VisualAge Pacbase 2.5

VA PAC 2.5 : IBM DOS/VSE
OPERATIONS MANUAL VOLUME III: USER'S GUIDE

DEPDO003251A

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TABLE OF CONTENTS

1. GENERAL INTRODUCTION TO BATCH PROCEDURES

1.1. INTRODUCTION TO 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/VisualAge Pacbase Bridge

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

1.2. PRESENTATION OF THE PROCEDURES

PRESENTATION OF THE PROCEDURES

The BATCH processes are regrouped into procedures. The objective of the following chapters is to present each of the procedures that is 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'.

1.3. USER IDENTIFICATION (*)

USER IDENTIFICATION '*' LINE

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 transations 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 generating 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 only 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

UPDT: INTRODUCTION

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).

EXECUTION CONDITION

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.

IMPORTANT NOTES

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.

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 transactions are not in the same language as the database.
		'A'	English
		'F'	French
67	1	'N'	Uppercase/lowercase conversion suppression.

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).

2.1.3. UPDT: DESCRIPTION OF STEPS

UPDT: DESCRIPTION OF STEPS

```
TRANSACTION RECOGNITION:  PTU001

DATABASE CONSISTENCY CHECK:  PTUBAS

.Permanent input files:
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Output report
 -Validity report (Length=079)
                             SYS005

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

TRANSACTION FORMATTING: PACA05

```
.Permanent input files:
 -Data file
   PAC7AR  :  Physical name : $PXU..$PRO.$PFI.AR
 -Index File
   PAC7AN  :  Physical name : $PXU..$PRO.$PFI.AN
 -Error message file
   PAC7AE  :  Physical name : $PXY..$PRO.$PRO.AE

.Input transaction file:
 -Update transactions
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output files:
 -Formatted transactions
   PAC7MV  :  Physical name = $XW..W$MODUL..MV
  (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  :  Physical name = $XW..W$MODUL..MW
```

DATABASE UPDATE: PACA15

```
.Permanent update files:
 -Data file
   ARLSR   :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
   ANLSR   :  Physical name = $PXU..$PRO.$PFI.AN
 -Journal file
   PAC7AJ  :  Physical name : $PXU..$PRO.$PFI.AJ

.Permanent input files:
 -Error message file
   PAC7AE  :  Physical name : $PXY..$PRO.$PRO.AE
 -DSMS file of VA Pac elements
   PAC7DC  :  Physical name = $DSMS.DC
  (DSM variant only)

.Input transaction file:
 -Update transactions
   PAC7MV  :  Physical name = $XW..W$MODUL..MV

.Output report(s):
 -Update report
                             SYS005
 -Erroneous-transaction list
                             SYS007
 (The list of transactions belonging to a user is preceded
 by a banner specifying the user code.)

. Return code :
  . 0  : OK
  . 2  : Error 'Warning'
  . 4  : Fatal error
```

2.1.4. UPDT: EXECUTION JCL

```
===MOD UPDT
* $X JOB JNM=$PRFJ.UPDT,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.UPDT        ****** $PROD $PREL ******
*            UPDATE OF THE DATABASE
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST00
* --- STEP 00 --- PTUBAS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// ON $RC GE 0 GOTO $EOJ
// EXEC PTUBAS,SIZE=AUTO
/*
// ON $RC<16 CONTINUE
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MV --- */
 DEL                  ($XW..W$MODUL..MV) CL
 DEF CL         (NAME ($XW..W$MODUL..MV) -
                 MODEL($MODELF) -
                 REC  (1000 500) -
                 RECSZ(165 165) -
                 RECFM(FB(165)) -
      ) DATA    (NAME ($XW..W$MODUL..MV.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MW --- */
 DEL                  ($XW..W$MODUL..MW) CL
 DEF CL         (NAME ($XW..W$MODUL..MW) -
                 MODEL($MODELF) -
                 REC  (1000 500) -
                 RECSZ(165 165) -
                 RECFM(FB(165)) -
      ) DATA    (NAME ($XW..W$MODUL..MW.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
/*
/. JCLST03
* --- STEP 03 --- PACA05
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// DLBL PAC7MV,'$XW..W$MODUL..MV',,VSAM
// DLBL PAC7MW,'$XW..W$MODUL..MW',,VSAM
// EXEC PACA05,SIZE=AUTO
/. JCLST04
* --- STEP 04 --- PACA15
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AJ,'$PXU..$PRO.$PFI.AJ',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
===SEQ FOR DSM
// DLBL DSVCT,'$VCAD',,VSAM
// DLBL PAC7DC,'$DSMS.DC',,VSAM,CAT=DSVCT
===SEQ
// DLBL PAC7MV,'$XW..W$MODUL..MV',,VSAM,DISP=(,DELETE,KEEP)
// EXEC PACA15,SIZE=AUTO
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEL                  ($XW..W$MODUL..MV)    CL
 DEL                  ($XW..W$MODUL..MW)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
```

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 'F'	Language code, useful if the 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 processed between two pauses or checkpoints
16	4	'UPDT'	Update procedure
20	2	nn	OS/2, UNIX, WINDOWS NT: Pause time, in seconds, between 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

UPDP: DESCRIPTION OF STEPS

```
DATABASE CONSISTENCY CHECK:  PTUBAS

.Permanent input files:
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Output report
 -Validity report (Length=079)
                             SYS005

. Return code :
  . 0  : OK
  . 12 : System error

TRANSACTION FORMATTING:  PAF900

.Permanent input files:
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index File
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Error message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Input transaction file:
 -Update transactions
   PAC7GY  :  Physical name = $XW..W$MODUL..INPUT

.Output files:
 -Formatted transactions
   PAC7MV  :  Physical name = $XW..W$MODUL..MV
  (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  :  Physical name = $XW..W$MODUL..MW
```

```
DATABASE UPDATE:  PACA15

.Permanent update files:
 -Data file
   ARLSR   :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
   ANLSR   :  Physical name = $PXU..$PRO.$PFI.AN
 -Journal file
   PAC7AJ  :  Physical name : $PXU..$PRO.$PFI.AJ

.Permanent input files:
 -Error message file
   PAC7AE  :  Physical name : $PXY..$PRO.$PRO.AE
 -DSMS file of VA Pac elements
   PAC7DC  :  Physical name = $DSMS.DC
  (DSM variant only)

.Input transaction file:
 -Update transactions
   PAC7MV  :  Physical name = $XW..W$MODUL..MV

.Output report(s):
 -Update report
                             SYS005
 -Erroneous-transaction list
                             SYS007
 (The list of transactions belonging to a user is preceded
 by a banner specifying the user code.)

. Return code :
  . 0  : OK
  . 2  : Error 'Warning'
  . 4  : Fatal error
```

2.2.4. UPDP: EXECUTION JCL

```
===MOD UPDP
* $X JOB JNM=$PRFJ.UPDP,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ************************************************************
// JOB $PRFJ.UPDP        ****** $PROD $PREL ******
*           BATCH UPDATE FROM PAF TABLES
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST00
* --- STEP 00 --- PTUBAS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// ON $RC GE 0 GOTO $EOJ
// EXEC PTUBAS,SIZE=AUTO
/*
// ON $RC<16 CONTINUE
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE TEMPORARY FILE     MV --- */
 DEL                  ($XW..W$MODUL..MV) CL
 DEF CL         (NAME ($XW..W$MODUL..MV) -
                 MODEL($MODELF) -
                 REC  (1000 500) -
                 RECSZ(165 165) -
                 RECFM(FB(165)) -
      ) DATA    (NAME ($XW..W$MODUL..MV.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MW --- */
 DEL                  ($XW..W$MODUL..MW) CL
 DEF CL         (NAME ($XW..W$MODUL..MW) -
                 MODEL($MODELF) -
                 REC  (1000 500) -
                 RECSZ(165 165) -
                 RECFM(FB(165)) -
      ) DATA    (NAME ($XW..W$MODUL..MW.D) )
/*
/. JCLST02
* --- STEP 02 --- PAF900
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7GY,'$XW..W$MODUL..GY',,VSAM
// DLBL PAC7MV,'$XW..W$MODUL..MV',,VSAM
// DLBL PAC7MW,'$XW..W$MODUL..MW',,VSAM
// EXEC PAF900,SIZE=AUTO
/. JCLST03
* --- STEP 03 --- PACA15
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AJ,'$PXU..$PRO.$PFI.AJ',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
===SEQ FOR DSM
// DLBL DSVCT,'$VCAD',,VSAM
// DLBL PAC7DC,'$DSMS.DC',,VSAM,CAT=DSVCT
===SEQ
// DLBL PAC7MV,'$XW..W$MODUL..MV',,VSAM,DISP=(,DELETE,KEEP)
// EXEC PACA15,SIZE=AUTO
/. STEPEND
* --- STEP 04 --- IDCAMS
```

```
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..MV)    CL
 DEL                  ($XW..W$MODUL..MW)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
```

2.3. GPRT: GENERATION AND PRINTING

2.3.1. GPRT: INTRODUCTION

GPRT: INTRODUCTION

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)
```

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

The files may remain open, except where it was required that the on-line requests be taken into account vie the ' +AG' command. In this case, the Generation-Print Request file (AG) must have been closed.

ABNORMAL EXECUTION

Refer to subchapter "ABNORMAL EXECUTION", in chapter "DESCRIPTION OF PROCEDURES".

Several types of abnormal executions may occur (besides those related to the file size):

. RECORD NOT FOUND (STATUS 23 on Data file AR).

This happens when the file is physically disorganized (for example, a large number of splits in VSAM): records just created cannot be read. An immediate solution is to execute a CLOSE/OPEN on the database files and to resubmit the GPRT procedure after revalidation of the genera- tion-print requests, if they come from the corresponding AG file. Another solution is to physically reorganize the database files via a 'REPRO' with a utility. However, the long-term solution is to introduce empty records into the Data file. (See chapter "DATABASE RESTORATION").

. OPEN on an opened file (STATUS 93 on the Generation-Print Request file (AG)).

This means that this file was not closed at the on-line level and that the batch input expects the requests stored here to be taken into account ('+AG'). Restart the procedure after closing the file.

. Status 34 on one of the temporary files. There is not enough space allocated to this file. Re-run job DEFI after modification of the DEFINE CLUSTER of this file and resubmit the GPRT procedure.

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 an 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.

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.

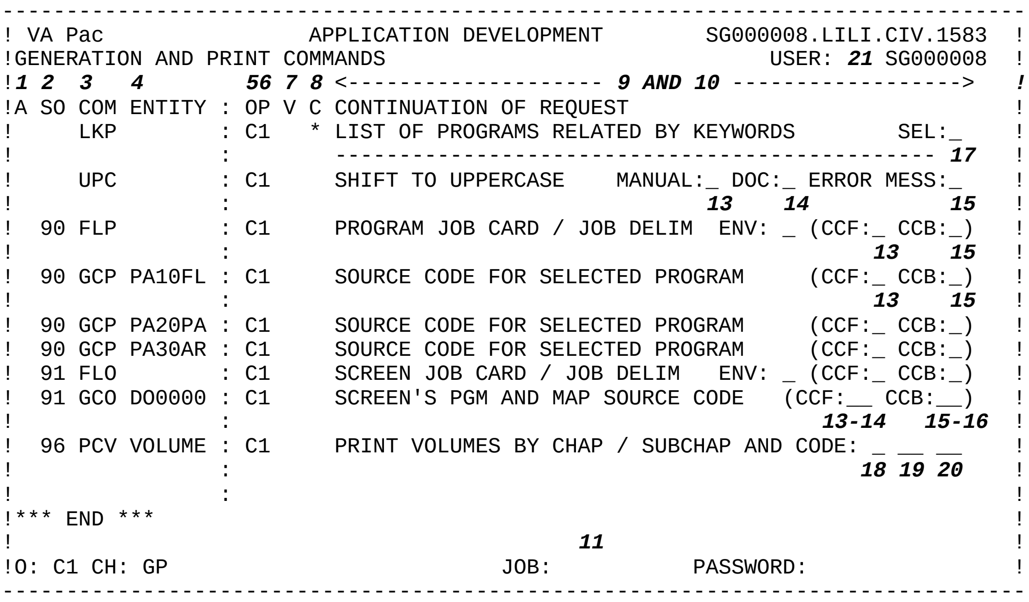
Furthermore, the print name contains a slection field in which the user can specify whether the selection is to be made:

. On the whole set of keywords (SPACE),

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

. On explicit keywords (M).

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:                  !
 --------------------------------------------------------------------------------
 --------------------------------------------------------------------------------
 ! 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:                  !
 --------------------------------------------------------------------------------
```

```
--------------------------------------------------------------------------------
! 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:               !
--------------------------------------------------------------------------------
```

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 thesaurus 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 keywords 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 Pacbase.
			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 Specifications 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".

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 specified 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 parameters 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.

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.

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.

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 user entities description for 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 code.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		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.
			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) 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)

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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.
			SHIFT TO UPPERCASE ------------------
		UPC	This command allows for the automatic transformation

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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 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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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 ASSIGNED 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
			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

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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 CONTINUATION LINE fields. - With the 'C4' screen format option, the user can enter 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 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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			- 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 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.

NUM	LEN	CLASS VALUE S	DESCRIPTION OF FIELDS AND FILLING MODE 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, "DATABASE MANAGEMENT" chapter in the USER'S Reference Manual.
		$	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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		1 0	YES. NO (Default option).
15	1	 1 0	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. YES. 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	 blank L M	SELECTION OF KEYWORD TYPE Selection on both implicit and explicit keywords. Selection on implicit keywords only. Selection on explicit keywords only.
18	1	 blank C S	VOLUME SELECTION FOR PRINTING Print the whole volume. Print the selected chapter. 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.

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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

GPRT : DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

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 USER'S Reference Manual, chapter "DATABASE MANAGEMENT", subchapter "OPTIONAL CONTROL CARDS UPDATING").

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

2.3.7. GPRT: EXECUTION JCL

```
===MOD GPRT
* $X JOB JNM=$PRFJ.GPRT,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST3$PWL
/* ************************************************************
// JOB $PRFJ.GPRT        ****** $PROD $PREL ******
*          STREAM PROCESSING  -  INPUT OF 'GPRT'
/* ************************************************************
// OPTION $OPT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
// ASSGN SYS003,$LST3 3TRD PRINTER L.U.
// ASSGN SYS025,SYSPCH
* $X SLI MEM=GPRT$PRO.$PFI..$SLIT
* $X DATA GPRTDATA
                      <-------------------------- STREAM
/*
// EXEC LISTLOG
/&
* $X EOJ
```

```
===MOD 2GPR
* $X JOB JNM=$PRFJ.2GPR,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.2GPR     ****** $PROD $PREL ******
/* ************************************************************
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// DLBL $LSLI,'$SLIL',,VSAM
// EXEC LIBR,PARM='AC S=$LSLI$SLIS;CA GPRT$PRO$PFI..$SLIT R=Y'
/* ************************************************************
*           GENERATION AND PRINTING
/* ************************************************************
* $P SLI MEM=DBJB$PRO.$PFI..$SLIT
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..WGPRT.INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
* $X DATA GPRTDATA
/*
/. JCLST03
* --- STEP 03 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL OUT,'$XW..WGPRT.SYSPAF',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (SYSIPT) RUS
999999999999
/*
/. JCLST04
* --- STEP 04 --- PACB
// DLBL IJSYSUC,'$VCAP',,VSAM
===SEQ FOR PEI
// DLBL PAC7AB,'$PXU..$PRO.$PFI.AB',,VSAM
// DLBL PAC7AC,'$PXU..$PRO.$PFI.AC',,VSAM
===SEQ
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AG,'$PXU..$PRO.$PFI.AG',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AP,'$PXY..$PRO.$PRO.AP',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7EB,'$XW..WGPRT.EB',,VSAM
// DLBL PAC7EE,'$XW..WGPRT.EE',,VSAM
// DLBL PAC7EG,'$XW..WGPRT.EG',,VSAM
// DLBL PAC7EN,'$XW..WGPRT.EN',,VSAM
// DLBL PAC7EP,'$XW..WGPRT.EP',,VSAM
// DLBL PAC7EQ,'$XW..WGPRT.EQ',,VSAM
// DLBL PAC7ER,'$XW..WGPRT.ER',,VSAM
// DLBL PAC7EV,'$XW..WGPRT.EV',,VSAM
// DLBL PAC7GI,'$XW..WGPRT.GI',,VSAM
// DLBL PAC7GK,'$PXU..SEQ.$PRO$PFI..GK',,VSAM
// DLBL PAC7GL,'$PXU..SEQ.$PRO$PFI..GL',,VSAM
// DLBL PAC7GM,'$XW..WGPRT.GM',,VSAM
// DLBL PAC7GN,'$XW..WGPRT.GN',,VSAM
// DLBL PAC7GO,'$XW..WGPRT.GO',,VSAM
// DLBL PAC7GS,'$PXU..$PRO.$PRO.GS',,VSAM
// DLBL PAC7GT,'$XW..WGPRT.GT',,VSAM
// DLBL PAC7G6,'$XW..WGPRT.G6',,VSAM
// DLBL PAC7JG,'$XW..WGPRT.JG',,VSAM
// DLBL PAC7KB,'$XW..WGPRT.KB',,VSAM
// DLBL PAC7KD,'$XW..WGPRT.KD',,VSAM
// DLBL PAC7KE,'$XW..WGPRT.KE',,VSAM
// DLBL PAC7KF,'$XW..WGPRT.KF',,VSAM
// DLBL PAC7KG,'$XW..WGPRT.KG',,VSAM
// DLBL PAC7KM,'$XW..WGPRT.KM',,VSAM
// DLBL PAC7KN,'$XW..WGPRT.KN',,VSAM
// DLBL PAC7KP,'$XW..WGPRT.KP',,VSAM
// DLBL PAC7KQ,'$XW..WGPRT.KQ',,VSAM
// DLBL PAC7KR,'$XW..WGPRT.KR',,VSAM
// DLBL PAC7KS,'$XW..WGPRT.KS',,VSAM
// DLBL PAC7KU,'$XW..WGPRT.KU',,VSAM
// DLBL PAC7KV,'$XW..WGPRT.KV',,VSAM
// DLBL PAC7LG,'$PXU..SEQ.$PRO$PFI..OLDGL',,VSAM
// DLBL PAC7LI,'$XW..WGPRT.LI',,VSAM
// DLBL PAC7LK,'$PXU..SEQ.$PRO$PFI..OLDGK',,VSAM
// DLBL PAC7ME,'$XW..WGPRT.INPUT',,VSAM
// DLBL PAC7MG,'$XW..WGPRT.MG',,VSAM
// DLBL PAC7SC,'$PXY..$PRO.$PRO.SC',,VSAM
// DLBL PAC7SG,'$PXY..$PRO.$PRO.SG',,VSAM
// DLBL PAC7SO,'$XW..WGPRT.SO',,VSAM
// DLBL PAC7SR,'$PXY..$PRO.$PRO.SR',,VSAM
// DLBL PAC7SS,'$PXY..$PRO.$PRO.SS',,VSAM
// DLBL PAC7W1,'$XW..WGPRT.W1',,VSAM
// DLBL PAC7W2,'$XW..WGPRT.W2',,VSAM
// DLBL PAC7W3,'$XW..WGPRT.W3',,VSAM
// DLBL PAC7W4,'$XW..WGPRT.W4',,VSAM
// DLBL PAC7W5,'$XW..WGPRT.W5',,VSAM
// DLBL PAC7W6,'$XW..WGPRT.W6',,VSAM
// DLBL PAC7W7,'$XW..WGPRT.W7',,VSAM
// DLBL PAC7W8,'$XW..WGPRT.W8',,VSAM
// DLBL PAC7W9,'$XW..WGPRT.W9',,VSAM
// DLBL SY8PAF,'$XW..WGPRT.SYSPAF',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PACB,SIZE=(PACE80,250K)
/. JCLST05
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7EB,'$XW..WGPRT.EB',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EE,'$XW..WGPRT.EE',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EG,'$XW..WGPRT.EG',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EN,'$XW..WGPRT.EN',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EP,'$XW..WGPRT.EP',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EQ,'$XW..WGPRT.EQ',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7ER,'$XW..WGPRT.ER',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EV,'$XW..WGPRT.EV',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7GI,'$XW..WGPRT.GI',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7GM,'$XW..WGPRT.GM',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7GN,'$XW..WGPRT.GN',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7JG,'$XW..WGPRT.JG',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KB,'$XW..WGPRT.KB',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KD,'$XW..WGPRT.KD',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KE,'$XW..WGPRT.KE',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KF,'$XW..WGPRT.KF',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KG,'$XW..WGPRT.KG',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KM,'$XW..WGPRT.KM',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KN,'$XW..WGPRT.KN',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KP,'$XW..WGPRT.KP',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KQ,'$XW..WGPRT.KQ',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KR,'$XW..WGPRT.KR',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KS,'$XW..WGPRT.KS',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KU,'$XW..WGPRT.KU',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KV,'$XW..WGPRT.KV',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7LI,'$XW..WGPRT.LI',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7ME,'$XW..WGPRT.INPUT',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7MG,'$XW..WGPRT.MG',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W1,'$XW..WGPRT.W1',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W2,'$XW..WGPRT.W2',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W3,'$XW..WGPRT.W3',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W4,'$XW..WGPRT.W4',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W6,'$XW..WGPRT.W6',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W7,'$XW..WGPRT.W7',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W8,'$XW..WGPRT.W8',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W9,'$XW..WGPRT.W9',,VSAM,DISP=(,DELETE,DELETE)
// DLBL SY8PAF,'$XW..WGPRT.SYSPAF',,VSAM,DISP=(,DELETE,DELETE)
// EXEC IDCAMS,SIZE=AUTO
 VERIFY FILE (PAC7EB)
 VERIFY FILE (PAC7EE)
 VERIFY FILE (PAC7EG)
 VERIFY FILE (PAC7EN)
 VERIFY FILE (PAC7EP)
 VERIFY FILE (PAC7EQ)
 VERIFY FILE (PAC7ER)
 VERIFY FILE (PAC7EV)
 VERIFY FILE (PAC7GI)
 VERIFY FILE (PAC7GM)
 VERIFY FILE (PAC7GN)
 VERIFY FILE (PAC7JG)
 VERIFY FILE (PAC7KB)
 VERIFY FILE (PAC7KD)
 VERIFY FILE (PAC7KE)
 VERIFY FILE (PAC7KF)
 VERIFY FILE (PAC7KG)
 VERIFY FILE (PAC7KM)
 VERIFY FILE (PAC7KN)
 VERIFY FILE (PAC7KP)
 VERIFY FILE (PAC7KQ)
 VERIFY FILE (PAC7KR)
 VERIFY FILE (PAC7KS)
 VERIFY FILE (PAC7KU)
 VERIFY FILE (PAC7KV)
 VERIFY FILE (PAC7ME)
 VERIFY FILE (PAC7MG)
 VERIFY FILE (PAC7LI)
 VERIFY FILE (PAC7W1)
 VERIFY FILE (PAC7W2)
 VERIFY FILE (PAC7W3)
 VERIFY FILE (PAC7W4)
 VERIFY FILE (PAC7W6)
 VERIFY FILE (PAC7W7)
 VERIFY FILE (PAC7W8)
 VERIFY FILE (PAC7W9)
 VERIFY FILE (SY8PAF)
/*
/. JCLST06
* --- STEP 06 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL IN,'$PXU..SEQ.$PRO$PFI..GL',,VSAM
// DLBL OUT,'$PXU..SEQ.$PRO$PFI..OLDGL',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (IN) RUS
/*
/. JCLST07
* --- STEP 07 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL IN,'$PXU..SEQ.$PRO$PFI..GK',,VSAM
// DLBL OUT,'$PXU..SEQ.$PRO$PFI..OLDGK',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (IN) RUS
/*
/+
/&
* $X EOJ
```

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.

2.3.9. EMLD: LOADING OF USER-DEFINED ERROR MESSAGES
2.3.9.1. EMLD: INTRODUCTION

EMLD: LOADING OF USER-DEFINED ERROR MESSAGES

EMLD: INTRODUCTION

The EMLD procedure performs the initial loading of user- defined error messages. These messages are obtained from the sequential output file of the GPRT procedure (file with the GL suffix).

EXECUTION CONDITION

The GPRT procedure must first be run with an error message generation request.

Batch procedure authorization option: Required authorization level is 2.

USER INPUT

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

2.3.10. EMLD: DESCRIPTION OF STEPS

EMLD: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

INDEXED LOADING OF USER-DEFINED ERROR MESSAGES: PACL93

```
.Input files:
 -Input transactions
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT
 -Sequential user-defined error messages
   PAC7GL  :  Physical name = $PXU..SEQ.$PRO$PFI..GL
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -VisualAge Pacbase error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Permanent output file:
 -User-defined error messages, indexed
   PAC7EM  :  Physical name = $PXU..$PRO.$PFI.EM

.Output reports:
 -Execution report
                           SYS005
 -Batch-procedure authorization option
                           SYS007
```

2.3.11. EMLD: EXECUTION JCL

```
===MOD EMLD
* $X JOB JNM=$PRFJ.EMLD,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ************************************************************
// JOB $PRFJ.EMLD        ****** $PROD $PREL ******
*       LOADING OF USER DEFINED ERROR MESSAGES
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
     /* ------ DELETE-DEFINE FICHIER EM ------- */
     DEL ($PXU..$PRO$PFI.EM) CL CAT($VCAP)
     DEF CLUSTER  (NAME ($PXU..$PRO$PFI.EM) -
                  SHR(2)     KEYS(17 0)-
                  REC(1000 1000)   RECSZ(90 90)  -
       ) INDEX    (NAME ($PXU..$PRO$PFI.EM.I) -
                  VOL($VOLPUX) -
       ) DATA     (NAME ($PXU..$PRO$PFI.EM.D) -
                  FSPC(10 5) CISZ(4096) VOL($VOLPUD)-
       ) CATALOG  ($VCAP)
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
  *USER    PASSWORD
/*
/. JCLST03
* --- STEP 03 --- PACL93
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7EM,'$PXU..$PRO.$PFI.EM',,VSAM
// DLBL PAC7GL,'$PXU..SEQ.$PRO$PFI..GL',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// EXEC PACL93,SIZE=AUTO
  /* ------ DELETE-DEFINE FILE    EM ------- */
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
```

2.3.12. EMUP: UPDATE OF USER-DEFINED ERROR MESSAGES
2.3.12.1. EMUP: INTRODUCTION

EMUP: UPDATE OF USER-DEFINED ERROR MESSAGES

EMUP: INTRODUCTION

The EMUP procedure updates the User-Defined Error Message file. These messages are obtained from the sequential output file of the GPRT procedure (file with a GL suffix) or from transactions for error message deletions at the entity level.

EXECUTION CONDITION

The User-Defined Error Message file must exist.

Before creating or modifying error messages, the GPRT procedure must be executed with a request to generate error messages.

Batch procedure access authorization option: Level 2 is required.

2.3.13. EMUP: USER INPUT

EMUP : USER INPUT

A line '*' per library containing entities which message(s) must be deleted:

Pos.	Len.	Value	Meaning
2	1	'*'	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	User password
19	3	bbb	Library code

One command line per entity for which error message deletion is requested:

POS.	LEN.	VALUE	MEANING
1	1	'D'	Transaction code (deletion)
2	2		Entity type; same as in CHOICE field
		'O '	Screen
		'D '	Data structure
		'S '	Segment
4	6		Entity code

2.3.14. EMUP: DESCRIPTION OF STEPS

EMUP: DESCRIPTION OF STEPS

```
TRANSACTION RECOGNITION:  PTU001


UPDATE OF USER-DEFINED ERROR MESSAGES: PACL92

.Input files:
 -Sequential user-defined error messages
   PAC7GL  :  Physical name = $PXU..SEQ.$PRO$PFI..GL
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -VisualAge Pacbase error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Transaction file
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Permanent output file:
 -User-defined error message indexed file
   PAC7EM  :  Physical name = $PXU..$PRO.$PFI.EM

.Output reports:
 -Transaction report
                            SYS005
 -Error message report
                            SYS007
 -Batch-procedure authorization option
                            SYS003
```

2.3.15. EMUP: EXECUTION JCL

```
===MOD EMUP
* $X JOB JNM=$PRFJ.EMUP,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST3$PWL
/* ************************************************************
// JOB $PRFJ.EMUP        ****** $PROD $PREL ******
* *                UPDATE OF USER DEFINED ERROR MESSAGES
*        UPDATE OF USER DEFINED ERROR MESSAGES
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
// ASSGN SYS003,$LST3 3TRD PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORD
/*
/. JCLST03
* --- STEP 03 --- PACL92
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7EM,'$PXU..$PRO.$PFI.EM',,VSAM
// DLBL PAC7GL,'$PXU..SEQ.$PRO$PFI..GL',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// EXEC PACL92,SIZE=AUTO
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
```

2.3.16. PPAF: PAF PRE-PROCESSOR
2.3.16.1. 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.

2.3.17. PPAF: USER INPUT

PPAF: USER INPUT

USER INPUT

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

EXAMPLES

```
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.

PRINTED OUTPUT

This procedure prints an error report.

RESULT

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.

2.3.18. PPAF: DESCRIPTION OF STEPS

PPAF: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

PRE-COMPILATION : PAFP10

```
.Permanent input files:
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Error message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Input file:
 -Generated programs
   PAF80   :  Physical name = $XW..W$MODUL..INPUT
   Add possible 'CBL' cards.

.Output files:
 -Generated programs to be compiled
   COB80   :  COBOL source
   This file can only be allocated under VSAM SPACE MGMT
   if it is not to be retrieved as input for SYSIPT
              Blocksize=80 recsize=80 Fixed Format
              Access method   SAM  SYS015  Unit =3380

.Output report:
 -Execution report
                             SYS005
```

COBOL COMPILATION AND LINK EDITION

This procedure's subsequent operations may be customized according to operations standards is unse on the site. However, the following should be noted:

- To use the procedure as is, it is necessary to specify one of the following parameter codes in the generator request card:

'1' - Host library for the function,

'3' - Host sub-library (VSE) for the function.

2.3.19. PPAF: EXECUTION JCL

```
NCD200/* COMPILATION OF A COBOL BATCH PROGRAM WITH PAF (TOP)
NCD210* $X JOB JNM=$PRFJ.COB2,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'
NCD212* $X LST CLASS=$PCL,DISP=$PDL.$PWL
NCD219// JOB COB2 COMPIL COBOL WITH PAF (-/-/- OF -)$Y   PAGD -
NCD220* - : -                                       $Y   SR   -
NCD225// OPTION $OPT
NCD240* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
NCD248// OPTION CATAL
NCD250 PHASE -,*                                    $Y   P    -
NCD255 MODE RMODE(ANY)
NCD260// DLBL LUSER,'-',,VSAM                       $Y   1    -
NCD283// LIBDEF PHASE,CATALOG=LUSER.-               $Y   2    -
NCD290* $X SLI MEM=PAFB$PRO.$PFI..$SLIT
NCD293* $X DATA INPUT
NCF200/* COMPILATION OF A BATCH PROGRAM WITH PAF (BOTTOM)
NCF299* $X EOJ
NCD700/* ON-LINE PROGRAM COMPILE WITH PAF (BEFORE)
NCD710* $X JOB JNM=$PRFJ.COB7,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'
NCD712* $X LST CLASS=$PCL,DISP=$PDL.$PWL
NCD719// JOB COB7 COBOL COMPIL WITH PAF (-/-/- LE -)$Y   PAGD -
NCD720* - : -                                       $Y   SR   -
NCD725// OPTION $OPT
NCD740* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
NCD748// OPTION CATAL
NCD750 PHASE -,*                                    $Y   P    -
NCD760// DLBL LUSER,'-'                             $Y   1    -
NCD783// LIBDEF PHASE,CATALOG=LUSER.-               $Y   2    -
NCD790* $X SLI MEM=PAFT$PRO.$PFI..$SLIT
NCD793* $X DATA INPUT
NCF700/* ON-LINE PROGRAM COMPILATION WITH PAF (AFTER)
NCF799* $X EOJ
```

2.4. PACX: EXTRACTION FROM THE VA PAC DATABASE

2.4.1. PACX: INTRODUCTION

PACX: INTRODUCTION

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.)
```

EXECUTION CONDITION

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:

- EXTR: Extraction of entities
- EXLI: Extraction of libraries or library sub-networks
- 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)

IMPORTANT:

- 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.

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.

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

EXLI: USER INPUT

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

PRINTED OUTPUT

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

EXTR: ENTITY EXTRACTION

EXTR: INTRODUCTION

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.

EXECUTION CONDITION

None, since the database is not directly updated.

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

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	Choix	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 character 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)

Second line (continuation line for selections and exceptions):

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.

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.

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.

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.

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.

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 definition screens:
		'U'	In the indicated library only
		'Z'	In the indicated library and corresponding 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

RMEN: ENTITY RENAMING / MOVING

RMEN: INTRODUCTION

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.

EXECUTION CONDITION

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 occurrences of a UE or all Segments or Reports of a Data Structure
35	3		For extraction of WorkStation entities: methodology code
		'//A'	SSADM
		'//M'	PACMODEL
		'//D'	YSM

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

EXTRACTION: PACX

This step extracts transactions according to user input.

```
.Permanent input files:
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Error-message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Erroneous transactions
   PAC7PJ  :  Physical name = $PXU..SEQ..$PRO.$PFI.PJ

.Input transaction file:
 -User input
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Work files:
 -User input
   PAC7BM  :  Physical name = $PXU..R$MODUL..BM
 -EXPU work file
   PAC7MM  :  Physical name = $XW..W$MODUL..MM
 -EXPJ work file
   PAC7MJ  :  Physical name = $XW..W$MODUL..MJ
 -RMEN work file
   PAC7TE  :  Physical name = $PXU..R$MODUL..TE
 -RMEN work file
   PAC7RE  :  Physical name = $PXU..R$MODUL..RE
 -RMEN work file
   PAC7RM  :  Physical name = $PXU..R$MODUL..RM



 -Extracted transactions
   PAC7WD  :  Physical name = $PXU..R$MODUL..WD
 -Multi-layered Extractor work file
   SYSEXT  :  Physical name = $PXU..R$MODUL..SYSEXT

.Output files:
 -Extracted transactions for UPDT
   PAC7MV  :  Physical name = $XW..W$MODUL..MV
 -Extracted transactions for REOR (EXPU)
   PAC7MR  :  Physical name = $XW..W$MODUL..MR
 -Extracted transactions for UPDP
   PAC7GY  :  Physical name = $PXU..R$MODUL..GY
 -Extracted transactions for CPSN
   PAC7TD  :  Physical name = $TXU..$TRO.00TD
 -Extracted transactions for EXUE
   PAC7UE  :  Physical name = $PXU..R$MODUL..UE

.Output reports:
 -General printout of the program stream
                            SYS005
 -List of errors on input transactions
                            SYS007
 -Summary reports on extractions
                            SYS003
```

```
                    SYS003
                    SYS003
                    SYS003

      . Sort
```

2.4.16. PACX: EXECUTION JCL

```
===MOD 2PAC
* $X JOB JNM=$PRFJ.2PAC,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.2PAC     ****** $PROD $PREL ******
*            EXTRACTION OF DATABASE VA PAC
/* ************************************************************
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// DLBL $LSLI,'$SLIL',,VSAM
// EXEC LIBR,PARM='AC S=$LSLI$SLIS;CA PACX$PRO$PFI..$SLIT R=Y'
/* ************************************************************
*           EXTRACTIONS
/* ************************************************************
* $P SLI MEM=DBJB$PRO.$PFI..$SLIT
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..WPACX.INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
* $X DATA PACXDATA
* <------------------  INPUT STREAM
/*
/. JCLST03
* --- STEP 03 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL OUT,'$XW..WPACX.SYSEXT',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (SYSIPT) RUS
999999999999
/*
/. JCLST04
* --- STEP 04 --- PACX
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7BM,'$XW..WPACX.BM',,VSAM
// DLBL PAC7GY,'$PXU..RPACX.GY',,VSAM
// DLBL PAC7MB,'$XW..WPACX.INPUT',,VSAM
// DLBL PAC7MJ,'$XW..WPACX.MJ',,VSAM
// DLBL PAC7MM,'$XW..WPACX.MM',,VSAM
// DLBL PAC7MR,'$PXU..RPACX.MR',,VSAM
// DLBL PAC7MV,'$PXU..RPACX.MV',,VSAM
// DLBL PAC7PJ,'$PXU..SEQ.$PRO$PFI..PJ',,VSAM
// DLBL PAC7RE,'$XW..WPACX.RE',,VSAM
// DLBL PAC7RM,'$XW..WPACX.RM',,VSAM
// DLBL PAC7TD,'$PXU..RPACX.TD',,VSAM
// DLBL PAC7UE,'$PXU..RPACX.UE',,VSAM
// DLBL PAC7WD,'$XW..WPACX.WD',,VSAM
// DLBL SY8EXT,'$XW..WPACX.SYSEXT',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PACX,SIZE=(PACS30,250K)
/. JCLST05
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7BM,'$XW..WPACX.BM',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7MJ,'$XW..WPACX.MJ',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7MM,'$XW..WPACX.MM',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7RE,'$XW..WPACX.RE',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7RM,'$XW..WPACX.RM',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7TE,'$XW..WPACX.TE',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7WD,'$XW..WPACX.WD',,VSAM,DISP=(,DELETE,DELETE)
// DLBL SY8EXT,'$XW..WPACX.SYSEXT',,VSAM,DISP=(,DELETE,DELETE)
// EXEC IDCAMS,SIZE=AUTO
 VERIFY FILE (PAC7BM)
 VERIFY FILE (PAC7MJ)
 VERIFY FILE (PAC7MM)
 VERIFY FILE (PAC7RE)
 VERIFY FILE (PAC7RM)
```

```
     VERIFY FILE (PAC7TE)
     VERIFY FILE (PAC7WD)
     VERIFY FILE (PAC7MB)
     VERIFY FILE (SY8EXT)
    /*
    /+
    /&
    * $X EOJ
```

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	eeeeee	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

XPAF: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

ACCESS AND VALIDATION: PTEX30

```
.Input files:
 -VA Pac error-message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR

.Input transaction file:
 -User input
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Permanent input file:
 -Variable skeleton-file
   PAC7SP  :  Physical name = $PXY..$PRO.$PRO.SP

.Permanent input/output file:
 -Extraction Paths
   PAC7GS  :  Physical name = $PXU..$PRO.$PRO.GS

.Output file:
 -Summary passed on to printing program
   PAC7ED  :  Physical name = $XW..W$MODUL..ED
 -Temporary generated source
   PAC7GP  :  Physical name = $XW..W$MODUL..GP

.Output report:
 -Execution report
                            SYS005

. Sort
```

BEGINNING-OF-COMPILATION-JCL PUNCH: ASSEMBLY

This step writes the part of the compilation JCL that precedes the COBOL source on SYSPCH.

EXTRACTION GENERATION: PTEX80

```
.Permenant input file:
 -Fixed skeleton file
   PAC7SF  :  Physical name = $PXY..SEQ..$PRO.$PRO.SF

.Input file:
 -Source file generated by PTEX30
   PAC7GP  :  Physical name = $XW..W$MODUL..GP

.Output file:
 -Generated source to be translated
   PAC7ST  :  Physical name = $XW..W$MODUL..ST
```

END-OF-COMPILATION-JCL PUNCH: ASSEMBLY

This step writes the part of the compilation JCL that follows the COBOL source on SYSPCH.

PTEX PRINTING: PTEXDO

```
.Input files:
 -VA Pac error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -PTEX30 report
   PAC7ED  :  Physical name = $XW..W$MODUL..ED

.Permanent input/output file:
 -Extraction paths
   PAC7GS  :  Physical name = $PXU..$PRO.$PRO.GS

.Output report:
 -Validation report
                            SYS005

. Sort
```

3.1.4. XPAF: EXECUTION JCL

```
===MOD XPAF
* $X JOB JNM=$PRFJ.XPAF,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X PUN DISP=I,CLASS=$PCJ
/* ***********************************************************
// JOB $PRFJ.XPAF        ****** $PROD $PREL ******
*            EXTRACTION  'PLAN TYPE'
/* ***********************************************************
/* WARNING : GIVE THE PHASE NAME IN SYSPARM
/* ***********************************************************
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS025,SYSPCH
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     ED --- */
 DEL                  ($XW..W$MODUL..ED) CL
 DEF CL         (NAME ($XW..W$MODUL..ED) -
                 MODEL($MODELF) -
                 REC  (100 100) -
                 RECSZ(140 140) -
                 RECFM(FB(140)) -
      ) DATA    (NAME ($XW..W$MODUL..ED.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     GP --- */
 DEL                  ($XW..W$MODUL..GP) CL
 DEF CL         (NAME ($XW..W$MODUL..GP) -
                 MODEL($MODELF) -
                 REC  (100 100) -
                 RECSZ(119 119) -
                 RECFM(FB(119)) -
      ) DATA    (NAME ($XW..W$MODUL..GP.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
 EX  ??????        UPDATE
/*
/. JCLST03
* --- STEP 03 --- PTEX30
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7ED,'$XW..W$MODUL..ED',,VSAM
// DLBL PAC7GP,'$XW..W$MODUL..GP',,VSAM
// DLBL PAC7GS,'$PXU..$PRO.$PRO.GS',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7SP,'$PXY..$PRO.$PRO.SP',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PTEX30,SIZE=(AUTO,50K)
/. JCLST04
* --- STEP 04 --- ASSEMB
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC ASSEMBLY,SIZE=512K
 PUNCH '* $$ JOB JNM=$PRFJ.XPF2'
 PUNCH '* $$ LST CLASS=$PCL,DISP=$PDL.$PWL'
 PUNCH '// JOB XPAF2 EXTRACTOR/MACRO-COMMAND COMPILATION'      '
 PUNCH '// OPTION CATAL,$OPT'
 PUNCH '* * $$ SLI MEM=DBJB$PRO.$PFI..$SLIT'
 PUNCH ' PHASE &SYSPARM,*'
 PUNCH ' MODE RMODE(ANY)'
 PUNCH '// DLBL LCLPB,''$MODB'',,VSAM'
 PUNCH '// LIBDEF PHASE,CATALOG=LCLPB$SMODB'
 PUNCH '* $$ SLI MEM=PAFB$PRO.$PFI..$SLIT'
 PUNCH '* $$ DATA INPUT'
 END
/*
/. JCLST05
* --- STEP 05 --- PTXE80
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7GP,'$XW..W$MODUL..GP',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7SF,'$PXY..$PRO.$PRO.SF',,VSAM
// EXEC PTXE80,SIZE=AUTO
/. JCLST06
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC ASSEMBLY,SIZE=512K
 PUNCH '/*'
 PUNCH '* $$ EOJ'
 END
/*
/. JCLST07
* --- STEP 07 --- PTEXDO
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7ED,'$XW..W$MODUL..ED',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7GS,'$PXU..$PRO.$PRO.GS',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PTEXDO,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 08 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                 ($XW..W$MODUL..INPUT) CL
 DEL                 ($XW..W$MODUL..ED)    CL
 DEL                 ($XW..W$MODUL..GP)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
```

3.2. XPDM: MASTER OUTLINE

3.2.1. XPDM: INTRODUCTION

XPDM: INTRODUCTION

PRINCIPLES

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.

EXECUTION CONDITIONS

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

ABEND

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

PRINTED OUTPUT

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
```

3.2.3. XPDM: DESCRIPTION OF STEPS

XPDM: DESCRIPTION OF STEPS

```
TRANSACTION RECOGNITION:  PTU001


EXTRACTION OF MASTER OUTLINE:  PTED30

.Input files:
 -Error-message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR

.Input transaction file:
 -User input
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Permanent input/output file:
 -Extraction paths
  PAC7GS  :  Physical name = $PXU..$PRO.$PRO.GS

.Output files:
 -Report passed on to printing program
   PAC7ED  :  Physical name = $XW..W$MODUL..ED
 -GS-update preparation
   PAC7SG  :  Physical name = $XW..W$MODUL..SG

.Output report:
 -Execution report
                            SYS005

GS UPDATE AND PRINTING OF THE MASTER OUTLINE:  PTED60

.Input files:
 -VA Pac error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Print file
   PAC7ED  :  Physical name = $XW..W$MODUL..ED
 -GS-update preparation
   PAC7SG  :  Physical name = $XW..W$MODUL..SG

.Permanent output file:
 -Extraction Paths
   PAC7GS  :  Physical name = $PXU..$PRO.$PRO.GS

.Output report:
 -Execution report
                             SYS005

. Sort
```

3.2.4. XPDM: EXECUTION JCL

```
===MOD XPDM
* $X JOB JNM=$PRFJ.XPDM,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.XPDM        ****** $PROD $PREL ******
*          VALIDATION OF PRINTING 'PLAN TYPE'
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     ED --- */
 DEL                  ($XW..W$MODUL..ED) CL
 DEF CL         (NAME ($XW..W$MODUL..ED) -
                 MODEL($MODELF) -
                 REC  (200 200) -
                 RECSZ(100 100) -
                 RECFM(FB(100)) -
      ) DATA    (NAME ($XW..W$MODUL..ED.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     SG --- */
 DEL                  ($XW..W$MODUL..SG) CL
 DEF CL         (NAME ($XW..W$MODUL..SG) -
                 MODEL($MODELF) -
                 REC  (100 100) -
                 RECSZ(203 203) -
                 RECFM(FB(203)) -
      ) DATA    (NAME ($XW..W$MODUL..SG.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
 EP??????UPDATE
/*
/. JCLST03
* --- STEP 03 --- PTED30
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7ED,'$XW..W$MODUL..ED',,VSAM
// DLBL PAC7GS,'$PXU..$PRO.$PRO.GS',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7SG,'$XW..W$MODUL..SG',,VSAM
// EXEC PTED30,SIZE=AUTO
/. JCLST04
* --- STEP 04 --- PTED60
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7ED,'$XW..W$MODUL..ED',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7GS,'$PXU..$PRO.$PRO.GS',,VSAM
// DLBL PAC7SG,'$XW..W$MODUL..SG',,VSAM,DISP=(,DELETE,KEEP)
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PTED60,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 05 --- IDCAMS
```

```
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEL                  ($XW..W$MODUL..ED)    CL
 DEL                  ($XW..W$MODUL..SG)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
```

3.3. PRGS: PRINTING OF MASTER PATH AND OUTLINE FILE

3.3.1. PRGS: INTRODUCTION

PRGS: INTRODUCTION

PRINCIPLE

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

PREREQUISITE

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

RESULT

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

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  :  Physical name = $PXY..$PRO.$PRO.AE
 -Extraction paths
   PAC7GS  :  Physical name = $PXU..$PRO.$PRO.GS

.Input transaction file:
 -User input
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output report:
 -Execution report
                            SYS005
 -PAC7GS report
                            SYS007

. Sort
```

3.3.4. PRGS: EXECUTION JCL

```
===MOD PRGS
* $X JOB JNM=$PRFJ.PRGS,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ************************************************************
// JOB $PRFJ.PRGS        ****** $PROD $PREL ******
*            PRINTING OF FILE   PAC7GS
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORD
/*
/. JCLST03
* --- STEP 03 --- PTEP90
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7GS,'$PXU..$PRO.$PRO.GS',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PTEP90,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
```

4. QUALITY ANALYSIS AND CONTROL

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.

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.

4.1.3. ACTI: DESCRIPTION OF STEPS

ACTI: DESCRIPTION OF STEPS

```
TRANSACTION RECOGNITION:  PTU001


EXTRACTION: PTU630

.Permanent input files:
 -Error message file
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Journal Backup File
  PAC7PJ  :  Physical name = $PXU..SEQ..$PRO.$PFI.PJ

.Transaction file:
 -Update transactions
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output file
 -Transactions for selected reports
  PAC7ST  :  Physical name = $XW..W$MODUL..ST

.Output report:
 -Batch-procedure authorization option
                            SYS005

.Return code(s):

PRINTING OF RESULTS:  PTU640

.Permanent input file:
 -Error Messages
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Input file:
 -Transactions for selected reports
  PAC7ST  :  Physical name = $XW..W$MODUL..ST

.Output report:
 -Selected reports
                            SYS005

. Sort
```

4.1.4. ACTI: EXECUTION JCL

```
===MOD ACTI
* $X JOB JNM=$PRFJ.ACTI,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.ACTI        ****** $PROD $PREL ******
*                JOURNAL STATISTICS UTILITY
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     ST --- */
 DEL                  ($XW..W$MODUL..ST) CL
 DEF CL         (NAME ($XW..W$MODUL..ST) -
                 MODEL($MODELF) -
                 REC  (5000 5000) -
                 RECSZ(206 206) -
                 RECFM(FB(206)) -
      ) DATA    (NAME ($XW..W$MODUL..ST.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORD
EDI:GRA
PAG:&MOIS
ABS:&JOUR=2
ORD:&MVEN(&CAR=J,&UTI=USER)
EDI:LIS
EDI:STA
PAG:&UTI
LIG:&ENTG
COL:&MVEN,&MVUT,&MVUT/&MVEN
/*
/*
/. JCLST03
* --- STEP 03 --- PTU630
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// DLBL PAC7PJ,'$PXU..SEQ.$PRO$PFI..PJ',,VSAM
/* PAC7PJ ON TAPE  : SYS013 ASSIGNED
// DLBL PAC7ST,'$XW..W$MODUL..ST',,VSAM
// EXEC PTU630,SIZE=AUTO
/. JCLST04
* --- STEP 04 --- PTU640
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7ST,'$XW..W$MODUL..ST',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PTU640,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
```

```
     DEL                  ($XW..W$MODUL..ST)    CL
    /*
    // EXEC LISTLOG
    /&
    * $X EOJ
```

4.2. PQC-: PACBENCH QUALITY CONTROL

4.2.1. PQC: INTRODUCTION

PQC: INTRODUCTION

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.)

The following are the PACBENCH QUALITY CONTROL components for VSE/CICS:

Batch procedures:

$radp.PQCA: analysis
$radp.PQCE: extraction

Specific files of the PQC Module:

$PRO.$PFI.9QPR: standard rules
$PRO.$PFI.9QPU: Dictionary Extensibility

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 OLSD/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.

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.

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

QUALITY ANALYSIS: PACQ

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

```
.Permanent input files:
 -Data file
  PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Printing command file
  PAC7AG  :  Physical name = $PXU..$PRO.$PFI.AG
 -PEI environment file ('Batch')
  PAC7AB  :  Physical name = $PXU..$PRO.$PFI.AB
 -PEI environment file ('on-line')
  PAC7AC  :  Physical name = $PXU..$PRO.$PFI.AC
 -Error-message file
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -User parameters
  PAC7AP  :  Physical name = $PXY..$PRO.$PRO.AP
 -QUALITY RULES file
  PACQMF  :  Physical name = $PXU..R$MODUL..MI
 -Batch-language generation skeleton
  PAC7SC  :  Physical name = $PXY..$PRO.$PRO.SC
 -Dialog generation skeleton
  PAC7SG  :  Physical name = $PXY..$PRO.$PRO.SG
 -Map skeleton
  PAC7SS  :  Physical name = $PXY..$PRO.$PRO.SS

.Transaction files:
 -Entities to be analyzed (input)
  PAC7ME  :  Physical name = $XW..W$MODUL..INPUT
 -Selection parameters (input)
  PACQMC  :  Physical name = $XW..W$MODUL..MC

.Output reports:
 -PACQ execution report
                           SYS003
 -VisualAge Pacbase documentation
                           SYS005
 -Selection-parameter check
                           SYS007
 -Results by entity type
                           SYS005
 -Results by entity
                           SYS007
 -List of VA Pac identifiers which exceed the limits
  of the quality identificators
                           SYS007
 -Generation report (PEI)
                           SYS005

.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:
              Physical name = $PXU..R$MODUL..GN
```

Other files mentioned in the procedure are temporary files used in the chains (see details in the flowcharts).

. Sort

4.2.4. PQCA: EXECUTION JCL

```
===MOD PQCA
* $X JOB JNM=$PRFJ.PQCA,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST3$PWL
* $X PUN DISP=I,CLASS=$PCJ
/* ************************************************************
// JOB $PRFJ.PQCA        ****** $PROD $PREL ******
*              PACBENCH QUALITY CONTROL
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
// ASSGN SYS003,$LST3 3TRD PRINTER L.U.
// ASSGN SYS025,SYSPCH
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE TEMPORARY FILE     INPUT --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (200 200) -
                 RECSZ(80 80) -
                 RECFM(FB(80)) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MC --- */
 DEL                  ($XW..W$MODUL..MC) CL
 DEF CL         (NAME ($XW..W$MODUL..MC) -
                 MODEL($MODELF) -
                 REC  (200 200) -
                 RECSZ(80 80) -
                 RECFM(FB(80)) -
      ) DATA    (NAME ($XW..W$MODUL..MC.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MJ --- */
 DEL                  ($XW..W$MODUL..MJ) CL
 DEF CL         (NAME ($XW..W$MODUL..MJ) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(105 105) -
                 RECFM(FB(105)) -
      ) DATA    (NAME ($XW..W$MODUL..MJ.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MK --- */
 DEL                  ($XW..W$MODUL..MK) CL
 DEF CL         (NAME ($XW..W$MODUL..MK) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(193 193) -
                 RECFM(FB(193)) -
      ) DATA    (NAME ($XW..W$MODUL..MK.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MM --- */
 DEL                  ($XW..W$MODUL..MM) CL
 DEF CL         (NAME ($XW..W$MODUL..MM) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(52 52) -
                 RECFM(FB(52)) -
      ) DATA    (NAME ($XW..W$MODUL..MM.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MN --- */
 DEL                  ($XW..W$MODUL..MN) CL
 DEF CL         (NAME ($XW..W$MODUL..MN) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(52 52) -
                 RECFM(FB(52)) -
      ) DATA    (NAME ($XW..W$MODUL..MN.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MO --- */
```

```
  DEL                  ($XW..W$MODUL..MO) CL
  DEF CL         (NAME ($XW..W$MODUL..MO) -
                  MODEL($MODELF) -
                  REC  (1000 1000) -
                  RECSZ(151 151) -
                  RECFM(FB(151)) -
       ) DATA    (NAME ($XW..W$MODUL..MO.D) )
     /* --- DELETE-DEFINE TEMPORARY FILE     MZ --- */
  DEL                  ($XW..W$MODUL..MZ) CL
  DEF CL         (NAME ($XW..W$MODUL..MZ) -
                  MODEL($MODELF) -
                  REC  (1000 1000) -
                  RECSZ(136 136) -
                  RECFM(FB(136)) -
       ) DATA    (NAME ($XW..W$MODUL..MZ.D) )
 /*
 /. JCLST02
 * --- STEP 02 --- PTU001
 // DLBL IJSYSUC,'$VCAP',,VSAM
 // DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
 // EXEC PTU001,SIZE=AUTO
  *USER    PASSWORDLIB
 /*
 /. JCLST03
 * --- STEP 03 --- PTU001
 // DLBL IJSYSUC,'$VCAP',,VSAM
 // DLBL PAC7MB,'$XW..W$MODUL..MC',,VSAM
 // EXEC PTU001,SIZE=AUTO
  QA
 /*
 /. JCLST04
 * --- STEP 04 --- PACQ
 // DLBL IJSYSUC,'$VCAP',,VSAM
 ===SEQ FOR PEI
 // DLBL PAC7AB,'$PXU..$PRO.$PFI.AB',,VSAM
 // DLBL PAC7AC,'$PXU..$PRO.$PFI.AC',,VSAM
 ===SEQ
 // DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
 // DLBL PAC7AG,'$PXU..$PRO.$PFI.AG',,VSAM
 // DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
 // DLBL PAC7AP,'$PXY..$PRO.$PRO.AP',,VSAM
 // DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
 // DLBL PAC7EE,'$XW..WGPRT.EE',,VSAM
 // DLBL PAC7EG,'$XW..WGPRT.EG',,VSAM
 // DLBL PAC7EP,'$XW..WGPRT.EP',,VSAM
 // DLBL PAC7EV,'$XW..WGPRT.EV',,VSAM
 // DLBL PAC7JG,'$XW..WGPRT.JG',,VSAM
 // DLBL PAC7KD,'$XW..WGPRT.KD',,VSAM
 // DLBL PAC7KE,'$XW..WGPRT.KE',,VSAM
 // DLBL PAC7KF,'$XW..WGPRT.KF',,VSAM
 // DLBL PAC7KG,'$XW..WGPRT.KG',,VSAM
 // DLBL PAC7KP,'$XW..WGPRT.KP',,VSAM
 // DLBL PAC7KS,'$XW..WGPRT.KS',,VSAM
 // DLBL PAC7KU,'$XW..WGPRT.KU',,VSAM
 // DLBL PAC7KV,'$XW..WGPRT.KV',,VSAM
 // DLBL PAC7ME,'$XW..W$MODUL..INPUT',,VSAM
 // DLBL PACQMF,'$PXU..RPQCE.MI',,VSAM
 // DLBL PAC7MG,'$XW..WGPRT.MG',,VSAM
 // DLBL PAC7SC,'$PXY..$PRO.$PRO.SC',,VSAM
 // DLBL PAC7SG,'$PXY..$PRO.$PRO.SG',,VSAM
 // DLBL PAC7SS,'$PXY..$PRO.$PRO.SS',,VSAM
 // DLBL PAC7W1,'$XW..WGPRT.W1',,VSAM
 // DLBL PAC7W2,'$XW..WGPRT.W2',,VSAM
 // DLBL PAC7W3,'$XW..WGPRT.W3',,VSAM
 // DLBL PAC7W4,'$XW..WGPRT.W4',,VSAM
 // DLBL PACQMC,'$XW..W$MODUL..MC',,VSAM
 // DLBL PACQMJ,'$XW..W$MODUL..MJ',,VSAM
 // DLBL PACQMK,'$XW..W$MODUL..MK',,VSAM
 // DLBL PACQMM,'$XW..W$MODUL..MM',,VSAM
 // DLBL PACQMN,'$XW..W$MODUL..MN',,VSAM
 // DLBL PACQMO,'$XW..W$MODUL..MO',,VSAM
 // DLBL PACQMZ,'$XW..W$MODUL..MZ',,VSAM
 // EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
```

```
// EXEC PACQ,SIZE=(PACE80,250)
/*
/. JCLST05
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7EE,'$XW..WGPRT.EE',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EG,'$XW..WGPRT.EG',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EP,'$XW..WGPRT.EP',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7EV,'$XW..WGPRT.EV',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7JG,'$XW..WGPRT.JG',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KD,'$XW..WGPRT.KD',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KE,'$XW..WGPRT.KE',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KF,'$XW..WGPRT.KF',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KG,'$XW..WGPRT.KG',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KP,'$XW..WGPRT.KP',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KS,'$XW..WGPRT.KS',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KU,'$XW..WGPRT.KU',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7KV,'$XW..WGPRT.KV',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PACQMC,'$XW..W$MODUL..MC',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7ME,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PACQMF,'$PXU..RPQCE.MI',,VSAM
// DLBL PAC7MG,'$XW..WGPRT.MG',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W1,'$XW..WGPRT.W1',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W2,'$XW..WGPRT.W2',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W3,'$XW..WGPRT.W3',,VSAM,DISP=(,DELETE,DELETE)
// DLBL PAC7W4,'$XW..WGPRT.W4',,VSAM,DISP=(,DELETE,DELETE)
// EXEC IDCAMS,SIZE=AUTO
 VERIFY FILE (PACQMC)
 VERIFY FILE (PACQMF)
 VERIFY FILE (PACQMJ)
 VERIFY FILE (PACQMK)
 VERIFY FILE (PACQMM)
 VERIFY FILE (PACQMO)
 VERIFY FILE (PACQMZ)
 VERIFY FILE (PAC7EE)
 VERIFY FILE (PAC7EG)
 VERIFY FILE (PAC7EP)
 VERIFY FILE (PAC7EV)
 VERIFY FILE (PAC7JG)
 VERIFY FILE (PAC7KD)
 VERIFY FILE (PAC7KE)
 VERIFY FILE (PAC7KF)
 VERIFY FILE (PAC7KG)
 VERIFY FILE (PAC7KP)
 VERIFY FILE (PAC7KS)
 VERIFY FILE (PAC7KU)
 VERIFY FILE (PAC7KV)
 VERIFY FILE (PAC7ME)
 VERIFY FILE (PAC7MG)
 VERIFY FILE (PAC7W1)
 VERIFY FILE (PAC7W2)
 VERIFY FILE (PAC7W3)
 VERIFY FILE (PAC7W4)
/*
/. JCLST99
* --- STEP 99 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
 DEL                  ($XW..W$MODUL..INPUT)    CL
 DEL                  ($XW..W$MODUL..MC)    CL
 DEL                  ($XW..W$MODUL..MJ)    CL
 DEL                  ($XW..W$MODUL..MK)    CL
 DEL                  ($XW..W$MODUL..MM)    CL
 DEL                  ($XW..W$MODUL..MN)    CL
 DEL                  ($XW..W$MODUL..MO)    CL
 DEL                  ($XW..W$MODUL..MZ)    CL
// EXEC IDCAMS,SIZE=AUTO
/*
// EXEC LISTLOG
/&
* $X EOJ
```

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.

4.2.6. PQCE: USER INPUT

PQCE: USER INPUT

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 PACBASE 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

RESULT

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

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

PQCE: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

EXTRACTION: PACX

This step extracts transactions according to user input.

```
.Permanent input files:
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Error-message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Erroneous transactions
   PAC7PJ  :  Physical name = $PXU..SEQ..$PRO.$PFI.PJ

.Input transaction file:
 -User input
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Work files:
 -User input
   PAC7BM  :  Physical name = $PXU..R$MODUL..BM
 -EXPU work file
   PAC7MM  :  Physical name = $XW..W$MODUL..MM
 -EXPJ work file
   PAC7MJ  :  Physical name = $XW..W$MODUL..MJ
 -RMEN work file
   PAC7TE  :  Physical name = $PXU..R$MODUL..TE
 -RMEN work file
   PAC7RE  :  Physical name = $PXU..R$MODUL..RE
 -RMEN work file
   PAC7RM  :  Physical name = $PXU..R$MODUL..RM



 -Extracted transactions
   PAC7WD  :  Physical name = $PXU..R$MODUL..WD
 -Multi-layered Extractor work file
   SYSEXT  :  Physical name = $PXU..R$MODUL..SYSEXT

.Output files:
 -Extracted transactions for UPDT
   PAC7MV  :  Physical name = $XW..W$MODUL..MV
 -Extracted transactions for REOR (EXPU)
   PAC7MR  :  Physical name = $XW..W$MODUL..MR
 -Extracted transactions for UPDP
   PAC7GY  :  Physical name = $PXU..R$MODUL..GY
 -Extracted transactions for CPSN
   PAC7TD  :  Physical name = $TXU..$TRO.00TD
 -Extracted transactions for EXUE
   PAC7UE  :  Physical name = $PXU..R$MODUL..UE

.Output reports:
 -General printout of the program stream
                            SYS005
 -List of errors on input transactions
                            SYS007
 -Summary reports on extractions
                            SYS003
                            SYS003
                            SYS003
                            SYS003
```

. Sort

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  :  Physical name = $PXY..$PRO.$PRO.AE
 -Data file
  PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR

.Permanent output file:
 -'Compiled' Quality Rules
  PACQMI  :  Physical name = $PXU..R$MODUL..MI

.Transaction files:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT
 -User entity occurrences
  PACQMC  :  Physical name = $XW..W$MODUL..MC

.Output file:
 -Preparation for printing
  PACQML  :  Physical name = $XW..W$MODUL..ML

.Output report(s):
 -Rule-validity report
                            SYS007
 -Batch-procedure authorization option
                            SYS005
```

. Sort

PRINTING OF QUALITY RULES: PTUQ15

```
.Permanent input file:
 -Error message file
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Input file:
 -Preparation for printing
  PACQML  :  Physical name = $XW..W$MODUL..ML

.Output reports:
 -List of quality factors and criteria,
  and description by indicator
                            SYS005
 -Dictionary of Quality rules
                            SYS007
```

. Sort

4.2.8. PQCE: EXECUTION JCL

```
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST3$PWL
*           PACBENCH QUALITY CONTROL EXTRACTION
* ***************************************************************
* *   FORMAT DES MOUVEMENTS EN ENTREE :
* *   .. UNE LIGNE UTILISATEUR ET BIBLIOTHEQUE
* *   .. UNE LIGNE COMMANDE PAR ENTITE A EXTRAIRE
* *      COL  2-6  : 'W1EX$'
* *      COL  7    : CODE DE SELECTION DE BIBLIOTHEQUE
* *                  'U' (BIBLIOTHEQUE SEULE)
* *                  'C' (BIBLIOTHEQUE ET SES CENTRALES)
/* ************************************************************
* *      COL  8-9  : CODE D'APPEL DE L'ENTITE UTILISATEUR (2 CAR.
* ***************************************************************
/* ************************************************************
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
// ASSGN SYS003,$LST3 3TRD PRINTER L.U.
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MC --- */
 DEL                  ($XW..W$MODUL..MC) CL
 DEF CL         (NAME ($XW..W$MODUL..MC) -
                 MODEL($MODELF) -
                 REC  (1000 500) -
                 RECSZ(112 112) -
                 RECFM(FB(112)) -
      ) DATA    (NAME ($XW..W$MODUL..MC.D) )
                 RECFM(FB(80)) -
    /* --- DELETE-DEFINE TEMPORARY FILE     ML --- */
 DEL                  ($XW..W$MODUL..ML) CL
 DEF CL         (NAME ($XW..W$MODUL..ML) -
                 MODEL($MODELF) -
                 REC  (1000 500) -
                 RECSZ(85 85) -
                 RECFM(FB(85)) -
      ) DATA    (NAME ($XW..W$MODUL..ML.D) )
    /* --- DELETE-DEFINE RESULT FILE      UE --- */
 DEL                  ($PXU..RPACX.UE) CL
 DEF CL         (NAME ($PXU..RPACX.UE) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(112 112) -
                 RECFM(FB(112)) -
      ) DATA    (NAME ($PXU..RPACX.UE.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     ML --- */
 DEL                  ($XW..W$MODUL..ML) CL
 DEF CL         (NAME ($XW..W$MODUL..ML) -
                 MODEL($MODELF) -
                 REC  (1000 500) -
                 RECSZ(85 85) -
                 RECFM(FB(85)) -
      ) DATA    (NAME ($XW..W$MODUL..ML.D) )
/*
/. JCLST02
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
/*
* $X SLI MEM=PACX$PRO.$PFI..$SLIT
* $X DATA PACXDATA
                      <-------------------------- STREAM
```

```
/*
/. JCLST03
* --- STEP 03 --- PTUUSE
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MB,'$XW..W.INPUT',,VSAM
// DLBL PAC7MV,'$XW..W$MODUL.MC',,VSAM
// EXEC PTUUSE,SIZE=AUTO
/. JCLST04
* --- STEP 04 --- PTUQ10
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PACQMI,'$PXU..RPQCE.MI',,VSAM
// DLBL PACQML,'$XW..W$MODUL..ML',,VSAM
// DLBL PACQML,'$XW..W$MODUL..ML',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// ON $RC GT 0 GOTO STEPEND
// EXEC PTUQ10,SIZE=(AUTO,50K)
/*
// ON $RC<16 CONTINUE
/. JCLST05
* --- STEP 05 --- PTUQ15
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PTUQ15,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 06 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEL                  ($XW..W$MODUL..MC)    CL
 DEL                  ($XW..W$MODUL..ML)    CL
 DEL                  ($XW..W$MODUL..ML)    CL
/*
```

5. METHODOLOGY INTEGRITY CHECK

5.1. ADM: SSADM PACDESIGN METHODOLOGY

5.1.1. SADM: INTRODUCTION

SADM: INTRODUCTION

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.

EXECUTION CONDITION

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.

5.1.3. SADM: DESCRIPTION OF STEPS

SADM: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

INITIALIZATION OF PAF TEMPORARY FILE: IDCAMS

This step writes a technical record in the PAF temporary file.

SSADM-ENTITY CONSISTENCY CHECK: PADM10

```
.Permanent input files:
 -Data file
  PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Error-message file
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Transaction file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Work file(s):
 -Standard PAF KSDS file

.Output report:
 -List of checked SSADM entities
                            SYS005
```

5.1.4. SADM: EXECUTION JCL

```
===SEQ FOR SSA
===MOD SADM
* $X JOB JNM=$PRFJ.SADM,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ***********************************************************
// JOB $PRFJ.SADM        ****** $PROD $PREL ******
*            VALIDATION PACDESIGN ENTITIES: SSADM
/* ***********************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
* $X SLI MEM=DFSYSPAF.$SLIT
/*
/. JCLST02
* --- STEP 02 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL OUT,'$XW..SYSPAF',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (SYSIPT) RUS
999999999999
/*
/. JCLST03
* --- STEP 03 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
 T3
/. JCLST04
* --- STEP 04 --- PADM10
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL SY8PAF,'$XW..SYSPAF',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// EXEC PADM10,SIZE=AUTO
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEL                  ($XW..W$MODUL..SYSPAF) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

5.2. YSM: WORKSTATION / YSM METHODOLOGY

5.2.1. YSMC: INTRODUCTION

YSMC: INTRODUCTION

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.

EXECUTION CONDITION

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	'W'	Code of report to be printed "Validation of YSM entities"

PRC entity control request lines (optional):

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

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	eeeeee	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

INITIALIZATION OF PAF TEMPORARY FILE: IDCAMS

This step writes a technical record in the PAF temporary file.

YSM METHOD INTEGRITY CHECKING: PYSMCC

```
.Permanent input files:
 -Data file
  PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Error-message file
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Transaction file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Work file(s):
 -PAF standard KSDS file

.Output reports:
 -SSADM integrity checking lists
                            SYS005
 -SSADM & IFW validation reports
                            SYS007
```

INTER-PROCESS CONSISTENCY: PYSMC3

```
.Permanent input files:
 -Data file
  PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Error-message file
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Transaction file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Work file(s):
 -PAF standard KSDS file

.Output report:
 -SSADM integrity-check lists
                            SYS005
```

LIST OF RELATIONSHIPS AND REPORTS: PYSMC2

```
.Permanent input files:
 -Data file
  PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Error messages
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE

.Transaction file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Work file(s):
 -PAF standard KSDS file

.Output report:
 -SSADM intgrity-check lists
                            SYS005
```

5.2.4. YSMC: EXECUTION JCL

```
===MOD YSMC
* $X JOB JNM=$PRFJ.YSMC,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ***********************************************************
// JOB $PRFJ.YSMC        ****** $PROD $PREL ******
*            PACDESIGN YSM INTEGRITY CHECKING
/* ***********************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
* $X SLI MEM=DFSYSPAF.$SLIT
/*
/. JCLST02
* --- STEP 02 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL OUT,'$XW..SYSPAF',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (SYSIPT) RUS
999999999999
/*
/. JCLST03
* --- STEP 03 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
 TW
/. JCLST04
* --- STEP 04 --- PYSMCC
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL SY8PAF,'$XW..SYSPAF',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PYSMCC,SIZE=AUTO
/. JCLST05
* --- STEP 05 --- PYSMC3
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL SY8PAF,'$XW..SYSPAF',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PYSMC3,SIZE=AUTO
/. JCLST06
* --- STEP 06 --- PYSMC2
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL SY8PAF,'$XW..SYSPAF',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// EXEC PYSMC2,SIZE=AUTO
/. STEPEND
```

```
* --- STEP 07 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEL                  ($XW..W$MODUL..SYSPAF) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
```

6. PACTABLES

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

6.1.1. GETD - GETA: INTRODUCTION

GETD-GETA: INTRODUCTION

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.

6.1.2. GETD - GETA: USER INPUT

GETD-GETA: USER INPUT

USER INPUT

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)

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.

6.1.3. GETD - GETA: DESCRIPTION OF STEPS

GETD: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

EXTRACTION & UPDATE PREPARATION: PACT40

```
.Permanent input files:
 -VisualAge Pacbase data file
  PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -VisualAge Pacbase index file
  PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -VisualAge Pacbase error-message file
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Table-description file
  PAC7TD  :  Physical name = $TXU..$TRO.00TD

.Input transaction file:
 -User requests
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output report(s):
 -Transaction summary
                            SYS005
 -Batch-procedure authorization option
                            SYS007

.Output file:
 -2.0-Table-Descriptions update transactions
  PAC7MD  :  Physical name = $TXU..R$MODUL..MD
  Tape is                   SYS015

.Return code:
```

FORMATTING OF DESCRIPTIONS < R 2.0: PACT45

```
.Input file:
 -2.0 Description-update transactions
  PAC7MD  :  Physical name = $TXU..R$MODUL..MD
  Tape is                   SYS017

.Output file
 -1.2 Description-update transactions
  PAC7ND  :    Physical name = $TXU..R$MODUL..ND
```

UPDATE OF TABLE-DESCRIPTION FILE: PACT50

```
(GETD procedure only)

.Permanent input file:
 -Table-description file
  PAC7TD  :  Physical name = $TXU..$TRO.00TD

.Input transaction files:
 -User requests
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT
 -Update transactions
  PAC7MD  :  Physical name = $TXU..R$MODUL..MD
  Tape is                 SYS012
```

```
            .Output report:
             -Update review
                                        SYS005

            . Sort
```

6.1.4. GETD: EXECUTION JCL

```
===SEQ FOR TAB
===MOD GETD
* $X JOB JNM=$PRFJ.GETD,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ************************************************************
// JOB $PRFJ.GETD        ****** $PROD $PREL ******
*         TABLES DESCRIPTION GENERATION
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE RESULT FILE      MD --- */
 DEL                  ($TXU..R$MODUL..MD) CL
 DEF CL         (NAME ($TXU..R$MODUL..MD) -
                 MODEL($MODELF) -
                 REC  (500 500) -
                 RECSZ(244 244) -
                 RECFM(FB(244)) -
      ) DATA    (NAME ($TXU..R$MODUL..MD.D) )
        CAT     ($VCAT)
    /* --- DELETE-DEFINE RESULT FILE      ND --- */
 DEL                  ($TXU..R$MODUL..ND) CL
 DEF CL         (NAME ($TXU..R$MODUL..ND) -
                 MODEL($MODELF) -
                 REC  (500 500) -
                 RECSZ(244 244) -
                 RECFM(FB(244)) -
      ) DATA    (NAME ($TXU..R$MODUL..ND.D) )
        CAT     ($VCAT)
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
/*
/. JCLST03
* --- STEP 03 --- PACT40
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7MD,'$TXU..R$MODUL..MD',,VSAM,CAT=PTABV
/* PAC7MD ON TAPE  : SYS015 ASSIGNED
// DLBL PAC7TD,'$TXU..$TRO.00TD',,VSAM,CAT=PTABV
// EXEC PACT40,SIZE=AUTO
/. JCLST04
* --- STEP 04 --- PACT45
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7MD,'$TXU..R$MODUL..MD',,VSAM,CAT=PTABV
/* PAC7MD ON TAPE  : SYS017 ASSIGNED
```

```
// DLBL PAC7ND,'$TXU..R$MODUL..ND',,VSAM,CAT=PTABV
// EXEC PACT45,SIZE=AUTO
/. JCLST05
* --- STEP 05 --- PACT50
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// DLBL PAC7MD,'$TXU..R$MODUL..MD',,VSAM,CAT=PTABV
/* PAC7MD ON TAPE  : SYS012 ASSIGNED
// DLBL PAC7TD,'$TXU..$TRO.00TD',,VSAM,CAT=PTABV
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PACT50,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 06 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

6.1.5. GETA: EXECUTION JCL

```
===SEQ FOR TAB
===MOD GETA
* $X JOB JNM=$PRFJ.GETA,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ************************************************************
// JOB $PRFJ.GETA        ****** $PROD $PREL ******
*         TABLE-DESCRIPTION GENERATION
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE RESULT FILE      MD --- */
 DEL                  ($TXU..R$MODUL..MD) CL
 DEF CL         (NAME ($TXU..R$MODUL..MD) -
                 MODEL($MODELF) -
                 REC  (500 500) -
                 RECSZ(244 244) -
                 RECFM(FB(244)) -
      ) DATA    (NAME ($TXU..R$MODUL..MD.D) )
        CAT     ($VCAT)
    /* --- DELETE-DEFINE RESULT FILE      ND --- */
 DEL                  ($TXU..R$MODUL..ND) CL
 DEF CL         (NAME ($TXU..R$MODUL..ND) -
                 MODEL($MODELF) -
                 REC  (500 500) -
                 RECSZ(244 244) -
                 RECFM(FB(244)) -
      ) DATA    (NAME ($TXU..R$MODUL..ND.D) )
        CAT     ($VCAT)
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
/*
/. JCLST03
* --- STEP 03 --- PACT40
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7MD,'$TXU..R$MODUL..MD',,VSAM,CAT=PTABV
/* PAC7MD ON TAPE  : SYS015 ASSIGNED
// DLBL PAC7TD,'$TXU..$TRO.00TD',,VSAM,CAT=PTABV
// EXEC PACT40,SIZE=AUTO
/. JCLST04
* --- STEP 04 --- PACT45
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7MD,'$TXU..R$MODUL..MD',,VSAM,CAT=PTABV
/* PAC7MD ON TAPE  : SYS017 ASSIGNED
```

```
// DLBL PAC7ND,'$TXU..R$MODUL..ND',,VSAM,CAT=PTABV
// EXEC PACT45,SIZE=AUTO
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

6.1.6. GET2 - GET1: INTRODUCTION

GET2-GET1: INTRODUCTION

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). 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.

6.1.7. GET2 - GET1: USER INPUT

GET2-GET1: USER INPUT

USER INPUT

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 modification 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)

Pos.	Len.	Value	Meaning
23	6	DDMMYY	Date of description historical account for a G-type table. Default: last historical account
		******	Generation of a table without historical 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.

6.1.8. GET2 - GET1: DESCRIPTION OF STEPS

GET2: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

EXTRACTION AND UPDATE PREPARATION: PACT41

.Permanent input files:
 -VisualAge Pacbase Data file

 -VisualAge Pacbase Index file

 -VisualAge Pacbase Error-message file

 -Table-description file

.Input Transaction file:
 -Descriptions requests

.Output reports:
 -Transaction report

 -Batch-procedure authorization option

.Output file:
 -2.0-Description update transactions

.Return code(s):

TABLE-DESCRIPTION UPDATE: PACT51

(GET2 procedure only)

.Permanent input file:
 -Table-description file

.Input transaction files:
 -Descriptions requests

 -Update transactions

.Output report:
 -Update report

.Sort files:

6.1.9. GET2: EXECUTION JCL

```
===SEQ FOR TAB
===MOD GET2
* $X JOB JNM=$PRFJ.GET2,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ************************************************************
// JOB $PRFJ.GET2        ****** $PROD $PREL ******
*            GENERATION DE DESCRIPTIFS DE TABLES
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE RESULT FILE      MD --- */
 DEL                  ($TXU..R$MODUL..MD) CL
 DEF CL         (NAME ($TXU..R$MODUL..MD) -
                 MODEL($MODELF) -
                 REC  (500 500) -
                 RECSZ(244 244) -
                 RECFM(FB(244)) -
      ) DATA    (NAME ($TXU..R$MODUL..MD.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
/*
/. JCLST03
* --- STEP 03 --- PACT41
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7MD,'$TXU..R$MODUL..MD',,VSAM,CAT=PTABV
/* PAC7MD ON TAPE  : SYS015 ASSIGNED
// DLBL PAC7TD,'$TXU..$TRO.00TD',,VSAM,CAT=PTABV
// EXEC PACT41,SIZE=AUTO
/. JCLST04
* --- STEP 04 --- PACT51
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7MD,'$TXU..R$MODUL..MD',,VSAM,CAT=PTABV
/* PAC7MD ON TAPE  : SYS012 ASSIGNED
// DLBL PAC7TD,'$TXU..$TRO.00TD',,VSAM,CAT=PTABV
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PACT51,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
```

```
/&
* $X EOJ
===SEQ
```

6.1.10. GET1: EXECUTION JCL

```
===SEQ FOR TAB
===MOD GET1
* $X JOB JNM=$PRFJ.GET1,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ***********************************************************
// JOB $PRFJ.GET1        ****** $PROD $PREL ******
*            GENERATION DE DESCRIPTIFS DE TABLES
/* ***********************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE RESULT FILE      MD --- */
 DEL                  ($TXU..R$MODUL..MD) CL
 DEF CL         (NAME ($TXU..R$MODUL..MD) -
                 MODEL($MODELF) -
                 REC  (500 500) -
                 RECSZ(244 244) -
                 RECFM(FB(244)) -
      ) DATA    (NAME ($TXU..R$MODUL..MD.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
/*
/. JCLST03
* --- STEP 03 --- PACT41
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7MD,'$TXU..R$MODUL..MD',,VSAM,CAT=PTABV
/* PAC7MD ON TAPE  : SYS015 ASSIGNED
// DLBL PAC7TD,'$TXU..$TRO.00TD',,VSAM,CAT=PTABV
// EXEC PACT41,SIZE=AUTO
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

6.2. GETI-GET0: INITIALIZATION OF DESCRIPTION FILE

6.2.1. GETI: INTRODUCTION

GETI: INTRODUCTION

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: DESCRIPTIION OF STEPS

GETI: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

INITIALIZATION OF DESCRIPTION FILE: PACTIN

```
.Permanent output file:
 -Table description file
  PAC7TD  :  Physical name = $TXU..$TRO.00TD

.Transaction input file:
 -Parameter line
  PAC7MD  :  Physical name = $XW..W$MODUL..INPUT
```

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

Output report:
-Initialization review
SYS005

6.2.3. GETI: EXECUTION JCL

```
===SEQ FOR TAB
===MOD GETI
* $X JOB JNM=$PRFJ.GETI,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.GETI        ****** $PROD $PREL ******
*         INITIALIZATION OF TABLES MANAGEMENT FILE
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
* $X SLI MEM=DF$TRO.00TD.$SLIT
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
/*
/. JCLST03
* --- STEP 03 --- PACTIN
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7MD,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
/* PAC7MD ON TAPE  : SYS015 ASSIGNED
// DLBL PAC7TD,'$TXU..$TRO.00TD',,VSAM,CAT=PTABV
// EXEC PACTIN,SIZE=AUTO
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

6.2.4. GET0: INTRODUCTION

GET0: INTRODUCTION

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. 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

GET0: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

INITIALIZATION OF DESCRIPTION FILE: PACTI1

```
.Permanent output file:
 -Table-description file
  PAC7TD  :  Physical name = $TXU..$TRO.00TD

.Input transaction file:
 -Parameter line
  PAC7MD  :  Physical name = $XW..W$MODUL..INPUT
```

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
                          SYS005
```

6.2.6. GET0: EXECUTION JCL

```
===SEQ FOR TAB
===MOD GET0
* $X JOB JNM=$PRFJ.GET0,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.GET0        ****** $PROD $PREL ******
*         INITIALIZATION OF TABLES MANAGEMENT FILE
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
* $X SLI MEM=DF$TRO.00TD.$SLIT
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
/*
/. JCLST03
* --- STEP 03 --- PACTI1
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PTABV,'$VCAT',,VSAM
// DLBL PAC7MD,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
/* PAC7MD ON TAPE  : SYS015 ASSIGNED
// DLBL PAC7TD,'$TXU..$TRO.00TD',,VSAM,CAT=PTABV
// EXEC PACTI1,SIZE=AUTO
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

7. PAC/IMPACT

FOREWORD

```
------------------------------------------------------------
NOTE:  CI2000 users may also refer to the GGI2000 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 included 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

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

7.1.3. ISEP: DESCRIPTION OF STEPS

ISEP: DESCRIPTION OF STEPS

```
TRANSACTION RECOGNITION:  PTU001


SELECTION OF ENTRY POINTS:  PAN210

.Permanent input files:
 -Error messages
  PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Data file
  PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -File of entities to be analyzed
  PAC7FP  :  Physical name = $PXU..$PRO.$PFI.FP

.Transactions file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output file:
 -Selected entry points
  PAC7FH  :  Physical name = $XW..W$MODUL..FH

.Output report(s):
 -Validation report
                            SYS005

.Return codes:

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

REMOVAL OF DUPLICATE ENTRY POINTS: PAN215

```
.Transactions file:
 -Selected entry points
  PAC7FH  :  Physical name = $XW..W$MODUL..FH

.Permanent output files:
 -Sorted selected entry points
  PAC7HF  :  Physical name = $PXU..SEQ.$PRO$PFI..NEWFH
 -Reduced entry points to be purged
  PAC7FR  :  Physical name = $PXU..SEQ.$PRO$PFI..NEWFR

. Sort

.Return code :

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

7.1.4. ISEP: EXECUTION JCL

```
===SEQ FOR S2K
===MOD ISEP
* $X JOB JNM=$PRFJ.ISEP,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.ISEP        ****** $PROD $PREL ******
*                SELECTION OF INPUT DATA
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FH --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFH) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFH.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FR --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFR) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFR) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(072 072) -
                 RECFM(FB(072)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFR.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     FH --- */
 DEL                  ($XW..W$MODUL..FH) CL
 DEF CL         (NAME ($XW..W$MODUL..FH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($XW..W$MODUL..FH.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDBBBSSSS FIII
  ECODRUB
  SXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  W XXXXXXXXXXXXX
/*
/. JCLST03
* --- STEP 03 --- PAN210
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7FH,'$XW..W$MODUL..FH',,VSAM
// DLBL PAC7FP,'$PXU..$PRO.$PFI.FP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN210,SIZE=AUTO
```

```
/*
// ON $RC<16 CONTINUE
/. JCLST04
* --- STEP 04 --- PAN215
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7FH,'$XW..W$MODUL..FH',,VSAM
// DLBL PAC7FR,'$PXU..SEQ.$PRO$PFI..NEWFR',,VSAM
// DLBL PAC7HF,'$PXU..SEQ.$PRO$PFI..NEWFH',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN215,SIZE=(AUTO,50K)
/*
// ON $RC<16 CONTINUE
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
* $X SLI MEM=RG$PRO.$PFI.FH.$SLIT
* $X SLI MEM=RG$PRO.$PFI.FR.$SLIT
 DEL                  ($XW..W$MODUL..FH)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

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.

7.2.2. IPEP: DESCRIPTION OF STEPS

IPEP: DESCRIPTION OF STEPS

```
PRINTING OUT ENTRY POINTS:  PAN220

.Permanent input files:
 -Error messages
  PAC7AE  :  Physical name = $PXYP..$PRO.$PRO.AE
 -Entry points
  PAC7HF  :  Physical name = $PXU..SEQ.$PRO$PFI..FH

.Output report:
 -List of entry points
                            SYS005

. Sort

.Return codes:

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

7.2.3. IPEP: EXECUTION JCL

```
===SEQ FOR S2K
===MOD IPEP
* $X JOB JNM=$PRFJ.IPEP,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.IPEP        ****** $PROD $PREL ******
*                 PRINTING OF INPUT DATA
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- PAN220
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7HF,'$PXU..SEQ.$PRO$PFI..FH',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// ON $RC GE 12 GOTO EOJ
// EXEC PAN220,SIZE=(AUTO,50K)
/*
// ON $RC<16 CONTINUE
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

7.3. ISOS: SELECTION OF STRINGS AND OPERATORS

7.3.1. ISOS: INTRODUCTION

ISOS: INTRODUCTION

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).

LIMITATION OF SELECTION DOMAIN

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)'.)

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

ISOS: 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 '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)

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 separator 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 Procedural code part: .Category condition and Structure .Source Data-Element code (Struct.)
		' '	Search in the three above mentioned parts

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 Procedural 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

ISOS: DESCRIPTION OF STEPS

```
TRANSACTION RECOGNITION:  PTU001


SELECTION OF STRINGS AND OPERATORS:  PAN212

.Permanent input files:
 -Error messages
  PAC7AE  :  Physical name = $PXYP..$PRO.$PRO.AE
 -Data file
  PAC7AR  :  Physical name = $PXUP..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXUP..$PRO.$PFI.AN
 -Entities in production
  PAC7FP  :  Physical name = $PXU..$PRO.$PFI.FP

.Transaction file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output file(s):
 -Selected entry points
  PAC7FH  :  Physical name = $XW..W$MODUL..FH
 -Impact analysis results
  PAC7MF  :  Physical name = $XW..W$MODUL..FO

.Output report(s):
 -Validation report
                            SYS005

.Return codes:

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

DELETION OF DUPLICATE ENTRY POINTS: PAN215

```
.Transaction file:
 -Selected entry points
  PAC7FH  :  Physical name = $XW..W$MODUL..FH

.Permanent output files:
 -Sorted selected entry points
  PAC7HF  :  Physical name = $XW..W$MODUL..HF
 -Reduced entry points to be purged
  PAC7FR  :  Physical name = $XW..W$MODUL..FR

. Sort

.Return code :

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

UPDATE OF IMPACT ANALYSIS RESULTS: PAN260

```
.Transaction file:
 -Impact analysis result (for that iteration)
  PAC7MF  :  Physical name = $XW..W$MODUL..FO

.Permanent input file:
 -Results from preceding analysis
  PAC7OF  :  Physical name = $PXU..SEQ.$PRO$PFI..FO

.Permanent output file:
 -Sorted impact-analysis results
  PAC7FO  :  Physical name = $PXU..SEQ.$PRO$PFI..NEWFO

. Sort

.Return codes:

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

7.3.4. ISOS: EXECUTION JCL

```
===SEQ FOR S2K
===MOD ISOS
* $X JOB JNM=$PRFJ.ISOS,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ***********************************************************
// JOB $PRFJ.ISOS        ****** $PROD $PREL ******
*                SELECTION OF STRINGS AND OPERATORS
/* ***********************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                    ($XW..W$MODUL..INPUT) CL
 DEF CL          (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FH --- */
 DEL                    ($PXU..SEQ.$PRO$PFI..NEWFH) CL
 DEF CL          (NAME ($PXU..SEQ.$PRO$PFI..NEWFH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFH.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FO --- */
 DEL                    ($PXU..SEQ.$PRO$PFI..NEWFO) CL
 DEF CL          (NAME ($PXU..SEQ.$PRO$PFI..NEWFO) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(260 260) -
                 RECFM(FB(260)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFO.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FR --- */
 DEL                    ($PXU..SEQ.$PRO$PFI..NEWFR) CL
 DEF CL          (NAME ($PXU..SEQ.$PRO$PFI..NEWFR) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(072 072) -
                 RECFM(FB(072)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFR.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     HF --- */
 DEL                    ($XW..W$MODUL..HF) CL
 DEF CL          (NAME ($XW..W$MODUL..HF) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($XW..W$MODUL..HF.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     FH --- */
 DEL                    ($XW..W$MODUL..FH) CL
 DEF CL          (NAME ($XW..W$MODUL..FH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($XW..W$MODUL..FH.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     FO --- */
 DEL                    ($XW..W$MODUL..FO) CL
 DEF CL          (NAME ($XW..W$MODUL..FO) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(260 260) -
                 RECFM(FB(260)) -
      ) DATA    (NAME ($XW..W$MODUL..FO.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     FR --- */
 DEL                  ($XW..W$MODUL..FR) CL
 DEF CL         (NAME ($XW..W$MODUL..FR) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(072 072) -
                 RECFM(FB(072)) -
      ) DATA    (NAME ($XW..W$MODUL..FR.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDBBBSSSS FIII
 DDATOR
 OADT
/*
/. JCLST03
* --- STEP 03 --- PAN212
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7FH,'$XW..W$MODUL..FH',,VSAM
// DLBL PAC7FP,'$PXU..$PRO.$PFI.FP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// DLBL PAC7MF,'$XW..W$MODUL..FO',,VSAM
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN212,SIZE=AUTO
/*
// ON $RC<16 CONTINUE
/. JCLST04
* --- STEP 04 --- PAN215
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7FH,'$XW..W$MODUL..FH',,VSAM
// DLBL PAC7FR,'$XW..W$MODUL..FR',,VSAM
// DLBL PAC7HF,'$XW..W$MODUL..HF',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN215,SIZE=(AUTO,50K)
/*
// ON $RC<16 CONTINUE
/. JCLST05
* --- STEP 05 --- PAN260
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7FO,'$PXU..SEQ.$PRO$PFI..NEWFO',,VSAM
/* PAC7FO ON TAPE  : SYS011 ASSIGNED
// DLBL PAC7MF,'$XW..W$MODUL..FO',,VSAM
// DLBL PAC7OF,'$PXU..SEQ.$PRO$PFI..FO',,VSAM
/* PAC7OF ON TAPE  : SYS013 ASSIGNED
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN260,SIZE=(AUTO,50K)
/*
// ON $RC<16 CONTINUE
/. JCLST06
* --- STEP 06 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL IN1,'$XW..W$MODUL..FH',,VSAM
// DLBL IN2,'$PXU..SEQ.$PRO$PFI..FH',,VSAM
// DLBL OUT,'$PXU..SEQ.$PRO$PFI..NEWFH',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (IN1) RUS
 REPRO OFILE (OUT) IFILE (IN2)
/*
/. JCLST07
* --- STEP 07 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL IN1,'$XW..W$MODUL..FR',,VSAM
// DLBL IN2,'$PXU..SEQ.$PRO$PFI..FR',,VSAM
// DLBL OUT,'$PXU..SEQ.$PRO$PFI..NEWFR',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (IN1) RUS
 REPRO OFILE (OUT) IFILE (IN2)
/*
/. STEPEND
* --- STEP 08 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
* $X SLI MEM=RG$PRO.$PFI.FH.$SLIT
* $X SLI MEM=RG$PRO.$PFI.FO.$SLIT
* $X SLI MEM=RG$PRO.$PFI.FR.$SLIT
 DEL                  ($XW..W$MODUL..HF)    CL
 DEL                  ($XW..W$MODUL..FH)    CL
 DEL                  ($XW..W$MODUL..FO)    CL
 DEL                  ($XW..W$MODUL..FR)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

7.4. IANA: IMPACT SEARCH CRITERIA

7.4.1. IANA: INTRODUCTION

IANA: INTRODUCTION

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

1. Entry points, found by the ISEP procedure when IANA is run for the first time,
2. Impact search criteria, obtained with the 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 the execution of the ISEP procedure,
2. Impact search criteria, after the 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

IANA: DESCRIPTION OF STEPS

INDEXATION OF SEQUENTIAL FILE FQ: IDCAMS

```
.Input file:
 -Previously-processed search criteria (sequential)
  IN      :  Physical name = $PXU..SEQ..$PRO$PFI.FQ

.Output file:
 -Previously-processed search criteria (indexed)
  OUT     :  Physical name = $XW..W$MODUL..FQ
```

RECOGNITION OF CRITERIA AFTER THE PURGE: PAN230

```
.Permanent input files:
 -Search criteria
  PAC7FH  :  Physical name = $PXU..SEQ.$PRO$PFI..FH
 -Criteria after purge (reduced file)
  PAC7FR  :  Physical name = $PXU..SEQ.$PRO$PFI..FR

.Output file:
 -Search criteria
  PAC7HF  :  Physical name = $XW..W$MODUL..HF
```

PRINTING OF ENTRY POINTS: PAN220

```
.Permanent input files:
 -Error messages
  PAC7AE  :  Physical name = $PXYP..$PRO.$PRO.AE
 -Sorted criteria
  PAC7HF  :  Physical name = $XW..W$MODUL..HF

.Output report(s):
 -List of accepted / rejected criteria
                           SYS005

. Sort
```

IMPACT ANALYSIS: PAN250

```
.Permanent input files:
 -Error messages
  PAC7AE  :  Physical name = $PXYP..$PRO.$PRO.AE
 -Data file
  PAC7AR  :  Physical name = $PXUP..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXUP..$PRO.$PFI.AN
 -File of entities to be analyzed
  PAC7FP  :  Physical name = $PXU..$PRO.$PFI.FP

.Transaction file:
 -Impacted criteria
  PAC7FH  :  Physical name = $XW..W$MODUL..HF

.Input-output file:
 -Impacted criteria already processed
  PAC7FQ  :  Physical name = $XW..W$MODUL..FQ

.Output files:
```

-New impacted criteria
PAC7HF : Physical name = $XW..W$MODUL..FH
-Impact analysis results
PAC7MF : Physical name = $XW..W$MODUL..INPUT

.Return codes:

. 0 : OK
. 04 : End of iteration (PAC7HF empty)
. 12 : System error

UPDATE OF IMPACT ANALYSIS RESULTS: PAN260

.Transaction file:
-Impact analysis results (level)
PAC7MF : Physical name = $XW..W$MODUL..FO

.Permanent input file:
-Results of previous analysis
PAC7OF : Physical name = $PXU..SEQ.$PRO$PFI..FO

.Permanent output file:
-Sorted results of impact analysis
PAC7FO : Physical name = $PXU..SEQ.$PRO$PFI..NEWFO

. Sort

.Return codes:

. 0 : OK
. 12 : System error

REMOVAL OF DUPLICATE ENTRY POINTS: PAN215

.Transaction file:
-Selected entry points
PAC7FH : Physical name = $XW..W$MODUL..FH

.Permanent output file:
-Sorted selected entry points
PAC7HF : Physical name = $PXU..SEQ.$PRO$PFI..NEWFH
-Reduced entry points to be purged
PAC7FR : Physical name = $PXU..SEQ.$PRO$PFI..NEWFR

. Sort

.Return code :

. 0 : OK
. 12 : System error

SEQUENTIALIZATION OF VSAM FILE FQ: IDCAMS

```
.Input file:
 -Previously processed search criteria (indexed)
  IN      :  Physical name = $XW..W$MODUL..FQ

.Output file:
 -Previously processed search criteria (sequential)
  OUT     :  Physical name = $PXU..SEQ..$PRO$PFI.FQ
```

7.4.3. IANA: EXECUTION JCL

```
===SEQ FOR S2K
===MOD IANA
* $X JOB JNM=$PRFJ.IANA,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.IANA        ****** $PROD $PREL ******
*                IMPACT ANALYSIS
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE BACKUP FILE        FH --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFH) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFH.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FO --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFO) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFO) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(260 260) -
                 RECFM(FB(260)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFO.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FQ --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFQ) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFQ) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(100 100) -
                 RECFM(FB(100)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFQ.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FR --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFR) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFR) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(072 072) -
                 RECFM(FB(072)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFR.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     HF --- */
 DEL                  ($XW..W$MODUL..HF) CL
 DEF CL         (NAME ($XW..W$MODUL..HF) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($XW..W$MODUL..HF.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     FH --- */
 DEL                  ($XW..W$MODUL..FH) CL
 DEF CL         (NAME ($XW..W$MODUL..FH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($XW..W$MODUL..FH.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     FO --- */
 DEL                  ($XW..W$MODUL..FO) CL
 DEF CL         (NAME ($XW..W$MODUL..FO) -
                 MODEL($MODELF) -
```

```
                  REC  (1000 1000) -
                  RECSZ(260 260) -
                  RECFM(FB(260)) -
          ) DATA    (NAME ($XW..W$MODUL..FO.D) )
        /* --- DELETE-DEFINE TEMPORARY FILE     FQ --- */
     DEL                  ($XW..W$MODUL..FQ) CL
     DEF CL         (NAME ($XW..W$MODUL..FQ) -
                  NAL RUS VOL($VOLVWK) -
                  KEYS (94 1) -
                  REC  (1000 1000) -
                  RECSZ(100 100) -
          ) DATA    (NAME ($XW..W$MODUL..FQ.D) -
          ) INDEX   (NAME ($XW..W$MODUL..FQ.I) )
    /*
    /. JCLST02
    * --- STEP 02 --- IDCAMS
    // DLBL IJSYSUC,'$VCAP',,VSAM
    // DLBL IN,'$PXU..SEQ.$PRO$PFI..FQ',,VSAM
    // DLBL OUT,'$XW..W$MODUL..FQ',,VSAM
    // EXEC IDCAMS,SIZE=AUTO
     REPRO OFILE (OUT) IFILE (IN) RUS
    /*
    /. JCLST03
    * --- STEP 03 --- PAN230
    // DLBL IJSYSUC,'$VCAP',,VSAM
    // DLBL PAC7FH,'$PXU..SEQ.$PRO$PFI..FH',,VSAM
    // DLBL PAC7FR,'$PXU..SEQ.$PRO$PFI..FR',,VSAM
    // DLBL PAC7HF,'$XW..W$MODUL..HF',,VSAM
    // EXEC PAN230,SIZE=AUTO
    /. JCLST04
    * --- STEP 04 --- PAN220
    // DLBL IJSYSUC,'$VCAP',,VSAM
    // DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
    // DLBL PAC7HF,'$XW..W$MODUL..HF',,VSAM
    // EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
    // EXEC PAN220,SIZE=(AUTO,50K)
    /. JCLST05
    * --- STEP 05 --- PAN250
    // DLBL IJSYSUC,'$VCAP',,VSAM
    // DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
    // DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
    // DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
    // DLBL PAC7FH,'$XW..W$MODUL..HF',,VSAM
    // DLBL PAC7FP,'$PXU..$PRO.$PFI.FP',,VSAM
    // DLBL PAC7FQ,'$XW..W$MODUL..FQ',,VSAM
    // DLBL PAC7HF,'$XW..W$MODUL..FH',,VSAM
    // DLBL PAC7MF,'$XW..W$MODUL..FO',,VSAM
    // ON $RC GE 12 GOTO STEPEND
    // EXEC PAN250,SIZE=AUTO
    /*
    // ON $RC<16 CONTINUE
    /. JCLST06
    * --- STEP 06 --- PAN260
    // DLBL IJSYSUC,'$VCAP',,VSAM
    // DLBL PAC7FO,'$PXU..SEQ.$PRO$PFI..NEWFO',,VSAM
    /* PAC7FO ON TAPE  : SYS011 ASSIGNED
    // DLBL PAC7MF,'$XW..W$MODUL..FO',,VSAM
    // DLBL PAC7OF,'$PXU..SEQ.$PRO$PFI..FO',,VSAM
    /* PAC7OF ON TAPE  : SYS013 ASSIGNED
    // EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
    // EXEC PAN260,SIZE=(AUTO,50K)
    /. JCLST07
    * --- STEP 07 --- PAN215
    // DLBL IJSYSUC,'$VCAP',,VSAM
    // DLBL PAC7FH,'$XW..W$MODUL..FH',,VSAM
    // DLBL PAC7FR,'$PXU..SEQ.$PRO$PFI..NEWFR',,VSAM
    // DLBL PAC7HF,'$PXU..SEQ.$PRO$PFI..NEWFH',,VSAM
    // EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
    // ON $RC GE 12 GOTO STEPEND
    // EXEC PAN215,SIZE=(AUTO,50K)
    /*
    // ON $RC<16 CONTINUE
    /. JCLST08
```

```
* --- STEP 08 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL IN,'$XW..W$MODUL..FQ',,VSAM
// DLBL OUT,'$PXU..SEQ.$PRO$PFI..NEWFQ',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 REPRO OFILE (OUT) IFILE (IN) RUS
/*
/. STEPEND
* --- STEP 09 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
* $X SLI MEM=RG$PRO.$PFI.FH.$SLIT
* $X SLI MEM=RG$PRO.$PFI.FO.$SLIT
* $X SLI MEM=RG$PRO.$PFI.FQ.$SLIT
* $X SLI MEM=RG$PRO.$PFI.FR.$SLIT
 DEL                  ($XW..W$MODUL..HF)    CL
 DEL                  ($XW..W$MODUL..FH)    CL
 DEL                  ($XW..W$MODUL..FO)    CL
 DEL                  ($XW..W$MODUL..FQ)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

7.5. IPIA: PRINTING OF THE IMPACT ANALYSIS RESULTS

7.5.1. IPIA: INTRODUCTION

IPIA: INTRODUCTION

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.

>>> 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

IPIA: USER INPUT

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

IPIA: DESCRIPTION OF STEPS

```
TRANSACTION RECOGNITION:  PTU001


PRINTING OF IMPACT RESULTS:  PAN270

.Permanent input files:
 -Error messages
  PAC7AE  :  Physical name = $PXYP..$PRO.$PRO.AE
 -Impact results
  PAC7FO  :  Physical name = $PXU..SEQ.$PRO$PFI..FO

.Transaction file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output file:
 -Generated batch transactions
  PAC7MV  :  Physical name = $XW..W$MODUL..MV

.Output report:
 -Analysis results
                            SYS005

. Sort

.Return codes:

 . 0  : OK
 . 12 : System error



PRINTING OF GENERATED TRANSACTIONS:  PAN280

.Permanent input files:
 -Error messages
  PAC7AE  :  Physical name = $PXYP..$PRO.$PRO.AE

.Transaction file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT
 -Generated batch transactions
  PAC7MV  :  Physical name = $XW..W$MODUL..MV

.Output files:
 -Selected batch transactions
  PAC7VM  :  Physical name = $PXU..RIPIA.VM

.Output report
 -List of transactions by library
                            SYS005

.Return codes:

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

7.5.4. IPIA: EXECUTION JCL

```
===SEQ FOR S2K
===MOD IPIA
* $X JOB JNM=$PRFJ.IPIA,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.IPIA        ****** $PROD $PREL ******
*                 PRINTING OF THE RESULT
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                   ($XW..W$MODUL..INPUT) CL
 DEF CL          (NAME ($XW..W$MODUL..INPUT) -
                  MODEL($MODELF) -
                  REC  (1 200) -
      ) DATA     (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MV --- */
 DEL                   ($XW..W$MODUL..MV) CL
 DEF CL          (NAME ($XW..W$MODUL..MV) -
                  MODEL($MODELF) -
                  REC  (1000 1000) -
                  RECSZ(080 080) -
                  RECFM(FB(080)) -
      ) DATA     (NAME ($XW..W$MODUL..MV.D) )
    /* --- DELETE-DEFINE RESULT FILE      VM --- */
 DEL                   ($PXU..R$MODUL..VM) CL
 DEF CL          (NAME ($PXU..R$MODUL..VM) -
                  MODEL($MODELF) -
                  REC  (1000 1000) -
                  RECSZ(080 080) -
                  RECFM(FB(080)) -
      ) DATA     (NAME ($PXU..R$MODUL..VM.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDBBBSSSS FIII
 P    111111
/*
/. JCLST03
* --- STEP 03 --- PAN270
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7FO,'$PXU..SEQ.$PRO$PFI..FO',,VSAM
/* PAC7FO ON TAPE  : SYS011 ASSIGNED
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// DLBL PAC7MV,'$XW..W$MODUL..MV',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN270,SIZE=(AUTO,50K)
/*
// ON $RC<16 CONTINUE
/. JCLST04
* --- STEP 04 --- PAN280
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// DLBL PAC7MV,'$XW..W$MODUL..MV',,VSAM
// DLBL PAC7VM,'$PXU..R$MODUL..VM',,VSAM
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN280,SIZE=AUTO
/*
// ON $RC<16 CONTINUE
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEL                  ($XW..W$MODUL..MV)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

7.6. IGRA: BREAKING DOWN OF GROUP FIELDS

7.6.1. IGRA: INTRODUCTION

IGRA - OVERVIEW

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

IGRA: DESCRIPTION OF STEPS

RECOGNITION OF PURGED CRITERIA: PAN230

.Permanent input files:
-Search criteria file

-Reduced file of purged criteria

.Output file:
-Search criteria file

PRINTING ENTRY POINTS: PAN220

.Permanent input files:
-Error messages

-Sorted criteria

.Output reports:
-List of accepted/eliminated criteria

.Sort files:

GROUP FIELD BREAKING-DOWN: PAN255

.Permanent input files:
-Error messages

-Data file

-Index file

-Entities to be analyzed

.Transaction file:
-Impacted criteria

.Output file:
-Impact analysis results

.Return codes:

UPDATE OF IMPACT ANALYSIS RESULTS: PAN260

.Transaction file:
-Impact analysis result (by level)

.Permanent input file:
-Results of previous analysis

.Permanent output file:
 -Sorted results of the impact analysis

.Sort files:

.Return codes:

7.6.3. IGRA: EXECUTION JCL

```
===SEQ FOR S2K
===MOD IGRA
* $X JOB JNM=$PRFJ.IGRA,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.IGRA        ****** $PROD $PREL ******
*               SUB-DESCRIPTION OF THE DATA GROUP
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE BACKUP FILE        FH --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFH) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFH.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FO --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFO) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFO) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(260 260) -
                 RECFM(FB(260)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFO.D) )
    /* --- DELETE-DEFINE BACKUP FILE        FR --- */
 DEL                  ($PXU..SEQ.$PRO$PFI..NEWFR) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFR) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(072 072) -
                 RECFM(FB(072)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFR.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     HF --- */
 DEL                  ($XW..W$MODUL..HF) CL
 DEF CL         (NAME ($XW..W$MODUL..HF) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($XW..W$MODUL..HF.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     FH --- */
 DEL                  ($XW..W$MODUL..FH) CL
 DEF CL         (NAME ($XW..W$MODUL..FH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($XW..W$MODUL..FH.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     FO --- */
 DEL                  ($XW..W$MODUL..FO) CL
 DEF CL         (NAME ($XW..W$MODUL..FO) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(260 260) -
                 RECFM(FB(260)) -
      ) DATA    (NAME ($XW..W$MODUL..FO.D) )
/*
/. JCLST02
* --- STEP 02 --- PAN230
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7FH,'$PXU..SEQ.$PRO$PFI..FH',,VSAM
// DLBL PAC7FR,'$PXU..SEQ.$PRO$PFI..FR',,VSAM
// DLBL PAC7HF,'$XW..W$MODUL..HF',,VSAM
// EXEC PAN230,SIZE=AUTO
/. JCLST03
* --- STEP 03 --- PAN220
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7HF,'$XW..W$MODUL..HF',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PAN220,SIZE=(AUTO,50K)
/. JCLST04
* --- STEP 04 --- PAN255
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7FH,'$XW..W$MODUL..HF',,VSAM
// DLBL PAC7FP,'$PXU..$PRO.$PFI.FP',,VSAM
// DLBL PAC7MF,'$XW..W$MODUL..FO',,VSAM
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN255,SIZE=AUTO
/*
// ON $RC<16 CONTINUE
/. JCLST05
* --- STEP 05 --- PAN260
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7FO,'$PXU..SEQ.$PRO$PFI..NEWFO',,VSAM
/* PAC7FO ON TAPE  : SYS011 ASSIGNED
// DLBL PAC7MF,'$XW..W$MODUL..FO',,VSAM
// DLBL PAC7OF,'$PXU..SEQ.$PRO$PFI..FO',,VSAM
/* PAC7OF ON TAPE  : SYS013 ASSIGNED
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PAN260,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 06 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
* $X SLI MEM=RG$PRO.$PFI.FH.$SLIT
* $X SLI MEM=RG$PRO.$PFI.FO.$SLIT
* $X SLI MEM=RG$PRO.$PFI.FR.$SLIT
 DEL                  ($XW..W$MODUL..HF)    CL
 DEL                  ($XW..W$MODUL..FH)    CL
 DEL                  ($XW..W$MODUL..FO)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

7.7. IPFQ: FQ FILE PRINTOUT (IMPACT ANALYSIS)

7.7.1. IPFQ: INTRODUCTION

IPFQ: INTRODUCTION

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

EXECUTION CONDITION

None, but the FQ file must exist.

ABNORMAL EXECUTIONS

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

7.7.2. IPFQ: DESCRIPTION OF STEPS

IPFQ: DESCRIPTION OF STEPS

```
EXTRACTION OF CRITERIA:  PAN240

.Permanent input files:
 -Data file
  PAC7AR  :  Physical name = $PXUP..$PRO.$PFI.AR
 -Index file
  PAC7AN  :  Physical name = $PXUP..$PRO.$PFI.AN
 -Criteria impacted during analysis
  PAC7FQ  :  Physical name = $PXU..$PRO.$PFI.FQ

.Output files:
 -Search criteria
  PAC7FH  :  Physical name = $XW..W$MODUL..FH


PRINTING OF IMPACTED CRITERIA:  PAN220

.Permanent input files:
 -Error messages
  PAC7AE  :  Physical name = $PXYP..$PRO.$PRO.AE
 -Sorted entry points or criteria
  PAC7HF  :  Physical name = $XW..W$MODUL..FH

.Output report:
 -List of entry points or criteria
                            SYS005

. Sort

.Return codes:

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

7.7.3. IPFQ: EXECUTION JCL

```
===SEQ FOR S2K
===MOD IPFQ
* $X JOB JNM=$PRFJ.IPFQ,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.IPFQ        ****** $PROD $PREL ******
*                PRINTING OF FILE  FQ
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE TEMPORARY FILE     FH --- */
 DEL                  ($XW..W$MODUL..FH) CL
 DEF CL         (NAME ($XW..W$MODUL..FH) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(160 160) -
                 RECFM(FB(160)) -
      ) DATA    (NAME ($XW..W$MODUL..FH.D) )
/*
/. JCLST02
* --- STEP 02 --- PAN240
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7FH,'$XW..W$MODUL..FH',,VSAM
// DLBL PAC7FQ,'$PXU..SEQ.$PRO$PFI..FQ',,VSAM
// EXEC PAN240,SIZE=AUTO
/. JCLST03
* --- STEP 03 --- PAN220
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7HF,'$XW..W$MODUL..FH',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN220,SIZE=(AUTO,50K)
/*
// ON $RC<16 CONTINUE
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..FH)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

7.8. INFQ: FQ FILE REINITIALIZATION (IMPACT ANALYSIS)

7.8.1. INFQ: INTRODUCTION

INFQ: INTRODUCTION

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.

7.8.2. INFQ: DESCRIPTION OF STEPS

INFQ: DESCRIPTION OF STEPS

```
REINITIALIZATION OF THE FQ FILE:  PAN200

.Output file:
 -Reinitialized impactd criteria file (sequential)
  PAC7FQ  :  Physical name = $PXU..SEQ..$PRO$PFI.NEWFQ
```

7.8.3. INFQ: EXECUTION JCL

```
===SEQ FOR S2K
===MOD INFQ
* $X JOB JNM=$PRFJ.INFQ,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.INFQ        ****** $PROD $PREL ******
*                 REINITIALIZATION OF 'FQ' FILE
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE BACKUP FILE        FQ --- */
 DEL                   ($PXU..SEQ.$PRO$PFI..NEWFQ) CL
 DEF CL         (NAME ($PXU..SEQ.$PRO$PFI..NEWFQ) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(100 100) -
                 RECFM(FB(100)) -
      ) DATA    (NAME ($PXU..SEQ.$PRO$PFI..NEWFQ.D) )
/*
/. JCLST02
* --- STEP 02 --- PAN200
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7FQ,'$PXU..SEQ.$PRO$PFI..NEWFQ',,VSAM
// EXEC PAN200,SIZE=AUTO
/. STEPEND
* --- STEP 03 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
* $X SLI MEM=RG$PRO.$PFI.FQ.$SLIT
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

7.9. INFP: FP FILE INITIALIZATION (IMPACT ANALYSIS)

7.9.1. INFP: INTRODUCTION

INFP: INTRODUCTION

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

INFP: USER INPUT

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

INFP: DESCRIPTION OF STEPS

```
TRANSACTION RECOGNITION:  PTU001


CHECK ON TRANSACTIONS AND FP UPDATE:  PAN205

.Permanent input file:
 -Error messages
  PAC7AE  :  Physical name = $PXYP..$PRO.$PRO.AE

.Transaction file:
 -User input
  PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output file:
 -Entities in production
  PAC7FP  :  Physical name = $PXU..$PRO.$PFI.FP

.Output report:
 -Check report
                            SYS005

. Sort

.Return codes:

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

7.9.4. INFP: EXECUTION JCL

```
===SEQ FOR S2K
===MOD INFP
* $X JOB JNM=$PRFJ.INFP,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
/* ************************************************************
// JOB $PRFJ.INFP        ****** $PROD $PREL ******
*                INITIALIZATION OF 'FP' FILE
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE PERMANENT FILE    FP --- */
 DEL                  ($PXU..$PRO..FP) CL
 DEF CL         (NAME ($PXU..$PRO..FP) -
                 NAL RUS VOL($VOLVWK) -
                 KEYS (9 0) -
                 REC  (1000 1000) -
                 RECSZ(9 9) -
      ) DATA    (NAME ($PXU..$PRO..FP.D) -
      ) INDEX   (NAME ($PXU..$PRO..FP.I) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
/*
/. JCLST03
* --- STEP 03 --- PAN205
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7FP,'$PXU..$PRO.$PFI.FP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// ON $RC GE 12 GOTO STEPEND
// EXEC PAN205,SIZE=(AUTO,50K)
/*
// ON $RC<16 CONTINUE
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

8. VisualAge Smalltalk/Java / VA Pac INTERFACE

8.1. VDWN: RESTORATION

8.1.1. VDWN: INTRODUCTION

VDWN: INTRODUCTION

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.

EXECUTION CONDITION

None.

ABNORMAL EXECUTIONS

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
		'72'	VisualAge Generator GUI	
		'77'	VisualAge Smltlk. application	
		'78'	VisualAge Smalltalk part	
6	6		VA Pac identifier of the VisualAge Smalltalk object	R

8.1.3. VDWN: DESCRIPTION OF STEPS

VDWN: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

CHECK AND EXTRACTION PREPARATION: PVA100

```
.Input files:
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -User input
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output reports and files:
 -Check report
                            SYS005
 -'*'-line check report
                            SYS007
 -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 : Physical name = $XW..W$MODUL..ME

```
 -Elementary-extraction requests
   PAC7MV  :  Physical name = $XW..W$MODUL..MV
```

EXTRACTION: PVA110

```
.Input files:
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Elementary extraction requests
   PAC7MV  :  Physical name = $XW..W$MODUL..MV

.Output file:
 -Result of host restoration
   (length: 100)
```

This file stores the 'raw' sources of extracted objects. It should be transfered onto the local work station, in order to terminate the process with the local restoration step, which is performed in the VisualAge Smalltalk environment.   PAC7MX : Physical name = $PXU..R$MODUL..MX

```
   Tape is                   SYS012
```

8.1.4. VDWN: EXECUTION JCL

```
===SEQ FOR VISP
===MOD VDWN
* $X JOB JNM=$PRFJ.VDWN,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
/* ************************************************************
// JOB $PRFJ.VDWN        ****** $PROD $PREL ******
*            RESTORE
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MV --- */
 DEL                  ($XW..W$MODUL..MV) CL
 DEF CL         (NAME ($XW..W$MODUL..MV) -
                 MODEL($MODELF) -
                 REC  (1600 1600) -
                 RECSZ(80 80) -
                 RECFM(FB(80)) -
      ) DATA    (NAME ($XW..W$MODUL..MV.D) )
    /* --- DELETE-DEFINE RESULT FILE      MX --- */
 DEL                  ($PXU..R$MODUL..MX) CL
 DEF CL         (NAME ($PXU..R$MODUL..MX) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(100 100) -
                 RECFM(FB(100)) -
      ) DATA    (NAME ($PXU..R$MODUL..MX.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     ME --- */
 DEL                  ($XW..W$MODUL..ME) CL
 DEF CL         (NAME ($XW..W$MODUL..ME) -
                 MODEL($MODELF) -
                 REC  (200 200) -
                 RECSZ(80 80) -
                 RECFM(FB(80)) -
      ) DATA    (NAME ($XW..W$MODUL..ME.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
/*
/. JCLST03
* --- STEP 03 --- PVA100
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM,DISP=(,DELETE,KEEP)
// DLBL PAC7ME,'$XW..W$MODUL..ME',,VSAM
// DLBL PAC7MV,'$XW..W$MODUL..MV',,VSAM
// EXEC PVA100,SIZE=AUTO
/. JCLST04
* --- STEP 04 --- PVA110
```

```
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MV,'$XW..W$MODUL..MV',,VSAM
// DLBL PAC7MX,'$PXU..R$MODUL..MX',,VSAM
/* PAC7MX ON TAPE  : SYS012 ASSIGNED
// EXEC PVA110,SIZE=AUTO
/. STEPEND
* --- STEP 05 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEL                  ($XW..W$MODUL..MV)    CL
 DEL                  ($XW..W$MODUL..ME)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

8.2. VUP1: BACKUP - CODE CALCULATION

8.2.1. VUP1: INTRODUCTION

VUP1: INTRODUCTION

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

VUP1: USER INPUT

The procedure's input file comes from the 'local' step of the backup procedure, performed in the VisualAge Smalltalk environment.

This file's DSN is &FICVIS (procedure parameter). 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 database under DSMS control	O

(*) 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, one character with another 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

EXTRACTION OF VISUALAGE SMALLTALK/JAVA ENTITY CODES FROM VISUALAGE PACBASE: PVA300

```
.Input files:
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -VisualAge Smalltalk file/Java produced by work station
   PAC7VA  :  Physical name = $PXU..R$MODUL..VA

.Output reports and files:
 -Check report
                            SYS005
 -'*'-line check report
                            SYS007
 -Extracted codes
   PAC7VC  :  Physical name = $PXU..$PRO.$PFI.VC

. Sort
```

COMPARISON OF ENTITIES EXTRACTED FROM VISUALAGE SMALLTALK
AND NEW ENTITIES TO BE CREATED IN VA PAC: PVA305

```
.Input files:
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -VisualAge Smalltalk/Java file produced by the workstation
   PAC7VA  :  Physical name = $PXU..R$MODUL..VA
 -VisualAge Pacbase codes of VisualAge Smalltalk/Java
  entities already saved
   PAC7VC  :  Physical name = $PXU..$PRO.$PFI.VC



   PAC7CA  :  Physical name = $XW..W$MODUL..CA

.Output reports and file:
 -List of new codes created
                           SYS005
 -'*'-line check report
                           SYS007
 -Printing of any fatal error and of the list of
  duplicate entity extractions
                           SYS003
 -List of codes assigned to new VisualAge Smalltalk/Java
  entities
   PAC7VN  :  Physical name = $PXU..R$MODUL..VN
 -Useful VisualAge Smalltalk/Java transactions
   PAC7VG  :  Physical name = $PXU..R$MODUL..VG

. Sort
```

```
CALCULATION OF VA PAC CODES FOR NEW VA SMALLTALK/JAVA
ENTITIES:  PVA310

.Input files:
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error message file
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -VisualAge Smalltalk/Java file produced by the workstation
   PAC7VA  :  Physical name = $PXU..R$MODUL..VA
 -VisualAge Pacbase codes of VisualAge Smalltalk/Java
  entities already saved
   PAC7VC  :  Physical name = $PXU..R$MODUL..VC



 -Character-correspondence table
  for substitution in the code calculation
   PAC7CA  :  Physical name = $XW..W$MODUL..CA

.Output reports and file:
 -List of new codes created
                            SYS005
 -'*'-line check report
                            SYS007
 -List of codes assigned to new VisualAge Smalltalk/Java
  entities
   PAC7VN  :  Physical name = $PXU..R$MODUL..VN
   PAC7VG  :  Physical name = $PXU..R$MODUL..VG
 -List of VisualAge Pacbase codes of VisualAge Smalltalk/
  Java entities already saved
   PAC7VC  :  Physical name = $PXU..R$MODUL..VC
 -List of codes assigned to the new VisualAge Smalltalk/Java
  entities
   PAC7VV  :  Physical name = $PXU..R$MODUL..VV
 -File of codes assigned to entities already stored in
  VisualAge Pacbase
   PAC7VP  :  Physical name = $PXU..$PRO.$PFI.VP

. Sort
```

8.2.4. VUP1: EXECUTION JCL

```
===SEQ FOR VISP
===MOD VUP1
* $X JOB JNM=$PRFJ.VUP1,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST3$PWL
/* ************************************************************
// JOB $PRFJ.VUP1        ****** $PROD $PREL ******
*            SAVE
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
// ASSGN SYS003,$LST3 3TRD PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     CA --- */
 DEL                  ($XW..W$MODUL..CA) CL
 DEF CL         (NAME ($XW..W$MODUL..CA) -
                 MODEL($MODELF) -
                 REC  (80 100) -
                 RECSZ(2 2) -
                 RECFM(FB(2)) -
      ) DATA    (NAME ($XW..W$MODUL..CA.D) )
    /* --- DELETE-DEFINE RESULT FILE      VA --- */
 DEL                  ($PXU..R$MODUL..VA) CL
 DEF CL         (NAME ($PXU..R$MODUL..VA) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(100 100) -
                 RECFM(FB(100)) -
      ) DATA    (NAME ($PXU..R$MODUL..VA.D) )
    /* --- DELETE-DEFINE PERMANENT FILE    VC --- */
 DEL                  ($PXU..$PRO..VC) CL
 DEF CL         (NAME ($PXU..$PRO..VC) -
                 NAL RUS VOL($VOLVWK) -
                 KEYS (1 10) -
                 REC  (1000 1000) -
                 RECSZ(100 100) -
      ) DATA    (NAME ($PXU..$PRO..VC.D) -
      ) INDEX   (NAME ($PXU..$PRO..VC.I) )
    /* --- DELETE-DEFINE RESULT FILE      VG --- */
 DEL                  ($PXU..R$MODUL..VG) CL
 DEF CL         (NAME ($PXU..R$MODUL..VG) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(100 100) -
                 RECFM(FB(100)) -
      ) DATA    (NAME ($PXU..R$MODUL..VG.D) )
    /* --- DELETE-DEFINE PERMANENT FILE    VN --- */
 DEL                  ($PXU..$PRO..VN) CL
 DEF CL         (NAME ($PXU..$PRO..VN) -
                 NAL RUS VOL($VOLVWK) -
                 KEYS (1 10) -
                 REC  (1000 1000) -
                 RECSZ(100 100) -
      ) DATA    (NAME ($PXU..$PRO..VN.D) -
      ) INDEX   (NAME ($PXU..$PRO..VN.I) )
    /* --- DELETE-DEFINE RESULT FILE      VV --- */
 DEL                  ($PXU..R$MODUL..VV) CL
 DEF CL         (NAME ($PXU..R$MODUL..VV) -
                 MODEL($MODELF) -
                 REC  (1000 1000) -
                 RECSZ(100 100) -
                 RECFM(FB(100)) -
      ) DATA    (NAME ($PXU..R$MODUL..VV.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORDLIB
/*
/. JCLST03
* --- STEP 03 --- PVA300
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7VA,'$PXU..R$MODUL..VA',,VSAM
// DLBL PAC7VC,'$PXU..$PRO.$PFI.VC',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PVA300,SIZE=(AUTO,50K)
/. JCLST04
* --- STEP 04 --- PVA305
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7VA,'$PXU..R$MODUL..VA',,VSAM
// DLBL PAC7VC,'$PXU..$PRO.$PFI.VC',,VSAM
// DLBL PAC7VG,'$PXU..R$MODUL..VG',,VSAM
// DLBL PAC7VN,'$PXU..$PRO.$PFI.VN',,VSAM
// DLBL VN,'$PXU..R.VN',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PVA305,SIZE=(AUTO,50K)
/. JCLST05
* --- STEP 05 --- PVA310
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7CA,'$XW..W$MODUL..CA',,VSAM
// DLBL PAC7VA,'$PXU..R$MODUL..VA',,VSAM
// DLBL PAC7VC,'$PXU..$PRO.$PFI.VC',,VSAM
// DLBL PAC7VG,'$PXU..R$MODUL..VG',,VSAM
// DLBL PAC7VN,'$PXU..$PRO.$PFI.VN',,VSAM
// DLBL PAC7VP,'$PXU..$PRO.$PFI.VP',,VSAM
// DLBL PAC7VV,'$PXU..R$MODUL..VV',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PVA310,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 06 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEL                  ($XW..W$MODUL..CA)    CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```

8.3. VUP2: GENERATION OF UPDT TRANSACTIONS

8.3.1. VUP2: INTRODUCTION

VUP2: INTRODUCTION

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.

EXECUTION CONDITIONS

The VUP1 procedure must have been previously executed.

ABNORMAL EXECUTIONS

For details on the abnormal executions, see the Administrator's Guide, Chapter 'OVERVIEW', Subchapter 'Abnormal Endings'.

8.3.2. VUP2: USER INPUT

VUP2: USER INPUT

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 database under DSMS control	O

(*) 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

8.3.3. VUP2: DESCRIPTION OF STEPS

VUP2: DESCRIPTION OF STEPS

```
GENERATION OF VA PAC TRANSACTIONS FOR UPDT:  PVA320

.Input files:
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -Useful transactions produced by VisualAge Smalltalk (PC)
   PAC7VA  :  Physical name = $PXU..R$MODUL..VA
  (&VISUTIL file produced by VUP1)
 -Codes of new VisualAge Smalltalk/Java entities taken into
  account
   PAC7VN  :  Physical name = $PXU..R$MODUL..VN
  (&PBCOD file produced by VUP1)
 -Codes of VisualAge Smalltalk/Java entities already saved
  in VisualAge Pacbase
   PAC7VC  :  Physical name = $PXU..$PRO.$PFI.VC

.Output reports:
 -List of VisualAge Pacbase codes taken into account
                            SYS005
 -'*'-line check report
                            SYS007
 -List of input transactions
                            SYS003



 -List of erroneous transactions
                            SYS007

.Output files:



 -Transactions for UPDT that contain only definition
  files
   PAC7MY  :  Physical name = $XW..W$MODUL..MY
 -Transactions for UPDT other than definition files
   PAC7MX  :  Physical name = $PXU..R$MODUL..MX
   Tape is                   SYS015

. Sort
```

8.3.4. VUP2: EXECUTION JCL

```
===SEQ FOR VISP
===MOD VUP2
* $X JOB JNM=$PRFJ.VUP2,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST3$PWL
/* ************************************************************
// JOB $PRFJ.VUP2        ****** $PROD $PREL ******
*            GENERATION OF 'UPDT' MOVEMENTS
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
// ASSGN SYS003,$LST3 3TRD PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
    /* --- DELETE-DEFINE RESULT FILE      MX --- */
 DEL                  ($PXU..R$MODUL..MX) CL
 DEF CL         (NAME ($PXU..R$MODUL..MX) -
                 MODEL($MODELF) -
                 REC  (1000 32000) -
                 RECSZ(80 80) -
                 RECFM(FB(80)) -
      ) DATA    (NAME ($PXU..R$MODUL..MX.D) )
    /* --- DELETE-DEFINE TEMPORARY FILE     MY --- */
 DEL                  ($XW..W$MODUL..MY) CL
 DEF CL         (NAME ($XW..W$MODUL..MY) -
                 MODEL($MODELF) -
                 REC  (1000 3200) -
                 RECSZ(80 80) -
                 RECFM(FB(80)) -
      ) DATA    (NAME ($XW..W$MODUL..MY.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORD
/*
/. JCLST03
* --- STEP 03 --- PVA320
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MX,'$PXU..R$MODUL..MX',,VSAM
/* PAC7MX ON TAPE  : SYS015 ASSIGNED
// DLBL PAC7MY,'$XW..W$MODUL..MY',,VSAM
// DLBL PAC7VA,'$PXU..R$MODUL..VA',,VSAM
// DLBL PAC7VC,'$PXU..$PRO.$PFI.VC',,VSAM
// DLBL PAC7VN,'$PXU..R$MODUL..VN',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PVA320,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
```

```
  DEL                  ($XW..W$MODUL..INPUT) CL
  DEL                  ($XW..W$MODUL..MY)    CL
 /*
 // EXEC LISTLOG
 /&
 * $X EOJ
 ===SEQ
```

8.4. VPUR: PURGE

8.4.1. VPUR: INTRODUCTION

VPUR: INTRODUCTION

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.

EXECUTION CONDITION

None.

ABNORMAL EXECUTION

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. VA-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 (current session: 9999Z)	O

(*) O = Required

8.4.3. VPUR: DESCRIPTION OF STEPS

VPUR: DESCRIPTION OF STEPS

TRANSACTION RECOGNITION: PTU001

GENERATION OF PURGE TRANSACTIONS: PVA400

```
.Input files:
 -Index file
   PAC7AN  :  Physical name = $PXU..$PRO.$PFI.AN
 -Data file
   PAC7AR  :  Physical name = $PXU..$PRO.$PFI.AR
 -Error messages
   PAC7AE  :  Physical name = $PXY..$PRO.$PRO.AE
 -User input
   PAC7MB  :  Physical name = $XW..W$MODUL..INPUT

.Output reports and file:
 -List of user input
                            SYS005
 -'*'-line check report
                            SYS007
 -Generated purge-transactions
                            SYS003

. Sort
```

8.4.4. VPUR: EXECUTION JCL

```
===SEQ FOR VISP
===MOD VPUR
* $X JOB JNM=$PRFJ.VPUR,CLASS=$PCJ,DISP=$PDJ,USER='$PUJ'$PWJ
* $X LST CLASS=$PCL,DISP=$PDL$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST2$PWL
* $X LST CLASS=$PCL,DISP=$PDL,LST=$LST3$PWL
/* ************************************************************
// JOB $PRFJ.VPUR        ****** $PROD $PREL ******
*            PURGE
/* ************************************************************
// OPTION $OPT
* $X SLI MEM=DBJB$PRO.$PFI..$SLIT
// ASSGN SYS007,$LST2 2ND  PRINTER L.U.
// ASSGN SYS003,$LST3 3TRD PRINTER L.U.
/* GOTO JCLSTXX
/. JCLST01
* --- STEP 01 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
    /* --- DELETE-DEFINE 'INPUT' TEMPORARY FILE   --- */
 DEL                  ($XW..W$MODUL..INPUT) CL
 DEF CL         (NAME ($XW..W$MODUL..INPUT) -
                 MODEL($MODELF) -
                 REC  (1 200) -
      ) DATA    (NAME ($XW..W$MODUL..INPUT.D) )
/*
/. JCLST02
* --- STEP 02 --- PTU001
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PTU001,SIZE=AUTO
 *USER    PASSWORD
 SL999
 SS999
/*
/. JCLST03
* --- STEP 03 --- PVA400
// DLBL IJSYSUC,'$VCAP',,VSAM
// DLBL PAC7AE,'$PXY..$PRO.$PRO.AE',,VSAM
// DLBL PAC7AN,'$PXU..$PRO.$PFI.AN',,VSAM
// DLBL PAC7AR,'$PXU..$PRO.$PFI.AR',,VSAM
// DLBL PAC7MB,'$XW..W$MODUL..INPUT',,VSAM
// EXEC PROC=$SORTWK CALL SORTWORK DEFINITION
// EXEC PVA400,SIZE=(AUTO,50K)
/. STEPEND
* --- STEP 04 --- IDCAMS
// DLBL IJSYSUC,'$VCAP',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 DEL                  ($XW..W$MODUL..INPUT) CL
/*
// EXEC LISTLOG
/&
* $X EOJ
===SEQ
```