IBM

VisualAge Pacbase 2.5

VA PAC 2.5 : IBM IMS/VS
OPERATIONS MANUAL VOLUME III : USER'S GUIDE

DEPIM003251A

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1. GENERAL INTRODUCTION TO THE BATCH PROCEDURES

1.1. PRESENTATION OF THE BATCH PROCEDURES USER'S GUIDE

INTRODUCTION TO THE BATCH PROCEDURE USER'S GUIDE

This manual is intended to present all the batch procedures likely to be required by the 'common' end-user.

These procedures relate more particularly to the following areas:
- Personalized extraction and automated documentation

- Quality analysis and control

- Integrity check techniques

- Pactables

- Pac/Impact

- VisualAge Smalltalk/Java - VisualAge Pacbase Interface

as well as all standard update and extraction procedures, printouts, generations, and so on.

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1.2. OVERVIEW OF THE PROCEDURES

PRESENTATION OF THE PROCEDURES

Batch processes are grouped into procedures. The objective of the following
chapters is to present each of the procedures that are likely to be used, and to
specify their execution conditions.

```
The following elements are included for each procedure:

  . A general introduction including:

       - introduction,

       - execution conditions,

       - abends.

  . The description of the user input, processes and results
    obtained, as well as possible recommendation for use.

  . The description of steps.
```

A user must have authorization to a procedure on a given database.

The user, for example, must have autorization 4 to manage the Database (MLIB,
REST, etc.), and autorization 2 to extract elements from it (PACX, etc.).

Each user has:

  - a general level of rights to the batch procedures,

  - a rights level per database (for the platforms allowing management of several
    user databases for a same system).

For more details, refer to the 'Batch Procedures: Administrator's Guide'.

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1.3. USER IDENTIFICATION (*)

<u>USER IDENTIFICATION '*' LINE</u>

Batch procedures which access the Database require a user identification ('*'-type) line at the beginning of user input to identify the user as well as the library and session in which he/she wishes to work. (There may be several '*'-type lines if the procedure applies to several libraries; see the description of each procedure's user input.)

Some information entered on this screen is the same as that entered on the Sign-On screen. It is thus possible to check if the user's commands are compatible with his/her authorizations.

Before running any batch procedure, the user must make sure he/she has the adequate authorization level. Authorization levels are defined by the Database administrator, using the PARM User Parameter Management procedure.

```
-----------------------------------------------------------
! POS.! LEN.! VALUE     ! MEANING                          !
-----------------------------------------------------------
!  2  ! 1  ! '*'       ! Line code                        !
!  3  ! 8  ! uuuuuuuu  ! User code                        !
! 11  ! 8  ! pppppppp  ! User password                    !
! 19  ! 3  ! bbb       ! Library code                     !
! 22  ! 4  ! ssss      ! Session number                   !
! 26  ! 1  !           ! Version of the session:          !
!     !    ! 'H'       ! Frozen session                   !
!     !    ! 'T'       ! Test session                     !
! 27  ! 1  !           ! With the UPDT procedure, in case !
!     !    !           ! of multiple deletion:            !
!     !    ! 'N'       ! Print all transactions including !
!     !    !           ! implicit transactions (Default)  !
!     !    ! 'O'       ! Print entered transactions and   !
!     !    !           ! erroneous transactions           !
!     !    ! 'E'       ! Print erroneous transactions only!
-----------------------------------------------------------
```

```
-----------------------------------------------------------
! POS.! LEN.! VALUE   ! MEANING                            !
-----------------------------------------------------------
! 28  ! 1   !         ! Language code (F or A)             !
! 29  ! 11  !         ! DO NOT USE                         !
!     !     !         ! The two following fields are to be!
!     !     !         ! entered for all procedures genera-!
!     !     !         ! ting update transactions which    !
!     !     !         ! will modify a library or session  !
!     !     !         ! under DSMS control.                !
!     !     !         ! You may also enter them on the    !
!     !     !         ! '*' line of UPDT.                  !
! 40  ! 3   !         ! PRODUCT CODE (on 3 characters)     !
! 43  ! 6   !         ! CHANGE NUMBER (on 6 characters,    !
!     !     !         ! the non-significant zeros must be  !
!     !     !         ! entered).                          !
!     !     !         ! These two codes will be displayed  !
!     !     !         ! in the Journal after the execution !
!     !     !         ! of UPDT.                           !
!     !     !         !                                    !
! 49  ! 1   !         ! TRANSFER OF OCCURRENCE LOCK:       !
!     !     ! 'Blank' ! Replacement of the code of the     !
!     !     !         ! user who locked the entity with    !
!     !     !         ! that found on the '*' line.        !
!     !     !    1    ! The new entities created from the  !
!     !     !         ! extracted entities are not locked  !
!     !     !         ! after UPDT                         !
!     !     !    2    ! The code of the user who locked    !
!     !     !         ! the entities is kept               !
!     !     !         !                                    !
! 50  ! 1   !         ! TRANSFER OF THE PASSWORD on the    !
!     !     !         ! extraction prodedures, in the '*'- !
!     !     !         ! line at the top of the generated   !
!     !     !         ! output transactions:               !
!     !     ! 'Blank' ! Password is not transferred in the !
!     !     !         ! output file.                       !
!     !     !    1    ! Password is transferred.           !
!     !     !         ! NOTE: For EXTR, the '*' line is    !
!     !     !         ! transferred in the output file on- !
!     !     !         ! ly if you input 'C' in position 1. !
-----------------------------------------------------------
```

Some of the information entered on a '*' line is entered on the Sign-on screen.
For more details, refer to Chapter 'USING THE SYSTEM ON-LINE',
Subchapter 'Conversation Initialization/ Sign-on', in the VisualAge Pacbase
Interface User's Guide.

2. STANDARD PROCEDURES

2.1. UPDT: DATABASE UPDATE

2.1.1. UPDT: INTRODUCTION

<u>UPDT: INTRODUCTION</u>

The Database Update procedure (UPDT) executes a Batch update of the database. It allows access to ALL libraries which make up the database according to the different user authorizations.

With the DSMS facility (DSM), this procedure reads the VisualAge Pacbase Entity file (DC).

<u>EXECUTION CONDITION</u>

This procedure updates the database. The AR, AN and AJ files must be closed to on-line use, except for those hardware environments that support concurrent on-line and batch access.

<u>IMPORTANT NOTES</u>

1. For very large updates (in terms of number of transactions), it may be necessary to

  . Back up, archive and restore the database to increase file space or to physically reorganize the files in order to make sure that all needed space is made available.

  . Temporarily suppress Journalization

        (See Chapter DATABASE MANAGEMENT, Subchapter 'Database Restoration', in the Administrator's Guide.)

2. This procedure updates the current session number in two cases:

  . When it is the first connection of the day to the Database, and

  . When it contains a Database Freeze request.

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ABNORMAL EXECUTIONS

Refer to the Administrator's Guide, Chapter 'OVERVIEW', Subchapter 'ABNORMAL ENDINGS'.

There are two types of abnormal executions:

 1) Abnormal execution occurring before the execution of the PACA15 program, or during the opening of this program's files. The procedure can be restarted after the problem is corrected.

 2) Abnormal execution occurring during execution of the PACA15 program. The database is left in an inconsistent state. If the problem appeared during input-output on a database file, the printed error message and the file status will dictate the solution.

In either case, a restart can only take place after a restore using the Back-up file including the transactions archived subsequent to this back-up (REST procedure).

2.1.2. UPDT: UPDATE RULES - RESULTS

UPDT: UPDATE RULES - RESULTS

Refer to the batch forms and to the description of the input corresponding to
each entity.

The *-type line for user identification contains the user code, password and the
corresponding library. It can also contain indications on the language used and
the conversion.

If the update transactions correspond to an extraction, the * line generated by the
extraction procedure has a language code in column 28 in order to effectively
interpret the deletion action code (A in French, D in English).

A 'N' in column 67 suppresses the Lowercase-Uppercase conversion.

```
---------------------------------------------------------
! Pos. ! Length ! Value ! Meaning                        !
!-------------------------------------------------------!
!  28  !     1 !        ! Language code, useful when tran- !
!      !       !        ! sactions are not in the same lan-!
!      !       !        ! guage as the database.          !
!      !       ! 'A'    ! English                         !
!      !       ! 'F'    ! French                          !
!  67  !     1 ! 'N'    ! Uppercase/lowercase conversion   !
!      !       !        ! deactivation.                    !
---------------------------------------------------------
```

UPDATE RULES

Each set of transactions for a library must be preceded by a *-type line.

Update transactions are not sorted.

DATABASE FREEZE:

The 'X1HIST' specific request allows to freeze a session.

With the 'X1HIST' card, a comment can be inserted between columns 8 and 67.
Note that only the first 54 characters of this label will be displayed and editable
in the database. No other update should precede this transaction.

```
---------------------------------------------------------
! Pos. ! Length !  Value  ! Meaning                     !
!-------------------------------------------------------!
!  2   !      6 !'X1HIST' ! Line code for a session freeze !
!  8   !     60 !         ! Comment visible on LH screen  !
---------------------------------------------------------
```


For more details on the batch updating, refer to the corresponding chapter in the
VisualAge Pacbase Interface User's Guide.

PRINTED OUTPUT

The two printed outputs generated by this procedure are:

   . A global report on the update,

   . A list of the rejected update transactions.

They are printed by the user, and the transaction groups are separated by a flag.

This procedure does not provide any generation or printing of data contained in the database. These are obtained via the Generation-Printing (GPRT) procedure.

RESULT

Output of the UPDT procedure is:

   . A database ready to be used on-line or in batch mode.

   . A Journal file of the transactions that have modified the database (as long as there was no inhibit request during the last restoration).

CHECKPOINT REQUEST

This facility allows you to request synchronization points during a batch update (UPDT procedure) or during a database restoration (REST or RESY procedures).
In case of ABEND, a ROLLBACK is performed, thus securing a coherent database.

Therefore, it is always possible, after an abnormal ending of the UPDT procedure, to restart the procedure without executing a restoration. However, it is recommended to delete transactions already taken into account.

Checkpoints are performed at a frequency rate defined by the user.

EXAMPLE: A '0100' frequency rate means that a checkpoint is performed every 100 transactions.

```
INPUT OF THE CHECKPOINT FREQUENCY RATE FOR A BATCH UPDATE

The checkpoint frequency rate is entered on a single 'Y'-
line located BEFORE the first '*'-line. The 'Y'-line is for-
matted as follows:

+---------+--------+-------+-----------------------------+
!POSITION ! LENGTH ! VALUE ! MEANING                     !
+---------+--------+-------+-----------------------------+
!   2     !   1    !   Y   ! LINE CODE                   !
!   4     !   4    ! nnnn  ! CHECKPOINT FREQUENCY RATE   !
!         !        !       ! (DEFAULT VALUE=0000)        !
+---------+--------+-------+-----------------------------+

For the REST and RESY procedures, the checkpoint frequency
is entered in the User Input.
```

2.1.3. UPDT: DESCRIPTION OF STEPS

<u>UPDT: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>DATABASE CONSISTENCY CHECK: PTUBAS</u>

.Permanent input files:
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
 -Error message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

.Output report
 -Validity report (Length=079)
  PAC7DS

.Return code(s):
This utility sends a return code 4 and causes an ABEND
in case of database invalidity.

<u>TRANSACTION FORMATTING: PACA05</u>

.Permanent input files:
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
 -Index File
  PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
 -Error message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

.Input transaction file:
 -Update transactions
  PAC7MB: DSN=&&UPDTMB

.Output files:
 -Formatted transactions
  PAC7MV: DSN=&&PAC7MV Length=167
  (must have capacity to contain all transactions in their
  complete state, plus the elementary delete transactions
  generated by the multiple delete transactions)
 -Work file
  PAC7MW

DATABASE UPDATE: PACA15

.Permanent update files:
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -Journal file
  PAC7AJ: DSN=&INDEX..&ROOT.&FILE.AJ

.Permanent input files:
 -Error message file
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -DSMS file of VA Pac elements
  PAC7D3: DSN=&INDEXD..&ROOTD.&FILED.D3
  PAC7DC: DSN=&INDEXD..&ROOTD.&FILED.DC
  (DSM variant only)

.Input transaction file:
 -Update transactions
  PAC7MV: DSN=&&PAC7MV

.Output report(s):
 -Update report
  PAC7IE (Length=132)
 -Erroneous-transaction list
  PAC7IF (Length=132)
 (The list of transactions belonging to a user is preceded
 by a banner specifying the user code.)

.Return code(s):
 -0: OK, no error
 -2: Warning
 -4: Critical error

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2.1.4. UPDT: EXECUTION JCL

```
//*************************************************************************
//*  VisualAge Pacbase   : BATCH UPDATING
//*************************************************************************
//$RADP.UPDT PROC FILE=$FILE,        PHYSICAL-DATABASE NUMBER
//          ROOT=$ROOT,              ROOT OF THE VA PAC SYSTEM
//          INDEX='$INDEX',          VSAM FILE INDEX
===SEQ FOR DSM
//          ROOTD=$ROOTD,            ROOT OF THE DSMS SYSTEM
//          FILED=$FILED,            DSMS PHYSICAL-DATABASE NUMBER
//          INDEXD='$INDEXD',        DSMS-SYSTEM VSAM FILE INDEX
===SEQ
//*:       VSAMCAT='$CATU',          VSAM USER CATALOG
//*:       SYSTCAT='$CATV',          VSAM SYSTEM CATALOG
//         OUT='$OUT',               OUTPUT CLASS
//         OUTL='$OUT',              OUTPUT CLASS
//         INDEXP='$INDEXP',         INDEX OF NON-VSAM FILES
//         SPAMB='(TRK,(100,10),RLSE)',   SPACE OF TRANSACTIONS
//         SPALG='(CYL,(5,2),RLSE)',      IMS LOG SPACE FOR ROLLBACK
//         STEPLIB='$MODB',          LIBRARY OF BATCH LOAD-MODULES
//         PSBLIB='$PSBLIB',         LIBRARY OF PSB'S
//         DBDLIB='$DBDLIB',         LIBRARY OF DBD'S
//         RESLIB='$RESLIB',         IMS RESLIB
//         PROCLIB='$PRCLIB',        IMS PROCLIB
//         UWK=$UWK,                 WORK UNIT
//         BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//         CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM,BKO=Y
//*-------------------------------------------------------------------*
//*
//COPY    EXEC PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//PAC7MB   DD DSN=&&UPDTMB,DISP=(,PASS),UNIT=&UWK,
//             SPACE=&SPAMB,
//             DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
//CARTE    DD DDNAME=SYSIN
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
===SEQ FOR DSM
//DDD3     DD DSN=&INDEXD..&ROOTD.&FILED.D3,DISP=SHR
//DDDC     DD DSN=&INDEXD..&ROOTD.&FILED.DC,DISP=SHR
===SEQ
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
===SEQ FOR DSM
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFD3),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFDC),DISP=SHR
===SEQ
//*
//PTUBAS  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PTUBAS,PTUBAS$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
```

```
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7DS   DD SYSOUT=&OUT
//*
//PACA05  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PACA05,PACA05$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM),
//         COND=(00,NE,PTUBAS)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7MB   DD DSN=&&UPDTMB,DISP=(OLD,DELETE)
//PAC7MV   DD DSN=&&PAC7MV,DISP=(,PASS),UNIT=&UWK,
//            SPACE=&SPAMB,
//            DCB=(RECFM=FB,LRECL=167,BLKSIZE=6179)
//PAC7MW   DD DISP=(,DELETE),UNIT=&UWK,
//            SPACE=&SPAMB,
//            DCB=(RECFM=FB,LRECL=167,BLKSIZE=6179)
//*
//PACA15  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PACA15,PACA15$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM,,&BKO),
//         COND=(00,NE,PTUBAS)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DSN=&&IMSLOG,DISP=(,PASS),UNIT=&UWK,
//            SPACE=&SPALG,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAMM),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AJ$SUF DD DSN=&INDEX..&ROOT.&FILE.AJ,DISP=SHR
```

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STANDARD PROCEDURES   **2**
UPDT: DATABASE UPDATE   **1**
UPDT: EXECUTION JCL   **4**

```
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
===SEQ FOR DSM
//PAC7D3$SUFD DD DSN=&INDEXD..&ROOTD.&FILED.D3,DISP=SHR
//PAC7DC$SUFD DD DSN=&INDEXD..&ROOTD.&FILED.DC,DISP=SHR
===SEQ
//PAC7IE   DD SYSOUT=&OUTL
//PAC7IF   DD SYSOUT=&OUTL
//PAC7MV   DD DSN=&&PAC7MV,DISP=(OLD,PASS)
//*
```

2.2. UPDP: DATABASE UPDATE FROM PAF TABLES

2.2.1. UPDP: INTRODUCTION

UPDP: INTRODUCTION

The UPDP procedure performs an update of the Database from a sequential file
reflecting PAF tables.

The operating principle of UPDP is very similar to that of UPDT, with the
exception that input transactions have a different format.

EXECUTION CONDITIONS

Refer to the 'EXECUTION CONDITIONS' section of the UPDT procedure.

ABENDS

Refer to the 'ABENDS' section of the UPDT procedure.

2.2.2. UPDP: INPUT - PROCESSING - RESULTS

                          UPDP: INPUT-PROCESSING-RESULTS

    USER INPUT

    The sequential file of input transactions is produced by a PAF extractor
    program. Its records mirror the PAF tables (described in the PAF TABLES
    Manual).

```
    ----------------------------------------------------------
    ! Pos. ! Length ! Meaning                                 !
    !----------------------------------------------------------!
    !   1  !      1 ! Transaction code (C, M, X, D or A, B)   !
    !   2  !     10 ! PAF table code                          !
    !  12  !    299 ! PAF table contents (described in the    !
    !      !        ! PAF tables Manual).                     !
    ----------------------------------------------------------
```


    UPDATE RULES

    Update transactions are not sorted.

    Each set of transactions impacting a library or session must be preceded by an
    ASSIGN table code line.

```
    ----------------------------------------------------------
    ! Pos. ! Length ! Value    ! Meaning                      !
    !----------------------------------------------------------!
    !   2  !     10 ! 'ASSIGN' ! Table code                   !
    !  12  !      8 ! uuuuuuuu ! User code                    !
    !  20  !      8 ! pppppppp ! Password                     !
    !  28  !      3 ! bbb      ! Library code                 !
    !  31  !      4 ! ssss     ! Session number               !
    !      !        ! '    '   ! current session              !
    !  35  !      1 ! 'T'      ! Session status: Test session !
    !  36  !      3 ! nnn      ! No line numbering            !
    !  39  !      1 ! 'A' or   ! Language code, useful if the !
    !      !        ! 'F'      ! transactions are not in the  !
    !      !        !          ! same language as the Database !
    !      !        !          ! IN CASE OF A DSMS CONTROL OF  !
    !      !        !          ! THE DATABASE :               !
    !  40  !      3 ! ppp      ! Product code                 !
    !  43  !      6 ! nnnnnn   ! Product number               !
    +----------------------------------------------------------+
```

When the update is performed while the TP is active (on platforms that support this functionality), the input transaction flow must be preceded by a CHECKP table code line.

```
---------------------------------------------------------
! Pos. ! Length ! Value    ! Meaning                      !
!-------------------------------------------------------!
!   2  !     10 ! 'CHECKP' ! Table code                   !
! 12   !      4 ! nnnn     ! Number of transactions proces-!
!      !        !          ! sed between two pauses or    !
!      !        !          ! checkpoints                  !
! 16   !      4 ! 'UPDT'   ! Update procedure             !
!      !        !          !                              !
! 20   !      2 ! nn       ! OS/2, UNIX, WINDOWS NT:       !
!      !        !          ! Pause time, in seconds, bet- !
!      !        !          ! ween two update sets         !
!-------------------------------------------------------!
```

PRINTED OUTPUT

Refer to the description of the UPDT output.

RESULT

Refer to the description of the UPDT result.

2.2.3. UPDP: DESCRIPTION OF STEPS

<u>UPDP: DESCRIPTION OF STEPS</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>DATABASE CONSISTENCY CHECK: PTUBAS</u>

.Permanent input files:
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
 -Error message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

.Output report
 -Validity report (Length=079)
  PAC7DS

.Return code(s):
This utility sends a return code 4 and causes an ABEND
in case of database invalidity.

<u>TRANSACTION FORMATTING: PAF900</u>

.Permanent input files:
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
 -Index File
  PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
 -Error message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

.Input transaction file:
 -Update transactions
  PAC7GY: DSN=&PAFINPUT

.Output files:
 -Formatted transactions
  PAC7MV: DSN=&&PAC7MV Length=167
  (must have capacity to contain all transactions in their
  complete state, plus the elementary delete transactions
  generated by the multiple delete transactions)
 -Work file
  PAC7MW

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DATABASE UPDATE: PACA15

.Permanent update files:
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -Journal file
  PAC7AJ: DSN=&INDEX..&ROOT.&FILE.AJ

.Permanent input files:
 -Error message file
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -DSMS file of VA Pac elements
  PAC7D3: DSN=&INDEXD..&ROOTD.&FILED.D3
  PAC7DC: DSN=&INDEXD..&ROOTD.&FILED.DC
  (DSM variant only)

.Input transaction file:
 -Update transactions
  PAC7MV: DSN=&&PAC7MV

.Output report(s):
 -Update report
  PAC7IE (Length=132)
 -Erroneous-transaction list
  PAC7IF (Length=132)
 (The list of transactions belonging to a user is preceded
 by a banner specifying the user code.)

.Return code(s):
 -0: OK, no error
 -2: Warning
 -4: Critical error

```
                                        PAGE          29
   STANDARD PROCEDURES                                2
   UPDP:  DATABASE UPDATE FROM PAF TABLES             2
   UPDP:  EXECUTION JCL                               4
```

2.2.4. UPDP: EXECUTION JCL

```
//****************************************************************
//*  VisualAge Pacbase   : BATCH UPDATING FROM PAF TABLES
//****************************************************************
//$RADP.UPDP PROC FILE=$FILE,      PHYSICAL-DATABASE NUMBER
//          ROOT=$ROOT,            ROOT OF THE VA PAC SYSTEM
//          INDEX='$INDEX',        VSAM INDEX
===SEQ FOR DSM
//          ROOTD=$ROOTD,          ROOT OF THE DSMS SYSTEM
//          FILED=$FILED,          DSMS PHYSICAL-DATABASE NUMBER
//          INDEXD='$INDEXD',      DSMS SYSTEM VSAM-FILE INDEX
===SEQ
//*:        VSAMCAT='$CATU',       VSAM USER CATALOG
//*:        SYSTCAT='$CATV',       VSAM SYSTEM CATALOG
//          PAFINPUT='NULLFILE',
//          OUT='$OUT',            OUTPUT CLASS
//          OUTL='$OUT',           OUTPUT CLASS
//          INDEXP='$INDEXP',      INDEX OF NON-VSAM FILES
//          SPAMB='(TRK,(100,10),RLSE)',   SPACE OF TRANSACTIONS
//          SPALG='(CYL,(5,2),RLSE)',      IMS LOG SPACE FOR ROLLBACK
//          STEPLIB='$MODB',       LIBRARY OF BATCH LOAD-MODULES
//          PSBLIB='$PSBLIB',      LIBRARY OF PSB'S
//          DBDLIB='$DBDLIB',      LIBRARY OF DBD'S
//          RESLIB='$RESLIB',      IMS RESLIB
//          PROCLIB='$PRCLIB',     IMS PROCLIB
//          UWK=$UWK,              WORK UNIT
//          BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//          CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM,BKO=Y
//*----------------------------------------------------------------*
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
===SEQ FOR DSM
//DDD3     DD DSN=&INDEXD..&ROOTD.&FILED.D3,DISP=SHR
//DDDC     DD DSN=&INDEXD..&ROOTD.&FILED.DC,DISP=SHR
===SEQ
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
===SEQ FOR DSM
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFD3),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFDC),DISP=SHR
===SEQ
//*
//PTUBAS  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//          PARM=(DLI,PTUBAS,PTUBAS$SUG,&BUF,
//          &SPIE&TEST&EXCPVR&RST,&PRLD,
//          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//          DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
```

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```
     //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
     //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     //PAC7DS   DD SYSOUT=&OUT
     //*
     //PAF900  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
     //        PARM=(DLI,PAF900,PACA05$SUG,&BUF,
     //        &SPIE&TEST&EXCPVR&RST,&PRLD,
     //        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM),
     //        COND=(00,NE,PTUBAS)
     //STEPLIB  DD DSN=&RESLIB,DISP=SHR
     //         DD DSN=&STEPLIB,DISP=SHR
     //DFSRESLB DD DSN=&RESLIB,DISP=SHR
     //IMS      DD DSN=&PSBLIB,DISP=SHR
     //         DD DSN=&DBDLIB,DISP=SHR
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
     //*:       DD DSN=&VSAMCAT,DISP=SHR
     //SYSOUT   DD SYSOUT=&OUT
     //SYSOUX   DD SYSOUT=&OUT
     //DDSNAP   DD SYSOUT=&OUT
     //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
     //IEFRDER  DD DUMMY,
     //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
     //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSMON   DD DUMMY
     //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
     //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     //PAC7GY   DD DSN=&PAFINPUT,DISP=SHR
     //PAC7MV   DD DSN=&&PAC7MV,DISP=(,PASS),UNIT=&UWK,
     //            SPACE=&SPAMB,
     //            DCB=(RECFM=FB,LRECL=167,BLKSIZE=6346)
     //PAC7MW   DD DISP=(,DELETE),UNIT=&UWK,
     //            SPACE=&SPAMB,
     //            DCB=(RECFM=FB,LRECL=167,BLKSIZE=6346)
     //*
     //PACA15  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
     //        PARM=(DLI,PACA15,PACA15$SUG,&BUF,
     //        &SPIE&TEST&EXCPVR&RST,&PRLD,
     //        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM,,&BKO),
     //        COND=(00,NE,PTUBAS)
     //STEPLIB  DD DSN=&RESLIB,DISP=SHR
     //         DD DSN=&STEPLIB,DISP=SHR
     //DFSRESLB DD DSN=&RESLIB,DISP=SHR
     //IMS      DD DSN=&PSBLIB,DISP=SHR
     //         DD DSN=&DBDLIB,DISP=SHR
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
     //*:       DD DSN=&VSAMCAT,DISP=SHR
     //SYSOUT   DD SYSOUT=&OUT
     //SYSOUX   DD SYSOUT=&OUT
     //DDSNAP   DD SYSOUT=&OUT
     //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
     //IEFRDER  DD DSN=&&IMSLOG,DISP=(,PASS),UNIT=&UWK,
     //            SPACE=&SPALG,
     //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
     //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSMON   DD DUMMY
     //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAMM),DISP=SHR
     //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AJ$SUF DD DSN=&INDEX..&ROOT.&FILE.AJ,DISP=SHR
     //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     ===SEQ FOR DSM
     //PAC7D3$SUFD DD DSN=&INDEXD..&ROOTD.&FILED.D3,DISP=SHR
     //PAC7DC$SUFD DD DSN=&INDEXD..&ROOTD.&FILED.DC,DISP=SHR
     ===SEQ
```

```
//PAC7IE    DD SYSOUT=&OUTL
//PAC7IF    DD SYSOUT=&OUTL
//PAC7MV    DD DSN=&&PAC7MV,DISP=(OLD,PASS)
//*
```

2.3. GPRT: GENERATION AND PRINTING

2.3.1. GPRT: INTRODUCTION

<u>GPRT: INTRODUCTION</u>

The Generation and Printing procedure, GPRT, has a two-fold purpose:

. To print documentation using data contained in the database, and

. To generate Programs, Screens, Database descriptions, Data Structures, and error messages.

This procedure does not affect the database. Therefore, it may be executed while the files are open to on-line use.

However, if the on-line generation and print requests are to be included, then the Generation-Print Request (AG) file must be closed. (The procedure invalidates the printing requests entered on line, therefore the file must be accessible for update.)

It calls a unique program (PACBE), which is used as a monitor calling the different programs that make up the procedure.
All programs that make up the procedure are thus considered to be sub-programs of this monitor, with which they communicate by means of a communication area and certain return codes.

Since user requests are often diverse, this procedure is broken down into 'sub-chains' whose purpose is to process, in an integrated manner, the preparation of the generation-printing requests for the families they manage. They are identified by a one-position code as follows:

```
- A : Data elements
- B : Database blocks (DBD)
- C : COBOL programs (COB)
- D : Specifications Dictionary
- E : OLSD screens (OSD)
- G : Client/Server Screens (OCS)
- K : Error messages (OCS)
- L : Error messages (OSD)
- M : User manuals
- N : Personalized Documentation Manager (PDM)
- P : Batch programs (BSD)
- R : Production Environment Interface (PEI)
- Q : Relational-SQL Database blocks
- T : Revamping of Dialogs (PAW, Pacbase Web
        Connection)
```

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This code is referenced again in the names given to the programs, files and reports that are generated in this procedure. For programs, this is the fourth character of the code. Examples:

```
- PACA10 : General program.
- PACB30 : Database block extractor.
```

For files or reports, this is the last character of their external name. Examples:

```
- PAC7IA : General printing of command chain.
- PAC7GP : Generated file of batch programs.
```

Following the execution of the two general programs that are common to all (PACA10 and PACA20), the subchains are activated, if appropriate, in the following order:

```
- Production Environment Interface,
- Database Blocks,
- COBOL programs (COB),
- On-line Screens (OLSD),
- Client Screens,
- Server Screens,
- Error Messages and Dialog Windowing,
- Volumes,
- Personalized Documentation Manager,
- Batch programs,
- Specifications Dictionary.
```

Each sub-chain is structured in the same manner:

```
- The 'extraction' programs  (3x),
- The 'preparation' programs (4x),
- The 'generation' programs  (8x),
- The 'print' programs       (90).
```

These codes are found in the last two characters of the program codes of the procedure. Examples:

```
- PACB40 : Database block preparation,
- PACE80 : Screen generator.
```

The fifth character of the file names represents their use in the procedure:
                 - G : Generated code
                 - I : Reports
                 - J : Print requests
                 - K : Preparation for printing
                 - L : Error messages
                 - M : Transactions
                 - S : Skeletons
                 - W : Work

This codification is found one character before last in the procedure files
external name. Examples:
                 - PAC7GL : Generated error messages
                 - PAC7IN : Printing of Personalized Documentation

Files containing the 'generated source code' (ready to be compiled or to be stored
in an Assembler or Source Library) are concatenated into a single physical file
that will be used in the following step.

The Error Message file is updated using the file with a suffix of LG, and is
retrieved into the file with a suffix of GL. The procedure does not include a
name for the two versions of this file. Therefore, they must be specified when
these messages are generated.

(The user error message file of the PAC700 6.2 type is retrieved into the file
with a suffix of GM whose name must also be specified in a generation request.)

Standard printing of volumes is retrieved from the file with a suffix of IN. The
file with a suffix of GN can also be used (record length = 265) with the 'ASA'
skip character in the first position of each record when special print
characteristics are needed.

The file containing the elements necessary for Dialog Windowing (PAF) is
coded PAC7GT (record length is 180). Its name must be specified in the
generation request.

EXECUTION CONDITION

Files can stay open provided the procedure is executed in
a BMP. On the contrary, the procedure can be executedin
a DLIBATCH only if the 'AB', 'AG', and 'LB' databases
are closed to TP processing.

ABENDS

Refer to Subchapter 'ABNORMAL ENDINGS' in Chapter 'OVERVIEW'
of the Manual 'Batch Procedures: Administrator's Guide.'

2.3.2. GPRT: STRUCTURE OF REQUESTS

GPRT: REQUEST STRUCTURE

The GPRT request consists of a three-character code.

The first character identifies the nature:

   . 'L': List entities.

   . 'D': Description of the entities, including the defini- tion, description and
     general documentation.

   . 'G': Generation of source code for the entity specified (program, screen,
     database block, etc.).

   . 'P': Print user manual or volume. The second character must be 'C', and the
     third 'U' or 'V'.

The second character specifies how the information is to be presented:

       C- By Code.

       E- To generate Error messages (used when nature = 'G').

       K- By Keyword (value 'blank' in the SELECTION OF KEYWORD
       TYPE selects both implicit and explicit keywords; value 'L' selects
       implicit keywords only; value 'M' selects explicit keywords only).

       N- By Name.

       T- By Type.

The third character is the entity type:

```
B        Database Block
D        Data Structure
E        Data Element
F        User Entity
I        Parameterized Input Aid
K        Keyword (Thesaurus)
MC       Functional Integrity Constraint
MO       Model Object
MP       Model Property
MR       Model Relationship
O        On-line Screen
P        Program
Q        User-Defined Relationship
R        Report
S        Segment
T        Text
U        User Manual
V        Volume
$        User Entity Occurrence
```

For the WorkStation entities, the type (M) is appended with a one-letter code speciying whether it is a Property (P), an Object (O), a Relation (R) or a FIC (C).

SPECIAL REQUESTS

. FLx : Flow control card (x = entity type) (see subchapter "OPTIONAL CONTROL CARDS").

. JCL : Allows the user to set up the GPRT on-line submission JCL (See Section 'Generation/Printing Commands'.)

. UPC : transformation of lowercase characters into uppercase characters for printers which do not support lowercase.

For the complete list describing all of the GPRT request commands, see Section 'Generation/Printing Commands' thereafter.

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NOTE:

In some cases, parameters may be necessary. Parameters can be specified in two places:

   . in pre-formatted fields, with the command code,

   . on a continuation line, by placing the asterisk ('*') in the CONTINUATION
     LINE field.

The presentation options and any possible parameters are indicated for each GPRT request command in Section 'Generation/Printing Commands' thereafter.

PRINTING BY KEYWORD

To obtain a printout by keyword, enter a 'K' as the second character of the command. In this case, after the line has been created, a 'continuation' line is automatically displayed. The user can enter on this line the keyword(s) for which a printout is desired.

Furthermore, the print name contains a slection field in which the user can specify whether the selection is to be made:

   . On the whole set of keywords (SPACE),

   . On the keywords automatically derived from the name (L),

   . On explicit keywords (M).

STANDARD PROCEDURES   **2**
GPRT: GENERATION AND PRINTING   **3**
GPRT: GENERATION/PRINTING COMMANDS   **3**

2.3.3. GPRT: GENERATION/PRINTING COMMANDS


```
--------------------------------------------------------------------------------
! VA Pac                    APPLICATION DEVELOPMENT        SG000008.LILI.CIV.1583  !
!GENERATION AND PRINT COMMANDS                              USER: 21 SG000008   !
!1 2   3    4        56 7 8 <------------------- 9 AND 10 ------------------>   !
!A SO COM ENTITY : OP V C CONTINUATION OF REQUEST                              !
!     LKP        : C1   * LIST OF PROGRAMS RELATED BY KEYWORDS        SEL:_    !
!                :        -------------------------------------------- 17      !
!     UPC        : C1     SHIFT TO UPPERCASE    MANUAL:_ DOC:_ ERROR MESS:_    !
!                :                                       13     14         15  !
!  90 FLP        : C1     PROGRAM JOB CARD / JOB DELIM  ENV: _ (CCF:_ CCB:_)   !
!                :                                              13    15       !
!  90 GCP PA10FL : C1     SOURCE CODE FOR SELECTED PROGRAM     (CCF:_ CCB:_)   !
!                :                                              13    15       !
!  90 GCP PA20PA : C1     SOURCE CODE FOR SELECTED PROGRAM     (CCF:_ CCB:_)   !
!  90 GCP PA30AR : C1     SOURCE CODE FOR SELECTED PROGRAM     (CCF:_ CCB:_)   !
!  91 FLO        : C1     SCREEN JOB CARD / JOB DELIM  ENV: _ (CCF:_ CCB:_)    !
!  91 GCO DO0000 : C1     SCREEN'S PGM AND MAP SOURCE CODE   (CCF:__ CCB:__)   !
!                :                                       13-14   15-16         !
!  96 PCV VOLUME : C1     PRINT VOLUMES BY CHAP / SUBCHAP AND CODE: _ __ __    !
!                :                                                18 19 20      !
!                :                                                             !
!*** END ***                                                                   !
!                                                   11                         !
!O: C1 CH: GP                            JOB:          PASSWORD:               !
--------------------------------------------------------------------------------
```

```
 --------------------------------------------------------------------------------
 ! VA Pac                 APPLICATION DEVELOPMENT        SG000008.LILI.CIV.1583  !
 !VALID GENERATION AND PRINT COMMANDS                        USER: SG000008      !
 !                                                                               !
 !A SO COM ENTITY : OP   C CONTINUATION OF REQUEST                : LIB SESSI    !
 !    JCL 000000 :        //PSTSG8 JOB (634,CGI46808),SG8,CLASS= :               !
 !    JCL 000020 :        //    EXEC ZA73GPRT,ROOT=LI,FILE=LI,OUT :              !
 !    JCL 000030 :        //    LOADTP='PST.CICS.LINKLIB',OUTL=R, :              !
 !    JCL 000040 :        //    INDUV='PST',INDSV='PST',INDSN='PS :              !
 !    JCL 000045 :        //    STEPLIB='PST.PAC73.MBR7',        :               !
 !    JCL 000050 :        //    LOADBA='PST.BATCH.LINKLIB'       :               !
 !    JCL 600100 :        //PAC.PAC7SC DD DSN=PST.LILISCA,DISP=S :               !
 !    JCL 600200 :        //PAC.PAC7SG DD DSN=PST.LILISGA,DISP=S :               !
 !                :                                                              !
 !                :                                                              !
 !                :                                                              !
 !                :                                                              !
 !                :                                                              !
 !                :                                                              !
 !                :                                                              !
 !                :                                                              !
 !                :                                                              !
 !                :                                                              !
 !UPDATE INHIBITED WITH THIS DISPLAY TYPE                                        !
 !O: C2 CH: GP                          JOB:          PASSWORD:                  !
 --------------------------------------------------------------------------------
```

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STANDARD PROCEDURES   **2**
GPRT: GENERATION AND PRINTING   **3**
GPRT: GENERATION/PRINTING COMMANDS   **3**

```
  -------------------------------------------------------------------------
 ! VA Pac                 APPLICATION DEVELOPMENT      SG000008.LILI.CIV.1583 !
 !GENERATION AND PRINT COMMANDS                              USER: SG000008  !
 !                                                                           !
 !A SO COM ENTITY : OP V C CONTINUATION OF REQUEST             : LIB SESSI   !
 !     JCL 000000 :    V   //PSTSG8 JOB (634,CGI46808),SG8,CLASS= :          !
 !     JCL 000020 :    V   //    EXEC ZA73GPRT,ROOT=LI,FILE=LI,OUT :         !
 !     JCL 000030 :    V   //    LOADTP='PST.CICS.LINKLIB',OUTL=R, :         !
 !     JCL 000040 :    V   //    INDUV='PST',INDSV='PST',INDSN='PS :         !
 !     JCL 000045 :    V   //    STEPLIB='PST.PAC73.MBR7',        :          !
 !     JCL 000050 :    V   //    LOADBA='PST.BATCH.LINKLIB'       :          !
 !     JCL 600100 :    V   //PAC.PAC7SC DD DSN=PST.LILISCA,DISP=S :          !
 !     JCL 600200 :    V   //PAC.PAC7SG DD DSN=PST.LILISGA,DISP=S :          !
 ! 90 FLP        : C1     PROGRAM JOB CARD / JOB DELIM   ENV: _ ( : ITF      !
 ! 90 GCP PA10FL : C1     SOURCE CODE FOR SELECTED PROGRAM      ( : ITF      !
 ! 90 GCP PA20PA : C1     SOURCE CODE FOR SELECTED PROGRAM      ( : ITF      !
 ! 90 GCP PA30AR : C1     SOURCE CODE FOR SELECTED PROGRAM      ( : ITF      !
 ! 91 FLO        : C1     SCREEN JOB CARD / JOB DELIM    ENV: _ ( : ITF      !
 ! 91 GCO DO0000 : C1     SCREEN'S PGM AND MAP SOURCE CODE   (CC : ITF       !
 ! 91 FLO        : C1     SCREEN JOB CARD / JOB DELIM    ENV: V ( : SG8      !
 ! 91 GCO PA0030 : C1     SCREEN'S PGM AND MAP SOURCE CODE   (CC : SG8       !
 ! 91 GCO PA8888 : C1     SCREEN'S PGM AND MAP SOURCE CODE   (CC : SG8       !
 !              :                                                            !
 !UPDATE INHIBITED WITH THIS DISPLAY TYPE                                    !
 !O: C3 CH: GP                        JOB:          PASSWORD:                !
  -------------------------------------------------------------------------
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--------------------------------------------------------------------------------
! VA Pac                 APPLICATION DEVELOPMENT        SG000008.LILI.CIV.1583  !
!JCL LINES FOR THE COMMANDS                                     USER: SG000008   !
!                                                                                !
!A   COM  LINE   :    V C CONTINUATION OF REQUEST                                !
!    JCL  000000 :    V   //PSTSG8 JOB (634,CGI46808),SG8,CLASS=X,MSGCLASS=C     !
!    JCL  000020 :    V   //    EXEC ZA73GPRT,ROOT=LI,FILE=LI,OUTL=R,OUT=C,      !
!    JCL  000030 :    V   //    LOADTP='PST.CICS.LINKLIB',OUTL=R,UTI='SG8',      !
!    JCL  000040 :    V   //    INDUV='PST',INDSV='PST',INDSN='PST',             !
!    JCL  000045 :    V   //    STEPLIB='PST.PAC73.MBR7',                        !
!    JCL  000050 :    V   //    LOADBA='PST.BATCH.LINKLIB'                       !
!    JCL  600100 :    V   //PAC.PAC7SC DD DSN=PST.LILISCA,DISP=SHR               !
!    JCL  600200 :    V   //PAC.PAC7SG DD DSN=PST.LILISGA,DISP=SHR               !
!                 :                                                              !
!                 :                                                              !
!                 :                                                              !
!                 :                                                              !
!                 :                                                              !
!                 :                                                              !
!                 :                                                              !
!                 :                                                              !
!                 :                                                              !
!                 :                                                              !
!*** END ***                                                                     !
!O: C4 CH: GP                          JOB:          PASSWORD:                   !
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NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		ACTION CODE
2	2		SEQUENCE ORDER FOR PRINTING REPORTS
			This field is used to specify the sequence in which the requested reports selected by the user will be printed. Sub-reports of a standard report are printed in a pre-determined order which cannot be modified.
		blank	The output of description and list request commands will be printed in the sequence in which they are entered.
		A - 99	The standard reports will be sorted and printed according to this value.
			For specific requests for generation of entities, or printing of user manuals or volumes, the System automatically groups the following entity types together and assigns the following values for the printing order:
		90	Programs
		91	Screens
		92	Database blocks
		93	User manuals
		94	Error messages
		95	Data structures
		96	Volumes (PDM facility)
			NOTE: If the user attempts to modify these values, the system will ignore it without issuing an error message.
3	4		COMMAND FOR PRINT REQUEST
			NOTE: Input of the entity code is required or optional depending on the command. The following indicators describe the various options:
			(A) Required entity code input. (Batch mode col. 9)
			(B) Optional entity code input. If omitted, all occurrences of the entity type are listed in the user's hierarchical view.
			(C) Entity code input not allowed. All occurrences of the entity type are listed in the user's hierarchical view.
			(D) A blank line may be requested by placing an asterisk in the CONTINUATION OF REQUEST INDICATOR (C) field and pressing the ENTER key. What may be entered on this line depends on the command;

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE

		the user is instructed below on what options are possible. This corresponds to batch columns 31 to 80 inclusive.
		
		NOTE: Each command has different requirements with respect to the type of additional information to be supplied. Values may be entered here, or left blank for the default. The following list identifies by code the information expected for each command:
		
		(1) SEL: _
		   Limit the list by keyword type. Enter 'M' for explicit, 'L' for implicit, or blank for both. In batch mode, enter this value in column 30. See also SELECTION OF KEYWORD TYPE.
		
		(2) Same as above plus a following line on which a user may enter one or several keywords. This appears as a continuation line in on-line mode, and corresponds to batch columns 31 to 80.
		
		(3) FORMAT: _
		   A format may be specified by entering 'I' for internal, 'E' for input, or 'S' for output. Enter these values in column 17 in batch mode - a blank is also valid and means that the default value is desired. See also TYPE TO SELECT.
		
		(4) CCF:_ CCB:_
		   The code of the control card in front of program and in back of program, respectively. Enter these codes in columns 19 to 22 in batch mode. The codes must be consistent with the codes displayed on the Dialogue Definition screen.
		
		(5) CCF:__ CCB:__
		   The code of the control card in front of program and in front of map, and the code of the control card in back of program and in back of map, respectively. The user can override the default control cards. These codes should be consistent with the values on the Dialogue Definition. In batch mode, use columns 19 to 22.
		
		(6) TYPE: __
		   The user enters the selected type which should be consistent with the corresponding field on the definition screen of that entity type. In batch mode enter the type in columns 17 and 18.
		
		(7) PRINT VOLUME BY CHAP/SUBCHAP AND CODE:_ __ __

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		Specify the chapter and/or subchapter. Enter 'C' for chapter followed by the chapter code, or 'S' for subchapter followed by the chapter and subchapter codes. In batch mode use columns 23 through 27.
		(8) ENV.:__ (CCF:__ CCB:__) For those sites that are using the PEI option: the environment may be specified. In batch mode enter the environment code in column 17, and the corresponding control cards in columns 19 through 22.
		THESAURUS ---------
	DCK	(C) A complete description of keywords defined in the the-saurus which lists the SYNONYM OR DEFINITION field contents associated with each keyword. NOTE: This data being specified in Inter-Library only, this command cannot be used with the U1 option. Use the C1 or I1 option which gives the same output.
	LCK	(1) (C) A listing of all keywords defined in the thesaurus, with their synonyms. It includes the number of uses of these keywords in the Database.
		TEXTS -----
	DCT	(B) A complete description of the text(s), including the relation of the text(s) with other texts and a list of paragraphs and their relation with other paragraphs. The information is sequenced by text code.
	L*T	List of Texts and paragraphs titles.
	DTT	(6) Description(s) of texts of the type specified. See the DCT command.
	LCT	(C) A list of texts, sequenced by text code.
	LKT	(2) A list of the texts whose names and/or explicit key-words contain the keyword(s) specified.
	LTT	(6)

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			A list of texts whose type codes have been defined as specified. A list of all paragraph titles sequenced by text code.
			VOLUMES -------
		FLV	(C) (D) (4) This command is used to specify the job card and end-of-job delimiters: Flow control for volumes. Use the continuation line to define user parameters on the control cards.
		LCV	(C) List of Volumes, sequenced by code.
		LKV	(C) (2) List of Volumes selected according to the key word(s) entered on the continuation line.
		DCV	(B) Printing of the description of the Volume whose code is entered in the Entity field. When this code is not entered, the descriptions of all the Volumes are printed, sequenced by code.
		PCV	(B) (D) (7) Printing of the contents of the Volume whose code is entered in the Entity field. When this code is not entered, the contents of all the Volumes are printed, sequenced by code. For local printing in RTF format, the Volume must be generated with the C2 option. Partial printing is documented in the 'Personalized Documentation Manager' Reference Manual, Chapter 'Access Commands', subchapter 'Generation-Print'.
		PCM	Edition of PAF columns related to a method and association between method choice and VA Pac.
			USER MANUALS ------------
		DCU	(B) A complete description of user manual(s). The information is sequenced by user manual code.
		LCU	(C) A list of user manuals, sequenced by user manual code.
		LKU	(2) A list of the user manuals whose names and/or explicit

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		keywords contain the keyword(s) specified.
	PCU	(B) (D: when the entity code has been entered) Print the contents of the user manual(s). To print chapter(s) only, enter the chapter code(s) on the continuation line. (NOTE: the PAGE NUMBERING OPTION value must be 'C' on the User Manual Definition screen.)
		ELEMENTS AND PROPERTIES -----------------------
	DCE	(B) A complete description of the defined element(s). The information is sequenced by element code. To get assigned text, use print option "2".
	DFE	(B) A listing of the element(s) not defined in the Speci- fications Dictionary, with cross-references.
	LACE	(C) A list of elements, sequenced by Cobol name.
	LCE	(B) A list of defined elements, sequenced by element code.
	LKE	(C) (2) A list of the elements whose names and/or explicit keywords contain the keyword(s) specified.
	LNE	(C) A list of elements and properties sequenced by element name.
	LXE	(C) A list of defined elements and properties which are not used.
		DATA STRUCTURES ---------------
	DCD	(B) A complete description of the data structure(s). This includes cross-references to programs and screens and a list of associated reports and segments. The information is sequenced by data structure code. Note: To get the associated text use print option "2".
	FLD	(C) (D) (4) This command is used to specify the job card and end-

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		of-job delimiters: flow control of data structures.
		Use the continuation line to define user parameters on the control cards.
	GCD	(A) Generate a COBOL description (COPY book) of the data structure.
		For more details concerning generation, refer to the chapter corresponding to the 'DICTIONARY' reference manual.
	LCD	(C) A list of data structures sequenced by data structure Code.
	LTD	(C) A list of data structures sequenced by data structure type.
	LPD	(C) A list of data structures sequenced by external name.
	LKD	(C) (2) A list of the data structures whose names and/or explicit keywords contain the keyword(s) specified.
		SEGMENTS --------
	LCS	(C) A list of segments sequenced by segment Code.
	LKS	(C) (2) A list of the segments whose names and/or explicit keywords contain the keyword(s) specified.
	DCS	(B) (D: when entity code has been entered) (3) NOTE: Enter the data structure code in the ENTITY CODE field, and the segment code(s) on the continuation line(s). A complete description of the segment(s). This includes cross-references to programs and screens for the data structure and to all entities for the segment(s) and a list of associated reports and segments. For segments defined as tables with the PACTABLE function, a list of sub-schemas and sub-systems is printed. NOTE: To get the associated text for both the segment and the data structure, use print option "2".

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NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		INPUT AIDS ----------
	DCI	(C) A complete description of the input aid(s) including a list of uses of the input aid(s) in other entities. The information is sequenced by PIA code.
	LCI	(C) A list of input aids sequenced by the PIA code.
	LKI	(C) (2) A list of the input aids whose names and/or explicit keywords contain the keyword(s) specified.
	LXI	(C) List of all Cross-References (PIA Calls) as defined on the PIA description screen sequenced by the value of this field.
		DATABASE BLOCKS ---------------
	DTB	(B) (6) Description(s) of database blocks of the type speci-fied including cross-references to other blocks and screens. Note: To get the associated text, use print option "2"
	FLB	(C) (D) (4) (8) This command is used to specify the job card and end-of-job delimiters: Flow control of the block.
	FLS	(C) (D) (4) (8) Same as FLB for Relational/SQL blocks. Use the continuation line to define user parameters on the control cards.
	GCB	(A) (D) (4) Generate a DDL description of the database block specified (including 'DB'-type blocks for DB2). Use the continuation line to define the user parame-ters on the control cards.
	GSQ	(A) (D) (4) Generates the SQL DDL for the Relational/SQL database block specified. Use the continuation line to define the user parameters on the control cards.

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NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
	LCB	(C) List of database blocks sequenced by block code.
	LEB	(C) List of database blocks sequenced by external name.
	LKB	(C) (2) A list of the database blocks whose names and/or explicit keywords contain the keyword(s) specified.
	LTB	(C) (6) A list of database blocks whose block types have been defined with the specified value.
	LTS	(C) A list of SQL objects sequenced by code.
	LES	(C) List of SQL objects sequenced by external name.
		SCREENS -------
	DCO	(A) A complete description of the dialogue or screen specified including information from the dialogue complement screen, and uses of the screen in other screens. For screens, information is also provided on relevant segments, macro-structure calls, beginning insertions modifications, work areas and structured code. Note: To get the associated text, use print option "2"
	FLO	(C) (D) (4) (8) This command is used to specify the job card and end-of-job delimiters: Flow control for screens. Use the continuation line to define user parameters on the control cards.
	GCO	(A) (D) (5) Generate a COBOL description of the screen specified. Use the continuation line to define user parameters on the control cards.
	LCO	(C) A list of the screens sequenced by screen code.
	LNO	(C) A list of the screens sequenced by type.

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NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		LPO	(C) A list of the screens sequenced by external program name.
		LSO	(C) A list of the screens sequenced by external map name.
		LKO	(C) (2) A list of screens whose names and/or explicit keywords contain the keyword(s) specified.
		LTO	(C) List of Screens sequenced by transaction code.
		DGC	(A) A complete description of a C/S Screen.
		DGS	(A) A complete description of a Business Component.
		GGC	(A) (D) (5) Generate a C/S Screen.
		GGS	(A) (D) (5) Generate a Business Component.
		GVC	(A) (D) (5) Generate a Proxy Logical View (from Business Comp.).
		FGC	(C) (D) (4) (8) This command is used to specify the job card and end-of-job delimiters: Flow control for C/S Screen.
		FGS	(C) (D) (4) (8) This command is used to specify the job card and end-of-job delimiters: Flow control for business component
			REPORTS -------
		DCR	(B) (D: when the entity code has been entered) NOTE: When requesting the description of a single report, enter the data structure code in the ENTITY CODE field and the last character of the report code on the continuation line. A complete description of the report(s). This includes report layouts. The information is sequenced by the report code. Note: To get the associated text, use print option "2"
		LCR	(C)

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		List of reports sequenced by Report Code.
	LTR	(C) List of reports sequenced by Type.
	LKR	(2) A list of the reports whose names and/or explicit keywords contain the keyword(s) specified.
		PROGRAMS --------
	DCP	(B) A complete description of program(s). The information is sequenced by the program code. Note: To get the associated text, use print option "2"
	FLP	(C) (D) (4) (8) This command is used to specify the job card and end-of-job delimiters: Flow control for programs. Use the continuation line to define user parameters on the control cards.
	FSP	(C) (D) (4) (8) This command is used to specify the job card and end-of-job delimiters: Flow control for "reverse engineered" programs. Use the contiuation line to define user parameters on the control cards.
	GCP	(A) (D) (4) Generate a COBOL description of the program specified. Use the continuation line to define user parameters on the control cards.
	GSP	(A) (D) (4) Generate a COBOL description of the "reverse engineered" program specified. Use the continuation line to define user parameters on the control cards.
	LCP	(C) List of programs sequenced by program code. Note: To get keywords, use print option "2".
	LTP	(C) List of programs sequenced by type.
	LEP	(C) List of programs sequenced by external name.
	LKP	(2) A list of the programs whose names and/or explicit keywords words contain the keyword(s) specified.

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NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
	DSP	(S) Description of the selected Program produced by REVERSE ENGINEERING. METHOD ENTITIES ---------------
	DCM	(A) A complete description of the Method entity as specified.
	DCMC	(C) A complete description of Method Functional Integrity Constraint(s).
	DCMO	(C) A complete description of Method Object(s).
	DCMR	(C) A complete description of Method Relationship(s).
	LCMC	(C) List of Method Functional Integrity Constraints sequenced by F.I.C. code.
	LCMO	(C) List of Method Objects sequenced by Object code.
	LCMP	(C) List of properties sequenced by Property code.
	LCMR	(C) List of Method Relationships with their Functional Integrity Constraints, sequenced by Relationship code.
	LKM	(C) (2) A list of the Method entities whose names and/or explicit keywords contain the keyword(s) specified.
	PCM	Printing of PAF Tables description for entities specific to a method. USER ENTITIES -------------
	DCF	(B) A complete description of the User Entity(s). The information is sequenced by User Entity code.
	DCQ	(B) A complete description of the User-Defined Relationship. The information is sequenced by Relationship

NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		code.
	DC$	(B) A complete description of the User Entity Occurrence(s). The information is sequenced by user entity type code.
	LCF	(C) List of User Entities sequenced by code.
	LCQ	(C) List of User-Defined Relationships sequenced by code.
	LC$	(C) List of User Entity Occurrences sequenced by User Entity type code.
	LK$	(2) (A) A list of the User Entity Occurrences whose names and/ or explicit keywords contain the keyword(s) specified.
	LKF	(2) (C) A list of the User Entities whose names and/or explicit keywords contain the keyword(s) specified.
	LKQ	(2) (C) A list of the User-Defined Relationships whose names and/or explicit keywords contain the keyword(s) specified.
	PCM	(C) Edition of PAF columns related to a method and association between method choice and VA Pac. NOTE ---- For all printing by keyword, you can specify the type of selection (BLANK, L or M) on the print line. Keywords are indicated on the continuation line sent back by VisualAge Pacbase. ERROR MESSAGES --------------
	FLE	(C) (D) (4) This command is used to specify the job card and end-of-job delimiters: Flow control for error messages. Use the continuation line to define user parameters on the control cards.
	LEC	(A)

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NUM LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		List the error messages defined for the client component and for each client screen. This list only includes messages that have already been generated.
	LED	(A) List the error messages defined for the data structure and for each segment. This list only includes messages that have already been generated.
	LEO	(A) List the error messages defined for the dialogue and for each screen. This list only includes messages that have already been generated.
	GEC	(A) (D) C/S Facility: C1 : Error messages defined for the Client or Server Dialog and for each component. C2 : Error messages generated through option 1 plus documentary help messages. C3 : Error messages defined for the Client Dialog only.
	GED	(A) (D) C1 : Error messages generated for a Data Dtructure and for each Segment. C2 : Error messages generated through option 1 plus documentary help messages.
	GEO	(A) (D) OLSD Function: C1 : Error messages defined for the Dialog and for each Screen. C2 : Error messages generated through option 1 plus documentary help messages. C3 : Error messages for the Dialog only. C4 : Creation of the file containing the description of the screens to be "revamped" with Pacbase Web Connection. This command is used on a Client Dialog. NOTE: If a segment/screen suffix is entered on the continuation line of one of the four preceding commands, the error messages are generated/printed only for this segment/screen. JCL INTRODUCTION ---------------- The JCL command can only be entered in the 'C4' screen format option.
	JCL	This indicates that the COMMAND LABEL/SYSTEM RESPONSE field will contain JCL.

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NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			SHIFT TO UPPERCASE

		UPC	This command allows for the automatic transformation of lowercase into uppercase in the printed output of the GPRT procedure.
			When the UPC command is entered, the following line is displayed:
			SHIFT TO UPPERCASE MANUAL:_ DOC:_ ERROR MESS:_
			The PACBASE user must specify to which type of GPRT output the UPC command will apply (even when only one GPRT command is validated).
			In order to do this, the value '1' must be entered in one of the three fields displayed above: in the MANUAL field for User Manuals (U) or Volumes (V); in the DOC field for entity-related commands; in the ERROR MESS field for the generation of error messages.
			NOTE: This also allows for the selective implementation of the UPC command when the execution of several GPRT jobs is requested and the SHIFT TO UPPERCASE must not apply to all of them, in which case the corresponding field(s) must be left blank.
			JOB STREAM CARDS

		FGC	Stream check: C/S screen
		FGS	Stream check: Business Component
		FLO	Stream check: Screens
		FLS	Stream check: SQL relational Database Blocks
		FLB	Stream check: Database Blocks
		FLD	Stream check: Data Structures
		FLP	Stream check: Programs
		FSP	Stream check: Programs from REVERSE ENGINEERING
		FLV	Stream check: Report
		FLE	Stream check: Error Messages
4	6		ENTITY CODE
			This field is displayed with the label "ENTITY" on

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NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			screen format options "1", "2" and "3" of the GP screen.
			When required, the user enters the entity code which corresponds to the COMMAND FOR PRINT REQUEST.
			List of possible values of methods: M for Merise D for YSM Y for Yourdon A for SSADM O for OMT F for IFW
			On the screen format option "4" of the GP screen, this field is displayed with the label "LINE".
			The JCL lines will be sorted according to the number entered in this field.
		<600000	JCL lines at the beginning of the job stream.
		>599999	JCL lines at the end of the job stream.
			OPERATION CODE
5	1		LIBRARY VIEW SELECTION CODE Used to select the libraries from which the entities are to be generated and/or printed. This code has the same meaning as the first character of the OPERATION CODE field on all VisualAge Pacbase screens.
		C	Default value: Selected library and higher level libraries. In case of duplicates, the lines from the lower level library are taken into account. NOTE: IN GENERATION THE VALUE 'C' IS AUTOMATICALLY AS-SIGNED BY THE SYSTEM.
		I	Selected library and lower and higher level libraries.
		U	Selected library only.
		A	Selected library and higher level libraries with display of duplicates.
		>	Higher level libraries only.
		<	Lower level libraries only.
		Z	Selected library and lower level libraries.
6	1		PRINT OPTION

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			This field does not appear on the "C4" screen format option.
			Used to indicate that sub-reports be included.
		1	Default
		2	Add Associated Text to the output, depending upon the value entered in the COMMAND FOR PRINT REQUEST. See the specific Command for Print Request.
7	1		VALIDATION OF COMMAND REQUEST
			This field does not appear on the "C2" screen format option.
		blank	The value in the COMMAND FOR PRINT REQUEST field is not to be taken into account.
		V	The COMMAND FOR PRINT REQUEST is validated.
			NOTE: These commands must be re-validated each time a request is made.
8	1		CONTINUATION OF REQUEST INDICATOR
		blank	No continuation line is requested.
		*	A continuation line is requested (or displayed) for this GP command.
			For some spcific generation-print requests, this field is automatically filled by VA Pac (for instance when requesting by keywords). You must then fill the print label continuation line yourself.
			NOTE: Up to five lines are allowed in a GPRT command: the actual command line and four continuation lines.
9	50		COMMAND LABEL / SYSTEM RESPONSE
			This field has three functions:
			- With screen format option "1", the system uses this field to display a system response line which is the label for the COMMAND FOR PRINT REQUEST entered.
			- With certain commands the user is asked to enter additional information. Also see the SYSTEM RESPONSE REQUEST and CONTINUA-TION LINE fields.
			- With the 'C4' screen format option, the user can en-ter JCL lines, which will or will not be taken into account, depending on the value entered in the VALIDATION OF COMMAND REQUEST field.
10	50		CONTINUATION LINE

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NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			This line is displayed on-line. It represents columns 31 through 80 on Batch Form 'Z'.
			This line has several functions:
			- To specify keywords (see COMMAND FOR PRINT REQUEST field, note (2)).
			- To specify the Screen code within a Dialogue, the last character of the Report code within a Data Structure, or the Segment code within a Data Structure.
			- To specify the user parameters on control cards. See the USER'S Reference Manual, chapter "GENERATION AND/OR PRINTING", subchapter "ON-LINE REQUESTS".
11	3		JOB SUBMISSION REQUEST
			Used to automatically submit the generation and/or printing job from the GP screen when the operating system and TP monitor in use allow for this. The job stream will contain only validated commands for generation and/or print requests and validated JCL lines, all libraries and sessions included.
		blank	No job submission. Update the AG file.
		JOB	Job submission.
			NOTE: For IMS, system messages are displayed. See USER'S MANUAL, chapter "CHOICE: ACCESS COMMANDS", subchapter "SPECIAL CHOICES: IMS VERSION".
		SUB	Job submission.
			NOTE: For IMS, system messages are not displayed.
			SYSTEM RESPONSE REQUEST
			The following fields appear in the COMMAND LABEL/ SYSTEM RESPONSE field only on the 'C4' screen format option for certain Commands for Print Request. They prompt the user for additional input depending on the command entered.
12	2		TYPE TO SELECT
			A. TYPE TO SELECT (2-character field): Used to specify the type of text or database block when requesting a list or description sorted by type: LTT, DTT, LTB, DTB.
			B. FORMAT TO SELECT (1-character field): Used to specify the segment format when entering a

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			DCS command.
		blank or C	Printing of data related to validations and updates performed by user programs on the segment's data elements. In addition, internal and input formats are printed.
		E	Input format only.
		I	Internal format only.
		R	Validations, updates, relational names.
		S	Output format only.
13	1		CARDS IN FRONT PGM/UPPERCASE SHIFT
			PROGRAM GENERATION

			Enter the one-character code that identifies the job card to be inserted before the generated program.
			Default: Code entered on the Library Definition screen.
			NOTE: This value may be overridden on the various entity definition screens.
			Also see subchapter "OPTIONAL CONTROL CARDS UPDATING", chapter "DATABASE MANAGEMENT", OPTION CODE field in the USER'S Reference Manual.
			BATCH INPUT MODE:
			SHIFT TO UPPERCASE FOR USER-DEFINED DOCUMENTATION
			--
			User Manuals ('U' entity) and Volumes ('V' entity) are printed in uppercase characters with the UPC command.
		1	YES.
		0	NO (Default option).
14	1		CARDS IN FRONT MAP/UPPERCASE SHIFT
			SCREEN GENERATION

			The one-character code that identifies the job card to be inserted before each generated screen map. This code is entered on the Dialogue or Screen Definition screen and may be overridden here. Also see: OPTION CODE and INPUT PARAMETERS fields in the "OPTIONAL CONTROL CARDS UPDATING" subchapter, "DA-TABASE MANAGEMENT" chapter in the USER'S Reference Ma-

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			nual.
		$	No generation of map. (Use this value in conjunction with the CONTROL CARDS IN BACK OF MAP field.)
			BATCH INPUT MODE:
			SHIFT TO UPPERCASE FOR ENTITY-RELATED GPRT REQUESTS
			--
			The output of entity-related GPRT requests is printed in uppercase characters with the UPC command.
		1	YES.
		0	NO (Default option).
15	1		CARDS IN BACK PGM/UPPERCASE SHIFT
			PROGRAM GENERATION

			Enter the one-character code that identifies the job card to be inserted after the generated program.
			Default: Code entered on the Library Definition Screen
			NOTE: This value may be overridden on the various entity definition screens.
			SHIFT TO UPPERCASE FOR ERROR MESSAGE PRINT-OUTS
			--
			Error messages are printed in uppercase characters with the UPC command.
		1	YES.
		0	NO (Default option).
16	1		CONTROL CARDS AFTER MAP
			The one-character code that identifies the job card to be inserted after each generated screen map.
		$	No generation of map.
17	1		SELECTION OF KEYWORD TYPE
		blank	Selection on both implicit and explicit keywords.
		L	Selection on implicit keywords only.
		M	Selection on explicit keywords only.
18	1		VOLUME SELECTION FOR PRINTING
		blank	Print the whole volume.
		C	Print the selected chapter.

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NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		S	Print the selected subchapter.
19	2		CODE OF THE CHAPTER TO BE PRINTED Code of the chapter to be printed, or the chapter that contains the subchapter to be printed.
20	2		CODE OF THE SUBCHAPTER TO BE PRINTED Code of the subchapter to be printed.
21	8		USER CODE This field is reserved for on-line use. It allows the user to initialize JCL lines for a new user. To do so, when the JCL lines are displayed, the user code displayed must be replaced with the code of the new user and the ENTER key must be pressed. Only the Database administrator (authorization level 4) is allowed to copy JCL lines.

2.3.4. GPRT: USER INPUT AND RESULTS

GPRT: INPUT-RESULTS

USER INPUT

The GPRT procedure uses the following input:

   . User identification line (required),

   . One line for each generation or print request,

   . An optional line (' +AG') which takes into account the on-line requests
    already entered.

Any other type of transaction is ignored.

For more details on the structure of generation and print requests, refer to the
corresponding subchapter above.

RESULTS

There are two types of results:

   . A report listing the requests,
   . All printing requested.

Requests are sorted by user/library and are preceded by a 'banner' (title page).

The GPRT procedure sends a general return code:

```
+------+-------------------------------------------------+
! R.C. ! MEANING                                         !
+------+-------------------------------------------------+
!   4  ! OK with generation of source code               !
!   6  ! OK with generation of source code and personalized!
!      !    documentation or error messages              !
!   8  ! OK with generation of personalized documentation  !
!      !    or error messages                            !
!  10  ! OK without generation                           !
!  12  ! Input-Output error                              !
!  16  ! Sort error                                      !
+------+-------------------------------------------------+
```

NOTE: This procedure does not increment the session number.

2.3.5. GPRT: DESCRIPTION OF STEPS

<u>GPRT : DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>GENERATION AND PRINTING: PACB</u>

The general characteristics of this step are described in the preceding chapters.

The generated documentation depends on the generation-printing requests taken into account. Therefore, the volume of the generated documentation and of the temporaty files is extremely variable. Banners at the beginning and the end of user documentation, which display the user code, facilitate the distribution of print-outs back to their authors.

All programs, screens, database blocks, that may be generated are recovered on a single file: DSN=&ROOT.&FILE..GN&USER, which will be used in the following step.

Some programs called by the monitor can generate specific return codes:
```
.PACA10 (Retrieval of transactions):

 0:  OK
 2:  OK with presence of the ' +AG' command
 8:  No request.  In this case, the procedure stops running.

.PACB31 (SQL generation):

 8:  Error detected during generation.

.Extractors or generators (30 or 40):

 0:  OK - No generation
 4:  OK - Generation
 Other:  Errors.
```

This step sends a general return code:

```
------------------------------------------------------------
! R.C. ! MEANING                                           !
!------!---------------------------------------------------!
!   4  ! OK WITH GENERATION OF SOURCE CODE                 !
!   6  ! OK WITH GENERATION OF SOURCE CODE AND PERSONALIZED!
!      !    DOCUMENTATION OR ERROR MESSAGES                !
!   8  ! OK WITH GENERATION OF PERSONALIZED DOCUMENTATION  !
!      !    OR OF ERROR MESSAGES                           !
!  10  ! OK WITHOUT GENERATION                             !
!  12  ! INPUT-OUTPUT ERROR                                !
!  16  ! SORTING ERROR                                     !
------------------------------------------------------------
```

CREATION OF GENERATOR OUTPUT FILE: IEBGENER

This step is executed only when the procedure used is GPRT.

.Created file:
 -SYSUT1 : DSN=*.PAC.PAC7GB

UPDATE OF GENERATOR OUTPUT FILE: IEBUPDTE

This step is executed only when the procedure used is GPRU.

.Input file:
 -SYSIN: DSN=*.PAC.PAC7GB

.Output file:
 -SYSUT2: DSN=&&BIBS

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PERFORMANCE

BLOCKING FACTORS

The standard blocking factors may be modified; the length of PAC7E. and
PAC7K. file records is 180.

The default blocking factors provided in order to enhance efficiency are as
follows:
```
PAC7GB        : 12560 for Length=80   all generated programs
PAC7W1 to W3 : 27180  "  Length=180   "       "           "
PAC7W4        : 27180  "  Length=90    "       "           "
PAC7W6 to W8 : 27104  "  Length=308  use of PDM
PAC7W9        : 12595  "  Length=55    "   "  "
PAC7WA        : 25200  "  Length=100  gen. error messages
```

Also, AMP=('BUFNI=4') is a default parameter added to the OLSD-DBD
PAC7SG and C/S-OLSD PAC7SS skeleton files.

Blocking factors for 3380 disk units may be modified as follows:
```
PAC7GB        : 11440 for Length=80   all generated programs
PAC7W1 to W3 : 23400  "  Length=180   "       "           "
PAC7W4        : 23400  "  Length=90    "       "           "
PAC7W6 to W8 : 23408  "  Length=308  use of PDM
PAC7W9        : 11440  "  Length=55    "   "  "
```

See the ENVIRONMENT & INSTALLATION Manual, Chapter
INSTALLATION, Subchapter "INSTALLATION DEFAULT OPTIONS".

2.3.6. GPRT: PROCESSING OF JOB STREAMS

PROCESSING THE JOB STREAMS

When there has been a generation request and the return code of the preceding
step is less than 8, the generated stream must be processed to ensure the
compilation, assembly and link-edit of the source code produced.

Several options are available for processing this stream. For example:

.Output of the job stream on a SAM file, ...

However, the simplest solution is to define the PUNCH$ PUN card.

The generated job stream is thus immediately submitted to the reader, without
any intervention from the operator.

Other solutions are possible, the job stream processing depending on each site's
standards and capacity.

Whichever solution is chosen, generated COBOL sources must be preceded
and/or followed by a set of control cards predefined in the User Parameter file
(AP) via the specific user parameter update transaction. (See the User's
Reference Manual, Chapter "DATABASE MANAGEMENT", Subchapter
'OPTIONAL CONTROL CARDS UPDATE'.)

The PARM procedure may also be used for this purpose. (See Chapter "USER
PARAMETER UPDATE", Subchapter 'CONTROL CARDS'.)

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2.3.7. GPRT: EXECUTION JCL

```
//*********************************************************************
//* VisualAge Pacbase : GENERATION AND PRINTING (INTERNAL READER)
//*********************************************************************
//$RADP.GPRT PROC FILE=$FILE,        PHYSICAL-DATABASE NUMBER
//ROOT=$ROOT,ROOT OF VA PAC SYSTEM
//           INDEX='$INDEX',          VSAM-FILE INDEX
//*:         VSAMCAT='$CATU',         VSAM USER CATALOG
//*:         SYSTCAT='$CATV',         VSAM SYSTEM CATALOG
//           OUT='$OUT',              OUTPUT CLASS
//           OUTL='$OUT',             OUTPUT CLASS
//           INDEXP='$INDEXP',        INDEX OF NON-VSAM FILES
//           SPAGN='(TRK,(100,10),RLSE)',   GENERATION-FILE SPACE
//           SPAEX='(TRK,(050,10),RLSE)',   SPACE OF PRINT FILES
//           SPAWK='(TRK,(050,10),RLSE)',   SPACE OF WORK FILES
//           SPAMB='(TRK,(5,1),RLSE)',      SPACE OF COMMAND FILE
//           SPAMAN='(TRK,(50,10),RLSE)',   PDM-VOLUME FILE SPACE
//           SPAIDX='(TRK,(50,10),RLSE)',   INDEX OF PDM VOLUME FILE SPAC
//           SPAWIN='(TRK,(50,10),RLSE)',   WINDOWING-FILE SPACE
//           VOLS='SER=$VOLO',        GENERATION-FILE VOLUME
//           UNIT=$UNITO,             GENERATION-FILE UNIT
//           STEPLIB='$MODB',         LIBRARY OF BATCH LOAD MODULES
//           PSBLIB='$PSBLIB',        LIBRARY OF PSB'S
//           DBDLIB='$DBDLIB',        LIBRARY OF DBD'S
//           RESLIB='$RESLIB',        IMS RESLIB
//           PROCLIB='$PRCLIB',       IMS PROCLIB
//           SORTLIB='$BIBT',         SORT LIBRARY
//           UWK=$UWK,                WORK UNIT
//           USER=PAC,                USER CODE
//           COPIES=1,                NUMBER OF REPORT COPIES
//           NBMAN=1,                 NUMBER OF PDM-VOLUME COPIES
//        SPIE=0,TEST=0,NBA=,IN=,OUT1=,PRLD=,CKPTID=,DIRCA=000,
//        PARDLI=1,STIMER=,CPUTIME=,OBA=,AGN=,IMSID=$IMSID,OPT=N
//*********************************************************************
//*    CHECK THE BMP PARAMETERS, ESPECIALLY THE 'IMSID' PARAMETER    *
//*********************************************************************
//COPY     EXEC PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//PAC7MB   DD DSN=&&GPRTMB,DISP=(,PASS),UNIT=&UWK,
//            SPACE=&SPAMB,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
//CARTE    DD DDNAME=SYSIN
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAG     DD DSN=&INDEX..&ROOT.&FILE.AG,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
===SEQ FOR PEI
//DDAB     DD DSN=&INDEX..&ROOT.&FILE.AB,DISP=SHR
//DDAC     DD DSN=&INDEX..&ROOT.&FILE.AC,DISP=SHR
===SEQ
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAG),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
===SEQ FOR PEI
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAB),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAC),DISP=SHR
===SEQ
//*
//PAC      EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(BMP,PACB,PACB$SUG,&IN,&OUT1,
//         &OPT&SPIE&TEST&DIRCA,&PRLD,&STIMER,&CKPTID,
//         &PARDLI,&CPUTIME,&NBA,&OBA,&IMSID,&AGN)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
```

```
     //          DD DSN=&DBDLIB,DISP=SHR
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
     //*:       DD DSN=&VSAMCAT,DISP=SHR
     //SYSOUT    DD SYSOUT=&OUT
     //SYSOUX    DD SYSOUT=&OUT
     //DDSNAP    DD SYSOUT=&OUT
     //PROCLIB   DD DSN=&PROCLIB,DISP=SHR
     //IEFRDER   DD DUMMY,
     //          DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
     //SYSUDUMP  DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSUDUMP  DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSMON    DD DUMMY
     //DFSVSAMP  DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
     //SORTLIB   DD DSN=&SORTLIB,DISP=SHR
     //SORTWK01  DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
     //SORTWK02  DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
     //SORTWK03  DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
     ===SEQ FOR PEI
     //PAC7AB$SUF DD DSN=&INDEX..&ROOT.&FILE.AB,DISP=SHR
     //PAC7AC$SUF DD DSN=&INDEX..&ROOT.&FILE.AC,DISP=SHR
     ===SEQ
     //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AG$SUF DD DSN=&INDEX..&ROOT.&FILE.AG,DISP=SHR
     //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     //PAC7AP$SUF DD DSN=&INDEX..&ROOT.&ROOT.AP,DISP=SHR
     //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     //PAC7LB$SUF DD DSN=&INDEX..&ROOT.&ROOT.LB,DISP=SHR
     //PAC7PA$SUF DD DSN=&INDEX..&ROOT.&ROOT.PA,DISP=SHR
     //PAC7P1$SUF DD DSN=&INDEX..&ROOT.&ROOT.P1,DISP=SHR
     //PAC7EB    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7EE    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7EG    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7EN    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7EP    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7EQ    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7ER    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7EV    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7GB    DD DSN=&ROOT.&FILE..GN&USER,UNIT=&UNIT,DCB=BLKSIZE=12560,
     //          SPACE=&SPAGN,DISP=(,PASS,DELETE),VOL=&VOLS
     //PAC7GD    DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
     //PAC7GE    DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
     //PAC7GG    DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
     //PAC7GI    DD DSN=&&PAC7GI,DISP=(,PASS),UNIT=&UWK,DCB=BLKSIZE=1600,
     //          SPACE=(TRK,(10,5),RLSE)
     //PAC7GK    DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=2000
     //PAC7GL    DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=1800
     //PAC7GM    DD DSN=&&PAC7GM,DISP=(,PASS),UNIT=&UWK,DCB=BLKSIZE=1600,
     //          SPACE=(TRK,(10,5),RLSE)
     //PAC7GN    DD DSN=&&PAC7GN,DISP=(,PASS),UNIT=&UWK,
     //          SPACE=&SPAMAN,
     //          DCB=(RECFM=FB,LRECL=265,BLKSIZE=6095)
     //PAC7GO    DD UNIT=&UWK,SPACE=(TRK,(20,05),RLSE),DCB=BLKSIZE=4080
     //PAC7GP    DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
     //PAC7GQ    DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
     //PAC7GR    DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
     //PAC7GS    DD DSN=&INDEX..&ROOT.&FILE.GS,DISP=SHR
     //PAC7GT    DD DSN=&&PAC7GT,DISP=(,PASS),UNIT=&UWK,
     //          SPACE=&SPAWIN,
     //          DCB=(RECFM=FB,LRECL=180,BLKSIZE=6120)
     //PAC7G6    DD DSN=&&PAC7G6,DISP=(,PASS),UNIT=&UWK,
     //          DCB=(RECFM=FB,LRECL=345,BLKSIZE=13800),
     //          SPACE=&SPAMAN
     //PAC7GV    DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),
     //          VOL=REF=*.PAC7GB
     //PAC7DB    DD SYSOUT=&OUTL
     //PAC7IA    DD SYSOUT=&OUTL
     //PAC7ID    DD SYSOUT=&OUTL,COPIES=&COPIES
     ===SEQ FOR PEI
     //PAC7IH    DD SYSOUT=&OUTL
     ===SEQ
     //PAC7IK    DD SYSOUT=&OUTL
```

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```
     //PAC7IL   DD SYSOUT=&OUTL
     //PAC7IM   DD SYSOUT=&OUTL
     //PAC7IN   DD SYSOUT=&OUTL,COPIES=&NBMAN
     //PAC7JG   DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=1600
     //PAC7KA   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KB   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KD   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KE   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KF   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KG   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KM   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KN   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KP   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KQ   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KR   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KS   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KU   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KV   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7LG   DD DUMMY,DCB=BLKSIZE=90
     //PAC7LI   DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=1600
     //PAC7LK   DD DUMMY,DCB=BLKSIZE=100
     //PAC7ME   DD DSN=&&GPRTMB,DISP=(OLD,DELETE,DELETE)
     //PAC7MG   DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=1500
     //PAC7SC   DD DSN=&INDEX..&ROOT.&ROOT.SC,DISP=SHR
     //PAC7SG   DD DSN=&INDEX..&ROOT.&ROOT.SG,DISP=SHR
     //PAC7SO   DD UNIT=&UWK,SPACE=(TRK,(20,05),RLSE),
     //            DCB=(RECFM=FB,LRECL=312,BLKSIZE=12480)
     //PAC7SR   DD DSN=&INDEX..&ROOT.&ROOT.SR,DISP=SHR
     //PAC7SS   DD DSN=&INDEX..&ROOT.&ROOT.SS,DISP=SHR
     //PAC7WA   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=25200
     //PAC7W1   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=27180
     //PAC7W2   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=27180
     //PAC7W3   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=27180
     //PAC7W4   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=27180
     //PAC7W6   DD UNIT=&UWK,SPACE=&SPAMAN,
     //            DCB=(RECFM=FB,LRECL=308,BLKSIZE=27104)
     //PAC7W7   DD UNIT=&UWK,SPACE=&SPAWK,
     //            DCB=(RECFM=FB,LRECL=308,BLKSIZE=27104)
     //PAC7W8   DD UNIT=&UWK,SPACE=&SPAMAN,
     //            DCB=(RECFM=FB,LRECL=308,BLKSIZE=27104)
     //PAC7W9   DD UNIT=&UWK,SPACE=&SPAIDX,
     //            DCB=(RECFM=FB,LRECL=55,BLKSIZE=12595)
     //*
     //RDR      EXEC PGM=IEBGENER,COND=(08,LE,PAC)
     //SYSPRINT DD SYSOUT=$OUT
     //SYSIN    DD DUMMY
     //SYSUT1   DD DSN=*.PAC.PAC7GB,DISP=(OLD,DELETE,DELETE),
     //            UNIT=&UNIT,VOL=REF=*.PAC.PAC7GB
     //SYSUT2   DD SYSOUT=(&OUT,INTRDR)
     //*
     //DEL      EXEC PGM=IEFBR14,COND=(08,GT,PAC)
     //PAC7GN   DD DSN=*.PAC.PAC7GB,DISP=(OLD,DELETE,DELETE),
     //            UNIT=&UNIT,VOL=REF=*.PAC.PAC7GB
     //*
```

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```
     //**********************************************************************
     //*  VA PAC        : GENERATION AND PRINTING   (INTO SOURCE LIBRARY) *
     //**********************************************************************
     //$RADP.GPRU PROC FILE=$FILE,        PHYSICAL-DATABASE NUMBER
     //          ROOT=$ROOT,              ROOT OF THE VA PAC SYSTEM
     //          INDEX='$INDEX',          VSAM-FILE INDEX
     //*:        VSAMCAT='$CATU',         VSAM USER CATALOG
     //*:        SYSTCAT='$CATV',         VSAM SYSTEM CATALOG
     //          OUT='$OUT',              OUTPUT CLASS
     //          OUTL='$OUT',             OUTPUT CLASS
     //          INDEXP='$INDEXP',        INDEX OF NON-VSAM FILES
     //          SPAGN='(TRK,(100,10),RLSE)',   GENERATION FILE SPACE
     //          SPAEX='(TRK,(050,10),RLSE)',   PRINT FILE SPACE
     //          SPAWK='(TRK,(050,10),RLSE)',   WORK FILE SPACE
     //          SPAMB='(TRK,(5,1),RLSE)',      COMMAND FILE SPACE
     //          SPAMAN='(TRK,(50,10),RLSE)',   PDM-VOLUME FILE SPACE
     //          SPAIDX='(TRK,(50,10),RLSE)',   PDM-VOLUME FILE INDEX
     //          SPAWIN='(TRK,(50,10),RLSE)',   WINDOWING FILE SPACE
     //          VOLS='SER=$VOLO',        VOLUME OF THE GENERATION FILE
     //          UNIT=$UNITO,             UNIT OF THE GENERATION FILE
     //          STEPLIB='$MODB',         LIBRARY OF BATCH LOAD MODULES
     //          PSBLIB='$PSBLIB',        LIBRARY OF PSB'S
     //          DBDLIB='$DBDLIB',        LIBRARY OF DBD'S
     //          RESLIB='$RESLIB',        IMS RESLIB
     //          PROCLIB='$PRCLIB',       IMS PROCLIB
     //          SORTLIB='$BIBT',         SORT LIBRARY
     //          UWK=$UWK,                WORK UNIT
     //          USER=PAC,                USER CODE
     //          COPIES=1,                NUMBER OF REPORT COPIES
     //          NBMAN=1,                 NUMBER OF PDM-VOLUME COPIES  L
     //          LNG=E,                   MONITOR LANGUAGE
     //        SPABI='(TRK,(200,10,10),RLSE)', SYMBOLIC LIBRARY SPACE
     //        SPIE=0,TEST=0,NBA=,IN=,OUT1=,PRLD=,CKPTID=,DIRCA=000,
     //        PARDLI=1,STIMER=,CPUTIME=,OBA=,AGN=,IMSID=$IMSID,OPT=N
     //**********************************************************************
     //*    CHECK THE BMP PARAMETERS, ESPECIALLY THE 'IMSID' PARAMETER    *
     //**********************************************************************
     //COPY    EXEC PGM=PTU001
     //STEPLIB  DD DSN=&STEPLIB,DISP=SHR
     //PAC7MB   DD DSN=&&GPRUMB,DISP=(,PASS),UNIT=&UWK,
     //         SPACE=&SPAMB,
     //         DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
     //CARTE    DD DDNAME=SYSIN
     //*
     //VERIFY  EXEC PGM=IDCAMS
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
     //*:       DD DSN=&VSAMCAT,DISP=SHR
     //SYSPRINT DD SYSOUT=&OUT
     //DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //DDAG     DD DSN=&INDEX..&ROOT.&FILE.AG,DISP=SHR
     //DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     ===SEQ FOR PEI
     //DDAB     DD DSN=&INDEX..&ROOT.&FILE.AB,DISP=SHR
     //DDAC     DD DSN=&INDEX..&ROOT.&FILE.AC,DISP=SHR
     ===SEQ
     //SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
     //         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAG),DISP=SHR
     //         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
     ===SEQ FOR PEI
     //         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAB),DISP=SHR
     //         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAC),DISP=SHR
     ===SEQ
     //*
     //PAC     EXEC PGM=DFSRRC00,REGION=$REGSIZ,
     //        PARM=(BMP,PACB&LNG,PACB$SUG,&IN,&OUT1,
     //        &OPT&SPIE&TEST&DIRCA,&PRLD,&STIMER,&CKPTID,
     //        &PARDLI,&CPUTIME,&NBA,&OBA,&IMSID,&AGN)
     //STEPLIB  DD DSN=&RESLIB,DISP=SHR
     //         DD DSN=&STEPLIB,DISP=SHR
     //DFSRESLB DD DSN=&RESLIB,DISP=SHR
     //IMS      DD DSN=&PSBLIB,DISP=SHR
     //         DD DSN=&DBDLIB,DISP=SHR
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
```

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STANDARD PROCEDURES   **2**
GPRT: GENERATION AND PRINTING   **3**
GPRT: EXECUTION JCL   **7**

```
    //*:       DD DSN=&VSAMCAT,DISP=SHR
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON   DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
    //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
    //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
    //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
    ===SEQ FOR PEI
    //PAC7AB$SUF DD DSN=&INDEX..&ROOT.&FILE.AB,DISP=SHR
    //PAC7AC$SUF DD DSN=&INDEX..&ROOT.&FILE.AC,DISP=SHR
    ===SEQ
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7AG$SUF DD DSN=&INDEX..&ROOT.&FILE.AG,DISP=SHR
    //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
    //PAC7AP$SUF DD DSN=&INDEX..&ROOT.&ROOT.AP,DISP=SHR
    //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
    //PAC7LB$SUF DD DSN=&INDEX..&ROOT.&ROOT.LB,DISP=SHR
    //PAC7PA$SUF DD DSN=&INDEX..&ROOT.&ROOT.PA,DISP=SHR
    //PAC7P1$SUF DD DSN=&INDEX..&ROOT.&ROOT.P1,DISP=SHR
    //PAC7EB   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
    //PAC7EE   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
    //PAC7EG   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
    //PAC7EN   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
    //PAC7EP   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
    //PAC7EQ   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
    //PAC7ER   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
    //PAC7EV   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
    //PAC7GB   DD DSN=&ROOT.&FILE..GN&USER,UNIT=&UNIT,DCB=BLKSIZE=1600,
    //            SPACE=&SPAGN,DISP=(,PASS,DELETE),VOL=&VOLS
    //PAC7GD   DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
    //PAC7GE   DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
    //PAC7GG   DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
    //PAC7GI   DD DSN=&&PAC7GI,DISP=(,PASS),UNIT=&UWK,DCB=BLKSIZE=1600,
    //            SPACE=(TRK,(10,5),RLSE)
    //PAC7GK   DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=2000
    //PAC7GL   DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=1800
    //PAC7GM   DD DSN=&&PAC7GM,DISP=(,PASS),UNIT=&UWK,DCB=BLKSIZE=1600,
    //            SPACE=(TRK,(10,5),RLSE)
    //PAC7GN   DD DSN=&&PAC7GN,DISP=(,PASS),UNIT=&UWK,
    //            SPACE=&SPAMAN,
    //            DCB=(RECFM=FB,LRECL=265,BLKSIZE=6095)
    //PAC7GO   DD UNIT=&UWK,SPACE=(TRK,(20,05),RLSE),DCB=BLKSIZE=4080
    //PAC7GP   DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
    //PAC7GQ   DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
    //PAC7GR   DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),VOL=REF=*.PAC7GB
    //PAC7GS   DD DSN=&INDEX..&ROOT.&FILE.GS,DISP=SHR
    //PAC7GT   DD DSN=&&PAC7GT,DISP=(,PASS),UNIT=&UWK,
    //            SPACE=&SPAWIN,
    //            DCB=(RECFM=FB,LRECL=180,BLKSIZE=6120)
    //PAC7G6   DD DSN=&&PAC7G6,DISP=(,PASS),UNIT=&UWK,
    //            DCB=(RECFM=FB,LRECL=345,BLKSIZE=13800),
    //            SPACE=&SPAMAN
    //PAC7GV   DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),
    //            VOL=REF=*.PAC7GB
    //PAC7DB   DD SYSOUT=&OUTL
    //PAC7IA   DD SYSOUT=&OUTL
    //PAC7ID   DD SYSOUT=&OUTL,COPIES=&COPIES
    ===SEQ FOR PEI
    //PAC7IH   DD SYSOUT=&OUTL
    ===SEQ
    //PAC7IK   DD SYSOUT=&OUTL
    //PAC7IL   DD SYSOUT=&OUTL
    //PAC7IM   DD SYSOUT=&OUTL
```

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STANDARD PROCEDURES   **2**
GPRT: GENERATION AND PRINTING   **3**
GPRT: EXECUTION JCL   **7**

```
     //PAC7IN    DD SYSOUT=&OUTL,COPIES=&NBMAN
     //PAC7JG    DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=1600
     //PAC7KA    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KB    DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KD    DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KE    DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KF    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KG    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KM    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KN    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KP    DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KQ    DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KR    DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
     //PAC7KS    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KU    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7KV    DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
     //PAC7LG    DD DUMMY,DCB=BLKSIZE=90
     //PAC7LI    DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=1600
     //PAC7LK    DD DUMMY,DCB=BLKSIZE=100
     //PAC7ME    DD DSN=&&GPRUMB,DISP=(OLD,DELETE,DELETE)
     //PAC7MG    DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=1500
     //PAC7SC    DD DSN=&INDEX..&ROOT.&ROOT.SC,DISP=SHR
     //PAC7SG    DD DSN=&INDEX..&ROOT.&ROOT.SG,DISP=SHR
     //PAC7SO    DD UNIT=&UWK,SPACE=(TRK,(20,05),RLSE),
     //             DCB=(RECFM=FB,LRECL=312,BLKSIZE=12480)
     //PAC7SR    DD DSN=&INDEX..&ROOT.&ROOT.SR,DISP=SHR
     //PAC7SS    DD DSN=&INDEX..&ROOT.&ROOT.SS,DISP=SHR
     //PAC7WA    DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=6300
     //PAC7W1    DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=6300
     //PAC7W2    DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=6300
     //PAC7W3    DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=6300
     //PAC7W4    DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=6210
     //PAC7W6    DD UNIT=&UWK,SPACE=&SPAMAN,
     //             DCB=(RECFM=FB,LRECL=308,BLKSIZE=24332)
     //PAC7W7    DD UNIT=&UWK,SPACE=&SPAWK,
     //             DCB=(RECFM=FB,LRECL=308,BLKSIZE=24332)
     //PAC7W8    DD UNIT=&UWK,SPACE=&SPAMAN,
     //             DCB=(RECFM=FB,LRECL=308,BLKSIZE=24332)
     //PAC7W9    DD UNIT=&UWK,SPACE=&SPAIDX,
     //             DCB=(RECFM=FB,LRECL=55,BLKSIZE=11440)
     //*
     //UPD     EXEC PGM=IEBUPDTE,COND=(08,LE,PAC),PARM=NEW
     //SYSIN   DD DSN=*.PAC.PAC7GB,DISP=(OLD,DELETE,DELETE),
     //             UNIT=&UNIT,VOL=REF=*.PAC.PAC7GB
     //SYSPRINT DD DUMMY
     //SYSUT2  DD DSN=&&BIBS,DISP=(,PASS),UNIT=&UWK,
     //             SPACE=&SPABI,
     //             DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
     //*
     //DEL     EXEC PGM=IEFBR14,COND=(08,GT,PAC)
     //PAC7GN  DD DSN=*.PAC.PAC7GB,DISP=(OLD,DELETE,DELETE),
     //             UNIT=&UNIT,VOL=REF=*.PAC.PAC7GB
     //*
```

2.3.8. INTERFACE WITH GDT-PC

                        INTERFACE WITH GDT-PC

          To enable GDT-PC to process the generation-output source files, control cards
          must be inserted in front of programs, maps, and copy clauses, in the following
          format:
          ```
          $$> pgm_name  (map_name or copy_name resp.)
                ******* PACBASEPGM      (MAP or CPY resp.)
          ```


          Example of control cards in front of program:
          ```
                In the TPAR  user parameter management transaction
                on the screen selected by the PC DP choice ('D'
                defines the control card in front and 'P' the line
                code).

             A      TITLE     TYPE : D    OPTION : P
                   CONTROL CARDS IN FRONT OF PROGRAM

             A  NL DESCRIPTION OF THE CONTROL CARD     S PARM.R
          $$> -                      P   -
                2 ******* PACBASEPGM
          ```


          These control cards in front (code 'P' in the example) must then be called on the
          entities to be generated for GDT-PC.

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2.3.9. PPAF: PAF PRE-PROCESSOR
2.3.9.1. PPAF: INTRODUCTION

PPAF: PAF PRE-PROCESSOR

PPAF: INTRODUCTION

Using PAF operators, the PPAF procedure processes generated user programs
containing SQL requests for access to the Database.

EXECUTION CONDITION

None.

EXECUTION

This procedure may be executed in different ways:

 - Either after program generation using the GPRT procedure, whose output is
    retrieved and used as input to PPAF, before compilation or storage in a source
    program library,

 - Or by requesting the procedure in the Optional Control Cards in front/in back
   of generated program; the appropriate JCL must have been previously entered
   in the selected options, which are updated via the user parameter update
   transaction or the PARM batch procedure.

2.3.10. PPAF: USER INPUT

<u>PPAF: USER INPUT</u>

<u>USER INPUT</u>

User input is the COBOL source code of programs containing PAF operators to be processed by the Preprocessor before compilation.

After the IDENTIFICATION DIVISION, each program contains a command line for the Preprocessor. This line is automatically generated by the GPRT procedure. Its structure is as follows:

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                             !
!---------------------------------------------------------!
!  1  !  6  ! nnnnnn ! COBOL line number                   !
!  7  !  1  ! '*'    ! Comment                             !
!  8  !  5  ! 'TP  ' ! On-line program OR                  !
!     !     ! 'BATCH'! Batch program                       !
! 13  !  6  ! 'LIB:' ! Fixed label                         !
! 19  !  3  ! bbb    ! Library code                        !
! 22  !  1  ! blank  ! Not used                            !
! 23  !  5  ! nnnns  ! Session number - Session version    !
! 28  !  1  ! blank  ! Not used                            !
! 29  !  2  ! --     ! Generation variant(s)               !
! 31  !  5  ! 'AR:'  ! Fixed label                         !
! 36  !  1  ! 1      ! Database language code              !
! 37  !  5  ! 'SC:'  ! Batch Language program skeleton     !
!     !     ! 'SG:'  ! On-line program skeleton            !
!     !     ! 'SR:'  ! COBOL program skeleton              !
! 42  !  1  ! 1      ! Skeleton language                   !
! 43  !  1  ! blank '! Not used                            !
! 44  !  6  !'SINGLE'! Single quotes OR                    !
!     !     !'DOUBLE'! Double quotes                       !
!     !     !        !                                     !
-----------------------------------------------------------
```

<u>EXAMPLES</u>

```
000020*TP   LIB: APP 2345   00 AR: F SG: F SINGLE

000020*BATCH LIB: APP 2300T  4  AR: F SC: F DOUBLE
```

This line is automatically generated by the GPRT procedure.

<u>PRINTED OUTPUT</u>

This procedure prints an error report.

<u>RESULT</u>

The result of the PPAF procedure is the COBOL source in which PAF operators have been processed and calls to PAF batch or on-line sub-programs have been generated.

2.3.11. PPAF: DESCRIPTION OF STEPS

PPAF: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

VERIFICATION OF VSAM FILES: IDCAMS

PREPROCESSOR: PAFP10

.Permanent input files:
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
 -Error message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

.Input file:
 -Generated programs
  PAF80: DSN=&&PPAFMB

.Output files:
 -Generated programs to be compiled
  COB80: DSN=&&PAFGEN

.Output report:
 -Execution report
  PAFREP

NOTE: If the generated flow contains the compilation control cards, when the PPAF
       procedure is executed after a GPRT procedure, this DSN (&&PAFGEN) may
       be replaced to send the generated flow to the MVS Internal Reader:
       SYSOUT=(&OUT,INTRDR)

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2.3.12. PPAF: EXECUTION JCL

```
//***********************************************************************
//*  VisualAge Pacbase : PACBASE ACCESS FACILITY PRE-PROCESSING
//***********************************************************************
//$RADP.PPAF PROC FILE=$FILE,        PHYSICAL-DATABASE NUMBER
//          ROOT=$ROOT,              ROOT OF THE VA PAC SYSTEM
//           INDEX='$INDEX',         VSAM-FILE INDEX
//*:        VSAMCAT='$CATU',         VSAM USER CATALOG
//*:        SYSTCAT='$CATV',         VSAM SYSTEM CATALOG
//          OUT='$OUT',              OUTPUT CLASS
//          INDEXP='$INDEXP',        INDEX OF NON-VSAM FILES
//          SPAMB='(TRK,(40,5),RLSE)',    SPACE OF GENERATED PROGRAMS
//          STEPLIB='$MODB',         LIBRARY OF BATCH LOAD MODULES
//          PSBLIB='$PSBLIB',        LIBRARY OF PSB'S
//          DBDLIB='$DBDLIB',        LIBRARY OF DBD'S
//          RESLIB='$RESLIB',        IMS RESLIB
//          PROCLIB='$PRCLIB',       IMS PROCLIB
//          UWK=$UWK,                WORK UNIT
//          BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//          CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*-------------------------------------------------------------------*
//*
//COPY     EXEC PGM=PTU001
//STEPLIB DD DSN=&STEPLIB,DISP=SHR
//PAC7MB   DD DSN=&&PPAFMB,DISP=(,PASS),UNIT=&UWK,
//            SPACE=&SPAMB,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
//CARTE    DD DDNAME=SYSIN
//*
//VERIFY   EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:        DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//*
//PAF      EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PAFP10,PAFP10$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:        DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAF80    DD DSN=&&PPAFMB,DISP=(OLD,DELETE)
//COB80    DD DSN=&&PAFGEN,DISP=(,PASS),UNIT=&UWK,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080),
//            SPACE=&SPAMB
//PAFREP   DD SYSOUT=&OUT
//*
```

2.4. PACX: EXTRACTION FROM THE VA PAC DATABASE

2.4.1. PACX: INTRODUCTION

<u>PACX: INTRODUCTION</u>

The PACX procedure extracts data from the VisualAge Pacbase Database in the form of transactions. These transactions can then be used as input for one of the following procedures:
    . UPDT
    . UPDP
    . CPSN (If the optional LCU Partitioned Database
          Manager utility is available.)

<u>EXECUTION CONDITION</u>

None, since the database is not directly updated by this procedure.

The authorization level is specified for each extractor.

2.4.2. PACX: USER INPUT COMMON TO ALL EXTRACTORS

PACX: USER INPUT COMMON TO ALL EXTRACTORS

```
---------------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                                 !
!----+-----+----------+---------------------------------------!
!  2 !  1 ! '*'       ! Line code                               !
!  3 !  8 ! uuuuuuuu  ! User code                               !
! 11 !  8 ! pppppppp  ! Password                                !
! 19 !  3 ! bbb       ! Extraction-library code, or target-!
!    !    !           !  library code if RMEN with upload  !
! 22 !  4 ! nnnn      ! Session number (blank=current ses.)!
! 26 !  1 ! T         ! Session status if Test session     !
! 28 !  1 ! l         ! Language code                           !
! 29 !  4 ! cccc      ! Extractor code                          !
! 33 !  1 ! '1'       ! Formatting for UPDT                     !
!    !    ! ' '       ! No formatting for UPDT                  !
! 34 !  1 ! '1'       ! Formatting for UPDP (PAF)               !
!    !    ! ' '       ! No formatting for UPDP (PAF)            !
! 35 !  1 ! '1'       ! Formatting for CPSN                     !
!    !    ! ' '       ! No formatting for CPSN                  !
! 40 !  3 ! ppp       ! DSMS Product Code                       !
! 43 !  6 ! nnnnnn    ! DSMS Change number                      !
!    !    !           ! (DSMS Function only)                    !
! 49 !  1 !           ! Lock processing                         !
!    !    ! ' '       ! Lock extraction:  user code             !
!    !    !           ! = '*'-line user code                    !
!    !    ! '1'       ! No lock extraction                      !
!    !    ! '2'       ! Lock extraction:  user code             !
!    !    !           ! = original user code                    !
! 50 !  1 ! ' '       ! No transfer of password                 !
!    !    ! '1'       ! Password transfer                       !
! 69 !  3 ! bbb       ! Library code for the '*'-line of  !
!    !    !           !  the output file(s)                     !
!    !    !           ! (For EXTR,EXLI, and EXUE only)     !
! 76 !  5 ! nnnnT     ! Session number for the '*'-line of !
!    !    !           !  the output file(s)                     !
!    !    !           ! (For EXTR,EXLI, and EXUE only)     !
---------------------------------------------------------------
```

Possible values for the extractor code include:

  - EXLI: Extraction of libraries or library sub-networks
  - EXTR: Extraction of entities
  - EXPJ: Extraction of Journal (formatting for CPSN is not
           possible)
  - EXPU: Extraction of entities to be purged (formatting
           for CPSN is not possible)
  - EXUE: Extraction of UEO's.
  - RMEN: Extraction of entitites for upload/replacement/
           recoding (formatting for CPSN is not possible)
           RMEN is subject to a separate purchase agreement.

I M P O R T A N T:

  - One extractor type only for each run: If the procedure detects more than one
    type of extractors, it will take only the first one into account.

  - One formatting type only for each run: If the procedure detects more than
    one type of formatting, it will take only the first one into account.

  - Formatting for CPSN: This procedure is part of the LCU Partitioned
    Database Manager optional utility. Its use is therefore subject to a special
    licence contract.

  - Maximum number of input '*' cards   : 99

PRINTED RESULT:

The PACX procedure produces:

  . A report containing the list of executed programs and the number of
    generated transactions.
  . A list of requests with possible associated errors.
  . One or several execution reports depending on the type of extractor.

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2.4.3. EXLI: LIBRARY EXTRACTION
2.4.3.1. EXLI: INTRODUCTION

EXLI: LIBRARY EXTRACTION

EXLI: INTRODUCTION

The EXLI procedure extracts a complete library from the database and
transforms it in transactions which will be used in the update or comparison
procedures.

The file obtained --according to its formatting-- can be used as input to the
UPDT, UPDP or CPSN procedures.

EXECUTION CONDITION

None, since the database is not directly updated.

However, if DESIGN entities are used, then locked, they must be reloaded in the
database before the extraction.

Batch-procedure access authorization option: level 2 is required.

2.4.4. EXLI: USER INPUT

<u>EXLI: USER INPUT</u>

No specific line, but as many '*'-lines as there are libraries to be extracted in the sub-network.

<u>PRINTED OUTPUT</u>

The extractor prints:

  . A list of extracted libraries with the number of records for each library,

  . The details of records extracted for each library.

2.4.5. EXTR: ENTITY EXTRACTION
2.4.5.1. EXTR: INTRODUCTION

<u>EXTR: ENTITY EXTRACTION</u>

<u>EXTR: INTRODUCTION</u>

The EXTR extractor type allows for selection of whole entities or parts of
entities.

If the request is of the 'ALL' type, the entire entity will be extracted, i.e. the
entity itself but also all the entities it uses, as well as entities used by those, and
so on. Used entities that are not cross-referenced are not extracted.

Depending on the type of formatting requested, the resulting file can be used as
input for the UPDT, UPDP or CPSN procedures. It is therefore possible to
compare entities.

<u>EXECUTION CONDITION</u>

None, since the database is not directly updated.

Batch-procedure access authorization option: level 2 is required.

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2.4.6. EXTR: USER INPUT

                          EXTR: USER INPUT
     USER INPUT

     One or two command lines per entity to be extracted.

     !Pos.! Len.! Value ! Meaning   !
     !----+-----+--------+---------------------------------------!
     ! 2 !   1 ! 'W'   ! Line code   !
     ! 3 !   1 ! '1'   ! Line number   !
     ! 4 !   2 ! 'EX'   !   !
     ! 6 !   1 !   ! Library selection code: !
     !   !   ! 'U'   ! Library alone   !
     !   !   ! 'C'   ! Library and its upper-level libraries!
     ! 7 ! 25 ! Choice ! Entity to be extracted, coded in the !
     !   !   !   ! same way as the 'Choice' on-line   !
     !   !   !   ! field   !
     ! 32 !   4 !   ! Extraction type: !
     !   !   ! '   ' ! Entity alone   !
     !   !   ! 'ALL ' ! Entity and used entities   !
     !   !   ! 'ONLY' ! Entity and only those used entities   !
     !   !   !   ! whose types are specified in the   !
     !   !   !   ! following part of the line   !
     !   !   ! 'EXPT' ! Entity and used entities, except   !
     !   !   !   ! those whose types are specified in   !
     !   !   !   ! the following part of the line   !
     ! 36 !   !   ! 15-position table (3 characters per   !
     !   !   !   ! position) containing exeptions or   !
     !   !   !   ! selections :   !
     !   !   !   !   'RUB': Data Element   !
     !   !   !   !   'DBD': Database Block   !
     !   !   !   !   'SDO': Data Structure   !
     !   !   !   !   'SEG': Segment   !
     !   !   !   !   'ETA': Report   !
     !   !   !   !   'TXT': Text   !
     !   !   !   !   'RAP': PDM Volume   !
     !   !   !   !   'MAN': User Manual   !
     !   !   !   !   'PGM': Program   !
     !   !   !   !   'DIA': Dialog   !
     !   !   !   !   'ECR': Screen   !
     !   !   !   !   'FOG': P.I.A.   !
     !   !   !   !   'MET': Methodology   !
     !   !   !   !   'ENU': User Entity   !
     !   !   !   !   'RLU': User-defined Relationship !
     !   !   !   !   '$tt': User Entity Occurrence   !
     !   !   !   !   (tt = occurr. type code) !

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```
            Second line (continuation line for selections and excep-
            tions):


            ----------------------------------------------------------
            !Pos.! Len.! Value  ! Meaning                             !
            !----+-----+--------+-------------------------------------!
            ! 2 !  1 ! 'W'      ! Line code                           !
            ! 3 !  1 ! '2'      ! Line number                         !
            ! 36 !     !        ! 15-position table (3 characters per !
            !    !     !        ! position) containing the exceptions !
            !    !     !        ! or selections                       !
            ----------------------------------------------------------
```

(*) The EXTR procedure also works with choices that are specific to the
    WorkStation. These choices must be entered from the eigth position, in the
    following way:


```
        _W1EX_U//A_CCCXXXXXX
          where A is the methodology code and CCC the entity
          local code.
```


If the extraction type is not specified, the extraction of a Data Structure extracts
the Data Structure only. This field must therefore be completed if Segments (or
Reports) for that Data Element are to be extracted also. Similarly, for a Dialog
and its Screens, or a User Entity and its Occurrences, this field must be
completed.

The extraction stops at the first selection or exclusion level.

Example: Extraction of a Program with 'EXTPSEG' - The Data Elements used
by Segments used by the Program will not be extracted since the extractor will
not consider those segments.

PRINTED OUTPUT

The procedure produces:

. A list of extracted entities.

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2.4.7. EXPJ: TRANSACTION EXTRACTION FROM THE JOURNAL
2.4.7.1. EXPJ: INTRODUCTION

EXPJ: INTRODUCTION

The EXPJ procedure has a two-fold action:

  . It converts the Journal file into update transactions with possible selection
   from a range of dates, sessions, libraries, etc.

  . It prints out a listing of the contents of the archived Journal file, using the
   same criteria.

Its main purpose is to retrieve transactions associated with one database in order
to update another database.

It is executed on the archived Journal file (PJ).

EXECUTION CONDITION

None.

Batch procedure access authorization option: level 2 is required.

Password transfer option ('*'-line col. 50 = 1): database access authorization
level 4 is required.

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   2.4.8. EXPJ: USER INPUT

                            EXPJ: USER INPUT

          USER INPUT

          User entry specific to this procedure and specifying the extraction
          characteristics.

          ! POS.! LEN.! VALUE ! MEANING   !
          !--!
          ! 2 ! 1 ! 'J'   ! Line code   !
          ! 3 ! 1 ! 'S'   ! Selection on session number   !
          !   !   ! 'D'   ! Selection on date   !
          ! 4 ! 1 ! ' '   ! Chronological sort   !
          !   !   ! 'N'   ! No chronological sort   !
          ! 5 ! 1 ! ' '   ! Sort by user   !
          !   !   ! 'N'   ! No sort by user   !
          ! 6 ! 1 ! ' '   ! Sort by Library   !
          !   !   ! 'N'   ! No sort by library   !
          ! 7 ! 8 !uuuuuuuu! User code for batch update   !
          ! 15 ! 8 !pppppppp! User password   !
          ! 23 ! 4 ! dddd   ! Session number: beginning   (if 'S')!
          ! 27 ! 4 ! ffff   ! Session number: end   (if 'S')!
          ! 31 ! 8 !CCYYMMDD! Date of beginning of select.(if 'D')!
          ! 39 ! 8 !CCYYMMDD! Date of end of selection   (if 'D')!
          ! 47 ! 1 !   ! Version of selected transactions !
          !   !   ! ' '   ! Selection of all sessions   !
          !   !   ! 'Z'   ! Selection of current session   !
          !   !   ! 'T'   ! Selection of frozen session   !
          ! 48 ! 3 ! 'bbb' ! Code of selected library   !
          ! 51 ! 5 ! 'ssssT'! Selection of T-type session (test !
          !   !   !   ! version of frozen session:'ssssT') !
          ! 56 ! 3 ! ppp   ! DSMS Product Code   !
          ! 59 ! 6 ! nnnnnn ! DSMS Change number   !
          !   !   !   ! (Selection by change number-DSMS) !
          ! 65 ! 6 ! HHMMSS ! Starting time   !
          ! 71 ! 6 ! HHMMSS ! Ending time   !

          REPORTS

          .The list of selection options used,
          .The list of selected transactions, if requested.

          RESULT

          In the case of a request for conversion of the Journal entries into transactions,
          the result of the EXPJ procedure is a sequential file containing all selected
          transactions.

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2.4.9. EXPU: EXTRACTION OF UNUSED ENTITIES FOR PURGE
2.4.9.1. EXPU: INTRODUCTION

EXPU: INTRODUCTION

The EXPU utility purges unused entities from a database.

Two types of purges are possible:

-'Logical' purge of entities which have become obsolete;

-'Physical' purge of entities which have never been used.

TERMINOLOGY

FINAL ENTITIES:

These entities, which are not used by other entities, include:

   . Programs ('P' entity);

   . Screens, C/S Screens, application comp.,.. ('O' entity);

   . User manuals ('U' entity);

   . Volumes ('V' entity);

   . User entity occurrences ('$' entity);

   . Database blocks ('B' entity).

FREE-TYPE CROSS-REFERENCE:

Reference whose existence does not prevent deletion of the Definition screen of
the Entity on which it is dependent.

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PRINCIPLES

LOGICAL PURGE:

The EXPU procedure shows the list of entities which have not been used since an indicated frozen session and in a given context.

For these entities, the procedure generates logical deletion transactions of definition and description lines. These transactions can be used as input to the UPDT procedure.

For free-type entities, no deletion transaction is generated: only a message is printed in the report.

PHYSICAL PURGE:

The EXPU procedure informs the user of the entities which have never had any cross-references since their creation in a given context. For these entities, physical purge transactions are generated. These transactions can be used as input to the REOR procedure.

NOTE: THE LIBRARY ENTITY IS NOT PROCESSED.

EXECUTION CONDITION

None, since the database is not directly updated.

Batch procedure access authorization option: Authorization level 3 is required.

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2.4.10. EXPU: USER INPUT

EXPU: USER INPUT

USER INPUT

One line with the extraction characteristics:

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                            !
!---------------------------------------------------------!
!  2  !  2  ! 'P '   ! Line code                          !
!  4  !  1  !        ! Type of purge:                     !
!     !     ! 'P'    ! Physical (via the REOR procedure)  !
!     !     ! 'L'    ! Logical (via the UPDT procedure)   !
!  5  !  1  !        ! Search option for the entity defini-!
!     !     !        ! tion screens:                      !
!     !     ! 'U'    ! In the indicated library only      !
!     !     ! 'Z'    ! In the indicated library and corres-!
!     !     !        ! ponding sub-network                !
!  6  !  4  ! ssss   ! Session number (type 'L' only) from !
!     !     !        ! which the entities must not be used !
!     !     !        ! in order to be purged              !
! 10  !  3  ! ttt    ! Entity type                        !
! 13  !  6  ! pppppp ! Program code (program processing   !
!     !     !        ! only)                              !
! 19  !  1  !  1     ! Allows the removal of purge        !
!     !     !        ! transactions which are not cross-  !
!     !     !        ! referenced in the sub-network nor  !
!     !     !        ! in the next higher network.        !
-----------------------------------------------------------
```

COMMENTS

Each 'ENTITY TYPE' may be processed separately. If the 'EN- TITY TYPE' field is not entered, all entities are processed EXCEPT the FINAL ENTITIES.

Command Examples:

```
        *user     passwordBIB
        P PZ     E
```

Command for physical purge transactions for the data elements in the BIB library sub-network.

```
        *user     passwordBIB
        P LU2222P  PROGR
```

Command for logical deletion transactions for the programs in the BIB library whose codes are less than or equal to PROGR, starting from session number 2222.

```
        *user     passwordBIB
        P PU
```

Command for physical purge transactions for all entities in the BIB library (except the FINAL ENTITIES).

PRINTED OUTPUT

This procedure prints out:

  - A list of the entities to be purged logically,

  - A list of the entities to be purged physically.

RESULT

The result of this procedure is:

  - In the case of a logical purge, a sequential file containing entity deletion
   transactions to be used as input in the Database updating (UPDT) procedure.

These transactions are sorted as follows:

  . By decreasing hierarchical library level

  . By library

  . By record type: descriptions, definition screens.

  - In the case of a physical purge, a sequential file containing entity purge
   transactions to be used as input to the Reorganization (REOR) procedure.

Each transaction contains a maximum of six entities to be purged.

For each entity, the following information is included:

  . The entity type

  . The entity code

  . The library code. (See Chapter "REOR: Database Reorganization",
   Subchapter 'INPUT-RECOMMENDATIONS', in the Administrator's Guide.)

2.4.11. EXUE: EXTRACTION OF USER ENTITIES
2.4.11.1. EXUE: INTRODUCTION

EXUE: INTRODUCTION

The EXUE procedure extracts user entity occurrences according to their type
code, formatted as simple records in a sequential file.

The EXUE procedure is part of the Dictionary Extensibility Function which is
an optional component and whose use depends upon the corresponding purchase
agreement.

EXECUTION CONDITION

None, since the database is not directly updated.

Batch-procedure access authorization option: Level 2 is required.

2.4.12. EXUE: USER INPUT

EXUE: USER INPUT

USER INPUT

One command line per user entity:

```
---------------------------------------------------------
!POS.!LEN.! VALUE  ! MEANING                             !
!----!----!--------!-------------------------------------!
! 2  ! 4  ! W1EX   ! Line code                           !
! 6  ! 1  ! $      ! UEO Extraction identifier           !
! 7  ! 1  !        ! Library selection code:             !
!    !    ! U      ! Selected library                    !
!    !    ! C      ! Selected library + higher level libr.!
! 8  ! 2  ! CC     ! User Entity type code               !
---------------------------------------------------------
```

REPORT

The EXUE procedure prints a list of extracted UEOs.

RESULT

The output of the EXUE procedure is a sequential file with a fixed format in which the contents of the selected user entity occurrences are recorded.

The length of each record is 112 characters.

Each record includes:

  . A common part containing all the characteristics necessary to identify each extracted line.

  . A specific part whose format depends on the user entity description.

2.4.13. RMEN: RENAME/MOVE OF ENTITIES
2.4.13.1. RMEN: INTRODUCTION

<u>RMEN: ENTITY RENAMING / MOVING</u>

<u>RMEN: INTRODUCTION</u>

The RMEN procedure is an optional utility. It is subject to a separate purchase agreement.

Through the RMEN procedure you can:

 1. Rename an entity

 2. Replace an entity with another

 3. Move an entity to a higher-level library

 4. Rename and move up an entity simultaneously.

This procedure may be applied to Dictionary entities and to WorkStation entities.

Its output is a file containing update transactions, which will be used as input for the UPDT batch update procedure.

<u>EXECUTION CONDITION</u>

None, since the Database is not directly updated.

Batch procedure access authorization option:
Level 3 is required.

To rename (RN) or replace (RP) entities, an authorization level 4 on the library in which the entity is found is sufficient.

2.4.14. RMEN: USER INPUT

RMEN: USER INPUT

Batch procedure access authorization:

One or more command lines per entity to be processed:

First line

```
---------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                            !
!--------------------------------------------------------!
!  2  !  2  !   W2   ! Line code                          !
!  4  !  2  !        ! Processing option:                 !
!     !     !   MV   ! Entity move (UP)                   !
!     !     !   RN   ! Entity rename                      !
!     !     !   RP   ! Entity replace                     !
!     !     !   MR   ! Upward move and rename             !
!  6  !  3  !   ttt  ! Entity type or local code of a     !
!     !     !        ! WorkStation entity:                !
!     !     !        !  D, E, I, O, P, R, S, T, $nn, F, M, !
!     !     !        !  Q, B, V, or SDO, RUB ...          !
!  9  !  6  ! elemt1 ! Code of entity to be extracted     !
! 15  !  1  !        ! Separator blank                    !
! 16  !  3  !   sss  ! Source library code (for MOVE)     !
! 19  !  1  !        ! Separator blank                    !
! 20  !  6  ! elemt2 ! Entity code after RENAME, or code of!
!     !     !        ! replacing entity in case of REPLACE !
! 26  !  6  ! elemtP ! Parent Data Element code           !
! 32  !  3  ! 'ALL'  ! RENAME or MOVE:  Selects all occur- !
!     !     !        ! rences of a UE or all Segments or   !
!     !     !        ! Reports of a Data Structure         !
! 35  !  3  !        ! For extraction of WorkStation enti- !
!     !     !        ! ties: methodology code             !
!     !     ! '//A'  ! SSADM                              !
!     !     ! '//M'  ! MERISE                             !
!     !     ! '//D'  ! YSM                                !
---------------------------------------------------------
```

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First line (continued):

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                              !
!----------------------------------------------------------!
! 38  ! 3   !        ! REPLACE:  Selection of the types of !
!     !     !        ! the entities to be modified          !
!     !     !        ! 'RUB':  Data Element                 !
!     !     !        ! 'DBD':  Database Block               !
!     !     !        ! 'SDO':  Data Structure               !
!     !     !        ! 'SEG':  Segment                      !
!     !     !        ! 'ETA':  Report                       !
!     !     !        ! 'TXT':  Texte                        !
!     !     !        ! 'RAP':  PDM volume                   !
!     !     !        ! 'MAN':  User Manual                  !
!     !     !        ! 'PGM':  Program                      !
!     !     !        ! 'ECR':  Screen                       !
!     !     !        ! 'FOG':  P.I.A.                       !
!     !     !        ! 'MET':  Methodology                  !
!     !     !        ! 'ENU':  User Entity                  !
!     !     !        ! 'REL':  User-defined Relationship    !
!     !     !        ! '$tt':  User Entity Occurrence       !
!     !     !        !     :   (tt = occurrence type code)!
!     !     !        ! '$**':  All UEOs                     !
! 41  ! 6   !        ! REPLACE:  Codes of entities to be    !
!     !     !        ! modified (* may be used if you want  !
!     !     !        ! to specify only the beginning of a   !
!     !     !        ! code.                                !
-----------------------------------------------------------
```

Lines for REPLACE (continuation lines for selection):

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                              !
!----------------------------------------------------------!
! 2   ! 2   ! 'W2'   ! Line code                            !
! 4   ! 2   ! 'RP'   ! 'REPLACE'                            !
! 6   ! 3   ! '*'    ! 'continuation line'                  !
! 38  ! 3   !        ! Selection of types of entities to be!
!     !     !        ! modified                             !
! 41  ! 6   !        ! Codes of entities to be modified     !
-----------------------------------------------------------
```

REQUEST-SEQUENCING REQUIREMENTS

A parent Data Element must be moved to the higher-level library BEFORE its child data element(s).

When a segment is called by another segment, the called segment must be moved to the higher-level library BEFORE the segment that is calling it.

When a macro-structure is called by a batch program or on-line screen, it must be moved into the higher-level library BEFORE this program or screen.

REQUEST-INPUT REQUIREMENTS

All input is required except:

  . The source library code in case of entity renaming (RN) or replacing (RP),
  . The new entity code in case of upward move (MV),
  . The code of the parent data element (except when a child data element is to be associated with it).

EXECUTION RULES

The source library must belong to the sub-network of the target library.

When an upward move is requested for an entity which already exists in the target library, a warning message appears in the report, but the transaction is still generated.

PRINTED OUTPUT

This procedure prints out the following:

   . The list of entities processed by RMEN.

RESULT

The output is a sequential file which contains update transactions:

   . Creation or modification transactions sorted by:

   - Ascending library hierarchical level,

   - Library,

   - Record type (uses, definition, or description).

   . Deletion transactions sorted by:

   - Descending library hierarchical level,

   - Library,

   - Record type (uses, description, definition).

NOTES:

The replacement of entities (RP) does not ensure data consistency. Thus, if you replace a Data Element with another one in a Segment, RMEN will not modify the program lines where this Data Element is used by this Segment, except if you specified the replacement in programs.

If not correctly managed, the RMEN procedure may have undesired effects on the Database. Caution is highly recommended when requesting its execution.

2.4.15. PACX: DESCRIPTION OF STEPS

                    PACX: DESCRIPTION OF STEPS

        TRANSACTION RECOGNITION: PTU001

        INITIALIZATION OF KSDS WORK FILE: MAXKEY

        VERIFICATION OF VSAM FILES: IDCAMS

        EXTRACTION: PACX

        This step extracts transactions according to user input.

        .Permanent input files:
         -Data file
          PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
         -Index file
          PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
         -Error-message file
          PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
         -Erroneous transactions
          PAC7PJ: DSN=&INDEXQ..&ROOT.&FILE.PJ(0)

        .Input transaction file:
         -User input
          PAC7MB: DSN=&&PACXMB

        .Work files:
         -User input
          PAC7BM: DSN=&&PACXBM
         -EXPU work file
          PAC7MM: DSN=&&PACXMM
         -EXPJ work file
          PAC7MJ: DSN=&&PACXMJ
         -RMEN work file
          PAC7TE: DSN=&&PACXTE
         -RMEN work file
          PAC7RE: DSN=&&PACXRE
         -RMEN work file
          PAC7RM: DSN=&&PACXRM

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```
        -Extracted transactions
         PAC7WD:    DSN=&&PACXWD
        -Multi-layered Extractor work file
         SYSEXT:    DSN=&&SYSEXT

        .Output files:
         -Extracted transactions for UPDT
          PAC7MV:    DSN=&&MV
         -Extracted transactions for REOR (EXPU)
          PAC7MR:    DSN=&&MR



         -Extracted transactions for UPDP
          PAC7GY:    DSN=&&GY
         -Extracted transactions for CPSN
          PAC7TD:    DSN=&&TD
         -Extracted transactions for EXUE
          PAC7UE:    DSN=&&UE

        .Output reports:
         -General printout of the program stream
          PAC7IA
         -List of errors on input transactions
          PAC7DD
         -Summary reports on extractions
          PAC7EE
          PAC7EP
          PAC7EQ
          PAC7EZ

        .Sort file(s):
          SORTWK01
          SORTWK02
          SORTWK03

        .Return codes:
         0:  No error
         4:  Error on user input (detailed in PAC7EE)
             OR
             EXTR/EXUE - problem during extraction
                       (detailed in PAC7EZ)
         8:  Error on '*'-line (detailed in PAC7DD)
             OR
             EXLI - Database unavailable
```

2.4.16. PACX: EXECUTION JCL

```
//**********************************************************************
//* VisualAge Pacbase  -  EXTRACTION MONITOR
//**********************************************************************
//$RADP.PACX PROC FILE=$FILE,        PHYSICAL-DATABASE NUMBER
//          ROOT=$ROOT,              ROOT OF THE VA PAC SYSTEM
//          INDEX='$INDEX',          VSAM-FILE INDEX
//          INDEXP='$INDEXP',        INDEX OF NON-VSAM FILES
//          INDEXQ='$INDEXQ',        INDEX OF GENERATION FILES
//*:        VSAMCAT='<>',            VSAM USER CATALOG
//*:        SYSTCAT='<>',            VSAM SYSTEM CATALOG
//          PSBLIB='$PSBLIB',        LIBRARY OF PSBs
//          DBDLIB='$DBDLIB',        LIBRARY OF DBDs
//          RESLIB='$RESLIB',        IMS RESLIB
//          PROCLIB='$PRCLIB',       IMS PROCLIB
//          STEPLIB='$MODB',         LOAD-MODULE LIBRARY
//          SORTLIB='$BIBT',         SORT LIBRARY
//          USER=,                   USER CODE
//          OUT='$OUT',              OUTPUT CLASS
//          OUTL='$OUT',             PRINT OUTPUT CLASS
//          UWK=SYSDA,               WORK UNIT
//          SYSEXT='$INDEX..SYSEXT', VSAM KSDS WORK PREFIX
//          SPAMB='(TRK,(5,1),RLSE)',  REQUEST FILE SPACE
//          SPAMV='(TRK,(50,10),RLSE)', SPACE OF UPDT FILE
//          SPAGY='(TRK,(50,10),RLSE)', SPACE OF UPDP FILE
//          SPATD='(TRK,(50,10),RLSE)', SPACE OF CPSN FILE
//          BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//          CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//**********************************************************************
//INPUT  EXEC PGM=PTU001
//**********************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//PAC7MB   DD DSN=&&PACXMB,DISP=(,PASS),UNIT=&UWK,
//            DCB=BLKSIZE=3440,SPACE=&SPAMB
//CARTE    DD DDNAME=SYSIN
//PRMSYS EXEC PGM=PRMSYS,PARM='&USER'
//********************************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//SYSOUT DD SYSOUT=&OUT
//PACRIN DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSYSEXT),DISP=SHR
//PACROU DD DSN=&&DFSYSEXT,DISP=(,PASS),SPACE=(TRK,1),
//          UNIT=&UWK,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=800)
//DEFINE EXEC PGM=IDCAMS
//**********************
//*:STEPCAT  DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSIN    DD DSN=&&DFSYSEXT,DISP=(OLD,DELETE)
//MAXKEY   EXEC PGM=IDCAMS
//**********************
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSPAF   DD DSN=&SYSEXT..&USER,DISP=SHR
//MAXKEY   DD DSN=&INDEXP..&ROOT.&ROOT.SY(MAXKEY),DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(REPRO999),DISP=SHR
//VERIFY EXEC PGM=IDCAMS
//*********************
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:         DD DSN=&SYSTCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//*
//PACX     EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PACX,PACX$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
```

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```
//           &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//******** FICHIERS BASE
//PAC7AE$SUF  DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AN$SUF  DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF  DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7PJ   DD DSN=&INDEXQ..&ROOT.&FILE.PJ(0),DISP=SHR
//******** ETATS
//PAC7IA   DD SYSOUT=&OUTL
//PAC7DD   DD SYSOUT=&OUTL
//PAC7EE   DD SYSOUT=&OUTL
//PAC7EP   DD SYSOUT=&OUTL
//PAC7EQ   DD SYSOUT=&OUTL
//PAC7EZ   DD SYSOUT=&OUTL
//******** FICHIERS DE TRAVAIL
//SYSEXT   DD DSN=&SYSEXT..&USER,DISP=SHR
//PAC7MB   DD DSN=&&PACXMB,DISP=(OLD,DELETE,DELETE)
//PAC7BM   DD DSN=&&PACXBM,DISP=(,DELETE),UNIT=&UWK,
//           DCB=BLKSIZE=3440,SPACE=&SPAMB
//PAC7MM   DD DSN=&&PACXMM,DISP=(,DELETE),UNIT=&UWK,
//           SPACE=&SPAMV,
//           DCB=(RECFM=FB,LRECL=55,BLKSIZE=6215)
//PAC7MJ   DD DSN=&&PACXMJ,DISP=(,DELETE),UNIT=&UWK,
//           SPACE=&SPAMV,
//           DCB=(RECFM=FB,LRECL=152,BLKSIZE=6080)
//PAC7TE   DD DSN=&&PACXTE,DISP=(,DELETE),UNIT=&UWK,
//           SPACE=&SPATD,
//           DCB=(RECFM=FB,LRECL=180,BLKSIZE=6660)
//PAC7RE   DD DSN=&&PACXRE,DISP=(,DELETE),UNIT=&UWK,
//           SPACE=&SPATD,
//           DCB=(RECFM=FB,LRECL=12,BLKSIZE=4440)
//PAC7RM   DD DSN=&&PACXRM,DISP=(,DELETE),UNIT=&UWK,
//           SPACE=&SPATD,
//           DCB=(RECFM=FB,LRECL=167,BLKSIZE=6179)
//PAC7WD   DD DSN=&&PACXWD,DISP=(,DELETE),UNIT=&UWK,
//           SPACE=&SPATD,
//           DCB=(RECFM=FB,LRECL=167,BLKSIZE=6179)
//******** FICHIERS DE TRI
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
//******** FICHIERS EN SORTIE
//PAC7MV   DD DSN=&&MV,DISP=(,PASS),UNIT=&UWK,
//           SPACE=&SPAMV,
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
//PAC7MR   DD DSN=&&MR,DISP=(,PASS),UNIT=&UWK,
//           SPACE=&SPAMV,
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
//PAC7TD   DD DSN=&&TD,DISP=(,PASS),UNIT=&UWK,
//           SPACE=&SPATD,
//           DCB=(RECFM=FB,LRECL=167,BLKSIZE=6179)
//PAC7GY   DD DSN=&&GY,DISP=(,PASS),UNIT=&UWK,
//           SPACE=&SPAGY,
//           DCB=(RECFM=FB,LRECL=310,BLKSIZE=6200)
```

```
     //PAC7UE   DD DSN=&&UE,DISP=(,PASS),UNIT=&UWK,
     //           SPACE=&SPAMV,
     //           DCB=(RECFM=FB,LRECL=112,BLKSIZE=6496)
     //*
     //PRMSYS EXEC PGM=PRMSYS,PARM='&USER',COND=EVEN
     //**********************************************
     //STEPLIB  DD DSN=&STEPLIB,DISP=SHR
     //SYSOUT DD SYSOUT=&OUT
     //PACRIN DD DSN=&INDEXP..&ROOT.&ROOT.SY(DLSYSEXT),DISP=SHR
     //PACROU DD DSN=&&DLSYSEXT,DISP=(,PASS),SPACE=(TRK,1),
     //           UNIT=&UWK,
     //           DCB=(RECFM=FB,LRECL=80,BLKSIZE=800)
     //DELETE EXEC PGM=IDCAMS,COND=EVEN
     //******************************
     //*:STEPCAT  DD DSN=&VSAMCAT,DISP=SHR
     //SYSPRINT DD SYSOUT=&OUT
     //SYSIN    DD DSN=&&DLSYSEXT,DISP=(OLD,DELETE)
     //
```

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3. PERSONALIZED EXTRACTION & AUTOMATED DOCUMENTATION

3.1. XPAF: EXTRACTION MASTER PATH

3.1.1. XPAF: INTRODUCTION

XPAF: INTRODUCTION

PRINCIPLES

The Extraction Master Path validation procedure, XPAF, allows for the
simulation of specific extractions that the standard procedures are not able to
perform.

RESULTS

The type of result depends on whether or not the extracted domain is to be
integrated into a report: Macro-Command or User Extraction program.

Macro-Command: a subroutine to be activated during a printing request by
GPRT (choice: PCV).

User Extraction program: a Source Program to be compiled and executed.

PREREQUISITE

In order to use this procedure, the system manager must update the Database
with the transaction file supplied for installation which contains the .PPTEX
User Entity, whose call code is 7E.

IMPLEMENTATION

Before the procedure can be executed, the user must define an occurrence of this
user entity ($7E). Its definition file and description will determine the
characteristics and format of the general extraction program.

EXECUTION CONDITIONS

Extraction Master Path users must have at least a level 2 authorization on the Database.

ABEND

For any type of abnormal end the procedure can be re-executed once the problem has been solved.

PRINTED OUTPUT

This procedure prints a validation report and a simulation of the Extraction Master Path.

3.1.2. XPAF: USER INPUT

XPAF: USER INPUT

One '*' line per library and session to be consulted

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                              !
!---------------------------------------------------------- !
!  2  ! 1  ! '*'     ! Line code                            !
!  3  ! 8  !uuuuuuuu! User code                             !
! 11  ! 8  !pppppppp! User password                        !
! 19  ! 3  !bbb      ! Library code                         !
! 22  ! 4  !nnnn     ! Session number                       !
! 26  ! 1  !T        ! Session version                      !
! 68  ! 1  !' '      ! Standard print                       !
!     !    !'1'      ! Uppercase print                      !
-----------------------------------------------------------
```

One command line 'EX' for the following elements:

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                              !
!---------------------------------------------------------- !
!  2  ! 2  ! 'EX'   ! Line code                             !
!  4  ! 2  !        ! Call code (7E by default)             !
!  6  ! 6  ! eeeee  ! User Entity occurrence code           !
-----------------------------------------------------------
! Warning:  Specify library and session if the UEs         !
!           whose occurrences will be extracted are in a    !
!           a parallel sub-network (UEOs managed by the     !
!           WorkStation for example)                        !
-----------------------------------------------------------
! 12  ! 3  ! bbb    ! Library code                          !
! 15  ! 4  ! nnnn   ! Session number                        !
! 19  ! 1  ! T      ! Session version                       !
-----------------------------------------------------------
! 20  ! 6  !'UPDATE'! Update of GS                          !
!     !    !  or    !                                       !
!     !    ! SPACE  ! Check of the presence of the master   !
!     !    !        ! path in GS.                           !
!     !    !        ! Check of the user entity occurence's  !
!     !    !        ! use in the sub-network.               !
!     !    !        ! No update of GS if presence or use.   !
-----------------------------------------------------------
```

EXAMPLES

```
*user    passwordBIB
EX7EEXT001         UPDATE
*user    passwordBIB
EX7EEXT002
```

3.1.3. XPAF: DESCRIPTION OF STEPS

<u>XPAF: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>ACCESS AND VALIDATION: PTEX30</u>

.Input files:
 -VA Pac error-message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE
 -Index file
  PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR

.Input transaction file:
 -User input
  PAC7MB: DSN=&&XPAFMB

.Permanent input file:
 -Variable skeleton-file
  PAC7SP :   DSN=&INDEX..&ROOT.&ROOT.SP

.Permanent input/output file:
 -Extraction Paths
  PAC7GS :   DSN=&INDEX..&ROOT.&FILE.GS

.Output file:
 -Summary passed on to printing program
  PAC7ED: DSN=&&PAC7ED
 -Temporary generated source
  PAC7GP: DSN=&&PAC7GP

.Output report:
 -Execution report
  PAC7DD

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

<u>EXTRACTION GENERATION: PTEX80</u>

.Permenant input file:
 -Fixed skeleton file
  PAC7SF :   DSN=&INDEXP..&ROOT.&ROOT.SF

.Input file:
 -Source file generated by PTEX30
  PAC7GP :   DSN=&&PAC7GP

.Output file:
 -Generated source to be translated
  PAC7ST :   DSN=&&PAC7ST

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            PREPROCESSOR: PAFP10

            .Permanent input files:
             -Data file
              PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
             -Index file
              PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
             -Error message file
              PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

            .Input file:
             -Generated programs
              PAF80: DSN=&&PPAFMB

            .Output files:
             -Generated programs to be compiled
              COB80: DSN=&&PAFGEN

            .Output report:
             -Execution report
              PAFREP

    NOTE: If the generated flow contains the compilation control cards, when the PPAF
           procedure is executed after a GPRT procedure, this DSN (&&PAFGEN) may
           be replaced to send the generated flow to the MVS Internal Reader:
           SYSOUT=(&OUT,INTRDR)

            PTEX PRINTING: PTEXD0

            .Input files:
             -VA Pac error messages
              PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
             -PTEX30 report
              PAC7ED: DSN=&&PAC7ED

            .Permanent input/output file:
             -Extraction paths
              PAC7GS: DSN=&INDEX..&ROOT.&FILE.GS

            .Output report:
             -Validation report
              PAC7RD

            .Sort file(s):
             SORTWK01
             SORTWK02
             SORTWK03

3.1.4. XPAF: EXECUTION JCL

```
//**********************************************************************
//*  VisualAge Pacbase  : VALIDATING AN EXTRACTION MASTER PATH
//**********************************************************************
//$RADP.XPAF PROC FILE=$FILE,     NUMBER OF THE PHYSICAL DATABASE
//         ROOT=$ROOT,             ROOT OF THE VA PAC SYSTEM
//         INDEX='$INDEX',         INDEX OF VSAM FILES
//         INDEXP='$INDEXP',       INDEX OF NON-VSAM FILES
//*:       SYSTCAT='$CATV',        VSAM SYSTEM CATALOG
//*:       VSAMCAT='$CATU',        VSAM USER CATALOG
//         STEPLIB='$MODB',        LIBRARY OF LOAD-MODULES
//         SORTLIB='$BIBT',        SORT LIBRARY
//         CYL=5,                  SORT WORK SIZE
//         OUT='$OUT',             OUTPUT CLASS
//         UWK=$UWK,               WORK UNIT
//         SPAED='(TRK,(20,5),RLSE)',   SPACE OF PRINTING FILES
//         SPAGP='(TRK,(50,5),RLSE)',   SPACE OF GENERATION FILE
//         PSBLIB='$PSBLIB',       LIBRARY OF PSB'S
//         DBDLIB='$DBDLIB',       LIBRARY OF DBD'S
//         RESLIB='$RESLIB',       IMS RESLIB
//         PROCLIB='$PRCLIB',      IMS PROCLIB
//         BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//         CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*------------------------------------------------------------------*
//*
//INPUT   EXEC  PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&XPAFMB,DISP=(,PASS),
//         UNIT=&UWK,SPACE=(TRK,(5,1),RLSE),
//         DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
//*
//VERIFY EXEC  PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//*
//PTEX30  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PTEX30,PTEX30$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//         DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
```

```
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
    //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
    //PAC7GS   DD DSN=&INDEX..&ROOT.&FILE.GS,DISP=SHR
    //PAC7SP   DD DSN=&INDEX..&ROOT.&ROOT.SP,DISP=SHR
    //PAC7MB   DD DSN=&&XPAFMB,DISP=(OLD,PASS)
    //PAC7ED   DD DSN=&&PAC7ED,DISP=(,PASS),UNIT=&UWK,
    //            DCB=(RECFM=FB,LRECL=140,BLKSIZE=6440),
    //            SPACE=&SPAED
    //PAC7GP   DD DSN=&&PAC7GP,DISP=(,PASS),UNIT=&UWK,
    //            DCB=(RECFM=FB,LRECL=119,BLKSIZE=6426),
    //            SPACE=&SPAGP
    //PAC7DD   DD SYSOUT=&OUT
    //*
    //PTEX80  EXEC PGM=PTEX80,COND=(08,LE,PTEX30)
    //STEPLIB  DD DSN=&STEPLIB,DISP=SHR
    //PAC7SF   DD DSN=&INDEXP..&ROOT.&ROOT.SF,DISP=SHR
    //PAC7GP   DD DSN=&&PAC7GP,DISP=(OLD,PASS)
    //PAC7ST   DD DSN=&&PAFMB,DISP=(,PASS),UNIT=&UWK,
    //            DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160),
    //            SPACE=&SPAGP
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //SYSUDUMP DD SYSOUT=&OUT
    //*
    //PAF     EXEC PGM=DFSRRC00,REGION=$REGSIZ,
    //          PARM=(DLI,PAFP10,PAFP10$SUG,&BUF,
    //          &SPIE&TEST&EXCPVR&RST,&PRLD,
    //          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM),
    //          COND=(08,LE,PTEX30)
    //STEPLIB  DD DSN=&RESLIB,DISP=SHR
    //         DD DSN=&STEPLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS      DD DSN=&PSBLIB,DISP=SHR
    //         DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
    //*:        DD DSN=&VSAMCAT,DISP=SHR
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON   DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
    //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
    //PAF80    DD DSN=&&PAFMB,DISP=(OLD,DELETE)
    //COB80    DD DSN=&&PAFGEN,DISP=(,PASS),UNIT=&UWK,
    //            DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080),
    //            SPACE=&SPAGP
    //PAFREP   DD SYSOUT=&OUT
    //*
    //PTEXD0  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
    //          PARM=(DLI,PTEXD0,PTUN10$SUG,&BUF,
    //          &SPIE&TEST&EXCPVR&RST,&PRLD,
    //          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM),
    //          COND=(12,LE,PAF)
    //STEPLIB  DD DSN=&RESLIB,DISP=SHR
    //         DD DSN=&STEPLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS      DD DSN=&PSBLIB,DISP=SHR
    //         DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
    //*:        DD DSN=&VSAMCAT,DISP=SHR
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
```

```
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7ED   DD DSN=&&PAC7ED,DISP=(OLD,PASS)
//PAC7GS   DD DSN=&INDEX..&ROOT.&FILE.GS,DISP=SHR
//PAC7RD   DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT
//*
```

3.2. XPDM: MASTER OUTLINE

3.2.1. XPDM: INTRODUCTION

<u>XPDM: INTRODUCTION</u>

<u>PRINCIPLES</u>

A Master Outline is a P-type Volume which designed to be called in another
PDM Volume. Its functions are to:

  - Memorize general descriptions (print option, for example) so that they will
    not have to be redefined in each Volume.

  - Print the information extracted via an Extraction Master Path. This function
    may be recursive.

If there are no errors, the XPDM procedure updates the Extraction Master Path
file (GS). It can also be used without updating the GS file.

<u>EXECUTION CONDITIONS</u>

In order to define a Master Outline, the user must have at least a level 2
authorization.

<u>ABEND</u>

For any type of abnormal end the procedure can be re-executed once the
problem has been solved.

<u>PRINTED OUTPUT</u>

This procedure prints the description of a Master Outline, as well as the
comments, and a list of the anomalies found, if any.

3.2.2. XPDM: USER INPUT

XPDM: USER INPUT

One '*' line to define the context.

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                             !
!---------------------------------------------------------!
! 2  !  1  ! '*'    ! Line code                           !
! 3  !  8  !uuuuuuuu! User code                           !
! 11 !  8  !pppppppp! User password                       !
! 19 !  3  !bbb     ! Library code                        !
! 22 !  4  !nnnn    ! Session number                      !
! 26 !  1  !T       ! Session version                     !
! 68 !  1  !' '     ! Standard print                      !
!    !     !'1'     ! Uppercase print                     !
-----------------------------------------------------------
```

One 'EP' command line for the following elements:

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                             !
!---------------------------------------------------------!
! 2  !  2  ! 'EP'   ! Line code                           !
! 4  !  6  ! rrrrrr ! Report code                         !
! 10 !  6  !'UPDATE'! GS file update                      !
!    !     !  or    !                                     !
!    !     ! SPACE  ! Check of the volume's presence in GS!
!    !     !        ! Check of the volume's use in the    !
!    !     !        ! sub-network.                        !
!    !     !        ! No GS file update if presence or    !
!    !     !        ! use.                                !
-----------------------------------------------------------
```

EXAMPLES

*user   passwordBIB
EPMANUELUPDATE

*user   passwordBIB
EPMANUEL

DEPIM003251A

3.2.3. XPDM: DESCRIPTION OF STEPS

<u>XPDM: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>EXTRACTION OF MASTER OUTLINE: PTED30</u>

.Input files:
 -Error-message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE
 -Index file
  PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR

.Input transaction file:
 -User input
  PAC7MB: DSN=&&XPDMMB

.Permanent input/output file:
 -Extraction paths
  PAC7GS :   DSN=&INDEX..&ROOT.&FILE.GS

.Output files:
 -Report passed on to printing program
  PAC7ED: DSN=&&PAC7ED
 -GS-update preparation
  PAC7SG: DSN=&&PAC7SG

.Output report:
 -Execution report
  PAC7DD

  <u>GS UPDATE AND PRINTING OF THE MASTER OUTLINE: PTED60</u>

.Input files:
 -VA Pac error messages
  PAC7AE: DSN=&INDSV..&ROOT.&ROOT.AE
 -Print file
  PAC7ED: DSN=&&PAC7ED
 -GS-update preparation
  PAC7SG: DSN=&&PAC7SG

.Permanent output file:
 -Extraction Paths
  PAC7GS :   DSN=&INDEX..&ROOT.&FILE.GS

.Output report:
 -Execution report
   ETATGP

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

                                                            DEPIM003251A

3.2.4. XPDM: EXECUTION JCL

```
//***********************************************************************
//*  VisualAge Pacbase   : VALIDATING THE MASTER OUTLINE
//***********************************************************************
//$RADP.XPDM PROC FILE=$FILE,    NUMBER OF THE PHYSICAL DATABASE
//         ROOT=$ROOT,          ROOT OF THE VA PAC SYSTEM
//         INDEX='$INDEX',       INDEX OF VSAM FILES
//         INDEXP='$INDEXP',     INDEX OF NON-VSAM FILES
//*:       SYSTCAT='$CATV',      VSAM SYSTEM CATALOG
//*:       VSAMCAT='$CATU',      VSAM USER CATALOG
//         STEPLIB='$MODB',      LIBRARY OF LOAD-MODULES
//         SORTLIB='$BIBT',      SORT LIBRARY
//         CYL=5,               SORT WORK SIZE
//         OUT='$OUT',          OUTPUT CLASS
//         UWK=$UWK,            WORK UNIT
//         SPAED='(TRK,(05,1),RLSE)',   SPACE OF PRINTING FILES
//         SPASG='(TRK,(02,1),RLSE)',   EXTRACT. MASTER PATH FILESPACE
//         PSBLIB='$PSBLIB',    LIBRARY OF PSB'S
//         DBDLIB='$DBDLIB',    LIBRARY OF DBD'S
//         RESLIB='$RESLIB',    IMS RESLIB
//         PROCLIB='$PRCLIB',   IMS PROCLIB
//         BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//         CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*-----------------------------------------------------------------*
//*
//INPUT   EXEC  PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&XPDMMB,DISP=(,PASS),
//          UNIT=&UWK,SPACE=(TRK,(5,1),RLSE),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
//*
//VERIFY EXEC  PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//*
//PTED30  EXEC  PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PTED30,PTED30$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//          DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7MB   DD DSN=&&XPDMMB,DISP=(OLD,PASS)
```

```
//PAC7GS   DD DSN=&INDEX..&ROOT.&FILE.GS,DISP=SHR
//PAC7ED   DD DSN=&&PAC7ED,DISP=(,PASS),UNIT=&UWK,
//            DCB=(RECFM=FB,LRECL=200,BLKSIZE=6000),
//            SPACE=&SPAED
//PAC7SG   DD DSN=&&PAC7SG,DISP=(,PASS),UNIT=&UWK,
//            DCB=(RECFM=FB,LRECL=203,BLKSIZE=2030),
//            SPACE=&SPASG
//PAC7DD   DD SYSOUT=&OUT
//*
//PTED60   EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PTED60,PTUN10$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7ED   DD DSN=&&PAC7ED,DISP=(OLD,PASS)
//PAC7SG   DD DSN=&&PAC7SG,DISP=(OLD,PASS)
//PAC7GS   DD DSN=&INDEX..&ROOT.&FILE.GS,DISP=SHR
//ETATGP   DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT
//*
```

3.3. PRGS: PRINTING OF MASTER PATH / OUTLINE FILE

3.3.1. PRGS: INTRODUCTION

<u>PRGS: INTRODUCTION</u>

<u>PRINCIPLE</u>

The PRGS procedure prints the contents of the PAC7GS file, where the Master Outlines and Extraction Master Paths are stored.

<u>PREREQUISITE</u>

To request the printing of the Master Outline and Extraction Master Path file, a user must have at least the authorization level 2.

<u>RESULT</u>

A printout showing the Extraction Master Path and the associated Master Outlines.

3.3.2. PRGS: USER INPUT

PRGS: USER INPUT

```
One '*' line to identify the user.

-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                             !
!---------------------------------------------------------!
! 2  ! 1  ! '*'    ! Line code                           !
! 3  ! 8  !uuuuuuuu! User code                           !
! 11 ! 8  !pppppppp! User password                       !
-----------------------------------------------------------
```

PERSONALIZED EXTRACTION & AUTOMATED DOCUMENTATION   3
PRGS: PRINTING OF MASTER PATH / OUTLINE FILE   3
PRGS: DESCRIPTION OF STEPS   3

3.3.3. PRGS: DESCRIPTION OF STEPS

PRGS: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

PRINTING OF THE MASTER PATH AND OUTLINE FILE:

.Input files:
 -Error-message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE
 -Extraction paths
  PAC7GS :   DSN=&INDEX..&ROOT.&FILE.GS

.Input transaction file:
 -User input
  PAC7MB: DSN=&&PRGSMB

.Output report:
 -Execution report
  PAC7DD
 -PAC7GS report
  ETATGS

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

3.3.4. PRGS: EXECUTION JCL

```
//**********************************************************************
//*  VisualAge Pacbase  : EDITION OF GS FILE
//**********************************************************************
//$RADP.PRGS PROC FILE=$FILE,        NUMBER OF PHYSICAL BASE
//           ROOT=$ROOT,             ROOT OF VA PAC SYSTEM
//           INDEX='$INDEX',         VSAM INDEX
//           INDEXP='$INDEXP',       INDEX NON VSAM FILES
//           INDEXQ='$INDEXQ',       INDEX DATA GROUP FILES
//*:        SYSTCAT='$CATV',        VSAM SYSTEM CATALOG
//           STEPLIB='$MODB',        LIBRARY BATCH LOAD-MODULES
//           SORTLIB='$BIBT',        SORT LIBRARY
//           CYL=5,                  SIZE OF SORTWORK
//           SPAMB='(TRK,(1,1),RLSE)', SPACE OF COMMAND FILE
//           UWK=$UWK,               WORK UNIT
//           OUT='$OUT',             OUTPUT CLASS
//           PSBLIB='$PSBLIB',       LIBRARY OF PSB'S
//           DBDLIB='$DBDLIB',       LIBRARY OF DBD'S
//           RESLIB='$RESLIB',       IMS RESLIB
//           PROCLIB='$PRCLIB',      IMS PROCLIB
//           BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//           CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*------------------------------------------------------------------*
//*
//INPUT    EXEC PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&PRGSMB,DISP=(,PASS),
//            UNIT=&UWK,SPACE=(TRK,(1,1),RLSE),
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=800)
//*
//PTEP90   EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PTEP90,PTEP90$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7GS   DD DSN=&INDEX..&ROOT.&FILE.GS,DISP=SHR
//PAC7DD   DD SYSOUT=&OUT
//PAC7MB   DD DSN=&&PRGSMB,DISP=(OLD,DELETE,DELETE)
//ETATGS   DD SYSOUT=&OUT
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//*
```

4. QUALITY ANALYSIS AND CONTROL

```
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QUALITY ANALYSIS AND CONTROL                                4
ACTI:  JOURNAL STATISTICS UTILITY                           1
ACTI:  INTRODUCTION                                         1
```

4.1. ACTI: JOURNAL STATISTICS UTILITY

4.1.1. ACTI: INTRODUCTION

ACTI: INTRODUCTION

The ACTI procedure is an optional utility, and its use depends on the corresponding purchase agreement.

The Specifications Dictionary manages all the data related to the various applications being developed or maintained at the site.

The Journal contains all the database update transactions. As such, it reflects user activity.

Through the Journal Statistics Utility (ACTI), this activity can be monitored and presented in the form of charts.

The Journal Statistics Utility allows the Database Manager to query the Journal backup file based on various parameters:
```
    - LIBRARY CODE
    - USER CODE
    - ENTITY TYPE
    - ENTITY CODE
    - LINE CODE
    - TRANSACTION TYPE (C,M,D)
    - DATE OF UPDATE
    - SESSION NUMBER OF UPDATE
```

These criteria are used to specify the REQUEST AREA.

Results are obtained in the form of three types of charts, i.e., statistical reports, curve-type graphs, or lists of transactions.

This output will be printed according to the selected PAGE LAYOUT. Statistics and graphs are sorted and calculated according to the user request.

For further information, refer to the OPTIONAL UTILITIES Reference Manual.

EXECUTION CONDITION

None.

Batch procedure access authorization: Level 3 is required.

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4.1.2. ACTI: USER INPUT

ACTI: USER INPUT

Batch procedure authorization option: one '*' line with user code and password.

Specific input needed for this procedure is described in the OPTIONAL
UTILITIES Reference Manual, in the chapter dedicated to this procedure.

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ACTI: JOURNAL STATISTICS UTILITY   **1**
ACTI: DESCRIPTION OF STEPS   **3**

4.1.3. ACTI: DESCRIPTION OF STEPS

<u>ACTI: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>EXTRACTION: PTU630</u>

.Permanent input files:
 -Error message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE
 -Journal Backup File
  PAC7PJ :   DSN=&INDEXQ..&ROOT.&FILE.PJ(0)

.Transaction file:
 -Update transactions
  PAC7MB: DSN=&&ACTIMB

.Output file
 -Transactions for selected reports
  PAC7ST: DSN=&&PAC7ST

.Output report:
 -Batch-procedure authorization option
  PAC7DD

.Return code(s):
  0: OK
  8: No authorization on batch procedures.
 12: System error.

<u>PRINTING OF RESULTS: PTU640</u>

.Permanent input file:
 -Error Messages
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

.Input file:
 -Transactions for selected reports
  PAC7ST: DSN=&&PAC7ST

.Output report:
 -Selected reports
  PAC7IV

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

DEPIM003251A

   4.1.4. ACTI: EXECUTION JCL


```
    //**********************************************************************
    //*  VisualAge Pacbase  : JOURNAL STATISTICS
    //**********************************************************************
    //$RADP.ACTI PROC FILE=$FILE,        PHYSICAL-DATABASE NUMBER
    //         ROOT=$ROOT,               ROOT OF THE VA PAC SYSTEM
    //         INDEX='$INDEX',           VSAM-FILE INDEX
    //         INDEXP='$INDEXP',         INDEX OF NON-VSAM FILES
    //         INDEXQ='$INDEXQ',         INDEX OF DATA GROUP FILES
    //*:       SYSTCAT='$CATV',          VSAM SYSTEM CATALOG
    //         STEPLIB='$MODB',          LIBRARY OF BATCH LOAD-MODULES
    //         SORTLIB='$BIBT',          SORT LIBRARY
    //         CYL=5,                    SIZE OF SORTWORK
    //         SPAMV='(TRK,(30,10),RLSE)', SPACE OF EXTRACTED TRANSACTION
    //         UWK=$UWK,                 WORK UNIT
    //         OUT='$OUT',               OUTPUT CLASS
    //         PSBLIB='$PSBLIB',         LIBRARY OF PSB'S
    //         DBDLIB='$DBDLIB',         LIBRARY OF DBD'S
    //         RESLIB='$RESLIB',         IMS RESLIB
    //         PROCLIB='$PRCLIB',        IMS PROCLIB
    //       BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
    //       CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
    //*------------------------------------------------------------------*
    //*
    //INPUT   EXEC PGM=PTU001
    //STEPLIB  DD DSN=&STEPLIB,DISP=SHR
    //CARTE    DD DDNAME=SYSIN
    //PAC7MB   DD DSN=&&ACTIMB,DISP=(,PASS),
    //          UNIT=&UWK,SPACE=(TRK,(1,1),RLSE),
    //          DCB=(RECFM=FB,LRECL=80,BLKSIZE=800)
    //*
    //VERIFY  EXEC PGM=IDCAMS
    //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
    //SYSPRINT DD SYSOUT=&OUT
    //DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
    //*
    //PTU630  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
    //        PARM=(DLI,PTU630,PTU630$SUG,&BUF,
    //        &SPIE&TEST&EXCPVR&RST,&PRLD,
    //        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
    //STEPLIB  DD DSN=&RESLIB,DISP=SHR
    //         DD DSN=&STEPLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS      DD DSN=&PSBLIB,DISP=SHR
    //         DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //          DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON   DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7MB   DD DSN=&&ACTIMB,DISP=(OLD,DELETE)
    //PAC7PJ   DD DSN=&INDEXQ..&ROOT.&FILE.PJ(0),DISP=SHR
    //PAC7ST   DD DSN=&&PAC7ST,DISP=(,PASS),UNIT=&UWK,
    //          DCB=(RECFM=FB,LRECL=206,BLKSIZE=6386),
    //          SPACE=&SPAMV
    //PAC7DD   DD SYSOUT=&OUT
    //*
    //PTU640  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
```

```
    //         PARM=(DLI,PTU640,PTU640$SUG,&BUF,
    //         &SPIE&TEST&EXCPVR&RST,&PRLD,
    //         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM),
    //         COND=(00,NE,PTU630)
    //STEPLIB  DD DSN=&RESLIB,DISP=SHR
    //         DD DSN=&STEPLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS      DD DSN=&PSBLIB,DISP=SHR
    //         DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON   DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
    //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7ST   DD DSN=&&PAC7ST,DISP=(OLD,PASS)
    //PAC7IV   DD SYSOUT=&OUT
    //*
```

4.2. PQC-: PACBENCH QUALITY CONTROL

4.2.1. PQC: INTRODUCTION

<u>PQC: INTRODUCTION</u>

The PACBENCH QUALITY CONTROL (PQC) facility is optional, and its use depends on the corresponding purchase agreement.

The PACBENCH Quality Control facility is divided into two components:

  - The Analysis component, to evaluate the quality of applications in use. This is based either on standard rules or on rules customized by the user.

  - The Quality rule extraction component, customized by the user.

Two purchase options are therefore available:

  - A basic option providing standard rules for quality control;

  - A quality rule CUSTOMIZATION option.

The components supplied on the installation tape are:

  - For both purchase options:

  . A Batch Quality Analysis procedure (PQCA);

  . A set of 'compiled' standard quality rules, in the form of a sequential file (see the Environment & Installation manual).

  - For the CUSTOMIZATION option:

  . A batch procedure for the extraction and 'compilation' of the customized rules (PQCE);

  . A data element dictionary and the user entity needed for the customization of the rules, in the form of Batch transactions that the user enters in his/her own dictionary via a Batch update (UPDT). (See the Environment & Installation manual.)

4.2.2. PQCA: QUALITY ANALYSIS
4.2.2.1. PQCA: INTRODUCTION

PQCA: PACBENCH QUALITY CONTROL - ANALYSIS

PQCA: INTRODUCTION

The PQCA procedure carries out an analysis of the quality of the applications, according to either standard rules or user-defined rules.

CHARACTERISTICS

The procedure invokes a unique program (PACQ), which serves as a base for links to the various programs used by the procedure.

Its operation is identical to that of the standard GPRT generation-print procedure.

All the programs called during the procedure are therefore considered to be sub-programs of PACQ, with which they communicate via a Communication Area and special return codes.

The procedure is split up into 'sub-chains', identified by a 1-position code:

- D for Dictionary
- E for Dialogue Screens (OSD)
- G PACBENCH/CS Screens (OSC)
- P for Batch Language Programs (BSD)

After two general programs (PACA10 and PACA20), common to all the chains, have been executed, the sub-chains are activated, according to the generation-print requests, in the following order:

- Screens
- Programs
- Dictionary

Each sub-chain performs an extraction (followed by a printing for GCP or GCO commands).

Once these sub-chains have been activated for the extraction of the entities to be analyzed, the PTUQ20 program performs the analysis according to the rules that it has been assigned and to the analysis parameters.

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Results are printed by the PTUQ24, PTUQ25 and PTUQ30 programs.

The processing of the generated flow in the case of generation requests is
identical to that of the GPRT procedure.

EXECUTION CONDITIONS

None. The files can remain available for on-line use.

USER INPUT

Please refer to the PQC Reference Manual.

OUTPUT REPORT

The user can choose between two types of reports:

. A global report showing the general results;

. A detailed report including:

  - Results by entity

  - Results by entity type.

The information contained in this report may also be gathered in files that will
be processed by user programs. These files are:

  - PACQMK for results by entity,

  - PACQMJ for results by entity type.

These files are described in the PQC Reference Manual.

The procedure also prints the descriptions of the Quality-Controlled occurrences
and an execution report.

PROCESSING OF THE GENERATED FLOW

This processing is identical to that of the GPRT procedure (See the
corresponding chapter in this manual).

4.2.3. PQCA: DESCRIPTION OF STEPS

PQCA: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

VERIFICATION OF VSAM FILES: IDCAMS

QUALITY ANALYSIS: PACQ

The general characteristics of this step are described in
the previous sub-chapter.

.Permanent input files:
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
 -Printing command file
  PAC7AG :   DSN=&INDEX..&ROOT.&FILE.AG
 -PEI environment file ('Batch')
  PAC7AB :   DSN=&INDEX..&ROOT.&FILE.AB
 -PEI environment file ('on-line')
  PAC7AC :   DSN=&INDEX..&ROOT.&FILE.AC
 -Error-message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE
 -User parameters
  PAC7AP :   DSN=&INDEX..&ROOT.&ROOT.AP
 -QUALITY RULES file
  PACQMF: DSN=&PQCF
 -Batch-language generation skeleton
  PAC7SC :   DSN=&INDEX..&ROOT.&ROOT.SC
 -Dialog generation skeleton
  PAC7SG :   DSN=&INDEX..&ROOT.&ROOT.SG
 -Map skeleton
  PAC7SS: DSN=&INDSV..&ROOT.&ROOT.SS

.Transaction files:
 -Entities to be analyzed (input)
  PAC7ME: DSN=&&PQCAMB
 -Selection parameters (input)
  PACQMC: DSN=&&PQCAMC

```
            .Output reports:
             -PACQ execution report
              PAC7IA
             -VisualAge Pacbase documentation
              PAC7ID
             -Selection-parameter check
              PACQIB
             -Results by entity type
              PACQIE
             -Results by entity
              PACQIF
             -List of VA Pac identifiers which exceed the limits
              of the quality identificators
              PACQIG
             -Generation report (PEI)
              PAC7IH

            .Output generated flow, made of the following output:
             -DBD generated-program file
              PAC7GB
             -OLSD generated-program file
              PAC7GE
             -C/S-OLSD generated-program file
              PAC7GG
             -Batch-language generated-program file
              PAC7GP
             -PDM generated-program file
              PAC7GV
              concatenated in the following file:
              DSN=&ROOT.&FILE..GN&USER
```

Other files mentioned in the procedure are temporary files used in the chains
(see details in the flowcharts).
```
            .Sort file(s):
             SORTWK01
             SORTWK02
             SORTWK03
```

4.2.4. PQCA: EXECUTION JCL

```
//***********************************************************************
//*  VisualAge Pacbase : PACBENCH QUALITY CONTROL
//***********************************************************************
//$RADP.PQCA PROC FILE=$FILE,      PHYSICAL-DATABASE NUMBER
//         ROOT=$ROOT,             ROOT OF THE VA PAC SYSTEM
//           INDEX='$INDEX',       VSAM-FILE INDEX
//           INDEXP='$INDEXP',     INDEX OF NON-VSAM FILES
//*:         VSAMCAT='$CATU',      VSAM USER CATALOG
//*:         SYSTCAT='$CATV',      VSAM SYSTEM CATALOG
//           OUT='$OUT',           OUTPUT CLASS
//           OUTL='$OUT',          OUTPUT CLASS
//           USER=PAC,
//           SPAEX='(TRK,(050,10),RLSE)',   SPACE OF PRINT FILES
//           SPAWK='(TRK,(050,10),RLSE)',   SPACE OF WORK FILES
//           SPAMB='(TRK,(5,1),RLSE)',      SPACE OF COMMAND FILE
//           SPAGN='(TRK,(70,1),RLSE)',      SPACE OF COMMAND FILE
//           PQCF='?????',         QUALITY CONTROL FILE DSN
//           UWK=$UWK,             WORK UNIT
//           COPIES=1,             NUMBER OF REPORT COPIES
//           STEPLIB='$MODB',      LIBRARY OF BATCH LOAD MODULES
//           SORTLIB='$BIBT',      SORT LIBRARY
//           PSBLIB='$PSBLIB',     LIBRARY OF PSB'S
//           DBDLIB='$DBDLIB',     LIBRARY OF DBD'S
//           RESLIB='$RESLIB',     IMS RESLIB
//           PROCLIB='$PRCLIB',    IMS PROCLIB
//         SPIE=0,TEST=0,NBA=,IN=,OUT1=,PRLD=,CKPTID=,DIRCA=000,
//         PARDLI=1,STIMER=,CPUTIME=,OBA=,AGN=,IMSID=$IMSID,OPT=N
//***********************************************************************
//*   CHECK THE BMP PARAMETERS, ESPECIALLY THE 'IMSID' PARAMETER     *
//***********************************************************************
//*
//INPUT1  EXEC PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//PAC7MB   DD DSN=&&PQCAMB,DISP=(,PASS),UNIT=&UWK,
//           SPACE=&SPAMB,
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
//CARTE    DD DDNAME=SYSIN
//*
//INPUT2  EXEC PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//PAC7MB   DD DSN=&&PQCAMC,DISP=(,PASS),UNIT=&UWK,
//           SPACE=&SPAMB,
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
//CARTE    DD DDNAME=SYSIN,DCB=BLKSIZE=80
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAG     DD DSN=&INDEX..&ROOT.&FILE.AG,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAP     DD DSN=&INDEX..&ROOT.&ROOT.AP,DISP=SHR
===SEQ FOR PEI
//DDAB     DD DSN=&INDEX..&ROOT.&FILE.AB,DISP=SHR
//DDAC     DD DSN=&INDEX..&ROOT.&FILE.AC,DISP=SHR
===SEQ
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAG),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAP),DISP=SHR
===SEQ FOR PEI
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAB),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAC),DISP=SHR
===SEQ
//*
//PACQ    EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(BMP,PACQ,PACQ$SUG,&IN,&OUT1,
//         &OPT&SPIE&TEST&DIRCA,&PRLD,&STIMER,&CKPTID,
```

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PQCA: EXECUTION JCL   4

```
//         &PARDLI,&CPUTIME,&NBA,&OBA,&IMSID,&AGN)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
===SEQ FOR PEI
//PAC7AB$SUF DD DSN=&INDEX..&ROOT.&FILE.AB,DISP=SHR
//PAC7AC$SUF DD DSN=&INDEX..&ROOT.&FILE.AC,DISP=SHR
===SEQ
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AG$SUF DD DSN=&INDEX..&ROOT.&FILE.AG,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AP$SUF DD DSN=&INDEX..&ROOT.&ROOT.AP,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7EE   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7EG   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7EP   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7EV   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7JG   DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=3440
//PAC7KD   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
//PAC7KE   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
//PAC7KF   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7KG   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7KP   DD UNIT=&UWK,SPACE=&SPAEX,DCB=BLKSIZE=6300
//PAC7KS   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7KU   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7KV   DD UNIT=&UWK,SPACE=(TRK,(20,5),RLSE),DCB=BLKSIZE=6300
//PAC7ME   DD DSN=&&PQCAMB,DISP=(OLD,DELETE,DELETE)
//PAC7MG   DD UNIT=&UWK,SPACE=(TRK,(2,1),RLSE),DCB=BLKSIZE=3000
//PAC7SG   DD DSN=&INDEX..&ROOT.&ROOT.SG,DISP=SHR
//PAC7SC   DD DSN=&INDEX..&ROOT.&ROOT.SC,DISP=SHR
//PAC7SS   DD DSN=&INDEX..&ROOT.&ROOT.SS,DISP=SHR
//PAC7W1   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=23400
//PAC7W2   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=23400
//PAC7W3   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=23400
//PAC7W4   DD UNIT=&UWK,SPACE=&SPAWK,DCB=BLKSIZE=23400
//PAC7IA   DD SYSOUT=&OUTL
//PAC7IH   DD SYSOUT=&OUTL
//PAC7ID   DD SYSOUT=&OUTL,COPIES=&COPIES
//PACQIB   DD SYSOUT=&OUTL,DCB=BLKSIZE=133
//PACQIE   DD SYSOUT=&OUTL,DCB=BLKSIZE=133
//PACQIF   DD SYSOUT=&OUTL,DCB=BLKSIZE=133
//PACQIG   DD SYSOUT=&OUTL,DCB=BLKSIZE=133
//PACQMC   DD DSN=&&PQCAMC,DISP=(OLD,DELETE,DELETE)
//PACQMF   DD DSN=&PQCF,DISP=SHR
//PACQMJ   DD UNIT=&UWK,SPACE=(TRK,(1,1),RLSE),
//           DCB=(RECFM=FB,LRECL=105,BLKSIZE=6405)
//PACQMK   DD UNIT=&UWK,SPACE=(TRK,(1,1),RLSE),
//           DCB=(RECFM=FB,LRECL=193,BLKSIZE=6369)
//PACQMM   DD UNIT=&UWK,SPACE=(TRK,(1,1),RLSE),
//           DCB=(RECFM=FB,LRECL=52,BLKSIZE=2080)
//PACQMN   DD UNIT=&UWK,SPACE=(TRK,(1,1),RLSE),
//           DCB=(RECFM=FB,LRECL=52,BLKSIZE=2080)
//PACQMO   DD UNIT=&UWK,SPACE=(TRK,(1,1),RLSE),
```

```
     //           DCB=(RECFM=FB,LRECL=151,BLKSIZE=6040)
     //PACQMZ   DD UNIT=&UWK,SPACE=(TRK,(1,1),RLSE),
     //           DCB=(RECFM=FB,LRECL=136,BLKSIZE=5440)
     //PAC7GB DD DSN=&ROOT.&FILE..GN&USER,UNIT=&UWK,DCB=BLKSIZE=11440,
     //           SPACE=&SPAGN,DISP=(,PASS,DELETE)
     //PAC7GE DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),UNIT=&UWK,
     //         VOL=REF=*.PAC7GB
     //PAC7GG DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),UNIT=&UWK,
     //         VOL=REF=*.PAC7GB
     //PAC7GP DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),UNIT=&UWK,
     //         VOL=REF=*.PAC7GB
     //PAC7GV DD DSN=*.PAC7GB,DISP=(MOD,,DELETE),UNIT=&UWK,
     //         VOL=REF=*.PAC7GB
     //*
```

4.2.5. PQCE: EXTRACTION OF USER-DEFINED QUALITY RULES
4.2.5.1. PQCE: INTRODUCTION

PQCE: EXTRACTION OF USER-DEFINED QUALITY RULES

PQCE: INTRODUCTION

The PQCE procedure performs the extraction of quality rules created by the user
in his/her database via the user entity supplied with the CUSTOMIZATION
option of the PACBENCH QUALITY CONTROL Facility.

It extracts the user entity occurrences that make up the customized quality rule
dictionary, checks the information, and builds a file with the 'compiled' quality
rules required by the Analysis of application quality (PQCA).

For further details, see the PACBENCH QUALITY CONTROL Reference
Manual.

EXECUTION CONDITION

None. The files can remain available for on-line use.

Batch-procedure access authorization option: Level 2 is required.

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4.2.6. PQCE: USER INPUT

                        <u>PQCE: USER INPUT</u>

        The user input of the PQCE procedure is similar to that of the EXUE extractor
        (PACX procedure).

        One '*' line per library to be consulted for extraction:

        !POS.!LEN.! VALUE ! MEANING   !
        !--!
        ! 2 ! 1 !   *   ! Line code   !
        ! 3 ! 8 !uuuuuuuu! User code   !
        ! 11 ! 8 !pppppppp! User password   !
        ! 19 ! 3 ! bbb   ! Library code   !
        ! 22 ! 4 ! nnnn   ! Session number (Blank=current session)!
        ! 26 ! 1 ! T   ! Session status if Tests session   !
        ! 28 ! 1 ! l   ! Language code   !
        ! 29 ! 4 ! EXUE   ! Extractor code   !

        For further details, see Chapter 'PACX: EXTRACTION FROM VA PAC
        DATABASE' in this manual.

        One command line:

        !Pos.!Len.! Value ! Meaning   !
        !--!
        ! 2 ! 4 ! W1EX   ! Line code   !
        ! 6 ! 1 ! $! Identifier of UEOs extraction   !
        ! 7 ! 1 !   ! Library selection code: !
        !   !   ! U   ! Selected library   !
        !   !   ! C   ! Selected library + higher level libr. !
        ! 8 ! 2 ! 5Q   ! Type code of user entity dedicated to !
        !   !   !   ! Quality Control   !

        <u>RESULT</u>

        The output of the PQCE procedure is a file containing the 'compiled' customized
        quality rules, which can be processed by the PQCA procedure.

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QUALITY ANALYSIS AND CONTROL   4
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PRINTED OUTPUT

This procedure prints:

1. An occurrence-extraction report

2. A check report on the validity and usage of quality indicators

3. Descriptive reports on quality rules:

  - List of quality factors and criteria

  - Definition and description of each indicator/metric

  - Quality Control Dictionary.

4.2.7. PQCE: DESCRIPTION OF STEPS

<u>PQCE: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>EXTRACTION: PACX</u>

This step extracts transactions according to user input.

.Permanent input files:
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -Error-message file
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -Erroneous transactions
  PAC7PJ: DSN=&INDEXQ..&ROOT.&FILE.PJ(0)

.Input transaction file:
 -User input
  PAC7MB: DSN=&&PACXMB

.Work files:
 -User input
  PAC7BM: DSN=&&PACXBM
 -EXPU work file
  PAC7MM: DSN=&&PACXMM
 -EXPJ work file
  PAC7MJ: DSN=&&PACXMJ
 -RMEN work file
  PAC7TE: DSN=&&PACXTE
 -RMEN work file
  PAC7RE: DSN=&&PACXRE
 -RMEN work file
  PAC7RM: DSN=&&PACXRM

```
        -Extracted transactions
         PAC7WD:   DSN=&&PACXWD
        -Multi-layered Extractor work file
         SYSEXT:   DSN=&&SYSEXT

       .Output files:
        -Extracted transactions for UPDT
         PAC7MV:   DSN=&&MV
        -Extracted transactions for REOR (EXPU)
         PAC7MR:   DSN=&&MR



        -Extracted transactions for UPDP
         PAC7GY:   DSN=&&GY
        -Extracted transactions for CPSN
         PAC7TD:   DSN=&&TD
        -Extracted transactions for EXUE
         PAC7UE:   DSN=&&UE

       .Output reports:
        -General printout of the program stream
         PAC7IA
        -List of errors on input transactions
         PAC7DD
        -Summary reports on extractions
         PAC7EE
         PAC7EP
         PAC7EQ
         PAC7EZ

       .Sort file(s):
         SORTWK01
         SORTWK02
         SORTWK03

       .Return codes:
        0:  No error
        4:  Error on user input (detailed in PAC7EE)
            OR
            EXTR/EXUE - problem during extraction
                      (detailed in PAC7EZ)
        8:  Error on '*'-line (detailed in PAC7DD)
            OR
            EXLI - Database unavailable
```

COMPILATION OF QUALITY RULES: PTUQ10

This step creates the customized quality rule file that
will be used by the PQCA analysis procedure.

.Permanent input file:
 -Error messages
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR

.Permanent output file:
 -'Compiled' Quality Rules
  PACQMI: DSN=&PQCF Length=80

.Transaction files:
 -User input
  PAC7MB: DSN=&&PQCEMB
 -User entity occurrences
  PACQMC: DSN=&&MB

.Output file:
 -Preparation for printing
  PACQML: DSN=&&PACQML

.Output report(s):
 -Rule-validity report
  PACQIC
 -Batch-procedure authorization option
  PAC7DD

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

PRINTING OF QUALITY RULES: PTUQ15

.Permanent input file:
 -Error message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

.Input file:
 -Preparation for printing
  PACQML: DSN=&&PACQML

.Output reports:
 -List of quality factors and criteria,
  and description by indicator
  PACQII
 -Dictionary of Quality rules
  PACQIJ

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

4.2.8. PQCE: EXECUTION JCL

```
//************************************************************************
//*  VisualAge Pacbase : PACBENCH QUALITY CONTROL EXTRACTION
//************************************************************************
//$RADP.PQCE PROC FILE=$FILE,     NUMBER OF THE PHYSICAL DATABASE
//          ROOT=$ROOT,           ROOT OF THE VA PAC SYSTEM
//          INDEX='$INDEX',       INDEX OF USER VSAM FILES
//          INDEXP='$INDEXP',     INDEX OF SYSTEM NON-VSAM FILES
//*:        SYSTCAT='$CATV',      VSAM SYSTEM CATALOG
//*:        VSAMCAT='$CATU',      VSAM USER CATALOG
//          STEPLIB='$MODB',      LIBRARY OF LOAD-MODULES
//          SORTLIB='$BIBT',      SORT LIBRARY
//          OUT='$OUT',           OUTPUT CLASS
//          OUTL='$OUT',          OUTPUT CLASS
//          CYL=3,                SORT WORK SIZE
//          UWK=$UWK,             WORK UNIT
//          SPAMB='(TRK,(15,5),RLSE)',   SIZE OF EXTRACTED TRANSACTION
//          SPAQC='(TRK,(60,15),RLSE)',  SPACE OF QUALITY CONTROL FILE
//          PQCF='????????',      QUALITY CONTROL FILE DSN
//          VOLS='SER=$VOLO',     QUALITY CONTROL FILE VOLUME
//          UNITS=$UNITO,         QUALITY CONTROL FILE UNIT
//          PSBLIB='$PSBLIB',     LIBRARY OF PSB'S
//          DBDLIB='$DBDLIB',     LIBRARY OF DBD'S
//          RESLIB='$RESLIB',     IMS RESLIB
//          PROCLIB='$PRCLIB',    IMS PROCLIB
//          BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//          CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//************************************************************************
//*  FORMAT OF TRANSACTIONS AT INPUT :                           *
//*  .. ONE USER AND LIBRARY LINE                                *
//*     '*' LINE AS A GENERATION AND PRINTING REQUEST            *
//*  .. A COMMAND LINE PER ENTITY TO BE EXTRATED                 *
//*     COL 02-06 : 'W1EX$'                                      *
//*     COL 07    : SELECTION CODE OF THE LIBRARY                *
//*                 'U' (LIBRARY ONLY)                           *
//*                 'C' (LIBRARY AND ITS CENTRALS)               *
//*     COL 08-09 : CALL CODE OF THE USER ENTITY (2 CHAR.)       *
//************************************************************************
//*
//INPUT   EXEC  PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&PQCEMB,DISP=(,PASS),
//           UNIT=&UWK,SPACE=(TRK,(5,1),RLSE),
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=3440)
//*
//VERIFY  EXEC  PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:      DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//PAC7AE   DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AR   DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7AN   DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//*
//MAXKEY  EXEC  PGM=IDCAMS
//*********************
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSPAF   DD DSN=&&SYSEXT,DISP=(NEW,KEEP),
//         SPACE=(CYL,(3,3)),
//         LRECL=112,RECORG=KS,KEYOFF=0,KEYLEN=12
//MAXKEY   DD DSN=&INDEXP..&ROOT.&ROOT.SY(MAXKEY),DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(REPRO999),DISP=SHR
//*
//PACX    EXEC  PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PACX,PACX$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
```

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```
//          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//******** FICHIERS BASE
//PAC7AE$SUF  DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AN$SUF  DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF  DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7PJ   DD DUMMY
//******** ETATS
//PAC7IA   DD SYSOUT=&OUTL
//PAC7DD   DD SYSOUT=&OUTL
//PAC7EE   DD SYSOUT=&OUTL
//PAC7EP   DD SYSOUT=&OUTL
//PAC7EQ   DD SYSOUT=&OUTL
//PAC7EZ   DD SYSOUT=&OUTL
//******** FICHIERS DE TRAVAIL
//SYSEXT   DD DSN=&&SYSEXT,DISP=(OLD,DELETE,DELETE)
//PAC7MB   DD DSN=&&PQCEMB,DISP=(OLD,PASS)
//PAC7BM   DD DSN=&&PACXBM,DISP=(,DELETE),UNIT=&UWK,
//           DCB=BLKSIZE=3440,SPACE=&SPAMB
//PAC7MM   DD DSN=&&PACXMM,DISP=(,DELETE),UNIT=&UWK,
//           SPACE=&SPAMB,
//           DCB=(RECFM=FB,LRECL=55,BLKSIZE=6215)
//PAC7MJ   DD DUMMY
//PAC7TE   DD DUMMY
//PAC7RE   DD DUMMY
//PAC7RM   DD DUMMY
//PAC7WD   DD DSN=&&PACXWD,DISP=(,DELETE),UNIT=&UWK,
//           SPACE=&SPAMB,
//           DCB=(RECFM=FB,LRECL=167,BLKSIZE=6179)
//******** FICHIERS DE TRI
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,(3,1),,CONTIG)
//******** FICHIERS EN SORTIE
//PAC7MV   DD DUMMY
//PAC7MR   DD DUMMY
//PAC7TD   DD DUMMY
//PAC7GY   DD DUMMY
//PAC7UE   DD DSN=&&MB,DISP=(,PASS),UNIT=&UWK,
//           SPACE=&SPAMB,
//           DCB=(RECFM=FB,LRECL=112,BLKSIZE=6496)
//*
//PTUQ10   EXEC  PGM=DFSRRC00,REGION=$REGSIZ,
//           PARM=(DLI,PTUQ10,PTUQ10$SUG,&BUF,
//           &SPIE&TEST&EXCPVR&RST,&PRLD,
//           &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM),
//           COND=(00,NE,PACX)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
```

```
    //SYSOUT    DD SYSOUT=&OUT
    //SYSOUX    DD SYSOUT=&OUT
    //DDSNAP    DD SYSOUT=&OUT
    //PROCLIB   DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER   DD DUMMY,
    //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON    DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //SORTLIB   DD DSN=&SORTLIB,DISP=SHR
    //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,(&CYL,1),,CONTIG)
    //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,(&CYL,1),,CONTIG)
    //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,(&CYL,1),,CONTIG)
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
    //PAC7MB    DD DSN=&&PQCEMB,DISP=(OLD,DELETE)
    //PACQMC    DD DSN=&&MB,DISP=(OLD,DELETE)
    //PACQMI    DD DSN=&PQCF,DISP=(,CATLG,DELETE),
    //            UNIT=&UNITS,VOL=&VOLS,
    //            DCB=(RECFM=FB,LRECL=80,BLKSIZE=6400),
    //            SPACE=&SPAQC
    //PACQML    DD DSN=&&PACQML,DISP=(,PASS),UNIT=&UWK,
    //            SPACE=(TRK,(15,5),RLSE),
    //            DCB=(RECFM=FB,LRECL=85,BLKSIZE=8500)
    //PAC7DD    DD SYSOUT=&OUT,DCB=BLKSIZE=133
    //PACQIC    DD SYSOUT=&OUT,DCB=BLKSIZE=133
    //*
    //PTUQ15   EXEC  PGM=DFSRRC00,REGION=$REGSIZ,
    //        PARM=(DLI,PTUQ15,PTUQ15$SUG,&BUF,
    //          &SPIE&TEST&EXCPVR&RST,&PRLD,
    //          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM),
    //          COND=((00,NE,PACX),(00,NE,PTUQ10))
    //STEPLIB   DD DSN=&RESLIB,DISP=SHR
    //          DD DSN=&STEPLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS       DD DSN=&PSBLIB,DISP=SHR
    //          DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
    //SYSOUT    DD SYSOUT=&OUT
    //SYSOUX    DD SYSOUT=&OUT
    //DDSNAP    DD SYSOUT=&OUT
    //PROCLIB   DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER   DD DUMMY,
    //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON    DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //SORTLIB   DD DSN=&SORTLIB,DISP=SHR
    //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,(&CYL,1),,CONTIG)
    //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,(&CYL,1),,CONTIG)
    //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,(&CYL,1),,CONTIG)
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PACQML    DD DSN=&&PACQML,DISP=(OLD,DELETE)
    //PACQII    DD SYSOUT=&OUT,DCB=BLKSIZE=133
    //PACQIJ    DD SYSOUT=&OUT,DCB=BLKSIZE=133
    //*
```

5. METHODOLOGY INTEGRITY CHECK

5.1. ADM: SSADM PACDESIGN METHODOLOGY

5.1.1. SADM: INTRODUCTION

<u>SADM: INTRODUCTION</u>

This procedure is supplied for users of the WorkStation and the SSADM PACDESIGN application design methodology.

It checks the validity and the consistency of the entities that have been uploaded by the user from his/her work station to the specifications database.

NOTE:

The SSADM methodology and the features of the SADM procedure are available only in English.

For further information, refer to the PACDESIGN Reference Manual.

<u>EXECUTION CONDITION</u>

None.

5.1.2. SADM: USER INPUT

SADM: USER INPUT

USER INPUT

One '*' line for library access:

```
-----------------------------------------------------------
!POS.!LEN.! VALUE  ! MEANING                                !
!---------------------------------------------------------!
!  2 !  1 !   *    ! LINE CODE                              !
!  3 !  8 !uuuuuuuu! USER CODE                              !
! 11 !  8 !pppppppp! USER PASSWORD                          !
! 19 !  3 ! bbb    ! LIBRARY CODE                           !
! 22 !  4 ! nnnn   ! SESSION NUMBER (BLANK=CURRENT SESSION)!
! 26 !  1 ! T      ! SESSION VERSION IF TEST SESSION        !
! 37 ! 25 !........! RESERVED IMS:  REQUEST IDENTIFIER      !
!    !    !        ! (cf. IMS BATCH PAF)                    !
-----------------------------------------------------------
```


Print request lines:

```
-----------------------------------------------------------
!POS.!LEN.! VALUE  ! MEANING                                !
!---------------------------------------------------------!
!  2 !  1 ! 'T'    ! LINE CODE                              !
!  3 !  1 !        ! CODE FOR REPORT TO BE PRINTED          !
!    !    ! 'V'    ! VALIDATION OF SSADM ENTITIES           !
!    !    ! '1'    ! CROSS-BOUNDARIES DATAFLOWS WITHIN      !
!    !    !        ! A DFD                                  !
!    !    ! '2'    ! OPERATIONAL MASTERS WITHIN A DSD       !
!    !    ! '3'    ! ALL ENTITIES WITH THEIR ATTRIBUTES     !
!  4 !  6 ! eeeeee ! ENTITY CODE                            !
!    !    !        ! (required for '1' or '2')              !
-----------------------------------------------------------
```


PRINTED OUTPUT

This procedure prints the following, based on print requests:

   . A validation of SSADM entities report

   . List of cross-boundaries dataflows within a DFD

   . List of operational masters within a DSD

   . List of all entities with their attributes.

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5.1.3. SADM: DESCRIPTION OF STEPS

SADM: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

DEFINITION OF KSDS WORK FILE: IDCAMS

 .Input file
  -File DEFINE
   SYSIN: DSN=&&DFSYSPAF

SSADM-ENTITY CONSISTENCY CHECK: PADM10

.Permanent input files:
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
 -Error-message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

.Transaction file:
 -User input
  PAC7MB: DSN=&&SADMMB

.Work file(s):
 -Fichier PAF
  PAC7PA :   DSN=&INDEX..&ROOT.&ROOT.PA
  PAC7P1 :   DSN=&INDEX..&ROOT.&ROOT.P1

.Output report:
 -List of checked SSADM entities
  PAC7EJ

5.1.4. SADM: EXECUTION JCL

```
//***********************************************************************
//*  VisualAge Pacbase : PACDESIGN SSADM INTEGRITY CHECKING
//***********************************************************************
//$RADP.SADM PROC FILE=$FILE,    NUMBER OF THE PHYSICAL DATABASE
//           ROOT=$ROOT,         ROOT OF THE VA PAC SYSTEM
//           INDEXP='$INDEXP',   INDEX OF NON-VSAM FILES
//           INDEX='$INDEX',     INDEX OF VSAM FILES
//*:         VSAMCAT='$CATU',    VSAM USER CATALOG
//*:         SYSTCAT='$CATV',    VSAM SYSTEM CATALOG
//           OUT='$OUT',         OUTPUT CLASS
//           STEPLIB='$MODB',    LIBRARY OF LOAD MODULES
//           PSBLIB='$PSBLIB',   IMS PSBLIB
//           DBDLIB='$DBDLIB',   IMS DBDLIB
//           RESLIB='$RESLIB',   IMS RESLIB
//           PROCLIB='$PRCLIB',  IMS WORKLIB
//           UWK=$UWK,           WORK UNIT
//         BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//         CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*-----------------------------------------------------------------*
//*
//COPY    EXEC PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&SADMMB,DISP=(,PASS),UNIT=&UWK,
//             SPACE=(TRK,(5,5),RLSE),
//             DCB=(RECFM=FB,LRECL=80,BLKSIZE=1600)
//*
//PADM10  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PADM10,PADM10$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//             DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//             BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//             BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7PA$SUF DD DSN=&INDEX..&ROOT.&ROOT.PA,DISP=SHR
//PAC7P1$SUF DD DSN=&INDEX..&ROOT.&ROOT.P1,DISP=SHR
//PAC7MB   DD DSN=&&SADMMB,DISP=(OLD,DELETE)
//PAC7EJ   DD SYSOUT=&OUT
//*
```

5.2. YSM: WORKSTATION / YSM METHODOLOGY

5.2.1. YSMC: INTRODUCTION

<u>YSMC: INTRODUCTION</u>

This procedure is supplied for users of the WorkStation and the YSM
PACDESIGN application Methodology.

  . It checks the validity and the integrity of the entities uploaded from the
  WorkStation to the Host Specifications Dictionary by the user.

  . It checks the consistency between a Dataflow Diagram and its parent
  diagram.

  . It establishes different hierarchical lists of certain entities of the Database.

NOTE: The YSM Methodology and the procedure functionalities exist only in
English.

<u>EXECUTION CONDITION</u>

None

5.2.2. YSMC: USER INPUT

YSMC: USER INPUT

USER INPUT

One '*'-line is required for library access:

```
+-----+-----+--------+-----------------------------------+
! POS.! LEN.! VALUE  ! MEANING                           !
+-----+-----+--------+-----------------------------------+
! 2   ! 1   ! '*'    ! Line code                         !
! 3   ! 8   !uuuuuuuu! User code                         !
! 11  ! 8   !pppppppp! User password                     !
! 19  ! 3   !bbb     ! Code of the selected library      !
! 22  ! 4   !nnnn    ! Session number (space = current)  !
! 26  ! 1   !T       ! Session status if Test session    !
! 37  ! 25  !........! Only for IMS : Request identifier  !
!     !     !        ! (cf. PAF batch IMS)               !
------------------------------------------------------------
```

Entity validation request line (optional):

```
------------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                           !
!-----+-----+--------+-----------------------------------!
! 2   ! 1   ! 'T'    ! Line code                         !
! 3   ! 1   !        ! Code of report to be printed      !
!     !     ! 'W'    ! "Validation of YSM entities"      !
------------------------------------------------------------
```

PRC entity control request lines (optional):

```
------------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                           !
!-----+-----+--------+-----------------------------------!
! 2   ! 1   ! 'T'    ! Line code                         !
! 3   ! 1   !        ! Code of report to be printed      !
!     !     ! 'Y'    ! "Inter process consistency checking"!
! 4   ! 6   ! eeeeee ! Entity code (PRC)                 !
------------------------------------------------------------
```

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Printing-request lines (optional):

```
-----------------------------------------------------------
! POS.! LEN.! VALUE  ! MEANING                            !
!-----+-----+--------+------------------------------------!
! 2 ! 1  ! 'T'    ! Line code                          !
! 3 ! 1  !        ! Code of report to be printed       !
!    !    ! '0'    ! "List of Relationships"            !
!    !    ! '4'    ! "Process Decomposition list (CTX)  !
!    !    ! '5'    ! "Process Decomposition list (DFD)  !
!    !    ! '6'    ! "Datastore Decomposition list"     !
!    !    ! '7'    ! "Eventflow Decomposition list"     !
!    !    ! '8'    ! "Group Dataflow Decomposition list" !
!    !    ! '9'    ! "Multiple Dataflow Decomposition   !
!    !    !        !  list"                             !
! 4 ! 6  ! eeeee ! Entity code (REL/CTX/PRC/DST/EFL/   !
!    !    !        ! DFL)                               !
-----------------------------------------------------------
```


PRINTED REPORT

This procedure prints:

   . A "Validation of YSM entities" report.

   . An "Inter-process consistency check" report.

   . The reports:

   . "List of relationships".

   . "Process decomposition list (CTX)".

   . "Process decomposition list (DFD)".

   . "Datastore decomposition list".

   . "Eventflow decomposition list".

   . "Group Dataflow Decomposition list".

   . "Multiple Dataflow Decomposition list".

5.2.3. YSMC: DESCRIPTION OF STEPS

                        YSMC: DESCRIPTION OF STEPS

        TRANSACTION RECOGNITION: PTU001

        DEFINITION OF KSDS WORK FILE: IDCAMS

         .Input file
          -File DEFINE
           SYSIN: DSN=&&DFSYSPAF

        YSM METHOD INTEGRITY CHECKING: PYSMCC

        .Permanent input files:
         -Data file
          PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
         -Index file
          PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
         -Error-message file
          PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE

        .Transaction file:
         -User input
          PAC7MB: DSN=&&YSMCMB

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```
        .Work file(s):
         -PAF file
          PAC7PA :     DSN=&INDEX..&ROOT.&ROOT.PA
          PAC7P1 :     DSN=&INDEX..&ROOT.&ROOT.P1


        .Output reports:
         -SSADM integrity checking lists
          PAC7EJ
         -SSADM & IFW validation reports
          PAC7EI



        INTER-PROCESS CONSISTENCY:  PYSMC3

        .Permanent input files:
         -Data file
          PAC7AR  :     DSN=&INDEX..&ROOT.&FILE.AR
         -Index file
          PAC7AN  :     DSN=&INDEX..&ROOT.&FILE.AN
         -Error-message file
          PAC7AE  :     DSN=&INDEX..&ROOT.&ROOT.AE

        .Transaction file:
         -User input
          PAC7MB:   DSN=&&YSMCMB

        .Work file(s):
         -PAF file
          PAC7PA  :     DSN=&INDEX..&ROOT.&ROOT.PA
          PAC7P1  :     DSN=&INDEX..&ROOT.&ROOT.P1

        .Output report:
         -SSADM integrity-check lists
          PAC7EJ



        LIST OF RELATIONSHIPS AND REPORTS:  PYSMC2

        .Permanent input files:
         -Data file
          PAC7AR  :     DSN=&INDEX..&ROOT.&FILE.AR
         -Index file
          PAC7AN  :     DSN=&INDEX..&ROOT.&FILE.AN
         -Error messages
          PAC7AE  :     DSN=&INDEX..&ROOT.&ROOT.AE

        .Transaction file:
         -User input
          PAC7MB  :     DSN=&&YSMCMB


        .Work file(s):
         -Fichier PAF
          PAC7PA  :     DSN=&INDEX..&ROOT.&ROOT.PA
          PAC7P1  :     DSN=&INDEX..&ROOT.&ROOT.P1

        .Output report:
         -SSADM intgrity-check lists
          PAC7EJ



        DELETION OF THE KSDS WORK-FILE:  IDCAMS

         .Input file:
          -File DELETE
          SYSIN : DSN=&&DLSYSPAF
```

```
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     METHODOLOGY INTEGRITY CHECK                          5
     YSM:  WORKSTATION / YSM METHODOLOGY                  2
     YSMC:  EXECUTION JCL                                 4
```

5.2.4. YSMC: EXECUTION JCL

```
//*****************************************************************
//*  VisualAgePacbase : PACDESIGN YSM  INTEGRITY CHECKING      *
//*****************************************************************
//$RADP.YSMC PROC FILE=$FILE,      NUMBER OF THE PHYSICAL DATABASE
//          ROOT=$ROOT,            ROOT OF THE VA PAC SYSTEM
//          INDEXP='$INDEXP',      INDEX OF NON-VSAM FILES
//          INDEX='$INDEX',        INDEX OF VSAM FILES
//*:        VSAMCAT='$CATU',       VSAM USER CATALOG
//*:        SYSTCAT='$CATV',       VSAM SYSTEM CATALOG
//          OUT='$OUT',            OUTPUT CLASS
//          STEPLIB='$MODB',       LIBRARY OF LOAD-MODULES
//          PSBLIB='$PSBLIB',      IMS PSBLIB
//          DBDLIB='$DBDLIB',      IMS DBDLIB
//          RESLIB='$RESLIB',      IMS RESLIB
//          PROCLIB='$PRCLIB',     IMS WORKLIB
//          UWK=$UWK,              WORK UNIT
//          BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//          CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*-------------------------------------------------------------
//*
//COPY     EXEC PGM=PTU001
//STEPLIB     DD DSN=&STEPLIB,DISP=SHR
//CARTE       DD DDNAME=SYSIN
//PAC7MB      DD DSN=&&YSMCMB,DISP=(,PASS),UNIT=&UWK,
//            SPACE=(TRK,(5,5),RLSE),
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=1600)
//*
//PYSMCC   EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//          PARM=(DLI,PYSMCC,PYSMCC$SUG,&BUF,
//          &SPIE&TEST&EXCPVR&RST,&PRLD,
//          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB     DD DSN=&RESLIB,DISP=SHR
//            DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB    DD DSN=&RESLIB,DISP=SHR
//IMS         DD DSN=&PSBLIB,DISP=SHR
//            DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT  DD DSN=&SYSTCAT,DISP=SHR
//*:          DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT      DD SYSOUT=&OUT
//SYSOUX      DD SYSOUT=&OUT
//DDSNAP      DD SYSOUT=&OUT
//PROCLIB     DD DSN=&PROCLIB,DISP=SHR
//IEFRDER     DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP    DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP    DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON      DD DUMMY
//DFSVSAMP    DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7PA$SUF DD DSN=&INDEX..&ROOT.&ROOT.PA,DISP=SHR
//PAC7P1$SUF DD DSN=&INDEX..&ROOT.&ROOT.P1,DISP=SHR
//PAC7MB      DD DSN=&&YSMCMB,DISP=(OLD,PASS)
//PAC7EI      DD SYSOUT=&OUT
//PAC7EJ      DD SYSOUT=&OUT
//*
//PYSMC3   EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//          PARM=(DLI,PYSMC3,PYSMCC$SUG,&BUF,
//          &SPIE&TEST&EXCPVR&RST,&PRLD,
//          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB     DD DSN=&RESLIB,DISP=SHR
//            DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB    DD DSN=&RESLIB,DISP=SHR
//IMS         DD DSN=&PSBLIB,DISP=SHR
```

```
     //            DD DSN=&DBDLIB,DISP=SHR
     //*:STEPCAT  DD DSN=&SYSTCAT,DISP=SHR
     //*:         DD DSN=&VSAMCAT,DISP=SHR
     //SYSOUT      DD SYSOUT=&OUT
     //SYSOUX      DD SYSOUT=&OUT
     //DDSNAP      DD SYSOUT=&OUT
     //PROCLIB     DD DSN=&PROCLIB,DISP=SHR
     //IEFRDER     DD DUMMY,
     //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
     //SYSUDUMP    DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSUDUMP    DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSMON      DD DUMMY
     //DFSVSAMP    DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
     //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     //PAC7PA$SUF DD DSN=&INDEX..&ROOT.&ROOT.PA,DISP=SHR
     //PAC7P1$SUF DD DSN=&INDEX..&ROOT.&ROOT.P1,DISP=SHR
     //PAC7MB      DD DSN=&&YSMCMB,DISP=(OLD,PASS)
     //PAC7EJ      DD SYSOUT=&OUT
     //*
     //PYSMC2   EXEC PGM=DFSRRC00,REGION=$REGSIZ,
     //            PARM=(DLI,PYSMC2,PYSMCC$SUG,&BUF,
     //            &SPIE&TEST&EXCPVR&RST,&PRLD,
     //            &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
     //STEPLIB     DD DSN=&RESLIB,DISP=SHR
     //            DD DSN=&STEPLIB,DISP=SHR
     //DFSRESLB    DD DSN=&RESLIB,DISP=SHR
     //IMS         DD DSN=&PSBLIB,DISP=SHR
     //            DD DSN=&DBDLIB,DISP=SHR
     //IEFRDER     DD DUMMY,
     //            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
     //SYSUDUMP    DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSUDUMP    DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSMON      DD DUMMY
     //DFSVSAMP    DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
     //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     //PAC7PA$SUF DD DSN=&INDEX..&ROOT.&ROOT.PA,DISP=SHR
     //PAC7P1$SUF DD DSN=&INDEX..&ROOT.&ROOT.P1,DISP=SHR
     //PAC7MB      DD DSN=&&YSMCMB,DISP=(OLD,DELETE)
     //PAC7EJ      DD SYSOUT=&OUT
     //SYSOUT      DD SYSOUT=&OUT
     //*
```

6. PACTABLES

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6.1. GETD-GETA-GET1-GET2: DESCRIPTION GENERATOR

6.1.1. GETD - GETA: INTRODUCTION

<u>GETD-GETA: INTRODUCTION</u>

The TABLE DESCRIPTION GENERATOR is the interface between the
Specifications Dictionary and Pactables. For further information, refer to
Chapter 'GENERAL INTRODUCTION' Subchapter 'INTRODUCTION TO
THE PACTABLES FACILITY' in the Pactables Reference Manual.

This interface is of interest only to users of the Pactables Facility.

This interface extracts the table descriptions necessary for Pactables from the
VisualAge Pacbase Database.

This extraction is executed via either the GETA or GETD procedure according
to the installation environment of the Pactables Facility:

  - GETA if the Dictionary and Pactables are running under the same
    environment.

  - GETD if the Dictionary and Pactables are running under different
    environments. In this case, GETD processes a table description file which is
    the image of the file containing the table descriptions used by the Pactables
    Facility. As a result, this file must be initialized before the first GETD run, by:

  . either duplicating the description file of the Pactables Facility, if it exists,

  . or executing the initialization procedure (GETI) described in this chapter.

GETA or GETD provide an interface file which is used as input to the GETT
procedure of the Pactables Facility. For further details, refer to the Pactables
Operations Manual.

EXECUTION CONDITION

None with regard to the specifications database, which is only read by this procedure.

Batch procedure authorization option:
.Level 2 is required.

ABNORMAL EXECUTION

If generation abends before the update of the table description file, the procedure can be restarted as it is once the error has been corrected.

If generation abends during the update of the table description file, this file must be restored before the procedure is restarted.

WARNING

The GETA procedure is described in the Manual 'Environment and Installation'.

6.1.2. GETD - GETA: USER INPUT

<u>GETD-GETA: USER INPUT</u>

<u>USER INPUT</u>

A '*'-type line indicating the library which contains the table descriptions.

```
-----------------------------------------------------------
!POS.!LEN.! VALUE  ! MEANING                               !
!----!----!--------!------------------------------------------!
!  2 !  1 !  '*'   ! Line code                             !
!  3 !  8 !uuuuuuuu! User code                             !
! 11 !  8 !pppppppp! User password                         !
! 19 !  3 ! bbb    ! Library code                          !
! 22 !  4 ! nnnn   ! Session number                        !
! 26 !  1 ! t      ! Session status                        !
-----------------------------------------------------------
```

One 'Z' line per generation or print request.

```
-----------------------------------------------------------
!POS.!LEN.! VALUE  ! MEANING                               !
!----!----!--------!------------------------------------------!
!  2 !  1 ! 'Z'    ! Line code                             !
!  5 !  4 !        ! Request code:                         !
!    !    ! 'TGS ' ! Request for table descrip. generation !
!    !    ! 'TDS ' ! Request for printing of table descr.  !
!    !    ! 'TLS ' ! Request for list of table descriptions!
!    !    ! 'TAS ' ! Request for table deletion            !
!    !    ! 'TMS ' ! Request for modification of frozen     !
!    !    !        ! table characteristics                 !
!    !    ! 'TGC ' ! Request for comments generation       !
!----!----!--------!------------------------------------------!
!  9 !  6 ! ssss   ! Segment code of table description to  !
!    !    !        ! be extracted ('TGS ','TGC ')          !
!    !    ! tttttt ! Table code (other requests)           !
!----!----!--------!------------------------------------------!
! 15 !  2 ! '  '   ! Not significant                       !
!----!----!--------!------------------------------------------!
! 17 !  8 !DDMMCCYY! Date from which the table description  !
!    !    !        ! can be modified. (Optional)           !
!----!----!--------!------------------------------------------!
```

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```
-----------------------------------------------------------
!POS.!LEN.! VALUE  ! MEANING                                !
!---------------------------------------------------------!
! 25 !  8 !DDMMCCYY! Date of description historical account!
!    !    !        ! for a G-type table. Default: last     !
!    !    !        ! historical account.                   !
!    !    !********! Table generation without hist. account!
!---------------------------------------------------------!
! 33 !  1 !        ! Data Element format type:             !
!    !    !  ' '   ! Internal format                       !
!    !    !  'E'   ! Input format                          !
!---------------------------------------------------------!
! 75 !  6 ! tttttt ! Table number (if generating for a     !
!    !    !        ! table other than that of the Segment's!
!    !    !        ! Definition file in the database).     !
-----------------------------------------------------------
```

For further information on user input, please refer to the Pactables Reference
Manual.

NOTE: Table keys cannot be modified: table generation requests applying to defined
        tables and involving such modifications are rejected.

RESULT OBTAINED

The output of the GETA procedure is a sequential file containing table
descriptions, which will be used as input to the GETT procedure of the Pactables
Function.

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6.1.3. GETD - GETA: DESCRIPTION OF STEPS

<u>GETD: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>EXTRACTION & UPDATE PREPARATION: PACT40</u>

.Permanent input files:
 -VisualAge Pacbase data file
  PAC7AR :   DSN=&AR
 -VisualAge Pacbase index file
  PAC7AN :   DSN=&AN
 -VisualAge Pacbase error-message file
  PAC7AE :   DSN=&AE
 -Table-description file
  PAC7TD :   DSN=&INDEX..&ROOT.&FILE.DD

.Input transaction file:
 -User requests
  PAC7MB :   DSN=&&PAC7MB

.Output report(s):
 -Transaction summary
  PAC7ET
 -Batch-procedure authorization option
  PAC7DD

.Output file:
 -2.0-Table-Descriptions update transactions
  PAC7MD: DSN=&MD

.Return code:
  8: No batch-procedure authorization.

FORMATTING OF DESCRIPTIONS < R 2.0:   PACT45

.Input file:
 -2.0 Description-update transactions
   PAC7MD: DSN=&MD parameter of the procedure

.Output file
 -1.2 Description-update transactions
   PAC7ND: DSN=&ND parameter of the procedure

UPDATE OF TABLE-DESCRIPTION FILE: PACT50

(GETD procedure only)

.Permanent input file:
 -Table-description file
   PAC7TD: DSN=&INDEX..&ROOT.&FILE.DT

.Input transaction files:
 -User requests
   PAC7MB: DSN=&&GETDMB ou &&GETAMB
 -Update transactions
   PAC7MD: DSN=&MD

.Output report:
 -Update review
   PAC7ET

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

```
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```

6.1.4. GETD: EXECUTION JCL

```
     //*************************************************************************
     //*       Pactables   TABLES DESCRIPTION GENERATION
     //*************************************************************************
     //$RADP.GETD PROC FILE=$FILE,    NUMBER OF PHYSICAL DATABASE
     //        ROOT=$ROOT,            ROOT OF THE VA PAC SYSTEM
     //        INDEXP='$INDEXP',     INDEX OF SYSTEM NON-VSAM FILES
     //        INDEX='$INDEX',        INDEX OF USER VSAM FILES
     //*:      SYSTCAT='$CATV',       VSAM SYSTEM CATALOG
     //*:      VSAMCAT='$CATU',       VSAM USER CATALOG
     //        STEPLIB='$MODB',       LIBRARY OF LOAD-MODULES
     //        SORTLIB='$BIBT',       SORT LIBRARY
     //        PSBLIB='$PSBLIB',      LIBRARY OF PSB'S
     //        AR='$INDEX..$ROOT.$FILE.AR', BASE 'AR' (PACBASE)
     //        AN='$INDEX..$ROOT.$FILE.AN', BASE 'AN' (PACBASE)
     //        AE='$INDEX..$ROOT.$ROOT.AE', BASE 'AE' (PACBASE)
     //        SYPB='$INDEXP..$ROOT.$ROOT.SY', VA PAC PARAMETER PDS
     //        DBDLPB='',             VA PAC DBD LIBRARY
     //        DBDLIB='$DBDLIB',      DBD LIBRARY
     //        RESLIB='$RESLIB',      IMS RESLIB
     //        PROCLIB='$PRCLIB',     IMS PROCLIB
     //        OUT='$OUT',            OUTPUT CLASS
     //        UWK=$UWK,              WORK UNIT
     //        CYL=5,                 SIZE OF SORTWORK
     //        MD='$INDEX..$ROOT.$FILE.MD', GENERATED DESCRIPTION DSNAME
     //        ND='$INDEX..$ROOT.$FILE.ND', GENERATED DESCRIPTION <2.0
     //        UNITS='$UNITO',        GENERATED DESCRIPTION UNIT
     //        VOLS='SER=$VOLP',      GENERATED DESCRIPTION VOLUME
     //        SPAMB='(TRK,(15,5),RLSE)', TRANSACTION-FILE SPACE
     //        SPAMD='(TRK,(10,2),RLSE)', GENERATED-DESCRIPTION SPACE
     //        SPAND='(TRK,(10,2),RLSE)', GENERATED-DESCR < 2.0 SPACE
     //        BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
     //        CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
     //*-------------------------------------------------------------------*
     //*
     //INPUT   EXEC  PGM=PTU001
     //STEPLIB DD DSN=&STEPLIB,DISP=SHR
     //CARTE   DD DDNAME=SYSIN
     //PAC7MB  DD DSN=&&GETDMB,DISP=(,PASS),
     //          UNIT=&UWK,SPACE=&SPAMB,
     //          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
     //*
     //VERIFY  EXEC  PGM=IDCAMS
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
     //*:      DD DSN=&VSAMCAT,DISP=SHR
     //SYSPRINT DD SYSOUT=&OUT
     //DDAE    DD DSN=&AE,DISP=SHR
     //DDAN    DD DSN=&AN,DISP=SHR
     //SYSIN   DD DSN=&SYPB(VERIFAE),DISP=SHR
     //        DD DSN=&SYPB(VERIFAN),DISP=SHR
     //*
     //PACT40  EXEC  PGM=DFSRRC00,REGION=$REGSIZ,
     //        PARM=(DLI,PTAT40,PTAT40$SUG,&BUF,
     //        &SPIE&TEST&EXCPVR&RST,&PRLD,
     //        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
     //STEPLIB  DD DSN=&RESLIB,DISP=SHR
     //         DD DSN=&STEPLIB,DISP=SHR
     //DFSRESLB DD DSN=&RESLIB,DISP=SHR
     //IMS      DD DSN=&PSBLIB,DISP=SHR
     //         DD DSN=&DBDLPB,DISP=SHR
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
     //*:      DD DSN=&VSAMCAT,DISP=SHR
     //SYSOUT   DD SYSOUT=&OUT
     //SYSOUX   DD SYSOUT=&OUT
     //DDSNAP   DD SYSOUT=&OUT
     //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
     //IEFRDER  DD DUMMY,
     //         DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
```

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```
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//          BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUFPB DD DSN=&AE,DISP=SHR
//PAC7AN$SUFPB DD DSN=&AN,DISP=SHR
//PAC7AR$SUFPB DD DSN=&AR,DISP=SHR
//PAC7TD   DD DSN=&INDEX..&ROOT.&FILE.DD,DISP=SHR
//PAC7MB   DD DSN=&&GETDMB,DISP=(OLD,PASS)
//PAC7MD   DD DSN=&MD,DISP=(,CATLG,DELETE),UNIT=&UNITS,
//            DCB=(RECFM=FB,LRECL=244,BLKSIZE=6100),
//            VOL=&VOLS,
//            SPACE=&SPAMD
//PAC7DD   DD SYSOUT=&OUT
//PAC7ET   DD SYSOUT=&OUT
//*
//PACT45 EXEC PGM=PTAT45
//*********************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:       DD DSN=&SYSCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//PAC7MD   DD DSN=&MD,DISP=(OLD,KEEP)
//PAC7ND   DD DSN=&ND,DISP=(,PASS),
//            UNIT=&UNITS,
//            VOL=&VOLS,
//            SPACE=&SPAND,
//            DCB=(RECFM=FB,LRECL=244,BLKSIZE=6100)
//SYSUDUMP DD SYSOUT=&OUT
//PACT50  EXEC PGM=PTAT50,COND=(00,NE,PACT40)
//*********************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//PAC7MB   DD DSN=&&GETDMB,DISP=(OLD,DELETE)
//PAC7MD   DD DSN=&MD,DISP=(OLD,PASS)
//PAC7TD   DD DSN=&INDEX..&ROOT.&FILE.DD,DISP=SHR
//PAC7ET   DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT
//*
```

6.1.5. GET2 - GET1: INTRODUCTION

<u>GET2-GET1: INTRODUCTION</u>

GET1 and GET2 replace the GETA and GETD procedures for the generation of table-descriptions when the Pactables and VisualAge Pacbase releases are different (Pactables release 1.2 used with VisualAge Pacbase release 2.0 or higher). GET1 is the equivalent of GETA, while GET2 is the equivalent of GETD.

Use of these procedures is subject to licensed use of the Pactables Facility.

The purpose of GET1 and GET2 is to extract from the Database the table descriptions that are required for the operation of the Pactables Facility.

This extraction is performed either by GET1 or GET2, depending on the installation environment of the Pactables Facility, i.e.:

  - GET1 when both the VisualAge Pacbase Repository and the Pactables Facility are in the same environment,

  - GET2 if the VisualAge Pacbase Repository and the Pactables Facility are in different environments. In this case, the procedure operates with a table-description file which is an image of the description file used by the Pactables Facility.

        Therefore, before running this procedure for the first time, the Table-Description file must be initialized in one of the following ways:

  . Either by copying the Pactables' Table-Description file if it exists,

  . Or by running the GET0 initialization procedure (equivalent of GETI).

GET1 and GET2 produce an 'interface' file which must then be used as input to the GETT procedure of the Pactables Function. (See the Pactables Operations Manual for further information.)

EXECUTION CONDITION

None as far as the Specifications Database is concerned, since the procedure
only reads the Database.

Option 'Batch-procedure Access Authorization':
. Authorization level 2 required.

ABNORMAL ENDINGS

If the generation process terminates unexpectedly before the start of the
Description-file update, the procedure may be restarted as it is, after correction
of the error that caused the abnormal ending.

If the generation terminates abnormaly while the Table-Description file is being
updated, the file must be restored before the procedure can be restarted.

6.1.6. GET2 - GET1: USER INPUT

<u>GET2-GET1: USER INPUT</u>

<u>USER INPUT</u>

One '*'-line specifying the library where the Table-descriptions are stored:

```
---------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                          !
!---------------------------------------------------------!
!  2 !  1 ! '*'       ! Line code                        !
!  3 !  8 ! uuuuuuuu  ! User code                        !
! 11 !  8 ! pppppppp  ! Password                         !
! 19 !  3 ! bbb       ! Library code                     !
! 22 !  4 ! nnnn      ! Session number                   !
! 26 !  1 ! t         ! Session status                   !
---------------------------------------------------------
```

One 'Z'-line for each generation or printing request:

```
---------------------------------------------------------
!Pos.! Len.! Value  ! Meaning                            !
!---------------------------------------------------------!
!  2 !  1 ! 'Z'     ! Line code                          !
!  5 !  4 !         ! Request code:                      !
!    !    ! 'TGS '  ! Description-generation request     !
!    !    ! 'TDS '  ! Description-printing request       !
!    !    ! 'TLS '  ! Description-list request           !
!    !    ! 'TAS '  ! Table-deletion request             !
!    !    ! 'TMS '  ! Frozen-table characteristics modi- !
!    !    !         !  fication request                  !
!    !    ! 'TGC '  ! Comments-generation request        !
!---------------------------------------------------------!
!  9 !  6 ! ssss    ! Segment code of table description to !
!    !    !         !  be extracted ('TGS', 'TGC')       !
!    !    ! tttttt  ! Table code (other requests)        !
!---------------------------------------------------------!
! 15 !  2 ! '  '    ! Not used                           !
!---------------------------------------------------------!
! 17 !  6 ! DDMMYY  ! Date from which the table description!
!    !    !         !  can be modified (optional)        !
!---------------------------------------------------------!
```

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```

```
            ----------------------------------------------------------
            !Pos.! Len.! Value  ! Meaning                             !
            !----------------------------------------------------------!
            ! 23 !  6 ! DDMMYY ! Date of description historical acc-  !
            !    !    !        !  ount for a G-type table.  Default:  !
            !    !    !        !  last historical account             !
            !    !    ! ****** ! Generation of a table without histo- !
            !    !    !        !  rical account                       !
            !----------------------------------------------------------!
            ! 29 !  1 !        ! Data-Element format type:            !
            !    !    ! ' '    ! Internal format                      !
            !    !    ! 'E'    ! Input format                         !
            !----------------------------------------------------------!
            ! 75 !  6 ! tttttt ! Table number (if generating for a    !
            !    !    !        !  table other than that of the Segment!
            !    !    !        !  Definition file in the Database)    !
            ----------------------------------------------------------
```

(See the Pactables Reference Manual for further information on this input.)

NOTE: Table keys cannot be modified: table-generation requests which apply to
      defined tables and involve such modifications are rejected.

RESULT

The output of the GET1/GET2 procedure is a sequential file containing Table
descriptions, which will be used as input for the GETT procedure of the
Pactables Facility.

6.1.7. GET2 - GET1: DESCRIPTION OF STEPS

GET2: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

VERIFICATION OF VSAM FILES: IDCAMS

EXTRACTION AND UPDATE PREPARATION: PACT41

.Permanent input files:
 -VisualAge Pacbase Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -VisualAge Pacbase Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -VisualAge Pacbase Error-message file
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -Table-description file
  PAC7TD: DSN=&INDEX..&ROOT.&FILE.DT

.Input Transaction file:
 -Descriptions requests
  PAC7MB: DSN=&&GETDMB ou &&GETAMB

.Output reports:
 -Transaction report
  PAC7ET
 -Batch-procedure authorization option
  PAC7DD

.Output file:
 -2.0-Description update transactions
  PAC7MD: DSN=&MD

.Return code(s):
   8: No authorization on the Batch procedures

TABLE-DESCRIPTION UPDATE: PACT51

(GET2 procedure only)

.Permanent input file:
 -Table-description file
  PAC7TD: DSN=&TABTDF

.Input transaction files:
 -Descriptions requests
  PAC7MB: DSN=&GETDMB

 -Update transactions
  PAC7MD: DSN=&MD

.Output report:
 -Update report
  PAC7ET

.Sort files:
 SORTWK01
 SORTWK02
 SORTWK03

                                                        DEPIM003251A

6.1.8. GET2: EXECUTION JCL

```
//****************************************************************
//*         Pactables    TABLES DESCRIPTION GENERATION
//****************************************************************
//$RADP.GET2 PROC FILE=$FILE,    PHYSICAL-DATABASE NUMBER
//       ROOT=$ROOT,             ROOT OF THE VA PAC SYSTEM
//       INDEXP='$INDEXP',       INDEX OF SYSTEM NON-VSAM FILES
//       INDEX='$INDEX',         INDEX OF USER VSAM FILES
//*:     SYSTCAT='$CATV',        VSAM SYSTEM CATALOG
//*:     VSAMCAT='$CATU',        VSAM USER CATALOG
//       STEPLIB='$MODB',        LIBRARY OF LOAD-MODULES
//       SORTLIB='$BIBT',        SORT LIBRARY
//       PSBLIB='$PSBLIB',       LIBRARY OF PSB'S
//       DBDLIB='$DBDLIB',       LIBRARY OF DBD'S
//       RESLIB='$RESLIB',       IMS RESLIB
//       PROCLIB='$PRCLIB',      IMS PROCLIB
//       OUT='$OUT',             OUTPUT CLASS
//       UWK=$UWK,               WORK UNIT
//       CYL=5,                  SIZE OF SORTWORK
//       MD='$INDEX..$ROOT.$FILE.MD', GENERATED DESCRIPTION DSN
//       UNITS='$UNITO',         GENERATED DESCRIPTION UNIT
//       VOLS='SER=$VOLP',       GENERATED DESCRIPTION VOLUME
//       SPAMB='(TRK,(15,5),RLSE)', TRANSACTIONS-FILE SPACE
//       SPAMD='(TRK,(10,2),RLSE)', GENERATED-DESCRIPTION SPACE
//       BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//       CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*-------------------------------------------------------------
//*
//INPUT   EXEC  PGM=PTU001
//STEPLIB DD DSN=&STEPLIB,DISP=SHR
//CARTE   DD DDNAME=SYSIN
//PAC7MB  DD DSN=&&GETDMB,DISP=(,PASS),
//           UNIT=&UWK,SPACE=&SPAMB,
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=6080)
//*
//VERIFY  EXEC  PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:      DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE    DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN    DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDDT    DD DSN=&INDEX..&ROOT.&FILE.DT,DISP=SHR
//SYSIN   DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//        DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//        DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFDT),DISP=SHR
//*
//PACT41  EXEC  PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PTAT41,PTAT40$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB DD DSN=&RESLIB,DISP=SHR
//        DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS     DD DSN=&PSBLIB,DISP=SHR
//        DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:      DD DSN=&VSAMCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//         DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
```

```
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7TD   DD DSN=&INDEX..&ROOT.&FILE.DT,DISP=SHR
//PAC7MB   DD DSN=&&GETDMB,DISP=(OLD,PASS)
//PAC7MD   DD DSN=&MD,DISP=(,CATLG,DELETE),UNIT=&UNITS,
//            DCB=(RECFM=FB,LRECL=244,BLKSIZE=2440),
//            VOL=&VOLS,
//            SPACE=&SPAMD
//PAC7DD   DD SYSOUT=&OUT
//PAC7ET   DD SYSOUT=&OUT
//*
//PACT51  EXEC PGM=PTAT51,COND=(00,NE,PACT41)
//***********************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//PAC7MB   DD DSN=&&GETDMB,DISP=(OLD,DELETE)
//PAC7MD   DD DSN=&MD,DISP=(OLD,PASS)
//PAC7TD   DD DSN=&INDEX..&ROOT.&FILE.DT,DISP=SHR
//PAC7ET   DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT
//*
```

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6.2. GETI-GET0: INITIALIZATION OF DESCRIPTION FILE

6.2.1. GETI: INTRODUCTION

<u>GETI: INTRODUCTION</u>

The GETI procedure must be executed when first using Pactables files that are stored in another environment from the VisualAge Pacbase environment. It initializes the description file in a similar way as the Pactables INTA procedure does.

6.2.2. GETI: DESCRIPTION OF STEPS

<u>GETI: DESCRIPTION OF STEPS</u>

<u>DEFINITION OF DESCRIPTION FILE: IDCAMS</u>

This utility performs a DEFINE on the VSAM TD file.

<u>INITIALIZATION OF DESCRIPTION FILE: PACTIN</u>

.Permanent output file:
 -Table description file
   PAC7TD: DSN=&INDEX..&ROOT.&FILE.DT

.Transaction input file:
 -Parameter line
   PAC7MD: DDNAME=SYSIN


```
+----+-----+-------+------------------------------------+
!POS.!LEN. ! VALUE ! MEANING                            !
+----+-----+-------+------------------------------------+
! 1 ! 36 !        ! Installation name                  !
! 37 ! 1 !        ! Language code:                     !
!    !    ! 'F'   ! French (Default option)            !
!    !    ! 'E'   ! English                            !
! 38 ! 1 !        ! DOS only:  machine date inversion  !
!    !    ! ' '   ! MM/DD/CCYY (Default option)        !
!    !    ! 'I'   ! DD/MM/CCYY                         !
! 39 ! 12 !        ! Not used                           !
! 51 !  4 ! cccc  ! Class for security system          !
! 55 !  1 !        ! Type of security system            !
!    !    ! 'R'   ! RACF                               !
!    !    ! 'S'   ! TOP SECRET                         !
! 56 !  2 ! nn    ! Number of lines per printing page  !
! 58 !  1 !        ! Type of resource controls          !
!    !    ! ' '   ! Def.tables resources security system !
!    !    ! 'P'   ! Def.resources in VA Pacbase        !
! 59 !  1 !        ! Lock of the user's code            !
!    !    ! ' '   ! Other user's code authorized       !
!    !    ! 'N'   ! Other user's code unauthorized     !
+----+-----+-------+------------------------------------+
```

Output report:
-Initialization review
 PAC7ED

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6.2.3. GETI: EXECUTION JCL

```
//***********************************************************************
//*  PACTABLES   -    INITIALIZATION OF TABLE DESCRIPTIONS        *
//***********************************************************************
//$RADP.GETI PROC FILE=$FILE,      PHYSICAL-DATABASE NUMBER
//           ROOT=$ROOT,           VA PAC SYSTEM ROOT
//           INDEXP='$INDEXP',     NON-VSAM FILE INDEX
//           INDEX='$INDEX',       VSAM INDEX
//*:        VSAMCAT='$CATU',       VSAM USER CATALOG
//           STEPLIB='$MODB',      LIBRARY OF BATCH LOAD-MODULES
//           OUT='$OUT'            OUTPUT CLASS
//*-----------------------------------------------------------------*
//*
//DEFINE   EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(DF&ROOT.&FILE.DD),DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//*
//PACTIN   EXEC PGM=PTATIN
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//PAC7MD   DD DDNAME=SYSIN
//PAC7TD   DD DSN=&INDEX..&ROOT.&FILE.DD,DISP=SHR
//PAC7ED   DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT
//*
```

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6.2.4. GET0: INTRODUCTION

<u>GET0: INTRODUCTION</u>

The GET0 procedure initializes the table-descriptions when the Pactables release
in use is Rel. 1.2 while the VisualAge Pacbase release is Rel. 2.0 or higher. It is
the equivalent of the GETI procedure.

The function of GET0 is the following:
When first using Table files that are disconnected from VA Pac, it initializes the
Table-Description file in the same way as the INTA procedure of the Pactables
Function.

6.2.5. GET0: DESCRIPTIION OF STEPS

                    <u>GET0: DESCRIPTION OF STEPS</u>

        <u>DEFINITION OF DESCRIPTION FILE: IDCAMS</u>

        This utility performs a DEFINE on the VSAM TD file.

        <u>INITIALIZATION OF DESCRIPTION FILE: PACTI1</u>

        .Permanent output file:
         -Table-description file
          PAC7TD: DSN=&INDEX..&ROOT.FILE.DT

        .Input transaction file:
         -Parameter line
          PAC7MD: DDNAME=SYSIN

        !Pos.! Len.! Value ! Meaning   !
        !---!
        ! 1 ! 36 !   ! Installation label   !
        ! 37 ! 1 !   ! Language code   !
        !   !   ! 'F'   ! French (default option)   !
        !   !   ! 'E'   ! English   !
        ! 38 ! 1 !   ! DOS only: inversion of machine-date !
        !   !   ! ' '   ! MM/DD/YY (default option)   !
        !   !   ! 'I'   ! DD/MM/YY   !

        .Output report:
         -Initialization report
          PAC7ED

6.2.6. GET0: EXECUTION JCL

```
//****************************************************************
//*  PACBASE TABLES       INITIALIZATION OF TABLES MANAGEMENT FI
//****************************************************************
//$RADP.GETI PROC FILE=$FILE,    NO. OF PHYSICAL BASE
//          ROOT=$ROOT,          ROOT OF PACBASE SYSTEM
//          INDEXP='$INDEXP',    NON VSAM FILE INDEX
//          INDEX='$INDEX',      VSAM INDEX
//*:        VSAMCAT='$CATU',     VSAM USER CATALOG
//          STEPLIB='$MODB',     LIBRARY OF BATCH LOAD-MODULES
//          OUT='$OUT'           OUTPUT CLASS
//*-------------------------------------------------------------
//*
//DEFINE  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(DF&ROOT.&FILE.DT),DISP=
//SYSPRINT DD SYSOUT=&OUT
//*
//PACTI1  EXEC PGM=PTATI1
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//PAC7MD   DD DDNAME=SYSIN
//PAC7TD   DD DSN=&INDEX..&ROOT.&FILE.DT,DISP=SHR
//PAC7ED   DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSUDUMP DD SYSOUT=&OUT
//*
```

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7. PAC/IMPACT

<u>FOREWORD</u>

```
---------------------------------------------------------
NOTE:  Pac/Impact users may also refer to the 'Pac/Impact
       for VA Pac' Reference Manual.
---------------------------------------------------------
```

Impact analysis requires very large amounts of machine-time. It is therefore recommended to limit the scope of the analysis.

You can limit your analysis to two distinct levels. You can also combine two levels, to define a more precise analysis domain.

 1. The UXSR procedure, documented in Sub-Chapter 'UXSR: Partial Sub-Network Extraction', Chapter 'MANAGER'S UTILITIES' of the Batch Procedures: Administrator's Guide, allows you to create a new image of the VA Pac Database, by zooming on a given sub-network. This creates a new database which is a subset (restructured and/or renamed) of the initial database. The analysis is then perfomed on this subset.

      NOTE: Extraction of a session is also possible.

      Furthermore, the REOR procedure (which must always be run after an UXSR) allows you to cancel those occurrences which are not relevant to the analysis.

 2. You may also choose to limit your analysis to certain occurrences of the Program, Screen or Database Block entities. Additional selection options are available to this effect.

      This analysis limitation is performed by the INFP utility, documented in the ENVIRONMENT AND INSTALLATION Manual, Chapter 'INSTALLATION', Sub-Chapter '9. Initialization of the FP file', as well as in the Pac/Impact for VA Pac Reference Manual.

 3. The procedures in this Function do not impact the database files. However, it is recommended to close the on-line files for better performance.

7.1. ISEP: SELECTION OF ENTRY POINTS

7.1.1. ISEP: INTRODUCTION

ISEP: INTRODUCTION

The ISEP procedure is designed to select the entry points -- Data Elements and/or character strings -- which will be used as criteria by the impact analysis (IANA procedure).

SELECTION SCOPE LIMITATION

For better performance, it is advisable to limit the scope of the selection. This can be done at two levels, but in any case should be done before running the procedure:

. Via the UXSR procedure, create another VisualAge Pacbase Database. The new Database is a subset (restructured and/or renamed) of the initial Database. The analysis will be performed on this subset. (For information on the UXSR procedure, see the Administrator's Guide, Chapter 'MANAGER'S UTILITIES', Sub-chapter 'UXSR: Partial Sub-Network Extraction'.)

. Via the INFP utility --documented in Sub-Chapter 'INFP: Initialization of the FP file'-- you can restrict the selection scope to occurrences of the Program, Screen, and Database Block entities. Further selection options are also available. (For information on the INFP procedure, see Subchapter 'INFP: FP File Initialization (Impact Analysis)'.)

NOTE: If a Data Element defined in the Repository meets the ISEP selection criteria, it will always be considered by ISEP as an entry point, whatever the selection implemented via the INFP utility.

For such Data Elements, the INFP selection is effective when executing the IANA procedure.

The identification line of the selection context (* line) is required. It allows you to specify the session and the sub-network (view Z1) from which the selection will be made.

Data Elements and character strings are considered as entry points when they meet selection criteria entered in ISEP user input lines (or command lines).

Three types of criteria may be used (see below) and at least one selection criterion is required, knowing that no particular criterion type is required.

A selection may combine several types of criteria, and several command lines for each type.

. The E-type line allows you to extract Data Elements by selecting a code (generic code authorized) and/or one or several format(s).

. The S-type line allows you to extract character strings by selecting a code (generic code authorized) and/or one or several format(s).

. The W-type line allows you to select Data Elements via a keyword. You may also indicate the keyword type, Data Element formats and code.

EXECUTION CONDITION

None.

ABNORMAL EXECUTION

Whatever the cause of the abend, the procedure can be re-run as it is, after correction of the problem.

7.1.2. ISEP: USER INPUT

ISEP: USER INPUT

Only one '*' line (required, placed at the beginning of the stream):

```
---------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                          !
!----+-----+----------+--------------------------------!
!  2 !  1 ! '*'       ! Line code                       !
!  3 !  8 ! uuuuuuuu  ! User code                       !
! 11 !  8 ! pppppppp  ! Password                        !
! 19 !  3 ! bbb       ! Code of the highest library in  !
!    !    !           ! the sub-network                 !
! 22 !  4 ! ssss      ! Session number                  !
!    !    !           ! (blank if current session)      !
! 26 !  1 !           ! Session status (' ' or 'T')     !
! 28 !  1 ! F or E    ! Language code if different from  !
!    !    !           ! that of the site (bilingual sites !
!    !    !           ! only)                           !
! 69 !  3 ! iii       ! Code of the lowest library in the !
!    !    !           ! sub-network (optional)          !
---------------------------------------------------------
```


One E-type line: Selection of Data Elements (optional)

```
---------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                          !
!----+-----+----------+--------------------------------!
!  2 !  1 ! 'E'       ! Line code                       !
!  3 !  6 !           ! Data Element code (generic code  !
!    !    !           ! possible with the '*' character,  !
!    !    !           ! at beginning or end of code: ***XXX!
!    !    !           ! or XXX***, or with the ? character !
!    !    !           ! followed by the string to be inc-  !
!    !    !           ! luded in the code:  ?XXX.        !
!  9 ! 10 !           ! Data Element input format        !
! 19 ! 10 !           ! Data Element internal format     !
! 29 !  1 !           ! Internal usage (default: D)      !
! 30 ! 27 !           ! Data Element output format       !
! 57 !  1 ! 'N'       ! Child Data Elements not impacted  !
!    !    ! ' '       ! Child Data Elements impacted     !
---------------------------------------------------------
```


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One S-type line: Selection of character strings (optional)

```
-----------------------------------------------------------
!Pos.! Len.! Value     ! Meaning                             !
!----+-----+----------+-------------------------------------!
!  2 !  1  ! 'S'       ! Line code                           !
!  3 ! 30  !           ! String code (generic code possible  !
!    !     !           ! with the '*' character anywhere in  !
!    !     !           ! the code), or                       !
!    !     !           ! ?xx where xx is a string located    !
!    !     !           ! anywhere in the sequence of char.   !
! 33 ! 10  !           ! Internal format of the string       !
! 43 !  1  !           ! Internal usage (Default: D)          !
-----------------------------------------------------------
```

One W-type line: Selection on keyword (optional)

```
-----------------------------------------------------------
!Pos.! Len.! Value     ! Meaning                             !
-----------------------------------------------------------
!  2 !  1  ! 'W'       ! Line code                           !
!  3 !  1  !           ! Keyword type (implicit 'L',          !
!    !     !           ! explicit 'M', or both ' ')          !
!  4 ! 13  !           ! Keyword code (no generic code)      !
! 17 ! 10  !           ! Data Element input format           !
! 27 ! 10  !           ! Data Element internal format        !
! 37 !  1  !           ! Internal usage (Default: D)          !
! 38 ! 27  !           ! Data Element output format          !
! 65 !  6  !           ! Data Element code (generic code     !
!    !     !           ! possible with the '*' character     !
!    !     !           ! anywhere in the code)               !
! 71 !  1  ! 'N'       ! Child Data Elements not impacted    !
!    !     ! ' '       ! Child Data Elements impacted        !
-----------------------------------------------------------
```

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7.1.3. ISEP: DESCRIPTION OF STEPS

<u>ISEP: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>SELECTION OF ENTRY POINTS: PAN210</u>

.Permanent input files:
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -File of entities to be analyzed
  PAC7FP: DSN=&INDEX..&USER.&ROOT.&FILE.FP

.Transactions file:
 -User input
  PAC7MB: DSN=&&ISEPMB

.Output file:
 -Selected entry points
  PAC7FH: DSN=&&ISEPFH   Length=160

.Output report(s):
 -Validation report
  PAC7IE

.Return codes:
   0: OK
  12: System error

<u>REMOVAL OF DUPLICATE ENTRY POINTS: PAN215</u>

.Transactions file:
 -Selected entry points
  PAC7FH: DSN=&&ISEPFH

.Permanent output files:
 -Sorted selected entry points
  PAC7HF: DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(+1)
 -Reduced entry points to be purged
  PAC7FR: DSN=&INDEXQ..&USER.&ROOT.&FILE.FR(+1)

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

.Return codes:
   0: OK
  12: System error

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7.1.4. ISEP: EXECUTION JCL


```
//************************************************************************
//*         VisualAge Pacbase - IMPACT ANALYSIS
//*         ==================================
//*                   ENTRIES SELECTION                                 *
//************************************************************************
//$RADP.ISEP   PROC FILE=$FILE,  NUMBER OF THE VA PAC SYSTEM
//       ROOT=$ROOT,            ROOT OF THE VA PAC SYSTEM
//       USER=,                 PACKAGE CODE FOR IMPACT ANALYSIS
//       INDEX='$INDEX',        INDEX OF SYSTEM VSAM FILES
//       INDEXQ='$INDEXQ',      INDEX GENERATION FILES
//       INDEXP='$INDEXP',      INDEX OF SYSTEM NON-VSAM FILES
//*:     VSAMCAT='$CATU',       USER VSAM CATALOG
//*:     SYSTCAT='$CATV',       SYSTEM VASM CATALOG
//       OUT=$OUT,              OUTPUT CLASS
//       STEPLIB='$MODB',       LIBRARY OF BATCH LOAD MODULES
//       PSBLIB='$PSBLIB',      LIBRARY OF PSB
//       DBDLIB='$DBDLIB',      LIBRARY OF DBD
//       RESLIB='$RESLIB',      IMS RESLIB
//       PROCLIB='$PRCLIB',     IMS PROCLIB
//       UWK='$UWK',            WORK UNIT
//       VOLS='SER=$VOLO',      RESULTS FILE VOLUM
//       UNITS=$UNITO,          RESULTS FILE UNIT
//       SPAFH='(TRK,(30,10))', SPACE OF 'FH' FILE
//       SPAFR='(TRK,(30,10))', SPACE OF FILE TO BE PURGED
//       SORTLIB='$BIBT',       SORT LIBRARY
//       CYL=5,                 SIZE OF SORT WORK
// BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
// CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//************************************************************
//INPUT   EXEC PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN,DCB=BLKSIZE=80
//PAC7MB   DD DSN=&&ISEPMB,DISP=(,PASS),UNIT=&UWK,
//            SPACE=(TRK,(10,10),RLSE),
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=3440)
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//*
//PAN210  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PAN210,PAN210$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
```


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```
     //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSMON   DD DUMMY
     //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
     //PAC7AE$SUF  DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AN$SUF  DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     //PAC7AR$SUF  DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     //PAC7FP      DD DSN=&INDEX..&USER.&ROOT.&FILE.FP,DISP=SHR
     //PAC7FH   DD DSN=&&ISEPFH,
     //            DISP=(,PASS,DELETE),
     //            UNIT=&UWK,
     //            SPACE=&SPAFH,
     //            DCB=(RECFM=FB,BLKSIZE=24000,LRECL=160)
     //PAC7IE   DD SYSOUT=&OUT
     //PAC7MB   DD DSN=&&ISEPMB,DISP=(OLD,DELETE)
     //PAN215 EXEC PGM=PAN215
     //*********************
     //*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
     //*:         DD DSN=&SYSTCAT,DISP=SHR
     //STEPLIB  DD DSN=&STEPLIB,DISP=SHR
     //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
     //SYSOUT   DD SYSOUT=&OUT
     //SYSOUX   DD SYSOUT=&OUT
     //SYSPRINT DD SYSOUT=&OUT
     //PAC7FH   DD DSN=&&ISEPFH,DISP=(OLD,DELETE)
     //PAC7HF   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(+1),
     //            DISP=(,CATLG,DELETE),
     //            UNIT=&UNITS,
     //            VOL=&VOLS,
     //            SPACE=&SPAFH,
     //            DCB=&INDEXQ..DSCB.&ROOT.&FILE.FH
     //PAC7FR   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FR(+1),
     //            DISP=(,CATLG,DELETE),
     //            UNIT=&UNITS,
     //            VOL=&VOLS,
     //            SPACE=&SPAFR,
     //            DCB=&INDEXQ..DSCB.&ROOT.&FILE.FR
     //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
     //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
     //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
     //SYSUDUMP DD SYSOUT=&OUT
```

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7.2. IPEP: ENTRY-POINT PRINTOUT

7.2.1. IPEP: INTRODUCTION

IPEP: INTRODUCTION

The IPEP procedure produces two types of printouts.

1. List of entry points:

    This list is obtained after the ISEP procedure, since this procedure
    selects the entry points.

2. List of impact search criteria:

    This list is obtained after the IANA procedure, since this procedure
    selects the impact search criteria.

In the printout, the criteria or entry points are sorted by alphabetical order (Data
Elements and character strings altogether) for each definition library of these
criteria.

The order of printing of the categories is:

-character string
-Data Element defined in Dictionary
-Data Element defined in Segment Description
-Data Element defined in Report Structure
-Data Element defined in the Screen or Program Working Section.

EXECUTION CONDITION

None, but the FH file must exist.

ABNORMAL EXECUTION

Whatever the cause of the abend, the procedure can be run again as it is, after the
problem has been solved.

USER INPUT

No user input is required for the execution of the IPEP procedure.

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7.2.2. IPEP: DESCRIPTION OF STEPS

<u>IPEP: DESCRIPTION OF STEPS</u>

```
PRINTING OUT ENTRY POINTS:   PAN220

.Permanent input files:
 -Error messages
  PAC7AE:  DSN=&INDEX..&ROOT.&ROOT.AE
 -Entry points
  PAC7HF:  DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(0)

.Output report:
 -List of entry points
  PAC7IL

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

.Return codes:
   0:  OK
  12:  System error
```

7.2.3. IPEP: EXECUTION JCL

```
//***********************************************************************
//*         VisualAge Pacbase - IMPACT ANALYSIS
//*         ==================================
//*                  PRINTING OF ENTRIES                                 *
//***********************************************************************
//$RADP.IPEP   PROC FILE=$FILE,   NUMBER OF THE VA PAC SYSTEM
//         ROOT=$ROOT,            ROOT OF THE VA PAC SYSTEM
//         USER=,                 PACKAGE CODE FOR ANALYSIS IMPACT
//         INDEX='$INDEX',        INDEX OF SYSTEM VSAM FILES
//         INDEXQ='$INDEXQ',      INDEX GENERATION FILES
//         INDEXP='$INDEXP',      INDEX OF SYSTEM NON-VSAM FILES
//*:       VSAMCAT='$CATU',       USER VSAM CATALOG
//*:       SYSTCAT='$CATV',       SYSTEM VASM CATALOG
//         OUT=$OUT,              OUTPUT CLASS
//         STEPLIB='$MODB',       LIBRARY OF BATCH LOAD MODULES
//         PSBLIB='$PSBLIB',      LIBRARY OF PSBs
//         DBDLIB='$DBDLIB',      LIBRARY OF DBDs
//         RESLIB='$RESLIB',      IMS RESLIB
//         PROCLIB='$PRCLIB',     IMS PROCLIB
//         UWK='$UWK',            UNIT OF WORK
//         SORTLIB='$BIBT',       SORT LIBRARY
//         CYL=5,                 SIZE OF SORT WORK
// BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
// CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//***************************************************************
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:      DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//*
//PAN220  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PAN220,PAN220$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//         DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF  DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7HF   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(0),DISP=SHR
//PAC7IL   DD SYSOUT=&OUT
//SORTWK01    DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02    DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03    DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
```

```
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PAC/IMPACT                                         7
ISOS:   SELECTION OF STRINGS AND OPERATORS         3
ISOS:   INTRODUCTION                               1
```

7.3. ISOS: SELECTION OF STRINGS AND OPERATORS

7.3.1. ISOS: INTRODUCTION

<u>ISOS: INTRODUCTION</u>

ISOS is a complement to the ISEP procedure. Its purpose is to select the following items:

. VA Pac-processed dates, such as DATOR and DAT8, that will be used as entry points to perform the impact analysis from the first iteration (IANA procedure),

. Character-strings, without considering them as entry points (such as ORDER BY). For the strings which provide entry points, see the description of the 'S'-type line in the ISEP procedure's USER INPUT section,

. Operators used in procedural code (-P) lines, such as ADT. Some of these operators trigger the generation of date-type entry points (such as DATOR for ADT),

. Lines that use constant values, either defined (VALUE), moved (MOVE), or conditionned ('IF').

Reports on entities using these operators and character-strings can be produced on request (IPAI procedure).

<u>LIMITATION OF SELECTION DOMAIN</u>

For better performance, it is advisable to limit the scope of the selection. This can be done at two different levels, and should always be done before running the procedure:

. Via the UXSR procedure, by creating another VA Pac Database. The new Database is a subset (restructured and/or renamed) of the initial Database. The analysis will be performed on this subset. (For information on the UXSR procedure, see the Administrator's Guide, Chapter 'MANAGER'S UTILITIES', Sub-chapter 'UXSR: Partial Sub-Network Extraction'.)

. Via the INFP utility, which initializes the FP file. This allows you to restrict the scope of the selection to entities of a particular type or types, or to particular entities of a given type. Further selection options are also available. The FP file then contains the selected entities, on which the analysis will be performed. (For information on the INFP procedure, see Subchapter 'INFP: FP File Initialization (Impact Analysis)'.)

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The selection context's identification line (*-line) is required. It allows you to specify, besides the session, the library from which you want to build the sub-network that will be analyzed (view Z1).

Three types of selection may be used (see below). At least one type of selection is required, no particular type being requested.

The selection may include more than one type of selection, and more than one command line for each type.

  . The 'D'-type line allows you to request the extraction of date-type Data Elements handled by VisualAge Pacbase.

The maximum number of 'D'-lines is 40.

  . The 'C'-type line allows you to extract character-strings that are likely to include one or more blanks. In this case, the separator must be specified, and the number of blanks is significant. These strings are not entry points.

The maximum number of 'C'-lines is 50 characters for each one of the three search domains.

  . The 'O'-type line allows you to select operators processed in -P lines.

The maximum number of 'O'-lines is 50.

EXECUTION CONDITION

None.

ABNORMAL EXECUTIONS

Whatever the cause of an abnormal ending, the procedure may be re-run as it is after correction of the problem.

7.3.2. ISOS: USER INPUT

                            <u>ISOS: USER INPUT</u>

        Only one '*'-line (required, placed at the beginning of the stream):

        !Pos.! Len.! Value   ! Meaning   !
        !----+-----+----------+----------------------------------!
        ! 2 ! 1 ! '*'   ! Line code   !
        ! 3 ! 8 ! uuuuuuuu ! User code   !
        ! 11 ! 8 ! pppppppp ! Password   !
        ! 19 ! 3 ! bbb   ! Code of the highest library in   !
        !   !   !   ! the sub-network   !
        ! 22 ! 4 ! ssss   ! Session number   !
        !   !   !   ! (blank if current session)   !
        ! 26 ! 1 !   ! Session status (' ' or 'T')   !
        ! 28 ! 1 ! F or E   ! Language code if different from   !
        !   !   !   ! that of the site (bilingual sites !
        !   !   !   ! only)   !
        ! 69 ! 3 ! iii   ! Code of the lowest library in the !
        !   !   !   ! sub-network (optional)   !

        One 'D'-line for the selection of generated dates (optional):

        !Pos.! Len.! Value   ! Meaning   !
        !----+-----+----------+----------------------------------!
        ! 2 ! 1 ! 'D'   ! Line code   !
        ! 3 ! 9 !   ! Code of generated date Data-Element!
        !   !   !   ! to be extracted (which must be   !
        !   !   !   ! recognized by the system)   !

        One 'O'-line for the selection of operators (optional):

        !Pos.! Len.! Value   ! Meaning   !
        !----+-----+----------+----------------------------------!
        ! 2 ! 1 ! 'O'   ! Line code   !
        ! 3 ! 3 !   ! Code of wanted operator (which   !
        !   !   !   ! must be recognized by the system) !

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One 'C'-line for the selection of character strings (optional):

```
-----------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                             !
!----+-----+----------+-------------------------------------!
! 2 !  1 ! 'C'        ! Line code                           !
! 3 !  1 !            ! End-of-string separator             !
!    !    !            ! (Required if the string contains    !
!    !    !            ! at least one blank)                 !
! 4 ! 31 !            ! Code of sought string. (Must be     !
!    !    !            ! ended by the separator if a sepa-   !
!    !    !            ! rator is specified)                 !
! 35 !  1 !            ! Where the string is to be sought    !
!    !    ! 'D'        ! Search in the Definition part       !
!    !    !            ! (-W of programs and/or screens, and!
!    !    !            !  -9 of programs)                    !
!    !    ! 'T'        ! Search in Procedural Code part      !
!    !    !            ! (-P of programs and/or screens,     !
!    !    !            ! -8, -9, -SC of programs, -CE and    !
!    !    !            ! -CS of screens)                     !
!    !    ! 'R'        ! Search in Report-specific Procedu- !
!    !    !            ! ral code part:                      !
!    !    !            ! .Category condition and Structure   !
!    !    !            ! .Source Data-Element code (Struct.)!
!    !    ! ' '        ! Search in the three above mentioned!
!    !    !            ! parts                               !
-----------------------------------------------------------
```

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One 'V'-line for the selection of constant values (optional):

```
------------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                              !
!----+-----+---------+------------------------------------!
! 2 !  1 ! 'V'      ! Line code                            !
! 3 !  1 !          ! Beginning-of-value separator         !
! ! !    !          ! Required (either ' or ")             !
! 4 ! 31 !          ! Code of sought value                 !
! ! !    !          ! Required, ending with the separator! !
! ! !    !          ! (either ' or  ")                     !
! 35 !  1 !          ! Where the constant is to be sought ! !
! ! !    ! 'D'      ! Search in the Definition part        !
! ! !    !          ! (-W of programs and/or screens, and! !
! ! !    !          !  -9 of programs)                     !
! ! !    ! 'T'      ! Search in the Procedural Code part  ! !
! ! !    !          ! (-P of programs and/or screens,      !
! ! !    !          ! -8, -9, -SC of programs, -CE and    !
! ! !    !          ! -CS of screens)                      !
! ! !    ! 'R'      ! Search in Report-specific Procedu-  ! !
! ! !    !          ! ral code part:                       !
! ! !    !          ! .Category condition and Structure    !
! ! !    !          ! .Source Data-Element code (Struct.)! !
! ! !    ! ' '      ! Search in the three above mentioned! !
! ! !    !          ! parts                                !
------------------------------------------------------------
```

7.3.3. ISOS: DESCRIPTION OF STEPS

<u>ISOS: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>SELECTION OF STRINGS AND OPERATORS: PAN212</u>

.Permanent input files:
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -Entities in production
  PAC7FP: DSN=&INDEX..&USER.&ROOT.&FILE.FP

.Transaction file:
 -User input
  PAC7MB: DSN=&&ISOSMB

.Output file(s):
 -Selected entry points
  PAC7FH: DSN=&&ISOSFH   Length=160
 -Impact analysis results
  PAC7MF: DSN=&&ISOSFO   Length=260

.Output report(s):
 -Validation report
  PAC7IE

.Return codes:
    0: OK
   12: System error

DELETION OF DUPLICATE ENTRY POINTS: PAN215

.Transaction file:
 -Selected entry points
  PAC7FH: DSN=&&ISOSFH

.Permanent output files:
 -Sorted selected entry points
  PAC7HF: DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(+1)
 -Reduced entry points to be purged
  PAC7FR: DSN=&INDEXQ..&USER.&ROOT.&FILE.FR(+1)

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

.Return codes:
   0: OK
  12: System error

UPDATE OF IMPACT ANALYSIS RESULTS: PAN260

.Transaction file:
 -Impact analysis result (for that iteration)
  PAC7MF: DSN=&&ISOSFO

.Permanent input file:
 -Results from preceding analysis
  PAC7OF: DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(0)

.Permanent output file:
 -Sorted impact-analysis results
  PAC7FO: DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(+1)

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

.Return codes:
   0: OK
  12: System error

```
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ISOS:  SELECTION OF STRINGS AND OPERATORS          3
ISOS:  EXECUTION JCL                               4
```

7.3.4. ISOS: EXECUTION JCL

```
//*****************************************************************
//*          VisualAge Pacbase - IMPACT ANALYSIS
//*          =================================
//*           SELECTION OF STRINGS AND OPERATORS
//*****************************************************************
//$RADP.ISOS   PROC FILE=$FILE,  NUMBER OF THE VA PAC SYSTEM
//         ROOT=$ROOT,            ROOT OF THE VA PAC SYSTEM
//         USER=,                 PACKAGE CODE FOR IMPACT ANALYSIS
//         INDEX='$INDEX',        INDEX OF SYSTEM VSAM FILES
//         INDEXQ='$INDEXQ',      INDEX GENERATION FILES
//         INDEXP='$INDEXP',      INDEX OF SYSTEM NON-VSAM FILES
//*:       VSAMCAT='$CATU',       USER VSAM CATALOG
//*:       SYSTCAT='$CATV',       SYSTEM VASM CATALOG
//         OUT=$OUT,              OUTPUT CLASS
//         STEPLIB='$MODB',       LIBRARY OF BATCH LOAD MODULES
//         PSBLIB='$PSBLIB',      LIBRARY OF PSBs
//         DBDLIB='$DBDLIB',      LIBRARY OF DBDs
//         RESLIB='$RESLIB',      IMS RESLIB
//         PROCLIB='$PRCLIB',     IMS PROCLIB
//         UWK='$UWK',            WORK UNIT
//         VOLS='SER=$VOLO',      RESULTS FILE VOLUME
//         UNITS=$UNITO,          RESULTS FILE UNIT
//         SPAFH='(TRK,(30,10))', SPACE OF FILE 'FH'
//         SPAFR='(TRK,(30,10))', SPACE OF FILE TO BE PURGED
//         SORTLIB='$BIBT',       SORT LIBRARY
//         CYL=5,                 SIZE OF SORT WORK-FILES
// BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
// CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*****************************************************************
//INPUT   EXEC PGM=PTU001
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN,DCB=BLKSIZE=80
//PAC7MB   DD DSN=&&ISOSMB,DISP=(,PASS),UNIT=&UWK,
//            SPACE=(TRK,(10,10),RLSE),
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=3440)
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:        DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//*
//PAN212  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PAN212,PAN212$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
```

```
      //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
      //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
      //IMSMON   DD DUMMY
      //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
      //PAC7AE$SUF  DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
      //PAC7AN$SUF  DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
      //PAC7AR$SUF  DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
      //PAC7FP      DD DSN=&INDEX.&USER..&ROOT.&FILE.FP,DISP=SHR
      //PAC7FH   DD DSN=&&ISOSFH,
      //           DISP=(,PASS,DELETE),
      //           UNIT=&UWK,
      //           SPACE=&SPAFH,
      //           DCB=(RECFM=FB,BLKSIZE=24000,LRECL=160)
      //PAC7MF   DD DSN=&&ISOSFO,
      //           DISP=(,PASS,DELETE),
      //           UNIT=&UWK,
      //           SPACE=&SPAFO,
      //           DCB=(RECFM=FB,BLKSIZE=26000,LRECL=260)
      //PAC7IE   DD SYSOUT=&OUT
      //PAC7MB   DD DSN=&&ISOSMB,DISP=(OLD,DELETE)
      //PAN215 EXEC PGM=PAN215
      //*********************
      //*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
      //*:        DD DSN=&SYSTCAT,DISP=SHR
      //STEPLIB  DD DSN=&STEPLIB,DISP=SHR
      //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
      //SYSOUT   DD SYSOUT=&OUT
      //SYSOUX   DD SYSOUT=&OUT
      //SYSPRINT DD SYSOUT=&OUT
      //PAC7FH   DD DSN=&&ISOSFH,DISP=(OLD,DELETE)
      //PAC7HF   DD DSN=&INDEXQ..&USER..&ROOT.&FILE.FH(+1),
      //           DISP=(,CATLG,DELETE),
      //           UNIT=&UNITS,
      //           VOL=&VOLS,
      //           SPACE=&SPAFH,
      //           DCB=&INDEXQ..DSCB.&ROOT.&FILE.FH
      //PAC7FR   DD DSN=&INDEXQ..&USER..&ROOT.&FILE.FR(+1),
      //           DISP=(,CATLG,DELETE),
      //           UNIT=&UNITS,
      //           VOL=&VOLS,
      //           SPACE=&SPAFR,
      //           DCB=&INDEXQ..DSCB.&ROOT.&FILE.FR
      //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
      //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
      //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
      //SYSUDUMP DD SYSOUT=&OUT
      //PAN260 EXEC PGM=PAN260
      //*********************
      //*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
      //*:        DD DSN=&SYSTCAT,DISP=SHR
      //STEPLIB  DD DSN=&STEPLIB,DISP=SHR
      //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
      //SYSOUT   DD SYSOUT=&OUT
      //SYSOUX   DD SYSOUT=&OUT
      //SYSPRINT DD SYSOUT=&OUT
      //PAC7OF   DD DSN=&INDEXQ..&USER..&ROOT.&FILE.FO(0),DISP=SHR
      //PAC7MF   DD DSN=&&ISOSFO,DISP=(OLD,DELETE)
      //PAC7FO   DD DSN=&INDEXQ..&USER..&ROOT.&FILE.FO(+1),
      //           DISP=(,CATLG,DELETE),
      //           UNIT=&UNITS,
      //           VOL=&VOLS,
      //           SPACE=&SPAFO,
      //           DCB=&INDEXQ..DSCB.&ROOT.&FILE.FO
      //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
      //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
      //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
      //SYSUDUMP DD SYSOUT=&OUT
```

7.4. IANA: IMPACT SEARCH CRITERIA

7.4.1. IANA: INTRODUCTION

<u>IANA: INTRODUCTION</u>

The IANA procedure searches for Data Elements and character-strings
according to:

  1. The entry points provided by the ISEP procedure when IANA is run for the
     first time,
  2. The impact search criteria produced by a preceding IANA execution.

IANA is therefore an iterative process, which runs until no more impact search
criteria are found.

Prior to an IANA execution, you have the choice to inhibit unwanted:

  1. Entry points, after an execution of the ISEP procedure,
  2. Impact search criteria, after a preceding execution of the IANA procedure.

In both cases, deletions are made in the FR file, (under an editor) either by
physical deletion, or by inhibition (value 'E' in the action code of the
corresponding lines).

The FO file contains the impact analysis cumulative results over the subsequent
executions of the IANA procedure.

You may choose to reinitialize it before the first IANA execution following a
new ISEP execution. If you do not reinitialize it, cumulated results will be
obtained in relation to different contexts and/or entry points. Such results can
then be processed globally.

The FP file, used as input for the analysis procedures, contains the specification
of entities or entity types to be analyzed. If nothing is specified in this file, all
analyzable entities will be analyzed.

Entities may be specified in the FP file via the following coding: type coded on
3 characters, entity coded on 6 characters (****** being the generic entity
code).

For information on how to initialize the FP file, refer to the subchapter
describing the INFP procedure thereafter.

The FQ file contains the already impacted criteria. It ensures that these are not impacted again by the next IANA execution. This is why this file is not automatically reinitialized.

However, it is recommended to reinitialize it before the first IANA execution following a new ISEP execution.
To reinitialize the FQ file, run the INFQ procedure (documented in Subchapter 'INFQ: FQ File Reinitialization (Impact Analysis)').

EXECUTION CONDITION

The FH file -- entry points or impact search criteria -- must exist and must not be empty.

ABNORMAL EXECUTIONS

Whatever the cause of the abend, you can run the procedure again as it is, after the problem has been solved.

However, the status of the FH, FR, and FO generation files should be checked.

USER INPUT

The IANA procedure does not require any specific user input.

This procedure is iterative as long as the FH file (impact search criteria) is not empty (return code set to value 4 if empty, 0 otherwise).

7.4.2. IANA: DESCRIPTION OF STEPS

<u>IANA: DESCRIPTION OF STEPS</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>INDEXATION OF SEQUENTIAL FILE FQ: IDCAMS</u>

```
.Input file:
 -Previously-processed search criteria (sequential)
   IN1:  DSN=&INDEXQ..&USER.&ROOT.&FILE.FQ(0)

.Output file:
 -Previously-processed search criteria (indexed)
   OU1:  DSN=&INDUV..SYIANA.&USER
```

<u>RECOGNITION OF CRITERIA AFTER THE PURGE: PAN230</u>

```
.Permanent input files:
 -Search criteria
   PAC7FH:  DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(0)
 -Criteria after purge (reduced file)
   PAC7FR:  DSN=&INDEXQ..&USER.&ROOT.&FILE.FR(0)

.Output file:
 -Search criteria
   PAC7HF:  DSN=&&IANAHF   Length=160
```

<u>PRINTING OF ENTRY POINTS: PAN220</u>

```
.Permanent input files:
 -Error messages
   PAC7AE:  DSN=&INDEX..&ROOT.&ROOT.AE
 -Sorted criteria
   PAC7HF:  DSN=&&IANAHF

.Output report(s):
 -List of accepted / rejected criteria
   PAC7IL
```

```
            .Sort file(s):
             SORTWK01
             SORTWK02
             SORTWK03



            IMPACT ANALYSIS:  PAN250

            .Permanent input files:
             -Error messages
              PAC7AE:  DSN=&INDEX..&ROOT.&ROOT.AE
             -Data file
              PAC7AR:  DSN=&INDEX..&ROOT.&FILE.AR
             -Index file
              PAC7AN:  DSN=&INDEX..&ROOT.&FILE.AN
             -File of entities to be analyzed
              PAC7FP:  DSN=&INDEX..&USER.&ROOT.&FILE.FP

            .Transaction file:
             -Impacted criteria
              PAC7FH:  DSN=&&IANAHF   Length=160

            .Input-output file:
             -Impacted criteria already processed
              PAC7FQ:  DSN=&INDUV..SYIANA.&USER

            .Output files:
             -New impacted criteria
              PAC7HF:  DSN=&&IANAFH   Length=160
             -Impact analysis results
              PAC7MF:  DSN=&&IANAFO   Length=260

            .Return codes:
               0:  OK
              12:  System error



            UPDATE OF IMPACT ANALYSIS RESULTS:  PAN260

            .Transaction file:
             -Impact analysis results (level)
              PAC7MF:  DSN=&&IANAFO

            .Permanent input file:
             -Results of previous analysis
              PAC7OF:  DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(0)


            .Permanent output file:
             -Sorted results of impact analysis
              PAC7FO:  DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(+1)

            .Sort file(s):
             SORTWK01
             SORTWK02
             SORTWK03

            .Return codes:
               0:  OK
              12:  System error
```

                    REMOVAL OF DUPLICATE ENTRY POINTS: PAN215

                    .Transaction file:
                     -Selected entry points
                      PAC7FH: DSN=&&IANAFH

                    .Permanent output file:
                     -Sorted selected entry points
                      PAC7HF: DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(+1)
                     -Reduced entry points to be purged
                      PAC7FR: DSN=&INDEXQ..&USER.&ROOT.&FILE.FR(+1)

                    .Sort file(s):
                     SORTWK01
                     SORTWK02
                     SORTWK03

                    .Return codes:
                        0: OK
                       12: System error

                    SEQUENTIALIZATION OF VSAM FILE FQ: IDCAMS

                    .Input file:
                     -Previously processed search criteria (indexed)
                      IN1: DSN=&INDUV..SYIANA.&USER

                    .Output file:
                     -Previously processed search criteria (sequential)
                      OU1: DSN=&INDEXQ..&USER.&ROOT.&FILE.FQ(+1)

                                                                    DEPIM003251A

7.4.3. IANA: EXECUTION JCL

```
//***********************************************************************
//*         VisualAge Pacbase - IMPACT ANALYSIS
//*         ===================================
//*                     IMPACT ANALYSIS                                 *
//***********************************************************************
//$RADP.IANA   PROC FILE=$FILE,   NUMBER OF THE VA PAC SYSTEM
//         ROOT=$ROOT,            ROOT OF THE VA PAC SYSTEM
//         USER=,                 PACKAGE CODE FOR IMPACT ANALYSIS
//         INDEX='$INDEX',        INDEX OF SYSTEM VSAM FILES
//         INDEXQ='$INDEXQ',      INDEX OF GENERATION FILES
//         INDEXP='$INDEXP',      INDEX OF SYSTEM NON-VSAM FILES
//*:       VSAMCAT='$CATU',       USER VSAM CATALOG
//*:       SYSTCAT='$CATV',       SYSTEM VASM CATALOG
//         OUT=$OUT,              OUTPUT CLASS
//         STEPLIB='$MODB',       LIBRARY OF BATCH LOAD MODULES
//         PSBLIB='$PSBLIB',      LIBRARY OF PSBs
//         DBDLIB='$DBDLIB',      LIBRARY OF DBDs
//         RESLIB='$RESLIB',      IMS RESLIB
//         PROCLIB='$PRCLIB',     IMS PROCLIB
//         UWK='$UWK',            WORK UNIT
//         VOLS='SER=$VOLO',      RESULTS AND CRIT. FILES VOLUME
//         UNITS=$UNITO,          RESULTS AND CRIT. FILES UNIT
//         SPAFO='(TRK,(30,10))', SPACE OF FILE 'FO'
//         SPAFH='(TRK,(30,10))', SPACE OF THE CRITERIA FILE
//         SPAFQ='(TRK,(30,10))', SPACE OF FILE 'FQ'
//         SORTLIB='$BIBT',       SORT LIBRARY
//         CYL=20,                SIZE OF SORT WORK-FILES
// BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
// CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//***********************************************************
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:        DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//*
//STEP1  EXEC PGM=IDCAMS
//**********************
//*:STEPCAT  DD  DSN=$SCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//IN1      DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FQ(0),DISP=SHR
//OU1      DD DSN=&&IANAFQ,DISP=(NEW,KEEP),
//         SPACE=&SPAFQ,
//         LRECL=100,RECORG=KS,KEYOFF=1,KEYLEN=94
//SYSIN DD DSN=&INDEXP..&ROOT.&ROOT.SY(REPRO),DISP=SHR
//*
//PAN230 EXEC PGM=PAN230
//**********************
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//STEPLIB DD DSN=&STEPLIB,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSPRINT DD SYSOUT=&OUT
//PAC7FH   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(0),DISP=SHR
//PAC7FR   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FR(0),DISP=SHR
//PAC7HF   DD DSN=&&IANAHF,
//         DISP=(,PASS,DELETE),
//         UNIT=&UWK,
//         SPACE=&SPAFH,
//         DCB=(RECFM=FB,BLKSIZE=24000,LRECL=160)
//*
//PAN220  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
```

```
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PAC/IMPACT                                                7
IANA:   IMPACT SEARCH CRITERIA                            4
IANA:   EXECUTION JCL                                     3
```

```
    //        PARM=(DLI,PAN220,PAN220$SUG,&BUF,
    //        &SPIE&TEST&EXCPVR&RST,&PRLD,
    //        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
    //STEPLIB  DD DSN=&RESLIB,DISP=SHR
    //         DD DSN=&STEPLIB,DISP=SHR
    //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS      DD DSN=&PSBLIB,DISP=SHR
    //         DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
    //*:         DD DSN=&SYSTCAT,DISP=SHR
    //SYSPRINT DD SYSOUT=&OUT
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //         DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON   DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //SYSPRINT DD SYSOUT=&OUT
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7HF   DD DSN=&&IANAHF,DISP=(OLD,PASS)
    //PAC7IL   DD SYSOUT=&OUT
    //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //*
    //PAN250  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
    //        PARM=(DLI,PAN250,PAN250$SUG,&BUF,
    //        &SPIE&TEST&EXCPVR&RST,&PRLD,
    //        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
    //STEPLIB  DD DSN=&RESLIB,DISP=SHR
    //         DD DSN=&STEPLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS      DD DSN=&PSBLIB,DISP=SHR
    //         DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
    //*:         DD DSN=&SYSTCAT,DISP=SHR
    //SYSPRINT DD SYSOUT=&OUT
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //         DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON   DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //PAC7AE$SUF  DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7AN$SUF  DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
    //PAC7AR$SUF  DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
    //PAC7FH   DD DSN=&&IANAHF,DISP=(OLD,DELETE)
    //PAC7FQ   DD DSN=&&IANAFQ,DISP=(OLD,PASS)
    //PAC7FP   DD DSN=&INDEX..&USER.&ROOT.&FILE.FP,DISP=SHR
    //PAC7HF   DD DSN=&&IANAFH,
    //         DISP=(,PASS,DELETE),
    //         UNIT=&UWK,
    //         SPACE=&SPAFH,
    //         DCB=(RECFM=FB,BLKSIZE=24000,LRECL=160)
    //PAC7MF   DD DSN=&&IANAFO,
    //         DISP=(,PASS,DELETE),
    //         UNIT=&UWK,
    //         SPACE=&SPAFO,
    //         DCB=(RECFM=FB,BLKSIZE=26000,LRECL=260)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
```

```
//              BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//PAN260 EXEC PGM=PAN260
//**********************
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//SYSPRINT DD SYSOUT=&OUT
//PAC7OF   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(0),DISP=SHR
//PAC7MF   DD DSN=&&IANAFO,DISP=(OLD,DELETE)
//PAC7FO   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(+1),
//            DISP=(,CATLG,DELETE),
//            UNIT=&UNITS,
//            VOL=&VOLS,
//            SPACE=&SPAFO,
//            DCB=&INDEXQ..DSCB.&ROOT.&FILE.FO
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SYSUDUMP DD SYSOUT=&OUT
//PAN215 EXEC PGM=PAN215
//**********************
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//SYSPRINT DD SYSOUT=&OUT
//PAC7FH   DD DSN=&&IANAFH,DISP=(OLD,DELETE)
//PAC7HF   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(+1),
//            DISP=(,CATLG,DELETE),
//            UNIT=&UNITS,
//            VOL=&VOLS,
//            SPACE=&SPAFH,
//            DCB=&INDEXQ..DSCB.&ROOT.&FILE.FH
//PAC7FR   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FR(+1),
//            DISP=(,CATLG,DELETE),
//            UNIT=&UNITS,
//            VOL=&VOLS,
//            SPACE=&SPAFH,
//            DCB=&INDEXQ..DSCB.&ROOT.&FILE.FR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SYSUDUMP DD SYSOUT=&OUT
//*
//STEP2  EXEC PGM=IDCAMS
//**********************
//*:STEPCAT  DD  DSN=$SCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//IN1      DD DSN=&&IANAFQ,DISP=(OLD,DELETE)
//OU1      DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FQ(+1),
//            DISP=(,CATLG,DELETE),SPACE=&SPAFQ,
//            UNIT=&UNITS,
//            VOL=&VOLS,
//            DCB=(RECFM=FB,LRECL=100,BLKSIZE=21600)
//SYSIN DD DSN=&INDEXP..&ROOT.&ROOT.SY(REPRO),DISP=SHR
```

```
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PAC/IMPACT                                                7
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IPIA:  INTRODUCTION                                       1
```

7.5. IPIA: PRINTING OF THE IMPACT ANALYSIS RESULTS

7.5.1. IPIA: INTRODUCTION

<u>IPIA: INTRODUCTION</u>

The function of the IPIA procedure is to print reports and to format the analysis results into batch update transactions.

Possible reports produced by IPIA are the following:

  1. Analysis results by entry point:

Analysis follow-up of the subsequent iterations.

>>> Report requested by value '1' in Position 7 of the P-type user input line.

  2. List of impact search criteria by entry point:

Valid when the IANA iteration is completed.

>>> Report requested by value '1' in Position 8 of the P-type user input line.

  3. Analysis results by Library:

Results are formatted as batch update transactions (print or file output).

>>> Report requested by value '1' in Position 9 of the P-type user input line.

Additional option (page and line skips) requested by value '2' in Position 9.

>>> File requested by value '1' in Position 12.

  4. Impacted-occurrences summary:

List of all impacted occurrences with the number of impacted lines, for each type of line, not sorted by entry points.

>>> Report requested by value '1' in Position 10 of the P-type user input line.

  5. List of entry points by impacted search criteria:

For each impacted field, list of entry point(s) and impact search criteria which originated the impact, after each iteration.

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>>> Report requested by value '1' in Position 14 of the P-type user input line.

6. Statistics:

Number of impacted lines sorted by library and by entity type, all lines considered.

>>> Report requested by value '1' in Position 11 of the P-type user input line.

7. Character-string analysis:

List of uses of each of the character strings sought by the ISOS procedure.

>>> Report requested by value '1' in Position 19 of the P-type user input line.

8. Operator analysis:

List of uses of each of the operators sought by the ISOS procedure.

>>> Report requested by value '1' in Position 20 of the P-type user input line.

9. List of entities impacted by entry point:

List of entities impacted by Data-Element type entry points, all search criteria merged together.

>>> Report requested by value '1' in Position 21 of the P-type user input line.

10. Number of modified lines, dispatched by Description for each entity:

This summary report allows for finer statistics by line types, compounded by library.

>>> Report requested by value '1' in Position 22 of the P-type user input line.

11. Constant analysis:

List of uses of each constant sought by the ISOS procedure.

>>> Report requested by value '1' in Position 23 of the P-type user input line.

EXECUTION CONDITION

None, but the FO file must exist and must not be empty.

ABNORMAL EXECUTIONS

Whichever the cause of the abend is, you can run the procedure as it is, after the
problem has been solved.

7.5.2. IPIA: USER INPUT

<u>IPIA: USER INPUT</u>

A line identifying the context (* line) is required. It must be inserted at the
beginning of the generated stream.

If you specified a lowest library for the ISEP procedure, it must be repeated in
this line.

The *-type line must be followed by one P-type, formatted as follows:

```
-------------------------------------------------------
!Pos.! Len.! Value     ! Meaning                        !
!----+-----+----------+--------------------------------!
!  2 !  1 ! 'P'       ! Line code                      !
!  3 !  1 !           ! NOTHING TO ENTER,EXCEPT FOR DOS/VSE!
!    !    ! 'I'       ! Default option for all hardware !
!    !    ! 'N'       ! If CURRENT-DATE = DD/MM/YY      !
!  4 !  3 ! bbb       ! Library code (this selection is !
!    !    !           ! available with requests entered in !
!    !    !           ! Positions 9 and 10 only)       !
!  7 !  1 ! ' '  '1'  ! Result of impact analysis by entry !
!    !    !           ! point                          !
!  8 !  1 ! ' '  '1'  ! List of impacted criteria by entry !
!    !    !           ! point                          !
!  9 !  1 ! ' '  '1'  ! Printing of results formatted as !
!    !    !           ! batch update transactions, sorted !
!    !    !           ! per Library                    !
!    !    ! '2'       ! Same list with page and line skips !
! 10 !  1 ! ' '  '1'  ! Summary of impacted occurrences !
! 11 !  1 ! ' '  '1'  ! Statistics, sorted per Library !
! 12 !  1 ! ' '  '1'  ! Identical to "1" in Position 9 but !
!    !    !           ! output is a file instead of print !
! 13 !  1 ! ' '  '1'  ! General option:                !
!    !    !           ! Inhibits the lines indirectly  !
!    !    !           ! impacted (e.g. -CD)            !
! 14 !  1 ! ' '  '1'  ! List of entry points by impact !
!    !    !           ! search criterion               !
! 15 !  2 ! nn        ! Number of the wanted level     !
!    !    !           ! (IANA iteration)               !
! 17 !  2 ! pp        ! Number of lines printed per page !
! 19 !  1 ! ' '  '1'  ! Result of character-string analysis!
! 20 !  1 ! ' '  '1'  ! Result of operator analysis    !
! 21 !  1 ! ' '  '1'  ! Impacted entities by entry point !
! 22 !  1 ! ' '  '1'  ! Number of lines per description !
! 23 !  1 ! ' '  '1'  ! Constant-analysis result       !
-------------------------------------------------------
```

USER INPUT (CONTINUED)

```
-----------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                             !
!----+-----+----------+-------------------------------------!
! 24 !  1 !          ! Not used                             !
! 25 ! 10 !          ! Selection of generated transactions! !
!    !    ! Blank    ! Selection of all entities            !
!    !    ! other    ! Requested selection, where possible! !
!    !    !          ! values (compoundable) are:           !
!    !    ! 'B'      ! Database blocks                      !
!    !    ! 'E'      ! Data-Elements                        !
!    !    ! 'F'      ! User Entities                        !
!    !    ! 'O'      ! Screens, C/S Screens...              !
!    !    ! 'P'      ! Programs                             !
!    !    ! 'R'      ! Reports                              !
!    !    ! 'S'      ! Segments and Data-Structures    !    !
!    !    ! 'T'      ! Texts                                !
!    !    ! 'V'      ! Volumes                              !
!    !    ! '$'      ! User Entity Occurrences              !
-----------------------------------------------------------
```

7.5.3. IPIA: DESCRIPTION OF STEPS

<u>IPIA: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>PRINTING OF IMPACT RESULTS: PAN270</u>

.Permanent input files:
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -Impact results
  PAC7FO: DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(0)

.Transaction file:
 -User input
  PAC7MB: DSN=&&IPIAMB

.Output file:
 -Generated batch transactions
  PAC7MV: DSN=&&IPIAMV   Length=80

.Output report:
 -Analysis results
  PAC7IF

.Sort file(s):
  SORTWK01
  SORTWK02
  SORTWK03

.Return codes:
   0: OK
  12: System error

<u>PRINTING OF GENERATED TRANSACTIONS: PAN280</u>

.Permanent input files:
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE

.Transaction file:
 -User input
  PAC7MB: DSN=&&IPIAMB
 -Generated batch transactions
  PAC7MV: DSN=&&IPIAMV

.Output files:
 -Selected batch transactions
  PAC7VM: DSN=&&IPIAVM   Length=80

.Output report
 -List of transactions by library
  PAC7IT

.Return codes:
   0: OK
  12: System error

7.5.4. IPIA: EXECUTION JCL

```
//***********************************************************************
//*          VisualAge Pacbase - IMPACT ANALYSIS
//*          ===================================
//*                  PRINTING OF RESULTS                             *
//***********************************************************************
//$RADP.IPIA   PROC FILE=$FILE,   NUMBER OF THE VA PAC SYSTEM
//        ROOT=$ROOT,              ROOT OF THE VA PAC SYSTEM
//        USER=,                   PACKAGE CODE FOR IMPACT ANALYSIS
//        INDEX='$INDEX',          INDEX OF SYSTEM VSAM FILES
//        INDEXQ='$INDEXQ',        INDEX OF GENERATION FILES
//        INDEXP='$INDEXP',        INDEX OF SYSTEM NON-VSAM FILES
//*:      VSAMCAT='$CATU',         USER VSAM CATALOG
//*:      SYSTCAT='$CATV',         SYSTEM VASM CATALOG
//        OUT=$OUT,                OUTPUT CLASS
//        STEPLIB='$MODB',         LIBRARY OF BATCH LOAD MODULES
//        PSBLIB='$PSBLIB',        LIBRARY OF PSBs
//        DBDLIB='$DBDLIB',        LIBRARY OF DBDs
//        RESLIB='$RESLIB',        IMS RESLIB
//        PROCLIB='$PRCLIB',       IMS PROCLIB
//        UWK='$UWK',              WORK UNIT
//        SPAMB='(TRK,(30,10))', SPACE OF FILE 'MB'
//        SORTLIB='$BIBT',         SORT LIBRARY
//        CYL=5,                   SIZE OF SORT WORK-FILES
// BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
// CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//***********************************************************
//INPUT   EXEC PGM=PTU001
//STEPLIB DD DSN=&STEPLIB,DISP=SHR
//CARTE   DD DDNAME=SYSIN,DCB=BLKSIZE=80
//PAC7MB  DD DSN=&&IPIAMB,DISP=(,PASS),UNIT=&UWK,
//          SPACE=(TRK,(10,10),RLSE),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3440)
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:        DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//*

//PAN270  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PAN270,PAN270$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//         DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//         BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF   DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7FO   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(0),DISP=SHR
```

```
//PAC7IF   DD SYSOUT=&OUT
//PAC7MB   DD DSN=&&IPIAMB,DISP=(OLD,PASS)
//PAC7MV   DD DSN=&&IPIAMV,DISP=(,PASS),UNIT=&UWK,
//            SPACE=&SPAMB,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//*
//PAN280   EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//            PARM=(DLI,PAN280,PAN280$SUG,&BUF,
//            &SPIE&TEST&EXCPVR&RST,&PRLD,
//            &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:         DD DSN=&SYSTCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF  DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7IT   DD SYSOUT=&OUT
//PAC7MB   DD DSN=&&IPIAMB,DISP=(OLD,PASS)
//PAC7MV   DD DSN=&&IPIAMV,DISP=(OLD,PASS)
//PAC7VM   DD DSN=&&IPIAVM,DISP=(,PASS),UNIT=&UWK,
//            SPACE=&SPAMB,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
```

7.6. IGRA: BREAKING DOWN OF GROUP FIELDS

7.6.1. IGRA: INTRODUCTION

<u>IGRA - OVERVIEW</u>

The IGRA procedure breaks down into Elementary Fields:

1. Entry points detected by the ISEP procedure, if they are of the Group type.
2. Impact search criteria obtained by running the IANA procedure, if they are of the Group type.

The IGRA procedure is optional and does not generate impact search criteria.

Before running the IGRA procedure, you may purge:

1. Entry points --after execution of the ISEP procedure.
2. Impact search criteria --after execution of the IANA procedure.

In both cases, deletions are made in the FR file (in a text editor) by inhibiting them (value 'E' in the action code of the corresponding lines), in order to save them for future executions of IANA.

It is not necessary to eliminate non-Group fields since they will simply be ignored by the procedure.

The notions of 'level' and 'iterations' are not relevant for the IGRA procedure.

Entry points (first iteration) or impact search criteria (further iterations) are printed once the purged criteria have been taken into account. This printout sorts criteria into 'accepted criteria' and 'eliminated criteria'.

The impact results file may either be empty or contain the results of other IANA, ISOS, or IGRA executions, either in the same execution context or in different contexts. This allows you to compound the results of all iterations of the impact analysis for one or several contexts.

Restitution of all the information for a given context may be customized (parameter setting) when printing with the IPIA procedure.

The file of Entities to be analyzed (FP) is used in input by this procedure. It contains a list of Entities or Entity Types which should be anlyzed. If no entry is entered in this file before its initialization by the INFP procedure, all analyzable Entities will be analyzed.

Entities to be analyzed are specified as follows: 3-character Type, and 6-character code. (All-purpose coding with ****** is also possible.)

EXECUTION CONDITION

None, except that the FH file (entry points or impact search criteria) must exist and must not be empty.

ABNORMAL EXECUTIONS

Whatever the reason for the abnormal ending, the procedure may be resumed as it is after correcting the problem. However, you should check the status of generation files (FH, FR, and FO).

USER INPUT

The IGRA procedure requires no specific user input for its execution.

7.6.2. IGRA: DESCRIPTION OF STEPS

<u>IGRA: DESCRIPTION OF STEPS</u>

<u>RECOGNITION OF PURGED CRITERIA: PAN230</u>

.Permanent input files:
 -Search criteria file
 PAC7FH :   DSN=&INDUN..&USER.&ROOT.&FILE.FH(0)
 -Reduced file of purged criteria
 PAC7FR :   DSN=&INDUN..&USER.&ROOT.&FILE.FR(0)

.Output file:
 -Search criteria file
 PAC7HF :   DSN=&&IGRAHF   Longueur=160

<u>PRINTING ENTRY POINTS: PAN220</u>

.Permanent input files:
 -Error messages
  PAC7AE :   DSN=&INDSV..&ROOT.&ROOT.AE
 -Sorted criteria
  PAC7HF :   DSN=&&IGRAHF

.Output reports:
 -List of accepted/eliminated criteria
  PAC7IL

.Sort files:
 SORTWK01
 SORTWK02
 SORTWK03

<u>GROUP FIELD BREAKING-DOWN: PAN255</u>

.Permanent input files:
 -Error messages
  PAC7AE: DSN=&INDSV..&ROOT.&ROOT.AE
 -Data file
  PAC7AR: DSN=&INDUV..&ROOT.&FILE.AR
 -Index file
  PAC7AN: DSN=&INDUV..&ROOT.&FILE.AN
 -Entities to be analyzed
  PAC7FP: DSN=&INDUV..&USER.&ROOT.&FILE.FP

.Transaction file:
 -Impacted criteria
  PAC7FH: DSN=&&IGRAHF   Length=160

.Output file:
 -Impact analysis results
  PAC7MF: DSN=&&IGRAFO   Length=260

.Return codes:
 - 0 - OK
 - 12 - System error

<u>UPDATE OF IMPACT ANALYSIS RESULTS: PAN260</u>

.Transaction file:
 -Impact analysis result (by level)

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PAC/IMPACT   **7**
IGRA: BREAKING DOWN OF GROUP FIELDS   **6**
IGRA: DESCRIPTION OF STEPS   **2**

```
         PAC7MF:  DSN=&&IGRAFO

    .Permanent input file:
     -Results of previous analysis
      PAC7OF:  DSN=&INDUN..&USER.&ROOT.&FILE.FO(0)

    .Permanent output file:
     -Sorted results of the impact analysis
      PAC7FO:  DSN=&INDUN..&USER.&ROOT.&FILE.FO(+1)

    .Sort files:
     SORTWK01
     SORTWK02
     SORTWK03

    .Return codes:
     - 0 : OK
     - 12: System error
```

7.6.3. IGRA: EXECUTION JCL

```
//***************************************************************
//*                VA PAC - IMPACT ANALYSIS
//*                =========================
//*                    IMPACT ANALYSIS
//***************************************************************
//$RADP.IGRA   PROC FILE=$FILE,   NUMBER OF THE VA PAC SYSTEM
//         ROOT=$ROOT,            ROT OF THE VA PAC SYSTEM
//         USER=,                 PACKAGE CODE FOR IMPACT ANALYSIS
//         INDEX='$INDEX',        INDEX OF SYSTEM VSAM FILES
//         INDEXQ='$INDEXQ',      INDEX OF GENERATION FILES
//         INDEXP='$INDEXP',      INDEX OF SYSTEM NON-VSAM FILES
//*:       VSAMCAT='$CATU',       USER VSAM CATALOG
//*:       SYSTCAT='$CATV',       SYSTEM VASM CATALOG
//         OUT=$OUT,              OUTPUT CLASS
//         STEPLIB='$MODB',       LIBRARY OF BATCH LOAD MODULES
//         PSBLIB='$PSBLIB',      LIBRARY OF PSBs
//         DBDLIB='$DBDLIB',      LIBRARY OF DBDs
//         RESLIB='$RESLIB',      IMS RESLIB
//         PROCLIB='$PRCLIB',     IMS PROCLIB
//         UWK='$UWK',            WORK UNIT
//         VOLS='SER=$VOLO',      RESULTS AND CRIT. FILES VOLUME
//         UNITS=$UNITO,          RESULTS AND CRIT. FILES UNIT
//         SPAFO='(TRK,(30,10))', SPACE OF FILE 'FO'
//         SPAFH='(TRK,(30,10))', SPACE OF CRITERIA FILE
//         SORTLIB='$BIBT',       SORT LIBRARY
//         CYL=20,                SIZE OF SORT WORK-FILES
// BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
// CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//***************************************************************
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//*
//PAN230 EXEC PGM=PAN230
//*********************
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSPRINT DD SYSOUT=&OUT
//PAC7FH   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FH(0),DISP=SHR
//PAC7FR   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FR(0),DISP=SHR
//PAC7HF   DD DSN=&&IGRAHF,
//          DISP=(,PASS,DELETE),
//          UNIT=&UWK,
//          SPACE=&SPAFH,
//          DCB=(RECFM=FB,BLKSIZE=24000,LRECL=160)
//*
//PAN220  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PAN220,PAN220$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
```

```
    //SYSPRINT DD SYSOUT=&OUT
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON   DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //SYSPRINT DD SYSOUT=&OUT
    //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7HF   DD DSN=&&IGRAHF,DISP=(OLD,PASS)
    //PAC7IL   DD SYSOUT=&OUT
    //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //*
    //PAN255  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
    //         PARM=(DLI,PAN255,PAN255$SUG,&BUF,
    //         &SPIE&TEST&EXCPVR&RST,&PRLD,
    //         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
    //STEPLIB  DD DSN=&RESLIB,DISP=SHR
    //         DD DSN=&STEPLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS      DD DSN=&PSBLIB,DISP=SHR
    //         DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
    //*:         DD DSN=&SYSTCAT,DISP=SHR
    //SYSPRINT DD SYSOUT=&OUT
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON   DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //PAC7AE$SUF  DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7AN$SUF  DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
    //PAC7AR$SUF  DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
    //PAC7FH   DD DSN=&&IGRAHF,DISP=(OLD,DELETE)
    //PAC7FP   DD DSN=&INDEX..&USER.&ROOT.&FILE.FP,DISP=SHR
    //PAC7MF   DD DSN=&&IGRAFO,
    //           DISP=(,PASS,DELETE),
    //           UNIT=&UWK,
    //           SPACE=&SPAFO,
    //           DCB=(RECFM=FB,BLKSIZE=26000,LRECL=260)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //PAN260 EXEC PGM=PAN260
    //***********************
    //*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
    //*:         DD DSN=&SYSTCAT,DISP=SHR
    //STEPLIB  DD DSN=&STEPLIB,DISP=SHR
    //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //SYSPRINT DD SYSOUT=&OUT
    //PAC7OF   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(0),DISP=SHR
    //PAC7MF   DD DSN=&&IGRAFO,DISP=(OLD,DELETE)
    //PAC7FO   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FO(+1),
    //           DISP=(,CATLG,DELETE),
    //           UNIT=&UNITS,
    //           VOL=&VOLS,
    //           SPACE=&SPAFO,
```

```
//              DCB=&INDEXQ..DSCB.&ROOT.&FILE.FO
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SYSUDUMP DD SYSOUT=&OUT
```

7.7. IPFQ: FQ FILE PRINTOUT (IMPACT ANALYSIS)

7.7.1. IPFQ: INTRODUCTION

<u>IPFQ: INTRODUCTION</u>

The IPFQ procedure prints all the entry points and impact search criteria used
(or not used) during a thorough impact analysis.

All the criteria and entry points are stored in the FQ file.

IPFQ offers four types of printouts:

  . List of accepted entry points
  . List of rejected entry points
  . List of accepted impact search criteria
  . List of rejected impact searche criteria.

The printout shows criteria and entry points sorted by alphabetical order within
each category, and by definition library of the criteria.

The printing order for the categories are:

  . Character strings
  . Data-Elements defined in the Dictionary
  . Data-Elements defined in Segment Descriptions
  . Data-Elements defined in Report Structures
  . Data-Elements defined in Screen- or Program- Working Sections

The IPFQ procedure can be used to select the entry points and impact search
criteria of one or more categories.
In case of selection, only the selected criteria are printed.

<u>EXECUTION CONDITION</u>

None, but the FQ file must exist.

<u>ABNORMAL EXECUTIONS</u>

Whatever the cause of the abnormal ending, the procedure may be re-run as it is,
after correction of the problem.

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7.7.2. IPFQ: USER INPUT

<u>IPFQ: USER INPUT</u>

One 'S'line per criteria selection (optional):

```
-----------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                            !
!----+-----+----------+----------------------------------!
! 2 !  1 ! 'S'        ! Line code                          !
! 3 !  1 !            ! Type of criterion                  !
!    !    ! 'E'        ! Data-Element defined in the Dictio-!
!    !    !            ! nary                               !
!    !    ! 'C'        ! Character string                   !
!    !    ! 'X'        ! Group-type Data-Element or Data-   !
!    !    !            ! Element not defined                !
!    !    ! '*'        ! All types of criteria              !
! 4 !  1 !            ! Source code                         !
!    !    ! '3'        ! Line from Segment's -CE            !
!    !    ! '6'        ! Line from Report's -CE             !
!    !    ! '7'        ! -W line of a Screen or Program     !
!    !    ! '*'        ! All sources                        !
! 6 !  1 !            ! For the type of area                !
!    !    ! 'G'        ! For a Group area                   !
!    !    ! ' '        ! For an elementary area             !
!    !    ! '*'        ! For all types of areas             !
-----------------------------------------------------------
```

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7.7.3. IPFQ: DESCRIPTION OF STEPS

<u>IPFQ: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>EXTRACTION OF CRITERIA: PAN240</u>

.Permanent input files:
 -Error messages
  PAC7AE: DSN=&INDSV..&ROOT.&ROOT.AE
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Index file
  PAC7AN: DSN=&INDEX.&ROOT.&FILE.AN
 -Criteria impacted during analysis
  PAC7FQ: DSN=&INDEX..&USER.&ROOT.&FILE.FQ

.Transaction file:
 -Input
  PAC7MB :   DSN=&&IPFQMB

.Output files:
 -Search criteria
  PAC7FH: DSN=&&IPFQFH   LRECL=160

.Output report:
 -Control report
  PAC7IX

<u>PRINTING OF IMPACTED CRITERIA: PAN220</u>

.Permanent input files:
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -Sorted entry points or criteria
  PAC7HF: DSN=&&IPFQFH

.Output report:
 -List of entry points or criteria
  PAC7IL

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

.Return codes:
   0: OK
  12: System error

7.7.4. IPFQ: EXECUTION JCL

```
//*********************************************************************
//*        VisualAge Pacbase - IMPACT ANALYSIS
//*        ===================================
//*                 PRINT OF 'FQ' FILE                                *
//*********************************************************************
//$RADP.IPFQ   PROC FILE=$FILE,  NUMBER OF THE VA PAC SYSTEM
//        ROOT=$ROOT,            ROT OF THE VA PAC SYSTEM
//        USER=,                 PACKAGE CODE FOR IMPACT ANALYSIS
//        INDEX='$INDEX',        INDEX OF SYSTEM VSAM FILES
//        INDEXQ='$INDEXQ',      INDEX OF GENERATION FILES
//        INDEXP='$INDEXP',      INDEX OF SYSTEM NON-VSAM FILES
//*:      VSAMCAT='$CATU',       USER VSAM CATALOG
//*:      SYSTCAT='$CATV',       SYSTEM VASM CATALOG
//        OUT=$OUT,              OUTPUT CLASS
//        STEPLIB='$MODB',       LIBRARY OF BATCH LOAD MODULES
//        PSBLIB='$PSBLIB',      LIBRARY OF PSBS
//        DBDLIB='$DBDLIB',      LIBRARY OF DBDS
//        RESLIB='$RESLIB',      IMS RESLIB
//        PROCLIB='$PRCLIB',     IMS PROCLIB
//        UWK='$UWK',            WORK UNIT
//        SPAFH='(TRK,(30,10))', SPACE OF CRITERIA FILE
//        SORTLIB='$BIBT',       SORT LIBRARY
//        CYL=5,                 SIZE OF SORT WORK-FILES
// BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
// CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//*****************************************************************
//INPUT  EXEC PGM=PTU001
//*********************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&IPFQMB,DISP=(,PASS),
//            UNIT=&UWK,SPACE=(TRK,(5,1),RLSE),
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=3440)
//*****************************************************************
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//*
//PAN240  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PAN240,PAN240$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
```

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```
    //IMSMON    DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //PAC7AE$SUF   DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7AN$SUF   DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
    //PAC7AR$SUF   DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
    //PAC7FH    DD DSN=&&IPFQFH,
    //             DISP=(,PASS,DELETE),
    //             UNIT=&UWK,
    //             SPACE=&SPAFH,
    //             DCB=(RECFM=FB,BLKSIZE=24000,LRECL=160)
    //PAC7FQ    DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FQ(0),DISP=SHR
    //PAC7IX    DD SYSOUT=&OUT
    //PAC7MB    DD DSN=&&IPFQMB,DISP=(OLD,DELETE)
    //*
    //PAN220  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
    //          PARM=(DLI,PAN220,PAN220$SUG,&BUF,
    //          &SPIE&TEST&EXCPVR&RST,&PRLD,
    //          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
    //STEPLIB  DD DSN=&RESLIB,DISP=SHR
    //         DD DSN=&STEPLIB,DISP=SHR
    //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
    //DFSRESLB DD DSN=&RESLIB,DISP=SHR
    //IMS      DD DSN=&PSBLIB,DISP=SHR
    //         DD DSN=&DBDLIB,DISP=SHR
    //*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
    //*:         DD DSN=&SYSTCAT,DISP=SHR
    //SYSPRINT DD SYSOUT=&OUT
    //SYSOUT   DD SYSOUT=&OUT
    //SYSOUX   DD SYSOUT=&OUT
    //DDSNAP   DD SYSOUT=&OUT
    //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
    //IEFRDER  DD DUMMY,
    //             DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
    //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //             BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
    //             BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
    //IMSMON    DD DUMMY
    //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
    //PAC7AE$SUF   DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
    //PAC7HF    DD DSN=&&IPFQFH,DISP=(OLD,PASS)
    //PAC7IL    DD SYSOUT=&OUT
    //SORTWK01  DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //SORTWK02  DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
    //SORTWK03  DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
```

7.8. INFQ: FQ FILE REINITIALIZATION (IMPACT ANALYSIS)

7.8.1. INFQ: INTRODUCTION

<u>INFQ: INTRODUCTION</u>

The INFQ procedure reinitializes the FQ file, which contains search criteria that have already been impacted. Its purpose is that these criteria be ignored in future analyses.

This action should be performed before a new impact analysis when the entry points have changed or when the analysis context has changed.

However, it must not be used between two iterations of the same impact analysis.

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7.8.2. INFQ: DESCRIPTION OF STEPS

<u>INFQ: DESCRIPTION OF STEPS</u>

<u>REINITIALIZATION OF THE FQ FILE: PAN200</u>

.Output file:
 -Reinitialized impactd criteria file (sequential)
  PAC7FQ: DSN=&INDEXQ..&USER.&ROOT.&FILE.FQ(+1)

7.8.3. INFQ: EXECUTION JCL

```
//***********************************************************************
//*        VisualAge Pacbase - IMPACT ANALYSIS
//*        =================================
//*            INITIALIZATION OF "FQ" FILE
//***********************************************************************
//$RADP.INFQ   PROC FILE=$FILE,   NUMBER OF THE PHYSICAL DATABASE
//        ROOT=$ROOT,             ROOT OF THE VA PAC SYSTEM
//        USER=,                  PACKAGE CODE FOR IMPACT ANALYSIS
//        INDEXQ='$INDEXQ',       INDEX OF USER NON-VSAM FILES
//*:      VSAMCAT='$VCAT',        USER VSAM CATALOG
//*:      SYSTCAT='$SCAT',        SYSTEM VSAM CATALOG
//        OUT=$OUT,               OUTPUT CLASS
//        STEPLIB='$MODB',        LIBRARY OF LOAD-MODULES
//        VOLS='SER=$VOLO',       VOLUME OF 'FQ' FILE
//        UNITS='$UNITO'          UNIT OF THE 'FQ' FILE
//***********************************************************
//PAN200 EXEC PGM=PAN200
//*********************
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSPRINT DD SYSOUT=&OUT
//PAC7FQ   DD DSN=&INDEXQ..&USER.&ROOT.&FILE.FQ(+1),
//            DISP=(,CATLG,DELETE),UNIT=&UNITS,VOL=&VOLS,
//            SPACE=(TRK,1),
//            DCB=&INDEXQ..DSCB.&ROOT.&FILE.FQ
//SYSUDUMP DD SYSOUT=&OUT
```

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```
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```

7.9. INFP: FP FILE INITIALIZATION (IMPACT ANALYSIS)

7.9.1. INFP: INTRODUCTION

<u>INFP: INTRODUCTION</u>

The INFP procedure initializes the FP file, which contains the selections making up the domain of the impact analysis.

For the FP file to be updated by INFP, you must re-state in the procedure's input all the lines previously introduced. As a default, the procedure initializes a blank file, i.e. containing no particular selection.

Operating principles of the FP file's input:

If an entity type is specified (whether its specific occurrences are specified or not), and you wish the analysis to take into account other types as well, you must explicitly specify those types (there again, with the ****** code if all entities of a type are required, or specific entity codes for a narrower selection).

If an entity type is coded for all its entities --with the ****** code-- you cannot specify a particular entity of this type.

7.9.2. INFP: USER INPUT

<u>INFP: USER INPUT</u>

Input is optional for the INFP procedure. If no input is provided, all entities of
all entity types will be searched for the impact analysis.

If all existing entities of a given entity type are specified (code = ******),
particular entities specified for the same type will be refused.

```
---------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                          !
!----+-----+----------+----------------------------------!
! 1 !  3 !           ! Entity type                      !
!   !    !           ! Possible values are:             !
!   !    ! 'B '      ! Database Blocks                  !
!   !    ! 'F '      ! User Entities                    !
!   !    ! 'O '      ! Screens                          !
!   !    ! 'P '      ! Programs                         !
!   !    ! 'T '      ! Texts                            !
!   !    ! 'V '      ! Volumes                          !
!   !    ! '$nn'     ! User Entity Occurrence of type code!
!   !    !           ! 'nn'                             !
!   !    ! '$**'     ! All UEOs                          !
! 4 !  6 !           ! Entity code (generic selection   !
!   !    !           ! through code ******)             !
!   !    !           ! (This code may not exist in the  !
!   !    !           ! Database)                        !
---------------------------------------------------------
```

7.9.3. INFP: DESCRIPTION OF STEPS

<u>INFP: DESCRIPTION OF STEPS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>PREPARATION OF FP KSDS FILE'S DELETE/DEFINE: PRMSYS</u>

This program parameterizes the FP KSDS file's name. The file's
DELETE/DEFINE is found in the DF&ROOT.&FILE.FP member of the SY-
parameter PDS. The program is followed by an IDCAMS, which performs the
DELETE/DEFINE of the FP KSDS file.
.Input files:
 -DELETE/DEFINE skeleton of the file
  PACRIN: DSN=&INDEXP..&ROOT.&ROOT.SY(DF&ROOT.&FILE.FP)
 -DELETE/DEFINE of the file (SYSIN for IDCAMS)
  PACROU: DSN=&&DFFP
  SYSIN : DSN=&&DFFP

<u>CHECK ON TRANSACTIONS AND FP UPDATE: PAN205</u>

.Permanent input file:
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE

.Transaction file:
 -User input
  PAC7MB: DSN=&&INFPMB

.Output file:
 -Entities in production
  PAC7FP: DSN=&INDEX..&USER.&ROOT.&FILE.FP

.Output report:
 -Check report
  PAC7IP

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

.Return codes:
   0: OK
  12: System error

```
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   PAC/IMPACT                                                7
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```

7.9.4. INFP: EXECUTION JCL

```
//***********************************************************************
//*           VisualAge Pacbase - IMPACT ANALYSIS
//*           ===================================
//*                 INITIALIZATION OF 'FP' FILE
//***********************************************************************
//$RADP.INFP   PROC FILE=$FILE,   NUMBER OF THE PHYSICAL DATABASE
//         ROOT=$ROOT,            ROOT OF THE VA PAC SYSTEM
//         USER=,                 PACKAGE CODE FOR IMPACT ANALYSIS
//         INDEX='$INDEX',        INDEX OF VASM FILES
//         INDEXP='$INDEXP',      INDEX OF NON-VASM FILES
//*:       VSAMCAT='$VCAT',       USER VSAM CATALOG
//*:       SYSTCAT='$SCAT',       SYSTEM VSAM CATALOG
//         OUT=$OUT,              OUTPUT CLASS
//         STEPLIB='$MODB',       LIBRARY OF LOAD-MODULES
//         SORTLIB='$BIBT',       SORT LIBRARY
//         CYL=1,                 SIZE OF THE SORT-WORK FILE
//         UWK=$UWK,              WORK UNIT
// BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
// CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//***********************************************************
//INPUT  EXEC PGM=PTU001
//**********************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&INFPMB,DISP=(,PASS),
//           UNIT=&UWK,
//           SPACE=(TRK,(1,1),RLSE),
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=3440)
//*
//VERIFY  EXEC PGM=IDCAMS
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//*
//PRMSYS EXEC PGM=PRMSYS,PARM='&USER'
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSABOUT DD SYSOUT=&OUT
//PACRIN DD DSN=&INDEXP..&ROOT.&ROOT.SY(DF&ROOT.&FILE.FP),DISP=SHR
//PACROU DD DSN=&&DFFP,DISP=(,PASS),UNIT=&UWK,SPACE=(TRK,1),
//         DCB=(RECFM=FB,LRECL=80,BLKSIZE=800)
//DEFINE EXEC PGM=IDCAMS
//**********************
//*:STEPCAT  DD  DSN=$SCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSIN DD DSN=&&DFFP,DISP=(OLD,DELETE)
//*
//PAN205  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//         PARM=(DLI,PAN205,PAN205$SUG,&BUF,
//         &SPIE&TEST&EXCPVR&RST,&PRLD,
//         &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&VSAMCAT,DISP=SHR
//*:       DD DSN=&SYSTCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
```

```
//              DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//              BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//              BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON    DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7AE$SUF   DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7FP    DD DSN=&INDEXQ.&USER.&ROOT.&FILE.FP,DISP=SHR
//PAC7MB    DD DSN=&&INFPMB,DISP=(OLD,DELETE)
//PAC7IP    DD SYSOUT=&OUT
//SORTWK01  DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02  DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03  DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
```

8. VISUALAGE SMALLTALK/JAVA - VA PAC INTERFACE

```
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VDWN:   RESTORATION                                          1
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```

8.1. VDWN: RESTORATION

8.1.1. VDWN: INTRODUCTION

<u>VDWN: INTRODUCTION</u>

This procedure restores the VisualAge Smalltalk objects whose sources, produced by the VisualAge Smalltalk Export function, have been previously backed up in VisualAge Pacbase.

The procedure produces two files:

1. The restoration file of the objects extracted from VisualAge Pacbase. This file must be transferred onto the VisualAge Smalltalk WorkStation. It is then processed again by the local restoration procedure step, to produce a source file which will be recognized by the VisualAge Smalltalk Import function.

2. The command file for the generation of the Proxy Logical Views used in the extracted objects. It can be used to re-generate the Proxy Logical Views if needed.

<u>EXECUTION CONDITION</u>

None.

<u>ABNORMAL EXECUTIONS</u>

For details on the abnormal executions, see the Manual: 'Batch procedures: Administrator's Guide', Chapter 'OVERVIEW', Subchapter 'Abnormal Endings'.

8.1.2. VDWN: USER INPUT

VDWN: USER INPUT

1. Line defining the VisualAge Pacbase library-session to be processed.

```
-----------------------------------------------------------
!Pos.! Len.! Value   ! Meaning                      ! (*) !
!----+-----+---------+------------------------------+-----!
!  2 ! 1   !   '*'   ! Line code                    ! R   !
!----+-----+---------+------------------------------+-----!
!  3 ! 8   !         ! User code                    ! R   !
!----+-----+---------+------------------------------+-----!
! 11 ! 8   !         ! Password                     ! R   !
!----+-----+---------+------------------------------+-----!
! 19 ! 3   !         ! VA Pac library code          ! R   !
!----+-----+---------+------------------------------+-----!
! 22 ! 5   !         ! Session number and status    ! O   !
!    !     !  SPACE  ! Current session              !     !
-----------------------------------------------------------
```

(*) R = Required, O = Optional

2. Extraction command line (one line per object)

```
-----------------------------------------------------------
!Pos.! Len.! Value   ! Meaning                      ! (*) !
!----+-----+---------+------------------------------+-----!
!  2 ! 2   !  'Y3'   ! Line code                    ! R   !
!----+-----+---------+------------------------------+-----!
!  4 ! 2   !         ! Object's class               ! R   !
!    !     !  '77'   ! VisualAge Smltlk. application !     !
!----+-----+---------+------------------------------+-----!
!  6 ! 6   !         ! VA Pac identifier of the     ! R   !
!    !     !         ! VisualAge Smalltalk object   !     !
-----------------------------------------------------------
```

8.1.3. VDWN: DESCRIPTION OF STEPS

<u>VDWN: DESCRIPTION OF STEPS</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>CHECK AND EXTRACTION PREPARATION: PVA100</u>

.Input files:
 -Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -User input
  PAC7MB: DSN=&&VDWNMB

.Output reports and files:
 -Check report
  PAC7ET
 -'*'-line check report
  PAC7DD
 -Proxy-generation requests (GPRT)
   (length: 80)

This file will store the requests for the generation of Logical
View Proxies, Folder View Proxies, and Elementary Proxies in case
these proxies are used in the objects to be extracted. These
requests can be used as input for the GPRT procedure. PAC7ME:
DSN=&MVGPRT (procedure parameter)
 -Elementary-extraction requests
  PAC7MV: DSN=&&VDWNMV

<u>EXTRACTION: PVA110</u>

.Input files:
 -Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -Elementary extraction requests
  PAC7MV: DSN=&&VDWNMV

.Output file:
 -Result of host restoration
   (length: 100)

This file stores the unformatted sources of extracted objects. It
should be transferred onto the local workstation, in order to
terminate the process with the local restoration step, which is
performed in the VA Smalltalk environment. PAC7MX: DSN=&MVVISUAL
(procedure parameter)

8.1.4. VDWN: EXECUTION JCL

```
//***********************************************************************
//*    VA-Pacbase  -  VA-Smalltalk Bridge
//*     DOWNLOAD
//***********************************************************************
//$RADP.VDWN PROC FILE=$FILE,    NUMBER OF THE VA PAC PHYSICAL DATABASE
//    ROOT=$ROOT,                ROOT OF THE VA PAC SYSTEM
//    INDEX='$INDEX',            INDEX OF VA PAC USER VSAM FILES
//    INDEXP='$INDEXP',          INDEX OF NON-VSAM SYSTEM FILES
//    OUT=$OUT,                  OUTPUT CLASS
//    OUTL=$OUTL,                OUTPUT CLASS OF THE REPORTS
//*: VSAMCAT='<>',               USER VSAM CATALOG
//*: SYSTCAT='<>',               SYSTEM VSAM CATALOG
//    STEPLIB='$BVMODB',         LOAD-MODULES LIBRARY
//    SORTLIB='$BIBT',           SORT LIBRARY
//    UWK=$UWK,                  WORK UNIT
//    SPAMB='(TRK,(5,1))',       SPACE OF THE MB FILE
//    MVGPRT=,                   TRANSACTIONS FILE FOR GPRT DSN
//    MVVISUAL=,                 VA SMLTK TRANSACTION FILE (LOCAL) DSN
//    PSBLIB='$PSBLIB',          LIBRARY OF PSBs
//    DBDLIB='$DBDLIB',          LIBRARY OF DBDs
//    RESLIB='$RESLIB',          IMS RESLIB
//    PROCLIB='$PRCLIB',         IMS PROCLIB
//***********************************************************************
//    BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//    CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//VERIFY EXEC PGM=IDCAMS
//*********************
//SYSPRINT DD SYSOUT=&OUT
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//INPUT EXEC PGM=PTU001
//*********************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&VDWNMB,DISP=(,PASS),
//            UNIT=&UWK,SPACE=&SPAMB,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=3440)
//*********************
//PVA100  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PVA100,PVA100$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:       DD DSN=&SYSTCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//PAC7ET   DD SYSOUT=&OUTL
//PAC7DD   DD SYSOUT=&OUTL
```

```
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7MB   DD DSN=&&VDWNMB,DISP=SHR
//PAC7MV   DD DSN=&&VDWNMV,DISP=(,PASS),UNIT=SYSDA,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=1600),
//            SPACE=(TRK,(10,5),RLSE)
//PAC7ME   DD DSN=&MVGPRT,DISP=SHR
//***********************
//PVA110   EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//          PARM=(DLI,PVA110,PVA110$SUG,&BUF,
//          &SPIE&TEST&EXCPVR&RST,&PRLD,
//          &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7MV   DD DSN=&&VDWNMV,DISP=SHR
//PAC7MX   DD DSN=&MVVISUAL,DISP=SHR
```

8.2. VUP1: BACKUP - CODE CALCULATION

8.2.1. VUP1: INTRODUCTION

<u>VUP1: INTRODUCTION</u>

This procedure creates the elements which will be used as input by the VUP2 procedure to generate the backup transactions in VisualAge Pacbase. These transactions will be used as input by the UPDT procedure.

The VUP1 procedure creates three files:

1. Correspondence file: correspondences between the VisualAge Pacbase codes and the VisualAge Smalltalk/Java identifiers for the entities already backed up in VisualAge Pacbase.

2. New-code file: contains the VisualAge Pacbase codes computed for the new entities created in VisualAge Smalltalk/Java. These computed codes may be modified if they do not meet the site's standards.

3. Transaction file: similar to the file resulting from the local backup procedure step, but with the duplicates removed.

It prints 3 reports:

1. One report showing the correspondences between VisualAge Pacbase and VisualAge Smalltalk/Java codes for entities already uploaded in the VisualAge Pacbase database.

2. One report showing the correspondence between VisualAge Pacbase and VisualAge Smalltalk/Java codes for entities currently being processed.

3. One check report, showing:

 - A list of entities extracted more than once by the current process.

 - Any fatal error likely to prevent the correct execution of procedures VUP1 and VUP2.

These errors are 'contents' errors in the file provided by the 'local' system. Any error of this type suggests a problem was encountered while transferring the file from the local computer to the host.

EXECUTION CONDITIONS

None.

ABNORMAL EXECUTIONS

For details on the abnormal executions, see the 'Batch Procedures:
Administrator's Guide', Chapter OVERVIEW, Subchapter 'Abnormal Endings'.

8.2.2. VUP1: USER INPUT

<u>VUP1: USER INPUT</u>

The procedure's input file comes from the 'local' step of the backup procedure,
performed in the VisualAge Smalltalk/ Java environment. It is a file coming
from a local microcomputer. Before executing the VUP1 procedure, you must
complete the first line of this file (i.e. the '*' line) with:
  . The user password
  . The Product code and the Change number, if the VisualAge Pacbase Database
   is under DSMS control.

```
-----------------------------------------------------------
!Pos.! Len.! Value  ! Meaning                      ! (*) !
!----+-----+---------+-----------------------------+-----!
! 2 ! 2  ! 'I*'   ! Line code                    ! R  !
!----+-----+---------+-----------------------------+-----!
! 4 ! 8  !        ! User code                    ! R  !
!----+-----+---------+-----------------------------+-----!
! 12 ! 8  !        ! Password                     ! R  !
!----+-----+---------+-----------------------------+-----!
! 20 ! 3  !        ! VA PAC library code          ! R  !
!----+-----+---------+-----------------------------+-----!
! 23 ! 5  !        ! Session number and status    ! O  !
! !    ! SPACE ! Current session              !    !
-----------------------------------------------------------
! 58 ! 9  !        ! Product + Change number if   ! O  !
! !    !        ! database under DSMS control  !    !
-----------------------------------------------------------
```

(*) R = Required, O = Optional.

CHARACTER-CORRESPONDENCE TABLE

This table is used to replace special characters in the VisualAge Smalltalk/Java
identifiers with other characters --which may be stored in the Referential before
calculation of the VisualAge Pacbase codes-- or, more typically, to replace a
particular character with one contained in the VisualAge Smalltalk/Java
identifier.

It contains as many positions as there are characters to be changed.

```
-----------------------------------------
!Pos.! Len.!  Meaning                    !
!----+-----+---------------------------!
! 1 !  1  !  Character to be replaced   !
! 2 !  1  !  Substitution character     !
-----------------------------------------
```

Example of a table:

```
   --------------------
   ! col 1  !  col 2  !
   --------------------
   ! -      !  a      !
   ! /      !  b      !
   ! 1      !  c      !
   ! 2      !  d      !
   --------------------
```

8.2.3. VUP1: DESCRIPTION OF STEPS

VUP1: DESCRIPTION OF STEPS

IMPORTANT NOTE

Before running this procedure, you must allocate two permanent (non-temporary) files with the following features:

 1. First file

Length: 100

This file will store the VisualAge Pacbase codes calculated for the new VisualAge Smalltalk entities processed during this execution.

You must define this file's name by setting the value of the PBCOD parameter.

 2. Second file

Length: 100

This file is the image of the file produced by the 'local' step of the backup procedure, transferred to the host and purged of duplicates.

You must define this file's name by setting the value of the VISUTIL parameter.

 3. The file resulting from the local step of the backup procedure should be copied onto the host, in a file with a length of 100.

For this file to be called in the procedure, set the FICVIS parameter to the value of the file's name.

VERIFICATION OF VSAM FILES: IDCAMS

EXTRACTION OF VISUALAGE SMALLTALK/JAVA ENTITY CODES FROM
VISUALAGE PACBASE: PVA300

.Input files:
 -Index file
  PAC7AN: DSN=&INDEX..&ROOT.&FILE.AN
 -Data file
  PAC7AR: DSN=&INDEX..&ROOT.&FILE.AR
 -Error messages
  PAC7AE: DSN=&INDEX..&ROOT.&ROOT.AE
 -VisualAge Smalltalk/Java file produced by workstation
  PAC7VA: DSN=&FICVIS (paramètre de la procédure)

.Output reports and files:
 -Check report
  PAC7ET
 -'*'-line check report
  PAC7DD
 -Extracted codes
  PAC7VC: DSN=&INDEX..&ROOT.&FILE.VC

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

COMPARISON OF ENTITIES EXTRACTED FROM VA PAC
AND NEW ENTITIES TO BE CREATED IN VA PAC: PVA305

.Input files:
 -Index file
  PAC7AN :   DSN=&INDEX..&ROOT.&FILE.AN
 -Data file
  PAC7AR :   DSN=&INDEX..&ROOT.&FILE.AR
 -Error message file
  PAC7AE :   DSN=&INDEX..&ROOT.&ROOT.AE
 -VisualAge Smalltalk/Java file produced by the workstation
  PAC7VA: DSN=&FICVIS (procedure parameter)
 -VisualAge Pacbase codes of VisualAge Smalltalk/Java
  entities already saved
  PAC7VC: DSN=&INDex..&ROOT.&FILE.VC

.Output reports and file:
 -List of new codes created
  PAC7ET
 -'*'-line check report
  PAC7DD
 -Printing of any fatal error and of the list of
  duplicate entity extractions
  PAC7ED
 -List of codes assigned to new VisualAge Smalltalk/Java
  entities
  PAC7VN: &&VUP1VN
 -Useful VisualAge Smalltalk/Java transactions
  PAC7VG: DSN=&VISUTIL (procedure parameter)

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03

               CALCULATION OF VA PAC CODES FOR NEW VA SMALLTALK/JAVA
               ENTITIES: PVA310

               .Input files:
                -Index file
                 PAC7AN: DSN=&INDUV..&ROOT.&FILE.AN
                -Data file
                 PAC7AR: DSN=&INDUV..&ROOT.&FILE.AR
                -Error message file
                 PAC7AE: DSN=&INDSV..&ROOT.&ROOT.AE
                -VisualAge Smalltalk/Java file produced by the workstation
                 PAC7VA: DSN=&FICVIS (procedure parameter)
                -VisualAge Pacbase codes of VisualAge Smalltalk/Java
                 entities already saved
                 PAC7VC: DSN=VUP1VC

                -Character-correspondence table
                 for substitution in the code calculation
                 PAC7CA: DSN= file to be overriden

               .Output reports and file:
                -List of new codes created
                 PAC7ET
                -'*'-line check report
                 PAC7DD
                -List of codes assigned to new VisualAge Smalltalk/Java
                 entities
                 PAC7VN: DSN=&&VUP1VN

                -List of VisualAge Pacbase codes of VisualAge Smalltalk/
                 Java entities already saved
                 PAC7VC: DSN=&&VUP1VC
                -List of codes assigned to the new VisualAge Smalltalk/Java
                 entities
                 PAC7VV: DSN=&PBCOD (procedure parameter)
                -File of codes assigned to entities already stored in
                 VisualAge Pacbase
                 PAC7VP: DSN=&INDUV..&ROOT.&FILE.VP

               .Sort files:
                 SORTWK01
                 SORTWK02
                 SORTWK03

                                                          DEPIM003251A

8.2.4. VUP1: EXECUTION JCL

```
//********************************************************************
//*    VA-Pacbase  -  VA-Smalltalk Bridge
//*    UPLOAD :  COMPUTING THE DATABASE CODES
//********************************************************************
//$RADP.VUP1 PROC FILE=$FILE,    NUMBER OF THE PHYSICAL DATABASE
//    ROOT=$ROOT,                ROOT OF THE VA PAC SYSTEM
//    INDEX='$INDEX',            INDEX OF USER VSAM FILES
//    INDEXP='$INDEXP',          INDEX OF SYSTEM NON-VSAM FILES
//    OUT=$OUT,                  OUTPUT CLASS
//    OUTL=$OUTL,                OUTPUT CLASS OF THE REPORTS
//*: VSAMCAT='<>',               USER VSAM CATALOG
//*: SYSTCAT='<>',               SYSTEM VSAM CATALOG
//    STEPLIB='$BVMODB',         LOAD-MODULE LIBRARY
//    SORTLIB='$BIBT',           SORT LIBRARY
//    UWK=$UWK,                  WORK UNIT
//    SPAVC='(TRK,(50,2))',      SPACE OF THE 'VC' FILE
//    SPAVN='(TRK,(50,2))',      SPACE OF THE 'VN' FILE
//    CYL=5,                     SPACE OF THE SORTWORKS
//    FICVIS=,                   DSN FILE FROM VA SMALLTALK
//    VISUTIL=,                  DSN FILE FROM VA SMLTLK CONTAINING
//*                              ONLY VALID TRANSACTIONS
//    PBCOD=,                    DSN FILE OF NEW VA PAC CODES TO BE
//*                              MODIFIED
//    PSBLIB='$PSBLIB',          LIBRARY OF PSBs
//    DBDLIB='$DBDLIB',          LIBRARY OF DBDs
//    RESLIB='$RESLIB',          IMS RESLIB
//    PROCLIB='$PRCLIB',         IMS PROCLIB
//    BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//    CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//********************************************************************
//VERIFY EXEC PGM=IDCAMS
//*********************
//SYSPRINT DD SYSOUT=&OUT
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//DDAE     DD DSN=&INDEX..&ROOT.AE,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//*********************
//PVA300  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PVA300,PVA300$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:         DD DSN=&SYSTCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
```

```
     //PAC7ET   DD SYSOUT=&OUTL
     //PAC7DD   DD SYSOUT=&OUTL
     //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     //PAC7VA  DD DSN=&FICVIS,DISP=SHR
     //PAC7VC DD DSN=&&VUP1VC,DISP=(,PASS),UNIT=&UWK,SPACE=&SPAVC,
     //          DCB=(RECFM=FB,LRECL=1070,BLKSIZE=21400)
     //****************************************
     //PVA305  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
     //        PARM=(DLI,PVA305,PVA305$SUG,&BUF,
     //        &SPIE&TEST&EXCPVR&RST,&PRLD,
     //        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
     //STEPLIB  DD DSN=&RESLIB,DISP=SHR
     //         DD DSN=&STEPLIB,DISP=SHR
     //DFSRESLB DD DSN=&RESLIB,DISP=SHR
     //IMS      DD DSN=&PSBLIB,DISP=SHR
     //         DD DSN=&DBDLIB,DISP=SHR
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
     //*:          DD DSN=&SYSTCAT,DISP=SHR
     //SYSOUT   DD SYSOUT=&OUT
     //SYSOUX   DD SYSOUT=&OUT
     //DDSNAP   DD SYSOUT=&OUT
     //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
     //IEFRDER  DD DUMMY,
     //           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
     //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
     //IMSMON   DD DUMMY
     //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
     //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
     //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
     //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
     //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
     //PAC7ET   DD SYSOUT=&OUTL
     //PAC7ED   DD SYSOUT=&OUTL
     //PAC7DD   DD SYSOUT=&OUTL
     //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
     //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
     //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
     //PAC7VA   DD DSN=*.PVA300.PAC7VA,DISP=SHR
     //PAC7VC   DD DSN=&&VUP1VC,DISP=SHR
     //PAC7VN   DD DSN=&&VUP1VN,DISP=(,PASS),UNIT=&UWK,SPACE=&SPAVN,
     //         DCB=(RECFM=FB,LRECL=1070,BLKSIZE=21400)
     //PAC7VG   DD DSN=&VISUTIL,DISP=OLD
     //DEFINE EXEC PGM=IDCAMS
     //********************
     //*:STEPCAT DD DSN=VSAMCAT,DISP=SHR
     //*:           DSN=SYSTCAT,DISP=SHR
     //SYSPRINT DD SYSOUT=&OUT
     //SYSIN DD DSN=&INDEXP..&ROOT.&ROOT.SY(DF&ROOT.&FILE.VP),DISP=SHR
     //****************************************
     //PVA310  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
     //        PARM=(DLI,PVA310,PVA310$SUG,&BUF,
     //        &SPIE&TEST&EXCPVR&RST,&PRLD,
     //        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
     //STEPLIB  DD DSN=&RESLIB,DISP=SHR
     //         DD DSN=&STEPLIB,DISP=SHR
     //DFSRESLB DD DSN=&RESLIB,DISP=SHR
     //IMS      DD DSN=&PSBLIB,DISP=SHR
     //         DD DSN=&DBDLIB,DISP=SHR
     //*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
     //*:        DD DSN=&SYSTCAT,DISP=SHR
     //SYSOUT   DD SYSOUT=&OUT
     //SYSOUX   DD SYSOUT=&OUT
     //DDSNAP   DD SYSOUT=&OUT
     //PROCLIB  DD DSN=&PROCLIB,DISP=SHR
     //IEFRDER  DD DUMMY,
     //           DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
     //SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
     //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
```

```
       //IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
       //           BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
       //IMSMON   DD DUMMY
       //DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
       //SORTLIB  DD DSN=&SORTLIB,DISP=SHR
       //SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
       //SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
       //SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
       //PAC7ET   DD SYSOUT=&OUTL
       //PAC7ED   DD SYSOUT=&OUTL
       //PAC7DD   DD SYSOUT=&OUTL
       //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
       //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
       //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
       //PAC7VA   DD DSN=*.PVA300.PAC7VA,DISP=SHR
       //PAC7CA   DD DUMMY
       //PAC7VC DD DSN=&&VUP1VC,DISP=SHR
       //PAC7VN DD DSN=&&VUP1VN,DISP=SHR
       //PAC7VG   DD DSN=&VISUTIL,DISP=OLD
       //PAC7VV DD DSN=&PBCOD,DISP=SHR
       //PAC7VP DD DSN=&INDEX..&ROOT.&FILE.VP,DISP=SHR
```

8.3. VUP2: GENERATION OF UPDT TRANSACTIONS

8.3.1. VUP2: INTRODUCTION

<u>VUP2: INTRODUCTION</u>

This procedure creates the VisualAge Pacbase backup transactions processed by the UPDT procedure.

It processes the 3 files produced by the VUP1 procedure, and integrates any modification made on codes by the user.

<u>EXECUTION CONDITIONS</u>

The VUP1 procedure must have been previously executed.

<u>ABNORMAL EXECUTIONS</u>

For details on the abnormal executions, see the Administrator's Guide, Chapter 'OVERVIEW', Subchapter 'Abnormal Endings'.

8.3.2. VUP2: USER INPUT

<u>VUP2: USER INPUT</u>

The VUP2 procedure includes two types of user input:

 1. The USEFUL TRANSACTIONS file (output from VUP1)

This file is made up of a '*' line and lines to generate the update transactions of
the VisualAge Pacbase database.

The '*' line must be completed before executing the VUP2 procedure:

  . with the user password

  . with the Product code and the Change number if the VisualAge Pacbase
    database is under DSMS control, if this has not already been indicated in input
    to the VUP1 procedure.

```
-----------------------------------------------------------
!Pos.! Len.! Value   ! Meaning                     ! (*) !
!----+-----+---------+-----------------------------+-----!
! 2 ! 1  !   '*'    ! Line code                    ! R  !
!----+-----+---------+-----------------------------+-----
! 11 ! 8  !         ! Password                     ! R  !
-----------------------------------------------------------
! 58 ! 9  !         ! Product + Change number if   ! O  !
!    !    !         ! database under DSMS control  !     !
-----------------------------------------------------------

(*) R = Required, O = Optional
```


2. The file of MODIFIED VA Pac CODES resulting from the VUP1 procedure

You can modify this file to assign the VisualAge Smalltalk entities a VisualAge
Pacbase code different from the one automatically computed by the VUP1
procedure.

Use a text editor to perform the modifications.
```
-----------------------------------------------------------
!Pos.! Len.! Value   ! Meaning                     ! (*) !
!----+-----+---------+-----------------------------+-----!
! 55 ! 6  !         ! New code chosen for the entity! R  !
!----+-----+---------+-----------------------------+-----!

(*) R = Required, O = Optional
```

```
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VUP2:   GENERATION OF UPDT TRANSACTIONS                   3
VUP2:   DESCRIPTION OF STEPS                              3
```

8.3.3. VUP2: DESCRIPTION OF STEPS

<u>VUP2: DESCRIPTION OF STEPS</u>

<u>IMPORTANT NOTE</u>

Before running this procedure, you must allocate 1 permanent (non-temporary) file, whose length = 80.

This file will store the update transactions for VisualAge Pacbase. These will be used as input for the UPDT procedure.

To define this file's name, set the value of the MVUPDT parameter.


```
VERIFICATION OF VSAM FILES:  IDCAMS


GENERATION OF VA PAC TRANSACTIONS FOR UPDT:  PVA320

.Input files:
 -Index file
  PAC7AN:  DSN=&INDEX..&ROOT.&FILE.AN
 -Data file
  PAC7AR:  DSN=&INDEX..&ROOT.&FILE.AR
 -Error messages
  PAC7AE:  DSN=&INDEX..&ROOT.&ROOT.AE
 -Useful transactions produced by VisualAge Smalltalk
  (from the workstation)
  PAC7VA:  DSN=&VISUTIL (procedure parameter)
  (&VISUTIL file produced by VUP1)
 -Codes of new VisualAge Smalltalk/Java entities taken into
  account
  PAC7VV:  DSN=&PBCOD (procedure parameter)
  (&PBCOD file produced by VUP1)
 -Codes of VisualAge Smalltalk/Java entities already saved
  in VisualAge Pacbase
  PAC7VC:  DSN=&INDex..&ROOT.&FILE.VC

.Output reports:
 -List of VisualAge Pacbase codes taken into account
  PAC7ET
 -'*'-line check report
  PAC7DD


 -List of input transactions
  PAC7EM
 -List of erroneous transactions
  PAC7ER

.Output files:


 -Transactions for UPDT that include only definitions
  PAC7MY :    DSN=&&VUP2MY
 -Transactions for UPDT other than definitions
  PAC7MX :    DSN=&&VUP2MX

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03
```

CONCATENATION OF TRANSACTIONS FOR UPDT: IEBGENER

.Input files:
 -Transactions on definition files
   SYSUT1: DSN=&&VUP2MY
 -Transactions other than definition files
   SYSUT1: DSN=&INDEX..&ROOT.&FILE.AR

.Output file:
 -Transaction for UPDT
   SYSUT2: DSN=&MVUPDT (paramètre de la procédure)

DELETE of codes extracted from VA Pac: IDCAMS

```
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VUP2:  GENERATION OF UPDT TRANSACTIONS                         3
VUP2:  EXECUTION JCL                                           4
```

8.3.4. VUP2: EXECUTION JCL

```
//***********************************************************************
//*    VA-Pacbase  -  VA-Smalltalk  Bridge
//*    UPLOAD : CREATING TRANSACTIONS FOR VA PAC (UPDT)            *
//***********************************************************************
//$RADP.VUP2 PROC FILE=$FILE,      NUMBER OF THE VA PAC DATABASE
//    ROOT=$ROOT                   ROOT OF VA PAC SYSTEM
//    INDEX='$INDEX',              INDEX OF USER VSAM FILES
//    INDEXP='$INDEXP',            INDEX OF SYSTEM NON-VSAM FILES
//    OUT=$OUT,                    OUTPUT CLASS
//    OUTL=$OUTL,                  OUTPUT CLASS OF REPORTS
//*: VSAMCAT='<>',                 USER VSAM CATALOG
//*: SYSTCAT='<>',                 SYSTEM VSAM CATALOG
//    STEPLIB='$BVMODB',           LOAD-MODULES LIBRARY
//    SORTLIB='$BIBT',             SORT LIBRARY
//    UWK=$UWK,                    WORK UNIT
//    SPAMX='(TRK,(5,1),RLSE)',    SPACE OF FILE 'MX'
//    SPAMY='(TRK,(5,1),RLSE)',    SPACE OF FILE 'MY'
//    CYL=5,                       SPACE OF SORTWORKS
//    VISUTIL=,                    DSN OF FILE FROM VA SMALLTALK
//*                                 CONTAINING ONLY USEFUL TRANSAC.
//    PBCOD=,                      NE VA PAC-CODE FILE DSNAME
//    MVUPDT=,                     DSNAME OF FILE FOR VA PAC UPDATE(UPDT)
//    PSBLIB='$PSBLIB',            LIBRARY OF PSBs
//    DBDLIB='$DBDLIB',            LIBRARY OF DBDs
//    RESLIB='$RESLIB',            IMS RESLIB
//    PROCLIB='$PRCLIB',           IMS PROCLIB
//    BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//    CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//***********************************************************************
//VERIFY EXEC PGM=IDCAMS
//*********************
//SYSPRINT DD SYSOUT=&OUT
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//*********************
//PVA320  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PVA320,PVA320$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//PAC7ET   DD SYSOUT=&OUTL
```

```
   //PAC7EM   DD SYSOUT=&OUTL
   //PAC7ER   DD SYSOUT=&OUTL
   //PAC7DD   DD SYSOUT=&OUTL
   //PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
   //PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
   //PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
   //PAC7VA   DD DSN=&VISUTIL,DISP=SHR
   //PAC7VC DD DSN=&INDEX..&ROOT.&FILE.VC,DISP=SHR
   //PAC7VV DD DSN=&PBCOD,DISP=SHR
   //PAC7MY DD DSN=&&VUP2MY,DISP=(,PASS),UNIT=SYSDA,
   //          SPACE=&SPAMY,DCB=(RECFM=FB,LRECL=80,BLKSIZE=32000)
   //PAC7MX DD DSN=&&VUP2MX,DISP=(,PASS),UNIT=SYSDA,
   //          SPACE=&SPAMX,DCB=(RECFM=FB,LRECL=80,BLKSIZE=32000)
   //IEBGENER EXEC PGM=IEBGENER
   //************************
   //SYSOUT DD SYSOUT=*
   //SYSPRINT DD SYSOUT=*
   //SYSIN DD DUMMY
   //SYSUT1 DD DSN=&&VUP2MY,DISP=SHR
   //       DD DSN=&&VUP2MX,DISP=SHR
   //SYSUT2 DD DSN=&MVUPDT,DISP=SHR
   //*
   //DELETE EXEC PGM=IDCAMS,COND=(8,LE,PVA320)
   //****************************************
   //*:STEPCAT DD DSN=VSAMCAT,DISP=SHR
   //*:           DSN=SYSTCAT,DISP=SHR
   //SYSPRINT DD SYSOUT=&OUT
   //SYSIN DD DSN=&INDEXP..&ROOT.&ROOT.SY(DL&ROOT.&FILE.VC),DISP=SHR
```

8.4. VPUR: PURGE

8.4.1. VPUR: INTRODUCTION

<u>VPUR: INTRODUCTION</u>

The VPUR procedure allows the Database Manager to purge the Database from unused VisualAge Smalltalk/Java entities.

It operates in the following way: It reads the VisualAge Pacbase Database to find out VisualAge Smalltalk/Java entities that are not used, then it suggests a multiple-delete on these entities, sorted in reverse order from the VisualAge Pacbase Database order.

Entities for which deletion is suggested are the following:

> 1. Free Parts that do not belong to any application

> 2. Free Applications that do not contain any:
>   -Archived Application
>   -Child Application
>   -Parent Application

You may specify a list of Library codes and Session numbers in order to restrict the research domain.

<u>EXECUTION CONDITION</u>

None.

<u>ABNORMAL EXECUTION</u>

For details on the abnormal executions, see the Manual 'Batch Procedures : Administrator's Guide', Chapter 'OVERVIEW', Subchapter 'Abnormal Endings'.

8.4.2. VPUR: USER INPUT

VPUR: USER INPUT

1. VisualAge Pacbase Manager definition line:
```
----------------------------------------------------------
!Pos.! Len.! Value   ! Meaning                    ! (*) !
!----+-----+---------+----------------------------+-----!
! 2 ! 1  !   '*'    ! Line code                  ! O  !
!----+-----+---------+----------------------------+-----!
! 3 ! 8  !          ! User code                  ! O  !
!----+-----+---------+----------------------------+-----!
! 11 ! 8  !          ! Password                   !    !
----------------------------------------------------------
```

2. Library- and Session- selection lines:

2.1. Selection of libraries (one line for each selected
     library).
     If no line of this type is entered, all libraries
     will be selected.

```
----------------------------------------------------------
!Pos.! Len.! Value   ! Meaning                    ! (*) !
!----+-----+---------+----------------------------+-----!
! 2 ! 2  !  'SL'    ! Line code                  ! O  !
!----+-----+---------+----------------------------+-----!
! 4 ! 3  !          ! Code of selected library   ! O  !
----------------------------------------------------------
```

2.2. Selection of Sessions (one line for each selected
     session).
     If no line of this typeis entered, all sessions will
     be selected, including the current session.

```
----------------------------------------------------------
!Pos.! Len.! Value   ! Meaning                    ! (*) !
!----+-----+---------+----------------------------+-----!
! 2 ! 2  !  'SS'    ! Line code                  ! O  !
!----+-----+---------+----------------------------+-----!
! 4 ! 5  !          ! Session code and status    ! O  !
! ! !     ! ! (current session:  9999Z)    !    !
----------------------------------------------------------
```

(*) O = Required

                                              DEPIM003251A

8.4.3. VPUR: DESCRIPTION OF STEPS

<u>VPUR: DESCRIPTION OF STEPS</u>

<u>VERIFICATION OF VSAM FILES: IDCAMS</u>

<u>TRANSACTION RECOGNITION: PTU001</u>

<u>GENERATION OF PURGE TRANSACTIONS: PVA400</u>

```
.Input files:
 -Index file
  PAC7AN:  DSN=&INDEX..&ROOT.&FILE.AN
 -Data file
  PAC7AR:  DSN=&INDEX..&ROOT.&FILE.AR
 -Error messages
  PAC7AE:  DSN=&INDEX..&ROOT.&ROOT.AE
 -User input
  PAC7MB:  DSN=&&VPURMB

.Output reports and file:
 -List of user input
  PAC7ET
 -'*'-line check report
  PAC7DD
 -Generated purge-transactions
  PAC7MX

.Sort file(s):
 SORTWK01
 SORTWK02
 SORTWK03
```

8.4.4. VPUR: EXECUTION JCL

```
//****************************************************************************
//*    VA-Pacbase  -  VA-Smalltalk  Bridge
//*     DELETE                                                              *
//****************************************************************************
//$RADP.VPUR PROC FILE=$FILE,    NUMBER OF THE VA PAC PHYSICAL DATABASE
//    ROOT=$ROOT,                ROOT OF THE VA PAC SYSTEM
//    INDEX='$INDEX',            INDEX OF VA PAC USER VSAM FILES
//    INDEXP='$INDEXP',          INDEX OF NON-VSAM SYSTEM FILE
//    OUT=$OUT,                  OUTPUT CLASS
//    OUTL=$OUTL,                OUTPUT CLASS OF REPORTS
//*: VSAMCAT='<>',               USER VSAM CATALOG
//*: SYSTCAT='<>',               SYSTEM VSAM CATALOG
//    STEPLIB='$BVMODB',         LOAD-MODULES LIBRARY
//    SORTLIB='$BIBT',           SORT LIBRARY
//    UWK=$UWK,                  WORK UNIT
//    SPAMB='(TRK,(5,1))',       SPACE OF THE MB FILE
//    PSBLIB='$PSBLIB',          LIBRARY OF PSBs
//    DBDLIB='$DBDLIB',          LIBRARY OF DBDs
//    RESLIB='$RESLIB',          IMS RESLIB
//    PROCLIB='$PRCLIB',         IMS PROCLIB
//    CYL=5,                     SPACE OF SORTWORKS
//****************************************************************************
//    BUF=40,SPIE=0,TEST=0,EXCPVR=0,RST=0,PRLD=,SRCH=0,
//    CKPTID=,MON=N,LOGA=0,FMTO=T,DBRC=$DBRC,IRLM=$IRLM
//VERIFY EXEC PGM=IDCAMS
//*********************
//SYSPRINT DD SYSOUT=&OUT
//DDAN     DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//DDAR     DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//DDAE     DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//SYSIN    DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAN),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAR),DISP=SHR
//         DD DSN=&INDEXP..&ROOT.&ROOT.SY(VERIFAE),DISP=SHR
//INPUT  EXEC PGM=PTU001
//*********************
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//CARTE    DD DDNAME=SYSIN
//PAC7MB   DD DSN=&&VPURMB,DISP=(,PASS),
//            UNIT=&UWK,SPACE=&SPAMB,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=3440)
//*********************
//PVA400  EXEC PGM=DFSRRC00,REGION=$REGSIZ,
//        PARM=(DLI,PVA400,PVA400$SUG,&BUF,
//        &SPIE&TEST&EXCPVR&RST,&PRLD,
//        &SRCH,&CKPTID,&MON,&LOGA,&FMTO,,,&DBRC,&IRLM)
//STEPLIB  DD DSN=&RESLIB,DISP=SHR
//         DD DSN=&STEPLIB,DISP=SHR
//DFSRESLB DD DSN=&RESLIB,DISP=SHR
//IMS      DD DSN=&PSBLIB,DISP=SHR
//         DD DSN=&DBDLIB,DISP=SHR
//*:STEPCAT DD DSN=&SYSTCAT,DISP=SHR
//*:        DD DSN=&SYSTCAT,DISP=SHR
//SYSOUT   DD SYSOUT=&OUT
//SYSOUX   DD SYSOUT=&OUT
//DDSNAP   DD SYSOUT=&OUT
//PROCLIB  DD DSN=&PROCLIB,DISP=SHR
//IEFRDER  DD DUMMY,
//            DCB=(RECFM=VB,BLKSIZE=1920,LRECL=1916,BUFNO=2)
//SYSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSUDUMP DD SYSOUT=&OUT,DCB=(RECFM=FBA,LRECL=121,
//            BLKSIZE=605),SPACE=(605,(500,500),RLSE,,ROUND)
//IMSMON   DD DUMMY
//DFSVSAMP DD DSN=&INDEXP..&ROOT.&ROOT.SY(DFSVSAM8),DISP=SHR
//SORTLIB  DD DSN=&SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//SORTWK02 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
```

```
//SORTWK03 DD UNIT=&UWK,SPACE=(CYL,&CYL,,CONTIG)
//PAC7AE$SUF DD DSN=&INDEX..&ROOT.&ROOT.AE,DISP=SHR
//PAC7AR$SUF DD DSN=&INDEX..&ROOT.&FILE.AR,DISP=SHR
//PAC7AN$SUF DD DSN=&INDEX..&ROOT.&FILE.AN,DISP=SHR
//PAC7MB   DD DSN=&&VPURMB,DISP=SHR
//PAC7MX   DD DSN=&&VPURMX,DISP=(,PASS),UNIT=SYSDA,
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=1600),
//            SPACE=(TRK,(10,5),RLSE)
//PAC7ET   DD SYSOUT=&OUTL
//PAC7DD   DD SYSOUT=&OUTL
===SEQ FOR PACTR
```