VisualAge Pacbase

The Developer's Procedures UNIX Server

Version 3.5

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Note

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First Edition (February 2003)

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Chapter 1. General Introduction to the Batch Procedures

Foreword

This manual documents the batch procedures that all the product users are likely to use.

These procedures first include all standard procedures dedicated to updating, generating, printing, and extracting.

They also include the procedures dedicated to the following functionalities:

- Personalized extraction and automated documentation,
- Integrity checks on Methodology occurrences (associated with the VA Pac WorkStation's Pacdesign module for SSADM and YSM),
- Pac/Impact.

Overview of the Procedures

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

The following elements are included for each procedure:

- a general introduction including:
  - the Execution Conditions,
  - operations to be performed in case of Abnormal Executions.
- the description of the User Input, Processes and Results obtained, possibly including use recommendations.
- the Description of Steps.

To use a procedure on a given Database, the user must have the corresponding authorization.

Each user has:

- a general level of authorizations to the batch procedures,
- a specific authorization level per Database

User authorizations are defined in the Administration Database.

User Identification '*' Line

Batch procedures which access the Databases 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.

Some information entered on this line 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.

Position	Length	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	Test session
		H	Frozen session
27	1		With the UPDT procedure in case of multiple deletion:
		N	Print all transactions, including generated transactions (default option)
		O	Print transactions entered by the user and erroneous generated transactions
		E	Print erroneous transactions only
28 29	1 11		The 2 following fields must be valued for all extraction procedures generating update transactions which will modify a Library/session Language code (F or A) DO NOT USE (you can also value them on the UPDT '*' line,
40	3		Product code (3 character-code),
43	6		Change number (6 character-code, non-significant zeros must be entered),
			These two codes will appear in the Journal after the execution of UPDT
49	1		Transfer of Entity Lock:

Position	Length	Value	Meaning
		blank	Replacement of the user code which locks the entity with the '*' line
		1	New entities created from the extracted entities are not locked after the execution of UPDT
		2	The user code which locks the entity is kept
50	1		Transfer of the password on the extraction procedures, on the '*' line of output transactions
		blank	The password is not transferred in the output file,
		1	The password is transferred, (Note : for EXTR, the '*' line is transferred in the output file only if you have entered a 'C' in Column 1)

Access Authorizations

An '*' line with a user code and password is required by all procedures.

The Administrator manages the user access authorizations on batch procedures via the Administrator workbench.

Abnormal Endings

Abends may occur during the execution of a batch program. Input-output errors on the system files or on the Database cause a forced abnormal end with a return code, described by a message displayed on the screen.

When an abend occurs, you must find the error message. This message is displayed in the following manner:

PROGR : pppppp INPUT-OUTPUT ERROR : FILE ff OP : oo STATUS : ss
END OF RUN DUE TO PROVOKED ABEND

In most cases, examining the status and type of operation enables you to find the cause of the abnormal execution.

The summary table below lists the most common values for the status and type of operation.

Code	Operation
W	WRITE
RW	REWRITE
RU	READ UPDATE
OP	OPEN
CL	CLOSE
D	DELETE
R	READ
P	START
RN	READ NEXT

Status	Message
21	Sequence error
22	Duplicate key
23	No record found
24	Boundary violation
30	System error
34	Boundary violation (sequential)
92	Logic error (For example, the opening of an already opened file)
93	File still open on line
95	Invalid or Incomplete file

When this message is absent, and the type of ABEND generated directly reports a problem in the VisualAge Pacbase system programs, contact the VisualAge Pacbase support at IBM. KEEP ALL LISTINGS that may be necessary to analyze the problem.

If the error is not an input-output error on a Database file, the following message is displayed:

```
Run Time Error nnn
```

where nnn is the error number.

The Run Time Error 013 is the most frequent. It indicates that the procedure did not find an input file. In this case, to know which file is missing, use the 'set' command to display the list of the assigned files or see the procedure description. You must then compare this list with the contents of the involved directories.

The next subchapter contains the list of the most frequent errors. Each Run Time Error is briefly described.

If the Run Time Error is not in the following list or if its associated description is not explicit enough and if the error directly involves the system programs, you must contact the Hot Line and keep all listings which might be useful in solving the problem.

List of Run-Tile Errors

This list is a reminder of the most common errors and their meaning.

```
Number   Meaning
------   -------

004      Invalid file name
005      Invalid device specification
007      No more disk space
009      Directory full or does not exist
013      File not found
026      Block I-O error
027      Device not available
028      Disk space exhausted
033      Physical I-O error
105      Memory allocation error
116      Cannot allocate memory
135      File not found
150      Program abandoned on user request
157      Not enough program memory:  object file too big
         to load
170      System program not found
173      Called program file not found
188      File name too long
198      Not enough program memory: object file too large
         to load
207      Machine does not exist on the network
208      Network communication error
209      Network communication error
221 !
222 !>   Error during a SORT
223 !
```

Procedures Error Management

If an error is detected in a step, the following steps are not executed. The name of the erroneous program and, if possible, the type of the detected error, are displayed.

The procedure then displays the message:

```
"Press Return to carry on"
```

You must then stop the procedure, in order to view the error if several procedures follow one another.

(If the NOBVPERR environment variable is set to 'yes', this message is not displayed and you do not have to stop the procedure)

The procedure stops with a return code other than zero. This return code can be retrieved via the '$?' variable right after the command which submits the procedure. This prevents the execution of the next procedures if various procedures are executed in sequence.

How to run a Procedure

The command files of the procedures are created under the $PACDIR/system/proc directory during the installation step.

To run a procedure, you can:

- Directly execute the command file of the batch procedure followed by these parameters:

  ```
  procedure "database code"-i "User input file" +t
  -u "user directory" -t "temporary directory"
  ```

- or execute the batch procedure via a start-up script:

  This script, written in UNIX shell, sets the environment variables (optionally, the user input) and executes the command file of the procedure.

  An example of operational script is supplied for most of the procedures and for each database created, in the following directory:

  ```
  $PACDIR/data/"database code"/script
  ```

```
In any case, the supplied user inputs must be verified
to conform to your environment.
```

Structure of a Procedure

The Database Manager must sometimes modify the command files of the batch procedures.

For example, if he/she wishes to save the AN and AR files on two different disks or move the AE file, the resulting changes in the command files may be very important.

This is the reason why the procedures are created in such a way that each change in the standard installation is made easily and changes to fit the operating constraints are limited.

The purpose of this subchapter is to analyze the batch procedure so as to explain how it is working and so as to help the user in his/her fitting process.

Parameters

- The database code (4 characters):

  It is required.
- The complete name of the users input file:

  It is required when the procedure is directly executed.
- Parameter ″+t″:

  It is optional and is used to prevent the default clearing of temporary files.
- User directory:

  It is optional and it is used to change the user directory default assignment.
- Temporary file:

  It is optional and it is used to change the default assignment of the temporary files directory.

Environment Variables

- BVPINPUT:

  This variable contains the user input and is assigned as follows:

```
BVPINPUT=`cat <<eof
1rst user line
2nde user line
   .
   .
eof`
export BVPINPUT
```

  This variable has no consequence if the -i parameter is used.
- BVPUTI:

  This variable contains the user code, which will be used to assign the ″users″ and ″tmp″ directories. It is set by default with the VisualAge Pacbase user code in the user input.

  It is required if the user input is not filled in or if it does not include any VA Pac user code.

  The assignment process is made as follows:

```
BVPUTI="user code"
export BVPUTI
```
- BVPBASE:

  This variable contains the database code, which replaces the code entered as a parameter to the procedure:

  The assignment process is made as follows:

```
BVPBASE="database code"
export BVPBASE
```
- NOBVPPAUSE:

If it is set to "yes", this variable inhibits any pause during the running of the procedure when information messages are displayed.

The assignment process is made as follows:

```
NOBVPPAUSE="yes"
export NOBVPPAUSE
```

- NOBVPERR:

  If it is set to "yes", this variable inhibits any pause in the running of the procedure when error messages are displayed.

  The assignment process is made as follows:

```
NOBVPERR="yes"
export NOBVPERR
```

- "procedure"_INPUT:

  This variable enables you to indicate the full path (directory and name) of the file containing the user input.

  The assignment process is made as follows:

```
"procedure"_INPUT="directory/file"
export "procedure"_INPUT
```

- Some environment variables are also used to change the default assignment of temporary files and of users files produced (reports or output files), either throughout the whole procedure, or only during one step in the procedure execution.

  The assignment process is made as follows:

```
"procedure"_"file code"="directory/file"
export "procedure"_"file code"
```

or

```
"step"_"file code"="directory/file"
export "step"_"file code"
```

Step names and file codes are described in the 'Description of Steps' section for each procedure.

Display and Check of Parameters

The execution of a procedure starts with the execution of the USAGE.ini command file:

```
. $PACDIR/system/proc/BVPINIT.ini
```

This file is created during the installation in the $PACDIR/system/proc directory. It controls the parameters of the procedure.

If it detects an anomaly, BVPINIT.ini displays the corresponding error message and stops the procedure with a return code equal to 20.

If it does not detect any anomaly, the procedure then displays the directories assignments.

In order for you to view these assignments, at least during installation tests, the execution can be stopped momentarily with the following message:

```
**********   Check your parameters   *********
Press Control_C to stop the execution
Press Return to carry on
```

If you do not want to stop the execution momentarily, you must set the NOBVPPAUSE environment variable to 'yes'.

Assignment and Coding of Files

Each step must be assigned the adequate files.

- THE DATABASE FILES

You assign these files by calling the commands files, created upon installation in the directory:

```
$PACDIR/config/"database_name".
```

Example of the assignment of the AE file:

```
. $PACDIR/config/$1/PAC7AE.ini
```

The main interest in these files is to centralize the assignment of each database file in a single place.

The user who wants to modify the standard location of a file only has to adapt the assignment file.

Note: the same files are used when the listeners are started up.

- THE BACKUP FILES

These files are assigned by calling the commands files, created upon installation in the directory:

```
$PACDIR/config/"database_name".
```

Example of the assignment of the PC file:

```
. $PACDIR/config/$1/PACSAVPC.ini
```

By default, the PC, PJ and PY files are located in $PACDIR/data/$1/save.

The names of the backup files used by batch procedures are standardized:

```
input back-up file (read) = Px
```

```
output back-up file (created by the procedure) = Px.NEW
(with x = C, J or Y).
```

This simplifies the management of these files (see for example the 'Back-up files Management' section a little further on).

- OUTPUT REPORTS AND FILES

The location of output reports and files is determined by a call to the PACUSERS.ini command file:

```
. $PACDIR/config/$1/PACUSERS.ini
```

This file is created when a database is created in the directory:

```
$PACDIR/config/'database_name".
```

It contains:

```
# Command file for assignment of PACUSERS environment
variable
# ( 'users' directory )
# Description of parameters : $1      = database name
#                             $BVPUTI = VA Pac user code
PACUSERS=$PACDIR/data/$1/users/$BVPUTI
export PACUSERS
```

The use of the -u parameter replaces this default assignment.

When a procedure is executed, a subdirectory named "procedure code"_"process number" is created in the $PACUSERS directory.

In the GPRT procedure, the process number is replaced by the job number.

The names of the output reports start with the code of the procedure which outputs them.

More precisely, the reports are coded on nine characters plus an extension (.txt), in the following manner:

- the first four characters correspond to the procedure code,
- the next two correspond to the last two characters of the file (EU in PAC7EU),
- the last three characters correspond to the last three characters of the program code (520 in PTU520).

Example: PACS (SAVE option) procedure, PTU520 program

```
PAC7EU report     --> PACSEU520.txt
PAC7DS report     --> PACSDS520.txt
```

For the result files codification, refer to the 'Description of steps' section of each procedure.

- TEMPORARY FILES

The location of temporary files is determined by the call to the PACTMP.ini command file:

```
. $PACDIR/config/$1/PACTMP.ini
```

The PACTMP.ini file is created when a database is created in the directory:

```
$PACDIR/config/'database_name'
```

It contains:

```
# Command file for assignment of temporary files environment
variable
# Description of parameters : $1      = database name
#                             $BVPUTI = VA Pac user code
# Temporary file directory 'tmp'
PACTMP=$PACDIR/data/$1/tmp/$BVPUTI
export PACTMP
# MicroFocus Server Express "Automatic License Retry"
variable
# 1 retry every 5 seconds, 100 times
ASLMFRETRY=100,5
export ASLMFRETRY
# Sort Flag
SORTSPACE=10M
export SORTSPACE
# Sort temporary file directory
# (this directory must contain 3 times the size of the file
#  to be sort)
TMPDIR=$PACTMP
export TMPDIR
```

The use of the -t parameter replaces this default assignment.

When a procedure is executed, a sub-directory named "procedure code"_"process number" is created in the $PACTMP directory.

In the GPRT procedure, the process number is replaced by the job number.

The coding of temporary files is explained in the 'Description of Steps' section for each procedure.

Advice on Use

The objective of this subchapter is to make the person responsible for the database aware of the specifics of the VisualAge Pacbase procedures executed on the UNIX system.

General Remarks

1. Each procedure must be passed parameters. All the parameters which may be called in a procedure must be present, even if they are not actually used.
2. When user input is expected in a procedure, even if it is optional, the corresponding transaction file must be present when the procedure is being executed.
3. No protection is guaranteed if a BATCH procedure updating the database system or evolving files is started up while users are interactively updating these same files. One person (the database manager) must be able to start up the batch procedures which update the database. He/she therefore must ensure the protection of the database data (by closing the on-line servers for example).
4. The temporary work files created by the batch procedures are automatically destroyed at the end of the procedure, except if there was an abend and if a return code other than 0 is sent.
5. The batch procedures must be executed from the UNIX machine.

Management of Temporary Files

For each procedure you should consult the corresponding chapter for a detailed description of these files.

In all cases, enough disk space should be freed in the chosen user directory to ensure that the procedure runs smoothly.

Sort temporary files:

When a program executes a sort, the called COBOL routines also use a temporary file independent of those mentioned above.

This file is created by default in the /usr/tmp directory.

Its size can be 3 or 4 times the size of the file to be sorted.

If the default directory is too small, the TMPDIR directory assigns another directory for the temporary sort files:

```
TMPDIR=/tmp2
export TMPDIR
```

Management of Backup Files

All the procedures which create one of the backups call a command file at the end of an execution without error.

These files are in the $PACDIR/assign/"database_name" directory and are called xxBACKUP.ini (with xx = PC, PD, PJ, FH, FO, FQ, FR). They are created when the database is created and contain (PJBACKUP.ini for example):

```
# Rotation script of the journal backup file
if [ -f "$PACSAVPJ" -a -f "$PACSAVPJ.NEW" ]
then
   mv -f $PACSAVPJ $PACSAVPJ'-1'
fi
if [ -f "$PACSAVPJ.NEW" ]
then
   mv -f $PACSAVPJ.NEW $PACSAVPJ
fi
```

Characteristics of the xxBACKUP files:

- proceed by 'mv' to avoid copies of the backup files (these copies may take a long time),
- guarantee that the xx file is definitely the last backup (xx being systematically used as procedure input),

These files do not claim to cover all the operation constraints of all sites. The database manager generally has to adapt them, taking the characteristics above into account.

Use of the xxBACKUP files:

```
. PCBACKUP.ini : used in the SAVE, MLIB,
                      and REOR procedures.
. PJBACKUP.ini : used in the ARCH procedure.
```

Starting the On-Line Server

To allow workstations and terminals to connect to VisualAge Pacbase, the listener must be started up.

Commands relative to the 'pactp' utility are described in the "Installation Guide - UNIX Server & Client Components" manual.

It is used in the following way:

- pactp start [server_name] : start-up of the listener
- pactp stop [server_name] : stopping the listener

- pactp info [server_name] : listener status

Connection of a 3270 Emulator

It is possible to connect in dumb terminal mode on an on-line server via a 3270 emulator.

To access a database, in 3270 mode, via an on-line server, the emulator must be configured accordingly, i.e., you must indicate:

- the IP address of the machine where the on-line server is installed,
- the on-line server port number, chosen at installation time when the database is created.

  The code page of the emulator must be valorized according to the database language code:

- code page 1147 for a French database,

- code page 1141 for a German database,

- code page 1145 for a Spanish database,

- code page 1140 for a Brazilian database,

- code page 1146 for an English database.

These code pages are set automatically, in the "BVPSERVER.ini", when the database is created.

Chapter 2. Generation and Printing

GPRT - the Generation and Printing Procedure

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, eBusiness components, 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 generation-print requests submitted on line (+AG) are to be included, the files of the Development Database must be closed. The procedure invalidates the print requests submitted on line, therefore the file must be accessible for update.

GPRT calls a unique program (BVPACB), 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-print requests for the families they manage.

Following the execution of the two general programs that are common to all chains (BVPACA10 and BVPACA20), the sub-chains are activated, if appropriate, in the following order:

```
- Database Blocks,
- SQL Database Blocks,
- COBOL programs,
- On-line Screens,
- Client Screens,
- Server Screens,
- eBusiness Error Messages,
- Error Messages and Dialog Windowing,
- Personalized Documentation Manager,
- Batch programs,
- Specifications Dictionary.
```

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 User Error Message file is updated using the file with an LG suffix, and is retrieved into the file with a GL suffix. This file is used to update the User Error Message file. It is used in input to the EMLD or EMUP procedures. In addition, these elements are printed in the IL-suffixed file.

The installed procedure does not include a name for the two versions of this file. Therefore, the names must be specified when these messages are generated.

Volumes are standardly printed in an IN-suffixed file. The GN-suffixed file 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 the windowing of OLSD applications is coded PAC7GT (record length is 260). Its name must be specified in the generation request.

EXECUTION CONDITIONS

The files can remain open, except if the generation-print requests have been submitted on line via the ' +AG' command. In this case, the files of the Development Database must be closed.

ABNORMAL EXECUTION

Refer to chapter 'Overview', subchapter 'Abnormal Endings' in the Administrator's Procedures' manual.

GENERATION AND PRINTING AND THE SCM OPTION

If the SCM module is available on the site, the generation may create transactions in the QJ file, an archival journal file containing generated cobol information such as Pacbase-constants.

Only the entities defined in a SCM environment and generated from a production session or the current session are taken into account to complete QJ.

SCM OPTION: TRANSFER OF THE QJ TRANSACTIONS IN THE REPOSITORY

The QJ transactions can be transferred in the development database(s) after the generation, periodically by the administrator, executing a special on-line transaction under CICS (automaton) or executing the UPPM procedure for other systems. The files of the development database(s) don't have to be closed.

The generated entities defined in the SCM environments are so completed with information concerning the last processing of these entities. The entities generated in the current session are ready for a next production turnover.

The potential detected errors are stored in the QJ file. They are printed in output of the ARPM procedure (transactions archiving), and the erroneous transactions are restored for a new processing.

GPRT - User Input / Results

INPUT

The GPRT procedure requires the following input:

- a line which identifies the user and the generation-print context,
- one line per generation or print request,
- an optional line ('+AG') which takes into account the requests already submitted on line.

Any other type of transaction is ignored.

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).

NOTE

This procedure does not increment the session number.

GPRT - Generation / Print Commands

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
2	1		Line code
		Z	Default value

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
3	2		PROCESSING SEQUENCE ORDER
			This field is used to specify the sequence in which print requests are processed and printed.
5	4		GENERATION-PRINT COMMANDS
			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 column 9).
			(B) Optional entity code input. If omitted, all the 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. Type an asterisk in the CONTINUATION OF REQUEST INDICATOR (C) field and press the ENTER key. The options for each command are listed below. This corresponds to batch columns 31 to 80 incl.
			Note: Each command may require additional information. The following list identifies these input fields by code.
			(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: enter '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. These codes must be consistent with the codes displayed on the Dialog Definition screen.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			(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 Dialog Definition screen. 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 DOCUMENT Y CHAP/SUBCHAP AND CODE:_ __ __ 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. The information is sequenced by code.
			TEXTS
		DCT	(A) Description of selected Text.
			Note: If you enter an asterisk in the ENTITY CODE field, the Descriptions of all Text occurrences are printed, sequenced by code.
		DTT	(B) (6) Descriptions of Text occurrences sequenced by type.
		L*T	List of Texts with their paragraphs titles, sequenced by code.
		LCT	(C) List of Text occurrences sequenced by code.
		LKT	(2) List of Text occurrences whose names and/or explicit Keywords contain the Keyword(s) specified.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		LNT	List of Text occurrences sequenced by name.
		LTT	(6) List of Text occurrences sequenced by type.
			DOCUMENTS (PDM)
			Note: DOCUMENT entity = VOLUME entity in the VA Pac character-mode interface.
		DCV	(B) Printing of the Description of the Document whose code is entered in the Entity field. When this code is not entered, the Descriptions of all the Documents are printed, sequenced by code.
		FLV	(C) (D) (4) This command is used to specify the job card and end-of-job delimiters: Flow control for Documents.
			Use the continuation line to define user parameters on the control cards.
		LCV	(C) List of Documents sequenced by code.
		LKV	(C) (2) List of Documents selected according to the keyword(s) entered on the continuation line.
		LNV	(C) (2) List of Documents sequenced by name.
		PCV	(B) (D) (7) Printing of the contents of the Document whose code is entered in the ENTITY CODE field. When this code is not entered, the contents of all the Documents are printed, sequenced by code. For local printing in RTF format, the Document must be generated with the C2 option. Selective Printing is documented in the 'Personalized Documentation Manager' manual, chapter Access Commands, subchapter 'Generation-Printing'.
			ELEMENTS AND PROPERTIES
		DCE	(B) A complete description of the defined Element(s). The information is sequenced by Element code.
			Note: to display the assigned text, use print option '2'.
		DFE	(B) A listing of the Element(s) not defined in the Specifications Dictionary, with cross-references.
		LAE	(C) List of Elements sequenced by Cobol name.
		LCE	(B) A list of defined Elements sequenced by Element code.
		LKE	(C) (2) A list of Elements and properties sequenced by keyword.
		LNE	(C) A list of Elements and properties sequenced by name.
		LXE	(C) A list of defined Elements and properties which are not used.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			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- 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 on generation, refer to the 'Data Dictionary' manual.
			C3 : Generation of comments which will be used by VA Pac Connector (an eBusiness tool).
		LCD	(C) A list of Data Structures sequenced by code.
		LED	(A) List the error messages defined for the Data Structure and for each Segment. This list only includes messages that have already been generated.
		LKD	(C) (2) A list of the Data Structures whose names and/or explicit keywords contain the keyword(s) specified.
		LND	(C) (2) A list of the Data Structures sequenced by name.
		LOD	(C) A list of Data Structures sequenced by external name.
		LPD	(C) A list of Data Structures sequenced by Program external name.
		LTD	(C) A list of Data Structures sequenced by type.
			SEGMENTS
		DCS	(B) (D: with input of the entity code) (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 (Pactables function), a list of subschemas and subsystems is printed.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Note: To get the associated text for both the Segment and the Data Structure, use print option '2'.
		LCS	(C) List of Segments sequenced by code.
		LKS	(C) (2) List of Segments whose names and/or explicit keywords contain the keyword(s) specified.
		LNS	(C) List of Segments sequenced by name.
			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 the 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.
		LNI	(C) (2) A list of the Input Aids sequenced by name.
		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 Database 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.
		LCB	(C) List of Database Blocks sequenced by code.
		LEB	(C) List of Database Blocks sequenced by external name.
		LES	(C) List of SQL objects sequenced by external name.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		LKB	(C) (2) A list of the Database Blocks whose names and/or explicit keywords contain the keyword(s) specified.
		LNB	(C) (2) A list of Database Blocks sequenced by name.
		LTB	(6) A list of Database Blocks whose Block type have been defined with the specified value.
		LTS	(C) A list of SQL objects sequenced by code.
			* FOLDERS, FOLDER VIEWS, BUSINESS COMPONENTS, * C/S SCREENS (TUI CLIENT COMPONENTS) * SCREENS, DIALOGS.
		DCO	(A) Complete Screen Description including Dialog Complement and uses 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'.
		DGC	(A) Complete Description of a C/S Screen.
		DGS	(A) Complete Description of a Business Component.
		DSO	(A) Description of the selected Screen.
		FGC	(C) (D) (4) (8) This command is used to specify the job card and end-of-job delimiters: Flow control for C/S Screens.
		FGE	(C) (D) (4) This command is used to specify the job card and end-of-job delimiters: Flow control for Pacbench C/S error messages.
			Use the continuation line to define user parameters on the control cards.
		FGS	Business Component (similar to FGC command above).
		FLE	(C) (D) (4) This command is used to specify the job card and end-of-job delimiters: Flow control for Dialog error messages.
			Use the continuation line to define user parameters on the control cards.
		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.
		FME	Flow control for eBusiness Error messages (similar to FLE command above).
		FMS	Flow control for Server (similar to FLO command above)

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		FSO	(C) (D) (4) (8) This command is used to specify the job card and end-of-job delimiters: Flow control for source Screen. 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.
		GGC	(A) (D) (5) Generate a C/S Screen (TUI Client Component).
		GGS	(A) (D) (4) Generation applicable to Business Component, Communication Monitor, Error Server, Folder.
		GEC	(A) (D) Pacbench C/S:
			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 for the Dialog only.
		GED	(A) (D)
			C1 : Error messages generated for a Data Structure 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 required by Pacbase Web Connection. This command is applicable to the Dialog.
			Note: If a Segment/Screen suffix is entered on the continuation line of one of the preceding commands, error messages are generated/printed only for the selected Segment/Screen.
		GEF	(A) (D)
			Generation of error messages for a C/S Folder.
		GEI	(A) (D)
			Generation of error messages for INIT/TERM component.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		GES	(A) (D)
			Generation of error messages for a C/S Component.
		GSO	Generate source code for the selected Screen.
		GVC	(A) (D) (4)
			Extract a Proxy object. Applicable to Folder View, Folder and Business Component.
		GMF	(A) Generate a Folder.
		GMI	(A) Generate an INIT/TERM Server.
		GMM	(A) Generate a Communication Monitor.
		GMS	(A) Generate a Server.
		GME	(A) Generate an Error Server.
		GUT	Generate User Command.
		LCO	(C)
			List of Screens sequenced by code.
		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.
		LEO	(A) List the error messages defined for the Dialog and for each Screen. This list only includes messages that have already been generated.
		LKO	(C) (2) List of Screens whose names and/or explicit keywords contain the keyword(s) specified.
		LNO	(C) List of Screens sequenced by name.
		LOT	(C) List of Screens sequenced by Transaction code.
		LPO	(C) List of C/S Screens sequenced by external program name.
		LSO	(C) List of C/S Screens sequenced by external map name.
		LTO	(C) List of Screens sequenced by type.
			REPORTS
		DCR	(B) (D: when the entity code has been entered)
			Note: When requesting the Description of a single Report, enter the Report code prefix in the ENTITY CODE field and the last character of of the Report code on the continuation line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			A complete Description of the Report(s). This include Report layouts. The information is sequenced by the Report code.
			Note: To get the associated text, use print option '2'
		LCR	(C) List of Reports sequenced by 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.
		LNR	(C) List of Reports sequenced by name.
			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'.
		DSP	(A) Description of the selected Program produced by Reverse Engineering.
		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 continuation 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 o 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'.
		LEP	(C) List of Programs sequenced by external name.
		LKP	(2) A list of the Programs whose names and/or explicit keywords contain the keyword(s) specified.
		LNP	(2) List of Programs sequenced by name.
		LTP	(C) List of Programs sequenced by type.
			METHOD ENTITIES

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		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 Relation(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 Relations with their Functional Integrity Constraints, sequenced by Relation code.
		LKM	(C) (2) A list of the Method entities whose names and/or explicit keywords contain the keyword(s) specified.
			META-ENTITIES
		DCF	(B) A complete Definition and Description of the Meta-Entity entered in the ENTITY field. If no code is specified, all Meta-Entities are listed. The information is sequenced by code.
		DCQ	(B) A complete Definition and Description of the User Relations entered in the ENTITY field. If no code is specified, all User Relations are listed. The information is sequenced by code.
		DCY	(B) A complete Definition and Description of the Extended User Entity entered in the ENTITY field. If no code is specified, all Extended User Entities are listed. The information is sequenced by code.
		DC$	(B) A complete Definition and Description of the User Entity entered in the ENTITY field. If no code is specified, all User Entities are listed. The information is sequenced by code.
		LCF	(C) List of Meta-Entities sequenced by code.
		LCQ	(C) List of User Relations sequenced by code.
		LCY	(A) List of Extended User Entities sequenced by code.
		LC$	(A) List of User Entities sequenced by code.
		LKF	(2) (C) A list of the Meta-Entities whose names and/or explicit keywords contain the keyword(s) specified.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		LKQ	(2) (C) A list of the User Entities Relations 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.
		LKY	(2) (A) A list of the Extended User-Entities whose names and/ or explicit keywords contain the keyword(s) specified.
		LK$	(2) (A) A list of the User Entities whose names and/ or explicit keywords contain the keyword(s) specified.
		LNF	(C) A list of the Meta-Entities sequenced by name.
		LNQ	(C) A list of the User Relations sequenced by name.
		LNY	(A) A list of Extended User-Entities sequenced by name.
		LN$	(A) A list of the User Entities sequenced by name.
			SHIFT TO UPPER-CASE
		UPC	This command allows for the automatic transformation of lower-case letters into upper-case letters 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 VA Pac 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 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 the selective implementation of the UPC command when the execution of several GPRT jobs is requested and the SHIFT TO UPPER-CASE must not apply to all of them, in which case the corresponding field(s) must be left blank.
			METHOD ENTITIES PAF TABLES
		PCM	Description of PAF Tables for entities specific to a method. This command is necessarily followed by a Method code.
			VISUALAGE PACBASE-GIP INTERFACE
		GIP	(A) VisualAge Pacbase-GIP Interface generation.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
9	6		ENTITY CODE
			This field is displayed with the label 'ENTITY' on screen format options '1' and '2' of the GP screen.
			When required, the user enters the entity code which corresponds to the COMMAND FOR PRINT REQUEST.
			'PCM' COMMAND: You enter in this field the code of the selected Methodology:
		M	Merise
		D	YSM
		A	SSADM
		O	OMT
		F	IFW
15	1		Library selection indicator
			Used to select the libraries from which the entities are to be generated and/or printed.
		C	Selected library and higher level libraries. In case of duplicates, the lines from the lower level library are taken into account.
16	1		PRINT OPTION
			In this field, you specify print options: there are 4 options numbered from 1 to 4 (default option : 1); each option corresponds to presentation variants of lines to be printed, e.g. printing of additional information (with or without keywords, programs with or without associated texts, ...); the detail of each print option is given for each entity in the corresponding reference Manuals.
17	2		Entity type
19	1		CONTROL CARDS IN FRONT OF PROGRAMS
			Option 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 relevant entities' Definition screens. It may also be overridden at generation time.
20	1		CONTROL CARDS BEFORE MAP
			Screen and C/S Screen entities

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Option code that identifies the job card to be inserted before each generated Screen or C/S Screen map.
		$	No generation of map.
			NOTE: This field is not used in a Pacbench C/S development with specification of Folder.
			Business Component / single-view (with no specification of a Folder):
			Option code which selects the JCL lines to be inserted before the generated Services Manager. The value '$' is used to disable the generation of the Services Manager and to enable the Business Component to be generated.
21	1		CONTROL CARDS IN BACK OF PROGRAMS
			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 relevant entities' definitions screens. It may also be overridden at generation time.
22	1		CONTROL CARDS AFTER MAP
			Screen and C/S Screen entities:
			Option code that identifies the job card to be inserted after each generated Screen or Screen c/s map.
		$	No generation of map.
			NOTE: This field is not used in a Pacbench C/S development with the specification of Folder.
			Business Component / single-view (with no specification of Folder):
			Option code which selects the JCL lines to be inserted after the Services Manager generated.
23	1		DOCUMENT SELECTIVE PRINT REQUEST
			Field displayed with PCV command only.
		blank	Print the whole Document (default value)
		C or 1	Print the selected chapter or level-1 section, respectively. Field used jointly with next field.
		S or 2	Print the selected subchapter or level-2 section (included in the level-1 section indicated in the following field), respectively. Field used jointly with next two fields.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
24	2		Level-1 Section # / Chapter Code
		C	The value 'ZZ' is not authorized. CH/
26	2		Level-2 Section # / Subchapter Code
		C	SC/
30	1		SELECTION OF KEYWORD TYPE
		blank	Selection on both implicit and explicit keywords.
		L	Selection on implicit keywords only.
		M	Selection on explicit keywords only.
31	50		Label continuation

GPRT - Description of Steps

GENERATION AND PRINTING: PACB

The generated documentation depends on the generation-print requests taken into account. Therefore, the volume of the generated documentation and of the temporary files is extremely variable.

Banners at the beginning and at the end of user documentation, which display the user code, facilitate the distribution of printouts back to their authors.

All programs, screens, Database Blocks, etc., which might be generated, are retrieved on GPRTOx files.

Some programs called by the Monitor can send specific return codes:

- BVPACA10 (Retrieval of Transactions) :
  0 : OK
  2 : OK with presence of the '+AG' command
  8 : No request.
  In this case, the procedure stops running.
- BVPACB31 (SQL generation):
  8 : Error detected during generation.
- Extractors or generators (30 or 40):
  0 : OK - No generation
  4 : OK - Generation
  Other : Errors
- BVPACW10 (configuration management support)
  0 : OK

2 : No processing

4 : at least one parameterizing error detected.

8 : at least one context error detected.

This step sends a general return code.

Code	Label
4	OK with generation of source code
6	OK with generation of source code and Personalized Documentation or error messages
8	OK with generation of Personalized Documentation or of error messages
10	OK without generation
12	Input-Output error
16	Sorting error

GPRT - Processing of Job Streams

If sources to be compiled are generated and if the return code of the previous step is lower than 8, the generated stream must be processed in order to compile and link edit the output sources.

Whichever the chosen solution is, the generated sources can be preceded and/or followed by optional control lines.

- The In Front/Back command lines, of the Generation manager.

  These instructions are used to execute the generation command of a Cobol source.
- The In Front/Back command lines, in the Administration workstation.

  These instructions are used to insert lines before or/and after the generated Cobol source (for example to separate generated programs).

  You must specify the code of each In Front/Back line on the Program Definition.

EXAMPLE

Example of C4 line - In Front

```
# TESTGPRT      (job name)
#!/bin/sh
# Initialize input
BVPINPUT=`cat <<eof
```

Example of C4 lines - In Back

```
eof`
export BVPINPUT
# Initialize database name
```

```
BVPBASE=BVAP;export BVPBASE
BVP_Updtpm="YES";export BVP_Updtpm
# Initialize BVPACAGP script
#BVPACAGP "script path"
#export BVPACAGP
# Initialize log file
LOG=$PACDIR/data/BVAP/users/gp.log
# Start the GPRT procedure
GPRT $BVPBASE > $LOG 2>&1
# Delete the generated script
rm -f $BVPGPCMD >> $LOG 2>&1
```

OTHER PROCESSING

INTERFACE WITH WORKBENCH MICROFOCUS

The purpose of this interface is to split into distinct files the sources of the programs, screens or 'COPY' clauses generated, then to write these files in a directory specified by the user.

The 'bvpsplit' program performs this processing.

The implementation of this option can only be done by activating a command file (example BVPACAGP) in the GPRT procedure.

This option also requires the definition of 'BEFORE' CARDS for the VisualAge Pacbase entities to be processed.

DEFINITION OF 'BEFORE' CARDS

In order to allow the 'bvpsplit' program to split the source files at the generation output, it is necessary to insert 'before' cards which contains the following elements:

- Character strings specific to these lines
- Name of file to produce
- File extension
- Directory where the file will be copied

The first BEFORE CARD must contain :

```
*******  Delimiter for bvpsplit, between column 1
         and 7 only
filename Filename to produce
ext      Extension, on max. 3 characters
```

```
This information must be separated by a blank. For example:
```

```
******* MYPROG CBL
```

The second BEFORE CARD is optional and contains the directory where the produced files will be written. The selected directory must exist and must be accessible to the GPRT procedure.

If there is no card, the files are written under the usual users directory of the GPRT procedure (with the generation output files).

The second BEFORE CARD, if it exists, contains:

```
*&&&&&*  Delimiter for bvpsplit, between column
         1 and 7 only
path     Directory of file writing
```

The information is separated by a blank, for example :

```
*&&&&&* /vapac/cobol
```

That is, for the CARDS BEFORE program, for example :

The user generates from the frozen sessions and wishes to recover his generated programs under the form 'external_name'.CBL, in the (network) directory

/vapac/cobol.

The control cards are defined in the Administration Workbench ('D' defines the CARD BEFORE and 'W' the code of the card):

```
*+++++++ <External name of generated program or block> cbl
*&&&&&* vapac/cobol
These BEFORE CARDS must then be called ('W' code in the
example) in the entities to be generated.
```

IMPLEMENTATION IN THE GPRT PROCEDURE

In the GPRT start-up file, the BVPACAGP environment variable must exist and contain the path of the commands file which will be executed at the end of the GPRT procedure, after the generation/prints.

The 'bvpsplit' program must then be called in the BVPACAGP command file, by indicating the number of the job and the generation directory of the user.

BVPACAGP must therefore contain the line :

```
bvpsplit $3
```

PROCESSING AND ERROR MESSAGES

The 'bvpsplit' program processes all the GPRTO* files in output of the GPRT procedure, in the $3 directory.

An execution report is edited in the $3 directory and is called bvpsplit.log.

Example of BVPACAGP script

```
#!/bin/sh
# ***********************************************************
# * BVPACAGP Procedure : executed at the end of generation
# *                      and print
# *
# * Condition of execution : BVPACAGP="script path"
# *                          in GPRT start script
# *
# * Arguments of the procedure :  $1 = VA Pac User Code
# *                               $2 = Job number
# *                               $3 = User directory
# *                               $4 = GPRT return code
# *
# * The content of this file is an example.
# * It is listing the output files of the generation and
# * print requests and execute bvpslit program.
# *
# * This procedure must be modified according to the users
# * needs.
# ***********************************************************
LOGFILE=$3/`basename $0`.log
echo "Begin $0" > $LOGFILE
echo "User             : $1" >> $LOGFILE
echo "Job number       : $2" >> $LOGFILE
echo "User directory   : $3" >> $LOGFILE
echo "GPRT return code : $4" >> $LOGFILE
sleep 5
list=`find $3 -name "GPRTO*" -print`
echo "List of generated files $list" >> $LOGFILE
if [ -n "$list" ]
then
   echo bvpsplit $3
   for i in `bvpsplit $3`
   do
      echo "compile the $i file"
   done
fi >> $LOGFILE 2>&1
echo "End $0" >> $LOGFILE
exit 0
```

GPRT : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) GPRT BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *    - GENERATION (IN INTERNAL READER) AND PRINTING -
# *
# * -------------------------------------------------------
# *
```

```
# *
# * IN ADDITION TO THE GENERATED ENTITIES, THE FILE MUST
# * CONTAIN THE JCL REQUIRED TO COMPILE THEM,
# * USING THE BEGINNING/END OF JCL JOB STREAM OPTIONS AND
# * THE BEFORE/AFTER PROGRAM OPTIONS.
# *
# * 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.
# *
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "GPRT"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
BVPMSG 1036 LG `BVPENV PACB PAC7LG /dev/null`
BVPMSG 1036 LK `BVPENV PACB PAC7LK /dev/null`
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7LB.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7ME=`BVPENV PACB PAC7ME $PACTMP/WME`
export PAC7ME
rtspac BVPTU730
# ------------------------------------------------------
. $PACDIR/config/$1/PACGGJ.ini
PAC7QJ=`dirname $PACGGJ`/QJ
export PAC7QJ
if [ ! -f "$PAC7QJ" ]
then
 BVPMSG 1009 "BVPCMINI"
 rtspac BVPCMINI
 RETURN=$?
 case $RETURN in
 0)
  ;;
 *)
  BVPMSG 1012 "BVPCMINI"
```

```
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
 esac
fi
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/SQUEL.ini
. $PACDIR/config/$1/PAC7LB.ini
PAC7BM=`BVPENV PACB PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DB=`BVPENV PACB PAC7DB $PACUSERS/GPRT.DB`
export PAC7DB
PAC7EB=`BVPENV PACB PAC7EB $PACTMP/WEB`
export PAC7EB
PAC7EE=`BVPENV PACB PAC7EE $PACTMP/WEE`
export PAC7EE
PAC7EG=`BVPENV PACB PAC7EG $PACTMP/WEG`
export PAC7EG
PAC7EI=`BVPENV PACB PAC7EI $PACTMP/WEI`
export PAC7EI
PAC7EN=`BVPENV PACB PAC7EN $PACTMP/WEN`
export PAC7EN
PAC7EP=`BVPENV PACB PAC7EP $PACTMP/WEP`
export PAC7EP
PAC7EQ=`BVPENV PACB PAC7EQ $PACTMP/WEQ`
export PAC7EQ
PAC7ER=`BVPENV PACB PAC7ER $PACTMP/WER`
export PAC7ER
PAC7EV=`BVPENV PACB PAC7EV $PACTMP/WEV`
export PAC7EV
PAC7EW=`BVPENV PACB PAC7EW $PACTMP/WEW`
export PAC7EW
PAC7GB=`BVPENV PACB PAC7GB $PACTMP/WGB`
export PAC7GB
PAC7GD=`BVPENV PACB PAC7GD $PACTMP/WGD`
export PAC7GD
PAC7GE=`BVPENV PACB PAC7GE $PACTMP/WGE`
export PAC7GE
PAC7GF=`BVPENV PACB PAC7GF $PACTMP/WGF`
export PAC7GF
PAC7GG=`BVPENV PACB PAC7GG $PACTMP/WGG`
export PAC7GG
PAC7GI=`BVPENV PACB PAC7GI $PACUSERS/XGI`
export PAC7GI
PAC7GK=`BVPENV PACB PAC7GK \`dirname $PACUSERS\`/ERRGK`
export PAC7GK
```

```
PAC7GL=`BVPENV PACB PAC7GL \`dirname $PACUSERS\`/ERRGL`
export PAC7GL
PAC7GM=`BVPENV PACB PAC7GM $PACUSERS/XGM`
export PAC7GM
PAC7GN=`BVPENV PACB PAC7GN $PACUSERS/XGN`
export PAC7GN
PAC7GO=`BVPENV PACB PAC7GO $PACTMP/WGO`
export PAC7GO
PAC7GP=`BVPENV PACB PAC7GP $PACTMP/WGP`
export PAC7GP
PAC7GQ=`BVPENV PACB PAC7GQ $PACTMP/WGQ`
export PAC7GQ
PAC7GR=`BVPENV PACB PAC7GR $PACTMP/WGR`
export PAC7GR
. $PACDIR/config/$1/PAC7GS.ini
PAC7GT=`BVPENV PACB PAC7GT $PACUSERS/PAW.GT`
export PAC7GT
PAC7GV=`BVPENV PACB PAC7GV $PACTMP/WGV`
export PAC7GV
PAC7G6=`BVPENV PACB PAC7G6 $PACUSERS/GPRT.G6`
export PAC7G6
PAC7IA=`BVPENV PACB PAC7IA $PACUSERS/GPRTIA.txt`
export PAC7IA
PAC7ID=`BVPENV PACB PAC7ID $PACUSERS/GPRTID.txt`
export PAC7ID
PAC7IK=`BVPENV PACB PAC7IK $PACUSERS/GPRTIK.txt`
export PAC7IK
PAC7IL=`BVPENV PACB PAC7IL $PACUSERS/GPRTIL.txt`
export PAC7IL
PAC7IM=`BVPENV PACB PAC7IM $PACUSERS/GPRTIM.txt`
export PAC7IM
PAC7IN=`BVPENV PACB PAC7IN $PACUSERS/GPRTIN.txt`
export PAC7IN
PAC7IW=`BVPENV PACB PAC7IW $PACUSERS/GPRTIW.txt`
export PAC7IW
PAC7JG=`BVPENV PACB PAC7JG $PACTMP/WJG`
export PAC7JG
PAC7KB=`BVPENV PACB PAC7KB $PACTMP/WKB`
export PAC7KB
PAC7KD=`BVPENV PACB PAC7KD $PACTMP/WKD`
export PAC7KD
PAC7KE=`BVPENV PACB PAC7KE $PACTMP/WKE`
export PAC7KE
PAC7KF=`BVPENV PACB PAC7KF $PACTMP/WKF`
export PAC7KF
PAC7KG=`BVPENV PACB PAC7KG $PACTMP/WKG`
export PAC7KG
PAC7KM=`BVPENV PACB PAC7KM $PACTMP/WKM`
export PAC7KM
PAC7KN=`BVPENV PACB PAC7KN $PACTMP/WKN`
export PAC7KN
PAC7KP=`BVPENV PACB PAC7KP $PACTMP/WKP`
export PAC7KP
PAC7KQ=`BVPENV PACB PAC7KQ $PACTMP/WKQ`
export PAC7KQ
```

```
PAC7KR=`BVPENV PACB PAC7KR $PACTMP/WKR`
export PAC7KR
PAC7KS=`BVPENV PACB PAC7KS $PACTMP/WKS`
export PAC7KS
PAC7KU=`BVPENV PACB PAC7KU $PACTMP/WKU`
export PAC7KU
PAC7KV=`BVPENV PACB PAC7KV $PACTMP/WKV`
export PAC7KV
PAC7LG=`BVPENV PACB PAC7LG /dev/null`
if [ "$PAC7LG" = "/dev/null" ]
then
 PAC7LG=$PACTMP/LG
 touch $PAC7LG
fi
export PAC7LG
PAC7LI=`BVPENV PACB PAC7LI $PACTMP/WLI`
export PAC7LI
PAC7LK=`BVPENV PACB PAC7LK /dev/null`
if [ "$PAC7LK" = "/dev/null" ]
then
 PAC7LK=$PACTMP/LK
 touch $PAC7LK
fi
export PAC7LK
PAC7ME=`BVPENV PACB PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MG=`BVPENV PACB PAC7MG $PACTMP/WMG`
export PAC7MG
PAC7MV=`BVPENV PACB PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7OB=`BVPENV PACB PAC7OB $PACUSERS/GPRTOB`
export PAC7OB
PAC7OD=`BVPENV PACB PAC7OD $PACUSERS/GPRTOD`
export PAC7OD
PAC7OE=`BVPENV PACB PAC7OE $PACUSERS/GPRTOE`
export PAC7OE
PAC7OF=`BVPENV PACB PAC7OF $PACUSERS/GPRTOF`
export PAC7OF
PAC7OG=`BVPENV PACB PAC7OG $PACUSERS/GPRTOG`
export PAC7OG
PAC7OP=`BVPENV PACB PAC7OP $PACUSERS/GPRTOP`
export PAC7OP
PAC7OQ=`BVPENV PACB PAC7OQ $PACUSERS/GPRTOQ`
export PAC7OQ
PAC7OR=`BVPENV PACB PAC7OR $PACUSERS/GPRTOR`
export PAC7OR
PAC7OV=`BVPENV PACB PAC7GV $PACUSERS/GPRTOV`
export PAC7OV
PAC7SO=`BVPENV PACB PAC7SO $PACTMP/WSO`
export PAC7SO
PAC7WA=`BVPENV PACB PAC7WA $PACTMP/WWA`
export PAC7WA
PAC7W1=`BVPENV PACB PAC7W1 $PACTMP/WW1`
export PAC7W1
PAC7W2=`BVPENV PACB PAC7W2 $PACTMP/WW2`
```

```
export PAC7W2
PAC7W3=`BVPENV PACB PAC7W3 $PACTMP/WW3`
export PAC7W3
PAC7W4=`BVPENV PACB PAC7W4 $PACTMP/WW4`
export PAC7W4
PAC7W6=`BVPENV PACB PAC7W6 $PACTMP/WW6`
export PAC7W6
PAC7W7=`BVPENV PACB PAC7W7 $PACTMP/WW7`
export PAC7W7
PAC7W8=`BVPENV PACB PAC7W8 $PACTMP/WW8`
export PAC7W8
PAC7W9=`BVPENV PACB PAC7W9 $PACTMP/WW9`
export PAC7W9
SYSPAF=`BVPENV PACB SYSPAF $PACTMP/WSY`
export SYSPAF
BVPMSG 1009 "BVPACB"
rtspac BVPACB
GPRT_RETURN=$?
RETURN=0
# -------------------------------------------------------
if [ -n "$BVPACAGP" ]
then
 BVPMSG 1009 "$BVPACAGP"
 $BVPACAGP $BVPUTI $NUJOB $PACUSERS $GPRT_RETURN
fi
# -------------------------------------------------------
if [ "$BVP_Updtpm" = "YES" ]
then
 . $PACDIR/config/$1/PAC7AE.ini
 . $PACDIR/config/$1/PAC7AJ.ini
 . $PACDIR/config/$1/PAC7AN.ini
 . $PACDIR/config/$1/PAC7AR.ini
 . $PACDIR/config/$1/PAC7AY.ini
 . $PACDIR/config/$1/PACGGN.ini
 . $PACDIR/config/$1/PACGGR.ini
 . $PACDIR/config/$1/PACGGU.ini
 . $PACDIR/config/$1/PAC7DC.ini
 . $PACDIR/config/$1/SEMLOCK.ini
 . $PACDIR/config/$1/PACGGJ.ini
 PAC7QJ=`dirname $PACGGJ`/QJ
 export PAC7QJ
 BVPMSG 1009 "BVPCMPUF"
 rtspac BVPCMPUF
 RETURN=$?
 case $RETURN in
 0)
  ;;
 *)
  BVPMSG 1012 "BVPCMPUF"
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
 esac
fi
```

```
# ------------------------------------------------------
BVPRMTMP
BVPMSG 1010
exit $RETURN
```

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 (GL-suffixed file).

EXECUTION CONDITIONS

Prior execution of GPRT, with an error messages generation request.

Before the standard processing, perform an ASCII sort of the error messages file (PTUSGL).

EMLD - User Input

One '*' line with user code and password.

EMLD - Description of Steps

SORT OF THE GENERATED SEQUENTIAL ERROR MESSAGES: PTUSGL

Code	Physical Name	Type	Label
PAC7LG	User dir. : ERRGL	Input	Generated user error messages
PAC7GL	Tmp. dir. : ERRGL	Output	Sorted user error messages

LOADING OF USER-DEFINED ERROR MESSAGES IN AN INDEXED FILE: PACL93

Code	Physical name	Type	Label
PAC7MB	User input	Input	Input Transactions
PAC7GL	Tmp dir. : ERRLG	Input	Sequential user-defined error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7EM	User dir. : ERRMSG	Output	User-defined indexed error messages file
PAC7IY	User dir. : EMLDIYL93	Report	Output reports
PAC7DD	User dir. : EMLDDDL93	Report	Authorization control

Return code :

- 8 : no authorization on batch procedure

EMLD : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) EMLD BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *             - LOADING OF USER'S ERROR MESSAGES -
# *
# * -------------------------------------------------------
# *
# * 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).
# *
# *
# * INPUT :
# *  -  USER IDENTIFICATION LINE (REQUIRED)
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-------------------------------------------------------"
BVPMSG 1004 "EMLD"
echo "                         =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# -------------------------------------------------------
```

```
PAC7LG=`BVPENV PTUSGL PAC7LG \`dirname $PACUSERS\`/ERRGL`
export PAC7LG
if [ ! -f "$PAC7LG" ]
then
 BVPMSG 1030
 BVPMSG 1031
 BVPMSG 1032
 RETURN=1
 BVPRMTMP
 exit $RETURN
fi
PAC7GL=`BVPENV PTUSGL PAC7GL $PACTMP/ERRGL`
export PAC7GL
BVPMSG 1009 "BVPTUSGL"
rtspac BVPTUSGL
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPTUSGL"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PACL93 PAC7DD $PACUSERS/EMLDDDL93.txt`
export PAC7DD
PAC7EM=`BVPENV PACL93 PAC7EM \`dirname $PACUSERS\`/ERRMSG`
export PAC7EM
PAC7GL=`BVPENV PTUSGL PAC7GL $PACTMP/ERRGL`
export PAC7GL
PAC7IY=`BVPENV PACL93 PAC7IY $PACUSERS/EMLDIYL93.txt`
export PAC7IY
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPACL93"
rtspac BVPACL93
RETURN=$?
case $RETURN in
0)
 ;;
8)
 BVPMSG 1012 "BVPACL93"
 BVPMSG 1014
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
```

```
*)
 BVPMSG 1012 "BVPACL93"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

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 (GL-suffixed file) or from transactions for error message deletions at the entity level.

EXECUTION CONDITIONS

The User-Defined Error Message file must exist.

Prior execution of GPRT, with a generation request of error messages.

Before the standard processing, perform an ASCII sort of the error message file (PTUSGL).

EMUP - User Input

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

Position	Length	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:

Position	Length	Value	Meaning
1	1	'D'	Transaction code (deletion)
2	2		Entity type; same as in CHOICE field

Position	Length	Value	Meaning
		'O '	Screen
		'D '	Data structure
		'S '	Segment
4	6		Entity code

EMUP - Description of Steps

SORT OF THE GENERATED SEQUENTIAL ERROR MESSAGES: PTUSGL

Code	Physical Name	Type	Label
PAC7LG	User dir. : ERRGL	Input	Generated user error messages
PAC7GL	Tmp. dir. : ERRGL	Output	Sorted user error messages

UPDATE OF INDEXED USER-DEFINED ERROR MESSAGES: PACL92

Code	Physical name	Type	Label
PAC7GL	Tmp dir. : ERRLG	Input	Sequential user-defined error messages
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database users
PAC7MB	User input	Input	Input transactions
PAC7EM	User dir. : ERRMSG	Output	User-defined error message indexed file
PAC7IU	User dir. : EMUPIUL92	Report	Transaction report
PAC7IX	User dir. : EMUPIXL92	Report	Error message report
PAC7DD	User dir. : EMUPDDL92	Report	Authorization option

Return code :

- 8 : no batch procedure authorization option.

EMUP : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) EMUP BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *             - USER'S ERROR MESSAGES UPDATING -
# *
# * -------------------------------------------------------
# *
# * 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.
# *
# * INPUT :
# *  -  USER IDENTIFICATION LINE (REQUIRED)
# *  -  COMMAND LINE :
# *  COL 1  : "D"    TRANSACTION CODE (DELETION)
# *  COL 2  :  ENTITY TYPE; SAME AS IN CHOICE FIELD.
# *            "O "   SCREEN
# *            "D "   DATA STRUCTURE
# *            "S "   SEGMENT
# *  COL 4  : (6 CAR.) ENTITY CODE
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "EMUP"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ----------------------------------------------------------
PAC7LG=`BVPENV PTUSGL PAC7LG \`dirname $PACUSERS\`/ERRGL`
export PAC7LG
if [ ! -f "$PAC7LG" ]
then
 BVPMSG 1030
 BVPMSG 1031
 BVPMSG 1032
 RETURN=1
 BVPRMTMP
 exit $RETURN
fi
```

```
PAC7GL=`BVPENV PTUSGL PAC7GL $PACTMP/ERRGL`
export PAC7GL
BVPMSG 1009 "BVPTUSGL"
rtspac BVPTUSGL
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPTUSGL"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PACL92 PAC7DD $PACUSERS/EMUPDDL92.txt`
export PAC7DD
PAC7EM=`BVPENV PACL92 PAC7EM \`dirname $PACUSERS\`/ERRMSG`
export PAC7EM
PAC7GL=`BVPENV PTUSGL PAC7GL $PACTMP/ERRGL`
export PAC7GL
PAC7IU=`BVPENV PACL92 PAC7IU $PACUSERS/EMUPIUL92.txt`
export PAC7IU
PAC7IX=`BVPENV PACL92 PAC7IX $PACUSERS/EMUPIXL92.txt`
export PAC7IX
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPACL92"
rtspac BVPACL92
RETURN=$?
case $RETURN in
0)
 ;;
8)
 BVPMSG 1012 "BVPACL92"
 BVPMSG 1014
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPACL92"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
```

```
# ------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

CODING OF GPRT OUTPUT FILES CREATED ON DISK

All output files generated by the GPRT procedure are created in the Temporary Files directory

These files follow a special codification in order for the user to find his/her generated programs or reports easily.

GENERATED SOURCE AND PRINT FILES

These files are assigned the 'GPRT.' prefix.

For example :

```
      GENERATED SOURCE           PRINT FILES
      -------------------------  ----------------------
      GPRT.GB (Database Blocks)  GPRT.IA (Report)
      GPRT.GQ (SQL)
      GPRT.GD (Data)             GPRT.ID (Data)
      GPRT.GE (Screens - OSD)    GPRT.IH (PEI)
      GPRT.GP (Programs)         GPRT.IL (Error Mes.)
      GPRT.GR (Reverse)          GPRT.IN (PDM-Volumes)
      GPRT.GG (Client screens)   GPRT.IK (Error Mes.)
      GPRT.GV (Server screens)   GPRT.II (Generat. Err)
      GPRT.GF (e-Business)
ERROR MESSAGE FILES
These files are assigned the "ERR." prefix:
      Input files : ERRLG and ERRLK
      Output files: ERRGL and ERRGK
```

At the end of the procedure, a COPY order ensures the rotation from GL to LG and GK to LK.

ON-LINE APPLICATIONS AUTOMATIC REVAMPING FILE

This file is assigned the ″PAW.″ prefix:

PAW.GT contains the necessary elements for windowing.

TEMPORARY FILES

.There: are files internal to the GPRT procedure.

.There: are files internal to the GPRT procedure.

These files are assigned the ″W″ prefix and are deleted at the end of the procedure.

NOTE CONCERNING THE GENERATION OF ERROR MESSAGES

It is advisable to request the generation of Error Messages (GEO or GCO command) in batch mode rather than using the Generation & Print Commands screen (CH: GP).

The Batch Server, which processes the Generation-Print requests submitted from the 'GP' screen, does not perform the rotation of the generated sequential files; therefore there can be no cumulative generation.

As a result, error messages generated in prior on-line requests are lost.

In order to avoid this problem, the indexed Error Message file must be routinely loaded via the EMUP procedure after each sequential file generation.

By default, the GPRT procedure does not perform a cumulative generation of error messages, the LG and LK files being assigned as null files.

To activate the cumulative generation, assign the files as follows:

```
WshEnv("PAC7LG")  = RepT_USR & "\ERRLG.txt"
WshEnv("PAC7LK")  = RepT_USR & "\ERRLK.txt"
```

PPAF - Generated Programs PAF Preprocessor

PPAF - Introduction

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

EXECUTION CONDITIONS

None.

IMPLEMENTATION

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 command lines Before/After generated program; the appropriate JCL must have been previously entered in the selected options (PC screen).

PPAF - User Input

The input is the COBOL source code of programs containing PAF operators to be processed by the pre-processor before compilation.

After the IDENTIFICATION DIVISION, each program contains a command line for the pre-processor. Its structure is as follows :

Position	Length	Value	Meaning
1	6	nnnnnn	COBOL line number
7	1	'*'	Comment
8	5	'TP '	On-line program OR
		'BATCH'	Batch program
14	5	'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)
32	4	'AR:'	Fixed label
36	1	1	Database language code
38	4	'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.

PPAF - Description of Steps

PREPROCESSOR: PAFP10

Code	Physical name	Type	Label
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAF80	User dir. : PAF80	Input	Generated programs
COB80	User dir. : COB80	Output	Generated programs to be compiled
PAFREP	User dir. : PPAFREP10	Report	Error report

PPAF : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PPAF BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *         - VA PAC ACCESS FACILITY PRE-PROCESSING -
# *
# * -------------------------------------------------------
# *
# * USING PAF OPERATORS, THE PPAF PROCEDURE PROCESSES
# * GENERATED USER PROGRAMS CONTAINING SQL REQUESTS FOR
# * ACCESS TO THE DATABASE.
# *
# * USER INPUT IS THE COBOL SOURCE CODE OF PROGRAMS
# * CONTAINING PAF OPERATORS TO BE PROCESSED BY
# * BY THE PRE-PROCESSOR BEFORE COMPILATION.
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-------------------------------------------------------"
BVPMSG 1004 "PPAF"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
```

```
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
PAF80=`BVPENV PAFP10 PAF80 \`dirname $PACUSERS\`/PAF80`
export PAF80
COB80=`BVPENV PAFP10 COB80 \`dirname $PACUSERS\`/COB80`
export COB80
PAFREP=`BVPENV PAFP10 PAFREP $PACUSERS/PAFREP`
export PAFREP
BVPMSG 1009 "BVPAFP10"
rtspac BVPAFP10
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPAFP10"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Chapter 3. Extractions

PACX - Introduction

The extraction procedure allows to perform various types of data extractions from the development database via a PAF extractor (selection criteria).

See chapter 'UPDP - Update from PAF Tables' in 'The Developer's Procedures' manual.

This data is extracted in the form of transactions that can be used in input of the following procedures:

- UPDT
- UPDP
- CPSN (If the optional LCU Partitioned Database Manager utility is available.)

EXECUTION CONDITIONS

None since the Database is not directly updated by this procedure.

PACX - User Input Common to all Extractors

Position	Length	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
29	4	cccc	Extractor code (1)
33	1	'1'	Formatting for UPDT
		'2'	CPSN : formatting for UPDT with explicit transaction codes
		' '	No formatting for UPDT
34	1	'1'	Formatting for UPDP (PAF)

Position	Length	Value	Meaning
		'2'	CPSN : formatting for UPDP with explicit transaction codes
		' '	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
		'N'	For RMEN only : no extraction of locked entities by an other user
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)

(1) Possible values for the extractor code include:

- EXTR: Extraction of entities (extracted transactions are sorted).
- EXTA: Extraction of entities (extracted transactions are sorted, according to the input identification lines order. So if each request is preceded by a '*' line, extracted transactions will be sorted in the order of the requests). The formatting is forced to UPDT.
- EXUE: Extraction of user entities
- EXLI: Extraction of libraries or library sub-networks
- EXPJ: Extraction of Journal (formatting for CPSN is not possible)
- EXPU: Extraction for purge (formatting for CPSN is not possible)
- RMEN: Extraction of entities for upload/replacement/ recoding (formatting for CPSN is not possible). RMEN is subject to a separate purchase agreement.

- CPSN: comparison of sub-networks.

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.
- The formatting type of the first '*' line only is taken into account.
- Formatting for CPSN: This procedure is part of the ' LCU Partitioned Database Manager' optional utility. Its use is therefore subject to a separate purchase agreement.
- Maximum number of input '*' lines : 1 for RMEN and EXPJ, 400 for EXSN, 1000 for EXTR, EXTA, EXUE and EXPU.

RESULTS

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.

Extraction of Entities

EXTR/EXTA - Introduction

These extractor types allow the selection of an entity as a whole or part of it.

If the request is of the 'ALL' type, the whole entity is 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 to the UPDT, UPDP or CPSN procedures (if the request is of the 'ALL', 'ONLY' or 'EXPT' type; the formatting for CPSN is not allowed). For EXTA, the formatting is forced to UPDT.

EXTR/EXTA - User Input

One or two command lines per entity to be extracted.

First line :

Position	Length	Value	Meaning
2	1	'W'	Line code
3	1	'1'	Line number
4	2	'EX'	

Position	Length	Value	Meaning
6	1		Library selection code:
		'U'	Library alone
		'C'	Library and its upper-level libraries
		'+'	Library and its upper-level libraries with identification lines ('*' lines) generation
7	33	Choice	Entity to be extracted, coded in the same way as the 'Choice' field in TP.
40	4		Extraction type:
		' '	Entity alone (required for EXTA)
		'ALL '	Entity and used entities
		'ONLY'	Entity and only 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
44			12-position table (3 char./position) containing exceptions or selections
			'DEL': Element
			'DBD': Database Block
			'DST': Data Structure
			'SEG': Segment
			'RPT': Report
			'TXT': Text
			'VOL': PDM Volume
			'PGM': Program
			'DLG': Dialog
			'SCR': Screen
			'PIA': Parameterized Input Aid
			'MET': Methodology
			'CME': Client Meta-Entity
			'CLR': Client User Relation
			'$tt': User Entity (tt = Meta-entity type)
			'EME': Extension Meta-Entity
			'ERL : Extension User Relation
			'Ytt': Extension User Entity (tt = Meta-Entity type)

Second line (continuation line for selections and exceptions):

Position	Length	Value	Meaning
2	1	'W'	Line code
3	1	'2'	Line number
44			12-position table (3 characters per position) containing the exceptions or selections

(*): The EXTR procedure also works with choices that are specific to the Development Database.

(*): The EXTR procedure also works with choices that are specific to the Development Database.

These choices must be entered from the seventh position, in the following way:

//A__CCCXXXXXX

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

TYPE OF EXTRACTION

- The 'multi-layered extractor' option ('ALL', 'EXPT' or 'ONLY' extraction type) is not available for EXTA. For this procedure, the value must be blank.
- 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 are to be extracted also. Enter 'EXPTSEG' in this field.
- The extraction of a Dialog extracts only the Dialog by default. To extract the Dialog 's screens, enter 'ALL'.
- Same as above for the extraction of a Meta-Entity and its User Entities.
- The extraction stops at the first level of selection or exception.

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

PRINTED OUTPUT

The procedure produces:

. A list of extracted entities:

- Sorted for EXTR,

- In the order of the requests for EXTA.

Extraction of User Entities Contents

EXUE - Introduction

The EXUE procedure extracts the contents of User Entities according to the Meta-Entity 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 is subject to a separate purchase agreement.

See the 'Dictionary Extensibility' Manual.

EXUE - User Input

USER INPUT

One command line per user entity:

Position	Length	Value	Meaning
2	4	W1EX	Line code
6	1	$	Client UE Extraction identifier
		'Y'	Extension UE Extraction identifier
7	1		Library selection code:
		U	Selected Library
		C	Selected Library + higher level Libr.
8	2	CC	Meta-Entity call type

PRINTED OUTPUT

The EXUE procedure prints a list of the extracted UEs.

RESULT

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

The length of each record is 230 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 meta-entity description.

PACX - Description of Steps

EXTRACTION: PACX

This step extracts transactions according to user input.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AY	Base dir. : AY	Input	Development Database Extension Data
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7PJ	Save dir.: PJ	Input	Archived transactions
PAC7MB	User input	Input	User input
PAC7MA	nul	Input	CPSN Master file
PAC7ES	nul	Input	CPSN Slave file
PAC7BM	Tmp dir.: WBM	Input/Output	User input
PAC7MM	Tmp dir.: WMM	Input/Output	EXPU Work file
PAC7MJ	Tmp dir.: WMJ	Input/Output	EXPJ Work file
PAC7TE	Tmp dir.: WTE	Input/Output	RMEN Work file
PAC7RE	Tmp dir.: WRE	Input/Output	RMEN Work file
PAC7RM	Tmp dir.: WRM	Input/Output	RMEN Work file
PAC7WD	Tmp dir.: WWD	Input/Output	Extracted transactions
SYSEXT	Tmp dir.: WSY	Input/Output	Indexed Work File
PAC7MV	User dir.: PACXMV	Output	Extracted transactions for UPDT
PAC7MR	User dir.: PACXMR	Output	Extracted transactions for REOR (EXPU)

Code	Physical name	Type	Label
PAC7MX	User dir.: PACXMX	Output	Non extracted entities (PACX)
PAC7GY	User dir.: PACXGY	Output	Extracted transactions for UPDP
PAC7TD	User dir.: PACXTD	Output	Extracted transactions for CPSN
PAC7UE	User dir.: PACXUE	Output	Extracted transactions for EXUE
PAC7IA	User dir.: PACXIA	Report	General printout of the program stream
PAC7DD	User dir.: PACXDD	Report	Errors on input transactions
PAC7ED	User dir.: PACXED	Report	Extractions report
PAC7EE	User dir.: PACXEE	Report	Extractions report
PAC7EG	User dir.: PACXEG	Report	Extractions report
PAC7EM	User dir.: PACXEM	Report	Extractions report
PAC7EP	User dir.: PACXEP	Report	Extractions report
PAC7EQ	User dir.: PACXEQ	Report	Extractions report
PAC7EU	User dir.: PACXEU	Report	Extractions report
PAC7EZ	User dir.: PACXEZ	Report	Extractions report

Return codes:

- 0: No error
- 4: Error on user input (detailed in PAC7EE) or on the extractions for EXTR/EXUE (detailed in PAC7EZ)
- 8: Error on '*' line (detailed in PAC7DD) or in EXLI (Database not available)

PACX : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PACX BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *           - EXTRACTIONS FROM DATABASE -
# *           - EXTRACTIONS COMPARATOR    -
# * -------------------------------------------------------
# *
# * THE PACX PROCEDURE ALLOWS TO PERFORM VARIOUS TYPES
# * OF DATA EXTRACTIONS FROM THE DEVELOPMENT DATABASE
```

```
# * VIA PAF EXTRACTOR.
# *
# * POSSIBLE VALUES FOR THE EXTRACTOR CODE INCLUDE:
# * - EXTR:  EXTRACTION OF ENTITIES
# * - EXTA:  EXTRACTION OF ENTITIES (EXTRACTED TRANSACTIONS
# *          ARE SORTED, ACCORDING TO THE INPUT
# *          IDENTIFICATION LINES ORDER.
# *          EACH REQUEST IS THUS PRECEDED BY A "*" LINE,
# *          EXTRACTED TRANSACTIONS WILL BE SORTED IN THE
# *          REQUEST ORDER).
# * - EXUE:  EXTRACTION OF USER ENTITIES
# * FOLLOWING VALUES ARE RESERVED FOR THE ADMINISTRATOR:
# * - 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)
# * - RMEN:EXTRACTION OF ENTITIES FOR UPLOAD/REPLACEMENT/
# *        RECODING (FORMATTING FOR CPSN IS NOT POSSIBLE).
# *        RMEN IS SUBJECT TO A SEPARATE PURCHASE AGREEMENT
# * - CPSN:COMPARISON OF SUB-NETWORKS.
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "PACX"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ----------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
PAC7BM=`BVPENV PACX PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=`BVPENV PACX PAC7DD $PACUSERS/PACXDD.txt`
export PAC7DD
PAC7ED=`BVPENV PACX PAC7ED $PACUSERS/PACXED.txt`
export PAC7ED
PAC7EE=`BVPENV PACX PAC7EE $PACUSERS/PACXEE.txt`
```

```
export PAC7EE
PAC7EG=`BVPENV PACX PAC7EG $PACUSERS/PACXEG.txt`
export PAC7EG
PAC7EM=`BVPENV PACX PAC7EM $PACUSERS/PACXEM.txt`
export PAC7EM
PAC7EP=`BVPENV PACX PAC7EP $PACUSERS/PACXEP.txt`
export PAC7EP
PAC7EQ=`BVPENV PACX PAC7EQ $PACUSERS/PACXEQ.txt`
export PAC7EQ
PAC7ES=`BVPENV PACX PAC7ES /dev/null`
if [ "$PAC7ES" = "/dev/null" ]
then
 PAC7ES=$PACTMP/ES
 touch $PAC7ES
fi
export PAC7ES
PAC7EU=`BVPENV PACX PAC7EU $PACUSERS/PACXEU.txt`
export PAC7EU
PAC7EZ=`BVPENV PACX PAC7EZ $PACUSERS/PACXEZ.txt`
export PAC7EZ
PAC7GY=`BVPENV PACX PAC7GY $PACUSERS/PACXGY`
export PAC7GY
PAC7IA=`BVPENV PACX PAC7IA $PACUSERS/PACXIA.txt`
export PAC7IA
PAC7MA=`BVPENV PACX PAC7MA /dev/null`
if [ "$PAC7MA" = "/dev/null" ]
then
 PAC7MA=$PACTMP/MA
 touch $PAC7MA
fi
export PAC7MA
PAC7MB=$PACINPUT
export PAC7MB
PAC7MM=`BVPENV PACX PAC7MM $PACTMP/WMM`
export PAC7MM
PAC7MJ=`BVPENV PACX PAC7MJ $PACTMP/WMJ`
export PAC7MJ
PAC7MR=`BVPENV PACX PAC7MR $PACUSERS/PACXMR`
export PAC7MR
PAC7MV=`BVPENV PACX PAC7MV $PACUSERS/PACXMV`
export PAC7MV
PAC7MX=`BVPENV PACX PAC7MX $PACUSERS/PACXMX`
export PAC7MX
. $PACDIR/config/$1/PACSAVPJ.ini
PAC7PJ=$PACSAVPJ
export PAC7PJ
PAC7RE=`BVPENV PACX PAC7RE $PACTMP/WRE`
export PAC7RE
PAC7RM=`BVPENV PACX PAC7RM $PACTMP/WRM`
export PAC7RM
PAC7TD=`BVPENV PACX PAC7TD $PACUSERS/PACXTD`
export PAC7TD
PAC7TE=`BVPENV PACX PAC7TE $PACTMP/WTE`
export PAC7TE
PAC7UE=`BVPENV PACX PAC7UE $PACUSERS/PACXUE`
```

```
export PAC7UE
PAC7WD=`BVPENV PACX PAC7WD $PACTMP/WWD`
export PAC7WD
SYSEXT=`BVPENV PACX SYSEXT $PACTMP/WSY`
export SYSEXT
BVPMSG 1009 "BVPACX"
rtspac BVPACX
RETURN=$?
case $RETURN in
0)
 ;;
8)
 BVPMSG 1012 "BVPACX"
 BVPMSG 1014
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
4)
 BVPMSG 1012 "BVPACX"
 BVPMSG 1043
 BVPMSG 1010
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPACX"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Chapter 4. Personalized Extraction/Automated Documentation

Foreword

The PAF+/Extraction and the PDM+/Outline can be used separately or together.

PAF+ allows for the writing of the Extraction Master Path and for its execution when the PTEx is a User Extractor.

PDM+ allows for the writing and execution of the Master Outline (PTEd).

The PAF-PDM functions are used when the Master outline calls an Extraction Master Path of the Macro-Command type.

- If you use the PAF+/Extraction function alone, you can generate User Extractor programs and possibly format the extracted data.
- If you use the PDM+/Outline function alone, you can create skeletons to standardize the printing of Documents (standard Print Options, Text instances always called, standardized calls).
- If you use both functions together, PAF+ extracts data from the Database. This data is processed by PDM+ and finally printed in a Document.

For more information on these functions, refer to the 'Pacbase Access Facility (PAF)' and the 'Personalized Documentation Manager (PDM)' manuals.

Personalized Extractions - PAF+

XPAF - Validation of an Extraction Master Path

XPAF - Introduction

The Extraction Master Path validation procedure, XPAF, allows to perform specific extractions that the standard procedures are not able to perform. See the "Pacbase Access Facility (PAF)" manual.

RESULTS

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

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

A User Extraction program is 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 Meta-Entity, whose type is 7E.

The GS file, initialized by the LDGS procedure, must pre-exist.

IMPLEMENTATION

Before the procedure can be executed, the user must define an instance of this meta-entity (Y7E). Its Definition and Description determine the characteristics and format of the general extraction program.

ABNORMAL EXECUTION

Whatever the cause of the abend, 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.

XPAF - User Input
One '*' line for the library and the session to be consulted

Position	Length	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:

Position	Length	Value	Meaning
2	2	'EX'	Line code
4	2		ME Type (7E by default)
6	6	eeeeee	User Entity code
			Warning: Specify library and session if the MEs whose instances are to be extracted in a parallel sub-network (UEs extractions 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
		SPACE	Check of the presence of the Master Path in GS. Check of the user entity's use in the sub-network. No update of GS if presence or use.

Examples

*user passwordLIB

EX7EEXT001_____UPDATE

*user passwordLIB

EX7EEXT002

XPAF - Description of Steps

ACCESS AND VALIDATION: PTEX30

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users

Code	Physical name	Type	Label
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AY	Base dir. : AY	Input	Development Database Extension Data
PAC7MB	User input	Input	User Input
PAC7SP	System - Skel dir. : SP	Input	Variable skeleton file
PAC7GS	Base dir. : GS	Input/Output	Extraction Paths
PAC7ED	Tmp dir. : WED	Output	Report passed on to printing program
PAC7GP	Tmp dir. : WGP	Output	Temporary generated source
PAC7DD	User dir. : XPAFDDX30	Report	Report

EXTRACTOR GENERATION: PTEX80

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error Messages
PAC7SF	System - Skel dir. : SF	Input	Fixed skeleton file
PAC7GP	Tmp dir. : WGP	Input	Source file generated by PTEX30
PAC7ST	User dir. : PAF80	Output	Generated source to be translated

PREPROCESSOR: PAFP10

Code	Physical name	Type	Label
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAF80	User dir. : PAF80	Input	Generated programs
COB80	User dir. : COB80	Output	Generated programs to be compiled
PAFREP	User dir. : PPAFREP10	Report	Error report

PTEX PRINTING: PTEXD0

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PACGGY	Admin Base - Base dir. : AY	Input	Administration Database Extension
PAC7ED	Tmp. dir. : WED	Input	PTEX30 Report
PAC7GS	Base dir. : GS	Input/Output	Extraction Paths
PAC7RD	User dir. : XPAFRDXD0	Report	Control report

XPAF : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) XPAF BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *                 - XPAF (PAF EXTENSION) -
# *
# * -------------------------------------------------------
# *
# * THE EXTRACTION MASTER PATH VALIDATION PROCEDURE,
# * XPAF, ALLOWS FOR THE SIMULATION OF SPECIFIC EXTRACTIONS
# * THAT THE STANDARD PROCEDURES ARE NOT ABLE TO PERFORM.
# *
# * INPUT :
# *  -  USER IDENTIFICATION LINE (REQUIRED)
# *     COL  2 : "*"
# *     COL  3 : USERIDXX
# *     COL 11 : PASSWORD
# *     COL 19 : (BBB)    LIBRARY CODE
# *     COL 22 : (4 N)    SESSION NUMBER
# *     COL 26 : (1 CAR.) SESSION VERSION
# *     COL 68 : " "      STANDARD PRINT
# *              "1"      UPPERCASE PRINT
# *  -  COMMAND LINE :
# *  COL  2  : "EX"       LINE CODE
# *  COL  4  :  (2 CAR.)  METAENTITY  TYPE (7E BY DEFAULT)
# *  COL  6  :  (6 CAR.)  USER ENTITY CODE
# *  COL 12  :  (BBB)     LIBRARY CODE     (IF THE U.E.O.
```

```
# *  COL 15  :  (4 N)     SESSION NUMBER    ARE IN PARALLEL
# *  COL 19  :  (1 CAR.)  SESSION VERSION   SUB-NETWORK)
# *  COL 20  :  "UPDATE"  UPDATE OF GS
# *             "      "  CHECK OF THE PRESENCE OF THE
# *                       MASTER PATH IN GS.
# *
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "XPAF"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
. $PACDIR/config/$1/PAC7GS.ini
. $PACDIR/config/$1/SQUEL.ini
PAC7DD=`BVPENV PTEX30 PAC7DD $PACUSERS/XPAFDDX30.txt`
export PAC7DD
PAC7ED=`BVPENV PTEX30 PAC7ED $PACTMP/WED`
export PAC7ED
PAC7GP=`BVPENV PTEX30 PAC7GP $PACTMP/WGP`
export PAC7GP
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPTEX30"
rtspac BVPTEX30
RETURN=$?
case $RETURN in
0)
 ;;
8)
 ;;
*)
 BVPMSG 1012 "BVPTEX30"
 BVPERR
 BVPRMTMP
 exit $RETURN
```

```
 ;;
esac
# ------------------------------------------------------
if [ "$RETURN" -lt "8" ]
then
 . $PACDIR/config/$1/PAC7AE.ini
 . $PACDIR/config/$1/SQUEL.ini
 PAC7GP=`BVPENV PTEX30 PAC7GP $PACTMP/WGP`
 export PAC7GP
 PAC7ST=`BVPENV PTEX80 PAC7ST $PACUSERS/PAF80`
 export PAC7ST
 BVPMSG 1009 "BVPTEX80"
 rtspac BVPTEX80
 RETURN=$?
 case $RETURN in
 0)
  ;;
 *)
  BVPMSG 1012 "BVPTEX80"
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
 esac
 # ------------------------------------------------------
 . $PACDIR/config/$1/PAC7AE.ini
 . $PACDIR/config/$1/PAC7AN.ini
 . $PACDIR/config/$1/PAC7AR.ini
 PAF80=`BVPENV PAFP10 PAF80 $PACUSERS/PAF80`
 export PAF80
 COB80=`BVPENV PAFP10 COB80 $PACUSERS/COB80`
 export COB80
 PAFREP=`BVPENV PAFP10 PAFREP $PACUSERS/PAFREP10`
 export PAFREP
 BVPMSG 1009 "BVPAFP10"
 rtspac BVPAFP10
 RETURN=$?
 case $RETURN in
 0)
  ;;
 *)
  BVPMSG 1012 "BVPAFP10"
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
 esac
fi
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
. $PACDIR/config/$1/PAC7GS.ini
```

```
PAC7ED=`BVPENV PTEX30 PAC7ED $PACTMP/WED`
export PAC7ED
PAC7RD=`BVPENV PTEXD0 PAC7RD $PACUSERS/XPAFRDXD0.txt`
export PAC7RD
BVPMSG 1009 "BVPTEXD0"
rtspac BVPTEXD0
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPTEXD0"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ---------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

XPAF - Operations of the Extraction Master Path

EXECUTION OF A USER EXTRACTOR (E-TYPE PTEx)

Once validated, compiled, and linked, a User Extractor is ready for execution.

EXECUTION OF A MACRO-COMMAND (M-TYPE PTEx):

Once validated, compiled, and linked, a Macro-Command is not ready for execution. It must be called in a Master Outline.

See the 'Personalized Documentation Manager' Manual for a complete documentation on the PDM+ Functionality.

NOTE

An Extraction Master Path is independent of the Database in which it is defined and described as long as the root is the same.

Documentation Structuring - PDM+

XPDM - Validation of a Master Outline

XPDM - Introduction

A Master Outline is a P-type Document ('V' entity) designed to be called in another PDM Document. Its functions are to:

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

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

If no serious error is detected, the XPDM procedure updates the Extraction Master Path file (GS). It can also be used without updating the GS file.

See the 'Personalized Documentation Manager' manual for more details.

ABNORMAL EXECUTION

Whatever the cause of the abend, 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.

XPDM - User Input

One '*' line to define the context.

Position	Length	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' line for the following elements :

Position	Length	Value	Meaning
2	2	'EP'	Line code
4	6	rrrrrr	Report code
10	6	'UPDATE'	GS file update
		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 passwordLIB

EPMANUALUPDATE

*user passwordLIB

EPMANUAL

XPDM - Description of Steps

EXTRACTION OF MASTER OUTLINE: PTED30

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AY	Base dir. : AY	Input	Development Database Extension data
PAC7MB	User input	Input	User Input
PAC7GS	Base dir. : GS	Input/Output	Extraction Paths
PAC7ED	Tmp dir. : WED	Output	Report passed on to BVPTED80
PAC7SG	Tmp dir. : WSG	Output	GS-Update preparation
PAC7DD	User dir. : XPDMDDD30	Report	Report

GS UPDATE AND PRINTING OF THE MASTER OUTLINE: PTED60

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file

Code	Physical name	Type	Label
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PACGGY	Admin Base - Base dir. : AY	Input	Administration Database Extension
PAC7ED	Tmp dir. : WED	Input	Print file
PAC7SG	Base dir.: WSG	Input	GS-Update preparation file
PAC7GS	Base dir. : GS	Output	Extraction Paths
ETATGP	User dir. : XPDMGPD60	Report	Output report

XPDM : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) XPDM BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *                 - XPDM   (PDM EXTENSION) -
# *
# * -------------------------------------------------------
# *
# * A MASTER OUTLINE IS A P-TYPE VOLUME ("V" ENTITY)
# * DESIGNED TO BE CALLED IN ANOTHER PDM VOLUME.
# *
# * INPUT :
# *  -  USER IDENTIFICATION LINE (REQUIRED)
# *     COL  2 : "*"
# *     COL  3 : USERIDXX
# *     COL 11 : PASSWORD
# *     COL 19 : (BBB)    LIBRARY CODE
# *     COL 22 : (4 N)    SESSION NUMBER
# *     COL 26 : (1 CAR.) SESSION VERSION
# *     COL 68 : " "      STANDARD PRINT
# *              "1"      UPPERCASE PRINT
# *  -  COMMAND LINE :
# *  COL  2  : "EP"       LINE CODE
# *  COL  4  :  (6 CAR.)  REPORT CODE
# *  COL 10  :  "UPDATE"  UPDATE OF GS
# *             "      "  CHECK OF THE PRESENCE OF VOLUME
# *                       IN GS.
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
```

```
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "XPDM"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
. $PACDIR/config/$1/PAC7GS.ini
PAC7DD=`BVPENV PTED30 PAC7DD $PACUSERS/XPDMDDD30.txt`
export PAC7DD
PAC7ED=`BVPENV PTED30 PAC7ED $PACTMP/WED`
export PAC7ED
PAC7MB=$PACINPUT
export PAC7MB
PAC7SG=`BVPENV PTED30 PAC7SG $PACTMP/WSG`
export PAC7SG
BVPMSG 1009 "BVPTED30"
rtspac BVPTED30
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPERR
 BVPRMTMP
 exit $RETURN
 BVPMSG 1012 "BVPTED30"
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
. $PACDIR/config/$1/PAC7GS.ini
PAC7ED=`BVPENV PTED30 PAC7ED $PACTMP/WED`
export PAC7ED
PAC7SG=`BVPENV PTED30 PAC7SG $PACTMP/WSG`
export PAC7SG
```

```
ETATGP=`BVPENV PTED60 ETATGP $PACUSERS/XPDMGPD60.txt`
export ETATGP
BVPMSG 1009 "BVPTED60"
rtspac BVPTED60
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPTED60"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Extraction Master Path and Outline File

PRGS - Printing of Master Path / Outline File

PRGS - Introduction

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

RESULT

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

PRGS - User Input

One '*' line to identify the user.

Position	Length	Value	Meaning
2	1	'*'	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	User password

PRGS - Description of Steps

PRINTING OF THE MASTER PATH AND OUTLINE FILE: PTEP90

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages

Code	Physical name	Type	Label
PACGGN	Admin Database - Database dir. : AN	Input	Administration Database Index file
PACGGR	Admin Database - Database dir. : AR	Input	Administration Database Data file
PACGGU	Admin Database - Database dir. : GU	Input	Administration Database Users
PAC7GS	Database dir. : GS	Input	Extraction Paths
PAC7MB	User input	Input	User Input
PAC7DD	User dir. : PRGSDDP90	Report	Output Report
ETATGS	User dir. : PRGSGSP90	Report	Master Path and Outline file report

PRGS : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PRGS BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *           -  PRINT OF MASTER PATH FILE -
# *
# * -------------------------------------------------------
# *
# * THE PRGS PROCEDURE PRINTS THE CONTENTS OF THE
# * PAC7GS FILE, WHERE MASTER OUTLINES AND EXTRACTION
# * MASTER PATHS ARE STORED.
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-------------------------------------------------------"
BVPMSG 1004 "PRGS"
echo "                        =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# -------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
```

```
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PTEP90 PAC7DD $PACUSERS/PRGSDDP90.txt`
export PAC7DD
. $PACDIR/config/$1/PAC7GS.ini
PAC7MB=$PACINPUT
export PAC7MB
ETATGS=`BVPENV PTEP90 ETATGS $PACUSERS/PRGSGSP90.txt`
export ETATGS
BVPMSG 1009 "BVPTEP90"
rtspac BVPTEP90
RETURN=$?
case $RETURN in
0)
 ;;
8)
 BVPMSG 1012 "BVPTEP90"
 BVPMSG 1014
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPTEP90"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Chapter 5. Batch Update

UPDP - Update from PAF Tables

UPDP - Introduction

The UPDP procedure performs an update of the network 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.

ABNORMAL EXECUTION

Refer to the 'Abnormal Execution' section of the UPDT procedure.

UPDP - User Input / Update Rules / Results

USER INPUT

The sequential file of input transactions is produced by a PAF extractor program or by the PACX procedure. Its records reflect the PAF tables format. For a detailed description of these tables, see the 'Pacbase Access Facility Tables' manual.

Position	Length	Meaning
1	1	Transaction code (C, M, X, A or D, B, S)
2	10	PAF table code
12	299	PAF table contents (as described in the PAF Tables Reference Manual)

There are restrictions on the Client and Extension User Entities Definition and Description tables.

The size of the UPDP input file is 310 characters long while the size of these tables exceeds 310 characters. The records must then be re-formatted in the following manner:

Client and Extension User Entities Definition Tables - $TTDEF and YTTDEF.

Position	Length	Meaning
1	1	Transaction code (C, M, X, A or D, B, S)
2	10	Table code

Position	Length	Meaning
12	1	Record continuation code: blank character for the first record, any character for the continuation records.
13	1	Not used
14	55	Explicit keywords
69	237	Field containing columns specific to the associated Meta-Entity

Client and Extension User Entities Description tables - $TTDxx and YTTDxx.

Position	Length	Meaning
1	1	Transaction code (C, M, X, A or D, B)
2	10	Table code
12	1	Record continuation code: blank character for the first record, any character for the continuation records
13	1	Not used
14	30	User Entity code
44	262	Field containing columns specific to the associated Meta-Entity

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.

Position	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
39	1	'A' or 'F'	Language code, useful if the transactions are not in the same language as the Database in case of a Database under DSMS control:

Position	Length	Value	Meaning
40	3	ppp	Product code
43	6	nnnnnn	Product number

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

(Refer to the description of the UPDT output.)

Position	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	LAN Platforms: 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.

UPDP - Description of Steps

TRANSACTION FORMATTING: PAF900

Code	Physical name	Type	Label
PAC7AR	Base dir.: AR	Input	Development Database Data file
PAC7AN	Base dir.: AN	Input	Development Database Index file
PAC7AE	System - Skel.dir.: AE	Input	Error messages
PACGGR	Admin. Base - Base dir.: AR	Input	Administration Database Data file
PACGGN	Admin. Base - Base dir.: AN	Input	Administration Database Index file
PACGGU	Admin. Base - Base dir.: GU	Input	Administration Database Users
PAC7GY	User input	Input	Update transactions

Code	Physical name	Type	Label
PAC7MV	Tmp dir.: WMV	Output	Formatted transactions (must be able to contain all input transactions as well as elementary deletion transactions generated by multiple deletion transactions) (length=170)
PAC7ME	Tmp dir.: WME	Output	Work file (length=372)
PAC7MW	Tmp dir.: WMW	Output	Work file (length=170)
PAC7MX	Tmp dir.: WMX	Output	Work file (length=743)
PAC7MY	Tmp dir.: WMY	Output	Work file (length=743)

UPDATE OF THE DEVELOPMENT DATABASE: PACA15

Code	Physical name	Type	Label
PAC7AR	Base dir. : AR	Output	Development Database Data file
PAC7AN	Base dir. : AN	Output	Development Database Index file
PAC7AY	Base dir. : AY	Output	Development Database Extension
PAC7AJ	Journal dir. : AJ	Output	Development Database Journal
PAC7AE	System - Skel. dir. : AE	Input	Error messages
PACGGN	Admin. Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin. Base - Base dir. : AR	Input	Administration Database Data file
PACGGY	Admin. Base - Base dir. : AY	Input	Administration Database Extension
PACGGU	Admin. Base - Base dir. : GU	Input	Administration Database Users
PAC7DC	Base dir. : DC	Input	Development Database elements DSMS file
PAC7ME	Tmp dir. : WME	Input	Work file
PAC7MV	Tmp dir. : WMV	Input	Update transactions
PAC7RB	User dir. : UPDPRBA15	Output	UPDT erroneous transactions (length=80)
PAC7RY	User dir. : UPDPRYA15	Output	UPDP erroneous transactions (length=310)
PAC7IE	User dir. : UPDPIEA15	Report	Update report (length=132)

Code	Physical name	Type	Label
PAC7IF	User dir. : UPDPIFA15	Report	List of erroneous transactions (length=132)

The list of transactions specific to a user is preceded by a banner with this user's code.

Return codes :

- 0 : OK without error
- 2 : warning error
- 4 : fatal error

UPDP : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) UPDP BATCH PROCEDURE
# * ------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * ------------------------------------------------------
# *            - BATCH UPDATE FROM PAF TABLES -
# *
# * ------------------------------------------------------
# *
# * THE UPDP PROCEDURE PERFORMS AN UPDATE OF THE DATABASE
# * FROM A SEQUENTIAL FILE REFLECTING PAF TABLES.
# *
# * THE SEQUENTIAL FILE OF INPUT TRANSACTIONS IS PRODUCED
# * BY A PAF EXTRACTOR PROGRAM. ITS RECORDS MIRROR
# * THE PAF TABLES.
# * EACH SET OF TRANSACTIONS IMPACTING A LIBRARY OR SESSION
# * MUST BE PRECEDED BY AN ASSIGN TABLE CODE LINE.
# * 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.
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------"
BVPMSG 1004 "UPDP"
echo "                        =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------"
echo ""
```

```
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7GY=$PACINPUT
export PAC7GY
PAC7ME=`BVPENV PAF900 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MV=`BVPENV PAF900 PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7MW=`BVPENV PAF900 PAC7MW $PACTMP/WMW`
export PAC7MW
PAC7MX=`BVPENV PAF900 PAC7MX $PACTMP/WMX`
export PAC7MX
PAC7MY=`BVPENV PAF900 PAC7MY $PACTMP/WMY`
export PAC7MY
BVPMSG 1009 "BVPAF900"
rtspac BVPAF900
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPAF900"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7DC.ini
. $PACDIR/config/$1/SEMLOCK.ini
PAC7IE=`BVPENV PACA15 PAC7IE $PACUSERS/UPDPIEA15.txt`
export PAC7IE
PAC7IF=`BVPENV PACA15 PAC7IF $PACUSERS/UPDPIFA15.txt`
export PAC7IF
PAC7ME=`BVPENV PACA15 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MV=`BVPENV PACA15 PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7RB=`BVPENV PACA15 PAC7RB $PACUSERS/UPDPRBA15.txt`
export PAC7RB
```

```
PAC7RY=`BVPENV PACA15 PAC7RY $PACUSERS/UPDPRYA15.txt`
export PAC7RY
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=$?
case $RETURN in
0)
 ;;
2)
 BVPMSG 1012 "BVPACA15"
 BVPMSG 1054
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
4)
 BVPMSG 1012 "BVPACA15"
 BVPMSG 1055
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPACA15"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

UPDT - Update

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 CONDITIONS

The Database being updated, the AR, AN, AJ and AY files must be closed to on-line use, except for hardware environments that support concurrent on-line and batch access.

NOTE

For very large updates (in terms of number of transactions, about 5000), before executing this procedure, it may be necessary to

- Save, archive and restore the Database to increase the space allocated to the files or to physically reorganize the files in order to make all the free space initially provided available.
- Temporarily suppress Journalization

  (See chapter 'Database Management' subchapter 'Database Restoration', in 'The Administrator's Procedures' manual').

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 submitted by the Administrator (see 'The Administrator's Procedures' manual)

ABNORMAL EXECUTION

Refer to chapter 'Overview, subchapter 'Abnormal Endings' in 'the Administrator's Procedures' manual.

There are two types of abnormal executions:

- Abnormal execution occurring before the execution of the BVPACA15 program, or during the opening of files in this program. The procedure can be restarted after the problem is corrected.
- Abnormal execution occurring during execution of the BVPACA15 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 Backup file including the transactions archived subsequent to this backup (REST procedure).

UPDT - User Input / Update Rules / Results

UPDATE RULES

Each set of transactions impacting a Library must be preceded by a *-type line specifying the context.

These transactions are not sorted.

PRINTED OUTPUT

The two printed output 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.

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).

  These transactions are made up of a common part which contains the action code, a line identifier and a specific part which is detailed in the following sections for each Description of entity.

ACTION CODES

Action code	**Label**
C	Creation of a line in the library
M	Modification of a line.
Blank	Creation or modification of a line, depending on its presence or absence in the library.
X	Creation or modification with possible use of ampersand (&).
D	Deletion of one line.
B	Multiple lines deletion, starting with this line.
R	End of multiple lines deletion up to and including this line.
S	Complete deletion of an entity

NOTE CONCERNING DELETION

If an entity is used in several Libraries, deletions in an inferior Library are rejected.

It is possible to globally delete (using ACTION CODE 'B') an entity and all of its uses in Screens, Reports or Segments. However, these deletions will be effective only in update Libraries.

The B code generates elementary deletion transactions.

The S code can be used on an entity definition only, one transaction only will de journalized. Checks will be done before the update.

CAUTION

A field which is not valued is not modified. Enter the '&' character to blank out the field.

SPECIFIC ACTION CODES: 'F' AND 'P'

The 'F' and 'P' action codes are used in extractions for updates.

The 'F' value is used to force an update, i.e. after an extraction (via EXLI or any other extractor), it allows the creation of an incomplete Definition only for these entities' X-references (usually, User Entities) to be satisfied, a sort being impossible.

This code triggers the update of the Database.

The 'P' value allows an identification line to be assigned to all the Description lines that follow without updating the Definition of this entity (e.g. 'P' lines of a Program in a Library where the Definition exists only in a higher Library).

Checkpoints

This specification enables you to request synchronization points during the UPDT batch update.

You determine the frequency of the checkpoints (ex: a frequency equal to 0100 means that a checkpoint will be carried out after every 100 processed transactions).

Frequency of checkpoints during a batch update

For the UPDT batch update, you determine the frequency of checkpoints via a 'Y'-type line located before the first '*' line of the update flow. This line must have the following format:

Pos.	Len.	Value	Meaning
2	1	'Y'	Line code
4	4	'nnnn'	Frequency of checkpoints (default value: 0000)

For the REST or RESY restoration, you determine the frequency of checkpoints via the user input defined for these procedures.

Concurrent batch-online update

The use of checkpoints in the BVPACA15 program of the UPDT procedure makes it possible to run this procedure concurrently with the on-line mode. This UPDT-online concurrency must be reserved to exceptional small transaction sets.

Actually the execution of the UPDT procedure during the online session may cause stoppages between 2 successive points, which can cause an increase of online response times.

In the case of a non-fatal abort (if the journal is full or if there is a problem on the call of a checkpoint), you can start the procedure again after having deleted the transactions already processed in the user input.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
4	4		Checkpoint frequency

Multi-entity User Input

Multi-purpose Line (Line VC, VG, VE, VO):

The VC-code line is used for calling Parameterized Input Aids and for assigning Comments to an Entity or some description lines.

The first line contains the type and code of the entity concerned (with the line number if it is a description) and the line number for the comment (the continuation is always set to blank).

- to call a P.I.A., the code of the entity is indicated on this first line and only one line is needed.
- for a comment line, there is a continuation line which bears the comment and, at the end of the line, the type of line ('*' for Comments).

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		VC	Line code for a 'GC' screen
		VG	Line code for a 'GG' screen
		VE	Line code for a 'GE' screen (call of a P.I.A. not possible in this screen)

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		VO	Line code for a 'GO' screen
4	2		Entity type receiving the Comments
6	30		Entity code
36	3		Line number
			Numeric
39	3		Number of the commented line
			Numeric
42	1		Line Type
		E	
43	6		Code of called P.I.A.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		VC	Line code for a 'GC' screen
		VG	Line code for a 'GG' screen
		VE	Line code for a 'GE' screen (call of a P.I.A. not possible in this screen)
		VO	Line code for a 'GO' screen
4	60		Comment line
80	1		Continuation line
		*	This value must be entered to indicate a continuation line.

Parameterized Input Aids/Variable Parts (Line VZ):

The access line used for entering the contents of the variable parts is 'VZ'.

The structure of the VZ line must copy the P.I.A.'s Description one. The variable parts follow each other. There are no delimiters. The resolution includes the maximum length of each parameter defined.

NOTE: This line code is mandatory after a VC line (call of P.I.A.).

NOTE: This line code is mandatory after a VC line (call of P.I.A.).

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		VZ	
4	2		Number of parameter cards in a P.I.A
6	20		Printed label for level n
			This field contains the fixed part of a P.I.A. line as displayed when the P.I.A. is called. Its contents depend upon the TYPE OF P.I.A. LINE.
			On P.I.A. lines to be generated (value ″G″ in the LINE GENERATION OPTION field on the P.I.A. Description (-D) screen), each instruction must be left-justified, and, if it does not fit on a single line, its continuation must begin with at least one 'blank' character.
26	40		DESCRIPTION / SECOND PART
			This field is specific to a P.I.A. call.
			With value 'C2' in the OPERATION CODE field, the cursor automatically tabs to the first position of this field.
			This field is initialized with underscores (default value) or with the value specified in the INITIAL VALUE field for a Standard PIA description line (Type = 'blank').
			If symbolic parameters have been defined on the P.I.A. Description (-D), they may be entered in this field. They will be replaced by their corresponding value, and will remain displayed on the right of the screen.

Call of Instances via Relations (Line QR):

The access line used for the call of instances via Relations is 'QR'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		QR	
4	2		Entity type receiving the Comments
6	2		Meta-Entity Type

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			It is an alphanumeric code entered at creation and which characterizes the Meta-Entity in all its types (two different Meta-Entities cannot have the same type) ; the type cannot be modified if User Entities have already been defined for this ME; this type, when used to define or describe a User Entity, is preceded by the '$' character (example: if the 'JOB' ME type is 'JO', the User Entities are referenced by '$JO.....').
8	30		Entity code (30 characters)
38	3		Line number
			PURE NUMERIC FIELD
			It is advisable to begin with line number '100' and then number in intervals of 20. This facilitates subsequent line insertions, as necessary.
41	6		Relation code
47	30		Code of called entity (30 charac.)

Entity Update Lock (Line R):

The access line used to lock the update of entities is 'R'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		R	
3	2		Entity type
			This field is used to specify the type of entity to which one or more keywords are assigned.
		K1	Model Entity.
		S	Text.
		C	Data Element.
		A	Data Structure.
		2	Segment.
		V1	Parameterized Input Aid.
		L1	Database Block.
		H	Screen.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		B	Report.
		0	Program.
		U	User Manual.
		W1	Volume.
		Y1	User Entity.
		Y3	Client Meta-Entity.
		tt	tt User Entity. Used for updating keywords of tt User Entities.
		Y5	User-Defined Relation.
5	2		Meta-Entity Type
			It is an alphanumeric code entered at creation and which characterizes the Meta-Entity in all its types (two different Meta-Entities cannot have the same type) ; the type cannot be modified if User Entities have already been defined for this ME; this type, when used to define or describe a User Entity, is preceded by the '$' character (example: if the 'JOB' ME type is 'JO', the User Entities are referenced by '$JO.....').
7	30		Entity code
37	36		Entity name/comments
73	8		User code

Search by Keywords (Line G):

'G' is the access line used to define and assign explicit keywords.

On a first line, you find the type and code of the entity concerned.

Keywords (55 characters) are entered on a second line, a continuation line (identified by the '*' character at the end of the line).

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		G	
4	2		Entity type receiving the Comments
6	30		Entity code

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
36	1		Call type
		$	Used to update keywords for User Entities.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		G	
4	55		Explicit Keywords of the entity
			Standard field containing all the explicit keywords of the entity
80	1		Continuation line
		*	This value must be entered to indicate a continuation line.

Data Elements

Definition (Line C):

'C' is the access line used to define an Element.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		C	
3	6		Element code
9	1		Element Type
10	36		Data Element name
46	1		Type of format
		I	Internal format.
47	10		Data Element internal format
74	1		Element internal use
75	6		Code of parent Data Element

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		C	
3	6		Element code
9	1		Element Type
10	36		Data Element name
46	1		Type of format
		E	Input format.
47	10		Conversational format
74	1		Element internal use
75	6		Code of parent Data Element

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		C	
3	6		Element code
9	1		Element Type
10	36		Data Element name
46	1		Type of format
		S	Output format.
47	27		Output Format
74	1		Element internal use
75	6		Code of parent Data Element

Description (Line E):

'E' is the access line used to describe an Element.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		E	
3	6		Element code
9	3		Line number
			Numeric
12	1		Line Type
		E	
13	1		Skip or action type
			Numeric
14	13		Data Element value
27	54		Data Element value - Meaning

Model Objects

Definition (Line K1):

The access line used to define a model entity, model relation or model F.I.C. is 'K1'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		K1	
4	6		Object code
10	36		Name of the object
46	1		Type of the object
		O	Object,
		R	Relationship,
		C	Functional Integrity Constraint (F.I.C.).
47	9		Number of instances
			Numeric
56	6		Code of the implied Relation
			This field is used for the definition of an F.I.C.
62	6		Parent object code
68	10		Object comment

Call of Properties in Object or Relat. (Line K3):

The line code used to call properties in an entity or a Model Relation is 'K3'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		K3	
4	6		Object code
10	3		Line number
			Numeric
13	6		Element code
19	1		Identifier in Segment
20	3		Occurrences (Cobol "OCCURS" clause)
			Numeric
23	2		Number of Data Elements in a group

Model Relations

Definition (Line K1):

The access line used to define a model entity, model relation or model F.I.C. is 'K1'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		K1	
4	6		Object code
10	36		Name of the object
46	1		Type of the object
		O	Object,
		R	Relationship,
		C	Functional Integrity Constraint (F.I.C.).
47	9		Number of instances

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Numeric
56	6		Code of the implied Relation
			This field is used for the definition of an F.I.C.
62	6		Parent object code
68	10		Object comment

Call of Objects in Relation or F.I.C (Line K2):

The access line code used to call entities in a Relation or a F.I.C. is 'K2'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		K2	
4	6		Model Relation code
10	3		Line number
			Numeric
13	6		Object code
19	7		Occurrence ranking (minimal)
26	7		Occurrence ranking (maximal)
33	7		Average occurrence ranking

Call of Properties in Object or Relat. (Line K3):

The line code used to call properties in an entity or a Model Relation is 'K3'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		K3	
4	6		Object code
10	3		Line number
			Numeric

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
13	6		Element code
19	1		Identifier in Segment
20	3		Occurrences (Cobol ″OCCURS″ clause)
			Numeric
23	2		Number of Data Elements in a group

Model F.I.C.'s

Definition (Line K1):

The access line used to define a model entity, model relation or model F.I.C. is 'K1'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		K1	
4	6		Object code
10	36		Name of the object
46	1		Type of the object
		O	Object,
		R	Relationship,
		C	Functional Integrity Constraint (F.I.C.).
47	9		Number of instances
			Numeric
56	6		Code of the implied Relation
			This field is used for the definition of an F.I.C.
62	6		Parent object code
68	10		Object comment

Call of Objects in Relation or F.I.C (Line K2):

The access line code used to call entities in a Relation or a F.I.C. is 'K2'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		K2	
4	6		Model Relation code
10	3		Line number
			Numeric
13	6		Object code
19	7		Occurrence ranking (minimal)
26	7		Occurrence ranking (maximal)
33	7		Average occurrence ranking

Data Structures

Definition (Line A):

'A' is the access line used to define a Data Structure.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		A	
3	2		Data Structure code
5	30		Data Structure label
35	44		Data Structure comment
79	1		Type
80	1		File reporting option
		O	file descriptions will include vet and update markers. This option is to be used only for files with vets, update markers, fields with variable repetitions, or with initial values. It is mandatory for generating error messages.
		N	File descriptions will not include vet and update markers. In this case, field lengths and addresses in the record will be indicated (default option)

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		E	file descriptions will be presented in their input format with addresses , lengths, and initial values of the fields in the record
		I	file descriptions will be presented in internal format with addresses, lengths, and initial values of the fields in the record

Segments

Definition (Line 2):

'2' is the access line used to define a Segment.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		2	
4	4		Segment code
8	1		TYPE OF SEGMENT DEFINITION LINE
		S	Sub-schema definition.
		Y	Sub-system definition.
12	10		Structure Code value
22	36		Label
58	1		Create: segment presence
59	1		Modify: segment presence
60	1		Delete: segment presence
61	1		Mod-4 : segment presence
62	1		Mod-5 : segment presence
63	1		Mod-6 : segment presence
64	4		Occurs in Table
			Numeric
68	9		Estimated number of instances
			Numeric

Description (Line 3):

'3' is the access line used to call Elements into a Segment.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		3	
3	4		Segment code
7	3		Line number
			Numeric
10	6		Element code
16	18		Element short name
34	10		Data Element internal format
44	1		Element internal use
45	3		Occurrences (Cobol "OCCURS" clause)
			Numeric
48	2		Number of Data Elements in a group
50	1		Identifier in Segment
51	1		Creation
52	1		Modification
53	1		Deletion
54	1		Type 4
55	1		Type 5
56	1		Type 6
57	1		Class (alpha/numeric)
58	1		Operators (and/or)
59	1		NEGATION (NOT)
		N	NEGATION ('NOT' is generated).
		blank	No negation.
60	1		Type: validation, update, values
61	10		Values / sub-function code
71	2		Update target / first part
73	2		Update target / second part
75	6		Update target / last part

Pactables Sub-Schemas and Sub-Systems (Line 21):

The line code used to define all sub-schemas and sub-systems of a Table is '21'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		21	
4	4		Segment code
8	1		TYPE OF SEGMENT DEFINITION LINE
		S	Sub-schema definition.
		Y	Sub-system definition.
9	1		Sub-schema / sub-system number
10	30		Sub-schema/sub-system name
40	4		Occurs in Table
			Numeric

Reports

Definition (Line B):

'B' is the line code used to define a Report.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		B	
3	3		Report Code
6	30		Report name
36	36		Comments
72	1		Nature code
73	1		Type
74	3	NUMER.	Line length (maximum)
			Numeric
77	2	NUMER.	No. of digits left of the decimal

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Numeric
79	2	NUMER.	No. of digits right of the decimal
			Numeric

Report Layout Description (Line 4):

'4' is the line code used to describe a Report layout.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		4	
3	3		Report Code
6	2		Line number
			Numeric
8	2	NUMER.	Constant part number
			Numeric
10	1		Number of printed literals part
11	1		Line skip/page break
			Numeric
12	1		Char. set option: special printer
15	66		Edition label

Report Characteristics Description (Lines 5, E):

Batch Form '5' (type E) is used to describe the report characteristics.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		5	
3	3		Report Code
6	2		Category (report)

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
8	3		Line number
			Numeric
14	1		Line Type
		E	
15	3		Length of the variable part
18	2	NUMER.	Structure number
			Numeric
20	2	NUMER.	Constant part number
			Numeric
22	2		Line skip/page break
			Numeric
24	1		Line skip type
25	2	NUMER.	Lines per page
			Numeric
27	2		Function code
		AA-99	
		$n	In a macro-structure, the function code can be parameterized.
29	2		Sub-function
		AA-99	
		$n	In a macro-structure, the sub-function code can be parameterized.
31	2		Section priority
33	13		Comments
46	35		Conditions of report execution

List of Categories (Line 5):

'5' is the line code used to describe the report categories.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		5	
3	3		Report Code
6	2		Category (report)
8	3		Line number
			Numeric
14	1		Line Type
		E	
15	3		Length of the variable part
18	2	NUMER.	Structure number
			Numeric
20	2	NUMER.	Constant part number
			Numeric
22	2		Line skip/page break
			Numeric
24	1		Line skip type
25	2	NUMER.	Lines per page
			Numeric
27	2		Function code
		AA-99	
		$n	In a macro-structure, the function code can be parameterized.
29	2		Sub-function
		AA-99	
		$n	In a macro-structure, the sub-function code can be parameterized.
31	2		Section priority
33	13		Comments
46	35		Conditions of report execution

Description of Structures (Line 6):

'6' is the line code used to call Elements into Structures.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		6	
3	3		Report Code
6	2	NUMER.	Structure number
			Numeric
8	3	NUMER.	Starting address (column number)
			Numeric
11	1		Data element line number
12	6		Element code
18	2		Continuation of D.S. Description
		blank	First line of a Data Structure description. This line must contain all information defining the input-output characteristics, all technical characteristics and the description of the Data Structure.
			Two-letter code indicating a continuation line.
			The continuation lines are used to select the records of the different Data Structures in the Library and to request their description in a specified position.
20	14		Output Format
			(Default option: INTERNAL FORMAT)
			This is the format of a data element as it is used in a printed report, or in a screen as a display field. It is automatically transferred in the description of printed reports, screens and segments.
			It must be coded like a COBOL picture. USAGE is always DISPLAY.
			In previous versions, this field was used to generate the BLANK WHEN ZERO clause, which may be displayed in this field.
			When creating or updating a data element, the BLANK WHEN ZERO CLAUSE field must be used for this purpose.
			For data elements representing a date, it is possible to assign a symbolic format:
			Display type formats (input):

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		D	Without century (picture x(6)).
		C	With century (picture x(8)).
			Internal type formats:
		I	Without century (picture x(6)).
		S	With century (picture x(8)).
			Extended type formats (output) (with slashes):
		E	Without century (picture x(8)).
		M	With century (picture x(10)).
		G	Gregorian format (picture x(10)).
		T	TIME format.
		TS	TIMESTAMP format
			PACMODEL function: This field may be omitted for a property.
			For details on the use of the formats with the various types of database blocks, see the summary tables in chapter ″COLUMNS: DATA ELEMENTS″ of the ″Relational SQL Database Description″ Reference Manual.
34	1		Operation on source field
35	1		Working-Storage Prefix of Source
36	2		Source field - first part
38	2		Source field - second part
40	6		Code of source field
46	3		Source field - last part
49	32		Execution condition

On-Line Screens

Definition (Line H):

'H' is the line code used to define a Dialogue or a Screen information (name, number of lines and columns, etc.), and a second part, which contains:

- With a blank in the continuation field (col.80): the attributes, documentation call fields (PFkeys or characters), initialization character for entry fields (with NATURE = 'V'),
- With '*' in the continuation field (col.80): the external name of the program, the external name of the map, the transaction code.

Usually, only one 'H' line code with the attributes is necessary to define a dialogue and only one 'H' line code with the external names is necessary to define a screen: in general, a screen takes on the attributes defined at the dialogue level.

However, both layout formats of line code 'H' can be entered to define a Dialogue or a Screen.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		H	
4	2		Dialogue code
6	4		Screen code within the dialogue
10	30		Dialogue or screen name
40	2	NUMER.	Screen size - number of lines
			Numeric
42	3	NUMER.	Screen size - number of columns
			Numeric
45	1		Label type
46	2	NUMER.	Number of tabs per line
			Numeric
48	2		Transactional language variant
50	1		Optional Command Lines Set/BEFORE
51	1		Control cards in front of map
52	1		Optional Command Lines Set/AFTER
53	1		Control cards in back of map
54	1		Intensity attribute - label
55	1		Intensity attribute - display field
56	1		Intensity attribute - input field
57	1		Intensity attribute - error message
58	1		Intensity attribute-erroneous field
59	1		Color attribute - label
60	1		Color attribute - display field
61	1		Color attribute - input field
62	1		Color attribute - error message

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
63	1		Color attribute - erroneous field
64	1		Presentation attribute - label
65	1		Presentation attribute-display field
66	1		Presentation attribute - input field
67	1		Presentation attribute-error message
68	1		Presentation att. - erroneous field
70	2		Help character: screen help
72	2		Help character: data element help
74	1		Initialization character: variables
78	2		Screen type
80	1		Continuation line

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		H	
4	2		Dialogue code
6	4		Screen code within the dialogue
10	30		Dialogue or screen name
40	2	NUMER.	Screen size - number of lines
			Numeric
42	3	NUMER.	Screen size - number of columns
			Numeric
45	1		Label type
46	2	NUMER.	Number of tabs per line
			Numeric
48	2		Transactional language variant
50	1		Optional Command Lines Set/BEFORE
51	1		Control cards in front of map
52	1		Optional Command Lines Set/AFTER
53	1		Control cards in back of map
54	8		External name of program

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
62	8		External name of map
70	8		Transaction code
78	2		Screen type
80	1		Continuation line

Dialog Complement (Line H3):

'H3' is the line code used to enter the Dialogue Complement. It must be preceded by line code 'H', which specifies the Dialogue Code.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		H3	
4	2		Common area - data structure code
6	1		Organization
7	8		External name of error message file
15	4		First screen code of the dialogue
19	6		Database Block code
25	4	NUMER.	Complementary common area length
			Numeric
29	47		Options

Description (Line I):

'I' is the line code used to describe a screen.

Note :

It must be preceded by a line code H which specifies the dialogue Code.

On the lines codes of screens description (I-type line code), enter the ? character in the column 31 to blank out the 'label type' field.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		I	
3	3		Line number
			Numeric
6	6		Element code
12	1		Positioning type
13	2	NUMER.	Line number positioning
			Numeric
15	3	NUMER.	Column number positioning
			Numeric
18	1		Nature of the data element
19	1		Label type
20	1		Intensity attribute - label
21	1		Intensity attribute - data
22	1		Presentation attribute - label
23	1		Presentation attribute - data
24	1		Color attribute - label
25	1		Color attribute - data
26	1		Cursor default position/skip option
27	2	NUMER.	Horizontal repetitions
			Numeric
29	2	NUMER.	Vertical repetitions
			Numeric
31	1		Presence validation of data element
32	1		Validation conditions/set variables
33	1		Update option
34	4		Update target: segment code
38	6		Update target / last part
44	1		Working-Storage Prefix of Source
45	4		Source segment code
49	6		Code of source field

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
60	2		Level

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		I	
3	3		Line number
			Numeric
6	6		Element code
12	1		Positioning type
13	2	NUMER.	Line number positioning
			Numeric
15	3	NUMER.	Column number positioning
			Numeric
18	1		Nature of the data element
19	1		Label type
20	1		Intensity attribute - label
21	1		Intensity attribute - data
22	1		Presentation attribute - label
23	1		Presentation attribute - data
24	1		Color attribute - label
25	1		Color attribute - data
26	1		Cursor default position/skip option
27	2	NUMER.	Horizontal repetitions
			Numeric
29	2	NUMER.	Vertical repetitions
			Numeric
31	1		TYPE OF LITERAL
			Defines the contents of the next field, which is displayed on the Call of Elements with OPERATION CODE C2.
		blank	The field contains a fixed label value.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		I	The field contains an initial value automatically displayed when the screen is invoked.
		P	The field contains a presentation value used for the screen simulation only.
		A	This value indicates that the following label is made up of one character repeated more than 30 times.
			INPUT EXAMPLE:
			LABEL
			T LITERALS
			A 045-
			The corresponding label is a line of 45 dashes.
			IBM 36, IBM 38, IBM AS/ 400:
		Y	This value specifies that the next field contains an INDICATOR number for attribute positioning.
32	30		Displayed literal

Call of Segments (Line H2):

'H2' is the line code used to call segments into a screen.

It must be preceded by a line code 'H' which specifies the Screen Code.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		H2	
4	1		Category indicator (screen)
5	4		Segment code in program
			This group column contains the following elementary columns:
			CDSTPG (Code of Data Structure in Program), CRECPG (Code of Record in Program)
9	2		Line number
			Numeric
11	1		ACCESS MODE

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		S	Sequential (default option).
		R	Random - Direct (indexed sequential organization only).
			Note: With random access input files, the READ is not generated automatically.
		D	Dynamic (VSAM files only - ORGANIZATION = 'V')
12	1		Use in reception
13	1		Use in display
14	4		Preceding segment code
18	14		Access key source
			This group column contains the following elementary columns:
			CSEGSR (Code of Source Segment), CDELSR (Code of Source Data Element).
32	6		Element code
38	1		Control break indicator for display
39	1		Organization
40	1		Generated description type
41	8		External name of the file
49	2		Data Structure code
51	2		code
53	1		Sub-schema / sub-system number
54	2		Level

Call of Macro-Structures (Line M):

Macro-structures are called using the line code 'M'.

Since it contains no program or screen code, this line must always be preceded by a program or screen definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		M	

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
3	2		Line number
			Numeric
5	1		Expansion option for Macro-Struct.
		blank	The macro-structure lines are expanded in the calling programs during the update
		N	No expansion of macro-structure lines during the update
6	1		Delimiter of parameter values
7	6		Macro-structure code
13	50		Comments, parameter values
80	1		Continuation line

Program Beginning Insertions (Line D):

The 'Beginning of Program' is modified using the line code 'D'.

Since it contains no program or screen code, this line must always be preceded by a program or screen definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		D	
4	2		Section to generate
7	2		Paragraph title
9	3		Line number
13	66		Instruction

Working Areas (Line 7):

The Work areas and Linkage areas are described using the line code '7'.

Since it contains no program or screen code, this line must always be preceded by a program or screen definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		7	
5	2		Line beginning
7	3		Line number
10	1		TYPE OF LINE OR DATA ELEMENT FORMAT
			TYPE OF LINE values:
		blank	Data entered in the LEVEL AND SECTION and WORK AREA DESCRIPTION fields are to be generated as entered.
		-	Continuation character for a literal.
		*	Comment. Data entered in the LEVEL AND SECTION and WORK AREA DESCRIPTION fields contain comments to be inserted into the generated Program (ANSI COBOL only).
		$	This value appears in column 7 of the generated COBOL and the other Elements of the WORKING line appear as it is.
		F	Call of a Data Structure.
			When 'F' is entered, the system responds with a formatted line which is used to facilitate data entry. The fields are the same as those used on the Call of Data Structures (-CD) screen for D.S. with ORGANIZATION = 'W' or 'L'.
			.DATA STRUCTURE CODE IN THE PROGRAM.
			.DATA STRUCTURE CODE IN THE LIBRARY.
			.SEGMENT SELECTION (enter the SEGMENT CODE without an asterisk).
			(A segment code can only be renamed in batch).
			.NON-PRINTING DATA STRUCTURE FORMAT (1 to 8).
			.RECORD TYPE / USE WITHIN D.S. (I, E or S).
			.LEVEL NUMBER (COBOL) OF THE RECORD (1 to 5).
			.ORGANIZATION.
			.SUB-SCHEMA NUMBER.
			Type 'F' '-W' lines are processed as Data Structure call lines (-CD) only for batch.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			If two Type 'F' '-W' lines referring to the same Data Structure (same DATA STRUCTURE CODE IN THE PROGRAM) are separated, they will nevertheless be generated one after the other.
			ELEMENT FORMAT values:
		E	Use of the INPUT FORMAT of a Data Element.
		I	Use of the INTERNAL FORMAT of a Data Element.
		S	Use of the OUTPUT FORMAT of a Data Element.
			For these format types, the presence of the Data Element in the Specifications Dictionary is checked. A cross-reference is established, which prohibits the deletion of the Data Element whenever the lines in which it is called have not been deleted themselves.
			If the Element does not exist in the Specifications Dictionary, the System sends a warning.
			When a global replacement is required (.C2), the Element is not checked but the cross-references will still be created.
			For these three format types, the data-name entered in the WORK AREA DESCRIPTION must therefore have the following format:
			W-DDSS-EEEEEE where:
			W = a working-storage prefix,
			DDSS = a given DATA STRUCTURE and SEGMENT CODE,
			EEEEEE = a DATA ELEMENT CODE which exists in the Specifications Dictionary.
			The corresponding format is automatically attributed by the System.
			For IMS sub-monitors:
		M	Sub-monitor; enter the code of the sub-monitor in the LEVEL OR SECTION field.
		C	Call of a screen into the sub-monitor named above.
			Enter the SCREEN CODE of the screen belonging to the sub-monitor in the LEVEL OR SECTION field, followed by a space and a 'D' for Dynamic call or 'S' for Static.
			Example: C OOSCRN D
			Note: Enter one SCREEN CODE per 'C'-type line.
11	17		Level or section

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
28	48		Description
76	5		Table size (occurs clause)
			Numeric

Procedural Code (Line P):

Procedural code is written using the line code 'P'.

Since it contains no program or screen code, this line be must always be preceded by a program or screen definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		P	
3	2		Function code
		AA-99	
		$n	In a macro-structure, the function code can be parameterized.
5	2		Sub-function
		AA-99	
		$n	In a macro-structure, the sub-function code can be parameterized.
7	3		Line number
10	3		Operator
13	32		Operand
45	2		Level
47	2		Condition type
49	32		Execution condition

Programs

Definition (Line 0):

'0' (zero) is the line code used to define a program.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		0	Zero
7	6		Program code
13	6		Code for sequence of generation
19	30		Program name
49	1		Type of Cobol
50	1		Order of insertion in cobol Library
51	1		Cobol numbering and alignment option
54	1		SQL indicators generation with '-'
55	1		Optional Command Lines Set/BEFORE
56	1		Optional Command Lines Set/AFTER
57	8		Cobol program id
65	1		Programming mode
66	1		Type and structure of program
67	1		Type of presence validation
68	1		Program classification code

Call of Data Structures (Line 1):

'1' is the line code used for the 'Call of Data Structures'.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		1	
3	2		Data structure code in the program
5	2		Data Structure code
7	6		External name
13	1		Organization
14	1		Access mode
15	1		Recording mode

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
16	1		Opening mode
17	1		Unit type
18	5	NUMER.	Block size
			Numeric
23	1		Block size unit type
24	10		File status
34	6		INDEXED DATA STRUCTURE ACCESS KEY
			Required for indexed Data Structures: Enter the DATA ELEMENT CODE of the access key Element.
40	1	NUMER.	Number of control breaks
			Numeric
41	1	NUMER.	File matching level number
			Numeric
42	1		Usage
43	6		Element code
49	2		Resulting file data structure code
51	2		Source or error data structure code
53	1		Transaction control break level
59	4		Physical Unit Type
63	1		Unit Complement
64	9		Sort key / seg select / report codes
73	1		Format type
74	1		Selected description
75	1		Generated description type
76	1		Level
77	2		Line beginning
79	2		Continuation of D.S. description

Call of Macro-Structures (Line M):

Macro-structures are called using the line code 'M'.

Since it contains no program or screen code, this line must always be preceded by a program or screen definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		M	
3	2		Line number
			Numeric
5	1		Expansion option for Macro-Struct.
		blank	The macro-structure lines are expanded in the calling programs during the update
		N	No expansion of macro-structure lines during the update
6	1		Delimiter of parameter values
7	6		Macro-structure code
13	50		Comments, parameter values
80	1		Continuation line

Program Beginning Insertions (Line D):

The 'Beginning of Program' is modified using the line code 'D'.

Since it contains no program or screen code, this line must always be preceded by a program or screen definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		D	
4	2		Section to generate
7	2		Paragraph title
9	3		Line number
13	66		Instruction

Working Areas (Line 7):

The working and linkage areas are described using the line code '7'.

Since it contains no program or screen code, this line must always be preceded by a program or screen definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		7	
5	2		Line beginning
7	3		Line number
10	1		TYPE OF LINE OR DATA ELEMENT FORMAT
			TYPE OF LINE values:
		blank	Data entered in the LEVEL AND SECTION and WORK AREA DESCRIPTION fields are to be generated as entered.
		-	Continuation character for a literal.
		*	Comment. Data entered in the LEVEL AND SECTION and WORK AREA DESCRIPTION fields contain comments to be inserted into the generated Program (ANSI COBOL only).
		$	This value appears in column 7 of the generated COBOL and the other Elements of the WORKING line appear as it is.
		F	Call of a Data Structure.
			When 'F' is entered, the system responds with a formatted line which is used to facilitate data entry. The fields are the same as those used on the Call of Data Structures (-CD) screen for D.S. with ORGANIZATION = 'W' or 'L'.
			.DATA STRUCTURE CODE IN THE PROGRAM.
			.DATA STRUCTURE CODE IN THE LIBRARY.
			.SEGMENT SELECTION (enter the SEGMENT CODE without an asterisk).
			(A segment code can only be renamed in batch).
			.NON-PRINTING DATA STRUCTURE FORMAT (1 to 8).
			.RECORD TYPE / USE WITHIN D.S. (I, E or S).
			.LEVEL NUMBER (COBOL) OF THE RECORD (1 to 5).
			.ORGANIZATION.
			.SUB-SCHEMA NUMBER.
			Type 'F' '-W' lines are processed as Data Structure call lines (-CD) only for batch.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			If two Type 'F' '-W' lines referring to the same Data Structure (same DATA STRUCTURE CODE IN THE PROGRAM) are separated, they will nevertheless be generated one after the other.
			ELEMENT FORMAT values:
		E	Use of the INPUT FORMAT of a Data Element.
		I	Use of the INTERNAL FORMAT of a Data Element.
		S	Use of the OUTPUT FORMAT of a Data Element.
			For these format types, the presence of the Data Element in the Specifications Dictionary is checked. A cross-reference is established, which prohibits the deletion of the Data Element whenever the lines in which it is called have not been deleted themselves.
			If the Element does not exist in the Specifications Dictionary, the System sends a warning.
			When a global replacement is required (.C2), the Element is not checked but the cross-references will still be created.
			For these three format types, the data-name entered in the WORK AREA DESCRIPTION must therefore have the following format:
			W-DDSS-EEEEEE where:
			W = a working-storage prefix,
			DDSS = a given DATA STRUCTURE and SEGMENT CODE,
			EEEEEE = a DATA ELEMENT CODE which exists in the Specifications Dictionary.
			The corresponding format is automatically attributed by the System.
			For IMS sub-monitors:
		M	Sub-monitor; enter the code of the sub-monitor in the LEVEL OR SECTION field.
		C	Call of a screen into the sub-monitor named above.
			Enter the SCREEN CODE of the screen belonging to the sub-monitor in the LEVEL OR SECTION field, followed by a space and a 'D' for Dynamic call or 'S' for Static.
			Example: C OOSCRN D
			Note: Enter one SCREEN CODE per 'C'-type line.
11	17		Level or section

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
28	48		Description
76	5		Table size (occurs clause)
			Numeric

Procedural Code (Line P):

Procedural code is written using the line code 'P'.

Since it contains no program or screen code, this line be must always be preceded by a program or screen definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		P	
3	2		Function code
		AA-99	
		$n	In a macro-structure, the function code can be parameterized.
5	2		Sub-function
		AA-99	
		$n	In a macro-structure, the sub-function code can be parameterized.
7	3		Line number
10	3		Operator
13	32		Operand
45	2		Level
47	2		Condition type
49	32		Execution condition

Cobol Source Lines (Line FC):

Source Code is written using the line code 'FC'.

Since it contains no program code, this line code must always be preceded by line code '0' (Program Definition).

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		FC	
4	2		Function code
		AA-99	
		$n	In a macro-structure, the function code can be parameterized.
6	2		Sub-function
		AA-99	
		$n	In a macro-structure, the sub-function code can be parameterized.
8	3		Line number
11	3		Operator
14	67		Source line

Pur Cobol Source Lines (Line 9):

Pure COBOL Source Code (-9) lines may be entered on line code '9'.

Since it contains no program code, this line must always be preceded by a program definition line.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		9	
3	6		Cobol line number
9	1		Continuation line
10	65		Cobol instruction
75	6		End of cobol line

Database Blocks (Hierarchical)

Definition (Line L1):

'L1' is the line code used to define a Database Block.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		L1	
4	6		Database Block code
10	36		Name of the block
46	8		Database block external name
54	2		Block type
56	8		External name of the schema
64	1		Control cards in front of block
65	1		Control cards in back of block
66	4		Version number

Description (Line L2):

'L2' is the line code used to describe a Hierarchical Database Block.

The same line code is used for the Descriptions of SOCRATE/CLIO sub-structures but only the following lines are filled in: the action code, the line number and, in the column reserved for the Model Relationship code, the code of the structure to which the sub-structure belongs.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		L2	
4	6		Database Block code
10	3		Line number
			Numeric
13	4		Child segment code
17	4		Parent segment code
21	6		Model Relation code
27	1		Identifier in Segment
28	5		Estimated number: child/parent links

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Numeric
33	36		Comment/relation/key length
69	6		Path item (turboimage)
75	6		Sort path item (turboimage)

Database Blocks (Codasyl)

Definition (Line L1):

'L1' is the line code used to define a Database Block.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		L1	
4	6		Database Block code
10	36		Name of the block
46	8		Database block external name
54	2		Block type
56	8		External name of the schema
64	1		Control cards in front of block
65	1		Control cards in back of block
66	4		Version number

Description (Line L3):

'L3' is the line code used to describe CODASYL, DB2, and TANDEM Database blocks.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		L3	
4	6		Database Block code

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
10	3		Line number
			Numeric
13	1		TYPE
		S	Set.
		*	Continuation of a set.
			For a set with multiple members, the first MEMBER Segment is indicated on an 'S'-type line, the others on '*'-type lines.
		R	Record.
		A	Area.
14	6		Area or set code
20	4		Parent segment code
24	4		Child segment code
28	6		Model Relation code
34	5		Estimated number: child/parent links
			Numeric
39	36		Comment/relation/key length

Database Blocks (Relational-SQL)

Definition (Line L1):

'L1' is the line code used to define a Database Block.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		L1	
4	6		Database Block code
10	36		Name of the block
46	8		Database block external name
54	2		Block type
56	8		External name of the schema
64	1		Control cards in front of block

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
65	1		Control cards in back of block
66	4		Version number

Description (Line L4):

'L4' is the line code used to describe a Relational/SQL Database Block.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		L4	
4	6		Database Block code
10	3		Line number
			Numeric
13	1		Structure code SQL batch transact
14	1		SQL RECORD TYPE
		P	Tablespace (except for INTEREL RDBC, INTEREL RFM, INGRES/SQL, DB2/400, VAX/SQL, NONSTOP SQL, INFORMIX, SYBASE and SQL SERVER)
		T	Table For ALLBASE/SQL, when a Primary Key or Foreign Key is defined in the Table (T line type) creation, the closing bracket must be entered on the line 690 of the -DRnnnGG screen.
		V	View
		I	Index
		A	Alter Table: Column updating
		K	RDMS 1100, ALLBASE/SQL: Primary Key (Processed with the generation of the table that precedes it.)
			DB2, DATACOM/DB, INFORMIX-ESQL, SQL/DS, ORACLE V6 and V7, DB2/2, DB2/6000, SYBASE and SQL SERVER: Primary key (Processed with the generation through an ALTER TABLE command.)
		J	DB2, DATACOM/DB, SQL/DS, ORACLE V6 and V7, INFORMIX, SYBASE and SQL SERVER: Foreign key (Processed with the generation through an ALTER TABLE command.)

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			ALLBASE/SQL: Foreign Key (Processed with the generation of the table that precedes it.)
		C	Package (ORACLE V7 only)
		E	Function (ORACLE V7 only)
		Q	Procedure (ORACLE V7, INGRES, SYBASE, SQL SERVER and INFORMIX)
		R	ORACLE V7, SYBASE and SQL SERVER: Trigger
			INGRES/SQL: Rule
15	18		Method external name
33	4		Segment code
37	1		Order
41	1		Key type
43	1		Type of generated transaction
44	6		Code of key data element no.1
50	1		Sort order 1
51	6		Code of key data element no.2
57	1		Sort order 2
58	6		Code of key data element no.3
64	1		Sort order 3
65	6		Code of key data element no.4
71	1		Sort order 4
72	6		Code of key data element no.5
78	1		Sort order 5

Database Blocks (Turboimage)

Definition (Line L1):

'L1' is the line code used to define a Database Block.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		L1	

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
4	6		Database Block code
10	36		Name of the block
46	8		Database block external name
54	2		Block type
56	8		External name of the schema
64	1		Control cards in front of block
65	1		Control cards in back of block
66	4		Version number

Description (Line L2):

'L2' is the line code used to describe a Hierarchical Database Block.

The same line code is used for the Descriptions of SOCRATE/CLIO sub-structures but only the following lines are filled in: the action code, the line number and, in the column reserved for the Model Relationship code, the code of the structure to which the sub-structure belongs.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		L2	
4	6		Database Block code
10	3		Line number
			Numeric
13	4		Child segment code
17	4		Parent segment code
21	6		Model Relation code
27	1		Identifier in Segment
28	5		Estimated number: child/parent links
			Numeric
33	36		Comment/relation/key length
69	6		Path item (turboimage)
75	6		Sort path item (turboimage)

Texts

Definition (Line S):

'S' is the line code used to define a Text.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		S	
3	6		Text code
9	36		Text name
45	2		Type of text
47	2		Paragraph type

Description (Line T):

'T' is the line code used to describe a text.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	1		Line code
		T	
3	6		Text code
9	2		Text paragraph
11	3		Line number
			Numeric
14	1		TYPE OF TEXT LINE
			SECTION TITLE
			A section must always contain a title. In batch, this title must be at the beginning of the section.
		L	Section title. It will NOT appear in a Volume.
		K	Section title. This line will appear in a Volume.
		-	Section title. This line will be underlined with the '-' (dash) character when a Volume is printed.
		_	Section title. This line will be underlined with the '_' (underscore) character when a Volume is printed.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		=	Section title. This line will be underlined with the '=' character when a Volume is printed.
		+	Section title. This line will be underlined with the '+' character when a Volume is printed.
			TEXT DESCRIPTION LINE
		blank	Description line printed without additional skip (default option).
			LINE/PAGE SKIP
			Taken into account when the text is printed in a User Manual or a Volume, or in Text simulation.
		1	New line.
		1-9	Skip of 1-8 lines before the given line is printed.
		*	PAGE skip before the given line is printed.
			TEXT ASSIGNMENT Text can be assigned to instances of other entities called in the TEXT DESCRIPTION LINE field. The assignment starts at the beginning of the section which contains the I-type line and terminates at the end of the text or after a J-type line. The assignment for one instances, all instances of a given entity or of all entities can be terminated. The '-AT' choice is used to visualize the texts assigned to the instance of an entity. Texts can be assigned to the following entities: 'B' (Database block), 'D' (Data structure), 'E' (Data element), 'F' (Meta-entity), 'I' (Input Aid), 'M' (Model entity), 'O' (Screen), 'P' (Program), 'Q' (User relation), 'R' (Report), 'S' (Segment), 'T' (Text), 'V' (Volume), '$' (User entity).
		I	Beginning of assignment. It starts at the beginning of the section which contains this line.
		J	Explicit end of assignment.
		Y	This code is used to create a link between this section of text and another text or section, i.e. 'refer to..'. The System displays the title of this text or section.
			For the referenced text:
			Choice -XT gives the list of texts referring to the whole text, Choice -LT gives the list of sections, each followed by the sections referring to it.
			NOTE: The L, I, J, and Y Type lines are not printed in Volumes.
15	60		Text contents

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
75	6		Element code

Documents

Definition (Line W1):

'W1' is the line code used to define a Document.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		W1	
4	6		Volume code
10	36		Volume name
46	1		Volume type
47	1		Title page option
48	1		Table of contents source
49	1		Table of contents placement
50	6		Text code
56	3		Report Code
59	3		Report code for font types
62	3		Report code for specific layout
65	1		Volume description organization mode

Description (Line W2):

'W2' is the line code used to describe a Document.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		W2	
4	6		Volume code
10	2		Level 1 code

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
12	2		Level 2 code
14	3		Line number
			Numeric
17	1		Type of volume description line
18	1		Section level number
19	1		Line skip/page break
			Numeric
20	1		Character for title underlining
21	1		Print window
22	1		Alignment option
23	50		Title, printing opt. or entity sel.
73	4		Reference cursor

Parameterized Input Aids

Definition (Line V1):

'V1' is the access line used to define a P.I.A.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		V1	
4	6		Input Aid code
10	36		Parameterized Input Aid name
46	1		Parameterized Input Aid type
		C	Comment
		G	Generation
		O	Option

Description (Line V2):

'V2' is the line code used to describe a P.I.A.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		V2	
4	6		Input Aid code
10	3		Line number
			Numeric
13	1		Line Type
		E	
14	20		Label
34	29		Initial value of P.I.A. line
63	3		Length
			Numeric
66	6		Reference Name
72	1		Line Option

Meta-Entities

Definition (Line Y1):

'Y1' is the line code used to define a Meta-Entity.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		Y1	
4	6		Client Meta-Entity code
10	36		Client Meta-Entity label
46	2		Meta-Entity calling code

Detail Line Definition (Line Y6):

'Y6' is the line code used to define the UE detail lines of the Meta-Entity.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction Code
		SPACE	Creation-Modification
		X	Creation-Modification with data containing an ampersand
		C	Creation
		M	Modification
		A	Deletion
		B	Beginning of multiple deletion
		R	End of multiple deletion
		S	Standard function deletion
2	2		Line code
		Y6	
4	6		Client Meta-Entity code
10	2		Description type
12	1		Description type
13	30		Meta Entity Description Label
43	8		Subprogram code
51	1		Data storage mode
54	2		Parent description type

Description (Line Y2): 'Y2' is the line code used to describe a Meta-Entity.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		Y2	
4	6		Client Meta-Entity code
10	2		Description type
12	3		Line number
			Numeric
15	6		Element code
21	2		Range

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
23	1		Element top nature
24	1		Uppercase top change
25	1		Element format top control
26	1		Presence top control
27	1		Value top control
28	6		User Relation Code
73	1		Identifier code called by Relation
74	1		Parent identifier code

User-Defined Relations

Definition (Line Y5):

'Y5' is the line code used to define a User-Defined Relation.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		Y5	
4	6		Client User Relation
10	36		Client User Relation label
46	14		Client User Relation short label
60	1		Client User Relation type
61	3		Entity Type (3 characters)
			The authorized values are the Entity type values given in chapter ″DAF Entities: Coding rules″, subchapter ″Tables″ of the ″DSMS Access Facility Tables″ manual.
64	1		Deletion flag

User Entities

Definition (Line Y3):

'Y3' is the line code used to define a User Entity.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		Y3	
4	2		Meta-Entity calling code
6	6		User Entity short code
12	2		Range
14	1		Transaction number for User Entity
		blank	First line
		*	Continuation line
15	66		User Entity Definition Transaction

Description (Line Y4):

'Y4' is the line code used to describe the detail lines of a UE.

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		Y4	
4	2		Description number
6	6		User Entity descr. short identifier
12	2		Range
14	1		Transaction number for User Entity
		blank	First line
		*	Continuation line
15	66		User Entity Definition Transaction

Thesaurus

Enrichment of the Thesaurus (Line G1):

'G1' is the access line used to document keywords (enrichment of the Thesaurus).

POS	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		Transaction code
2	2		Line code
		G1	
4	13		KEYWORD
17	1		Continuation line
18	1		Keyword description type
		D	Comments
		S	Synonym(s)
19	55		Keyword description

UPDT - Description of Steps

TRANSACTIONS FORMATTING: PACA05

Code	Physical name	Type	Label
PAC7AR	Base dir.: AR	Input	Development Database Data file
PAC7AN	Base dir.: AN	Input	Development Database Index file
PAC7AY	Base dir.: AY	Input	Development Database extension data
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. Base - Base dir.: AN	Input	Administration Database Index file
PACGGR	Admin. Base - Base dir.: AR	Input	Administration Database Data file
PACGGU	Admin. Base - Base dir.: GU	Input	Administration Database Users
PAC7MB	User input	Input	Update transactions
PAC7ME	Tmp dir.: WME	Output	Work file (length=372)
PAC7MV	Tmp dir. : WMV	Output	Formatted transactions (length=170, must be able to contain all input transactions plus the elementary delete transactions generated by the multiple delete transactions)
PAC7MW	Tmp dir. : WMW	Output	Work file

UPDATE OF THE DEVELOPMENT DATABASE: PACA15

Code	Physical name	Type	Label
PAC7AR	Base dir.: AR	Output	Development Database Data file
PAC7AN	Base dir.: AN	Output	Development Database index
PAC7AY	Base dir.: AY	Output	Development Database extension
PAC7AJ	Journal dir.: AJ	Output	Development Database journal
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. Base - Base dir.: AN	Input	Administration Database Index file
PACGGR	Admin. Base - Base dir.: AR	Input	Administration Database Data file
PACGGY	Admin. Base - Base dir.: AY	Input	Administration Database Extension
PACGGU	Admin. Base - Base dir.: GU	Input	Administration Database users
PAC7DC	Base dir.: DC	Input	DSMS file of Development Database Elements
PAC7ME	Tmp dir.: WME	Input	Work file
PAC7MV	Tmp dir.: WMV	Input	Update transactions
PAC7RB	User dir. : RBA15	Output	UPDT erroneous transactions (length=80)
PAC7RY	User dir. : RYA15	Output	UPDP erroneous transactions (length=310)
PAC7IE		Report	Update report (length=132)
PAC7IF		Report	List of erroneous transactions (length=132)

The list of user transactions is preceded by a banner with the user code.

Return codes:

- 0: OK, no error
- 2: Warning
- 4: Critical error

UPDT : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) UPDT BATCH PROCEDURE
# * -----------------------------------------------------
```

```
# *      VISUALAGE PACBASE
# *
# * ------------------------------------------------------
# *                 - BATCH UPDATE -
# *
# * ------------------------------------------------------
# *
# * REFER TO THE BATCH FORMS AND TO THE DESCRIPTION OF THE
# * INPUT CORRESPONDING TO EACH ENTITY.
# *
# * INPUT :
# *  -  USER IDENTIFICATION LINE (REQUIRED)
# *     COL  2 : "*"
# *     COL  3 : USERIDXX
# *     COL 11 : PASSWORD
# *     COL 28 : LANGUAGE CODE, USEFUL WHEN TRANSACTION ARE
# *              NOT IN THE SAME LANGUAGE AS THE DATABASE.
# *     COL 67 : "N"  NOT 'UPPERCASE/LOWERCASE CONVERSION'
# *  -  COMMAND LINE
# *     THE LIST OF ALL AVAILABLE VALUES FOR THE ENTITY
# *     TO BE UPDATED IS FOUND IN REFERENCE MANUAL.
# *
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "UPDT"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
. $PACDIR/config/$1/PAC7AJ.ini
BVPMSG 1015 "`dirname $PAC7AJ.`"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ----------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7ME=`BVPENV PACA05 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MV=`BVPENV PACA05 PAC7MV $PACTMP/WMV`
export PAC7MV
```

```
PAC7MW=`BVPENV PACA05 PAC7MW $PACTMP/WMW`
export PAC7MW
BVPMSG 1009 "BVPACA05"
rtspac BVPACA05
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPACA05"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7DC.ini
. $PACDIR/config/$1/SEMLOCK.ini
PAC7IE=`BVPENV PACA15 PAC7IE $PACUSERS/UPDTIEA15.txt`
export PAC7IE
PAC7IF=`BVPENV PACA15 PAC7IF $PACUSERS/UPDTIFA15.txt`
export PAC7IF
PAC7ME=`BVPENV PACA15 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MV=`BVPENV PACA15 PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7RB=`BVPENV PACA15 PAC7RB $PACUSERS/UPDTRBA15.txt`
export PAC7RB
PAC7RY=`BVPENV PACA15 PAC7RY $PACUSERS/UPDTRYA15.txt`
export PAC7RY
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=$?
case $RETURN in
0)
 ;;
2)
 BVPMSG 1012 "BVPACA15"
 BVPMSG 1054
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
4)
 BVPMSG 1012 "BVPACA15"
 BVPMSG 1055
 BVPERR
```

```
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPACA15"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Chapter 6. Pactables

GETD-GETA - Description Generators

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" manual.

Its use is subject to a purchase agreement.

This interface extracts from the VisualAge Pacbase Database the descriptions of Tables necessary to the operation of the Pactables Facility.

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' manual.

EXECUTION CONDITIONS

None with regard to the Specifications Database, which is only read by this procedure.

ABNORMAL EXECUTION

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

GETD - GETA - User Input / Result

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

Position	Length	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.

Position	Length	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	MMDDCCYY	Date from which the table description can be modified. (Optional)
25	8	MMDDCCYY	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

Position	Length	Value	Meaning
		'E'	Input format
75	6	ttttt	Table number (if generating for a table other than that of the Segment's Definition file in the database).

For further information on this 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.

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

RESULT

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

GETD / GETA - Description of Steps

EXTRACTION & UPDATE PREPARATION: PACT40

Code	Physical name	Type	Label
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7AY	Base dir. : AY	Input	Development Database extension data
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database users
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7TD	Base dir. : TD	Input	Tables descriptions
PAC7MB	User input	Input	Descriptions requests
PAC7MD	User dir. : MVGETD or MVGETA	Output	Descriptions update transactions, version greater than or equal to 2.0
PAC7ET		Report	Output report
PAC7DD		Report	Batch procedure authorization option

Return Codes :

- 8 : no batch procedure authorization.

FORMATTING OF DESCRIPTIONS < R 2.0: PACT45

Code	Physical name	Type	Label
PAC7MD	User dir. : MVGETD or MVGETA	Input	Description-update transactions greater than or equal to 2.0
PAC7ND	User dir. : NDGETD or NDGETA	Output	Description-update transactions lower than or equal to 1.2

UPDATE OF TABLE-DESCRIPTION FILE: PACT50

(GETD procedure only)

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7TD	Base dir. : TD	Input	Tables descriptions
PAC7MD	User dir. : MVGETD	Input	Update transactions
PAC7ET	User dir. : GETDETT50	Report	Update report

GETD : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) GETD BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *             - TABLE DESCRIPTIONS GENERATION -
# *
# * -------------------------------------------------------
# *
# * 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 MANUAL.
# *
# * GETD IF THE DICTIONARY AND PACTABLES ARE RUNNING UNDER
# * DIFFERENT ENVIRONMENTS.
# *
```

```
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "GETD"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PACT40 PAC7DD $PACUSERS/GETDDDT40.txt`
export PAC7DD
PAC7ET=`BVPENV PACT40 PAC7ET $PACUSERS/GETDETT40.txt`
export PAC7ET
PAC7MB=$PACINPUT
export PAC7MB
PAC7MD=`BVPENV PACT40 PAC7MD $PACUSERS/MVGETD`
export PAC7MD
. $PACDIR/config/$1/PAC7TD.ini
if [ ! -f "$PAC7TD" ]
then
 BVPMSG 1033
 BVPMSG 1035
 RETURN=1
 BVPRMTMP
 exit $RETURN
fi
BVPMSG 1009 "BVPACT40"
rtspac BVPACT40
RETURN=$?
case $RETURN in
0)
 ;;
8)
 BVPMSG 1012 "BVPACT40"
 BVPMSG 1014
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
```

```
*)
 BVPMSG 1012 "BVPACT40"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
PAC7MD=`BVPENV PACT45 PAC7MD $PACUSERS/MVGETD`
export PAC7MD
PAC7ND=`BVPENV PACT45 PAC7ND $PACUSERS/NDGETD`
export PAC7ND
BVPMSG 1009 "BVPACT45"
rtspac BVPACT45
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPACT45"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
PAC7ET=`BVPENV PACT50 PAC7ET $PACUSERS/GETDETT50.txt`
export PAC7ET
PAC7MB=$PACINPUT
export PAC7MB
PAC7MD=`BVPENV PACT50 PAC7MD $PACUSERS/MVGETD`
export PAC7MD
. $PACDIR/config/$1/PAC7TD.ini
BVPMSG 1009 "BVPACT50"
rtspac BVPACT50
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPACT50"
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

GETA : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) GETA BATCH PROCEDURE
# * ------------------------------------------------------
```

```
# *      VISUALAGE PACBASE
# *
# * ------------------------------------------------------
# *             - TABLES DESCRIPTION GENERATION -
# *
# * ------------------------------------------------------
# *
# * 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 MANUAL.
# *
# * GETA IF THE DICTIONARY AND PACTABLES ARE RUNNING UNDER
# * THE SAME ENVIRONMENTS.
# *
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "GETA"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ----------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PACT40 PAC7DD $PACUSERS/GETADDT40.txt`
export PAC7DD
PAC7ET=`BVPENV PACT40 PAC7ET $PACUSERS/GETAETT40.txt`
export PAC7ET
PAC7MB=$PACINPUT
export PAC7MB
PAC7MD=`BVPENV PACT40 PAC7MD $PACUSERS/MVGETA`
export PAC7MD
. $PACDIR/config/$1/PAC7TD.ini
if [ ! -f "$PAC7TD" ]
then
 BVPMSG 1033
 BVPMSG 1035
 RETURN=1
```

```
 BVPRMTMP
 exit $RETURN
fi
BVPMSG 1009 "BVPACT40"
rtspac BVPACT40
RETURN=$?
case $RETURN in
0)
 ;;
8)
 BVPMSG 1012 "BVPACT40"
 BVPMSG 1014
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPACT40"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
PAC7MD=`BVPENV PACT45 PAC7MD $PACUSERS/MVGETA`
export PAC7MD
PAC7ND=`BVPENV PACT45 PAC7ND $PACUSERS/NDGETA`
export PAC7ND
BVPMSG 1009 "BVPACT45"
rtspac BVPACT45
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPACT45"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

GETI - Initialization of Description Line

GETI - Introduction

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

GETI - User Input

An '*' line with a user code and password.

A 'I' line with initialization parameters to take into account.

Position	Length	Value	Meaning
2	1	'I'	Line code
3	36		Installation name
39	1		Language code
		'F'	French (default option)
		'E'	English
53	4	cccc	Class for Security System
57	1		Type of Security System
		'R'	RACF
		'S'	Top secret
58	2	nn	Number of lines per printing page
60	1		Type of resource controls
		' '	Definition of Security system tables resources
		'P'	Definition of resources in the Development Database
61	1		User code lock
		' '	other user code authorized
		'N'	other user code not authorized

GETI - Description of Steps

INITIALIZATION OF DESCRIPTION FILE: PACTIN

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages

Code	Physical name	Type	Label
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7MB	User input	Input	Parameter line
PAC7TD	Base dir. : TD	Output	Table description file
PAC7ED	User dir. : GETIEDTIN	Report	Initialization report
PAC7DD	User dir. : GETIDDTIN	Report	Batch procedures authorization option

GETI : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) GETI BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *     - INITIALIZATION OF TABLES MANAGEMENT FILE -
# *
# * -------------------------------------------------------
# *
# * THE GETI PROCEDURE MUST BE EXECUTED WHEN FIRST USING
# * PACTABLES FILES THAT ARE STORED IN ANOTHER ENVIRONMENT
# * FROM THE PRODUCT ENVIRONMENT.
# * IT INITIALIZES THE DESCRIPTION FILE IN A SIMILAR WAY
# * AS THE PACTABLES INTA PROCEDURE DOES.
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-------------------------------------------------------"
BVPMSG 1004 "GETI"
echo "                         =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-------------------------------------------------------"
echo ""
BVPPAUSE
```

```
BVPMKDIR
# ------------------------------------------------------------
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AE.ini
PAC7ED=`BVPENV PACTIN PAC7ED $PACUSERS/GETIEDTIN.txt`
export PAC7ED
PAC7DD=`BVPENV PACTIN PAC7DD $PACUSERS/GETIDDTIN.txt`
export PAC7DD
PAC7MB=$PACINPUT
export PAC7MB
. $PACDIR/config/$1/PAC7TD.ini
BVPMSG 1009 "BVPACTIN"
rtspac BVPACTIN
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPACTIN"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Chapter 7. Pac/Impact

Foreword

NOTE: Pac/Impact users may also refer to the 'Pac/Impact for VisualAge Pacbase' manual.

NOTE: Pac/Impact users may also refer to the 'Pac/Impact for VisualAge Pacbase' manual.

Impact analysis requires a very large amount 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.

- The UXSR procedure, documented in 'The Administrator's Procedures' manual, 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 performed on this subset.

  Extraction of a session is also possible.

  Furthermore, the REOR procedure (which must always be run after a UXSR) allows you to cancel instances which are not relevant to the analysis.
- You may also choose to limit your analysis to some instances 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 this manual.
- The procedures in this Function do not impact the Database files. However, it is recommended to close the on-line files for better performance.

INFP - FP File Initialization (Impact Analysis)

INFP - Introduction

The INFP procedure initializes the FP file. It allows to specify the entities which are to be analyzed and thus to narrow the scope of the impact analysis to some (or all) instances of the entities.

For the FP file to be updated by INFP, you must re-state in the procedure's input all the lines previously introduced. You always start with an empty file, i.e. a file containing no particular selection.

RESULT

The procedure outputs a file which contains the entities selected for the analysis (FP).

INFP - User Input

Input is optional for the INFP procedure knowing that 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.

If an entity type is specified in an input (whether an instance is specified or not for this type), and if you wish the analysis to take into account the other types as well, you must specify those types in additional input lines.

Position	Length	Value	Meaning
1	3		Entity type Possible values are:
		'B '	Database Blocks
		'F '	Meta-Entities
		'O '	Screens
		'P '	Programs
		'T '	Texts
		'V '	Documents
		'$nn'	User Entities of type code 'nn'
		'$**'	All UEs
4	6		Entity code (generic selection through code ******) (This code may not exist in the Database)

INFP - Description of Steps

CHECK ON TRANSACTIONS AND FP UPDATE: PAN205

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file

Code	Physical name	Type	Label
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7MB	User input	Input	User input
PAC7FP	Base dir. : FP	Output	Entities in production
PAC7IP	User dir. : INFPIP205	Report	Check report

Return codes:

- 0 : OK.
- 12 : System error.

INFP : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) INFP BATCH PROCEDURE
# * ------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * ------------------------------------------------------
# *     - IMPACT ANALYSIS:  INITIALIZATION OF "FP" FILE -
# *
# * ------------------------------------------------------
# *
# * THE INFP PROCEDURE INITIALIZES THE FP FILE. IT ALLOWS
# * TO SPECIFY THE ENTITIES WHICH ARE TO BE ANALYZED AND
# * THUS TO NARROW THE SCOPE OF THE IMPACT ANALYSIS TO SOME
# * (OR ALL) OCCURRENCES OF THE ENTITIES.
# *
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "INFP"
echo "                         =============="
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------
echo ""
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
```

```
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FP.ini
PAC7IP=`BVPENV PAN205 PAC7IP $PACUSERS/INFPIP205.txt`
export PAC7IP
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPAN205"
rtspac BVPAN205
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPAN205"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

ISEP - Selection of Entry Points

ISEP - Introduction

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

Elements and character strings are considered as entry points when they meet selection criteria entered in ISEP user input 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 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 Elements via a keyword. You may also indicate the keyword type, Element formats and code.

EXECUTION CONDITIONS

None.

ABNORMAL EXECUTION

Whatever the cause of the abend, the procedure can be restarted as it is, once the problem has been solved.

RESULT

Output of the ISEP procedure is two files which are to be used in the IANA procedure:

- 'FH' file which contains the selected entry points,
- 'FR' file which contains the entry points to be purged.

ISEP - User Input

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

Position	Length	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')
69	3	iii	Code of the lowest Library in the sub-network (optional)

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

Position	Length	Value	Meaning
2	1	'E'	Line code

Position	Length	Value	Meaning
3	6		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		Element input format
19	10		Element internal format
29	1		Internal usage (default: D)
30	27		Element output format
57	1	'N' ' '	Child Elements not impacted Child Elements impacted

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

Position	Length	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)

Position	Length	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		Element input format
27	10		Element internal format
37	1		Internal usage (Default: D)
38	27		Element output format
65	6		Element code (generic code possible with the '*' character anywhere in the code)
71	1	'N'	Child Elements not impacted

Position	Length	Value	Meaning
		' '	Child Elements impacted

ISEP - Description of Steps

SELECTION OF ENTRY POINTS: PAN210

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7FP	Base dir. : FP	Input	File of entities to be analyzed
PAC7MB	User input	Input	User input
PAC7FH	Tmp dir. : WFH	Output	Selected entry points
PAC7IE	User dir. : ISEPIE210	Report	Validation report

Return Codes :

- 0 : OK.
- 12 : System error

REMOVAL OF DUPLICATE ENTRY POINTS: PAN215

Code	Physical name	Type	Label
PAC7FH	Tmp dir. : WFH	Input	Selected entry points
PAC7HF	Base dir. : FH-new	Output	Sorted selected entry points
PAC7FR	Base dir. : FR-new	Output	Reduced entry points to be purged

.Return codes:

- 0 : OK.
- 12 : System error.

ISEP : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) ISEP BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *       - IMPACT ANALYSIS : SELECTION OF ENTRY POINTS -
# *
# * -------------------------------------------------------
# *
# * 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).
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "ISEP"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FP.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7FH=`BVPENV PAN210 PAC7FH $PACTMP/WFH`
export PAC7FH
PAC7IE=`BVPENV PAN210 PAC7IE $PACUSERS/ISEPIE210.txt`
export PAC7IE
BVPMSG 1009 "BVPAN210"
rtspac BVPAN210
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN210"
```

```
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN210"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7FH.ini
PAC7HF=$PAC7FH.NEW
export PAC7HF
. $PACDIR/config/$1/PAC7FR.ini
PAC7FR=$PAC7FR.NEW
export PAC7FR
PAC7FH=`BVPENV PAN210 PAC7FH $PACTMP/WFH`
export PAC7FH
BVPMSG 1009 "BVPAN215"
rtspac BVPAN215
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN215"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN215"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------
BVPMSG 1010
BVPMSG 1016 "FHBACKUP.ini"
. $PACDIR/config/$1/FHBACKUP.ini
BVPMSG 1016 "FRBACKUP.ini"
. $PACDIR/config/$1/FRBACKUP.ini
BVPRMTMP
exit $RETURN
```

ISOS - Selection of Strings and Operators

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 conditioned ('IF').

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

NARROWING THE SCOPE OF SELECTION

For better performance, it is advisable to narrow 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, documented in 'The Administrator's Procedures' manual, you can create 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.
- Via the INFP utility, documented in this manual: FP File Initialization (Impact Analysis)', you can decide 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 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 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 CONDITIONS

None.

ABNORMAL EXECUTION

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

RESULT

Output of the ISOS procedure is:

- a 'FH' file (contains selected entry points),
- a 'FR' file (contains entry points to be purged),

two files which are to be used in the IANA procedure,

- a 'FO' file (contains analysis results)

to be used in the IANA or IPIA procedure.

ISOS - User Input

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

Position	Length	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)

Position	Length	Value	Meaning
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):

Position	Length	Value	Meaning
2	1	'D'	Line code
3	9		Code of generated date Element to be extracted (which must be recognized by the system)

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

Position	Length	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):

Position	Length	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 searched string. (Must be ended by the separator if a separator is specified)
35	1		Where the string is to be searched:
		'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)

Position	Length	Value	Meaning
		'R'	Search in Report-specific Procedural code part: .Category condition and Structure .Source Element code (Struct.)
		' '	Search in the three above mentioned parts

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

Position	Length	Value	Meaning
2	1	'V'	Line code
3	1		Beginning-of-value separator Required (either ' or ")
4	31		Code of searched value Required, ending with the separator (either ' or ")
35	1		Where the constant is to be searched
		'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 Element code (Struct.) Search in the three above mentioned parts

ISOS - Description of Steps

SELECTION OF STRINGS AND OPERATORS: PAN212

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administrator Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administrator Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administrator Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7FP	Base dir. : FP	Input	Entities to analyze

Code	Physical name	Type	Label
PAC7MB	User input	Input	User input
PAC7FH	Tmp dir. : WFH	Output	Selected entry points (length=160)
PAC7MF	Tmp dir. : WFO	Output	Impact analysis result (length=266)
PAC7IE	User dir. : ISOSIE212	Report	Validation control

.Return Codes :

- 0: OK
- 12: System error

DELETION OF DUPLICATE ENTRY POINTS: PAN215

Code	Physical name	Type	Label
PAC7FH	Tmp dir. : WFH	Input	Selected entry points
PAC7HF	Base dir. : FH-new	Output	Sorted selected entry points
PAC7FR	Base dir. : FR-new	Output	Reduced entry points to be purged

Return codes :

- 0 : OK
- 12 : System error

UPDATE OF IMPACT ANALYSIS RESULTS: PAN260

Code	Physical name	Type	Label
PAC7MF	Tmp dir. : WFO	Input	Impact analysis result (for that iteration)
PAC7OF	Base dir. : FO	Input	Results from preceding analysis
PAC7FO	Base dir. : FO-new	Output	Sorted impact-analysis results

Return codes:

- 0 : OK.
- 12 : System error.

ISOS : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) ISOS BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# * - IMPACT ANALYSIS: SELECTION OF STRINGS AND OPERATORS
# *
# * -------------------------------------------------------
# *
# * ISOS IS A COMPLEMENT TO THE ISEP PROCEDURE.
# * FOR BETTER PERFORMANCE, IT IS ADVISABLE TO NARROW THE
# * SCOPE OF THE SELECTION. THIS CAN BE DONE
# * AT TWO DIFFERENT LEVELS, AND SHOULD ALWAYS
# * BE DONE BEFORE RUNNING THE PROCEDURE.
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "ISOS"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ----------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FP.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7FH=`BVPENV PAN212 PAC7FH $PACTMP/WFH`
export PAC7FH
PAC7MF=`BVPENV PAN212 PAC7MF $PACTMP/WFO`
export PAC7MF
PAC7IE=`BVPENV PAN212 PAC7IE $PACUSERS/ISOSIE212.txt`
export PAC7IE
BVPMSG 1009 "BVPAN212"
rtspac BVPAN212
RETURN=$?
case $RETURN in
0)
```

```
 ;;
12)
 BVPMSG 1012 "BVPAN212"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN212"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7FH.ini
. $PACDIR/config/$1/PAC7FR.ini
PAC7HF=$PAC7FH.NEW
export PAC7HF
PAC7FR=$PAC7FR.NEW
export PAC7FR
PAC7FH=`BVPENV PAN212 PAC7FH $PACTMP/WFH`
export PAC7FH
BVPMSG 1009 "BVPAN215"
rtspac BVPAN215
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN215"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN215"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7FO.ini
PAC7OF=$PAC7FO
export PAC7OF
PAC7FO=$PAC7FO.NEW
export PAC7FO
PAC7MF=`BVPENV PAN212 PAC7MF $PACTMP/WFO`
export PAC7MF
BVPMSG 1009 "BVPAN260"
```

```
rtspac BVPAN260
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPAN260"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPMSG 1016 "FHBACKUP.ini"
. $PACDIR/config/$1/FHBACKUP.ini
BVPMSG 1016 "FOBACKUP.ini"
. $PACDIR/config/$1/FOBACKUP.ini
BVPMSG 1016 "FRBACKUP.ini"
. $PACDIR/config/$1/FRBACKUP.ini
BVPRMTMP
exit $RETURN
```

IMFH - Merge of FH Files - Creation of FH and FR

IMFH - Introduction

The IMFH procedure allows you to merge two or more FH files so as to:

- Have only one FH file (selected entry points), after eliminating possible duplicates;
- Obtain a FR file (entry points to be purged) in phase with the FH file created.

This procedure should be used when you want to merge the FH file produced by the ISEP procedure with that issued by the ISOS procedure.

A subsidiary use of this procedure is to recreate the FR file from a FH file.

RESULT

Output of the ISEP procedure is two files which are to be used in the IANA procedure:

- 'FH' file which contains the selected entry points,
- 'FR' file which contains the entry points to be purged.

IMFH - Description of Steps

DELETION OF DUPLICATE ENTRY POINTS: PAN215

Code	Physical name	Type	Label
PAC7FH	Base dir. : FH	Input	Selected entry points to be merged
PAC7HF	Base dir. : FH-new	Output	Sorted selected entry points
PAC7FR	Base dir. : FR-new	Output	Reduced entry points to be purged

Return codes:

- 0 : OK.
- 12 : System error.

IMFH : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) IMFH BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# * - IMPACT ANALYSIS: MERGE FH FILES AND CREATION FR FILE
# *
# * -------------------------------------------------------
# *
# * THIS PROCEDURE SHOULD BE USED WHEN YOU WANT TO MERGE
# * THE FH FILE PRODUCED BY THE ISEP PROCEDURE WITH THAT
# * ISSUED BY THE ISOS PROCEDURE.
# *
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-------------------------------------------------------"
BVPMSG 1004 "IMFH"
echo "                         =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
echo "-------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# -------------------------------------------------------
. $PACDIR/config/$1/PAC7FH.ini
. $PACDIR/config/$1/PAC7FR.ini
```

```
PAC7HF=$PAC7FH.NEW
export PAC7HF
if [ -f "$PAC7FH" ]
then
   cat $PAC7FH >> $PACTMP/WFH
fi
if [ -f "$PAC7FH-1" ]
then
   cat $PAC7FH-1 >> $PACTMP/WFH
fi
PAC7FH=$PACTMP/WFH
export PAC7FH
touch $PAC7FH
PAC7FR=$PAC7FR.NEW
export PAC7FR
BVPMSG 1009 "BVPAN215"
rtspac BVPAN215
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN215"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN215"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPMSG 1016 "FHBACKUP.ini"
. $PACDIR/config/$1/FHBACKUP.ini
BVPMSG 1016 "FRBACKUP.ini"
. $PACDIR/config/$1/FRBACKUP.ini
BVPRMTMP
exit $RETURN
```

INFQ - FQ File Reinitialization (Impact Analysis)

INFQ - Introduction

The INFQ procedure reinitializes the FQ file, which accumulates all the search criteria that have already been impacted by the analysis. This accumulation prevents these criteria from being analyzed again in future analyses.

This action should be performed before a new impact analysis either because the entry points have changed or because the analysis context has changed.

However, it must not be used between two iterations of the same impact analysis.

RESULT

The procedure outputs a reinitialized file of search criteria (FQ).

INFQ - Description of Steps

FQ file Reinitialization : PAN200

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7MB	User input	Input	User input
PAC7FQ	Base dir. : FQ-new	Output	Impacted criteria reinitialized sequential file
PAC7DD	User dir. : INFQDD200	Report	Error report

INFQ : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) INFQ BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *     - IMPACT ANALYSIS:  INITIALIZATION OF "FQ" FILE -
# *
# * -------------------------------------------------------
# *
# * THIS ACTION SHOULD BE PERFORMED BEFORE A NEW IMPACT
# * ANALYSIS EITHER BECAUSE THE ENTRY POINTS HAVE CHANGED
# * OR BECAUSE THE ANALYSIS CONTEXT HAS CHANGED.
# *
# * -------------------------------------------------------
# *
# Parameter control
```

```
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "INFQ"
echo "                          =============="
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FQ.ini
PAC7FQ=$PAC7FQ.NEW
export PAC7FQ
PAC7DD=`BVPENV PAN200 PAC7DD $PACUSERS/INFPDD200.txt`
export PAC7DD
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPAN200"
rtspac BVPAN200
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPAN200"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPMSG 1016 "FQBACKUP.ini"
. $PACDIR/config/$1/FQBACKUP.ini
BVPRMTMP
exit $RETURN
```

IGRA - Breaking down of Group Fields

IGRA - Introduction

The IGRA procedure breaks down group fields into Elementary Fields:

- Entry points detected by the ISEP procedure, if they are of the Group type.

- 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 any impact search criterion.

Before running the IGRA procedure, you may purge:

- Entry points --after execution of the ISEP procedure.
- Impact search criteria --after execution of the IANA procedure which precedes.

In both cases, deletions are made in the FR file (under an 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' and 'rejected' 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 as input to this procedure. It contains a list of Entities or Entity Types which should be analyzed. If no user input 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 (****** being the Entity generic code).

EXECUTION CONDITIONS

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

ABNORMAL EXECUTION

Whatever the cause of the abnormal ending, the procedure may be restarted as it is after correcting the problem. However, the status of generation files (FH, FR, and FO) should be checked.

RESULT

The procedure outputs a file which contains the analysis results (FO) to be used in the IPIA procedure.

USER INPUT

One '*' line with user code and password.

IGRA - Description of Steps

RECOGNITION OF PURGED CRITERIA: PAN230

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7MB	User input	Input	User input
PAC7FH	Base dir. : FH	Input	Search criteria file
PAC7FR	Base dir. : FR	Input	Reduced file of purged criteria
PAC7HF	Tmp dir. : WHF	Output	Search criteria file (length=160)
PAC7DD	User dir. : IGRADD230	Report	Error file

Return codes :

- 0 : OK
- 12 : System error

PRINTING ENTRY POINTS: PAN220

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7HF	Tmp dir. : WHF	Input	Sorted criteria file
PAC7IL	User dir. : IGRAIL220	Report	List of accepted/rejected criteria

Return codes :

- 0 : OK
- 12 : System error

GROUP FIELD BREAKING-DOWN: PAN255

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Data index file
PAC7FP	Base dir. : FP	Input	Entities to analyze
PAC7FH	Tmp dir. : WHF	Input	Impacted criteria
PAC7MF	Tmp dir. : WFO	Output	Impact analysis results (length=266)

Return Codes :

- 0 : OK
- 12 : System error

UPDATE OF IMPACT ANALYSIS RESULTS: PAN260

Code	Physical name	Type	Label
PAC7MF	Tmp dir. : WFO	Input	Impact analysis result (by level)
PAC7OF	Base dir. : FO	Input	Results of previous analysis
PAC7FO	Base dir. : FO-new	Output	Sorted results of the impact analysis

Return codes:

- 0 : OK
- 12 : System error

IGRA : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) IGRA BATCH PROCEDURE
# * ------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * ------------------------------------------------------
# *            - IMPACT ANALYSIS:  PRINT OF "FQ" FILE  -
# *
# * ------------------------------------------------------
# *
# * THE IGRA PROCEDURE BREAKS DOWN GROUP FIELDS
# * 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.
# *
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "IGRA"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FH.ini
. $PACDIR/config/$1/PAC7FR.ini
PAC7HF=`BVPENV PAN230 PAC7HF $PACTMP/WHF`
export PAC7HF
PAC7MB=$PACINPUT
export PAC7MB
```

```
PAC7DD=`BVPENV PAN230 PAC7DD $PACUSERS/IGRADD230.txt`
export PAC7DD
BVPMSG 1009 "BVPAN230"
rtspac BVPAN230
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN230"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN230"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
PAC7HF=`BVPENV PAN230 PAC7HF $PACTMP/WHF`
export PAC7HF
PAC7IL=`BVPENV PAN220 PAC7IL $PACUSERS/IGRAIL220.txt`
export PAC7IL
BVPMSG 1009 "BVPAN220"
rtspac BVPAN220
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN220"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN220"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
```

```
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FP.ini
PAC7MF=`BVPENV PAN255 PAC7MF $PACTMP/WFO`
export PAC7MF
PAC7FH=`BVPENV PAN255 PAC7FH $PACTMP/WHF`
export PAC7FH
BVPMSG 1009 "BVPAN255"
rtspac BVPAN255
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN255"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN255"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ---------------------------------------------------------
. $PACDIR/config/$1/PAC7FO.ini
PAC7MF=`BVPENV PAN255 PAC7MF $PACTMP/WFO`
export PAC7MF
PAC7OF=$PAC7FO
export PAC7OF
PAC7FO=$PAC7FO.NEW
export PAC7FO
BVPMSG 1009 "BVPAN260"
rtspac BVPAN260
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPAN260"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ---------------------------------------------------------
BVPMSG 1010
```

```
BVPMSG 1016 "FOBACKUP.ini"
. $PACDIR/config/$1/FOBACKUP.ini
BVPRMTMP
exit $RETURN
```

IANA - Impact Search Criteria

IANA - Introduction

The IANA procedure is used to search impacted Data Elements and character-strings according to:

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

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:

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

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

The 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' and 'rejected' criteria. The file which contains the already impacted criteria (FQ) may be reinitialized if you do not need to save them.

However, it is recommended to reinitialize this file before the first execution of IANA which follows a new execution of ISEP. To reinitialize the FQ file, run the INFQ procedure.

The impact analysis file may either be empty or contain the results of different execution contexts. It allows to compound the results of all iterations of the impact analysis for a given context.

The FP file used as input for the analysis procedures, contains the list of entities or entity types to be analyzed. If no user input is entered in this file before it is initialized by the INFP procedure, all analyzable entities will be analyzed.

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

The impact results file may be empty, or contain the impact analysis for other execution contexts. It can accumulate the results of all the impact analysis iterations for a given context.

EXECUTION CONDITIONS

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

ABNORMAL EXECUTION

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

One '*' line with user code and password.

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

RESULT

This procedure outputs a file which contains the analysis results (FO) to be used in the IPIA procedure.

IANA - Description of Steps

RECOGNITION OF CRITERIA AFTER THE PURGE: PAN230

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file

Code	Physical name	Type	Label
PAC7MB	User input	Input	User input
PAC7FH	Base dir. : FH	Input	Search criteria file
PAC7FR	Base dir. : FR	Input	Search criteria after purge (reduced file)
PAC7HF	Tmp dir. : WHF	Output	Search criteria file (length=160)
PAC7DD	User dir. : IANADD230	Report	Error report

Return codes :

- 0 : OK
- 12 : System error

PRINTING OF ENTRY POINTS: PAN220

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7HF	Tmp dir. : WHF	Input	Sorted criteria
PAC7IL	User dir. : IANAIL220	Report	List of accepted / rejected criteria

Return codes :

- 0 : OK
- 12 : System error

IMPACT ANALYSIS: PAN250

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7AY	Base dir. : AY	Input	Development Database extension data
PAC7FP	Base dir. : FP	Input	File of entities to be analyzed
PAC7FH	Tmp dir. : WHF	Input	Impacted criteria

Code	Physical name	Type	Label
PAC7FQ	Tmp dir. : WFQ	Input/Output	Impacted criteria already processed
PAC7HF	Tmp dir. : WFH	Output	New impacted criteria (length = 160)
PAC7MF	Tmp dir. : WFO	Output	Impact analysis results (length = 266)

Return codes:

- 0 : OK
- 4 : OK. Ended iteration
- 12 : System error

UPDATE OF IMPACT ANALYSIS RESULTS: PAN260

Code	Physical name	Type	Label
PAC7MF	Tmp dir. : WFO	Input	Impact analysis results (level)
PAC7OF	Base dir. : FO	Input	Results of previous analysis
PAC7FO	Base dir. : FO-new	Output	Sorted results of impact analysis

Return codes:

- 0 : OK
- 12 : System error

REMOVAL OF DUPLICATE ENTRY POINTS: PAN215

Code	Physical name	Type	Label
PAC7FH	Tmp dir. : WFH	Input	Selected entry points
PAC7HF	Base dir. : FH-new	Output	Sorted selected entry points
PAC7FR	Base dir. : FR-new	Output	Reduced entry points to be purged

Return codes:

- 0 : OK
- 12 : System error

IANA : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) IANA BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *                  - IMPACT ANALYSIS -
# *
# * -------------------------------------------------------
# *
# * THE IANA PROCEDURE IS USED TO SEARCH DATA ELEMENTS AND
# * CHARACTER-STRINGS ACCORDING TO:
# * 1.THE ENTRY POINTS PROVIDED BY THE ISEP PROCEDURE WHEN
# *      IANA IS RUN FOR THE FIRST TIME,
# * 2.THE IMPACT SEARCH CRITERIA PRODUCED
# *      BY A PRECEDING EXECUTION OF IANA.
# * IANA IS THEREFORE AN ITERATIVE PROCESS, WHICH RUNS
# * UNTIL NO MORE IMPACT SEARCH CRITERIA ARE FOUND.
# *
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-------------------------------------------------------------"
BVPMSG 1004 "IANA"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# -----------------------------------------------------------
. $PACDIR/config/$1/PAC7FO.ini
if [ ! -f "$PAC7FO" ]
then
 BVPMSG 1034 $PAC7FO
 RETURN=12
 BVPRMTMP
 exit $RETURN
fi
# -----------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FH.ini
. $PACDIR/config/$1/PAC7FR.ini
PAC7HF=`BVPENV PAN230 PAC7HF $PACTMP/WHF`
```

```
export PAC7HF
PAC7MB=$PACINPUT
export PAC7MB
PAC7DD=`BVPENV PAN230 PAC7DD $PACUSERS/IANADD230.txt`
export PAC7DD
BVPMSG 1009 "BVPAN230"
rtspac BVPAN230
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN230"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN230"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
PAC7HF=`BVPENV PAN230 PAC7HF $PACTMP/WHF`
export PAC7HF
PAC7IL=`BVPENV PAN220 PAC7IL $PACUSERS/IANAIL220.txt`
export PAC7IL
BVPMSG 1009 "BVPAN220"
rtspac BVPAN220
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN220"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN220"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
```

```
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FQ.ini
. $PACDIR/config/$1/PAC7FP.ini
cp $PAC7FQ $PAC7FQ.NEW
cp $PAC7FQ.idx $PAC7FQ.NEW.idx
PAC7FQ=$PAC7FQ.NEW
export PAC7FQ
PAC7HF=`BVPENV PAN250 PAC7HF $PACTMP/WFH`
export PAC7HF
PAC7MF=`BVPENV PAN250 PAC7MF $PACTMP/WFO`
export PAC7MF
PAC7FH=`BVPENV PAN250 PAC7FH $PACTMP/WHF`
export PAC7FH
BVPMSG 1009 "BVPAN250"
rtspac BVPAN250
RETURN=$?
case $RETURN in
0)
 ;;
4)
 BVPMSG 1012 "BVPAN250"
 BVPMSG 1010
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
12)
 BVPMSG 1012 "BVPAN250"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7FO.ini
PAC7OF=$PAC7FO
export PAC7OF
PAC7FO=$PAC7FO.NEW
export PAC7FO
PAC7MF=`BVPENV PAN250 PAC7MF $PACTMP/WFO`
export PAC7MF
BVPMSG 1009 "BVPAN260"
rtspac BVPAN260
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPAN260"
```

```
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7FH.ini
PAC7HF=$PAC7FH.NEW
export PAC7HF
. $PACDIR/config/$1/PAC7FR.ini
PAC7FR=$PAC7FR.NEW
export PAC7FR
PAC7FH=`BVPENV PAN215 PAC7FH $PACTMP/WFH`
export PAC7FH
BVPMSG 1009 "BVPAN215"
rtspac BVPAN215
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPAN215"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPMSG 1016 "FHBACKUP.ini"
. $PACDIR/config/$1/FHBACKUP.ini
BVPMSG 1016 "FOBACKUP.ini"
. $PACDIR/config/$1/FOBACKUP.ini
BVPMSG 1016 "FRBACKUP.ini"
. $PACDIR/config/$1/FRBACKUP.ini
BVPMSG 1016 "FQBACKUP.ini"
. $PACDIR/config/$1/FQBACKUP.ini
BVPRMTMP
exit $RETURN
```

IPFQ - FQ File Printout (Impact Analysis)

IPFQ - Introduction

The IPFQ procedure prints all the entry points and impact search criteria used (accepted or rejected) 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 search criteria.

The printout shows criteria and entry points sorted by alphabetical order within each category, and by definition Library of these criteria.

The printing order for the categories are:
- Character strings
- Element defined in the Dictionary,
- Element defined in Segment Descriptions,
- Element defined in Report Structures,
- Element defined in Screen- or Program-Working sections.

The IPFQ procedure can be used to select the entry points and impact search criteria of one or more categories.

In case of selection, only the selected criteria are printed.

EXECUTION CONDITIONS

None, but the FQ file must exist.

ABNORMAL EXECUTION

Whatever the cause of the abnormal ending, the procedure can be restarted as it is, after correction of the problem.

RESULT

The procedure prints the entry points and the search criteria.

IPFQ - User Input

One 'S' line per criteria selection (optional).

Position	Length	Value	Meaning
2	1	'S'	Line code
3	1		Type of criterion
		'E'	Element defined in the Dictionary
		'C'	Character string
		'X'	Group-type Element or Element not defined

Position	Length	Value	Meaning
		'*'	All types of criteria
4	1		Source code
		'3'	Line from Segment's -CE
		'6'	Line from Report's -CE
		'7'	-W line of a Screen or Program
		'*'	All sources
6	1		For the type of field
		'G'	For a Group field
		' '	For an elementary field
		'*'	For all types of fields

IPFQ - Description of Steps

EXTRACTION OF CRITERIA: PAN240

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7FQ	Base dir. : FQ	Input	Criteria impacted during analysis
PAC7MB	User input	Input	User input
PAC7FH	Tmp dir. : WFH	Output	Search criteria file
PAC7IX	User dir. : IPFQIX240	Report	Output report

PRINTING OF IMPACTED CRITERIA: PAN220

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7HF	Tmp dir. : WFH	Input	Sorted entry points or criteria

Code	Physical name	Type	Label
PAC7IL	User dir. : IPFQIL220	Report	List of entry points and criteria

Return codes:

- 0 : OK.
- 12 : System error.

IPFQ : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) IPFQ BATCH PROCEDURE
# * ------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * ------------------------------------------------------
# *            - IMPACT ANALYSIS:  GROUP FIELDS ANALYSIS -
# *
# * ------------------------------------------------------
# *
# * THE IPFQ PROCEDURE PRINTS ALL THE ENTRY POINTS AND
# * IMPACT SEARCH CRITERIA USED (ACCEPTED OR REJECTED)
# * DURING A THOROUGH IMPACT ANALYSIS.
# * ALL THE CRITERIA AND ENTRY POINTS ARE STORED IN THE FQ
# * FILE.
# * PROCEDURE, IF THEY ARE OF THE GROUP TYPE.
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "IPFQ"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7FQ.ini
if [ ! -f "$PAC7FQ" ]
then
 BVPMSG 1034 $PAC7FQ
 RETURN=12
 BVPRMTMP
 exit $RETURN
fi
# ------------------------------------------------------
```

```
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FQ.ini
PAC7FH=`BVPENV PAN240 PAC7FH $PACTMP/WFH`
export PAC7FH
PAC7MB=$PACINPUT
export PAC7MB
PAC7IX=`BVPENV PAN240 PAC7IX $PACUSERS/IPFQIX240.txt`
export PAC7IX
BVPMSG 1009 "BVPAN240"
rtspac BVPAN240
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN240"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN240"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
PAC7HF=`BVPENV PAN220 PAC7HF $PACTMP/WFH`
export PAC7HF
PAC7IL=`BVPENV PAN220 PAC7IL $PACUSERS/IPFQIL220.txt`
export PAC7IL
BVPMSG 1009 "BVPAN220"
rtspac BVPAN220
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN220"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN220"
```

```
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ---------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

IPEP - Entry Points Printout

IPEP - Introduction

The IPEP procedure produces two types of printouts.

- List of entry points:

  This list is obtained after the ISEP procedure, since this procedure selects the entry points.
- 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 (Elements and character strings altogether) for each definition library of these criteria.

The order of printing of the categories is:

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

EXECUTION CONDITIONS

None, but the FH file must exist.

ABNORMAL EXECUTION

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

PRINTOUTS

Printout of entry points.

USER INPUT

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

IPEP - Description of Steps

PRINTING OUT ENTRY POINTS: PAN220

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7HF	Base dir. : FH	Input	Sorted entry points file
PAC7IL	User dir. : IPEPIL220	Report	List of entry points

.Return Codes :

- 0 : OK.
- 12 : System error

IPEP : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) IPEP BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *     - IMPACT ANALYSIS:  PRINTING OF ENTRY POINTS -
# *
# * -------------------------------------------------------
# *
# * 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.
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-------------------------------------------------------"
BVPMSG 1004 "IPEP"
echo "                        =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
echo "-------------------------------------------------------"
```

```
echo ""
BVPPAUSE
BVPMKDIR
# ---------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7FH.ini
PAC7HF=$PAC7FH
export PAC7HF
PAC7IL=`BVPENV PAN220 PAC7IL $PACUSERS/IPEPIL220.txt`
export PAC7IL
BVPMSG 1009 "BVPAN220"
rtspac BVPAN220
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN220"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN220"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ---------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

IPIA - Printing of the Impact Analysis Results

IPIA - Introduction

The IPIA procedure is used to print Reports on the analysis results and to format these results in batch update transactions.

Possible reports produced by IPIA are the following:

- 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.
- 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.
- Analysis results by Library:

Results are formatted in 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.

- Impacted-instances summary:

  List of all impacted instances 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.
- List of entry points by impacted search criterion for each impacted field: list of entry points 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.
- 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.
- Character-string analysis:

  List of uses of each of the character strings searched by the ISOS procedure. Report requested by value '1' in Position 19 of the P-type user input line.
- Operator analysis:

  List of uses of each of the operators searched by the ISOS procedure. Report requested by value '1' in Position 20 of the P-type user input line.
- List of entities impacted by entry point:

  List of entities impacted by Element-type entry points, all search criteria considered. Report requested by value '1' in Position 21 of the P-type user input line.
- 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.
- Constant analysis:

  List of uses of each constant searched by the ISOS procedure. Report requested by value '1' in Position 23 of the P-type user input line.

EXECUTION CONDITIONS

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

ABNORMAL EXECUTION

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

RESULT

The procedure outputs a printout of the analysis results and of the list of transactions sorted by Library.

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:

Position	Length	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 = MM/DD/YY
4	3	bbb	Library code (this selection is available with requests entered in Positions 9 and 10 only)
7	1	' '	No Result of impact analysis by entry point
		'1'	Result of impact analysis by entry point
8	1	' '	No List of impacted criteria by entry point
		'1'	List of impacted criteria by entry point
9	1	' '	No Printing of formatted results
		'1'	Printing of results formatted as batch update transactions, sorted per Library
		'2'	Same list with page and line skips
10	1	' '	No summary of impacted occurrences
		'1'	List of impacted instances
11	1	' '	No statistics, sorted per Library
		'1'	Statistics, sorted per Library
12	1	' '	Identical to values in Pos. 9 but output is a file instead of print
13	1	' '	Does not inhibit lines indirectly impacted

Position	Length	Value	Meaning
		'1'	General option: Inhibits the lines indirectly impacted (e.g. -CD)
14	1	' '	No list of entry points by impact
		'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	' '	No Result of character-string analysis
		'1'	Result of character-string analysis
20	1	' '	No Result of operator analysis
		'1'	Result of operator analysis
21	1	' '	No entities impacted by entry point
		'1'	Impacted entities by entry point
22	1	' '	No Number of lines per description
		'1'	Number of lines per description
23	1	' '	No Constant-analysis result
		'1'	Constant-analysis result
24	1	' '	No Result of group fields
24	1	'1'	Result of group fields
25	10		Selection of generated transactions
		Blank	Selection of all entities
		other	Requested selection, where possible values (compoundable) are:
		'B'	Database blocks
		'E'	Elements
		'F' 'O' 'P'	Meta-Entities Screens, C/S screens,.. Programs
		'R'	Reports
		'S'	Segments and Data-Structures
		'T'	Texts
		'V'	Documents
35	1	'$' ' '	User Entities No Result with ISOS transactions
		'1'	Result with ISOS transactions

IPIA - Description of Steps

PRINTING OF IMPACT RESULTS: PAN270

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7FO	Base dir. : FO	Input	Impact results
PAC7MB	User input	Input	User input
PAC7BM	Tmp dir. : WMB	Output	Converted user input
PAC7GY	User dir. : IPIAGY	Output	PAF transactions for UPDP (length=310)
PAC7MV	Tmp dir. : WMV	Output	Batch transactions for printing (length=80)
PAC7IF	User dir. : IPIAIF270	Report	Analysis results

Return Codes :

- 0 : OK
- 12 : System error

PRINTING OF GENERATED TRANSACTIONS: PAN280

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7BM	Tmp dir. : WMB	Input	User input
PAC7MV	Tmp dir. : WMV	Input	Generated batch transactions
PAC7VM	User dir. : MVIPIA		Selected batch transactions (length=80)
PAC7IT	User dir. : IPIAIT280	Report	List of transactions per Library

Return Codes :

- 0 : OK
- 12 : System error

IPIA : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) IPIA BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *        - IMPACT ANALYSIS : PRINTING OF RESULTS -
# *
# * -------------------------------------------------------
# *
# * THE IPIA PROCEDURE IS USED TO PRINT
# * REPORTS ON THE ANALYSIS RESULTS
# * AND TO FORMAT THESE RESULTS IN
# * BATCH UPDATE TRANSACTIONS.
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "IPIA"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ----------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7FO.ini
PAC7BM=`BVPENV PAN270 PAC7BM $PACTMP/WMB`
export PAC7BM
PAC7GY=`BVPENV PAN270 PAC7GY $PACUSERS/IPIAGY`
export PAC7GY
PAC7IF=`BVPENV PAN270 PAC7IF $PACUSERS/IPIAIF270.txt`
export PAC7IF
PAC7MB=$PACINPUT
export PAC7MB
PAC7MV=`BVPENV PAN270 PAC7MV $PACTMP/WMV`
export PAC7MV
BVPMSG 1009 "BVPAN270"
rtspac BVPAN270
RETURN=$?
case $RETURN in
0)
 ;;
```

```
12)
 BVPMSG 1012 "BVPAN270"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN270"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
PAC7BM=`BVPENV PAN270 PAC7BM $PACTMP/WMB`
export PAC7BM
PAC7GY=`BVPENV PAN270 PAC7GY $PACTMP/WGY`
export PAC7GY
PAC7IT=`BVPENV PAN280 PAC7IT $PACUSERS/IPIAIT280.txt`
export PAC7IT
PAC7MV=`BVPENV PAN270 PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7VM=`BVPENV PAN280 PAC7VM $PACUSERS/MVIPIA`
export PAC7VM
BVPMSG 1009 "BVPAN280"
rtspac BVPAN280
RETURN=$?
case $RETURN in
0)
 ;;
12)
 BVPMSG 1012 "BVPAN280"
 BVPMSG 1013
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
*)
 BVPMSG 1012 "BVPAN280"
 BVPMSG 1025
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Chapter 8. Methodology Integrity Check

ADM - SSADM Pacdesign Methodology

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 the workstation 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' manual.

EXECUTION CONDITIONS

None.

SADM - User Input

One '*' line for library access:

Position	Length	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:

Position	Length	Value	Meaning
2	1	'T'	Line code

Position	Length	Value	Meaning
3	1		Code for Report to be printed
		'V'	Validation of SSADM Entities
		'1'	Cross-boundaries Data flows 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,
- A 'List of cross-boundaries data flows within a DFD',
- A 'List of operational masters within a DSD',
- A 'List of all entities with their attributes'.

SADM - Description of Steps

SSADM-ENTITY CONSISTENCY CHECK: PADM10

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7MB	User input	Input	User input
SYSPAF	Tmp dir. : SYSPAF	Input/Output	Standard PAF indexed file
PAC7EJ	User dir. : SADMEJM10	Report	List of checked SSADM entities
PAC7DD	User dir. : SADMDDM10	Report	List of errors

SADM : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) SADM BATCH PROCEDURE
# * ------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * ------------------------------------------------------
# *           - PACDESIGN SSADM INTEGRITY CHECKING -
# *
# * ------------------------------------------------------
# *
# * THIS PROCEDURE IS SUPPLIED FOR USERS OF THE WORKSTATION
# * AND THE SSADM PACDESIGN APPLICATION DESIGN METHODOLOGY.
# *
# * INPUT :
# *  -  USER IDENTIFICATION LINE (REQUIRED)
# *     COL  2 : "*"
# *     COL  3 : USERIDXX
# *     COL 11 : PASSWORD
# *     COL 19 : (BBB)    LIBRARY CODE
# *     COL 22 : (4 N)    SESSION NUMBER
# *     COL 26 : (1 CAR.) SESSION VERSION
# *     COL 37   (25 CAR.) RESERVED IMS
# *  -  COMMAND LINE :
# *  COL  2  : "T"        LINE CODE
# *  COL  3  :  CODE FOR REPORT TO BE PRINTED
# *                "V" : VALIDATION OF SSADM ENTITIES
# *                "1" : CROSS-BOUNDARIES DATA FLOWS
# *                      WITHIN A DFD
# *                "2" : OPERATIONAL MASTERS WITHIN A DSD
# *                "3" : ALL ENTITIES WITH THEIR ATTRIBUTES
# *  COL  4  :  (6 CAR.) ENTITY CODE
# *                      (REQUIRED FOR "1" OR "2")
# *
# * ------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "SADM"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
```

```
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7EJ=`BVPENV PADM10 PAC7EJ $PACUSERS/SADMEJM10.txt`
export PAC7EJ
PAC7DD=`BVPENV PADM10 PAC7DD $PACUSERS/SADMDDM10.txt`
export PAC7DD
PAC7MB=$PACINPUT
export PAC7MB
SYSPAF=`BVPENV PADM10 SYSPAF $PACTMP/SYSPAF`
export SYSPAF
BVPMSG 1009 "BVPADM10"
rtspac BVPADM10
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPADM10"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

YSMC - YSM Methodology / WorkStation

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 Data flow 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.

For complete details, refer to the 'Pacdesign' manual.

EXECUTION CONDITIONS

None.

YSMC - User Input

USER INPUT

One '*'-line for library access (required):

Position	Length	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):

Position	Length	Value	Meaning
2	1	'T'	Line code
3	1		Code of report to be printed
		'W'	'Validation of YSM entities'

PRC entity control request lines (optional):

Position	Length	Value	Meaning
2	1	'T'	Line code
3	1		Code of report to be printed
		'Y'	'Inter process consistency checking'
4	6	eeeeee	Entity code (PRC)

Print-request lines (optional):

Position	Length	Value	Meaning
2	1	'T'	Line code
3	1		Code of report to be printed
		'0'	'List of Relationships'
		'4'	'Process Decomposition list (CTX)'

Position	Length	Value	Meaning
		'5'	'Process Decomposition list (DFD)'
		'6'	'Datastore Decomposition list'
		'7'	'Event flow Decomposition list'
		'8'	'Group Data flow Decomposition list'
		'9'	'Multiple Data flow 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)'.
  - 'Data store decomposition list'.
  - 'Event flow decomposition list'.
  - 'Group Data flow Decomposition list'.
  - 'Multiple Data flow Decomposition list'.

YSMC - Description of Steps

YSM METHOD INTEGRITY CHECKING: PYSMCC

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7MB	User input	Input	User input

Code	Physical name	Type	Label
SYSPAF	Tmp dir. : SYSPAF	Input/Output	Standard PAF indexed file
PAC7EJ	User dir. : YSMCEJMCC	Report	Integrity checking lists
PAC7EI	User dir. : YSMCEIMCC	Report	Validation reports
PAC7DD	User dir. : YSMCDDMCC	Report	Error list

INTER-PROCESS CONSISTENCY: PYSMC3

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file
PAC7MB	User input	Input	User input
SYSPAF	Tmp dir. : SYSPAF	Input/Output	Standard PAF indexed file
PAC7EJ	User dir. : YSMCEJMC3	Report	Integrity checking Lists

LIST OF RELATIONSHIPS AND REPORTS: PYSMC2

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Base - Base dir. : AN	Input	Administration Database Index file
PACGGR	Admin Base - Base dir. : AR	Input	Administration Database Data file
PACGGU	Admin Base - Base dir. : GU	Input	Administration Database Users
PAC7AR	Base dir. : AR	Input	Development Database Data file
PAC7AN	Base dir. : AN	Input	Development Database Index file

Code	Physical name	Type	Label
PAC7MB	User input	Input	User input
SYSPAF	Tmp dir. : SYSPAF	Input/Output	Standard PAF indexed file
PAC7EJ	User dir. : YSMCEJMC2	Report	Integrity checking lists

YSMC : Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) YSMC BATCH PROCEDURE
# * -------------------------------------------------------
# *      VISUALAGE PACBASE
# *
# * -------------------------------------------------------
# *          - PACDESIGN YSM INTEGRITY CHECKING -
# *
# * -------------------------------------------------------
# *
# * 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 DATA FLOW
# * DIAGRAM AND ITS PARENT DIAGRAM.(PRC)
# *     IT ESTABLISHES DIFFERENT HIERARCHICAL LISTS OF
# * CERTAIN ENTITIES OF THE DATABASE.
# * -------------------------------------------------------
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "------------------------------------------------------------"
BVPMSG 1004 "YSMC"
echo "                          =============="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "------------------------------------------------------------"
echo ""
BVPPAUSE
BVPMKDIR
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PYSMCC PAC7DD $PACUSERS/YSMCDDMCC.txt`
```

```
export PAC7DD
PAC7EI=`BVPENV PYSMCC PAC7EI $PACUSERS/YSMCEIMCC.txt`
export PAC7EI
PAC7EJ=`BVPENV PYSMCC PAC7EJ $PACUSERS/YSMCEJMCC.txt`
export PAC7EJ
PAC7MB=$PACINPUT
export PAC7MB
SYSPAF=`BVPENV PYSMCC SYSPAF $PACTMP/SYSPAF`
export SYSPAF
BVPMSG 1009 "BVPYSMCC"
rtspac BVPYSMCC
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPYSMCC"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7EJ=`BVPENV PYSMC3 PAC7EJ $PACUSERS/YSMCEJMC3.txt`
export PAC7EJ
PAC7MB=$PACINPUT
export PAC7MB
SYSPAF=`BVPENV PYSMCC SYSPAF $PACTMP/SYSPAF`
export SYSPAF
BVPMSG 1009 "BVPYSMC3"
rtspac BVPYSMC3
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPYSMC3"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
```

```
PAC7EJ=`BVPENV PYSMC2 PAC7EJ $PACUSERS/YSMCEJMC2.txt`
export PAC7EJ
PAC7MB=$PACINPUT
export PAC7MB
SYSPAF=`BVPENV PYSMCC SYSPAF $PACTMP/SYSPAF`
export SYSPAF
BVPMSG 1009 "BVPYSMC2"
rtspac BVPYSMC2
RETURN=$?
case $RETURN in
0)
 ;;
*)
 BVPMSG 1012 "BVPYSMC2"
 BVPERR
 BVPRMTMP
 exit $RETURN
 ;;
esac
# ------------------------------------------------------------
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Part Number: DELIX003351A - 6200

Printed in U.S.A.

(1P) P/N: DELIX003351A - 6200