILE_DESC                        ; 2676
                                FF3C   C4    05  A0  9E  0049F          MOVAB   5(R0), FILE_DESC+4                      ; 2677
                                             16  11  004A5          BRB     48$                                             ; 2406
        05          60                 07        01  ED  004A7  47$:   CMPZV   #1, #7, (R0), #5                               ; 2681
                                             12  12  004AC          BNEQ    49$                                             ;
                                     04    A0  95  004AE          TSTB    4(R0)                                           ; 2690
                                             0A  13  004B1          BEQL    48$                                             ;
                                   30    A4  04  A0  9A  004B3          MOVZBL  4(R0), USER_DATA_DESC                   ; 2693
                                   34    A4  05  A0  9E  004B8          MOVAB   5(R0), USER_DATA_DESC+4                 ; 2695
                                         00C1  31  004BD  48$:   BRW     55$                                             ; 2406
        08          60                 07        01  ED  004C0  49$:   CMPZV   #1, #7, (R0), #8                               ; 2699
                                             03  13  004C5          BEQL    50$                                             ;
                                         00C8  31  004C7          BRW     57$                                             ;
                                   52        50  D0  004CA  50$:   MOVL    R0, R2                                          ; 2706
                                C8   A4        04  D0  004CD          MOVL    #4, STATUS_DESC                         ; 2709
                                CC   A4    04  A2  9E  004D1          MOVAB   4(R2), STATUS_DESC+4                    ; 2710
                                D0   A4    50  8F  9A  004D6          MOVZBL  #80, STATUS_TEXT_DESC                   ; 2711
                                D4   A4  00B0  C4  9E  004DB          MOVAB   STATUS_TEXT_BUFFER, STATUS_TEXT_DESC+4  ; 2712
                                       D0  A4  9F  004E1          PUSHAB  STATUS_TEXT_DESC                        ; 2714
                                       CC  B4  DD  004E4          PUSHL   @STATUS_DESC+4                          ;
                                   68        02  FB  004E7          CALLS   #2, TRANSLATE_STATUS                    ;
                                       10  A2  D5  004EA          TSTL    16(R2)                                  ; 2716
                                             05  12  004ED          BNEQ    51$                                             ;
                                       14  A2  D5  004EF          TSTL    20(R2)                                  ; 2717
                                             2C  13  004F2          BEQL    52$                                             ;
                                C0   A4        08  D0  004F4  51$:   MOVL    #8, START_TIME_DESC                     ; 2719
                                C4   A4    10  A2  9E  004F8          MOVAB   16(R2), START_TIME_DESC+4               ; 2720
                                     FF40  C4  D5  004FD          TSTL    FINISH_TIME_DESC                        ; 2721
                                             4C  13  00501          BEQL    54$                                             ;
                                   6E        02  D0  00503          MOVL    #2, (SP)                                ; 2726
                                             5E  DD  00506          PUSHL   SP                                              ;
                                     FEE8  C4  9F  00508          PUSHAB  ELAPSED_TIME                                    ;
                                       C4  A4  DD  0050C          PUSHL   START_TIME_DESC+4                               ;
                                     FF44  C4  DD  0050F          PUSHL   FINISH_TIME_DESC+4                              ;
                                   66        04  FB  00513          CALLS   #4, LIB$SUBX                                    ;
                                   7B        50  E9  00516          BLBC    STATUS, 58$                                     ;
                            FF28   C4        08  D0  00519          MOVL    #8, ELAPSED_DESC                        ; 2727
                                             2F  11  0051E          BRB     54$                                             ; 2716
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                                    08    A2  D5 00520 52$:    TSTL    8(R2)                                          ; 2730
                                    05    12  00523            BNEQ    53$
                                    0C    A2  D5 00525        TSTL    12(R2)                                         ; 2731
                                    25    13  00528            BEQL    54$
                              B0    A4        08  D0 0052A 53$:    MOVL    #8, QUEUE_TIME_DESC                        ; 2733
                              B4    A4    08  A2  9E 0052E        MOVAB   8(R2), QUEUE_TIME_DESC+4                   ; 2734
                                    FF40  C4  D5 00533            TSTL    FINISH_TIME_DESC                           ; 2735
                                          16  13 00537            BEQL    54$
                                    6E        02  D0 00539        MOVL    #2, (SP)                                   ; 2739
                                              5E  DD 0053C        PUSHL   SP
                                    FEE8  C4  9F  0053E           PUSHAB  ELAPSED_TIME
                                      B4  A4  DD  00542           PUSHL   QUEUE_TIME_DESC+4
                                    FF44  C4  DD  00545           PUSHL   FINISH_TIME_DESC+4
                                    66        04  FB 00549        CALLS   #4, LIB$SUBX
                                    45        50  E9 0054C        BLBC    STATUS, 58$
                        FF10  C4        04  D0 0054F 54$:    MOVL    #4, CPU_TIME_DESC                          ; 2746
                        FF14  C4  18    A2  9E 00554           MOVAB   24(R2), CPU_TIME_DESC+4                    ; 2747
    FEE0  C4        00      18    A2 000186A0 8F  7A 0055A     EMUL    #100000, 24(R2), #0, QUAD_CPU_TIME         ; 2749
                          F0  A4        04  D0 00566           MOVL    #4, SYM_PAGE_DESC                          ; 2753
                          F4  A4  1C    A2  9E 0056A           MOVAB   28(R2), SYM_PAGE_DESC+4                    ; 2754
                          E8  A4        04  D0 0056F           MOVL    #4, SYM_QIO_DESC                           ; 2758
                          EC  A4  20    A2  9E 00573           MOVAB   32(R2), SYM_QIO_DESC+4                     ; 2759
                          E0  A4        04  D0 00578           MOVL    #4, SYM_GET_DESC                           ; 2763
                          E4  A4  24    A2  9E 0057C           MOVAB   36(R2), SYM_GET_DESC+4                     ; 2764
                              50        67  D0 00581 55$:    MOVL    PACKET, R0                                     ; 2776
                              51  02    A0  3C 00584           MOVZWL  2(R0), R1
                              67        51  C0 00588           ADDL2   R1, PACKET
                                      FCAD  31  0058B           BRW     24$                                        ; 2399
                              50        01  D0 0058E 56$:    MOVL    #1, R0                                         ; 2780
                                            04  00591           RET
                                        50  D4  00592 57$:    CLRL    R0                                         ; 2782
                                            04  00594 58$:    RET                                                ;

; Routine Size:  1429 bytes,    Routine Base:  CODE + 0B90
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```
;  1957          2783  1 ROUTINE RECORD_SELECTED (BUFFER) =
;  1958          2784  1
;  1959          2785  1 !----
;  1960          2786  1 !
;  1961          2787  1 ! Functional description
;  1962          2788  1 !
;  1963          2789  1 !       This routine tests the record pointed to by BUFFER against
;  1964          2790  1 !       user specified selection criteria.  If any test is failed
;  1965          2791  1 !       then an immediate failed return is made.  Else true is retured.
;  1966          2792  1 !
;  1967          2793  1 ! Inputs:
;  1968          2794  1 !
;  1969          2795  1 !       BUFFER = Address of the current record
;  1970          2796  1 !
;  1971          2797  1 ! Outputs:
;  1972          2798  1 !
;  1973          2799  1 !       True or false.  There are no error exits/returns from this routine.
;  1974          2800  1 !
;  1975          2801  1 !---
;  1976          2802  1
;  1977          2803  2 BEGIN
;  1978          2804  2
;  1979          2805  2 MAP buffer:     ref bblock;             ! Define buffer block format
;  1980          2806  2
;  1981          2807  2 MACRO
;  1982        M 2808  2     SELECT_OR_REJECT (name) =
;  1983        M 2809  2         IF PRESENT (name) then
;  1984        M 2810  2                 BEGIN
;  1985        M 2811  2                 LOCAL FOUND, VALUE;
;  1986        M 2812  2                 FOUND = LOOKUP_SYMBOL (name, %NAME(name,'_DESC'), VALUE);
;  1987        M 2813  2                 IF .FOUND XOR .%NAME(name,'_SWITCH') THEN RETURN FALSE;
;  1988          2814  2                 END%;
;  1989          2815  2
;  1990          2816  2
;  1991          2817  2
;  1992          2818  2
;  1993          2819  2 !
;  1994          2820  2 !TEST THE RECORD --
;  1995          2821  2 !       Using tables and values built by PARSE_COMMAND test the input
;  1996          2822  2 !       record.  Any time a record fails a selection test, or matches
;  1997          2823  2 !       an exclusion test, return immediately with an indicator to use
;  1998          2824  2 !       the secondary output stream.  If all tests are passed, then return
;  1999          2825  2 !       TRUE.
;  2000          2826  2 !
;  2001          2827  2
;  2002          2828  2 Select_or_reject (account);
;  2003          2829  2
;  2004          2830  2 Select_or_reject (address);
;  2005          2831  2
;  2006          2832  2 Select_or_reject (entry);
;  2007          2833  2
;  2008          2834  2 Select_or_reject (ident);
;  2009          2835  2
;  2010          2836  2 Select_or_reject (image);
;  2011          2837  2
;  2012          2838  2 Select_or_reject (job);
;  2013          2839  2
```

```
;  2014          2840  2 Select_or_reject (node);
;  2015          2841  2
;  2016          2842  2 Select_or_reject (owner);
;  2017          2843  2
;  2018          2844  2 Select_or_reject (priority);
;  2019          2845  2
;  2020          2846  2 Select_or_reject (process);
;  2021          2847  2
;  2022          2848  2 Select_or_reject (queue);
;  2023          2849  2
;  2024          2850  2 Select_or_reject (remote_id);
;  2025          2851  2
;  2026          2852  2 Select_or_reject (status);
;  2027          2853  2
;  2028          2854  2 Select_or_reject (terminal);
;  2029          2855  2
;  2030          2856  2 Select_or_reject (type);
;  2031          2857  2
;  2032          2858  2 !+
;  2033          2859  2 ! Select or reject based on /UIC qualifier.
;  2034          2860  2 !-
;  2035          2861  2
;  2036          2862  2 begin
;  2037          2863  2
;  2038          2864  2 local
;  2039          2865  2     uicg, uicm, value;
;  2040          2866  2
;  2041          2867  2 uicg = lookup_symbol( uic_group, uic_group_desc, value );
;  2042          2868  2 uicm = lookup_symbol( uic_member, uic_member_desc, value );
;  2043          2869  2
;  2044          2870  3 !+
;  2045          2871  3 ! First, if both a group and member were specified, see if the record matches
;  2046          2872  3 ! BOTH. This is done so that a selection of /UIC=[1,3] won't reject records of
;  2047          2873  3 ! the form [*,3]. Then check for EITHER a match on group or member, but not
;  2048          2874  3 ! both.
;  2049          2875  3 !-
;  2050          2876  3
;  2051          2877  4 if present( uic_group ) and present( uic_member )
;  2052          2878  3 then
;  2053          2879  5     ( if ( .uicg xor .uic_group_switch ) and ( .uicm xor .uic_member_switch )
;  2054          2880  4     then
;  2055          2881  4         return false )
;  2056          2882  3 else
;  2057          2883  4     if present( uic_group )
;  2058          2884  3     then
;  2059          2885  5         ( if ( .uicg xor .uic_group_switch )
;  2060          2886  4         then
;  2061          2887  4             return false
;  2062          2888  4         )
;  2063          2889  4     else if present( uic_member )
;  2064          2890  3     then
;  2065          2891  4         if ( .uicm xor .uic_member_switch )
;  2066          2892  3         then
;  2067          2893  3             return false;
;  2068          2894  3
;  2069          2895  2 end;
;  2070          2896  2
```

```
;  2071          2897  2 Select_or_reject (user);
;  2072          2898  2
;  2073          2899  2
;  2074          2900  2
;  2075          2901  2 !
;  2076          2902  2 !TEST DATES --
;  2077          2903  2 !
;  2078          2904  2 !       Check to see if this is the oldest or newest record
;  2079          2905  2 !       encountered.  Update the date watermarks if so.
;  2080          2906  2 !
;  2081          2907  2
;  2082          2908  3 if COMPARE_QUAD (..date_desc_addr, lssu, first_date)
;  2083          2909  2    then MOVE_QUAD (..date_desc_addr, first_date);
;  2084          2910  2
;  2085          2911  3 if COMPARE_QUAD (..date_desc_addr, gtru, last_date)
;  2086          2912  2    then MOVE_QUAD (..date_desc_addr, last_date);
;  2087          2913  2
;  2088          2914  2
;  2089          2915  2
;  2090          2916  2 !
;  2091          2917  2 !       BEFORE_DATE and SINCE_DATE define a date range that the
;  2092          2918  2 !       record under test must satisfy.  DATE_DESC_ADDR points to
;  2093          2919  2 !       one of three possible dates in the record to use in the
;  2094          2920  2 !       test.  If the date pointed to does not fall inside the
;  2095          2921  2 !       range then return to the caller.
;  2096          2922  2 !
;  2097          2923  2
;  2098          2924  2 if (COMPARE_QUAD (..date_desc_addr, gtru, before_date)) or
;  2099          2925  3    (COMPARE_QUAD (..date_desc_addr, lssu, since_date))
;  2100          2926  2    then return  false;
;  2101          2927  2
;  2102          2928  2
;  2103          2929  2 !
;  2104          2930  2 ! If code path falls through to here then the record has passed all
;  2105          2931  2 ! selection and rejection tests so count it as selected and return true.
;  2106          2932  2 !
;  2107          2933  2
;  2108          2934  2 selected = .selected + 1;                ! Bump the selected record count
;  2109          2935  2 return true;                             ! Default is selected
;  2110          2936  2
;  2111          2937  1 END;


                                                    B=                  FIRST_DATE
                                                    B=                  LAST_DATE
                                                    B=                  BEFORE_DATE
                                                    B=                  SINCE_DATE


                                    003C 00000 RECORD_SELECTED:
                                                        .WORD   Save R2,R3,R4,R5                        ; 2783
                55 00000000G   00   9E 00002            MOVAB   LOOKUP_SYMBOL, R5                       ;
                54 00000000G   00   9E 00009            MOVAB   QUALIFIERS, R4                          ;
                53 00000000'   EF   9E 00010            MOVAB   UIC_GROUP_SWITCH, R3                    ;
                5E         BC   AE   9E 00017            MOVAB   -68(SP), SP                             ;
                12              64   E9 0001B            BLBC    QUALIFIERS, 1$                          ; 2828
```

```
                                5E   DD 0001E          PUSHL   SP                                                          ;
                            FE68    C3 9F 00020          PUSHAB  ACCOUNT_DESC                                                ;
                                    7E D4 00024          CLRL    -(SP)                                                       ;
                                65  03 FB 00026          CALLS   #3, LOOKUP_SYMBOL                                           ;
                                50  C0 A3 00029          ADDL2   ACCOUNT_SWITCH, R0                                          ;
                                72  50 E8 0002D          BLBS    R0, 6$                                                      ;
                13      01      A4  03 E1 00030 1$:      BBC     #3, QUALIFIERS+1, 2$                                        ; 2830
                                04  AE 9F 00035          PUSHAB  VALUE                                                       ;
                            FE70    C3 9F 00038          PUSHAB  ADDRESS_DESC                                                ;
                                    0B DD 0003C          PUSHL   #11                                                         ;
                                65  03 FB 0003E          CALLS   #3, LOOKUP_SYMBOL                                           ;
                                50  C4 A3 00041          ADDL2   ADDRESS_SWITCH, R0                                          ;
                                72  50 E8 00045          BLBS    R0, 8$                                                      ;
                13              64  05 E1 00048 2$:      BBC     #5, QUALIFIERS, 3$                                          ; 2832
                                08  AE 9F 0004C          PUSHAB  VALUE                                                       ;
                            FE90    C3 9F 0004F          PUSHAB  ENTRY_DESC                                                  ;
                                    05 DD 00053          PUSHL   #5                                                          ;
                                65  03 FB 00055          CALLS   #3, LOOKUP_SYMBOL                                           ;
                                50  C8 A3 00058          ADDL2   ENTRY_SWITCH, R0                                            ;
                                73  50 E8 0005C          BLBS    R0, 10$                                                     ;
                                    64 95 0005F 3$:      TSTB    QUALIFIERS                                                  ; 2834
                                    13 18 00061          BGEQ    4$                                                          ;
                                0C  AE 9F 00063          PUSHAB  VALUE                                                       ;
                            FEB8    C3 9F 00066          PUSHAB  IDENT_DESC                                                  ;
                                    07 DD 0006A          PUSHL   #7                                                          ;
                                65  03 FB 0006C          CALLS   #3, LOOKUP_SYMBOL                                           ;
                                50  CC A3 0006F          ADDL2   IDENT_SWITCH, R0                                            ;
                                74  50 E8 00073          BLBS    R0, 12$                                                     ;
                                13  01 A4 E9 00076 4$:    BLBC    QUALIFIERS+1, 5$                                            ; 2836
                                10  AE 9F 0007A          PUSHAB  VALUE                                                       ;
                            FEC8    C3 9F 0007D          PUSHAB  IMAGE_DESC                                                  ;
                                    08 DD 00081          PUSHL   #8                                                          ;
                                65  03 FB 00083          CALLS   #3, LOOKUP_SYMBOL                                           ;
                                50  D0 A3 00086          ADDL2   IMAGE_SWITCH, R0                                            ;
                                74  50 E8 0008A          BLBS    R0, 14$                                                     ;
                13      01      A4  01 E1 0008D 5$:      BBC     #1, QUALIFIERS+1, 7$                                        ; 2838
                                14  AE 9F 00092          PUSHAB  VALUE                                                       ;
                            FED0    C3 9F 00095          PUSHAB  JOB_DESC                                                    ;
                                    09 DD 00099          PUSHL   #9                                                          ;
                                65  03 FB 0009B          CALLS   #3, LOOKUP_SYMBOL                                           ;
                                50  D4 A3 0009E          ADDL2   JOB_SWITCH, R0                                              ;
                                74  50 E8 000A2 6$:      BLBS    R0, 16$                                                     ;
                13      01      A4  04 E1 000A5 7$:      BBC     #4, QUALIFIERS+1, 9$                                        ; 2840
                                18  AE 9F 000AA          PUSHAB  VALUE                                                       ;
                            FED8    C3 9F 000AD          PUSHAB  NODE_DESC                                                   ;
                                    0C DD 000B1          PUSHL   #12                                                         ;
                                65  03 FB 000B3          CALLS   #3, LOOKUP_SYMBOL                                           ;
                                50  D8 A3 000B6          ADDL2   NODE_SWITCH, R0                                             ;
                                74  50 E8 000BA 8$:      BLBS    R0, 18$                                                     ;
                13      01      A4  05 E1 000BD 9$:      BBC     #5, QUALIFIERS+1, 11$                                       ; 2842
                                1C  AE 9F 000C2          PUSHAB  VALUE                                                       ;
                            FEE0    C3 9F 000C5          PUSHAB  OWNER_DESC                                                  ;
                                    0D DD 000C9          PUSHL   #13                                                         ;
                                65  03 FB 000CB          CALLS   #3, LOOKUP_SYMBOL                                           ;
                                50  DC A3 000CE          ADDL2   OWNER_SWITCH, R0                                            ;
                                74  50 E8 000D2 10$:     BLBS    R0, 20$                                                     ;
                                    01 A4 95 000D5 11$:     TSTB    QUALIFIERS+1                                            ; 2844
```

```
                                 13  18 000D8        BGEQ    13$                              ;
                         20      AE  9F 000DA        PUSHAB  VALUE                            ;
                       FF00      C3  9F 000DD        PUSHAB  PRIORITY_DESC                    ;
                                 0F  DD 000E1        PUSHL   #15                              ;
              65                 03  FB 000E3        CALLS   #3, LOOKUP_SYMBOL                ;
              50         E0      A3  C0 000E6        ADDL2   PRIORITY_SWITCH, R0              ;
              74                 50  E8 000EA 12$:   BLBS    R0, 22$                          ;
              13         02      A4  E9 000ED 13$:   BLBC    QUALIFIERS+2, 15$                ; 2846
                         24      AE  9F 000F1        PUSHAB  VALUE                            ;
                       FF10      C3  9F 000F4        PUSHAB  PROCESS_DESC                     ;
                                 10  DD 000F8        PUSHL   #16                              ;
              65                 03  FB 000FA        CALLS   #3, LOOKUP_SYMBOL                ;
              50         E4      A3  C0 000FD        ADDL2   PROCESS_SWITCH, R0               ;
              75                 50  E8 00101 14$:   BLBS    R0, 24$                          ;
  13     02   A4                 01  E1 00104 15$:   BBC     #1, QUALIFIERS+2, 17$            ; 2848
                         28      AE  9F 00109        PUSHAB  VALUE                            ;
                       FF18      C3  9F 0010C        PUSHAB  QUEUE_DESC                       ;
                                 11  DD 00110        PUSHL   #17                              ;
              65                 03  FB 00112        CALLS   #3, LOOKUP_SYMBOL                ;
              50         E8      A3  C0 00115        ADDL2   QUEUE_SWITCH, R0                 ;
              5D                 50  E8 00119 16$:   BLBS    R0, 24$                          ;
  13     02   A4                 03  E1 0011C 17$:   BBC     #3, QUALIFIERS+2, 19$            ; 2850
                         2C      AE  9F 00121        PUSHAB  VALUE                            ;
                       FF28      C3  9F 00124        PUSHAB  REMOTE_ID_DESC                   ;
                                 13  DD 00128        PUSHL   #19                              ;
              65                 03  FB 0012A        CALLS   #3, LOOKUP_SYMBOL                ;
              50         EC      A3  C0 0012D        ADDL2   REMOTE_ID_SWITCH, R0             ;
              45                 50  E8 00131 18$:   BLBS    R0, 24$                          ;
  13     02   A4                 06  E1 00134 19$:   BBC     #6, QUALIFIERS+2, 21$            ; 2852
                         30      AE  9F 00139        PUSHAB  VALUE                            ;
                       FF38      C3  9F 0013C        PUSHAB  STATUS_DESC                      ;
                                 16  DD 00140        PUSHL   #22                              ;
              65                 03  FB 00142        CALLS   #3, LOOKUP_SYMBOL                ;
              50         F0      A3  C0 00145        ADDL2   STATUS_SWITCH, R0                ;
              76                 50  E8 00149 20$:   BLBS    R0, 29$                          ;
  13     03   A4                 01  E1 0014C 21$:   BBC     #1, QUALIFIERS+3, 23$            ; 2854
                         34      AE  9F 00151        PUSHAB  VALUE                            ;
                       FF68      C3  9F 00154        PUSHAB  TERMINAL_DESC                    ;
                                 19  DD 00158        PUSHL   #25                              ;
              65                 03  FB 0015A        CALLS   #3, LOOKUP_SYMBOL                ;
              50         F4      A3  C0 0015D        ADDL2   TERMINAL_SWITCH, R0              ;
              74                 50  E8 00161 22$:   BLBS    R0, 31$                          ;
  13     03   A4                 03  E1 00164 23$:   BBC     #3, QUALIFIERS+3, 25$            ; 2856
                         38      AE  9F 00169        PUSHAB  VALUE                            ;
                       FF70      C3  9F 0016C        PUSHAB  TYPE_DESC                        ;
                                 1B  DD 00170        PUSHL   #27                              ;
              65                 03  FB 00172        CALLS   #3, LOOKUP_SYMBOL                ;
              50         F8      A3  C0 00175        ADDL2   TYPE_SWITCH, R0                  ;
              5C                 50  E8 00179 24$:   BLBS    R0, 31$                          ;
                         3C      AE  9F 0017C 25$:   PUSHAB  VALUE                            ; 2867
                         88      A3  9F 0017F        PUSHAB  UIC_GROUP_DESC                   ;
                                 20  DD 00182        PUSHL   #32                              ;
              65                 03  FB 00184        CALLS   #3, LOOKUP_SYMBOL                ;
              52                 50  D0 00187        MOVL    R0, UICG                         ;
                         3C      AE  9F 0018A        PUSHAB  VALUE                            ; 2868
                         90      A3  9F 0018D        PUSHAB  UIC_MEMBER_DESC                  ;
                                 21  DD 00190        PUSHL   #33                              ;
```

```
                                65              03  FB 00192          CALLS   #3, LOOKUP_SYMBOL                                       ;
                                51              50  D0 00195          MOVL    R0, UICM                                                ;
        50      04      A4              01      00  EF 00198          EXTZV   #0, #1, QUALIFIERS+4, R0                                ; 2877
                                17              50  E9 0019E          BLBC    R0, 27$                                                 ;
                        09      04      A4      01  E1 001A1          BBC     #1, QUALIFIERS+4, 26$                                   ;
                        50              52      63  C1 001A6          ADDL3   UIC_GROUP_SWITCH, UICG, R0                              ; 2879
                                18              50  E9 001AA          BLBC    R0, 30$                                                 ;
                                                0E  11 001AD          BRB     28$                                                     ;
                                06              50  E9 001AF 26$:     BLBC    R0, 27$                                                 ; 2883
                        50              52      63  C1 001B2          ADDL3   UIC_GROUP_SWITCH, UICG, R0                              ; 2885
                                                0A  11 001B6          BRB     29$                                                     ;
                        08      04      A4      01  E1 001B8 27$:     BBC     #1, QUALIFIERS+4, 30$                                   ; 2889
                        50              51      04  A3 C1 001BD 28$:  ADDL3   UIC_MEMBER_SWITCH, UICM, R0                           ; 2891
                                6C              50  E8 001C2 29$:     BLBS    R0, 40$                                                 ;
                        12              64      04  E1 001C5 30$:     BBC     #4, QUALIFIERS, 32$                                     ; 2897
                                                40  AE 9F 001C9          PUSHAB  VALUE                                                   ;
                                                A8  A3 9F 001CC          PUSHAB  USER_DESC                                               ;
                                                04  DD 001CF          PUSHL   #4                                                      ;
                                65              03  FB 001D1          CALLS   #3, LOOKUP_SYMBOL                                       ;
                                50          08  A3  C0 001D4          ADDL2   USER_SWITCH, R0                                         ;
                                56              50  E8 001D8 31$:     BLBS    R0, 40$                                                 ;
                                50          024C    D3  D0 001DB 32$:     MOVL    @DATE_DESC_ADDR, R0                             ; 2908
                        026C    C3          04      A0  D1 001E0          CMPL    4(R0), B+4                                      ;
                                                    05  12 001E6          BNEQ    33$                                             ;
                        0268    C3                  60  D1 001E8          CMPL    (R0), B                                         ;
                                                    05  1E 001ED 33$:     BGEQU   34$                                             ;
                        0268    C3                  60  7D 001EF          MOVQ    (R0), FIRST_DATE                                ; 2909
                        0264    C3          04      A0  D1 001F4 34$:     CMPL    4(R0), B+4                                      ; 2911
                                                    05  12 001FA          BNEQ    35$                                             ;
                        0260    C3                  60  D1 001FC          CMPL    (R0), B                                         ;
                                                    05  1B 00201 35$:     BLEQU   36$                                             ;
                        0260    C3                  60  7D 00203          MOVQ    (R0), LAST_DATE                                 ; 2912
                        0254    C3          04      A0  D1 00208 36$:     CMPL    4(R0), B+4                                      ; 2924
                                                    09  12 0020E          BNEQ    37$                                             ;
                        0250    C3                  60  D1 00210          CMPL    (R0), B                                         ;
                                                    04  1B 00215          BLEQU   38$                                             ;
                                                    18  11 00217          BRB     40$                                             ;
                                                    16  1A 00219 37$:     BGTRU   40$                                             ;
                        025C    C3          04      A0  D1 0021B 38$:     CMPL    4(R0), B+4                                      ; 2925
                                                    05  12 00221          BNEQ    39$                                             ;
                        0258    C3                  60  D1 00223          CMPL    (R0), B                                         ;
                                                    07  1F 00228 39$:     BLSSU   40$                                             ;
                                            0C      A3  D6 0022A          INCL    SELECTED                                        ; 2934
                                50                  01  D0 0022D          MOVL    #1, R0                                          ; 2935
                                                        04 00230          RET                                                     ;
                                                    50  D4 00231 40$:     CLRL    R0                                              ; 2937
                                                        04 00233          RET                                                     ;

; Routine Size:  564 bytes,    Routine Base:  CODE + 1125

; 2112          2938  1
```

```
;  2114          2939  1 ROUTINE PARSE_COMMAND =
;  2115          2940  1
;  2116          2941  1 !---
;  2117          2942  1 !
;  2118          2943  1 ! Functional description
;  2119          2944  1 !
;  2120          2945  1 !       This routine is called from the main loop to process the command
;  2121          2946  1 !       line.  Based on the presence of qualifiers and modifiers, routines
;  2122          2947  1 !       are called to parse the line.
;  2123          2948  1 !
;  2124          2949  1 !       Internal tables are defined, based on command line values, for later
;  2125          2950  1 !       processing.
;  2126          2951  1 !
;  2127          2952  1 ! Output parameters
;  2128          2953  1 !
;  2129          2954  1 !       Any errors encountered are RETURNed immediately.
;  2130          2955  1 !       TRUE is returned on a normal exit.
;  2131          2956  1 !
;  2132          2957  1 !----
;  2133          2958  1
;  2134          2959  2 BEGIN
;  2135          2960  2
;  2136          2961  2 UNDECLARE
;  2137          2962  2         uic_stb,
;  2138          2963  2         uic_ktb;
;  2139          2964  2
;  2140          2965  2 EXTERNAL
;  2141          2966  2         uic_stb,
;  2142          2967  2         uic_ktb;
;  2143          2968  2
;  2144          2969  2 LOCAL
;  2145          2970  2         first,                          ! First time switch
;  2146          2971  2         temp;                           ! Temporary work area
;  2147          2972  2
;  2148          2973  2 OWN
;  2149          2974  2         desc:   bblock [dsc$k_d_bln]    ! Dynamic work descriptor
;  2150          2975  2                 preset([dsc$b_class] = dsc$k_class_d),
;  2151          2976  2
;  2152          2977  2
;  2153          2978  2 !
;  2154          2979  2 !DEFINE KEYWORD TABLES ---
;  2155          2980  2 ! Define a keyword table for LIB$LOOKUP_KEY.  Associate a number
;  2156          2981  2 ! with each keyword.
;  2157          2982  2 !
;  2158          2983  2
;  2159          2984  2
;  2160        P 2985  2 type_keyword:   $lib_key_table  (               ! Keyword table -- record type
;  2161        P 2986  2     (CUSTOMER,  ad ('CUSTOMER')),               !  -Customer record
;  2162        P 2987  2     (FILE,      ad ('FILE')),                   !  -File record
;  2163        P 2988  2     (IMAGE,     ad ('IMAGE')),                  !  -Image termination
;  2164        P 2989  2     (LOGFAIL,   ad ('LOGFAIL')),                !  -Login failure
;  2165        P 2990  2     (PROCESS,   ad ('PROCESS')),                !  -Process termination
;  2166        P 2991  2     (PRINT,     ad ('PRINT')),                  !  -Print job termination
;  2167        P 2992  2     (SETTIME,   ad ('SETTIME')),                !  -System set time r
;  2168        P 2993  2     (SYSINIT,   ad ('SYSINIT')),                !  -System initialization
;  2169        P 2994  2     (UNKNOWN,   ad ('UNKNOWN')),                !  -Unknown record types
;  2170        P 2995  2     (USER,      ad ('USER')),                   !  -User messages
```

```
;  2171          2996  2                    ),
;  2172          2997  2
;  2173        P 2998  2    process_keyword: $lib_key_table (                ! Keyword table -- process type
;  2174        P 2999  2        (BATCH,       ad ('BATCH')),                !  -Batch process
;  2175        P 3000  2        (DETACHED,    ad ('DETACHED')),             !  -Detached process
;  2176        P 3001  2        (INTERACTIVE, ad ('INTERACTIVE')),          !  -Interactive process
;  2177        P 3002  2        (NETWORK,     ad ('NETWORK')),              !  -Network process
;  2178        P 3003  2        (SUBPROCESS,  ad ('SUBPROCESS')),           !  -Sub process
;  2179          3004  2                    );
;  2180          3005  2
;  2181          3006  2
;  2182          3007  2
;  2183          3008  2
;  2184          3009  2    !
;  2185          3010  2    !PARSE COMMAND LINE MODIFIERS ---
;  2186          3011  2    ! Call routines as necessary to parse command line modifiers and
;  2187          3012  2    ! value lists.  Exit immediately if any errors are returned by the
;  2188          3013  2    ! parsing subroutines.
;  2189          3014  2    !
;  2190          3015  2
;  2191          3016  2    map_qualifiers ();      ! Establish bitmask
;  2192          3017  2
;  2193          3018  2
;  2194          3019  2    !
;  2195          3020  2    !PARSE /ACCOUNT VALUE LIST --
;  2196          3021  2    !
;  2197          3022  2
;  2198          3023  2    First = true;
;  2199          3024  2    While GET_VALUE ('ACCOUNT', desc) do
;  2200          3025  3            BEGIN
;  2201          3026  3            if      .first
;  2202          3027  4            then    BEGIN
;  2203          3028  4                    account_switch = strip_negator (desc);
;  2204          3029  4                    if      .desc [dsc$w_length] neq 0
;  2205          3030  4                    then    perform (add_symbol (ACCOUNT, desc, 0));
;  2206          3031  4                    first = false;
;  2207          3032  4                    END
;  2208          3033  3            else    perform (add_symbol (ACCOUNT, desc, 0));
;  2209          3034  2            END;
;  2210          3035  2
;  2211          3036  2
;  2212          3037  2
;  2213          3038  2
;  2214          3039  2    !
;  2215          3040  2    !PARSE DATES --
;  2216          3041  2    !
;  2217          3042  2
;  2218          3043  2    perform (parse_dates ());                       ! Handle /DATE /BEFORE /SINCE
;  2219          3044  2
;  2220          3045  2
;  2221          3046  2
;  2222          3047  2
;  2223          3048  2    !
;  2224          3049  2    !PARSE /ADDRESS VALUE LIST --
;  2225          3050  2    !
;  2226          3051  2
;  2227          3052  2    First = true;
```

```
;  2228     3053  2 While GET_VALUE ('ADDRESS', desc) do
;  2229     3054  3         BEGIN
;  2230     3055  3         if .first then (address_switch = strip_negator (desc); first = false);
;  2231     3056  3         if .desc [dsc$w_length] neq 0 then
;  2232     3057  4         BEGIN
;  2233     3058  5         if not (lib$cvt_dtb (                       ! Convert decimal to binary
;  2234     3059  5                 .desc [dsc$w_length],               !  -byte count of input string
;  2235     3060  5                 .desc [dsc$a_pointer],              !  -address of input string
;  2236     3061  5                 .desc [dsc$a_pointer]))             !  -address for resultant value
;  2237     3062  4         then signal_return (msg$_syntax, 1, desc);! Tell user if error occured
;  2238     3063  4         desc [dsc$w_length] =4;                     ! Set symbol length
;  2239     3064  4         perform (add_symbol (address, desc, 0));
;  2240     3065  3         END;
;  2241     3066  2         END;
;  2242     3067  2
;  2243     3068  2
;  2244     3069  2
;  2245     3070  2 !
;  2246     3071  2 !PARSE /ENTRY VALUE LIST --
;  2247     3072  2 !
;  2248     3073  2
;  2249     3074  2 First = true;
;  2250     3075  2 While GET_VALUE ('ENTRY', desc) do
;  2251     3076  3         BEGIN
;  2252     3077  3         if .first then (entry_switch = strip_negator (desc); first = false);
;  2253     3078  3         if .desc [dsc$w_length] neq 0 then
;  2254     3079  4         BEGIN
;  2255     3080  5         If not (lib$cvt_dtb (                       ! Convert decimal to binary
;  2256     3081  5                 .desc [dsc$w_length],               !  -byte count of input string
;  2257     3082  5                 .desc [dsc$a_pointer],              !  -address of input string
;  2258     3083  5                 .desc [dsc$a_pointer]))             !  -address for resultant value
;  2259     3084  4         then signal_return (msg$_syntax, 1, desc);! Tell user if error occured
;  2260     3085  4         desc [dsc$w_length] =4;                     ! Set symbol length
;  2261     3086  4         perform (add_symbol (entry, desc, 0));
;  2262     3087  3         END;
;  2263     3088  2         END;
;  2264     3089  2
;  2265     3090  2
;  2266     3091  2
;  2267     3092  2 !
;  2268     3093  2 !PARSE /IDENTIFICATION VALUE LIST --
;  2269     3094  2 !
;  2270     3095  2
;  2271     3096  2 First = true;
;  2272     3097  2 While GET_VALUE ('IDENT', desc) do
;  2273     3098  3         BEGIN
;  2274     3099  3         if .first then (ident_switch = strip_negator (desc); first = false);
;  2275     3100  3         if .desc [dsc$w_length] neq 0 then
;  2276     3101  4         BEGIN
;  2277     3102  5         If not (lib$cvt_htb (                       ! Convert hex value to binary
;  2278     3103  5                 .desc [dsc$w_length],               !  -byte count of input string
;  2279     3104  5                 .desc [dsc$a_pointer],              !  -address of input string
;  2280     3105  5                 .desc [dsc$a_pointer]))             !  -address for resultant value
;  2281     3106  4         then signal_return (msg$_syntax, 1, desc);! Tell user if error occured
;  2282     3107  4         desc [dsc$w_length] =4;                     ! Set symbol length
;  2283     3108  4         perform (add_symbol (IDENT, desc, 0));
;  2284     3109  3         END;
```

```
;  2285          3110  2          END;
;  2286          3111  2
;  2287          3112  2
;  2288          3113  2
;  2289          3114  2      !
;  2290          3115  2      !PARSE /IMAGE VALUE LIST --
;  2291          3116  2      !
;  2292          3117  2
;  2293          3118  2      First = true;
;  2294          3119  2      While GET_VALUE ('IMAGE', desc) do
;  2295          3120  3              BEGIN
;  2296          3121  3              if      .first
;  2297          3122  4              then    BEGIN
;  2298          3123  4                      image_switch = strip_negator (desc);
;  2299          3124  4                      if      .desc [dsc$w_length] neq 0
;  2300          3125  4                      then    perform (add_symbol (IMAGE, desc, 0));
;  2301          3126  4                      first = false;
;  2302          3127  4                      END
;  2303          3128  3              else    perform (add_symbol (IMAGE, desc, 0));
;  2304          3129  2              END;
;  2305          3130  2
;  2306          3131  2
;  2307          3132  2
;  2308          3133  2      !
;  2309          3134  2      !PARSE /JOB VALUE LIST --
;  2310          3135  2      !
;  2311          3136  2
;  2312          3137  2      First = true;
;  2313          3138  2      While GET_VALUE ('JOB', desc) do
;  2314          3139  3              BEGIN
;  2315          3140  3              if      .first
;  2316          3141  4              then    BEGIN
;  2317          3142  4                      job_switch = strip_negator (desc);
;  2318          3143  4                      if      .desc [dsc$w_length] neq 0
;  2319          3144  4                      then    perform (add_symbol (JOB, desc, 0));
;  2320          3145  4                      first = false;
;  2321          3146  4                      END
;  2322          3147  3              else    perform (add_symbol (JOB, desc, 0));
;  2323          3148  2              END;
;  2324          3149  2
;  2325          3150  2
;  2326          3151  2      !
;  2327          3152  2      !PARSE /NODE VALUE LIST --
;  2328          3153  2      !
;  2329          3154  2
;  2330          3155  2      First = true;
;  2331          3156  2      While GET_VALUE ('NODE', desc) do
;  2332          3157  3              BEGIN
;  2333          3158  3              if      .first
;  2334          3159  4              then    BEGIN
;  2335          3160  4                      node_switch = strip_negator (desc);
;  2336          3161  4                      if      .desc [dsc$w_length] neq 0
;  2337          3162  4                      then    perform (add_symbol (NODE, desc, 0));
;  2338          3163  4                      first = false;
;  2339          3164  4                      END
;  2340          3165  3              else    perform (add_symbol (NODE, desc, 0));
;  2341          3166  2              END;
```

```
;  2342          3167  2
;  2343          3168  2
;  2344          3169  2
;  2345          3170  2
;  2346          3171  2 !
;  2347          3172  2 !PARSE /OWNER VALUE LIST --
;  2348          3173  2 !
;  2349          3174  2
;  2350          3175  2 First = true;
;  2351          3176  2 While GET_VALUE ('OWNER', desc) do
;  2352          3177  3         BEGIN
;  2353          3178  3         if .first then (owner_switch = strip_negator (desc); first = false);
;  2354          3179  3         if .desc [dsc$w_length] neq 0 then
;  2355          3180  4         BEGIN
;  2356          3181  5         If not (lib$cvt_htb (                   ! Convert hex value to binary
;  2357          3182  5                 .desc [dsc$w_length],           !  -byte count of input string
;  2358          3183  5                 .desc [dsc$a_pointer],          !  -address of input string
;  2359          3184  5                 .desc [dsc$a_pointer]))         !  -address for resultant value
;  2360          3185  4         then signal_return (msg$_syntax, 1, desc);! Tell user if error occured
;  2361          3186  4         desc [dsc$w_length] =4;                 ! Set symbol length
;  2362          3187  4         perform (add_symbol (OWNER, desc, 0));
;  2363          3188  3         END;
;  2364          3189  2         END;
;  2365          3190  2
;  2366          3191  2
;  2367          3192  2 !
;  2368          3193  2 !PARSE /PRIORITY VALUE LIST --
;  2369          3194  2 !
;  2370          3195  2
;  2371          3196  2 First = true;
;  2372          3197  2 While GET_VALUE ('PRIORITY', desc) do
;  2373          3198  3         BEGIN
;  2374          3199  3         if .first then (priority_switch = strip_negator (desc); first = false);
;  2375          3200  3         if .desc [dsc$w_length] neq 0 then
;  2376          3201  4         BEGIN
;  2377          3202  5         If not (lib$cvt_dtb (                   ! Convert decimal value to binary
;  2378          3203  5                 .desc [dsc$w_length],           !  -byte count of input string
;  2379          3204  5                 .desc [dsc$a_pointer],          !  -address of input string
;  2380          3205  5                 .desc [dsc$a_pointer]))         !  -address for resultant value
;  2381          3206  4         then signal_return (msg$_syntax, 1, desc);! Tell user if error occured
;  2382          3207  4         desc [dsc$w_length] =4;                 ! Set symbol length
;  2383          3208  4         perform (add_symbol (PRIORITY, desc, 0));
;  2384          3209  3         END;
;  2385          3210  2         END;
;  2386          3211  2
;  2387          3212  2
;  2388          3213  2
;  2389          3214  2
;  2390          3215  2 !
;  2391          3216  2 !PARSE /PROCESS VALUE LIST --
;  2392          3217  2 !
;  2393          3218  2
;  2394          3219  2 First = true;
;  2395          3220  2 While GET_VALUE ('PROCESS', desc) do
;  2396          3221  3         BEGIN
;  2397          3222  3         LOCAL process_value;
;  2398          3223  3         if      .first
```

```
;  2399          3224  4          then    BEGIN
;  2400          3225  4                  process_switch = strip_negator (desc);
;  2401          3226  4                  if      .desc [dsc$w_length] neq 0
;  2402          3227  5                  then    BEGIN
;  2403          3228  5                          LOOKUP (desc, process_keyword, process_value);
;  2404          3229  5                          perform (ADD_SYMBOL (PROCESS, .process_value, 0));
;  2405          3230  4                          END;
;  2406          3231  4                  first = false;
;  2407          3232  4                  END
;  2408          3233  4          else    BEGIN
;  2409          3234  4                  LOOKUP (desc, process_keyword, process_value);
;  2410          3235  4                  perform (ADD_SYMBOL (PROCESS, .process_value, 0));
;  2411          3236  3                  END;
;  2412          3237  2          END;
;  2413          3238  2
;  2414          3239  2
;  2415          3240  2
;  2416          3241  2
;  2417          3242  2  !
;  2418          3243  2  !PARSE /QUEUE VALUE LIST --
;  2419          3244  2  !
;  2420          3245  2
;  2421          3246  2  First = true;
;  2422          3247  2  While GET_VALUE ('QUEUE', desc) do
;  2423          3248  3          BEGIN
;  2424          3249  3          if      .first
;  2425          3250  4          then    BEGIN
;  2426          3251  4                  queue_switch = strip_negator (desc);
;  2427          3252  4                  if      .desc [dsc$w_length] neq 0
;  2428          3253  4                  then    perform (add_symbol (QUEUE, desc, 0));
;  2429          3254  4                  first = false;
;  2430          3255  4                  END
;  2431          3256  3          else    perform (add_symbol (QUEUE, desc, 0));
;  2432          3257  2          END;
;  2433          3258  2
;  2434          3259  2
;  2435          3260  2
;  2436          3261  2  !
;  2437          3262  2  !PARSE /REMOTE_ID VALUE LIST --
;  2438          3263  2  !
;  2439          3264  2
;  2440          3265  2  First = true;
;  2441          3266  2  While GET_VALUE ('REMOTE_ID', desc) do
;  2442          3267  3          BEGIN
;  2443          3268  3          if      .first
;  2444          3269  4          then    BEGIN
;  2445          3270  4                  remote_id_switch = strip_negator (desc);
;  2446          3271  4                  if      .desc [dsc$w_length] neq 0
;  2447          3272  4                  then    perform (add_symbol (REMOTE_ID, desc, 0));
;  2448          3273  4                  first = false;
;  2449          3274  4                  END
;  2450          3275  3          else    perform (add_symbol (REMOTE_ID, desc, 0));
;  2451          3276  2          END;
;  2452          3277  2
;  2453          3278  2
;  2454          3279  2
;  2455          3280  2  !
```

```
;  2456     3281  2 !PARSE /REPORT, /SORT, /SUMMARY --
;  2457     3282  2 !
;  2458     3283  2
;  2459     3284  2 Perform (parse_keys ());
;  2460     3285  2
;  2461     3286  2
;  2462     3287  2 !
;  2463     3288  2 !PARSE /STATUS VALUE LIST --
;  2464     3289  2 !
;  2465     3290  2
;  2466     3291  2 First = true;
;  2467     3292  2 While GET_VALUE ('STATUS', desc) do
;  2468     3293  3         BEGIN
;  2469     3294  3         if .first then (status_switch = strip_negator (desc); first = false);
;  2470     3295  3         if .desc [dsc$w_length] neq 0 then
;  2471     3296  4         BEGIN
;  2472     3297  4         LOCAL status_status;
;  2473     3298  5         If not (lib$cvt_htb (                       ! Convert hex value to binary
;  2474     3299  5                 .desc [dsc$w_length],               !  -byte count of input string
;  2475     3300  5                 .desc [dsc$a_pointer],              !  -address of input string
;  2476     3301  5                 .desc [dsc$a_pointer]))             !  -address for resultant value
;  2477     3302  4         then signal_return (msg$_syntax, 1, desc);! Tell user if error occured
;  2478     3303  4         desc [dsc$w_length] =4;                     ! Set symbol length
;  2479     3304  4         status_status = add_symbol (STATUS, desc, 0);
;  2480     3305  4         if not .status_status then return .status_status;
;  2481     3306  3         END;
;  2482     3307  2         END;
;  2483     3308  2
;  2484     3309  2
;  2485     3310  2
;  2486     3311  2 !
;  2487     3312  2 !PARSE /TERMINAL VALUE LIST --
;  2488     3313  2 !
;  2489     3314  2
;  2490     3315  2 First = true;
;  2491     3316  2 While GET_VALUE ('TERMINAL', desc) do
;  2492     3317  3         BEGIN
;  2493     3318  3         if      .first                                                                    ;
;  2494     3319  4         then    BEGIN
;  2495     3320  4                 terminal_switch = strip_negator (desc);
;  2496     3321  4                 if      .desc [dsc$w_length] neq 0
;  2497     3322  4                 then    perform (add_symbol (TERMINAL, desc, 0));
;  2498     3323  4                 first = false;
;  2499     3324  4                 END
;  2500     3325  3         else    perform (add_symbol (TERMINAL, desc, 0));
;  2501     3326  2         END;
;  2502     3327  2
;  2503     3328  2
;  2504     3329  2
;  2505     3330  2 !
;  2506     3331  2 !PARSE /TYPE VALUE LIST --
;  2507     3332  2 !
;  2508     3333  2
;  2509     3334  2 First = true;
;  2510     3335  2 While GET_VALUE ('TYPE', desc) do
;  2511     3336  3         BEGIN
;  2512     3337  3         LOCAL type_value;
```

```
;  2513          3338  3          if      .first
;  2514          3339  4          then    BEGIN
;  2515          3340  4                  type_switch = strip_negator (desc);
;  2516          3341  4                  if      .desc [dsc$w_length] neq 0
;  2517          3342  5                  then    BEGIN
;  2518          3343  5                          LOOKUP (desc, type_keyword, type_value);
;  2519          3344  5                          perform (ADD_SYMBOL (TYPE, .type_value, 0));
;  2520          3345  4                          END;
;  2521          3346  4                  first = false;
;  2522          3347  4                  END
;  2523          3348  4          else    BEGIN
;  2524          3349  4                  LOOKUP (desc, type_keyword, type_value);
;  2525          3350  4                  perform (ADD_SYMBOL (TYPE, .type_value, 0));
;  2526          3351  3                  END;
;  2527          3352  2          END;
;  2528          3353  2
;  2529          3354  2  !
;  2530          3355  2  !PARSE /UIC VALUE LIST --
;  2531          3356  2  !
;  2532          3357  2
;  2533          3358  3  BEGIN
;  2534          3359  3
;  2535          3360  3  OWN
;  2536          3361  3          group_desc: vector [2] initial (2, group),
;  2537          3362  3          member_desc: vector [2] initial (2, member),
;  2538          3363  3          tparse_block:   BBLOCK [tpa$k_length0]
;  2539          3364  3                          INITIAL (tpa$k_count0,tpa$m_blanks OR tpa$m_abbrev);
;  2540          3365  3
;  2541          3366  3  First = true;
;  2542          3367  3  uic_switch = true;
;  2543          3368  3  uic_group_switch = true;
;  2544          3369  3  uic_member_switch = true;
;  2545          3370  3  While GET_VALUE ('UIC', desc) do
;  2546          3371  4          BEGIN
;  2547          3372  4          if .first then
;  2548          3373  5                  BEGIN
;  2549          3374  5                  first = false;
;  2550          3375  6                  if ((.desc [dsc$w_length] eql 3) and
;  2551          3376  5                  (.(.desc [dsc$a_pointer])<0,24> eql '''-''')) then
;  2552          3377  6                          BEGIN
;  2553          3378  6                          uic_switch = false;
;  2554          3379  6                          desc [dsc$w_length] = 0;
;  2555          3380  5                          END;
;  2556          3381  4                  END;
;  2557          3382  4          if .desc [dsc$w_length] neq 0 then
;  2558          3383  5          BEGIN
;  2559          3384  5          tparse_block [tpa$l_stringcnt] = .desc [dsc$w_length];
;  2560          3385  5          tparse_block [tpa$l_stringptr] = .desc [dsc$a_pointer];
;  2561          3386  5          group = 0;
;  2562          3387  5          member = 0;
;  2563          3388  5          if      not lib$tparse (tparse_block,uic_stb,uic_ktb)
;  2564          3389  5          then    signal_return (msg$_syntax, 1, desc);
;  2565          3390  5          group = .converted_uic<16,16>;
;  2566          3391  5          member = .converted_uic<0,16>;
;  2567          3392  5          if      .group neq uic$k_wild_group
;  2568          3393  6          then    BEGIN
;  2569          3394  6                  EXTERNAL qualifiers: BITVECTOR [];
```

```
;  2570          3395  6                   qualifiers [uic_group] = 1;
;  2571          3396  6                   uic_group_switch = .uic_switch;
;  2572          3397  6                   add_symbol (UIC_GROUP, group_desc, 0);
;  2573          3398  5                   END;
;  2574          3399  5           if      .member neq uic$k_wild_member
;  2575          3400  6           then    BEGIN
;  2576          3401  6                   EXTERNAL qualifiers: BITVECTOR [];
;  2577          3402  6                   qualifiers [uic_member] = 1;
;  2578          3403  6                   uic_member_switch = .uic_switch;
;  2579          3404  6                   add_symbol (UIC_MEMBER, member_desc, 0);
;  2580          3405  5                   END;
;  2581          3406  4           END;
;  2582          3407  3           END;
;  2583          3408  2 END;
;  2584          3409  2
;  2585          3410  2 !
;  2586          3411  2 !PARSE /USER VALUE LIST --
;  2587          3412  2 !
;  2588          3413  2
;  2589          3414  2 First = true;
;  2590          3415  2 While GET_VALUE ('USER', desc) do
;  2591          3416  3           BEGIN
;  2592          3417  3           if      .first
;  2593          3418  4           then    BEGIN
;  2594          3419  4                   user_switch = strip_negator (desc);
;  2595          3420  4                   if      .desc [dsc$w_length] neq 0
;  2596          3421  4                   then    perform (add_symbol (USER, desc, 0));
;  2597          3422  4                   first = false;
;  2598          3423  4                   END
;  2599          3424  3           else    perform (add_symbol (USER, desc, 0));
;  2600          3425  2           END;
;  2601          3426  2
;  2602          3427  2
;  2603          3428  2
;  2604          3429  2 return true;
;  2605          3430  2
;  2606          3431  1 END;


                                                                01359                .BLKB   3
                00  00  00  52  45  4D  4F  54  53  55  43  08  0135C P.ACF:        .ASCII  <8>\CUSTOMER\<0><0><0>                  ;
                                52  45  4D  4F  54  53  55  43  01368 P.ACH:        .ASCII  \CUSTOMER\                              ;
                                                    00000008    01370 P.ACG:        .LONG   8                                       ;
                                                    00000000'   01374               .ADDRESS P.ACH                                  ;
                                    00  00  00  45  4C  49  46  04  01378 P.ACI:     .ASCII  <4>\FILE\<0><0><0>                      ;
                                                45  4C  49  46  01380 P.ACK:     .ASCII  \FILE\                                  ;
                                                    00000004    01384 P.ACJ:        .LONG   4                                       ;
                                                    00000000'   01388               .ADDRESS P.ACK                                  ;
                                    00  00  45  47  41  4D  49  05  0138C P.ACL:     .ASCII  <5>\IMAGE\<0><0>                        ;
                                    00  00  00  45  47  41  4D  49  01394 P.ACN:     .ASCII  \IMAGE\<0><0><0>                        ;
                                                    00000005    0139C P.ACM:        .LONG   5                                       ;
                                                    00000000'   013A0               .ADDRESS P.ACN                                  ;
                                    4C  49  41  46  47  4F  4C  07  013A4 P.ACO:     .ASCII  <7>\LOGFAIL\                            ;
                                    00  4C  49  41  46  47  4F  4C  013AC P.ACQ:     .ASCII  \LOGFAIL\<0>                            ;
                                                    00000007    013B4 P.ACP:        .LONG   7                                       ;
                                                    00000000'   013B8               .ADDRESS P.ACQ                                  ;
```

```
                                53  53  45  43  4F  52  50  07  013BC P.ACR:   .ASCII  <7>\PROCESS\
                                00  53  53  45  43  4F  52  50  013C4 P.ACT:   .ASCII  \PROCESS\<0>
                                                    00000007    013CC P.ACS:   .LONG   7
                                                    00000000'   013D0          .ADDRESS P.ACT
                                00  00  54  4E  49  52  50  05  013D4 P.ACU:   .ASCII  <5>\PRINT\<0><0>
                                00  00  00  54  4E  49  52  50  013DC P.ACW:   .ASCII  \PRINT\<0><0><0>
                                                    00000005    013E4 P.ACV:   .LONG   5
                                                    00000000'   013E8          .ADDRESS P.ACW
                                45  4D  49  54  54  45  53  07  013EC P.ACX:   .ASCII  <7>\SETTIME\
                                00  45  4D  49  54  54  45  53  013F4 P.ACZ:   .ASCII  \SETTIME\<0>
                                                    00000007    013FC P.ACY:   .LONG   7
                                                    00000000'   01400          .ADDRESS P.ACZ
                                54  49  4E  49  53  59  53  07  01404 P.ADA:   .ASCII  <7>\SYSINIT\
                                00  54  49  4E  49  53  59  53  0140C P.ADC:   .ASCII  \SYSINIT\<0>
                                                    00000007    01414 P.ADB:   .LONG   7
                                                    00000000'   01418          .ADDRESS P.ADC
                                4E  57  4F  4E  4B  4E  55  07  0141C P.ADD:   .ASCII  <7>\UNKNOWN\
                                00  4E  57  4F  4E  4B  4E  55  01424 P.ADF:   .ASCII  \UNKNOWN\<0>
                                                    00000007    0142C P.ADE:   .LONG   7
                                                    00000000'   01430          .ADDRESS P.ADF
                                00  00  00  52  45  53  55  04  01434 P.ADG:   .ASCII  <4>\USER\<0><0><0>
                                                52  45  53  55  0143C P.ADI:   .ASCII  \USER\
                                                    00000004    01440 P.ADH:   .LONG   4
                                                    00000000'   01444          .ADDRESS P.ADI
                                00  00  48  43  54  41  42  05  01448 P.ADJ:   .ASCII  <5>\BATCH\<0><0>
                                00  00  00  48  43  54  41  42  01450 P.ADL:   .ASCII  \BATCH\<0><0><0>
                                                    00000005    01458 P.ADK:   .LONG   5
                                                    00000000'   0145C          .ADDRESS P.ADL
        00  00  00  44  45  48  43  41  54  45  44  08  01460 P.ADM:   .ASCII  <8>\DETACHED\<0><0><0>
                        44  45  48  43  41  54  45  44  0146C P.ADO:   .ASCII  \DETACHED\
                                                    00000008    01474 P.ADN:   .LONG   8
                                                    00000000'   01478          .ADDRESS P.ADO
        45  56  49  54  43  41  52  45  54  4E  49  0B  0147C P.ADP:   .ASCII  <11>\INTERACTIVE\
        00  45  56  49  54  43  41  52  45  54  4E  49  01488 P.ADR:   .ASCII  \INTERACTIVE\<0>
                                                    0000000B    01494 P.ADQ:   .LONG   11
                                                    00000000'   01498          .ADDRESS P.ADR
                                4B  52  4F  57  54  45  4E  07  0149C P.ADS:   .ASCII  <7>\NETWORK\
                                00  4B  52  4F  57  54  45  4E  014A4 P.ADU:   .ASCII  \NETWORK\<0>
                                                    00000007    014AC P.ADT:   .LONG   7
                                                    00000000'   014B0          .ADDRESS P.ADU
        00  53  53  45  43  4F  52  50  42  55  53  0A  014B4 P.ADV:   .ASCII  <10>\SUBPROCESS\<0>
        00  00  53  53  45  43  4F  52  50  42  55  53  014C0 P.ADX:   .ASCII  \SUBPROCESS\<0><0>
                                                    0000000A    014CC P.ADW:   .LONG   10
                                                    00000000'   014D0          .ADDRESS P.ADX
                                00  54  4E  55  4F  43  43  41  014D4 P.ADZ:   .ASCII  \ACCOUNT\<0>
                                                    00000007    014DC P.ADY:   .LONG   7
                                                    00000000'   014E0          .ADDRESS P.ADZ
                                00  53  53  45  52  44  44  41  014E4 P.AEB:   .ASCII  \ADDRESS\<0>
                                                    00000007    014EC P.AEA:   .LONG   7
                                                    00000000'   014F0          .ADDRESS P.AEB
                                00  00  00  59  52  54  4E  45  014F4 P.AED:   .ASCII  \ENTRY\<0><0><0>
                                                    00000005    014FC P.AEC:   .LONG   5
                                                    00000000'   01500          .ADDRESS P.AED
                                00  00  00  54  4E  45  44  49  01504 P.AEF:   .ASCII  \IDENT\<0><0><0>
                                                    00000005    0150C P.AEE:   .LONG   5
                                                    00000000'   01510          .ADDRESS P.AEF
                                00  00  00  45  47  41  4D  49  01514 P.AEH:   .ASCII  \IMAGE\<0><0><0>
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                                00000005  0151C P.AEG:  .LONG   5                                                        ;
                                00000000' 01520         .ADDRESS P.AEH                                                 ;
                             00 42  4F  4A  01524 P.AEJ:  .ASCII  \JOB\<0>                                               ;
                                00000003  01528 P.AEI:  .LONG   3                                                        ;
                                00000000' 0152C         .ADDRESS P.AEJ                                                 ;
                             45 44  4F  4E  01530 P.AEL:  .ASCII  \NODE\                                                 ;
                                00000004  01534 P.AEK:  .LONG   4                                                        ;
                                00000000' 01538         .ADDRESS P.AEL                                                 ;
                          00 00 00 52 45 4E  57  4F  0153C P.AEN:  .ASCII  \OWNER\<0><0><0>                              ;
                                00000005  01544 P.AEM:  .LONG   5                                                        ;
                                00000000' 01548         .ADDRESS P.AEN                                                 ;
                          59 54 49 52 4F 49  52  50  0154C P.AEP:  .ASCII  \PRIORITY\                                     ;
                                00000008  01554 P.AEO:  .LONG   8                                                        ;
                                00000000' 01558         .ADDRESS P.AEP                                                 ;
                          00 53 53 45 43 4F  52  50  0155C P.AER:  .ASCII  \PROCESS\<0>                                   ;
                                00000007  01564 P.AEQ:  .LONG   7                                                        ;
                                00000000' 01568         .ADDRESS P.AER                                                 ;
                          00 00 00 45 55 45  55  51  0156C P.AET:  .ASCII  \QUEUE\<0><0><0>                               ;
                                00000005  01574 P.AES:  .LONG   5                                                        ;
                                00000000' 01578         .ADDRESS P.AET                                                 ;
       00 00 00 44 49 5F 45 54 4F 4D  45  52  0157C P.AEV:  .ASCII  \REMOTE_ID\<0><0><0>                                ;
                                00000009  01588 P.AEU:  .LONG   9                                                        ;
                                00000000' 0158C         .ADDRESS P.AEV                                                 ;
                          00 00 53 55 54 41  54  53  01590 P.AEX:  .ASCII  \STATUS\<0><0>                                 ;
                                00000006  01598 P.AEW:  .LONG   6                                                        ;
                                00000000' 0159C         .ADDRESS P.AEX                                                 ;
                          4C 41 4E 49 4D 52  45  54  015A0 P.AEZ:  .ASCII  \TERMINAL\                                    ;
                                00000008  015A8 P.AEY:  .LONG   8                                                        ;
                                00000000' 015AC         .ADDRESS P.AEZ                                                 ;
                                45 50  59  54  015B0 P.AFB:  .ASCII  \TYPE\                                             ;
                                00000004  015B4 P.AFA:  .LONG   4                                                        ;
                                00000000' 015B8         .ADDRESS P.AFB                                                 ;
                             00 43  49  55  015BC P.AFD:  .ASCII  \UIC\<0>                                               ;
                                00000003  015C0 P.AFC:  .LONG   3                                                        ;
                                00000000' 015C4         .ADDRESS P.AFD                                                 ;
                                52 45  53  55  015C8 P.AFF:  .ASCII  \USER\                                             ;
                                00000004  015CC P.AFE:  .LONG   4                                                        ;
                                00000000' 015D0         .ADDRESS P.AFF                                                 ;

                                                        .PSECT  $OWN$,NOEXE,2

                                      00# 00010 DESC:   .BYTE   0[3]                                                   ;
                                      02  00013         .BYTE   2                                                      ;
                                          00014         .BLKB   4
                                00000014  00018 TYPE_KEYWORD:
                                                        .LONG   20                                                     ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 0001C         .ADDRESS P.ACF, P.ACG, P.ACI, P.ACJ, P.ACL, -          ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00034                 P.ACM, P.ACO, P.ACP, P.ACR, P.ACS, P.ACU, -    ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 0004C                 P.ACV, P.ACX, P.ACY, P.ADA, P.ADB, P.ADD, -    ;
                                00000000' 00000000' 00064         P.ADE, P.ADG, P.ADH                                  ;
                                0000000A  0006C PROCESS_KEYWORD:
                                                        .LONG   10                                                     ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00070         .ADDRESS P.ADJ, P.ADK, P.ADM, P.ADN, P.ADP, -          ;
          00000000' 00000000' 00000000' 00000000' 00000000' 00088                 P.ADQ, P.ADS, P.ADT, P.ADV, P.ADW            ;
                                00000002  00098 GROUP_DESC:
                                                        .LONG   2                                                      ;
                                00000000' 0009C         .ADDRESS GROUP                                                 ;
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                        00000002  000A0 MEMBER_DESC:
                                        .LONG   2                                       ;
                        00000000' 000A4         .ADDRESS MEMBER                         ;
                00000003  00000008  000A8 TPARSE_BLOCK:
                                        .LONG   8, 3                                    ;
                                  000B0         .BLKB   28



                                        .PSECT  CODE,NOWRT,2

                                  0FFC 00000 PARSE_COMMAND:
                                        .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11    ; 2939
                    5B 00000000G   00   9E 00002         MOVAB   LIB$CVT_HTB, R11        ;
                    5A 00000000G   00   9E 00009         MOVAB   LIB$CVT_DTB, R10        ;
                    59 00000000G   00   9E 00010         MOVAB   LIB$LOOKUP_KEY, R9      ;
                    58     FEED    CF   9E 00017         MOVAB   P.ADY, R8               ;
                    57 00000000G   00   9E 0001C         MOVAB   STRIP_NEGATOR, R7       ;
                    56 00000000G   00   9E 00023         MOVAB   CLI$GET_VALUE, R6       ;
                    55 00000000G   00   9E 0002A         MOVAB   ADD_SYMBOL, R5          ;
                    54 00000000'   EF   9E 00031         MOVAB   UIC_SWITCH, R4          ;
                    53      0000'  CF   9E 00038         MOVAB   DEST, R3                ;
                    5E             08   C2 0003D         SUBL2   #8, SP                  ;
          00000000G 00             00   FB 00040         CALLS   #0, MAP_QUALIFIERS      ; 3016
                    52             01   D0 00047         MOVL    #1, FIRST               ; 3023
                                   53   DD 0004A 1$:      PUSHL   R3                      ; 3024
                                   58   DD 0004C         PUSHL   R8                      ;
                    66             02   FB 0004E         CALLS   #2, CLI$GET_VALUE       ;
                    2D             50   E9 00051         BLBC    R0, 4$                  ;
                    1D             52   E9 00054         BLBC    FIRST, 3$               ; 3026
                                   53   DD 00057         PUSHL   R3                      ; 3028
                    67             01   FB 00059         CALLS   #1, STRIP_NEGATOR       ;
                C4  A4             50   D0 0005C         MOVL    R0, ACCOUNT_SWITCH      ;
                                   63   B5 00060         TSTW    DESC                    ; 3029
                                   0C   13 00062         BEQL    2$                      ; 3030
                                   7E   D4 00064         CLRL    -(SP)                   ;
                                   53   DD 00066         PUSHL   R3                      ;
                                   7E   D4 00068         CLRL    -(SP)                   ;
                    65             03   FB 0006A         CALLS   #3, ADD_SYMBOL          ;
                    16             50   E9 0006D         BLBC    STATUS, 5$              ;
                                   52   D4 00070 2$:      CLRL    FIRST                   ; 3031
                                   D6   11 00072         BRB     1$                      ; 3026
                                   7E   D4 00074 3$:      CLRL    -(SP)                   ; 3033
                                   53   DD 00076         PUSHL   R3                      ;
                                   7E   D4 00078         CLRL    -(SP)                   ;
                    65             03   FB 0007A         CALLS   #3, ADD_SYMBOL          ;
                    CA             50   E8 0007D         BLBS    STATUS, 1$              ;
                                   04   00080         RET                             ;
              0000V CF             00   FB 00081 4$:      CALLS   #0, PARSE_DATES         ; 3043
                    01             50   E8 00086 5$:      BLBS    STATUS, 6$              ;
                                   04   00089         RET                             ;
                    52             01   D0 0008A 6$:      MOVL    #1, FIRST               ; 3052
                                   53   DD 0008D 7$:      PUSHL   R3                      ; 3053
                        10         A8   9F 0008F         PUSHAB  P.AEA                   ;
                    66             02   FB 00092         CALLS   #2, CLI$GET_VALUE       ;
                    31             50   E9 00095         BLBC    R0, 9$                  ;
                    0B             52   E9 00098         BLBC    FIRST, 8$               ; 3055
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                 53  DD 0009B          PUSHL   R3                                  ;
         67      01  FB 0009D          CALLS   #1, STRIP_NEGATOR                   ;
    C8   A4      50  D0 000A0          MOVL    R0, ADDRESS_SWITCH                  ;
                 52  D4 000A4          CLRL    FIRST                               ;
         50      63  3C 000A6 8$:      MOVZWL  DESC, R0                            ; 3056
                 E2  13 000A9          BEQL    7$                                  ;
              04 A3  DD 000AB          PUSHL   DESC+4                              ; 3061
              04 A3  DD 000AE          PUSHL   DESC+4                              ; 3060
                 50  DD 000B1          PUSHL   R0                                  ; 3059
         6A      03  FB 000B3          CALLS   #3, LIB$CVT_DTB                     ;
         7B      50  E9 000B6          BLBC    R0, 15$                             ;
         63      04  B0 000B9          MOVW    #4, DESC                            ; 3063
                 7E  D4 000BC          CLRL    -(SP)                               ; 3064
                 53  DD 000BE          PUSHL   R3                                  ;
                 0B  DD 000C0          PUSHL   #11                                 ;
         65      03  FB 000C2          CALLS   #3, ADD_SYMBOL                      ;
         C5      50  E8 000C5          BLBS    STATUS, 7$                          ;
                     04 000C8          RET                                         ;
         52      01  D0 000C9 9$:      MOVL    #1, FIRST                           ; 3074
                 53  DD 000CC 10$:     PUSHL   R3                                  ; 3075
              20 A8  9F 000CE          PUSHAB  P.AEC                               ;
         66      02  FB 000D1          CALLS   #2, CLI$GET_VALUE                   ;
         31      50  E9 000D4          BLBC    R0, 12$                             ;
         0B      52  E9 000D7          BLBC    FIRST, 11$                          ; 3077
                 53  DD 000DA          PUSHL   R3                                  ;
         67      01  FB 000DC          CALLS   #1, STRIP_NEGATOR                   ;
    CC   A4      50  D0 000DF          MOVL    R0, ENTRY_SWITCH                    ;
                 52  D4 000E3          CLRL    FIRST                               ;
         50      63  3C 000E5 11$:     MOVZWL  DESC, R0                            ; 3078
                 E2  13 000E8          BEQL    10$                                 ;
              04 A3  DD 000EA          PUSHL   DESC+4                              ; 3083
              04 A3  DD 000ED          PUSHL   DESC+4                              ; 3082
                 50  DD 000F0          PUSHL   R0                                  ; 3081
         6A      03  FB 000F2          CALLS   #3, LIB$CVT_DTB                     ;
         3C      50  E9 000F5          BLBC    R0, 15$                             ;
         63      04  B0 000F8          MOVW    #4, DESC                            ; 3085
                 7E  D4 000FB          CLRL    -(SP)                               ; 3086
                 53  DD 000FD          PUSHL   R3                                  ;
                 05  DD 000FF          PUSHL   #5                                  ;
         65      03  FB 00101          CALLS   #3, ADD_SYMBOL                      ;
         C5      50  E8 00104          BLBS    STATUS, 10$                         ;
                     04 00107          RET                                         ;
         52      01  D0 00108 12$:     MOVL    #1, FIRST                           ; 3096
                 53  DD 0010B 13$:     PUSHL   R3                                  ; 3097
              30 A8  9F 0010D          PUSHAB  P.AEE                               ;
         66      02  FB 00110          CALLS   #2, CLI$GET_VALUE                   ;
         34      50  E9 00113          BLBC    R0, 17$                             ;
         0B      52  E9 00116          BLBC    FIRST, 14$                          ; 3099
                 53  DD 00119          PUSHL   R3                                  ;
         67      01  FB 0011B          CALLS   #1, STRIP_NEGATOR                   ;
    D0   A4      50  D0 0011E          MOVL    R0, IDENT_SWITCH                    ;
                 52  D4 00122          CLRL    FIRST                               ;
         50      63  3C 00124 14$:     MOVZWL  DESC, R0                            ; 3100
                 E2  13 00127          BEQL    13$                                 ;
              04 A3  DD 00129          PUSHL   DESC+4                              ; 3105
              04 A3  DD 0012C          PUSHL   DESC+4                              ; 3104
                 50  DD 0012F          PUSHL   R0                                  ; 3103
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                6B            03 FB 00131          CALLS   #3, LIB$CVT_HTB                         ;
                03            50 E8 00134 15$:     BLBS    R0, 16$                                 ;
                          035A 31 00137             BRW     72$                                     ;
                63            04 B0 0013A 16$:     MOVW    #4, DESC                                ; 3107
                              7E D4 0013D          CLRL    -(SP)                                   ; 3108
                              53 DD 0013F          PUSHL   R3                                      ;
                              07 DD 00141          PUSHL   #7                                      ;
                65            03 FB 00143          CALLS   #3, ADD_SYMBOL                          ;
                C2            50 E8 00146          BLBS    STATUS, 13$                             ;
                              04 00149             RET                                             ;
                52            01 D0 0014A 17$:     MOVL    #1, FIRST                               ; 3118
                              53 DD 0014D 18$:     PUSHL   R3                                      ; 3119
                          40  A8 9F 0014F          PUSHAB  P.AEG                                   ;
                66            02 FB 00152          CALLS   #2, CLI$GET_VALUE                       ;
                2D            50 E9 00155          BLBC    R0, 21$                                 ;
                1D            52 E9 00158          BLBC    FIRST, 20$                              ; 3121
                              53 DD 0015B          PUSHL   R3                                      ; 3123
                67            01 FB 0015D          CALLS   #1, STRIP_NEGATOR                       ;
            D4  A4            50 D0 00160          MOVL    R0, IMAGE_SWITCH                        ;
                              63 B5 00164          TSTW    DESC                                    ; 3124
                              0C 13 00166          BEQL    19$                                     ;
                              7E D4 00168          CLRL    -(SP)                                   ; 3125
                              53 DD 0016A          PUSHL   R3                                      ;
                              08 DD 0016C          PUSHL   #8                                      ;
                65            03 FB 0016E          CALLS   #3, ADD_SYMBOL                          ;
                73            50 E9 00171          BLBC    STATUS, 27$                             ;
                              52 D4 00174 19$:     CLRL    FIRST                                   ; 3126
                              D5 11 00176          BRB     18$                                     ; 3121
                              7E D4 00178 20$:     CLRL    -(SP)                                   ; 3128
                              53 DD 0017A          PUSHL   R3                                      ;
                              08 DD 0017C          PUSHL   #8                                      ;
                65            03 FB 0017E          CALLS   #3, ADD_SYMBOL                          ;
                C9            50 E8 00181          BLBS    STATUS, 18$                             ;
                              04 00184             RET                                             ;
                52            01 D0 00185 21$:     MOVL    #1, FIRST                               ; 3137
                              53 DD 00188 22$:     PUSHL   R3                                      ; 3138
                          4C  A8 9F 0018A          PUSHAB  P.AEI                                   ;
                66            02 FB 0018D          CALLS   #2, CLI$GET_VALUE                       ;
                2D            50 E9 00190          BLBC    R0, 25$                                 ;
                1D            52 E9 00193          BLBC    FIRST, 24$                              ; 3140
                              53 DD 00196          PUSHL   R3                                      ; 3142
                67            01 FB 00198          CALLS   #1, STRIP_NEGATOR                       ;
            D8  A4            50 D0 0019B          MOVL    R0, JOB_SWITCH                          ;
                              63 B5 0019F          TSTW    DESC                                    ; 3143
                              0C 13 001A1          BEQL    23$                                     ;
                              7E D4 001A3          CLRL    -(SP)                                   ; 3144
                              53 DD 001A5          PUSHL   R3                                      ;
                              09 DD 001A7          PUSHL   #9                                      ;
                65            03 FB 001A9          CALLS   #3, ADD_SYMBOL                          ;
                38            50 E9 001AC          BLBC    STATUS, 27$                             ;
                              52 D4 001AF 23$:     CLRL    FIRST                                   ; 3145
                              D5 11 001B1          BRB     22$                                     ; 3140
                              7E D4 001B3 24$:     CLRL    -(SP)                                   ; 3147
                              53 DD 001B5          PUSHL   R3                                      ;
                              09 DD 001B7          PUSHL   #9                                      ;
                65            03 FB 001B9          CALLS   #3, ADD_SYMBOL                          ;
                C9            50 E8 001BC          BLBS    STATUS, 22$                             ;
```

```
                        04 001BF             RET
                52      01 D0 001C0 25$:     MOVL    #1, FIRST                       ; 3155
                53      DD 001C3 26$:        PUSHL   R3                              ; 3156
            58  A8  9F 001C5                PUSHAB  P.AEK
                66  02 FB 001C8             CALLS   #2, CLI$GET_VALUE
                2E  50 E9 001CB             BLBC    R0, 30$
                1E  52 E9 001CE             BLBC    FIRST, 29$                      ; 3158
                53      DD 001D1             PUSHL   R3                              ; 3160
                67  01 FB 001D3             CALLS   #1, STRIP_NEGATOR
            DC  A4  50 D0 001D6             MOVL    R0, NODE_SWITCH
                63 B5 001DA                 TSTW    DESC                            ; 3161
                0D 13 001DC                 BEQL    28$
                7E D4 001DE                 CLRL    -(SP)                           ; 3162
                53      DD 001E0             PUSHL   R3
                0C      DD 001E2             PUSHL   #12
                65  03 FB 001E4             CALLS   #3, ADD_SYMBOL
                01  50 E8 001E7 27$:        BLBS    STATUS, 28$
                        04 001EA             RET
                52 D4 001EB 28$:             CLRL    FIRST                           ; 3163
                D4 11 001ED                 BRB     26$                             ; 3158
                7E D4 001EF 29$:             CLRL    -(SP)                           ; 3165
                53      DD 001F1             PUSHL   R3
                0C      DD 001F3             PUSHL   #12
                65  03 FB 001F5             CALLS   #3, ADD_SYMBOL
                C8  50 E8 001F8             BLBS    STATUS, 26$
                        04 001FB             RET
                52      01 D0 001FC 30$:     MOVL    #1, FIRST                       ; 3175
                53      DD 001FF 31$:        PUSHL   R3                              ; 3176
            68  A8  9F 00201                PUSHAB  P.AEM
                66  02 FB 00204             CALLS   #2, CLI$GET_VALUE
                31  50 E9 00207             BLBC    R0, 33$
                0B  52 E9 0020A             BLBC    FIRST, 32$                      ; 3178
                53      DD 0020D             PUSHL   R3
                67  01 FB 0020F             CALLS   #1, STRIP_NEGATOR
            E0  A4  50 D0 00212             MOVL    R0, OWNER_SWITCH
                52 D4 00216                 CLRL    FIRST
                50 63 3C 00218 32$:          MOVZWL  DESC, R0                        ; 3179
                E2 13 0021B                 BEQL    31$
                04  A3      DD 0021D         PUSHL   DESC+4                          ; 3184
                04  A3      DD 00220         PUSHL   DESC+4                          ; 3183
                50      DD 00223             PUSHL   R0                              ; 3182
                6B  03 FB 00225             CALLS   #3, LIB$CVT_HTB
                78  50 E9 00228             BLBC    R0, 38$
                63  04 B0 0022B             MOVW    #4, DESC                        ; 3186
                7E D4 0022E                 CLRL    -(SP)                           ; 3187
                53      DD 00230             PUSHL   R3
                0D      DD 00232             PUSHL   #13
                65  03 FB 00234             CALLS   #3, ADD_SYMBOL
                C5  50 E8 00237             BLBS    STATUS, 31$
                        04 0023A             RET
                52      01 D0 0023B 33$:     MOVL    #1, FIRST                       ; 3196
                53      DD 0023E 34$:        PUSHL   R3                              ; 3197
            78  A8  9F 00240                PUSHAB  P.AEO
                66  02 FB 00243             CALLS   #2, CLI$GET_VALUE
                31  50 E9 00246             BLBC    R0, 36$
                0B  52 E9 00249             BLBC    FIRST, 35$                      ; 3199
                53      DD 0024C             PUSHL   R3
```

```
                67              01 FB 0024E             CALLS   #1, STRIP_NEGATOR                       ;
            E4  A4              50 D0 00251             MOVL    R0, PRIORITY_SWITCH                     ;
                                52 D4 00255             CLRL    FIRST                                   ;
                50              63 3C 00257 35$:        MOVZWL  DESC, R0                                ; 3200
                                E2 13 0025A             BEQL    34$                                     ;
                          04    A3 DD 0025C             PUSHL   DESC+4                                  ; 3205
                          04    A3 DD 0025F             PUSHL   DESC+4                                  ; 3204
                                50 DD 00262             PUSHL   R0                                      ; 3203
                6A              03 FB 00264             CALLS   #3, LIB$CVT_DTB                         ;
                5A              50 E9 00267             BLBC    R0, 41$                                 ;
                63              04 B0 0026A             MOVW    #4, DESC                                ; 3207
                                7E D4 0026D             CLRL    -(SP)                                   ; 3208
                                53 DD 0026F             PUSHL   R3                                      ;
                                0F DD 00271             PUSHL   #15                                     ;
                65              03 FB 00273             CALLS   #3, ADD_SYMBOL                          ;
                C5              50 E8 00276             BLBS    STATUS, 34$                             ;
                                04 00279             RET                                             ;
                52              01 D0 0027A 36$:        MOVL    #1, FIRST                               ; 3219
                                53 DD 0027D 37$:        PUSHL   R3                                      ; 3220
                          0088  C8 9F 0027F             PUSHAB  P.AEQ                                   ;
                66              02 FB 00283             CALLS   #2, CLI$GET_VALUE                       ;
                4F              50 E9 00286             BLBC    R0, 43$                                 ;
                2E              52 E9 00289             BLBC    FIRST, 40$                              ; 3223
                                53 DD 0028C             PUSHL   R3                                      ; 3225
                67              01 FB 0028E             CALLS   #1, STRIP_NEGATOR                       ;
            E8  A4              50 D0 00291             MOVL    R0, PROCESS_SWITCH                      ;
                                63 B5 00295             TSTW    DESC                                    ; 3226
                                1D 13 00297             BEQL    39$                                     ;
                                5E DD 00299             PUSHL   SP                                      ; 3228
                          5C    A3 9F 0029B             PUSHAB  PROCESS_KEYWORD                         ;
                                53 DD 0029E             PUSHL   R3                                      ;
                69              03 FB 002A0             CALLS   #3, LIB$LOOKUP_KEY                      ;
                1E              50 E9 002A3 38$:        BLBC    STATUS, 41$                             ;
                                7E D4 002A6             CLRL    -(SP)                                   ; 3229
                          04    AE DD 002A8             PUSHL   PROCESS_VALUE                           ;
                                10 DD 002AB             PUSHL   #16                                     ;
                65              03 FB 002AD             CALLS   #3, ADD_SYMBOL                          ;
                03              50 E8 002B0             BLBS    STATUS, 39$                             ;
                           0086 31 002B3             BRW     49$                                     ;
                                52 D4 002B6 39$:        CLRL    FIRST                                   ; 3231
                                C3 11 002B8             BRB     37$                                     ; 3223
                                5E DD 002BA 40$:        PUSHL   SP                                      ; 3234
                          5C    A3 9F 002BC             PUSHAB  PROCESS_KEYWORD                         ;
                                53 DD 002BF             PUSHL   R3                                      ;
                69              03 FB 002C1             CALLS   #3, LIB$LOOKUP_KEY                      ;
                03              50 E8 002C4 41$:        BLBS    STATUS, 42$                             ;
                          01CA  31 002C7             BRW     72$                                     ;
                                7E D4 002CA 42$:        CLRL    -(SP)                                   ; 3235
                          04    AE DD 002CC             PUSHL   PROCESS_VALUE                           ;
                                10 DD 002CF             PUSHL   #16                                     ;
                65              03 FB 002D1             CALLS   #3, ADD_SYMBOL                          ;
                A6              50 E8 002D4             BLBS    STATUS, 37$                             ;
                                04 002D7             RET                                             ;
                52              01 D0 002D8 43$:        MOVL    #1, FIRST                               ; 3246
                                53 DD 002DB 44$:        PUSHL   R3                                      ; 3247
                          0098  C8 9F 002DD             PUSHAB  P.AES                                   ;
                66              02 FB 002E1             CALLS   #2, CLI$GET_VALUE                       ;
```

```
                2D              50  E9 002E4          BLBC    R0, 47$                                 ;
                1D              52  E9 002E7          BLBC    FIRST, 46$                              ; 3249
                                53  DD 002EA          PUSHL   R3                                      ; 3251
                67              01  FB 002EC          CALLS   #1, STRIP_NEGATOR                       ;
          EC    A4              50  D0 002EF          MOVL    R0, QUEUE_SWITCH                        ;
                                63  B5 002F3          TSTW    DESC                                    ; 3252
                                0C  13 002F5          BEQL    45$                                     ;
                                7E  D4 002F7          CLRL    -(SP)                                   ; 3253
                                53  DD 002F9          PUSHL   R3                                      ;
                                11  DD 002FB          PUSHL   #17                                     ;
                65              03  FB 002FD          CALLS   #3, ADD_SYMBOL                          ;
                52              50  E9 00300          BLBC    STATUS, 53$                             ;
                                52  D4 00303 45$:     CLRL    FIRST                                   ; 3254
                                D4  11 00305          BRB     44$                                     ; 3249
                                7E  D4 00307 46$:     CLRL    -(SP)                                   ; 3256
                                53  DD 00309          PUSHL   R3                                      ;
                                11  DD 0030B          PUSHL   #17                                     ;
                65              03  FB 0030D          CALLS   #3, ADD_SYMBOL                          ;
                C8              50  E8 00310          BLBS    STATUS, 44$                             ;
                                    04 00313          RET                                             ;
                52              01  D0 00314 47$:     MOVL    #1, FIRST                               ; 3265
                                53  DD 00317 48$:     PUSHL   R3                                      ; 3266
                          00AC  C8  9F 00319          PUSHAB  P.AEU                                   ;
                66              02  FB 0031D          CALLS   #2, CLI$GET_VALUE                       ;
                2D              50  E9 00320          BLBC    R0, 52$                                 ;
                1D              52  E9 00323          BLBC    FIRST, 51$                              ; 3268
                                53  DD 00326          PUSHL   R3                                      ; 3270
                67              01  FB 00328          CALLS   #1, STRIP_NEGATOR                       ;
          F0    A4              50  D0 0032B          MOVL    R0, REMOTE_ID_SWITCH                    ;
                                63  B5 0032F          TSTW    DESC                                    ; 3271
                                0C  13 00331          BEQL    50$                                     ;
                                7E  D4 00333          CLRL    -(SP)                                   ; 3272
                                53  DD 00335          PUSHL   R3                                      ;
                                13  DD 00337          PUSHL   #19                                     ;
                65              03  FB 00339          CALLS   #3, ADD_SYMBOL                          ;
                16              50  E9 0033C 49$:     BLBC    STATUS, 53$                             ;
                                52  D4 0033F 50$:     CLRL    FIRST                                   ; 3273
                                D4  11 00341          BRB     48$                                     ; 3268
                                7E  D4 00343 51$:     CLRL    -(SP)                                   ; 3275
                                53  DD 00345          PUSHL   R3                                      ;
                                13  DD 00347          PUSHL   #19                                     ;
                65              03  FB 00349          CALLS   #3, ADD_SYMBOL                          ;
                C8              50  E8 0034C          BLBS    STATUS, 48$                             ;
                                    04 0034F          RET                                             ;
          0000V CF              00  FB 00350 52$:     CALLS   #0, PARSE_KEYS                          ; 3284
                68              50  E9 00355 53$:     BLBC    STATUS, 58$                             ;
                52              01  D0 00358          MOVL    #1, FIRST                               ; 3291
                                53  DD 0035B 54$:     PUSHL   R3                                      ; 3292
                          00BC  C8  9F 0035D          PUSHAB  P.AEW                                   ;
                66              02  FB 00361          CALLS   #2, CLI$GET_VALUE                       ;
                31              50  E9 00364          BLBC    R0, 56$                                 ;
                0B              52  E9 00367          BLBC    FIRST, 55$                              ; 3294
                                53  DD 0036A          PUSHL   R3                                      ;
                67              01  FB 0036C          CALLS   #1, STRIP_NEGATOR                       ;
          F4    A4              50  D0 0036F          MOVL    R0, STATUS_SWITCH                       ;
                                52  D4 00373          CLRL    FIRST                                   ;
                50              63  3C 00375 55$:     MOVZWL  DESC, R0                                ; 3295
```

```
                        E1  13 00378          BEQL    54$                                             ;
                    04  A3  DD 0037A          PUSHL   DESC+4                                          ; 3301
                    04  A3  DD 0037D          PUSHL   DESC+4                                          ; 3300
                        50  DD 00380          PUSHL   R0                                              ; 3299
                6B      03  FB 00382          CALLS   #3, LIB$CVT_HTB                                 ;
                76      50  E9 00385          BLBC    R0, 63$                                         ;
                63      04  B0 00388          MOVW    #4, DESC                                        ; 3303
                        7E  D4 0038B          CLRL    -(SP)                                           ; 3304
                        53  DD 0038D          PUSHL   R3                                              ;
                        16  DD 0038F          PUSHL   #22                                             ;
                65      03  FB 00391          CALLS   #3, ADD_SYMBOL                                  ;
                C4      50  E8 00394          BLBS    STATUS_STATUS, 54$                              ; 3305
                        04  00397            RET                                                     ;
                52      01  D0 00398  56$:     MOVL    #1, FIRST                                       ; 3315
                        53  DD 0039B  57$:     PUSHL   R3                                              ; 3316
                    00CC    C8  9F 0039D      PUSHAB  P.AEY                                           ;
                66      02  FB 003A1          CALLS   #2, CLI$GET_VALUE                               ;
                2D      50  E9 003A4          BLBC    R0, 61$                                         ;
                1D      52  E9 003A7          BLBC    FIRST, 60$                                      ; 3318
                        53  DD 003AA          PUSHL   R3                                              ; 3320
                67      01  FB 003AC          CALLS   #1, STRIP_NEGATOR                               ;
            F8  A4      50  D0 003AF          MOVL    R0, TERMINAL_SWITCH                             ;
                        63  B5 003B3          TSTW    DESC                                            ; 3321
                        0C  13 003B5          BEQL    59$                                             ;
                        7E  D4 003B7          CLRL    -(SP)                                           ; 3322
                        53  DD 003B9          PUSHL   R3                                              ;
                        19  DD 003BB          PUSHL   #25                                             ;
                65      03  FB 003BD          CALLS   #3, ADD_SYMBOL                                  ;
                48      50  E9 003C0  58$:     BLBC    STATUS, 64$                                     ;
                        52  D4 003C3  59$:     CLRL    FIRST                                           ; 3323
                        D4  11 003C5          BRB     57$                                             ; 3318
                        7E  D4 003C7  60$:     CLRL    -(SP)                                           ; 3325
                        53  DD 003C9          PUSHL   R3                                              ;
                        19  DD 003CB          PUSHL   #25                                             ;
                65      03  FB 003CD          CALLS   #3, ADD_SYMBOL                                  ;
                C8      50  E8 003D0          BLBS    STATUS, 57$                                     ;
                        04  003D3            RET                                                     ;
                52      01  D0 003D4  61$:     MOVL    #1, FIRST                                       ; 3334
                        53  DD 003D7  62$:     PUSHL   R3                                              ; 3335
                    00D8    C8  9F 003D9      PUSHAB  P.AFA                                           ;
                66      02  FB 003DD          CALLS   #2, CLI$GET_VALUE                               ;
                4C      50  E9 003E0          BLBC    R0, 68$                                         ;
                2D      52  E9 003E3          BLBC    FIRST, 66$                                      ; 3338
                        53  DD 003E6          PUSHL   R3                                              ; 3340
                67      01  FB 003E8          CALLS   #1, STRIP_NEGATOR                               ;
            FC  A4      50  D0 003EB          MOVL    R0, TYPE_SWITCH                                 ;
                        63  B5 003EF          TSTW    DESC                                            ; 3341
                        1C  13 003F1          BEQL    65$                                             ;
                    04  AE  9F 003F3          PUSHAB  TYPE_VALUE                                      ; 3343
                    08  A3  9F 003F6          PUSHAB  TYPE_KEYWORD                                    ;
                        53  DD 003F9          PUSHL   R3                                              ;
                69      03  FB 003FB          CALLS   #3, LIB$LOOKUP_KEY                              ;
                1D      50  E9 003FE  63$:     BLBC    STATUS, 67$                                     ;
                        7E  D4 00401          CLRL    -(SP)                                           ; 3344
                    08  AE  DD 00403          PUSHL   TYPE_VALUE                                      ;
                        1B  DD 00406          PUSHL   #27                                             ;
                65      03  FB 00408          CALLS   #3, ADD_SYMBOL                                  ;
```

```
                                    01          50  E8 0040B 64$:   BLBS    STATUS, 65$                             :
                                                04     0040E        RET                                             :
                                                52  D4 0040F 65$:   CLRL    FIRST                                   : 3346
                                                C4  11 00411        BRB     62$                                     : 3338
                                          04    AE  9F 00413 66$:   PUSHAB  TYPE_VALUE                              : 3349
                                          08    A3  9F 00416        PUSHAB  TYPE_KEYWORD                            :
                                                53  DD 00419        PUSHL   R3                                      :
                                    69          03  FB 0041B        CALLS   #3, LIB$LOOKUP_KEY                      :
                                    73          50  E9 0041E 67$:   BLBC    STATUS, 72$                             :
                                                7E  D4 00421        CLRL    -(SP)                                   : 3350
                                          08    AE  DD 00423        PUSHL   TYPE_VALUE                              :
                                                1B  DD 00426        PUSHL   #27                                     :
                                    65          03  FB 00428        CALLS   #3, ADD_SYMBOL                          :
                                    A9          50  E8 0042B        BLBS    STATUS, 62$                             :
                                                04     0042E        RET                                             :
                                    52          01  D0 0042F 68$:   MOVL    #1, FIRST                               : 3366
                                    64          01  D0 00432        MOVL    #1, UIC_SWITCH                          : 3367
                              04    A4          01  D0 00435        MOVL    #1, UIC_GROUP_SWITCH                    : 3368
                              08    A4          01  D0 00439        MOVL    #1, UIC_MEMBER_SWITCH                   : 3369
                                                53  DD 0043D 69$:   PUSHL   R3                                      : 3370
                                        00E4    C8  9F 0043F        PUSHAB  P.AFC                                   :
                                    66          02  FB 00443        CALLS   #2, CLI$GET_VALUE                       :
                                    03          50  E8 00446        BLBS    R0, 70$                                 :
                                           00B4 31 00449            BRW     76$                                     :
                                    17          52  E9 0044C 70$:   BLBC    FIRST, 71$                              : 3372
                                                52  D4 0044F        CLRL    FIRST                                   : 3374
                                    03          63  B1 00451        CMPW    DESC, #3                                : 3375
                                                10  12 00454        BNEQ    71$                                     :
00222D22   8F        04    B3       18          00  ED 00456        CMPZV   #0, #24, @DESC+4, #2239778              : 3376
                                                04  12 00460        BNEQ    71$                                     :
                                                64  D4 00462        CLRL    UIC_SWITCH                              : 3378
                                                63  B4 00464        CLRW    DESC                                    : 3379
                                    50          63  3C 00466 71$:   MOVZWL  DESC, R0                                : 3382
                                                D2  13 00469        BEQL    69$                                     :
                            00A0    C3          50  D0 0046B        MOVL    R0, TPARSE_BLOCK+8                      : 3384
                            00A4    C3    04    A3  D0 00470        MOVL    DESC+4, TPARSE_BLOCK+12                 : 3385
                                        FE48    C4  7C 00476        CLRQ    GROUP                                   : 3386
                                   00000000G    00  9F 0047A        PUSHAB  UIC_KTB                                 : 3388
                                   00000000G    00  9F 00480        PUSHAB  UIC_STB                                 :
                                        0098    C3  9F 00486        PUSHAB  TPARSE_BLOCK                            :
                       00000000G    00          03  FB 0048A        CALLS   #3, LIB$TPARSE                          :
                                    19          50  E8 00491        BLBS    R0, 73$                                 :
                                                53  DD 00494 72$:   PUSHL   R3                                      : 3389
                                                01  DD 00496        PUSHL   #1                                      :
                                    009F10FC    8F  DD 00498        PUSHL   #10424572                               :
                       00000000G    00          03  FB 0049E        CALLS   #3, LIB$SIGNAL                          :
                                    50 009F10FC 8F  D0 004A5        MOVL    #10424572, R0                           :
                                                04     004AC        RET                                             :
                            FE48    C4  FE52    C4  3C 004AD 73$:   MOVZWL  CONVERTED_UIC+2, GROUP                  : 3390
                            FE4C    C4  FE50    C4  3C 004B4        MOVZWL  CONVERTED_UIC, MEMBER                   : 3391
                       00003FFF     8F  FE48    C4  D1 004BB        CMPL    GROUP, #16383                           : 3392
                                                16  13 004C4        BEQL    74$                                     :
                       00000000G    00          01  88 004C6        BISB2   #1, QUALIFIERS+4                        : 3395
                              04    A4          64  D0 004CD        MOVL    UIC_SWITCH, UIC_GROUP_SWITCH            : 3396
                                                7E  D4 004D1        CLRL    -(SP)                                   : 3397
                                        0088    C3  9F 004D3        PUSHAB  GROUP_DESC                              :
                                                20  DD 004D7        PUSHL   #32                                     :
```

```
                65              03 FB 004D9             CALLS   #3, ADD_SYMBOL                          ;
0000FFFF        8F      FE4C    C4 D1 004DC 74$:        CMPL    MEMBER, #65535                          ; 3399
                                16 13 004E5             BEQL    75$                                     ;
00000000G       00              02 88 004E7             BISB2   #2, QUALIFIERS+4                        ; 3402
          08    A4              64 D0 004EE             MOVL    UIC_SWITCH, UIC_MEMBER_SWITCH           ; 3403
                                7E D4 004F2             CLRL    -(SP)                                   ; 3404
                        0090    C3 9F 004F4             PUSHAB  MEMBER_DESC                             ;
                                21 DD 004F8             PUSHL   #33                                     ;
                65              03 FB 004FA             CALLS   #3, ADD_SYMBOL                          ;
                            FF3D 31 004FD 75$:          BRW     69$                                     ; 3370
                52              01 D0 00500 76$:        MOVL    #1, FIRST                               ; 3414
                                53 DD 00503 77$:        PUSHL   R3                                      ; 3415
                        00F0    C8 9F 00505             PUSHAB  P.AFE                                   ;
                66              02 FB 00509             CALLS   #2, CLI$GET_VALUE                       ;
                2D              50 E9 0050C             BLBC    R0, 80$                                 ;
                1D              52 E9 0050F             BLBC    FIRST, 79$                              ; 3417
                                53 DD 00512             PUSHL   R3                                      ; 3419
                67              01 FB 00514             CALLS   #1, STRIP_NEGATOR                       ;
          0C    A4              50 D0 00517             MOVL    R0, USER_SWITCH                         ;
                                63 B5 0051B             TSTW    DESC                                    ; 3420
                                0C 13 0051D             BEQL    78$                                     ;
                                7E D4 0051F             CLRL    -(SP)                                   ; 3421
                                53 DD 00521             PUSHL   R3                                      ;
                                04 DD 00523             PUSHL   #4                                      ;
                65              03 FB 00525             CALLS   #3, ADD_SYMBOL                          ;
                14              50 E9 00528             BLBC    STATUS, 81$                             ;
                                52 D4 0052B 78$:        CLRL    FIRST                                   ; 3422
                                D4 11 0052D             BRB     77$                                     ; 3417
                                7E D4 0052F 79$:        CLRL    -(SP)                                   ; 3424
                                53 DD 00531             PUSHL   R3                                      ;
                                04 DD 00533             PUSHL   #4                                      ;
                65              03 FB 00535             CALLS   #3, ADD_SYMBOL                          ;
                C8              50 E8 00538             BLBS    STATUS, 77$                             ;
                                04 0053B                RET                                             ;
                50              01 D0 0053C 80$:        MOVL    #1, R0                                  ; 3429
                                04 0053F 81$:           RET                                             ; 3431

; Routine Size:  1344 bytes,    Routine Base:  CODE + 15D4
```

```
;  2608          3432  1 ROUTINE PARSE_DATES =
;  2609          3433  1
;  2610          3434  1 !----
;  2611          3435  1 !
;  2612          3436  1 ! Functional description
;  2613          3437  1 !
;  2614          3438  1 !       This routine is called to parse the /DATE, /BEFORE and /SINCE
;  2615          3439  1 !       command switches.
;  2616          3440  1 !
;  2617          3441  1 ! Input parameters
;  2618          3442  1 !
;  2619          3443  1 !       None
;  2620          3444  1 !
;  2621          3445  1 ! Output parameters
;  2622          3446  1 !
;  2623          3447  1 !
;  2624          3448  1 !       Store dates for future processing.
;  2625          3449  1 !       Set up an offset to the date in the record to be
;  2626          3450  1 !         used for displays and selection criteria.
;  2627          3451  1 !       Any errors encountered are RETURNed immediately.
;  2628          3452  1 !
;  2629          3453  1 !----
;  2630          3454  1
;  2631          3455  2 BEGIN
;  2632          3456  2
;  2633          3457  2 OWN
;  2634          3458  2         desc:   bblock [dsc$k_d_bln]    ! Dynamic work descriptor
;  2635          3459  2                 preset([dsc$b_class] = dsc$k_class_d),
;  2636          3460  2
;  2637          3461  2 !
;  2638          3462  2 !DEFINE KEYWORD TABLES --
;  2639          3463  2 !       Define a keyword table for LIB$LOOKUP_KEY.  Associate a byte
;  2640          3464  2 !       offset with each of the date keywords.  This offset defines
;  2641          3465  2 !       the location within an accounting file of that date.
;  2642          3466  2 !
;  2643          3467  2
;  2644        P 3468  2 time_keyword:   $lib_key_table  (                 ! Keyword table -- time type
;  2645        P 3469  2    (FINISHED,   finish_time_desc [1]),            !  -Time job terminated
;  2646        P 3470  2    (LOGOUT,     finish_time_desc [1]),            !  -Ditto
;  2647        P 3471  2    (STOPPED,    finish_time_desc [1]),            !  -Ditto
;  2648        P 3472  2
;  2649        P 3473  2    (STARTED,    start_time_desc [1]),             !  -Time job logged in
;  2650        P 3474  2    (LOGIN,      start_time_desc [1]),             !  -Ditto
;  2651        P 3475  2
;  2652        P 3476  2    (QUEUED,     queue_time_desc [1]),             !  -Time job was queued
;  2653        P 3477  2    (SUBMITTED,  queue_time_desc [1])              !  -Ditto
;  2654          3478  2                 );
;  2655          3479  2
;  2656          3480  2
;  2657          3481  2
;  2658          3482  2 !
;  2659          3483  2 !PARSE /DATE VALUE --
;  2660          3484  2 !
;  2661          3485  2 !
;  2662          3486  2 !If GET_VALUE ('DATE', desc) then       ! /DATE type
;  2663          3487  2 !   LOOKUP (desc, time_keyword, date_desc_addr);
;  2664          3488  2
```

```
;  2665          3489  2 date_desc_addr = finish_time_desc [1];
;  2666          3490  2 date_header = addrdesc ('finished');              ! Set default date header
;  2667          3491  2
;  2668          3492  2 !If .date_desc_addr eql queue_time_desc [1]      ! If /DATE=QUEUED
;  2669          3493  2 !   then date_header = addrdesc ('queued');      ! Fix date header
;  2670          3494  2 !
;  2671          3495  2 !If .date_desc_addr eql start_time_desc [1]              ! If /DATE=STARTED
;  2672          3496  2 !   then date_header = addrdesc ('started');     ! Fix date header
;  2673          3497  2
;  2674          3498  2 !
;  2675          3499  2 !PARSE /BEFORE AND /SINCE DATE VALUES --
;  2676          3500  2 !
;  2677          3501  2
;  2678          3502  2 If GET_VALUE ('BEFORE', desc) then       ! /BEFORE value
;  2679          3503  2    perform (lib$cvt_time (desc, before_date));
;  2680          3504  2
;  2681          3505  2 If GET_VALUE ('SINCE', desc) then        ! /SINCE value
;  2682          3506  2    perform (lib$cvt_time (desc, since_date));
;  2683          3507  2
;  2684          3508  2 Return true;
;  2685          3509  1 END;


                00  00  00  44  45  48  53  49  4E  49  46  08  01B14 P.AFG:  .ASCII  <8>\FINISHED\<0><0><0>                ;
                                00  54  55  4F  47  4F  4C  06  01B20 P.AFH:  .ASCII  <6>\LOGOUT\<0>                      ;
                                44  45  50  50  4F  54  53  07  01B28 P.AFI:  .ASCII  <7>\STOPPED\                        ;
                                44  45  54  52  41  54  53  07  01B30 P.AFJ:  .ASCII  <7>\STARTED\                        ;
                                00  00  4E  49  47  4F  4C  05  01B38 P.AFK:  .ASCII  <5>\LOGIN\<0><0>                   ;
                                00  44  45  55  45  55  51  06  01B40 P.AFL:  .ASCII  <6>\QUEUED\<0>                      ;
                00  00  44  45  54  54  49  4D  42  55  53  09  01B48 P.AFM:  .ASCII  <9>\SUBMITTED\<0><0>               ;
                                64  65  68  73  69  6E  69  66  01B54 P.AFO:  .ASCII  \finished\                          ;
                                                    00000008  01B5C P.AFN:  .LONG   8                                   ;
                                                    00000000' 01B60         .ADDRESS P.AFO                            ;
                                00  00  45  52  4F  46  45  42  01B64 P.AFQ:  .ASCII  \BEFORE\<0><0>                    ;
                                                    00000006  01B6C P.AFP:  .LONG   6                                   ;
                                                    00000000' 01B70         .ADDRESS P.AFQ                            ;
                                00  00  00  45  43  4E  49  53  01B74 P.AFS:  .ASCII  \SINCE\<0><0><0>                  ;
                                                    00000005  01B7C P.AFR:  .LONG   5                                   ;
                                                    00000000' 01B80         .ADDRESS P.AFS                            ;

                                                                            .PSECT  $OWN$,NOEXE,2

                                                        00#  000CC DESC:    .BYTE   0[3]                              ;
                                                        02   000CF          .BYTE   2                                 ;
                                                             000D0          .BLKB   4
                                                    0000000E  000D4 TIME_KEYWORD:
                                                                            .LONG   14                                ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 000D8          .ADDRESS P.AFG, FINISH_TIME_DESC+4, P.AFH, -  ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 000F0                  FINISH_TIME_DESC+4, P.AFI, -          ;
                                                    00000000' 00000000' 00108      FINISH_TIME_DESC+4, P.AFJ, -          ;
                                                                                   START_TIME_DESC+4, P.AFK, -           ;
                                                                                   START_TIME_DESC+4, P.AFL, -           ;
                                                                                   QUEUE_TIME_DESC+4, P.AFM, -           ;
                                                                                   QUEUE_TIME_DESC+4                     ;
```

```
                                                .PSECT  CODE,NOWRT,2

                                003C 00000 PARSE_DATES:
                                                .WORD   Save R2,R3,R4,R5                        ; 3432
                        55 00000000G   00   9E 00002            MOVAB   LIB$CVT_TIME, R5        ;
                        54 00000000G   00   9E 00009            MOVAB   CLI$GET_VALUE, R4       ;
                        53      0000'  CF   9E 00010            MOVAB   DESC, R3                ;
                        52 00000000'   EF   9E 00015            MOVAB   FINISH_TIME_DESC+4, R2  ;
                0398    C2             62   9E 0001C            MOVAB   FINISH_TIME_DESC+4, DATE_DESC_ADDR      ; 3489
                0168    C2        B4   AF   9E 00021            MOVAB   P.AFN, DATE_HEADER      ; 3490
                                       53   DD 00027            PUSHL   R3                      ; 3502
                                  BC   AF   9F 00029            PUSHAB  P.AFP                   ;
                                64     02   FB 0002C            CALLS   #2, CLI$GET_VALUE       ;
                                0C     50   E9 0002F            BLBC    R0, 1$                  ;
                                  039C C2   9F 00032            PUSHAB  BEFORE_DATE             ; 3503
                                       53   DD 00036            PUSHL   R3                      ;
                                65     02   FB 00038            CALLS   #2, LIB$CVT_TIME        ;
                                1A     50   E9 0003B            BLBC    STATUS, 3$              ;
                                       53   DD 0003E 1$:        PUSHL   R3                      ; 3505
                                  B5   AF   9F 00040            PUSHAB  P.AFR                   ;
                                64     02   FB 00043            CALLS   #2, CLI$GET_VALUE       ;
                                0C     50   E9 00046            BLBC    R0, 2$                  ;
                                  03A4 C2   9F 00049            PUSHAB  SINCE_DATE              ; 3506
                                       53   DD 0004D            PUSHL   R3                      ;
                                65     02   FB 0004F            CALLS   #2, LIB$CVT_TIME        ;
                                03     50   E9 00052            BLBC    STATUS, 3$              ;
                                50     01   D0 00055 2$:        MOVL    #1, R0                  ; 3508
                                             04 00058 3$:        RET                             ; 3509

; Routine Size:  89 bytes,    Routine Base:  CODE + 1B84
```

```
;  2687     3510  1 ROUTINE PARSE_KEYS =
;  2688     3511  1
;  2689     3512  1 !---
;  2690     3513  1 !
;  2691     3514  1 ! Functional description
;  2692     3515  1 !
;  2693     3516  1 !       This routine is called from the main parser to handle those
;  2694     3517  1 !       qualifiers that causes dynamic strings to be built.  That is,
;  2695     3518  1 !       sort keys, report items, and summarization keys.
;  2696     3519  1 !
;  2697     3520  1 ! Output parameters
;  2698     3521  1 !
;  2699     3522  1 !       Any errors encountered are RETURNed immediately.
;  2700     3523  1 !       TRUE is returned on a normal exit.
;  2701     3524  1 !
;  2702     3525  1 !----
;  2703     3526  1
;  2704     3527  2 BEGIN
;  2705     3528  2
;  2706     3529  2 LOCAL
;  2707     3530  2         result: ref vector [2];         ! Holds pointer returned by lookup
;  2708     3531  2
;  2709     3532  2 !
;  2710     3533  2 ! Each of the three element entries below consists of the following:
;  2711     3534  2 !
;  2712     3535  2 !       1) Key type (1=char, 2=binary)
;  2713     3536  2 !       3) Address of record item descriptor
;  2714     3537  2 !       4) Maximum size in bytes of the target field
;  2715     3538  2 !
;  2716     3539  2 GLOBAL
;  2717     3540  2
;  2718     3541  2 key_table: blockvector [32, 3] initial  (
;  2719     3542  2
;  2720     3543  2 1, account_desc, 8,                    ! Account name
;  2721     3544  2 2, entry_desc, 4,                      ! Entry (job id)
;  2722     3545  2 2, finish_time_desc, 8,                ! Termination time
;  2723     3546  2 2, ident_desc, 4,                      ! Process ID
;  2724     3547  2 1, image_desc, 9,                      ! Image name
;  2725     3548  2 1, job_desc, 39,                       ! Job name
;  2726     3549  2 1, node_desc, 6,                       ! Remote node name
;  2727     3550  2 2, owner_desc, 4,                      ! Owner process ID
;  2728     3551  2 1, process_desc, 11,                   ! Process type
;  2729     3552  2 1, queue_desc, 31,                     ! Queue name
;  2730     3553  2 2, queue_time_desc, 8,                 ! Queue time
;  2731     3554  2 2, start_time_desc, 8,                 ! Start time
;  2732     3555  2 2, status_desc, 4,                     ! Final status
;  2733     3556  2 1, terminal_desc, 8,                   ! Terminal name
;  2734     3557  2 1, type_desc, 8,                       ! Record type
;  2735     3558  2 1, user_desc, 12,                      ! User name
;  2736     3559  2 2, address_desc, 4,                    ! Remote node address
;  2737     3560  2 2, buffered_io_desc, 4,                ! Buffered IO count
;  2738     3561  2 2, direct_io_desc, 4,                  ! Direct IO count
;  2739     3562  2 2, cpu_time_desc, 4,                   ! Cpu time
;  2740     3563  2 2, page_faults_desc, 4,                ! Page faults
;  2741     3564  2 2, page_reads_desc, 4,                 ! Page IO
;  2742     3565  2 2, page_file_desc, 4,                  ! Page file peak
;  2743     3566  2 2, working_set_desc, 4,                ! Working set peak
```

```
;  2744          3567  2 2, execution_desc, 4,                    ! Image execution count
;  2745          3568  2 2, elapsed_desc, 8,                      ! Elapsed time
;  2746          3569  2 2, priority_desc, 1,                     ! Priority
;  2747          3570  2 2, volumes_desc, 4,                      ! Volumes mounted
;  2748          3571  2 2, sym_page_desc, 4,                     ! Pages printed
;  2749          3572  2 2, sym_get_desc, 4,                      ! Symbiont gets
;  2750          3573  2 2, sym_qio_desc, 4,                      ! Symbiont qios
;  2751          3574  2 2, uic_binary_desc, 4                    ! UIC
;  2752          3575  2 );
;  2753          3576  2
;  2754          3577  2 OWN
;  2755          3578  2         desc:   bblock [dsc$k_d_bln]    ! Dynamic work descriptor
;  2756          3579  2                 preset([dsc$b_class] = dsc$k_class_d),
;  2757          3580  2
;  2758          3581  2 !
;  2759          3582  2 ! Now build a table that associates each sort keyword
;  2760          3583  2 ! with one of the sort key descriptor elements
;  2761          3584  2 !
;  2762          3585  2
;  2763        P 3586  2 sort_keyword:   $lib_key_table (          ! Keywords for /SORT qualifier
;  2764        P 3587  2
;  2765        P 3588  2         (ACCOUNT,       00),             ! User's account name
;  2766        P 3589  2         (ENTRY,         01),             ! Number of batch or print job
;  2767        P 3590  2         (FINISHED,      02),             ! Termination time
;  2768        P 3591  2         (IDENT,         03),             ! Process identification
;  2769        P 3592  2         (IMAGE,         04),             ! Image name
;  2770        P 3593  2         (JOB,           05),             ! Name of batch or print job
;  2771        P 3594  2         (NODE,          06),             ! Node name
;  2772        P 3595  2         (OWNER,         07),             ! Owner process identification
;  2773        P 3596  2         (PROCESS,       08),             ! Process type
;  2774        P 3597  2         (QUEUE,         09),             ! Name of queue
;  2775        P 3598  2         (QUEUED,        10),             ! Time job was queued
;  2776        P 3599  2         (STARTED,       11),             ! Start time
;  2777        P 3600  2         (STATUS,        12),             ! Final exit status
;  2778        P 3601  2         (TERMINAL,      13),             ! Terminal name
;  2779        P 3602  2         (TYPE,          14),             ! Record type
;  2780        P 3603  2         (USER,          15),             ! User's name
;  2781        P 3604  2         (ADDRESS,       16),             ! Remote node address
;  2782        P 3605  2         (BUFFERED_IO,   17),             ! Buffered IO count
;  2783        P 3606  2         (DIRECT_IO,     18),             ! Direct IO count
;  2784        P 3607  2         (PROCESSOR,     19),             ! CPU time
;  2785        P 3608  2         (FAULTS,        20),             ! Page faults
;  2786        P 3609  2         (PAGE_READS,    21),             ! Page IO
;  2787        P 3610  2         (PAGE_FILE,     22),             ! Page file peak
;  2788        P 3611  2         (WORKING_SET,   23),             ! Working set peak
;  2789        P 3612  2         (EXECUTION,     24),             ! Image execution count
;  2790        P 3613  2         (ELAPSED,       25),             ! Elapsed time
;  2791        P 3614  2         (PRIORITY,      26),             ! Priority
;  2792        P 3615  2         (VOLUMES,       27),             ! Volumes mounted
;  2793        P 3616  2         (PAGES,         28),             ! Pages printed
;  2794        P 3617  2         (GETS,          29),             ! Symbiont gets
;  2795        P 3618  2         (QIOS,          30),             ! Symbiont qios
;  2796        P 3619  2         (UIC,           31)              ! UIC
;  2797          3620  2         ),
;  2798          3621  2
;  2799          3622  2
;  2800          3623  2 !
```

```
;  2801          3624  2 ! Build a lookup table that associates each summary option keyword with
;  2802          3625  2 ! a three longword structure.  The first longword contains the address
;  2803          3626  2 ! of a descriptor of the data field in the record.  The second longword
;  2804          3627  2 ! contains the address of a descriptor of a FAO control string that
;  2805          3628  2 ! is used to concatenate keys.  The third longword contains the address
;  2806          3629  2 ! of a descriptor of a string suitable for use in the header FAO.
;  2807          3630  2 !
;  2808          3631  2
;  2809          3632  2
;  2810        P 3633  2 summary_keyword: $lib_key_table (       ! Keywords for /SUMMARY qualifier
;  2811        P 3634  2
;  2812        P 3635  2 (ACCOUNT,UPLIT (account_desc,   ad('!9AS'),  ad('Account  ')), ! Account
;  2813        P 3636  2 (DATE,   UPLIT (s_date_desc,    ad('!11AS'),  ad('YYYY MM DD ')),! Date
;  2814        P 3637  2 (DAY,    UPLIT (day_desc,       ad('!3AS'),  ad('DD ')),       ! Day of month
;  2815        P 3638  2 (HOUR,   UPLIT (hour_desc,      ad('!3AS'),  ad('HH ')),       ! Hour of day
;  2816        P 3639  2 (IMAGE,  UPLIT (image_desc,     ad('!11AS'),  ad('Image name ')),! Image name
;  2817        P 3640  2 (JOB,    UPLIT (job_desc,       ad('!39AS'),  ad('Job name                                ')),! Batch/print
;  2818        P 3641  2 (MONTH,  UPLIT (month_desc,     ad('!3AS'),  ad('MM ')),       ! Month of year
;  2819        P 3642  2 (NODE,   UPLIT (node_desc,      ad('!10AS'),  ad('Node name ')),! Node name
;  2820        P 3643  2 (PROCESS,UPLIT (process_desc,   ad('!13AS'),  ad('Process type ')),! Process
;  2821        P 3644  2 (QUEUE,  UPLIT (queue_desc,     ad('!31AS'), ad('Job/print queue                        ')),! Queue
;  2822        P 3645  2 (TERMINAL, UPLIT (terminal_desc,ad('!9AS'),  ad('Terminal ')), ! Terminal name
;  2823        P 3646  2 (TYPE,   UPLIT (type_desc,      ad('!8AS'),  ad('Type    ')),  ! Record type
;  2824        P 3647  2 (UIC,    UPLIT (uic_desc,       ad('!67AS'), ad('  U   I   C
;  2825        P 3648  2 (USER,   UPLIT (user_desc,      ad('!13AS'), ad('Username     ')),! User
;  2826        P 3649  2 (WEEKDAY,UPLIT (weekday_desc,   ad('!3AS'),  ad('DD ')),       ! Day of week
;  2827        P 3650  2 (YEAR,   UPLIT (year_desc,      ad('!5AS'),  ad('Year ')),     ! Year
;  2828          3651  2                                ),
;  2829          3652  2
;  2830          3653  2 !
;  2831          3654  2 ! Build a table that associates each report option keyword with
;  2832          3655  2 ! a structure of longwords that contains:
;  2833          3656  2 !
;  2834          3657  2 !       1) Summation type (additive, peak, elapsed time, etc)
;  2835          3658  2 !       2) Summation value (address of value, constant, etc)
;  2836          3659  2 !       3) Number of longwords needed in accumulator
;  2837          3660  2 !       4) Descriptor of FAO control string for eventual output
;  2838          3661  2 !       5) Descriptor of FAO control string for title line 1
;  2839          3662  2 !       6) Descriptor of FAO control string for title line 2
;  2840          3663  2 !
;  2841          3664  2
;  2842        P 3665  2 report_keyword: $lib_key_table (       ! Keywords for /REPORT qualifier
;  2843        P 3666  2
;  2844        P 3667  2 (BUFFERED_IO,   UPLIT (sum_type_add, hold_biocnt, 1,
;  2845        P 3668  2                 ad (' !8UL'), ad (' Buffered'), ad ('    I/O  ')),
;  2846        P 3669  2
;  2847        P 3670  2 (DIRECT_IO,     UPLIT (sum_type_add, hold_diocnt, 1,
;  2848        P 3671  2                 ad (' !8UL'), ad ('   Direct'), ad ('    I/O  ')),
;  2849        P 3672  2
;  2850        P 3673  2 (ELAPSED,       UPLIT (sum_type_addx, hold_elapsed, 4,
;  2851        P 3674  2                 ad (' !4UL !%T'), ad ('     Elapsed     '),
;  2852        P 3675  2                 ad ('        Time      ')),
;  2853        P 3676  2
;  2854        P 3677  2 (EXECUTION,     UPLIT (sum_type_add, hold_execution, 1,
;  2855        P 3678  2                 ad (' !8UL'), ad ('  Image  '), ad ('   Count ')),
;  2856        P 3679  2
;  2857        P 3680  2 (FAULTS,        UPLIT (sum_type_add, hold_pageflts, 1,
```

```
;  2858        P 3681  2                   ad (' !8UL'), ad ('    Page '), ad ('   Faults'))),
;  2859        P 3682  2
;  2860        P 3683  2 (GETS,            UPLIT (sum_type_add, hold_getcnt, 1,
;  2861        P 3684  2                   ad (' !8UL'), ad (' Symbiont'), ad ('   Gets  '))),
;  2862        P 3685  2
;  2863        P 3686  2 (PAGES,           UPLIT (sum_type_add, hold_pagcnt, 1,
;  2864        P 3687  2                   ad (' !8UL'), ad ('    Pages'), ad ('  Printed'))),
;  2865        P 3688  2
;  2866        P 3689  2 (PAGE_FILE,       UPLIT (sum_type_peak, hold_pgflpeak, 1,
;  2867        P 3690  2                   ad (' !8UL'), ad (' Peakpage'), ad (' File use'))),
;  2868        P 3691  2
;  2869        P 3692  2 (PAGE_READS,      UPLIT (sum_type_add, hold_pagereads, 1,
;  2870        P 3693  2                   ad (' !8UL'), ad (' Page IO '), ad (' Reads   '))),
;  2871        P 3694  2
;  2872        P 3695  2 (PROCESSOR,       UPLIT (sum_type_addx, hold_cputim, 4,
;  2873        P 3696  2                   ad (' !4UL !%T'), ad ('    Processor    '),
;  2874        P 3697  2                   ad ('       Time      '))),
;  2875        P 3698  2
;  2876        P 3699  2 (QIOS,            UPLIT (sum_type_add, hold_qiocnt, 1,
;  2877        P 3700  2                   ad (' !8UL'), ad (' Symbiont'), ad ('   QIO''s '))),
;  2878        P 3701  2
;  2879        P 3702  2 (RECORDS,         UPLIT (sum_type_incr, 0, 1,
;  2880        P 3703  2                   ad (' !8UL'), ad ('    Total'), ad ('  Records'))),
;  2881        P 3704  2
;  2882        P 3705  2 (VOLUMES,         UPLIT (sum_type_add, hold_volumes, 1,
;  2883        P 3706  2                   ad (' !8UL'), ad ('  Volumes'), ad ('  Mounted'))),
;  2884        P 3707  2
;  2885        P 3708  2 (WORKING_SET,     UPLIT (sum_type_peak, hold_wspeak, 1,
;  2886        P 3709  2                   ad (' !8UL'), ad (' Peakwork'), ad (' Set page'))
;  2887        P 3710  2                               );
;  2888          3711  2
;  2889          3712  2
;  2890          3713  2
;  2891          3714  2
;  2892          3715  2 !
;  2893          3716  2 !PARSE /SORT VALUE LIST --
;  2894          3717  2 !       Fetch the value(s) associated with the /SORT qualifier.  Use
;  2895          3718  2 !       LIB$LOOKUP_KEY to parse them.  If successful, an index into
;  2896          3719  2 !       a sort key descriptor table is returned.  The descriptors are
;  2897          3720  2 !       copied (in the user specified order) to the SORT_TABLE.
;  2898          3721  2 !
;  2899          3722  2 !       Note that the first entry in SORT_TABLE is NOT used to store
;  2900          3723  2 !       the number and type of entries as is done with the other tables.
;  2901          3724  2 !       The sort keys must be preceeded by a single word (SORT_KEY_COUNT)
;  2902          3725  2 !       that gives the number of keys.
;  2903          3726  2 !
;  2904          3727  2 sort_key_count = 0;                          ! Initialize sort key count
;  2905          3728  2 Incr i from 0 to max_sort do
;  2906          3729  3    BEGIN                                     ! /SORT value list
;  2907          3730  3    Local key_order, index;
;  2908          3731  3
;  2909          3732  4    If not (GET_VALUE ('SORT', desc))
;  2910          3733  3       then exitloop;
;  2911          3734  3
;  2912          3735  3    Key_order = 0;                            ! Assume ascending
;  2913          3736  3    If not strip_negator (desc) then
;  2914          3737  3       key_order = 1;                         ! No, set descending
```

```
;  2915     3738  3
;  2916     3739  3    LOOKUP (desc, sort_keyword, index);
;  2917     3740
;  2918     3741
;  2919     3742
;  2920     3743  ;
;  2921     3744  ;  MOVE KEY DESCRIPTORS
;  2922     3745  ;        Move the key descriptors.  Note that more than one descriptor
;  2923     3746  ;        may be needed to describe a key.  The number of descriptors
;  2924     3747  ;        is stored in the order field (ascend/descend) of the first
;  2925     3748  ;        descriptor since this field is dynamically set based on the negator.
;  2926     3749  ;
;  2927     3750
;  2928     3751       Sort_table [.sort_key_count,key_w_type] = .key_table [.index, sort_type];
;  2929     3752       Sort_table [.sort_key_count,key_w_order] = .key_order;
;  2930     3753       Sort_table [.sort_key_count,key_w_pos] = .sort_key_size + 1;
;  2931     3754       Sort_table [.sort_key_count,key_w_length] = .key_table [.index, sort_length];
;  2932     3755       Sort_index_table [.sort_key_count] = .index;
;  2933     3756       Sort_key_size = .sort_key_size + .key_table [.index, sort_length];
;  2934     3757       Sort_key_count = .sort_key_count + 1;
;  2935     3758
;  2936     3759       END;
;  2937     3760
;  2938     3761
;  2939     3762
;  2940     3763
;  2941     3764  2
;  2942     3765  2  ;  PARSE /SUMMARY VALUE LIST --
;  2943     3766  2  ;        Parse the list of values associated with the /SUMMARY qualifier.
;  2944     3767  2  ;        For each value store the address of the value descriptor in a
;  2945     3768  2  ;        table and build a concatenated FAO control string.
;  2946     3769  2  ;
;  2947     3770  2  ;        In build_summary the FAO control string and the list of descriptors
;  2948     3771  2  ;        is used to build the summation key.
;  2949     3772  2  ;
;  2950     3773  2  ;        Also, the FAO control string which prints the column header is
;  2951     3774  2  ;        modified to reflect the contents of the summation key.
;  2952     3775  2  ;
;  2953     3776  2
;  2954     3777  2  Incra i do
;  2955     3778  2      if not GET_VALUE ('SUMMARY', desc) then exitloop    ! Get value
;  2956     3779  3      else BEGIN
;  2957     3780  3          If str$compare (desc, ad ('USER')) eqlu 0       ! Special case
;  2958     3781  4             AND not PRESENT (TYPE)
;  2959     3782  4             then BEGIN
;  2960     3783  4                  EXTERNAL qualifiers: bitvector [];      ! Establish def type
;  2961     3784  4                  qualifiers [TYPE] = true;
;  2962     3785  4                  perform (add_symbol (type, ad ('LOGFAIL'), true));
;  2963     3786  4                  END;
;  2964     3787  3
;  2965     3788  3          If str$compare (desc, ad('UIC')) eqlu 0         ! If /SUMMARY=UIC
;  2966     3789  3          then                                            ! then set a flag.
;  2967     3790  3              SUMMARY_UIC = 1;
;  2968     3791  3
;  2969     3792  3          If    str$compare (desc, ad('HOUR')) eqlu 0
;  2970     3793  3             or str$compare (desc, ad('WEEKDAY')) eqlu 0
;  2971     3794  3             or str$compare (desc, ad('DAY')) eqlu 0
```

```
;  2972          3795  3            or str$compare (desc, ad('MONTH')) eqlu 0
;  2973          3796  3            or str$compare (desc, ad('YEAR')) eqlu 0
;  2974          3797  3            or str$compare (desc, ad('DATE')) eqlu 0
;  2975          3798  4          then BEGIN
;  2976          3799  4             EXTERNAL qualifiers: bitvector [];
;  2977          3800  4             qualifiers [expand_date] = TRUE;
;  2978          3801  4               END;
;  2979          3802
;  2980          3803  3          LOOKUP (desc, summary_keyword, result);                  ! Lookup
;  2981          3804  3          sum_key_value [.i] = .result [0];                        ! Store addr
;  2982          3805  3          perform (str$append (sum_key_fao, .result [1]));         ! Build FAO
;  2983          3806  3          perform (str$append (report_hdr1_fao, .result [2]));     ! Build FAO
;  2984          3807  3          perform (str$append (report_hdr3_fao, .result [2]));     ! Build FAO
;  2985          3808  2          END;
;  2986          3809  2
;  2987          3810  2  ! Fill the front of report header 2 with spaces equal to the length
;  2988          3811  2  ! of the symbol header (which is equal to length of report header 1)
;  2989          3812  2  !
;  2990          3813  2
;  2991        P 3814  2  Perform (str$dupl_char (
;  2992          3815  2                  report_hdr2_fao, %REF (.report_hdr1_fao [dsc$w_length])));
;  2993          3816  2
;  2994          3817  2
;  2995          3818  2  !
;  2996          3819  2  ! PARSE /REPORT VALUE LIST --
;  2997          3820  2  !       Parse the list of values associated with the /REPORT qualifier.
;  2998          3821  2  !       For each value store the address of the control structure in the
;  2999          3822  2  !       value table and build  concatenated FAO control strings for
;  3000          3823  2  !       report writing time.  One string describes the header for the
;  3001          3824  2  !       report, the other the detail line.
;  3002          3825  2  !
;  3003          3826  2
;  3004          3827  2  ! Place a FAO arguement at the front of the report detail FAO control
;  3005          3828  2  ! string to print the summation key at WRITE_SUMMARY time.
;  3006          3829  2
;  3007          3830  2  Perform (str$append (report_det_fao, ad('!AS')));
;  3008          3831  2
;  3009          3832  2  Incra i do
;  3010          3833  2      if not GET_VALUE ('REPORT', desc) then exitloop
;  3011          3834  3      else BEGIN
;  3012          3835  3           LOOKUP (desc, report_keyword, result);
;  3013          3836  3           report_value [.i] = .result;
;  3014          3837  3           bucket_size = .bucket_size + (.result [sum_ent_bsize] * 4);
;  3015          3838  3           perform (str$append (report_det_fao, .result [sum_ent_fao]));
;  3016          3839  3           perform (str$append (report_hdr1_fao, .result [sum_ent_hdr1]));
;  3017          3840  3           perform (str$append (report_hdr2_fao, .result [sum_ent_hdr2]));
;  3018          3841  3           report_items = .report_items + 1;
;  3019          3842  2           END;
;  3020          3843  2
;  3021          3844  2  !
;  3022          3845  2  ! If /REPORT is active then reserve one more slot in the bucket
;  3023          3846  2  ! for the symbol descriptor address
;  3024          3847  2  !
;  3025          3848  2
;  3026          3849  2  If .bucket_size neq 0 then bucket_size = .bucket_size + 4;
;  3027          3850  2
;  3028          3851  2  return true;
```

```
; 3029          3852  2
; 3030          3853  1 END;


                                                          01BDD              .BLKB    3
                         54  4E  55  4F  43  43  41  07  01BE0  P.AFT:   .ASCII   <7>\ACCOUNT\
                         00  00  59  52  54  4E  45  05  01BE8  P.AFU:   .ASCII   <5>\ENTRY\<0><0>
         00  00  00  44  45  48  53  49  4E  49  46  08  01BF0  P.AFV:   .ASCII   <8>\FINISHED\<0><0><0>
                         00  00  54  4E  45  44  49  05  01BFC  P.AFW:   .ASCII   <5>\IDENT\<0><0>
                         00  00  45  47  41  4D  49  05  01C04  P.AFX:   .ASCII   <5>\IMAGE\<0><0>
                                         42  4F  4A  03  01C0C  P.AFY:   .ASCII   <3>\JOB\
                         00  00  00  45  44  4F  4E  04  01C10  P.AFZ:   .ASCII   <4>\NODE\<0><0><0>
                         00  00  52  45  4E  57  4F  05  01C18  P.AGA:   .ASCII   <5>\OWNER\<0><0>
                         53  53  45  43  4F  52  50  07  01C20  P.AGB:   .ASCII   <7>\PROCESS\
                         00  00  45  55  45  55  51  05  01C28  P.AGC:   .ASCII   <5>\QUEUE\<0><0>
                         00  44  45  55  45  55  51  06  01C30  P.AGD:   .ASCII   <6>\QUEUED\<0>
                         44  45  54  52  41  54  53  07  01C38  P.AGE:   .ASCII   <7>\STARTED\
                         00  53  55  54  41  54  53  06  01C40  P.AGF:   .ASCII   <6>\STATUS\<0>
         00  00  00  4C  41  4E  49  4D  52  45  54  08  01C48  P.AGG:   .ASCII   <8>\TERMINAL\<0><0><0>
                         00  00  00  45  50  59  54  04  01C54  P.AGH:   .ASCII   <4>\TYPE\<0><0><0>
                         00  00  00  52  45  53  55  04  01C5C  P.AGI:   .ASCII   <4>\USER\<0><0><0>
                         53  53  45  52  44  44  41  07  01C64  P.AGJ:   .ASCII   <7>\ADDRESS\
         4F  49  5F  44  45  52  45  46  46  55  42  0B  01C6C  P.AGK:   .ASCII   <11>\BUFFERED_IO\
         00  00  4F  49  5F  54  43  45  52  49  44  09  01C78  P.AGL:   .ASCII   <9>\DIRECT_IO\<0><0>
         00  00  52  4F  53  53  45  43  4F  52  50  09  01C84  P.AGM:   .ASCII   <9>\PROCESSOR\<0><0>
                         00  53  54  4C  55  41  46  06  01C90  P.AGN:   .ASCII   <6>\FAULTS\<0>
         00  53  44  41  45  52  5F  45  47  41  50  0A  01C98  P.AGO:   .ASCII   <10>\PAGE_READS\<0>
         00  00  45  4C  49  46  5F  45  47  41  50  09  01CA4  P.AGP:   .ASCII   <9>\PAGE_FILE\<0><0>
         54  45  53  5F  47  4E  49  4B  52  4F  57  0B  01CB0  P.AGQ:   .ASCII   <11>\WORKING_SET\
         00  00  4E  4F  49  54  55  43  45  58  45  09  01CBC  P.AGR:   .ASCII   <9>\EXECUTION\<0><0>
                         44  45  53  50  41  4C  45  07  01CC8  P.AGS:   .ASCII   <7>\ELAPSED\
         00  00  00  59  54  49  52  4F  49  52  50  08  01CD0  P.AGT:   .ASCII   <8>\PRIORITY\<0><0><0>
                         53  45  4D  55  4C  4F  56  07  01CDC  P.AGU:   .ASCII   <7>\VOLUMES\
                         00  00  53  45  47  41  50  05  01CE4  P.AGV:   .ASCII   <5>\PAGES\<0><0>
                         00  00  00  53  54  45  47  04  01CEC  P.AGW:   .ASCII   <4>\GETS\<0><0><0>
                         00  00  00  53  4F  49  51  04  01CF4  P.AGX:   .ASCII   <4>\QIOS\<0><0><0>
                                         43  49  55  03  01CFC  P.AGY:   .ASCII   <3>\UIC\
                         54  4E  55  4F  43  43  41  07  01D00  P.AGZ:   .ASCII   <7>\ACCOUNT\
                                         53  41  39  21  01D08  P.AHC:   .ASCII   \!9AS\
                                           00000004  01D0C  P.AHB:   .LONG    4
                                           00000000' 01D10           .ADDRESS P.AHC
         00  00  00  20  20  74  6E  75  6F  63  63  41  01D14  P.AHE:   .ASCII   \Account  \<0><0><0>
                                           00000009  01D20  P.AHD:   .LONG    9
                                           00000000' 01D24           .ADDRESS P.AHE
                 00000000' 00000000' 00000000' 01D28  P.AHA:   .ADDRESS ACCOUNT_DESC, P.AHB, P.AHD
                         00  00  00  45  54  41  44  04  01D34  P.AHF:   .ASCII   <4>\DATE\<0><0><0>
                         00  00  00  53  41  31  31  21  01D3C  P.AHI:   .ASCII   \!11AS\<0><0><0>
                                           00000005  01D44  P.AHH:   .LONG    5
                                           00000000' 01D48           .ADDRESS P.AHI
         00  20  44  44  20  4D  4D  20  59  59  59  59  01D4C  P.AHK:   .ASCII   \YYYY MM DD \<0>
                                           0000000B  01D58  P.AHJ:   .LONG    11
                                           00000000' 01D5C           .ADDRESS P.AHK
                 00000000' 00000000' 00000000' 01D60  P.AHG:   .ADDRESS S_DATE_DESC, P.AHH, P.AHJ
                                         59  41  44  03  01D6C  P.AHL:   .ASCII   <3>\DAY\
                                         53  41  33  21  01D70  P.AHO:   .ASCII   \!3AS\
                                           00000004  01D74  P.AHN:   .LONG    4
```

```
                                                00000000'  01D78          .ADDRESS P.AHO
                                          00  20  44  44  01D7C P.AHQ:   .ASCII  \DD \<0>
                                                00000003  01D80 P.AHP:   .LONG   3
                                                00000000'  01D84          .ADDRESS P.AHQ
                                  00000000' 00000000' 00000000'  01D88 P.AHM:   .ADDRESS DAY_DESC, P.AHN, P.AHP
                              00  00  00  52  55  4F  48  04  01D94 P.AHR:   .ASCII  <4>\HOUR\<0><0><0>
                                          53  41  33  21  01D9C P.AHU:   .ASCII  \!3AS\
                                                00000004  01DA0 P.AHT:   .LONG   4
                                                00000000'  01DA4          .ADDRESS P.AHU
                                          00  20  48  48  01DA8 P.AHW:   .ASCII  \HH \<0>
                                                00000003  01DAC P.AHV:   .LONG   3
                                                00000000'  01DB0          .ADDRESS P.AHW
                                  00000000' 00000000' 00000000'  01DB4 P.AHS:   .ADDRESS HOUR_DESC, P.AHT, P.AHV
                              00  00  45  47  41  4D  49  05  01DC0 P.AHX:   .ASCII  <5>\IMAGE\<0><0>
                              00  00  00  53  41  31  31  21  01DC8 P.AIA:   .ASCII  \!11AS\<0><0><0>
                                                00000005  01DD0 P.AHZ:   .LONG   5
                                                00000000'  01DD4          .ADDRESS P.AIA
          00  20  65  6D  61  6E  20  65  67  61  6D  49  01DD8 P.AIC:   .ASCII  \Image name \<0>
                                                0000000B  01DE4 P.AIB:   .LONG   11
                                                00000000'  01DE8          .ADDRESS P.AIC
                                  00000000' 00000000' 00000000'  01DEC P.AHY:   .ADDRESS IMAGE_DESC, P.AHZ, P.AIB
                                          42  4F  4A  03  01DF8 P.AID:   .ASCII  <3>\JOB\
                              00  00  00  53  41  39  33  21  01DFC P.AIG:   .ASCII  \!39AS\<0><0><0>
                                                00000005  01E04 P.AIF:   .LONG   5
                                                00000000'  01E08          .ADDRESS P.AIG
20  20  20  20  20  20  20  65  6D  61  6E  20  62  6F  4A  01E0C P.AII:   .ASCII  \Job name                                    -
20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  01E1B                  \<0>
                    00  20  20  20  20  20  20  20  20  20  01E2A
                                                00000027  01E34 P.AIH:   .LONG   39
                                                00000000'  01E38          .ADDRESS P.AII
                                  00000000' 00000000' 00000000'  01E3C P.AIE:   .ADDRESS JOB_DESC, P.AIF, P.AIH
                              00  00  48  54  4E  4F  4D  05  01E48 P.AIJ:   .ASCII  <5>\MONTH\<0><0>
                                          53  41  33  21  01E50 P.AIM:   .ASCII  \!3AS\
                                                00000004  01E54 P.AIL:   .LONG   4
                                                00000000'  01E58          .ADDRESS P.AIM
                                          00  20  4D  4D  01E5C P.AIO:   .ASCII  \MM \<0>
                                                00000003  01E60 P.AIN:   .LONG   3
                                                00000000'  01E64          .ADDRESS P.AIO
                                  00000000' 00000000' 00000000'  01E68 P.AIK:   .ADDRESS MONTH_DESC, P.AIL, P.AIN
                              00  00  00  45  44  4F  4E  04  01E74 P.AIP:   .ASCII  <4>\NODE\<0><0><0>
                              00  00  00  53  41  30  31  21  01E7C P.AIS:   .ASCII  \!10AS\<0><0><0>
                                                00000005  01E84 P.AIR:   .LONG   5
                                                00000000'  01E88          .ADDRESS P.AIS
          00  00  20  65  6D  61  6E  20  65  64  6F  4E  01E8C P.AIU:   .ASCII  \Node name \<0><0>
                                                0000000A  01E98 P.AIT:   .LONG   10
                                                00000000'  01E9C          .ADDRESS P.AIU
                                  00000000' 00000000' 00000000'  01EA0 P.AIQ:   .ADDRESS NODE_DESC, P.AIR, P.AIT
                              53  53  45  43  4F  52  50  07  01EAC P.AIV:   .ASCII  <7>\PROCESS\
                              00  00  00  53  41  33  31  21  01EB4 P.AIY:   .ASCII  \!13AS\<0><0><0>
                                                00000005  01EBC P.AIX:   .LONG   5
                                                00000000'  01EC0          .ADDRESS P.AIY
00  00  20  65  70  79  74  20  73  73  65  63  6F  72  50  01EC4 P.AJA:   .ASCII  \Process type \<0><0><0>
                                                        00  01ED3
                                                0000000D  01ED4 P.AIZ:   .LONG   13
                                                00000000'  01ED8          .ADDRESS P.AJA
                                  00000000' 00000000' 00000000'  01EDC P.AIW:   .ADDRESS PROCESS_DESC, P.AIX, P.AIZ
                              00  00  45  55  45  55  51  05  01EE8 P.AJB:   .ASCII  <5>\QUEUE\<0><0>
```

```
                                00  00  00  53  41  31  33  21  01EF0 P.AJE:   .ASCII  \!31AS\<0><0><0>                                                ;
                                                    00000005    01EF8 P.AJD:   .LONG   5                                                            ;
                                                    00000000'   01EFC          .ADDRESS P.AJE                                                       ;
65  75  65  75  71  20  74  6E  69  72  70  2F  62  6F  4A  01F00 P.AJG:   .ASCII  \Job/print queue                \<0>                              ;
20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  01F0F                                                                                    ;
                                                    00  20  01F1E                                                                                ;
                                                    0000001F    01F20 P.AJF:   .LONG   31                                                           ;
                                                    00000000'   01F24          .ADDRESS P.AJG                                                       ;
                            00000000'   00000000'   00000000'   01F28 P.AJC:   .ADDRESS QUEUE_DESC, P.AJD, P.AJF                                    ;
            00  00  00  4C  41  4E  49  4D  52  45  54  08      01F34 P.AJH:   .ASCII  <8>\TERMINAL\<0><0><0>                                        ;
                                        53  41  39  21          01F40 P.AJK:   .ASCII  \!9AS\                                                       ;
                                                    00000004    01F44 P.AJJ:   .LONG   4                                                            ;
                                                    00000000'   01F48          .ADDRESS P.AJK                                                       ;
            00  00  00  20  6C  61  6E  69  6D  72  65  54      01F4C P.AJM:   .ASCII  \Terminal \<0><0><0>                                          ;
                                                    00000009    01F58 P.AJL:   .LONG   9                                                            ;
                                                    00000000'   01F5C          .ADDRESS P.AJM                                                       ;
                            00000000'   00000000'   00000000'   01F60 P.AJI:   .ADDRESS TERMINAL_DESC, P.AJJ, P.AJL                                 ;
                        00  00  00  45  50  59  54  04          01F6C P.AJN:   .ASCII  <4>\TYPE\<0><0><0>                                           ;
                                        53  41  38  21          01F74 P.AJQ:   .ASCII  \!8AS\                                                       ;
                                                    00000004    01F78 P.AJP:   .LONG   4                                                            ;
                                                    00000000'   01F7C          .ADDRESS P.AJQ                                                       ;
                        20  20  20  20  65  70  79  54          01F80 P.AJS:   .ASCII  \Type    \                                                   ;
                                                    00000008    01F88 P.AJR:   .LONG   8                                                            ;
                                                    00000000'   01F8C          .ADDRESS P.AJS                                                       ;
                          00000000'   00000000'   00000000'   01F90 P.AJQ:   .ADDRESS TYPE_DESC, P.AJP, P.AJR                                       ;
                                            43  49  55  03      01F9C P.AJT:   .ASCII  <3>\UIC\                                                     ;
                        00  00  00  53  41  37  36  21          01FA0 P.AJW:   .ASCII  \!67AS\<0><0><0>                                             ;
                                                    00000005    01FA8 P.AJV:   .LONG   5                                                            ;
                                                    00000000'   01FAC          .ADDRESS P.AJW                                                       ;
20  20  20  20  20  20  20  43  20  20  49  20  20  55  20  01FB0 P.AJY:   .ASCII  \ U  I  C                                                    \     ;
20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  01FBF                                                                                    ;
                        20  20  20  20  20  20  20  20  20  01FCE                                                                                    ;
20  20  20  20  20  20  20  20  20  20  20  20  20  20  20  01FD8          .ASCII  \                                       \<0>                        ;
        00  20  20  20  20  20  20  20  20  20  20  20  20  01FE7                                                                                    ;
                                                    00000043    01FF4 P.AJX:   .LONG   67                                                           ;
                                                    00000000'   01FF8          .ADDRESS P.AJY                                                       ;
                          00000000'   00000000'   00000000'   01FFC P.AJU:   .ADDRESS UIC_DESC, P.AJV, P.AJX                                       ;
                        00  00  00  52  45  53  55  04          02008 P.AJZ:   .ASCII  <4>\USER\<0><0><0>                                           ;
                        00  00  00  53  41  33  31  21          02010 P.AKC:   .ASCII  \!13AS\<0><0><0>                                             ;
                                                    00000005    02018 P.AKB:   .LONG   5                                                            ;
                                                    00000000'   0201C          .ADDRESS P.AKC                                                       ;
00  00  20  20  20  20  20  65  6D  61  6E  72  65  73  55  02020 P.AKE:   .ASCII  \Username     \<0><0><0>                                        ;
                                                00  0202F                                                                                        ;
                                                    0000000D    02030 P.AKD:   .LONG   13                                                           ;
                                                    00000000'   02034          .ADDRESS P.AKE                                                       ;
                          00000000'   00000000'   00000000'   02038 P.AKA:   .ADDRESS USER_DESC, P.AKB, P.AKD                                      ;
                        59  41  44  4B  45  45  57  07          02044 P.AKF:   .ASCII  <7>\WEEKDAY\                                                 ;
                                        53  41  33  21          0204C P.AKI:   .ASCII  \!3AS\                                                       ;
                                                    00000004    02050 P.AKH:   .LONG   4                                                            ;
                                                    00000000'   02054          .ADDRESS P.AKI                                                       ;
                                        00  20  44  44          02058 P.AKK:   .ASCII  \DD \<0>                                                     ;
                                                    00000003    0205C P.AKJ:   .LONG   3                                                            ;
                                                    00000000'   02060          .ADDRESS P.AKK                                                       ;
                          00000000'   00000000'   00000000'   02064 P.AKG:   .ADDRESS WEEKDAY_DESC, P.AKH, P.AKJ                                   ;
                        00  00  00  52  41  45  59  04          02070 P.AKL:   .ASCII  <4>\YEAR\<0><0><0>                                           ;
                                        53  41  35  21          02078 P.AKO:   .ASCII  \!5AS\                                                       ;
                                                    00000004    0207C P.AKN:   .LONG   4                                                            ;
```

```
                                                00000000'  02080            .ADDRESS P.AKO
                                00  00  00  20  72  61  65  59  02084 P.AKQ:  .ASCII  \Year \<0><0><0>
                                                00000005   0208C P.AKP:  .LONG   5
                                                00000000'  02090            .ADDRESS P.AKQ
                                  00000000' 00000000' 00000000'  02094 P.AKM:  .ADDRESS YEAR_DESC, P.AKN, P.AKP
    4F  49  5F  44  45  52  45  46  46  55  42  08  020A0 P.AKR:  .ASCII  <11>\BUFFERED_IO\
                                00  00  00  4C  55  38  21  20  020AC P.AKU:  .ASCII  \ !8UL\<0><0>20>
                                                00000005   020B4 P.AKT:  .LONG   5
                                                00000000'  020B8            .ADDRESS P.AKU
    00  00  00  64  65  72  65  66  66  75  42  20  020BC P.AKW:  .ASCII  \ Buffered\<0><0><0>
                                                00000009   020C8 P.AKV:  .LONG   9
                                                00000000'  020CC            .ADDRESS P.AKW
    00  00  00  20  20  4F  2F  49  20  20  20  20  020D0 P.AKY:  .ASCII  \    I/O  \<0><0><0>
                                                00000009   020DC P.AKX:  .LONG   9
                                                00000000'  020E0            .ADDRESS P.AKY
                                                00000000   020E4 P.AKS:  .LONG   0
                                                00000000'  020E8            .ADDRESS HOLD_BIOCNT
                                                00000001   020EC            .LONG   1
                                  00000000' 00000000' 00000000'  020F0            .ADDRESS P.AKT, P.AKV, P.AKX
    00  00  4F  49  5F  54  43  45  52  49  44  09  020FC P.AKZ:  .ASCII  <9>\DIRECT_IO\<0><0>
                                00  00  00  4C  55  38  21  20  02108 P.ALC:  .ASCII  \ !8UL\<0>20><0>
                                                00000005   02110 P.ALB:  .LONG   5
                                                00000000'  02114            .ADDRESS P.ALC
    00  00  00  74  63  65  72  69  44  20  20  20  02118 P.ALE:  .ASCII  \   Direct\<0><0><0>
                                                00000009   02124 P.ALD:  .LONG   9
                                                00000000'  02128            .ADDRESS P.ALE
    00  00  00  20  20  4F  2F  49  20  20  20  20  0212C P.ALG:  .ASCII  \    I/O  \<0><0><0>
                                                00000009   02138 P.ALF:  .LONG   9
                                                00000000'  0213C            .ADDRESS P.ALG
                                                00000000   02140 P.ALA:  .LONG   0
                                                00000000'  02144            .ADDRESS HOLD_DIOCNT
                                                00000001   02148            .LONG   1
                                  00000000' 00000000' 00000000'  0214C            .ADDRESS P.ALB, P.ALD, P.ALF
                            44  45  53  50  41  4C  45  07  02158 P.ALH:  .ASCII  <7>\ELAPSED\
                        00  00  00  54  25  21  20  4C  55  34  21  20  02160 P.ALK:  .ASCII  \ !4UL !%T\<0><0><0>
                                                00000009   0216C P.ALJ:  .LONG   9
                                                00000000'  02170            .ADDRESS P.ALK
20  20  20  64  65  73  70  61  6C  45  20  20  20  20  20  02174 P.ALM:  .ASCII  \     Elapsed     \<0><0><0>
                                                00  00  00  20  20  02183
                                                00000011   02188 P.ALL:  .LONG   17
                                                00000000'  0218C            .ADDRESS P.ALM
20  20  20  20  65  6D  69  54  20  20  20  20  20  20  20  02190 P.ALO:  .ASCII  \       Time      \<0><0><0>
                                                00  00  00  20  20  0219F
                                                00000011   021A4 P.ALN:  .LONG   17
                                                00000000'  021A8            .ADDRESS P.ALO
                                                00000001   021AC P.ALI:  .LONG   1
                                                00000000'  021B0            .ADDRESS HOLD_ELAPSED
                                                00000004   021B4            .LONG   4
                                  00000000' 00000000' 00000000'  021B8            .ADDRESS P.ALJ, P.ALL, P.ALN
                        00  00  4E  4F  49  54  55  43  45  58  45  09  021C4 P.ALP:  .ASCII  <9>\EXECUTION\<0><0>
                                00  00  00  4C  55  38  21  20  021D0 P.ALS:  .ASCII  \ !8UL\<0><0><0>
                                                00000005   021D8 P.ALR:  .LONG   5
                                                00000000'  021DC            .ADDRESS P.ALS
                        00  00  00  20  20  65  67  61  6D  49  20  20  021E0 P.ALU:  .ASCII  \  Image  \<0><0><0>
                                                00000009   021EC P.ALT:  .LONG   9
                                                00000000'  021F0            .ADDRESS P.ALU
                        00  00  00  20  74  6E  75  6F  43  20  20  20  021F4 P.ALW:  .ASCII  \   Count \<0><0><0>
```

```
                                                00000009  02200 P.ALV:  .LONG   9
                                                00000000' 02204         .ADDRESS P.ALW
                                                00000000  02208 P.ALQ:  .LONG   0
                                                00000000' 0220C         .ADDRESS HOLD_EXECUTION
                                                00000001  02210         .LONG   1
                                      00000000' 00000000' 00000000' 02214         .ADDRESS P.ALR, P.ALT, P.ALV
                                   00  53  54  4C  55  41  46  06  02220 P.ALX:  .ASCII  <6>\FAULTS\<0>
                                   00  00  00  4C  55  38  21  20  02228 P.AMA:  .ASCII  \ !8UL\<0><0><0>
                                                00000005  02230 P.ALZ:  .LONG   5
                                                00000000' 02234         .ADDRESS P.AMA
00  00  00  20  65  67  61  50  20  20  20  20  02238 P.AMC:  .ASCII  \    Page \<0><0><0>
                                                00000009  02244 P.AMB:  .LONG   9
                                                00000000' 02248         .ADDRESS P.AMC
00  00  00  73  74  6C  75  61  46  20  20  20  0224C P.AME:  .ASCII  \   Faults\<0><0><0>
                                                00000009  02258 P.AMD:  .LONG   9
                                                00000000' 0225C         .ADDRESS P.AME
                                                00000000  02260 P.ALY:  .LONG   0
                                                00000000' 02264         .ADDRESS HOLD_PAGEFLTS
                                                00000001  02268         .LONG   1
                                      00000000' 00000000' 00000000' 0226C         .ADDRESS P.ALZ, P.AMB, P.AMD
                                   00  00  00  53  54  45  47  04  02278 P.AMF:  .ASCII  <4>\GETS\<0><0><0>
                                   00  00  00  4C  55  38  21  20  02280 P.AMI:  .ASCII  \ !8UL\<0><0><0>
                                                00000005  02288 P.AMH:  .LONG   5
                                                00000000' 0228C         .ADDRESS P.AMI
00  00  00  74  6E  6F  69  62  6D  79  53  20  02290 P.AMK:  .ASCII  \ Symbiont\<0><0><0>
                                                00000009  0229C P.AMJ:  .LONG   9
                                                00000000' 022A0         .ADDRESS P.AMK
00  00  00  20  20  73  74  65  47  20  20  20  022A4 P.AMM:  .ASCII  \   Gets  \<0><0><0>
                                                00000009  022B0 P.AML:  .LONG   9
                                                00000000' 022B4         .ADDRESS P.AMM
                                                00000000  022B8 P.AMG:  .LONG   0
                                                00000000' 022BC         .ADDRESS HOLD_GETCNT
                                                00000001  022C0         .LONG   1
                                      00000000' 00000000' 00000000' 022C4         .ADDRESS P.AMH, P.AMJ, P.AML
                                   00  00  53  45  47  41  50  05  022D0 P.AMN:  .ASCII  <5>\PAGES\<0><0>
                                   00  00  00  4C  55  38  21  20  022D8 P.AMQ:  .ASCII  \ !8UL\<0><0><0>
                                                00000005  022E0 P.AMP:  .LONG   5
                                                00000000' 022E4         .ADDRESS P.AMQ
00  00  00  73  65  67  61  50  20  20  20  20  022E8 P.AMS:  .ASCII  \    Pages\<0><0><0>
                                                00000009  022F4 P.AMR:  .LONG   9
                                                00000000' 022F8         .ADDRESS P.AMS
00  00  00  64  65  74  6E  69  72  50  20  20  022FC P.AMU:  .ASCII  \  Printed\<0><0><0>
                                                00000009  02308 P.AMT:  .LONG   9
                                                00000000' 0230C         .ADDRESS P.AMU
                                                00000000  02310 P.AMO:  .LONG   0
                                                00000000' 02314         .ADDRESS HOLD_PAGCNT
                                                00000001  02318         .LONG   1
                                      00000000' 00000000' 00000000' 0231C         .ADDRESS P.AMP, P.AMR, P.AMT
00  00  45  4C  49  46  5F  45  47  41  50  09  02328 P.AMV:  .ASCII  <9>\PAGE_FILE\<0><0>
                                   00  00  00  4C  55  38  21  20  02334 P.AMY:  .ASCII  \ !8UL\<0><0><0>
                                                00000005  0233C P.AMX:  .LONG   5
                                                00000000' 02340         .ADDRESS P.AMY
00  00  00  65  67  61  70  6B  61  65  50  20  02344 P.ANA:  .ASCII  \ Peakpage\<0><0><0>
                                                00000009  02350 P.AMZ:  .LONG   9
                                                00000000' 02354         .ADDRESS P.ANA
00  00  00  65  73  75  20  65  6C  69  46  20  02358 P.ANC:  .ASCII  \ File use\<0><0><0>
                                                00000009  02364 P.ANB:  .LONG   9
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```
                                                00000000'  02368            .ADDRESS P.ANC                                  ;
                                                00000002   0236C P.AMW:     .LONG   2                                       ;
                                                00000000'  02370            .ADDRESS HOLD_PGFLPEAK                          ;
                                                00000001   02374            .LONG   1                                       ;
                                    00000000'  00000000'  00000000'  02378  .ADDRESS P.AMX, P.AMZ, P.ANB                     ;
        00  53  44  41  45  52  5F  45  47  41  50  0A   02384 P.AND:     .ASCII  <10>\PAGE_READS\<0>                     ;
                        00  00  00  4C  55  38  21  20   02390 P.ANG:     .ASCII  \ !8UL\<0><0><0>                        ;
                                                00000005   02398 P.ANF:     .LONG   5                                       ;
                                                00000000'  0239C            .ADDRESS P.ANG                                  ;
        00  00  00  20  4F  49  20  65  67  61  50  20   023A0 P.ANI:     .ASCII  \ Page IO \<0><0><0>                    ;
                                                00000009   023AC P.ANH:     .LONG   9                                       ;
                                                00000000'  023B0            .ADDRESS P.ANI                                  ;
        00  00  00  20  20  20  73  64  61  65  52  20   023B4 P.ANK:     .ASCII  \ Reads   \<0><0><0>                    ;
                                                00000009   023C0 P.ANJ:     .LONG   9                                       ;
                                                00000000'  023C4            .ADDRESS P.ANK                                  ;
                                                00000000   023C8 P.ANE:     .LONG   0                                       ;
                                                00000000'  023CC            .ADDRESS HOLD_PAGEREADS                         ;
                                                00000001   023D0            .LONG   1                                       ;
                                    00000000'  00000000'  00000000'  023D4  .ADDRESS P.ANF, P.ANH, P.ANJ                    ;
        00  00  52  4F  53  53  45  43  4F  52  50  09   023E0 P.ANL:     .ASCII  <9>\PROCESSOR\<0><0>                    ;
        00  00  00  54  25  21  20  4C  55  34  21  20   023EC P.ANO:     .ASCII  \ !4UL !%T\<0><0><0>                    ;
                                                00000009   023F8 P.ANN:     .LONG   9                                       ;
                                                00000000'  023FC            .ADDRESS P.ANO                                  ;
20  20  72  6F  73  73  65  63  6F  72  50  20  20  20  20  02400 P.ANQ:     .ASCII  \    Processor    \<0><0><0>         ;
                                            00  00  00  20  20  0240F
                                                00000011   02414 P.ANP:     .LONG   17                                      ;
                                                00000000'  02418            .ADDRESS P.ANQ                                  ;
20  20  20  20  65  6D  69  54  20  20  20  20  20  20  20  0241C P.ANS:     .ASCII  \       Time      \<0><0><0>        ;
                                            00  00  00  20  20  0242B
                                                00000011   02430 P.ANR:     .LONG   17                                      ;
                                                00000000'  02434            .ADDRESS P.ANS                                  ;
                                                00000001   02438 P.ANM:     .LONG   1                                       ;
                                                00000000'  0243C            .ADDRESS HOLD_CPUTIM                            ;
                                                00000004   02440            .LONG   4                                       ;
                                    00000000'  00000000'  00000000'  02444  .ADDRESS P.ANN, P.ANP, P.ANR                    ;
                    00  00  00  53  4F  49  51  04   02450 P.ANT:     .ASCII  <4>\QIOS\<0><0><0>                      ;
                    00  00  00  4C  55  38  21  20   02458 P.ANW:     .ASCII  \ !8UL\<0><0><0>                        ;
                                                00000005   02460 P.ANV:     .LONG   5                                       ;
                                                00000000'  02464            .ADDRESS P.ANW                                  ;
00  00  00  74  6E  6F  69  62  6D  79  53  20   02468 P.ANY:     .ASCII  \ Symbiont\<0><0><0>                    ;
                                                00000009   02474 P.ANX:     .LONG   9                                       ;
                                                00000000'  02478            .ADDRESS P.ANY                                  ;
00  00  00  20  73  27  4F  49  51  20  20  20   0247C P.AOA:     .ASCII  \   QIO's \<0><0><0>                    ;
                                                00000009   02488 P.ANZ:     .LONG   9                                       ;
                                                00000000'  0248C            .ADDRESS P.AOA                                  ;
                                                00000000   02490 P.ANU:     .LONG   0                                       ;
                                                00000000'  02494            .ADDRESS HOLD_QIOCNT                            ;
                                                00000001   02498            .LONG   1                                       ;
                                    00000000'  00000000'  00000000'  0249C  .ADDRESS P.ANV, P.ANX, P.ANZ                    ;
                    53  44  52  4F  43  45  52  07   024A8 P.AOB:     .ASCII  <7>\RECORDS\                            ;
                    00  00  00  4C  55  38  21  20   024B0 P.AOE:     .ASCII  \ !8UL\<0><0><0>                        ;
                                                00000005   024B8 P.AOD:     .LONG   5                                       ;
                                                00000000'  024BC            .ADDRESS P.AOE                                  ;
00  00  00  6C  61  74  6F  54  20  20  20  20   024C0 P.AOG:     .ASCII  \    Total\<0><0><0>                    ;
                                                00000009   024CC P.AOF:     .LONG   9                                       ;
                                                00000000'  024D0            .ADDRESS P.AOG                                  ;
00  00  00  73  64  72  6F  63  65  52  20  20   024D4 P.AOI:     .ASCII  \  Records\<0><0><0>                    ;
```

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                                                00000009  024E0 P.AOH:   .LONG    9                                                       ;
                                                00000000' 024E4          .ADDRESS P.AOI                                                   ;
                                  00000001  00000000  00000003  024E8 P.AOC:   .LONG    3, 0, 1                                          ;
                                  00000000' 00000000' 00000000' 024F4          .ADDRESS P.AOD, P.AOF, P.AOH                             ;
                               53  45  4D  55  4C  4F  56  07  02500 P.AOJ:   .ASCII   <7>\VOLUMES\                                      ;
                               00  00  00  4C  55  38  21  20  02508 P.AOM:   .ASCII   \ !8UL\<0><0><0>                                  ;
                                                00000005  02510 P.AOL:   .LONG    5                                                       ;
                                                00000000' 02514          .ADDRESS P.AOM                                                   ;
        00  00  00  73  65  6D  75  6C  6F  56  20  20  02518 P.AOO:   .ASCII   \  Volumes\<0><0><0>                                     ;
                                                00000009  02524 P.AON:   .LONG    9                                                       ;
                                                00000000' 02528          .ADDRESS P.AOO                                                   ;
        00  00  00  64  65  74  6E  75  6F  4D  20  20  0252C P.AOQ:   .ASCII   \  Mounted\<0><0><0>                                    ;
                                                00000009  02538 P.AOP:   .LONG    9                                                       ;
                                                00000000' 0253C          .ADDRESS P.AOQ                                                   ;
                                                00000000  02540 P.AOK:   .LONG    0                                                       ;
                                                00000000' 02544          .ADDRESS HOLD_VOLUMES                                            ;
                                                00000001  02548          .LONG    1                                                      ;
                                  00000000' 00000000' 00000000' 0254C          .ADDRESS P.AOL, P.AON, P.AOP                             ;
        54  45  53  5F  47  4E  49  4B  52  4F  57  0B  02558 P.AOR:   .ASCII   <11>\WORKING_SET\                                       ;
                               00  00  00  4C  55  38  21  20  02564 P.AOU:   .ASCII   \ !8UL\<0><0><0>                                  ;
                                                00000005  0256C P.AOT:   .LONG    5                                                       ;
                                                00000000' 02570          .ADDRESS P.AOU                                                   ;
        00  00  00  6B  72  6F  77  6B  61  65  50  20  02574 P.AOW:   .ASCII   \ Peakwork\<0><0><0>                                    ;
                                                00000009  02580 P.AOV:   .LONG    9                                                       ;
                                                00000000' 02584          .ADDRESS P.AOW                                                   ;
        00  00  00  65  67  61  70  20  74  65  53  20  02588 P.AOY:   .ASCII   \ Set page\<0><0><0>                                     ;
                                                00000009  02594 P.AOX:   .LONG    9                                                       ;
                                                00000000' 02598          .ADDRESS P.AOY                                                   ;
                                                00000002  0259C P.AOS:   .LONG    2                                                       ;
                                                00000000' 025A0          .ADDRESS HOLD_WSPEAK                                             ;
                                                00000001  025A4          .LONG    1                                                      ;
                                  00000000' 00000000' 00000000' 025A8          .ADDRESS P.AOT, P.AOV, P.AOX                             ;
                                                      54  52  4F  53  025B4 P.APA:   .ASCII   \SORT\                                     ;
                                                00000004  025B8 P.AOZ:   .LONG    4                                                       ;
                                                00000000' 025BC          .ADDRESS P.APA                                                   ;
        00  59  52  41  4D  4D  55  53  025C0 P.APC:   .ASCII   \SUMMARY\<0>                                                            ;
                                                00000007  025C8 P.APB:   .LONG    7                                                       ;
                                                00000000' 025CC          .ADDRESS P.APC                                                   ;
                                                      52  45  53  55  025D0 P.APE:   .ASCII   \USER\                                     ;
                                                00000004  025D4 P.APD:   .LONG    4                                                       ;
                                                00000000' 025D8          .ADDRESS P.APE                                                   ;
        00  4C  49  41  46  47  4F  4C  025DC P.APG:   .ASCII   \LOGFAIL\<0>                                                            ;
                                                00000007  025E4 P.APF:   .LONG    7                                                       ;
                                                00000000' 025E8          .ADDRESS P.APG                                                   ;
                                                      00  43  49  55  025EC P.API:   .ASCII   \UIC\<0>                                   ;
                                                00000003  025F0 P.APH:   .LONG    3                                                       ;
                                                00000000' 025F4          .ADDRESS P.API                                                   ;
                                                      52  55  4F  48  025F8 P.APK:   .ASCII   \HOUR\                                     ;
                                                00000004  025FC P.APJ:   .LONG    4                                                       ;
                                                00000000' 02600          .ADDRESS P.APK                                                   ;
        00  59  41  44  4B  45  45  57  02604 P.APM:   .ASCII   \WEEKDAY\<0>                                                            ;
                                                00000007  0260C P.APL:   .LONG    7                                                       ;
                                                00000000' 02610          .ADDRESS P.APM                                                   ;
                                                      00  59  41  44  02614 P.APO:   .ASCII   \DAY\<0>                                   ;
                                                00000003  02618 P.APN:   .LONG    3                                                       ;
                                                00000000' 0261C          .ADDRESS P.APO                                                   ;
        00  00  00  48  54  4E  4F  4D  02620 P.APQ:   .ASCII   \MONTH\<0><0><0>                                                         ;
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                                00000005  02628 P.APP:   .LONG    5                                                       ;
                                00000000' 0262C          .ADDRESS P.APQ                                                  ;
                             52 41  45  59  02630 P.APS:   .ASCII  \YEAR\                                                  ;
                                00000004  02634 P.APR:   .LONG    4                                                       ;
                                00000000' 02638          .ADDRESS P.APS                                                  ;
                             45 54  41  44  0263C P.APU:   .ASCII  \DATE\                                                  ;
                                00000004  02640 P.APT:   .LONG    4                                                       ;
                                00000000' 02644          .ADDRESS P.APU                                                  ;
                             00 53  41  21  02648 P.APW:   .ASCII  \!AS\<0>                                                ;
                                00000003  0264C P.APV:   .LONG    3                                                       ;
                                00000000' 02650          .ADDRESS P.APW                                                  ;
                00 00 54 52 4F 50  45  52  02654 P.APY:   .ASCII  \REPORT\<0><0>                                           ;
                                00000006  0265C P.APX:   .LONG    6                                                       ;
                                00000000' 02660          .ADDRESS P.APY                                                  ;

                                                         .PSECT  $OWN$,NOEXE,2

                                      00# 00110 DESC:    .BYTE   0[3]                                                    ;
                                      02  00113          .BYTE   2                                                       ;
                                          00114          .BLKB   4
                                00000040  00118 SORT_KEYWORD:
                                                         .LONG   64                                                      ;
                                00000000' 0011C          .ADDRESS P.AFT                                                  ;
                                00000000  00120          .LONG   0                                                       ;
                                00000000' 00124          .ADDRESS P.AFU                                                  ;
                                00000001  00128          .LONG   1                                                       ;
                                00000000' 0012C          .ADDRESS P.AFV                                                  ;
                                00000002  00130          .LONG   2                                                       ;
                                00000000' 00134          .ADDRESS P.AFW                                                  ;
                                00000003  00138          .LONG   3                                                       ;
                                00000000' 0013C          .ADDRESS P.AFX                                                  ;
                                00000004  00140          .LONG   4                                                       ;
                                00000000' 00144          .ADDRESS P.AFY                                                  ;
                                00000005  00148          .LONG   5                                                       ;
                                00000000' 0014C          .ADDRESS P.AFZ                                                  ;
                                00000006  00150          .LONG   6                                                       ;
                                00000000' 00154          .ADDRESS P.AGA                                                  ;
                                00000007  00158          .LONG   7                                                       ;
                                00000000' 0015C          .ADDRESS P.AGB                                                  ;
                                00000008  00160          .LONG   8                                                       ;
                                00000000' 00164          .ADDRESS P.AGC                                                  ;
                                00000009  00168          .LONG   9                                                       ;
                                00000000' 0016C          .ADDRESS P.AGD                                                  ;
                                0000000A  00170          .LONG   10                                                      ;
                                00000000' 00174          .ADDRESS P.AGE                                                  ;
                                0000000B  00178          .LONG   11                                                      ;
                                00000000' 0017C          .ADDRESS P.AGF                                                  ;
                                0000000C  00180          .LONG   12                                                      ;
                                00000000' 00184          .ADDRESS P.AGG                                                  ;
                                0000000D  00188          .LONG   13                                                      ;
                                00000000' 0018C          .ADDRESS P.AGH                                                  ;
                                0000000E  00190          .LONG   14                                                      ;
                                00000000' 00194          .ADDRESS P.AGI                                                  ;
                                0000000F  00198          .LONG   15                                                      ;
                                00000000' 0019C          .ADDRESS P.AGJ                                                  ;
                                00000010  001A0          .LONG   16                                                      ;
                                00000000' 001A4          .ADDRESS P.AGK                                                  ;
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                                00000011  001A8          .LONG   17                                                      ;
                                00000000' 001AC          .ADDRESS P.AGL                                                  ;
                                00000012  001B0          .LONG   18                                                      ;
                                00000000' 001B4          .ADDRESS P.AGM                                                  ;
                                00000013  001B8          .LONG   19                                                      ;
                                00000000' 001BC          .ADDRESS P.AGN                                                  ;
                                00000014  001C0          .LONG   20                                                      ;
                                00000000' 001C4          .ADDRESS P.AGO                                                  ;
                                00000015  001C8          .LONG   21                                                      ;
                                00000000' 001CC          .ADDRESS P.AGP                                                  ;
                                00000016  001D0          .LONG   22                                                      ;
                                00000000' 001D4          .ADDRESS P.AGQ                                                  ;
                                00000017  001D8          .LONG   23                                                      ;
                                00000000' 001DC          .ADDRESS P.AGR                                                  ;
                                00000018  001E0          .LONG   24                                                      ;
                                00000000' 001E4          .ADDRESS P.AGS                                                  ;
                                00000019  001E8          .LONG   25                                                      ;
                                00000000' 001EC          .ADDRESS P.AGT                                                  ;
                                0000001A  001F0          .LONG   26                                                      ;
                                00000000' 001F4          .ADDRESS P.AGU                                                  ;
                                0000001B  001F8          .LONG   27                                                      ;
                                00000000' 001FC          .ADDRESS P.AGV                                                  ;
                                0000001C  00200          .LONG   28                                                      ;
                                00000000' 00204          .ADDRESS P.AGW                                                  ;
                                0000001D  00208          .LONG   29                                                      ;
                                00000000' 0020C          .ADDRESS P.AGX                                                  ;
                                0000001E  00210          .LONG   30                                                      ;
                                00000000' 00214          .ADDRESS P.AGY                                                  ;
                                0000001F  00218          .LONG   31                                                      ;
                                00000020  0021C SUMMARY_KEYWORD:                                                         ;
                                                         .LONG   32                                                      ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00220          .ADDRESS P.AGZ, P.AHA, P.AHF, P.AHG, P.AHL, -   ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00238                  P.AHM, P.AHR, P.AHS, P.AHX, P.AHY, P.AID, - ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00250                  P.AIE, P.AIJ, P.AIK, P.AIP, P.AIQ, P.AIV, - ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00268                  P.AIW, P.AJB, P.AJC, P.AJH, P.AJI, P.AJN, - ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00280                  P.AJO, P.AJT, P.AJU, P.AJZ, P.AKA, P.AKF, - ;
                                00000000' 00000000' 00298                  P.AKG, P.AKL, P.AKM                          ;
                                0000001C  002A0 REPORT_KEYWORD:                                                          ;
                                                         .LONG   28                                                      ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 002A4          .ADDRESS P.AKR, P.AKS, P.AKZ, P.ALA, P.ALH, -   ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 002BC                  P.ALI, P.ALP, P.ALQ, P.ALX, P.ALY, P.AMF, - ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 002D4                  P.AMG, P.AMN, P.AMO, P.AMV, P.AMW, P.AND, - ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 002EC                  P.ANE, P.ANL, P.ANM, P.ANT, P.ANU, P.AOB, - ;
                00000000' 00000000' 00000000' 00000000' 00304                  P.AOC, P.AOJ, P.AOK, P.AOR, P.AOS            ;

                                                         .PSECT  $GLOBAL$,NOEXE,2

                                00000001  00000 KEY_TABLE::
                                                         .LONG   1                                                       ;
                                00000000' 00004          .ADDRESS ACCOUNT_DESC                                           ;
                00000002        00000008  00008          .LONG   8, 2                                                    ;
                                00000000' 00010          .ADDRESS ENTRY_DESC                                             ;
                00000002        00000004  00014          .LONG   4, 2                                                    ;
                                00000000' 0001C          .ADDRESS FINISH_TIME_DESC                                       ;
                00000002        00000008  00020          .LONG   8, 2                                                    ;
                                00000000' 00028          .ADDRESS IDENT_DESC                                             ;
                00000001        00000004  0002C          .LONG   4, 1                                                    ;
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                00000000' 00034         .ADDRESS IMAGE_DESC                                                             ;
00000001        00000009  00038         .LONG   9, 1                                                                    ;
                00000000' 00040         .ADDRESS JOB_DESC                                                               ;
00000001        00000027  00044         .LONG   39, 1                                                                   ;
                00000000' 0004C         .ADDRESS NODE_DESC                                                              ;
00000002        00000006  00050         .LONG   6, 2                                                                    ;
                00000000' 00058         .ADDRESS OWNER_DESC                                                             ;
00000001        00000004  0005C         .LONG   4, 1                                                                    ;
                00000000' 00064         .ADDRESS PROCESS_DESC                                                           ;
00000001        0000000B  00068         .LONG   11, 1                                                                   ;
                00000000' 00070         .ADDRESS QUEUE_DESC                                                             ;
00000002        0000001F  00074         .LONG   31, 2                                                                   ;
                00000000' 0007C         .ADDRESS QUEUE_TIME_DESC                                                        ;
00000002        00000008  00080         .LONG   8, 2                                                                    ;
                00000000' 00088         .ADDRESS START_TIME_DESC                                                        ;
00000002        00000008  0008C         .LONG   8, 2                                                                    ;
                00000000' 00094         .ADDRESS STATUS_DESC                                                            ;
00000001        00000004  00098         .LONG   4, 1                                                                    ;
                00000000' 000A0         .ADDRESS TERMINAL_DESC                                                          ;
00000001        00000008  000A4         .LONG   8, 1                                                                    ;
                00000000' 000AC         .ADDRESS TYPE_DESC                                                              ;
00000001        00000008  000B0         .LONG   8, 1                                                                    ;
                00000000' 000B8         .ADDRESS USER_DESC                                                              ;
00000002        0000000C  000BC         .LONG   12, 2                                                                   ;
                00000000' 000C4         .ADDRESS ADDRESS_DESC                                                           ;
00000002        00000004  000C8         .LONG   4, 2                                                                    ;
                00000000' 000D0         .ADDRESS BUFFERED_IO_DESC                                                       ;
00000002        00000004  000D4         .LONG   4, 2                                                                    ;
                00000000' 000DC         .ADDRESS DIRECT_IO_DESC                                                         ;
00000002        00000004  000E0         .LONG   4, 2                                                                    ;
                00000000' 000E8         .ADDRESS CPU_TIME_DESC                                                          ;
00000002        00000004  000EC         .LONG   4, 2                                                                    ;
                00000000' 000F4         .ADDRESS PAGE_FAULTS_DESC                                                       ;
00000002        00000004  000F8         .LONG   4, 2                                                                    ;
                00000000' 00100         .ADDRESS PAGE_READS_DESC                                                        ;
00000002        00000004  00104         .LONG   4, 2                                                                    ;
                00000000' 0010C         .ADDRESS PAGE_FILE_DESC                                                         ;
00000002        00000004  00110         .LONG   4, 2                                                                    ;
                00000000' 00118         .ADDRESS WORKING_SET_DESC                                                       ;
00000002        00000004  0011C         .LONG   4, 2                                                                    ;
                00000000' 00124         .ADDRESS EXECUTION_DESC                                                         ;
00000002        00000004  00128         .LONG   4, 2                                                                    ;
                00000000' 00130         .ADDRESS ELAPSED_DESC                                                           ;
00000002        00000008  00134         .LONG   8, 2                                                                    ;
                00000000' 0013C         .ADDRESS PRIORITY_DESC                                                          ;
00000002        00000001  00140         .LONG   1, 2                                                                    ;
                00000000' 00148         .ADDRESS VOLUMES_DESC                                                           ;
00000002        00000004  0014C         .LONG   4, 2                                                                    ;
                00000000' 00154         .ADDRESS SYM_PAGE_DESC                                                          ;
00000002        00000004  00158         .LONG   4, 2                                                                    ;
                00000000' 00160         .ADDRESS SYM_GET_DESC                                                           ;
00000002        00000004  00164         .LONG   4, 2                                                                    ;
                00000000' 0016C         .ADDRESS SYM_QIO_DESC                                                           ;
00000002        00000004  00170         .LONG   4, 2                                                                    ;
                00000000' 00178         .ADDRESS UIC_BINARY_DESC                                                        ;
                00000004  0017C         .LONG   4                                                                       ;
```

```
                                        .PSECT  CODE,NOWRT,2

                                OFFC 00000 PARSE_KEYS:
                                        .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11            ; 3510
                    5B 00000000G   00   9E 00002       MOVAB   QUALIFIERS, R11                 ;
                    5A 00000000G   00   9E 00009       MOVAB   LIB$LOOKUP_KEY, R10             ;
                    59 00000000G   00   9E 00010       MOVAB   CLI$GET_VALUE, R9               ;
                    58       FF39  CF   9E 00017       MOVAB   P.AOZ, R8                       ;
                    57 00000000G   00   9E 0001C       MOVAB   STR$APPEND, R7                  ;
                    56 00000000G   00   9E 00023       MOVAB   STR$COMPARE, R6                 ;
                    55       0000' CF   9E 0002A       MOVAB   DESC, R5                        ;
                    54 00000000'   EF   9E 0002F       MOVAB   BUCKET_SIZE, R4                 ;
                    5E             0C   C2 00036       SUBL2   #12, SP                         ;
                           00A8    C4   B4 00039       CLRW    SORT_KEY_COUNT                  ; 3727
                                   53   D4 0003D       CLRL    I                               ; 3728
                                   55   DD 0003F 1$:    PUSHL   R5                              ; 3732
                                   58   DD 00041       PUSHL   R8                              ;
                    69             02   FB 00043       CALLS   #2, CLI$GET_VALUE               ;
                    75             50   E9 00046       BLBC    R0, 4$                          ;
                                   52   D4 00049       CLRL    KEY_ORDER                       ; 3735
                                   55   DD 0004B       PUSHL   R5                              ; 3736
00000000G           00             01   FB 0004D       CALLS   #1, STRIP_NEGATOR               ;
                    03             50   E8 00054       BLBS    R0, 2$                          ;
                    52             01   D0 00057       MOVL    #1, KEY_ORDER                   ; 3737
                              04   AE   9F 0005A 2$:    PUSHAB  INDEX                           ; 3739
                              08   A5   9F 0005D       PUSHAB  SORT_KEYWORD                    ;
                                   55   DD 00060       PUSHL   R5                              ;
                    6A             03   FB 00062       CALLS   #3, LIB$LOOKUP_KEY              ;
                    03             50   E8 00065       BLBS    STATUS, 3$                      ;
                                 016C   31   00068       BRW     14$                             ;
                    50         00A8    C4   3C 0006B 3$:    MOVZWL  SORT_KEY_COUNT, R0          ; 3751
              51          04   AE       0C   C5 00070       MULL3   #12, INDEX, R1              ;
                         00AC C440      7F   00075       PUSHAQ  SORT_TABLE[R0]                  ;
                         0000'CF41      9F   0007A       PUSHAB  KEY_TABLE[R1]                   ;
                    9E             9E   B0 0007F       MOVW    @(SP)+, @(SP)+                  ;
                         00AE C440      7F   00082       PUSHAQ  SORT_TABLE+2[R0]                ; 3752
                    9E             52   B0 00087       MOVW    KEY_ORDER, @(SP)+               ;
                         00B0 C440      7F   0008A       PUSHAQ  SORT_TABLE+4[R0]                ; 3753
              9E       FE50   C4       01   A1 0008F       ADDW3   #1, SORT_KEY_SIZE, @(SP)+       ;
                         00B2 C440      7F   00095       PUSHAQ  SORT_TABLE+6[R0]                ; 3754
                         0000'CF41      9F   0009A       PUSHAB  KEY_TABLE+8[R1]                 ;
                    9E             9E   B0 0009F       MOVW    @(SP)+, @(SP)+                  ;
                   0104 C440         04   AE 000A2       MOVB    INDEX, SORT_INDEX_TABLE[R0]     ; 3755
                         0000'CF41      9F   000A9       PUSHAB  KEY_TABLE+8[R1]                 ; 3756
                    50             9E   3C 000AE       MOVZWL  @(SP)+, R0                      ;
                   FE50    C4       50   C0 000B1       ADDL2   R0, SORT_KEY_SIZE               ;
                         00A8    C4   B6 000B6       INCW    SORT_KEY_COUNT                  ; 3757
              81         53       0A   F3 000BA       AOBLEQ  #10, I, 5$                      ; 3728
                                   53   D4 000BE 4$:    CLRL    I                               ; 3777
                                   55   DD 000C0 5$:    PUSHL   R5                              ; 3778
                              10   A8   9F 000C2       PUSHAB  P.APB                           ;
                    69             02   FB 000C5       CALLS   #2, CLI$GET_VALUE               ;
                    03             50   E8 000C8       BLBS    R0, 6$                          ;
                                 00C9   31   000CB       BRW     11$                             ;
                              1C   A8   9F 000CE 6$:    PUSHAB  P.APD                           ; 3780
```

```
                                 55  DD 000D1          PUSHL   R5                                                          ;
                              66 02  FB 000D3          CALLS   #2, STR$COMPARE                                             ;
                                 50  D5 000D6          TSTL    R0                                                          ;
                                 1B  12 000D8          BNEQ    7$                                                          ;
                        16    03 AB  03  E0 000DA          BBS     #3, QUALIFIERS+3, 7$                                    ; 3781
                              03 AB  08  88 000DF          BISB2   #8, QUALIFIERS+3                                        ; 3784
                                 01  DD 000E3          PUSHL   #1                                                          ; 3785
                           2C    A8  9F 000E5          PUSHAB  P.APF                                                       ;
                                 1B  DD 000E8          PUSHL   #27                                                         ;
                  00000000G    00  03  FB 000EA          CALLS   #3, ADD_SYMBOL                                          ;
                               01      50  E8 000F1          BLBS    STATUS, 7$                                              ;
                                       04  000F4          RET                                                             ;
                           38  A8  9F 000F5  7$:      PUSHAB  P.APH                                                       ; 3788
                                 55  DD 000F8          PUSHL   R5                                                          ;
                              66 02  FB 000FA          CALLS   #2, STR$COMPARE                                             ;
                                 50  D5 000FD          TSTL    R0                                                          ;
                                 05  12 000FF          BNEQ    8$                                                          ;
                        0110     C4  01  D0 00101          MOVL    #1, SUMMARY_UIC                                         ; 3790
                           44  A8  9F 00106  8$:      PUSHAB  P.APJ                                                       ; 3792
                                 55  DD 00109          PUSHL   R5                                                          ;
                              66 02  FB 0010B          CALLS   #2, STR$COMPARE                                             ;
                                 50  D5 0010E          TSTL    R0                                                          ;
                                 3D  13 00110          BEQL    9$                                                          ;
                           54  A8  9F 00112          PUSHAB  P.APL                                                       ; 3793
                                 55  DD 00115          PUSHL   R5                                                          ;
                              66 02  FB 00117          CALLS   #2, STR$COMPARE                                             ;
                                 50  D5 0011A          TSTL    R0                                                          ;
                                 31  13 0011C          BEQL    9$                                                          ;
                           60  A8  9F 0011E          PUSHAB  P.APN                                                       ; 3794
                                 55  DD 00121          PUSHL   R5                                                          ;
                              66 02  FB 00123          CALLS   #2, STR$COMPARE                                             ;
                                 50  D5 00126          TSTL    R0                                                          ;
                                 25  13 00128          BEQL    9$                                                          ;
                           70  A8  9F 0012A          PUSHAB  P.APP                                                       ; 3795
                                 55  DD 0012D          PUSHL   R5                                                          ;
                              66 02  FB 0012F          CALLS   #2, STR$COMPARE                                             ;
                                 50  D5 00132          TSTL    R0                                                          ;
                                 19  13 00134          BEQL    9$                                                          ;
                           7C  A8  9F 00136          PUSHAB  P.APR                                                       ; 3796
                                 55  DD 00139          PUSHL   R5                                                          ;
                              66 02  FB 0013B          CALLS   #2, STR$COMPARE                                             ;
                                 50  D5 0013E          TSTL    R0                                                          ;
                                 0D  13 00140          BEQL    9$                                                          ;
                        0088  C8  9F 00142          PUSHAB  P.APT                                                       ; 3797
                                 55  DD 00146          PUSHL   R5                                                          ;
                              66 02  FB 00148          CALLS   #2, STR$COMPARE                                             ;
                                 50  D5 0014B          TSTL    R0                                                          ;
                                 05  12 0014D          BNEQ    10$                                                         ;
                03 AB    80  8F 88 0014F  9$:      BISB2   #128, QUALIFIERS+3                                          ; 3800
                           08  AE 9F 00154  10$:     PUSHAB  RESULT                                                      ; 3803
                        010C  C5 9F 00157          PUSHAB  SUMMARY_KEYWORD                                             ;
                                 55  DD 0015B          PUSHL   R5                                                          ;
                              6A 03  FB 0015D          CALLS   #3, LIB$LOOKUP_KEY                                          ;
                              74 50  E9 00160          BLBC    STATUS, 14$                                                 ;
                              52 08  AE D0 00163          MOVL    RESULT, R2                                              ; 3804
                0C A443          62  D0 00167          MOVL    (R2), SUM_KEY_VALUE[I]                                  ;
                           04  A2  DD 0016C          PUSHL   4(R2)                                                       ; 3805
```

```
                        04   A4  9F 0016F          PUSHAB  SUM_KEY_FAO                                                    ;
                     67      02  FB 00172          CALLS   #2, STR$APPEND                                                 ;
                     3F      50  E9 00175          BLBC    STATUS, 12$                                                    ;
                           08    A2  DD 00178          PUSHL   8(R2)                                                      ; 3806
                        FF64     C4  9F 0017B          PUSHAB  REPORT_HDR1_FAO                                            ;
                     67      02  FB 0017F          CALLS   #2, STR$APPEND                                                 ;
                     32      50  E9 00182          BLBC    STATUS, 12$                                                    ;
                           08    A2  DD 00185          PUSHL   8(R2)                                                      ; 3807
                        FF74     C4  9F 00188          PUSHAB  REPORT_HDR3_FAO                                            ;
                     67      02  FB 0018C          CALLS   #2, STR$APPEND                                                 ;
                     79      50  E9 0018F          BLBC    STATUS, 16$                                                    ;
                             53  D6 00192          INCL    I                                                              ; 3778
                          FF29   31 00194          BRW     5$                                                             ;
                     6E      FF64     C4  3C 00197 11$:    MOVZWL  REPORT_HDR1_FAO, (SP)                                  ; 3815
                             5E  DD 0019C          PUSHL   SP                                                             ;
                        FF6C     C4  9F 0019E          PUSHAB  REPORT_HDR2_FAO                                            ;
00000000G            00      02  FB 001A2          CALLS   #2, STR$DUP[_CHAR                                              ;
                     79      50  E9 001A9          BLBC    STATUS, 17$                                                    ;
                        0094     C8  9F 001AC          PUSHAB  P.APV                                                      ; 3830
                        FF7C     C4  9F 001B0          PUSHAB  REPORT_DET_FAO                                             ;
                     67      02  FB 001B4          CALLS   #2, STR$APPEND                                                 ;
                     7F      50  E9 001B7 12$:     BLBC    STATUS, 20$                                                    ;
                             53  D4 001BA          CLRL    I                                                              ; 3832
                             55  DD 001BC 13$:     PUSHL   R5                                                             ; 3833
                        00A4     C8  9F 001BE          PUSHAB  P.APX                                                      ;
                     69      02  FB 001C2          CALLS   #2, CLI$GET_VALUE                                              ;
                     67      50  E9 001C5          BLBC    R0, 18$                                                        ;
                           08    AE  9F 001C8          PUSHAB  RESULT                                                     ; 3835
                        0190     C5  9F 001CB          PUSHAB  REPORT_KEYWORD                                             ;
                             55  DD 001CF          PUSHL   R5                                                             ;
                     6A      03  FB 001D1          CALLS   #3, LIB$LOOKUP_KEY                                             ;
                     19      50  E8 001D4          BLBS    STATUS, 15$                                                    ;
                             55  DD 001D7 14$:     PUSHL   R5                                                             ;
                             01  DD 001D9          PUSHL   #1                                                             ;
                      009F10FC   8F  DD 001DB          PUSHL   #10424572                                                  ;
00000000G            00      03  FB 001E1          CALLS   #3, LIB$SIGNAL                                                 ;
                     50 009F10FC   8F  D0 001E8          MOVL    #10424572, R0                                          ;
                             04  001EF          RET                                                                    ;
                     52      08    AE  D0 001F0 15$:     MOVL    RESULT, R2                                             ; 3836
                  84 A443            52  D0 001F4          MOVL    R2, REPORT_VALUE[I]                                    ;
                     50      08    A2  D0 001F9          MOVL    8(R2), R0                                              ; 3837
                     74            9440  DE 001FD          MOVAL   @BUCKET_SIZE[R0], BUCKET_SIZE                          ;
                           0C    A2  DD 00201          PUSHL   12(R2)                                                     ; 3838
                        FF7C     C4  9F 00204          PUSHAB  REPORT_DET_FAO                                             ;
                     67      02  FB 00208          CALLS   #2, STR$APPEND                                                 ;
                     2B      50  E9 0020B 16$:     BLBC    STATUS, 20$                                                    ;
                           10    A2  DD 0020E          PUSHL   16(R2)                                                     ; 3839
                        FF64     C4  9F 00211          PUSHAB  REPORT_HDR1_FAO                                            ;
                     67      02  FB 00215          CALLS   #2, STR$APPEND                                                 ;
                     1E      50  E9 00218          BLBC    STATUS, 20$                                                    ;
                           14    A2  DD 0021B          PUSHL   20(R2)                                                     ; 3840
                        FF6C     C4  9F 0021E          PUSHAB  REPORT_HDR2_FAO                                            ;
                     67      02  FB 00222          CALLS   #2, STR$APPEND                                                 ;
                     11      50  E9 00225 17$:     BLBC    STATUS, 20$                                                    ;
                           FC    A4  D6 00228          INCL    REPORT_ITEMS                                               ; 3841
                             53  D6 0022B          INCL    I                                                              ; 3833
                             8D  11 0022D          BRB     13$                                                            ;
```

```
                        64  D5 0022F 18$:   TSTL    BUCKET_SIZE                             ; 3849
                        03  13 00231       BEQL    19$                                     ;
                        64  C0 00233       ADDL2   #4, BUCKET_SIZE                         ;
                        50  01  D0 00236 19$:   MOVL    #1, R0                              ; 3851
                            04 00239 20$:   RET                                             ; 3853

; Routine Size:  570 bytes,    Routine Base:  CODE + 2664
```

```
; 3032          3854  1 END
; 3033          3855  0 ELUDOM


                                                        .EXTRN  LIB$SIGNAL

;                               PSECT SUMMARY
;
;       Name                    Bytes                   Attributes
;
;  DATA                          2280  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  _LIB$KEY0$                       0  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(1)
;  _LIB$STATE$                     10  NOVEC,NOWRT,  RD ,  EXE,  SHR,  LCL,  REL,  CON,  PIC,ALIGN(1)
;  CODE                         10398  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $OWN$                          788  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;  $GLOBAL$                       384  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)


;                           Library Statistics
;                                        -------- Symbols --------      Pages       Processing
;       File                             Total    Loaded   Percent      Mapped      Time
;
;  _$255$DUA28:[SYSLIB]STARLET.L32;1       9776       168         1         581       00:01.0
;  _$255$DUA28:[SYSLIB]TPAMAC.L32;1          42        19        45          14       00:00.2


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

; Size:          6207 code + 7653 data bytes
; Run Time:        02:44.1
; Elapsed Time:    04:10.8
; Lines/CPU Min:     1409
; Lexemes/CPU-Min: 29782
; Memory Used:  767 pages
; Compilation Complete
```

ACC

ACC
MAP

FORMAT
LIS

ACCDEF
REQ

ACCMSG
LIS

ACC
LIS

FILES
LIS