

VisualAge Pacbase



# The Administrator's Procedures UNIX Server

*Version 3.5*





VisualAge Pacbase



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# Chapter 1. Overview

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## Presentation of the Manual

This manual contains the descriptions of all the batch procedures used by a VisualAge Pacbase Database Administrator.

These procedures are related mainly to the following domains:

- Management of the Administration Database,
- Administration of the Development Databases,
- Manager's utilities,
- Analysis of activity and quality control,
- Management of versions.

A number of administration actions are carried out online in the Administrator workbench. These actions are documented in the 'AD workbench User's Guide', chapter 'Other Administration Actions'.

---

## Presentation of the Procedures

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

The following elements are included for each procedure:

- a general introduction including:
  - 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

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 (space if current session)
26	1		Session type
		' '	Current session (if session number set to space)
		'T'	Test 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 the extraction procedures which generate update transactions which will modify a Library/session Language code (F or A) DO NOT USE (you can also indicate 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

Position	Length	Value	Meaning
49	1		Transfer of Entity Lock:
		blank	Replacement of the user code which locks the entity with the user code of 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 into the output file,
50	1	'1'	The password is transferred, (Note : for EXTR, the '*' line is transferred into the output file only TRANSFER OF THE PASSWORD for the extraction procedures on the '*'
67	1	'N'	This value is systematically set by the extractors. It indicates that the extracted transactions come from a consistent environment and that updates are always performed with a warning in case of error during a control. Keeping the data consistency triggers, among other things, the inhibition of the lowercase/uppercase conversion and the acceptance of Data Elements formats greater than 999 characters.

---

## Access Authorization

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 Ending

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

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

```

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
10	End of file
21	Sequence error
22	Duplicate key
23	Record not found
24	Boundary violation
30	System error
34	Boundary violation (sequential)
35	File not found
46	No current record (for a READ). The error occurs when the previous operation is an abended START, which left the pointer not defined.
48	Attempt at writing on a file which is not open or on a sequential file open in I/O.
92	Logical error (For example, the opening of a file which is already open)



Status	Message
93	File still open in on-line mode
95	Invalid or Incomplete file

When there is no such message, and if the type of ABEND generated directly reports a problem in the product programs, contact the product 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.

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-Time 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 next 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 various procedures are executed in sequence.

(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 code can be retrieved via the Return variable right after the command which submits the procedure. This prevents the execution of the next procedures if various procedures are executed in sequence.

---

## Executing Procedures

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.

---

## Procedure Structure

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 user 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
2nd user line
.
eof`
export BVPINPUT
```

If the : \$ ` ' " characters are used, they must be preceded by two \.

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 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'.

## Assigning and Codifying 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 code".
```

Example of the assignment of the AE file:

```
. $PACDIR/config/"database code"/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 code".
```

Example of the assignment of the PC file:

```
. $PACDIR/config/"database code"/PACSAVPC.ini
```

By default, the PC, PJ and PY files are located in \$PACDIR/data/"database code"/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/"database code"/PACUSERS.ini
```

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

```
$PACDIR/config/"database code".
```

It contains:

```
# Command file for assignment of PACUSERS environment
variable
# ( 'users' directory )
# Description of parameter : $BVPUTI = VA Pac user code
PACUSERS=$PACDIR/data/"database code"/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/"database code"/PACTMP.ini
```

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

```
$PACDIR/config/"database code"
```

It contains:

```
# Command file for assignment of temporary files environment
variable
# Description of parameter : $BVPUTI = VA Pac user code
# Temporary file directory 'tmp'
PACTMP=$PACDIR/data/"database code"/tmp/$BVPUTI
export PACTMP
# Sort Flag
SORTSPACE=10M
export SORTSPACE
```

```

# MicroFocus Server Express "Automatic License Retry"
variable
# 1 retry every 5 seconds, 100 times
ASLMFRETRY=100,5
export ASLMFRETRY
# Sort temporary file directory
# (this directory must contain 3 times the size of the file
# to be sort)
if [ -z "$TMPDIR" ]
then
TMPDIR=$PACTMP
export TMPDIR
fi

```

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.

For a user input directly entered in the script, if the : \$ ` ` " characters are used, they must be preceded by two \.

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 must therefore 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.
6. The presence of special characters in the entities code is NOT recommended. The EURO character, for example, is source of problems on ACU.

## 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.

Temporary sort 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 when they end without error.

These files are in the \$PACDIR/config/"database\_name" directory and are called xxBACKUP.ini (where xx = PC, PD, PJ, FH, FO, FQ, FR, JQ). They are created when the Database is created and contain, for PJBACUP.ini, for example:

```
# Script for the rotation of the journal backup files
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:

- proceeds by 'mv' to avoid copies of the backup files (these copies may take a long time),
- guarantees 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.

---

## The Listener

### Configuration

When started, each listener executes a 'BVPSERVER.ini' command file type to assign any environment file it needs.

This file is created when the listener is created in the \$PACDIR/config/"database code" directory and listener environment variables:

- BVPSOCKET : socket number,
- SRV\_DIR : directory containing the listener trace files,
- SEMLOCK : serialization lock of conflicting updates of the user Database,
- SEMADMIN : serialization lock of conflicting updates of the 'ADMI' administrator Database.

### Start Up

The listener, whose executables (pactp, bvpserver, paclaunch) are in the \$PACDIR/system/bin directory allows to:

- Set the listener(s) in active or inactive mode,
- Supply information concerning the listener(s),
- Purge one or more workstation attached to a listener,
- Purge the listener(s).

To carry out the operations listed above, the listener commands interpreter (pactp) is started up.

There are two possible modes:

- the 'command' mode,
- the 'shell' mode.

For the 'command' mode type, enter:

```
pactp <command>
```

To return to 'shell' mode, enter:

```
pactp -s
```

The 'command' mode is used to insert the listener commands in a commands file.

For example, the com\_paclan file contains the following commands:

```
# display the listener' status
pactp info
# start the BVAP listener
pactp start BVAP
# display information on the BVAP listener in ten seconds
pactp info BVAP
# stop the ADMI listener
pactp shutdown ADMI
# start the 003 station purge command dependant on the BVAP
listener
pactp purge BVAP 003
```

The advantage of the 'shell' mode is that you avoid re-starting the interpreter for each command and so you avoid delays between commands.

The commands available are:

- debug (activation/deactivation of debugger mode)
- exit (exit from 'shell' mode),
- help (help on a command's syntax),
- info (information on the listener(s)),

-purge (purge the workstation),  
-purge\_server (purge the listener),  
-shutdown (stop the listener without confirmation),  
-start (start the listener),  
-stop (stop the listener with confirmation),  
-view (display the listener's status).

A detailed description of the commands is given below in the paragraph 'Description of the commands'.

### Execution conditions

The PACDIR environment variable must be initialized.

The COBPATH environment variable must contain the access path to the online modules: '\$PACDIR/system/gnt'.

(see chapter 'Installation of Server Environment' - 'Installation of System Environment' - 'Modification of the Configuration Files').

## **Description of the Commands**

### Debug command

This command activates or deactivates the 'debug' mode. The listener name must be passed as a parameter, followed by 'on' or 'off' to activate or deactivate the 'debug' mode.

There are two types of result files:

srv[process\_number].txt

to trace the processing of the listener which listens new connections.

dial[process\_number].txt

to trace the processing of each connection to the listener.

So there is a trace for each connection to the listener.

These files are located in the directory pointed by the SRV\_DIR environment variable. This variable is assigned in the \$PACDIR/config/"database code"/BVPSERVER.ini configuration file. Its default value is: \$PACDIR/data/"database code"/tmp/server.

EXAMPLE:

- Start the debug mode on the BVAP listener

```
pactp debug BVAP on      (in command mode)
```

```
VA Pac  : debug BVAP on  (in shell mode)
```

- Stop the debug mode on the BVAP listener

```
pactp debug BVAP off    (in command mode)
```

```
VA Pac  : debug BVAP off (in shell mode)
```

- Different trace levels can be applied:

#### 1. Level 1

Minimum trace to follow the listener processing with the calls to the COBOL communication monitor,

#### 2. Level 2

Detailed trace of the listener processing,

#### 3. Level 4

Trace of messages exchanged between the listener and the client.

The 'debug on' command activates a level 1 trace on the active listener. To use other traces, the listener must be restarted after setting the SRV\_TRACE variable in the 'BVPSERVER.ini' file.

EXAMPLE:

SRV\_TRACE=1 for a level 1 trace

SRV\_TRACE=3 for a level 1 and 2 trace

SRV\_TRACE=5 for a level 1 and 4 trace

The 'debug off' command stops the trace creation for the new listener connections.

#### Exit command

This command is used to exit the shell mode (commands interpreter) previously activated by `pactp -s`.

#### Help command

This command displays help concerning a listener administration command. If no parameter is specified, the list of available commands is displayed. If a command is specified, the help for this command is displayed on the screen.

EXAMPLE: request help on the syntax of the start command

```
start
pactp help start      (in command mode)
VA Pac : help start  (in shell mode)
```

### Info command

This command displays information on the listener(s).

This command followed by a base code (info "database code") gives the following information :

- active (if the listener is active),
- inactive (is the listener is inactive),
- Error (if the listener is stopped abnormally).

### Purge command

This command purges a workstation (i.e. it disconnects a workstation).

If the interpreter (pactp) is in command mode, the syntax for the purge command is as follows:

```
'pactp purge <database code> <no. of the station to be purged>'
```

In shell mode there are two syntaxes for the purge command:

- 'purge <no. of the station to be purged>' if the prompt is different from 'VA Pac :' (the prompt taking the value of listener name, after the use of the view command, for example).
- 'purge <database code> <no. of the station to be purged>' if the prompt is 'VA Pac :'.

### Purge\_server command

This command purges a listener in the case of abend, displayed with the 'Error' status after the 'info' command. The syntax for the purge\_server command is as follows:

```
'pactp purge_server <database code>'
```

In shell mode the syntax for the command is:

'purge\_server <database code>'.  
'

N.B.: This command deletes the listener process(es), as well as the used IPC resources (semaphores, shared memory).

### Shutdown command

This command stops the listener. The database code must be passed as a parameter of the command.

EXAMPLE: stop the BVAP listener

```
pactp shutdown BVAP      (in command mode)
VA Pac : shutdown BVAP  (in shell mode)
```

### Start command

This command starts the listener. The database code must be passed as a parameter of the start command. The initialization file BVPSEVER.ini must be in the \$PACDIR/config/'database code' directory. The listener start-up program, paclaunch, starts the 'bvpserver' process. If problems arise (listener lock), use the following command first:

```
pactp purge_server 'database code'.
```

If this command has no effect, the 'bvpserver' process can always be killed using the 'kill -15' command or 'kill -9' followed by process number (PID).

EXAMPLE: starting the BVAP listener

```
pactp start BVAP      (in command mode)
VA Pac : start BVAP  (in shell mode)
```

### Stop command

This command stops a listener. The database code must be passed as a parameter of the stop command. You have to confirm stopping the server.

EXAMPLE: stop the BVAP listener

```
pactp stop BVAP      (in command mode)
VA Pac : stop BVAP  (in shell mode)
```

### View command

This command displays information concerning a listener: the list of the connected workstations, the IP address of the client workstation, the PID number of the client process launched by the listener, the VA Pac user code, the name of the executed COBOL program and its 'Elapse' execution time in

milliseconds. It also gives information on the status of the semaphore used to synchronize the concurrent accesses to the database.

EXAMPLE: display information about the BVAP listener

```
pactp view BVAP      (in command mode)
VA Pac : view BVAP  (in shell mode)
```

---

## Connection of a 3270 Emulator

You can access an online server in a 'dumb terminal' mode via a 3270 emulator.

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 1146 for an English Database.

These code pages are automatically set in the procedure of installation when the Database is created.



---

## Chapter 2. Administration Database Management

---

### ARCH - Archiving

#### ARCH - Introduction

This procedure saves the Journal file as a sequential file, and re-initializes it both logically and physically.

Archived transactions do not override the transactions that were previously archived, but are added to them.

The archived transactions file may be purged. Purged transactions may then be saved in another file (PQ).

Previously archived transactions can be purged, if requested. (However, non-archived journal transactions cannot be purged.)

#### Execution conditions

On-line access must be closed.

#### Abnormal execution

If an abend occurs before the step that creates the Journal file, the procedure can be restarted as it is once the problem has been solved.

Otherwise, the procedure must be restarted after a modification of the user input in order to specify a re-initialization request without a backup of the Journal file, since it has already been saved.

#### ARCH - Input / Processing / Results

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

This procedure includes specific optional input to:

- Deactivate the previously archived transactions that are considered obsolete.
- Indicate the absence of previously archived transactions in input.
- Indicate the unavailability of the Data file (AR) in input.
- Request only the re-initialization of the transaction file.

The structure of this input is as follows:

Position	Length	Value	Meaning
2	1	'S'	Line code
3	4	nnnn	Session number
7	8	ccyymmdd	OR date up to which the user requests deactivation
15	1	'I'	Absence of previously archived transactions
16	1	'D'	Data file unavailable
17	1	'J'	Re-initialization without backup, the transactions already archived are NOT retrieved in output.

The session number and the date are exclusive. They are ignored if the absence of input transactions is detected (refer to Section Recommendations).

The unavailability of the Data file is to be indicated only when this file has been physically deleted. (See Section Recommendations below.)

A request to re-initialize without archiving is necessary when the Journal file is physically deleted.

### Warning

In this case, the transactions which were already archived are not copied to the output archived transactions file.

If an error occurs on one of the options, a message is printed and the archive is generated using the default options.

### Recommendations

If there is no user input, this procedure can only be executed if the Database is in a consistent state, and if the archived transaction file is correctly formatted.

When the Database needs to be restored after an abend or a system failure, some information in the Specifications Dictionary is sometimes lost, thus preventing the execution of the backup and restoration procedures.

In this case, AND IN THIS CASE ONLY, columns 15 to 17 of the user input are to be used as follows:

- If the Data file is lost or has been flagged as 'inconsistent', a 'D' in column 16 means that the backup procedure will not take the Data file into account.

However, the restoration procedure must be executed afterward, since under these conditions, the backup procedure leaves the Database in an inconsistent state.

- If the Journal file is lost or destroyed, a 'J' must be entered in column 17. As a result, the backup procedure formats an empty Journal file. The restoration procedure may then be executed (not compulsory). In this case, the content of the journal file is lost.
- If the archived transactions file is lost or destroyed, an 'T' must be entered in column 15. As a result, the archiving procedure reformats a new sequential backup file of (archived) transactions and the previous file is lost.

You are strongly advised against indicating these options in operation JCLs. It is recommended to duplicate them in a temporary JCL before the execution.

If one of these columns is accidentally set, and if the archiving procedure is executed while the Database is in a consistent state, the consequences are:

- 'T' in col. 15: Previously archived transactions are lost. All transactions can be recovered by concatenating (-1) and (0) files to obtain (+1) file.
- 'D' in col. 16: The archiving procedure must be re-executed BEFORE any update on the Database. If an update is performed, the Database will have to be restored completely. However the freeze transactions will be lost.
- 'J' in col. 17: The contents of the Journal file are definitely lost. The output Journal file, (+1 version in the case of generation data files), is created empty.

### Printed output

This procedure prints a report which states the number of archived transactions and, if applicable, the number of records that have been 'purged'.

### Results

Once this procedure is executed, a sequential file containing all archived transactions is obtained.

The Journal file which displays on-line transactions is re-initialized.

It is also possible to store on another file all transactions that have been purged.

### Note

This procedure does not increment the session number.

## ARCH - Description of Steps

### Archiving of journal file: PTU300

This step:

- writes obsolete transactions to be purged on to a special file, if the purge is requested in user input.
- positions a flag in the Data file indicating the journal archiving.
- updates the file of archived transactions.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7JP	Save dir. : PJ	Input	Previously archived transactions
PAC7AJ	Journal dir. : AJ	Input	Journal to reinitialize from Administration Database
PAC7MB	User input	Input	User transaction
PAC7BM	Tmp dir. : WBM	Output	User transaction
PAC7AR	Database dir. : AR	Input/ Output	Development Database data
PAC7PJ	Save dir. : PJ-new	Output	Archived update transactions
PAC7PQ	Save dir. : PQ	Output	Deactivated transactions (length=170) : modify file name to save deactivated transactions
PAC7EU	User dir. : ARCHEU300	Report	Output report
PAC7DD	User dir. : ARCHDD300	Report	Batch procedures authorization option

Return code:

- 0: No error detected on the files.
- 4: Error in journal record (Date or session number not numeric).
- 8: No access authorization for batch procedure OR invalid Database (in this case, restart the procedure with 'D' in column 16 of the user input ).
- 12: Input-output error on a file.

## Re-initialization of the journal file: PTU320

This step executes two types of operations:

- Creates a record in the Journal file,
- Repositions the flag of the data file.

Code	Physical name	Type	Label
PAC7BM	Tmp dir. : WBM	Input	User transaction
PAC7AR	Database dir. : AR	Input/ Output	Administration Database data
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AJ	Journal dir. : AJ	Output	Journal file to re-initialize
PAC7EU	User dir. : ARCHEU320	Report	Review of re-initialization

Return codes:

- 0: No error detected
- 8: the Database is invalid

If the archiving and backup procedures are grouped into one job, the PTU320 return code can be tested in order to condition the execution of the backup procedure.

### ARCH - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) ARCH BATCH PROCEDURE
# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# *          - ARCHIVAL OF THE JOURNAL -
# *
# * -----
# *
# * INPUT      : COMMAND FOR DEACTIVATION OF ARCHIVED
# *            TRANSACTION
# * COL 2      : "S"
# * COL 3 TO 6 : SESSION NUMBER
# * COL 7 TO 14 : DATE (CCYYMMDD)
# * COL 15     : " " PRESENCE OF ARCHIVED TRANSACTION FILE
# *           : "I" ABSENCE OF ARCHIVED TRANSACTION FILE
# * COL 16     : " " PRESENCE OF DATA FILE (AR)
# *           : "D" ABSENCE OF DATA FILE (AR)
# * COL 17     : " " ARCHIVAL AND REINITIALIZATION
# *           : "J" REINITIALIZATION WITHOUT ARCHIVAL
# *
# * IN THE ABSENCE OF INPUT (OR ERROR ON A COMMAND PARAM.)
```

```

# * NO DEACTIVATION WILL TAKE PLACE, HOWEVER ARCHIVAL AND
# * REINITIALIZATION WILL BE EXECUTED NORMALLY.
# *
# * TRANSACTIONS WHOSE SESSION (DATE) IS PRIOR OR EQUAL TO
# * THE SESSION (DATE) INDICATED ARE NOT KEPT. THEY ARE
# * RECOVERED IN THE FILE OF DEACTIVATED TRANSACTION.
# *
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "ARCH"
echo "
=====
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
STATUS=`pactp info $1 | grep "Server Status" | cut -d: -f2`
if [ "$STATUS" != " Inactive" -a "$STATUS" != "" ]
then
    BVPMSG 1012 "ARCH"
    BVPMSG 1037 $1
    BVPPER
    exit 12
fi
BVPMKDIR
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7BM=`BVPENV PTU300 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=`BVPENV PTU300 PAC7DD $PACUSERS/ARCHDD300.txt`
export PAC7DD
PAC7EU=`BVPENV PTU300 PAC7EU $PACUSERS/ARCHEU300.txt`
export PAC7EU
PAC7MB=$PACINPUT
export PAC7MB
. $PACDIR/config/$1/PACSAVPJ.ini
PACSAVPJ=`BVPENV PTU300 PAC7PJ $PACSAVPJ`
PAC7JP=$PACSAVPJ
export PAC7JP
PAC7PJ=$PACSAVPJ.NEW
export PAC7PJ
. $PACDIR/config/$1/PACSAVPQ.ini
PAC7PQ=$PACSAVPQ
export PAC7PQ

```

```

BVPMSG 1009 "BVPTU300"
rtspac BVPTU300
RETURN=$?
case $RETURN in
0 | 4)
;;
12)
BVPMSG 1012 "BVPTU300"
BVPMSG 1018
BVPERR
BVPRMTMP
exit $RETURN
;;
8)
BVPMSG 1012 "BVPTU300"
BVPMSG 1014
BVPMSG 1019
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU300"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7EU=~BVPENV PTU320 PAC7EU $PACUSERS/ARCHEU320.txt`
export PAC7EU
PAC7BM=~BVPENV PTU320 PAC7BM $PACTMP/WBM`
export PAC7BM
BVPMSG 1009 "BVPTU320"
rtspac BVPTU320
RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTU320"
BVPMSG 1017
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU320"
BVPERR
BVPRMTMP
exit $RETURN
;;

```

```
esac
# -----
BVPMSG 1010
BVPMSG 1016 "PJBACKUP.ini"
sh $PACDIR/config/$1/PJBACKUP.ini
BVPRMTMP
exit $RETURN
```

---

## PACS - Backup

### PACS - Introduction

The purpose of this procedure is to save the main files of the Administration Database as a sequential file.

The following files are saved:

- the data file (AR),
- the index file (AN),
- the extension data file (AY).

#### Execution conditions

On-line access must be prohibited.

#### Abnormal execution

Refer to subchapter 'Abnormal Endings', chapter 'Overview'.

The main reason for an abend is that on-line environment is still open to transactions.

The procedure can therefore be restarted once the on-line environment is closed.

#### Archival and backup linking on the ADMIN Database

If the backup procedure is preceded by a Journal archiving procedure (ARCH), its execution may be conditioned by the return code of the PTU320 program of the ARCH procedure:

- 0: No error detected
- 8: Invalid Database

#### Printed report

Once the procedure is executed, a report containing the number of records saved in each file and the session number is printed.



## PACS - Input / Processing / Results

Position	Length	Value	Meaning
2	1	'*'	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	Password
29	4	'SAVE'	Function code

## PACS - Description of Steps

Formatting of the sequential image: PTU520

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AR	Admin Database - Base dir. : AR	Input	Administration Database data
PAC7AY	Admin Database - Base dir. : AY	Input	Administration Database extension data
PAC7AN	Admin Database - Base dir. : AN	Input	Administration Database index
PAC7MB	User input	Input	Update transactions
PAC7PC	Admin base - Save dir. : PC.new	Output	Sequential image of the Administration Database
PAC7RP	Tmp dir. : WRP	Output	Sequential image of data (length=153) (should be able to contain all the data)
PAC7NA	Tmp dir. : WNA	Output	Sequential image of indexes (length=59) (should be able to contain all the indexes)
PAC7NB	Tmp dir. : WNB	Output	Image of non-sorted indexes (length=59)
PAC7RY	Tmp dir. : WRY	Output	Sequential image of long data (length=1,019)
PAC7RQ	Tmp dir. : WRQ	Output	Intermediate storage (1 record, length=153)

Code	Physical name	Type	Label
PAC7ZK	Tmp dir. : WZK	Input / Output	Work file (length=1019)
PAC7EV	User dir. : PACSEV520	Report	User transactions list
PAC7EU	User dir. : PACSEU520	Report	Status of network before and after
PAC7EW	User dir. : PACSEW520	Report	Backup report
PAC7DD	User dir. : PACSDD520	Report	Abend output report

Return code:

- 8 : Inconsistency of the Database or no authorization for batch procedure

Processing of return code:

If the return code is greater than 2, the resulting backup is deleted by the next step in the procedure and a restoration must be performed using the last valid backup.

If there is no other backup to restore the Database, the user should first examine the problem with the support team of the product, then the inconsistent Database should be saved by the same procedure with the backup deletion step inactive. The resulting backup contains only data and can only be used after running the reorganization procedure.

## PACS - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PACS BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - BACKUP OF THE DATABASE -
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PACS ($BVPPROC)"
echo "=====
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
```

```

BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
if [ "$MLIBSIM" != "S" ]
then
STATUS=`pactp info $1 | grep "Server Status" | cut -d: -f2`
if [ "$STATUS" != " Inactive" -a "$STATUS" != "" ]
then
BVPMSG 1012 "PACS"
BVPMSG 1037 $1
BVPERR
exit 12
fi
fi
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/$1/SEMLOCK.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7DD=`BVPENV PTU520 PAC7DD $PACUSERS/PACSDD520.txt`
export PAC7DD
PAC7EU=`BVPENV PTU520 PAC7EU $PACUSERS/PACSEU520.txt`
export PAC7EU
PAC7EV=`BVPENV PTU520 PAC7EV $PACUSERS/PACSEV520.txt`
export PAC7EV
PAC7EW=`BVPENV PTU520 PAC7EW $PACUSERS/PACSEW520.txt`
export PAC7EW
case $BVPPROC in
SAVE|MLIB)
. $PACDIR/config/$1/PACSAVPC.ini
;;
UXSR)
. $PACDIR/config/$1/PACUXSRPC.ini
;;
SASN)
. $PACDIR/config/$1/PACSAASNPC.ini
;;
*)
BVPMSG 1012 "PACS"
BVPMSG 1014
BVPERR
BVPRTMP
exit $RETURN
;;
esac
PACSAVPC=`BVPENV PTU520 PAC7PC $PACSAVPC`

```

```

PAC7PC=$PACSAVPC.NEW
export PAC7PC
PACSAVPCI=~BVPENV PTU520 PAC7PD $PACSAVPCI~
PAC7PD=$PACSAVPCI.NEW
export PAC7PD
PACSAVPCY=~BVPENV PTU520 PAC7PY $PACSAVPCY~
PAC7PY=$PACSAVPCY.NEW
export PAC7PY
PAC7NA=~BVPENV PTU520 PAC7NA $PACTMP/WNA~
export PAC7NA
PAC7NB=~BVPENV PTU520 PAC7NB $PACTMP/WNB~
export PAC7NB
PAC7RP=~BVPENV PTU520 PAC7RP $PACTMP/WRP~
export PAC7RP
PAC7RQ=~BVPENV PTU520 PAC7RQ $PACTMP/WRQ~
export PAC7RQ
PAC7RY=~BVPENV PTU520 PAC7RY $PACTMP/WRY~
export PAC7RY
PAC7ZK=~BVPENV PTU520 PAC7ZK $PACTMP/WZK~
export PAC7ZK
BVPMSG 1009 "BVPTU520"
rtspac BVPTU520
RETURN=$?
case $RETURN in
0)
  BVPMSG 1010
  BVPMSG 1016 "PCBACKUP.ini"
  sh $PACDIR/config/$1/PCBACKUP.ini
  BVPRMTMP
  exit $RETURN
;;
8)
  BVPMSG 1012 "BVPTU520"
  BVPMSG 1045
  BVPERR
  BVPRMTMP
  exit $RETURN
;;
4)
  BVPMSG 1010
  rm -f $PAC7PC $PAC7PD $PAC7PY
  BVPRMTMP

  RETURN=0
  exit $RETURN
;;
2)
;;
*)
  BVPMSG 1012 "BVPTU520"
  BVPMSG 1025
  BVPERR
  BVPRMTMP
  exit $RETURN
;;

```

```

esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7NA=~BVPENV PTU530 PAC7NA $PACTMP/WNA`
export PAC7NA
PAC7NB=~BVPENV PTU530 PAC7NB $PACTMP/WNB`
export PAC7NB
case $BVPPROC in
  SAVE|MLIB)
    . $PACDIR/config/$1/PACSAVPC.ini
    ;;
  UXSR)
    . $PACDIR/config/$1/PACUXSRPC.ini
    ;;
  SASN)
    . $PACDIR/config/$1/PACSASNPC.ini
    ;;
esac
PACSAVPC=~BVPENV PTU530 PAC7PC $PACSAVPC`
PAC7PC=$PACSAVPC.NEW
export PAC7PC
PACSAVPCI=~BVPENV PTU530 PAC7PD $PACSAVPCI`
PAC7PD=$PACSAVPCI.NEW
export PAC7PD
PACSAVPCY=~BVPENV PTU530 PAC7PY $PACSAVPCY`
PAC7PY=$PACSAVPCY.NEW
export PAC7PY
PAC7RP=~BVPENV PTU530 PAC7RP $PACTMP/WRP`
export PAC7RP
PAC7RQ=~BVPENV PTU530 PAC7RQ $PACTMP/WRQ`
export PAC7RQ
PAC7RY=~BVPENV PTU530 PAC7RY $PACTMP/WRY`
export PAC7RY
BVPMSG 1009 "BVPTU530"
rtspac BVPTU530
RETURN=?
case $RETURN in
0)
  ;;
*)
  BVPMSG 1012 "BVPTU530"
  BVPMSG 1025
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
esac
# -----
BVPMSG 1010
BVPMSG 1016 "PCBACKUP.ini"
sh $PACDIR/config/$1/PCBACKUP.ini
BVPRMTMP
exit $RETURN

```

---

## REOR - Reorganization

### REOR - Introduction

The Database Reorganization procedure optimizes Database accesses by recognizing each deletion, and sorting the data again according to the most frequent access order.

It uses the Administration Database backup file and rebuilds a sequential image. This resulting image file must then be restored via the REST procedure.

To keep the data updated since the last backup, execute before the Administration Database backup procedure.

The operating principle of this procedure is to rebuild the indexes associated with the data, using the 'image' of this data. It makes the best of the system performance features since it sorts the data in the order of the most frequent access. This makes it possible to achieve a significant reduction of the number of indexes and data items.

This procedure may be used when part of the data was deleted because of a malfunction or system failure, and no other procedure can be used (in particular, deletion of the Index file).

The REOR procedure should be executed only on an exceptional basis, because of the special conditions concerning its use.

#### Execution conditions

The Administration Database may remain open during the reorganization since the procedure operates on sequential images of the Database.

The updates performed after the constitution of the backup used upon the reorganization can be retrieved when the reorganized Database is being restored.

#### Abnormal execution

Refer to subchapter 'Abnormal Endings', chapter 'Overview'.

As specified in the recommendations below, it is advisable to keep all temporary files after each step.

If one of the steps abends, the procedure can be restarted at the step level, but not at the procedure level.

## REOR - Input / Processing / Results

One '\*' line with user code and password.

Optional user input of the procedure, in which you indicate:

- the entities to be purged,
- the users to be purged.

Pos.	Len.	Value	Meaning
2	1	'E'	Physical purge of entities
3			Entity (required)
	1	'Y'	Type
	2		Call type
6	30		Entity code to be purged (this code may be generic)

There must be one line per entity. The result can be viewed in the 'List of purged entities'.

To enter a generic code for the entity, complement it with as many '\*' characters as necessary to reach 30 characters. If this code contains 30 '\*', all the occurrences of the entity will be purged.

Pos.	Len.	Value	Meaning
2	1	'U'	Purge of users (9 users maximum per line)

When the system finds an input error, it generates an error message and the procedure is not executed.

### Estimated file size

The maximum sizes used during this procedure are based on the sizes of the files in the Database before reorganization. The report printed by the preceding procedure provides all the relevant data:

- NI = number of index file records.
- ND = number of data file records MINUS number of gaps.
- NC = number of primary records on the data file.

These symbols are also detailed in the presentation of each of the files for this procedure.

### Printed output

This procedure prints a report which lists the errors encountered during reorganization, and statistics on the contents of the Database.

It also prints reports with the statement 'Internal report'; their use is reserved for the product support team in case of problem.

### Results

The output of this procedure is a reorganized sequential image of the Administration Database (where purges may have been performed). It does not contain gaps. Gaps will be added by the Database restoration procedure.

### Important recommendations

The Reorganization procedure presents a number of characteristics which the user should be aware of:

- The step that rebuilds the Index file uses a large amount of CPU time.
- The spaces allocated to the sorts should also be calculated with care.

## **REOR - Description of Steps**

Input check: PTU2CL

This step checks user input and sets a return code if errors have been detected.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error labels
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7PC	Admin Database - Save dir. : PC	Input	Sequential image of the Administration Database
PAC7MB	User Input	Input	Input work file
PAC7BM	Tmp dir. : WBM	Output	Formatted records
PAC7PU	Tmp dir. : WPU	Output	Entity purge transactions (length=44)
PAC7EE	User dir. : REOREE2CL	Report	Validation report



Code	Physical name	Type	Label
PAC7DD	User dir. : REORDD2CL	Report	Batch procedure authorization option

Return codes:

- 0: OK
- 4: Error on user input
- 8: No authorization for batch procedure

Data retrieval: PTU200

This step selects 'data' type information in the initial sequential image and then formats the key of each record selected for the subsequent sort.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7BM	Tmp dir. : WBM	Input	User transactions
PAC7PC	Admin Database - Save dir. : PC	Input	Administration Database sequential image
PAC7PR	Tmp dir. : WPR	Output	Formatted records (length=176 size = ND)
PAC7NX	Tmp dir. : WNX	Output	Long data
PAC7NY	Tmp dir. : WNY	Output	Bulk data
PAC7AU	Tmp dir. : WAU	Output	PR image (length=153)
PAC7PY	Admin Database - Save dir. : PCY	Output	PY image (length=1,036)
PAC7EE	User dir. : REOREE200	Report	Retrieval statistics output report

ASCII Sort: PTU205

Code	Physical name	Type	Label
PAC7PR	Tmp dir. : WPR	Input	Sorted data records
PAC7RP	Tmp dir. : WRP	Output	ASCII sorted data records

The SORT program requires disk space equivalent to twice the size of the file to be sorted.

Return codes:

- 0 : No error
- 20 : Error on sort : The files sizes are compared. They must be the same if the sort is completed correctly.

#### Purge: PTU210

This step reformats the records.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7PR	Tmp dir. : WRP	Input	Sorted records
PAC7PU	Tmp dir. : WPU	Input	Entity records to be purged
PAC7BM	Tmp dir. : WBM	Input	User transactions
PAC7QS	Tmp dir. : WQS	Output	Purged records (length=176, size=ND)
PAC7UM	Tmp dir. : WUM	Output	Macro-structure call lines (length=176)
PAC7EE	User dir. : REOREE210	Report	Library and session purge report
PAC7EK	User dir. : REOREK210	Report	Entity-purge report
PAC7EB	User dir. : REOREB210	Report	Technical report

Return codes:

- 0: OK
- 8: Capacity overflow

The steps that follow are executed only if the return code for the purge step is zero.

#### Index rebuilding: PTU220

This step rebuilds indexes from the data.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages file
PAC7BM	Tmp dir. : WBM	Input	User transactions

Code	Physical name	Type	Label
PAC7UR	Tmp dir. : WQS	Input	Purged data
PAC7NX	Tmp dir. : WNX	Input	Long data
PAC7UM	Tmp dir. : WUM	Input	Macro-structure call lines
PAC7PA	Tmp dir. : WPA	Output	Work file
PAC7PB	Tmp dir. : WPB	Output	Data (length=153 size=NC)
PAC7PC	Tmp dir. : WPC	Output	First data record (length=153)
PAC7AN	Tmp dir. : WAN	Output	Temporary index file (length=60 size=NI)
PAC7MR	Tmp dir. : WMR	Input/ Output	Macro-structure call lines
PAC7EE	User dir. : REOREE220	Report	Report of index building

#### ASCII Sort: PTU225

Code	Physical name	Type	Label
PAC7AN	Tmp dir.: WAN	Input	Sorted index
PAC7NA	Tmp dir.: WNA	Output	ASCII Sorted index

The SORT program requires disk space equivalent to twice the size of the file to be sorted.

Return codes:

- 0 : No error
- 20 : Error on sort : The files sizes are compared. They must be the same if the sort is completed correctly.

#### Extension data processing: PTU226

Code	Physical name	Type	Label
PAC7NY	Tmp dir. : WNY	Input	Bulk data
PAC7PA	Tmp dir. : WPA	Input	Work file
PAC7PB	Tmp dir. : WPB	Input	Data
PAC7PC	Tmp dir. : WPC	Input	First data record
PAC7QA	Tmp dir. : WQA	Output	Work file
PAC7QB	Tmp dir. : WQB	Output	Data
PAC7QC	Tmp dir. : WQC	Output	First data record (length=153)

Code	Physical name	Type	Label
PAC7QY	Tmp dir. : WQY	Output	Long data (length=1018)

### Merge: PTU240

This step rebuilds the final sequential image using the temporary files produced by the previous step.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Tmp dir. : WNA	Input	Sorted index
PAC7AU	Tmp dir. : WAU	Input	PR image
PAC7BM	Tmp dir. : WBM	Input	User transactions
PAC7PA	Tmp dir. : WQA	Input	Work file
PAC7PB	Tmp dir. : WQB	Input	Data
PAC7PC	Tmp dir. : WQC	Input	First data record
PAC7QY	Tmp dir. : WQY	Input	Extension data
PAC7CP	Admin Database - Save dir. : PC-new	Output	Sequential image of the Administration Database
PAC7IE	User dir. : REORIE240	Report	Building of the logical Database

### Deletion of long data file: IDCAMS

This step executes a DELETE of the work file which contains the long data.

### Deletion of bulk data file: IDCAMS

This step executes a DELETE of the work file which contains the bulk data.

## **REOR - Execution Script**

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) REOR BATCH PROCEDURE
# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# *          - REORGANIZATION OF THE DATABASE -
# *
# * -----
# *
# * THE REOR PROCEDURE MAY BE USED IN TWO CASES:
```

```

# * . WHEN PART OF THE DATA WAS DELETED BECAUSE OF A MAL-
# * FUNCTION OR SYSTEM FAILURE, AND NO OTHER PROCEDURE CAN
# * BE USED (IN PARTICULAR, DELETION OF THE AN INDEX FILE)
# * . WHEN THE DATABASE IS TO BE PURGED OF THE FOLLOWING:
# * - OBSOLETE LIBRARIES AND/OR SESSIONS;
# * - ENTITIES NOT USED IN THE DATABASE;
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "REOR"
echo "====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
# INPUT CONTROL
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7BM=~BVPENV PTU2CL PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=~BVPENV PTU2CL PAC7DD $PACUSERS/REORDD2CL.txt`
export PAC7DD
PAC7EE=~BVPENV PTU2CL PAC7EE $PACUSERS/REOREE2CL.txt`
export PAC7EE
PAC7MB=$PACINPUT
export PAC7MB
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=~BVPENV PTU2CL PAC7PC $PACSAVPC`
export PAC7PC
PAC7PU=~BVPENV PTU2CL PAC7PU $PACTMP/WPU`
export PAC7PU
BVPMSG 1009 "BVPTU2CL"
rtspac BVPTU2CL
RETURN=?
case $RETURN in
0)
;;
4)
BVPMSG 1012 "BVPTU2CL"
BVPMSG 1051
BVPERR
BVPRMTMP
exit $RETURN

```

```

;;
8)
  BVPMSG 1012 "BVPTU2CL"
  BVPMSG 1014
  BVPERR
  BVPRMTMP
  exit $RETURN
;;
*)
  BVPMSG 1012 "BVPTU2CL"
  BVPMSG 1025
  BVPERR
  BVPRMTMP
  exit $RETURN
;;
esac
# -----
# REORGANIZATION
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=`BVPENV PTU200 PAC7PC $PACSAVPC`
export PAC7PC
PAC7PY=`BVPENV PTU200 PAC7PY $PACSAVPCY`
export PAC7PY
PAC7BM=`BVPENV PTU200 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7PR=`BVPENV PTU200 PAC7PR $PACTMP/WPR`
export PAC7PR
PAC7NX=`BVPENV PTU200 PAC7NX $PACTMP/WNX`
export PAC7NX
PAC7NY=`BVPENV PTU200 PAC7NY $PACTMP/WNY`
export PAC7NY
PAC7AU=`BVPENV PTU200 PAC7AU $PACTMP/WAU`
export PAC7AU
PAC7EE=`BVPENV PTU200 PAC7EE $PACUSERS/REOREE200.txt`
export PAC7EE
BVPMSG 1009 "BVPTU200"
rtspac BVPTU200
RETURN=$?
case $RETURN in
0)
  ;;
*)
  BVPMSG 1012 "BVPTU200"
  BVPMSG 1025
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
esac
# -----
PAC7PR=`BVPENV PTU205 PAC7PR $PACTMP/WPR`
export PAC7PR
PAC7RP=`BVPENV PTU205 PAC7RP $PACTMP/WRP`
export PAC7RP

```

```

BVPMSG 1009 "BVPTU205"
rtspac BVPTU205
RETURN=$?
# File size control
if [ "`bvpsize $PAC7PR`" != "`bvpsize $PAC7RP`" ]
then
    RETURN=20
fi
case $RETURN in
0)
    BVPMSG 1074
    rm -f $PAC7PR
    ;;
20)
    BVPMSG 1049
    BVPMSG 1025
    BVPERR
    BVPRMTMP
    exit $RETURN
    ;;
*)
    BVPMSG 1012 "BVPTU205"
    BVPMSG 1025
    BVPERR
    BVPRMTMP
    exit $RETURN
    ;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7EB=~BVPENV PTU210 PAC7EB $PACUSERS/REOREB210.txt`
export PAC7EB
PAC7EE=~BVPENV PTU210 PAC7EE $PACUSERS/REOREE210.txt`
export PAC7EE
PAC7EK=~BVPENV PTU210 PAC7EK $PACUSERS/REOREK210.txt`
export PAC7EK
PAC7BM=~BVPENV PTU210 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7PR=~BVPENV PTU210 PAC7PR $PACTMP/WRP`
export PAC7PR
PAC7PU=~BVPENV PTU210 PAC7PU $PACTMP/WPU`
export PAC7PU
PAC7QS=~BVPENV PTU210 PAC7QS $PACTMP/WQS`
export PAC7QS
PAC7UM=~BVPENV PTU210 PAC7UM $PACTMP/WUM`
export PAC7UM
BVPMSG 1009 "BVPTU210"
rtspac BVPTU210
RETURN=$?
case $RETURN in
0)
    BVPMSG 1074
    rm -f $PAC7RP
    rm -f $PAC7PU
    ;;

```

```

8)
  BVPMSG 1012 "BVPTU210"
  BVPMSG 1050
  BVPERR
  BVPRMTMP
  exit $RETURN
;;
4)
  BVPMSG 1012 "BVPTU210"
  BVPMSG 1051
  BVPERR
  BVPRMTMP
  exit $RETURN
;;
*)
  BVPMSG 1012 "BVPTU210"
  BVPMSG 1025
  BVPERR
  BVPRMTMP
  exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7AN=`BVPENV PTU220 PAC7AN $PACTMP/WAN`
export PAC7AN
PAC7BM=`BVPENV PTU220 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7EE=`BVPENV PTU220 PAC7EE $PACUSERS/REOREE220.txt`
export PAC7EE
PAC7MR=`BVPENV PTU220 PAC7MR $PACTMP/WMR`
export PAC7MR
PAC7NX=`BVPENV PTU220 PAC7NX $PACTMP/WNX`
export PAC7NX
PAC7PA=`BVPENV PTU220 PAC7PA $PACTMP/WPA`
export PAC7PA
PAC7PB=`BVPENV PTU220 PAC7PB $PACTMP/WPB`
export PAC7PB
PAC7PC=`BVPENV PTU220 PAC7PC $PACTMP/WPC`
export PAC7PC
PAC7UM=`BVPENV PTU220 PAC7UM $PACTMP/WUM`
export PAC7UM
PAC7UR=`BVPENV PTU220 PAC7UR $PACTMP/WQS`
export PAC7UR
BVPMSG 1009 "BVPTU220"
rtspac BVPTU220
RETURN=$?
case $RETURN in
0)
  BVPMSG 1074
  rm -f $PAC7MR
  rm -f $PAC7NX*

```



```

rm -f $PAC7UM
rm -f $PAC7QS
;;
*)
BVPMSG 1012 "BVPTU220"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
PAC7AN=~BVPENV PTU225 PAC7AN $PACTMP/WAN`
export PAC7AN
PAC7NA=~BVPENV PTU225 PAC7NA $PACTMP/WNA`
export PAC7NA
BVPMSG 1009 "BVPTU225"
rtspac BVPTU225
RETURN=$?
# File size control
if [ "`bvpsize $PAC7AN`" != "`bvpsize $PAC7NA`" ]
then
RETURN=20
fi
case $RETURN in
0)
BVPMSG 1074
rm -f $PAC7AN
;;
20)
BVPMSG 1049
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU225"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
PAC7PA=~BVPENV PTU226 PAC7PA $PACTMP/WPA`
export PAC7PA
PAC7PB=~BVPENV PTU226 PAC7PB $PACTMP/WPB`
export PAC7PB
PAC7PC=~BVPENV PTU226 PAC7PC $PACTMP/WPC`
export PAC7PC
PAC7QA=~BVPENV PTU226 PAC7QA $PACTMP/WQA`
export PAC7QA
PAC7QB=~BVPENV PTU226 PAC7QB $PACTMP/WQB`
export PAC7QB

```

```

PAC7QC=~BVPENV PTU226 PAC7QC $PACTMP/WQC~
export PAC7QC
PAC7QY=~BVPENV PTU226 PAC7QY $PACTMP/WQY~
export PAC7QY
PAC7NY=~BVPENV PTU226 PAC7NY $PACTMP/WNY~
export PAC7NY
BVPMSG 1009 "BVPTU226"
rtspac BVPTU226
RETURN=$?
case $RETURN in
0)
  BVPMSG 1074
  rm -f $PAC7PA
  rm -f $PAC7PB
  rm -f $PAC7PC
  ;;
*)
  BVPMSG 1012 "BVPTU226"
  BVPMSG 1025
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7AN=~BVPENV PTU240 PAC7AN $PACTMP/WNA~
export PAC7AN
PAC7AU=~BVPENV PTU240 PAC7AU $PACTMP/WAU~
export PAC7AU
PAC7PA=~BVPENV PTU240 PAC7PA $PACTMP/WQA~
export PAC7PA
PAC7PB=~BVPENV PTU240 PAC7PB $PACTMP/WQB~
export PAC7PB
PAC7PC=~BVPENV PTU240 PAC7PC $PACTMP/WQC~
export PAC7PC
PAC7BM=~BVPENV PTU240 PAC7BM $PACTMP/WBM~
export PAC7BM
PAC7QY=~BVPENV PTU240 PAC7QY $PACTMP/WQY~
export PAC7QY

. $PACDIR/config/$1/PACSAVPC.ini
PACSAVPC=~BVPENV PTU240 PAC7CP $PACSAVPC~
PAC7CP=$PACSAVPC.NEW
export PAC7CP
PACSAVPCI=~BVPENV PTU240 PAC7PD $PACSAVPCI~
PAC7PD=$PACSAVPCI.NEW
export PAC7PD
PACSAVPCY=~BVPENV PTU240 PAC7PY $PACSAVPCY~
PAC7PY=$PACSAVPCY.NEW
export PAC7PY
PAC7IE=~BVPENV PTU240 PAC7IE $PACUSERS/REORIE240.txt~
export PAC7IE
BVPMSG 1009 "BVPTU240"
rtspac BVPTU240

```

```

RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU240"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPMSG 1016 "PCBACKUP.ini"
sh $PACDIR/config/$1/PCBACKUP.ini
BVPRMTMP
exit $RETURN

```

---

## REST - Restoration

### REST - Introduction

The purpose of this procedure is to rebuild the Administration Database by using the sequential image resulting from the execution of the backup procedure (PACS, SAVE option).

It is also used to retrieve archived transactions via the resulting sequential image and to modify the number of 'gaps' of the Database.

To keep users and profiles updated since the last backup, execute before the Administration Database backup procedure.

#### Execution conditions

The Administration Database must be closed to on-line use.

The procedure re-initializes the transactions Journal physically and logically. It is therefore required to execute first the ARCH procedure to backup the Journal.

#### Abnormal execution

Refer to subchapter 'Abnormal Endings' in chapter 'Overview'.

Whatever the reason of the abnormal ending, the procedure can be restarted once the problem solved.

## REST - Input / Processing / Results

A '\*' line with user code and password.

The structure of the specific input is described in the chart below.

Position	Length	Value	Meaning
2	1	'Y'	Line code
3	5	nnnnn	Number of gaps as absolute value
8	2	pp	OR number of gaps as % (1)
10	2		Language code (EN or FR)
12	1	'0'	No inhibition of the Journal
		'1'	Journal inhibition (no journalization of updated transactions)
		' '	Retrieval of the last value
14	3	'REC'	If retrieval of archived transactions

**Notes:** Where there is no input, the Database characteristics remain unchanged.

Any field left blank will be filled in with the current options.

If the Journal is inhibited (parameter set to '1'), update transactions are not backed-up in the Journal file. In this case, it is impossible to restore the Database using the recovery of archived transactions ('REC' parameter on user input). It is therefore highly recommended to set this parameter to '0' (which is the default value) so as to avoid restoration problems.

In case of error, invalid parameters are ignored, and the system ensures restoration using the parameter values stored in the sequential image of the Database.

### Printed report

This procedure prints a report listing the requested options, associated errors, the number of records restored in the Database for each file, the number of gaps, and the options stored in the new Database.

### Results

Once the procedure has been executed, the Database is ready to be used in batch or on-line mode.

**Note:** Once this procedure is executed, the current session number is that of the sequential image, or of the most recent transaction if the retrieval of archived transactions has been run.

## REST - Description of Steps

User input recognition: PTU010

Code	Physical name	Type	Label
CARTE	User input	Input	User parameters
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7PC	Save dir. : PC	Input	Sequential image of the Administration Database
PAC7MB	Tmp dir. : WMB	Output	Parameter
PAC7DD	User dir. : RESTDD010	Report	Batch procedure authorization option

Return code:

- 8: No authorization on batch procedures

Validation of journal contents: PTU380

This step is executed if the Journal file exists.

Code	Physical name	Type	Label
PAC7MB	Tmp dir. : WMB	Input	User transactions
PAC7AE	System - Skel dir. : AE	Input	Error messages file
PAC7AJ	Journal dir. : AJ	Input	Journal file
PAC7EU	User dir. : RESTEU380	Report	(only if the Journal was not archived)

Return code:

- 0 : The Journal file was archived

- 8 : The Journal file was not archived (none of the REST steps was executed).

#### Restoration of the Database: PTU400

This step is executed only if the Journal file has been archived.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error labels
PAC7MB	Tmp dir. : WMB	Input	User transactions
PAC7PC	Admin Database - Save dir. : PC	Input	Sequential image of the Administration Database
PAC7AR	Admin Database - Base dir. : AR	Output	Administration Database data
PAC7AY	Admin Database - Base dir. : AY	Output	Administration Database extension data
PAC7AN	Admin Database - Base dir. : AN	Output	Administration Database index
PAC7AJ	Journal dir. : AJ	Output	Administration Database Journal
PAC7PS	Tmp dir. : WPS	Output	Work file (2 records, length=144)
PAC7EU	User dir. : RETEU400	Report	Restoration report
PAC7DD	User dir. : RESTDD400	Report	Batch procedure authorization option

#### Database availability - Transactions retrieval: PTU420

This step is executed if the Journal file has been archived. It updates the first record of the Data file.

Warning: this step is REQUIRED to obtain a consistent Database.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7MB	Tmp dir. : WMB	Input	User transactions
PAC7AR	Admin Database - Base dir. : AR	Input/ Output	Administration Database data
PAC7JO	Save dir. : PJ	Input	Journal to apply
PAC7PS	Tmp dir. : WPS	Input	Work file

Code	Physical name	Type	Label
PAC7OJ	Tmp dir. : WOJ	Output	Update transactions (length=170)
PAC7EU	User dir. : RESTEU420	Report	Retrieval report

Return codes:

- 0: There are transactions to be retrieved
- 4: No transaction to be retrieved  
OR erroneous user input.

In case of abnormal ending, the Database cannot be updated.

#### Update of the Administration Database: PACA15

Code	Physical name	Type	Label
PAC7AR	Admin Database - Base dir. : AR	Output	Administration Database data
PAC7AN	Admin Database - Base dir. : AN	Output	Administration Database index
PAC7AY	Admin Database - Base dir. : AY	Output	Administration Database extension
PAC7AJ	Journal dir. : AJ	Output	Administration Database Journal
PAC7AE	System - Skel. dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin. Database - Base dir. : AR	Input	Administration Database data
PACGGY	Admin. Database - Base dir. : AY	Input	Administration Database Extension
PACGGU	Admin. Database - Base dir. : GU	Input	Administration Database users
PAC7DC	Base dir. : DC	Input	DSMS file of the Development Database
PAC7ME	Tmp dir. : WME	Input	Work file
PAC7MV	Tmp dir. : WOJ	Input	Update transactions
PAC7RB	Tmp dir. : WRB	Output	UPDT erroneous transactions (length=80)
PAC7RY	Tmp dir. : WRY	Output	UPDP erroneous transactions (length=310)

Code	Physical name	Type	Label
PAC7IE	User dir. : RESTIEA15	Report	Update report (length=132)
PAC7IF	User dir. : RESTIFA15	Report	Erroneous transactions list (length=132)

The list of a user's transactions is preceded by a banner specifying the user's code.

Return codes :

- 0: OK, no error
- 2: warning
- 4: error

## REST - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) REST BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - RELOADING RESTORATION OF THE DATABASE -
# *
# * -----
# *
# * INPUT
# * COL 2      : "Y"
# * COL 3-7    : NUMBER OF GAPS IN ABSOLUTE VALUE
# * COL 8-9    : NUMBER OF GAPS IN PERCENTAGE ( / BASE )
# * COL 10-11  : INITIAL LANGUAGE CODE (FR, EN)
# * COL 12     : "1" INHIBITION OF TRANSACTION LOG
# * COL 14-16  : "REC" FOR RECOVERY OF ARCHIVED TRANSACTIONS
# * COL 17-20  : 4 CHARACTERS TO BE DISPLAYED
# *            ON ALL SCREEN OF THE PRODUCT
# * COL 21-24  : "NNNN" MAXIMUM NUMBER OF SEARCH ACCESSES
# *            TO THE DATABASE(LISTS)-(DEFAULT VALUE:300)
# * COL 25     : "U" (DEFAULT VALUE) : IMPLICIT UPDATE
# *            : "N" EXPLICIT UPDATE
# * COL 26-29  : CKECKPOINT FREQUENCY
# * COL 36-47  : PF-KEYS SIGNIFICATIONS
# * COL 79     : BACKUP FILES DISPATCH
# *            : "N" (DEFAULT VALUE) : NO DISPATCH (1 FILE)
# *            : "D" : DISPATCH (3 FILES)
# *
# * IN THE ABSENCE OF INPUT, THE RELOAD DOES NOT MODIFY THE
# * NUMBER OF EXISTING GAPS, AND OTHER DATA IS UNCHANGED.
# *
# * IF THE JOURNAL FILE OF TRANSACTIONS ON DISK (AJ) IS NOT
# * REINITIALIZED, THE RESTORE CHAIN IS NOT EXECUTED.
```



```

# * IT IS THEREFORE NECESSARY TO EXECUTE THE ARCH PROCEDURE
# * FIRST.
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "REST"
echo "
=====
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
STATUS=`pactp info $1 | grep "Server Status" | cut -d: -f2`
if [ "$STATUS" != " Inactive" -a "$STATUS" != "" ]
then
    BVPMSG 1012 "REST"
    BVPMSG 1037 $1
    BVPERR
    exit 12
fi
BVPMKDIR
# -----
CARTE=$PACINPUT
export CARTE
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PTU010 PAC7DD $PACUSERS/RESTDD010.txt`
export PAC7DD
PAC7MB=`BVPENV PTU010 PAC7MB $PACTMP/WMB`
export PAC7MB
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=`BVPENV PTU010 PAC7PC $PACSAVPC`
export PAC7PC
PAC7PD=`BVPENV PTU010 PAC7PD $PACSAVPCI`
export PAC7PD
PAC7PY=`BVPENV PTU010 PAC7PY $PACSAVPCY`
export PAC7PY
BVPMSG 1009 "BVPTU010"
rtspac BVPTU010
RETURN=?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTU010"
BVPMSG 1014
BVPERR
BVPRTMP

```

```

exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU010"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AJ.ini
if [ -r "$PAC7AJ" ]
then
. $PACDIR/config/$1/PAC7AE.ini
PAC7EU=~BVPENV PTU380 PAC7EU $PACUSERS/RESTEU380.txt`
export PAC7EU
PAC7MB=~BVPENV PTU380 PAC7MB $PACTMP/WMB`
export PAC7MB
BVPMSG 1009 "BVPTU380"
rtspac BVPTU380
RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTU380"
BVPMSG 1053
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU380"
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
PAC7DD=~BVPENV PTU400 PAC7DD $PACUSERS/RESTDD400.txt`
export PAC7DD
PAC7EU=~BVPENV PTU400 PAC7EU $PACUSERS/RESTEU400.txt`
export PAC7EU
PAC7MB=~BVPENV PTU400 PAC7MB $PACTMP/WMB`
export PAC7MB
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=~BVPENV PTU400 PAC7PC $PACSAVPC`
export PAC7PC

```

```

PAC7PD=~BVPENV PTU400 PAC7PD $PACSAVPCI`
export PAC7PD
PAC7PY=~BVPENV PTU400 PAC7PY $PACSAVPCY`
export PAC7PY
PAC7PS=~BVPENV PTU400 PAC7PS $PACTMP/WPS`
export PAC7PS
BVPMSG 1009 "BVPTU400"
rtspac BVPTU400
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU400"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7EU=~BVPENV PTU420 PAC7EU $PACUSERS/RESTEU420.txt`
export PAC7EU
. $PACDIR/config/$1/PACSAVPJ.ini
if [ ! -r "$PACSAVPJ" ]
then
BVPMSG 1034 "PJ (PAC7J0)"
BVPERR
BVPRMTMP
RETURN=12
exit $RETURN
fi
PAC7J0=$PACSAVPJ
export PAC7J0
PAC7MB=~BVPENV PTU420 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7OJ=~BVPENV PTU420 PAC7OJ $PACTMP/WOJ`
export PAC7OJ
PAC7PS=~BVPENV PTU420 PAC7PS $PACTMP/WPS`
export PAC7PS
BVPMSG 1009 "BVPTU420"
rtspac BVPTU420
RETURN=$?
case $RETURN in
0)
;;
4)
BVPMSG 1056
BVPMSG 1010
BVPRMTMP
RETURN=0
exit $RETURN
;;
*)

```

```

BVPMSG 1012 "BVPTU420"
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/PACGGY.ini
PAC7IE=`BVPENV PACA15 PAC7IE $PACUSERS/RESTIEA15.txt`
export PAC7IE
PAC7IF=`BVPENV PACA15 PAC7IF $PACUSERS/RESTIFA15.txt`
export PAC7IF
PAC7ME=`BVPENV PACA15 PAC7ME $PACTMP/WME`
export PAC7ME
touch $PAC7ME
PAC7MV=`BVPENV PACA15 PAC7MV $PACTMP/WOJ`
export PAC7MV
PAC7RB=`BVPENV PACA15 PAC7RB $PACTMP/WRB`
export PAC7RB
PAC7RY=`BVPENV PACA15 PAC7RY $PACTMP/WRY`
export PAC7RY
. $PACDIR/config/$1/SEMLOCK.ini
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=$?
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

```

---

## PAGX - Extractions

### PAGX - Introduction

The extraction procedure allows to perform extractions from the Administration Database via a PAF extractor (selection criteria).

The extracted data are formatted as transactions and therefore can be used in input to the UPGP procedure.

#### Execution conditions

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

### PAGX - User Input

One user line.

Position	Length	Value	Meaning
2	1	'*'	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	Password
19	3	'***'	Extraction library code
29	4	'EXTR'	Extractor code
34	1	'1'	Formatting for UPGP (PAF)
50	1	' '	No transfer of password
		'1'	Password transfer

One or two command lines per entity to be extracted.

Position	Length	Value	Meaning
2	1	'W'	Line code
3	1	'1'	Line number
4	2	'EX'	
6	1	'C'	Library selection code:
7	3		Entity

Position	Length	Value	Meaning
		'YAB'	VAP Database
		'YAF'	Command line
		'YAR'	Pac/Transfer
		'YAT'	Parameter
		'YAU'	User
		'YAV'	VAP Profile
		'YD1'	Publishing's Document
		'YEN'	Endevor Type
10	30		Code of the Entity

### Printed output

The procedure produces a sorted list of extracted entities.

## **PAGX - Description of Steps**

### Extraction: PAGX

This step extracts the transactions according to user input.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Admin Database - Base dir. : AN	Input	Administration Database index
PAC7AR	Admin Database - Base dir. : AR	Input	Administration Database data
PAC7AY	Admin Database - Base dir. : AY	Input	Administration Database extension data
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin. Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin. Database - Base dir. : GU	Input	Administration Database user file
PAC7PJ	Save dir. : PJ	Input	Transactions selected in the Journal
PAC7MB	User Input	Input	User input
PAC7BM	Tmp dir. : WBM	Input/Output	User input
PAC7MM	/dev/null		

Code	Physical name	Type	Label
SYSEXT	Tmp dir. : WSY	Input/Output	Work file
PAC7MJ	/dev/null		
PAC7TE	/dev/null		
PAC7RE	/dev/null		
PAC7RM	/dev/null		
PAC7RQ	/dev/null	Output	Work file
PAC7WD	Tmp dir. : WWD	Input/Output	Extracted transactions
PAC7MV	/dev/null		
PAC7MR	/dev/null		
PAC7TD	/dev/null		
PAC7MX	/dev/null		
PAC7GY	User dir. : PAGXGY	Output	Extracted transactions for UPGP
PAC7UE	/dev/null		
PAC7IA	User dir. : PAGXIA	Report	General program-stream printout
PAC7DD	User dir. : PAGXDD	Report	Printing of errors on input transactions
PAC7ED	User dir. : PAGXED	Report	Extractions report
PAC7EE	User dir. : PAGXEE	Report	Extractions report
PAC7EG	User dir. : PAGXEG	Report	Extractions report
PAC7EM	User dir. : PAGXEM	Report	Extractions report
PAC7EP	User dir. : PAGXEP	Report	Extractions report
PAC7EQ	User dir. : PAGXEQ	Report	Extractions report
PAC7ES	/dev/null		
PAC7EU	User dir. : PAGXEU	Report	Extractions report
PAC7EZ	User dir. : PAGXEZ	Report	Extractions report
PAC7MA	/dev/null		

Return codes:

- 0: No error
- 4: Error on user input (detailed in PAC7EE) or on the extraction (detailed in PAC7EZ)
- 8: Error on '\*' line (detailed in PAC7DD)

## PAGX - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PAGX BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - EXTRACTIONS FROM DATABASE -
# * -----
# * THE PAGX PROCEDURE ALLOWS TO PERFORM DATA EXTRACTIONS
# * FROM THE ADMINISTRATION DATABASE VIA PAF EXTRACTOR.
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PAGX"
echo "          ====="
BVPMSG 1047 "$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/PACSAVPJ.ini
PAC7PJ=~BVPENV PAGX PAC7PJ $PACSAVPJ`
export PAC7PJ
PAC7BM=~BVPENV PAGX PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=~BVPENV PAGX PAC7DD $PACUSERS/PAGXDD.txt`
export PAC7DD
PAC7ED=~BVPENV PAGX PAC7ED $PACUSERS/PAGXED.txt`
export PAC7ED
PAC7EE=~BVPENV PAGX PAC7EE $PACUSERS/PAGXEE.txt`
export PAC7EE
PAC7EG=~BVPENV PAGX PAC7EG $PACUSERS/PAGXEG.txt`
export PAC7EG
PAC7EM=~BVPENV PAGX PAC7EM $PACUSERS/PAGXEM.txt`
export PAC7EM
PAC7EP=~BVPENV PAGX PAC7EP $PACUSERS/PAGXEP.txt`
```



```

export PAC7EP
PAC7EQ=~BVPENV PAGX PAC7EQ $PACUSERS/PAGXEQ.txt~
export PAC7EQ
PAC7ES=~BVPENV PAGX PAC7ES /dev/null~
if [ "$PAC7ES" = "/dev/null" ]
then
  PAC7ES=$PACTMP/ES
  touch $PAC7ES
fi
export PAC7ES
PAC7EU=~BVPENV PAGX PAC7EU $PACUSERS/PAGXEU.txt~
export PAC7EU
PAC7EZ=~BVPENV PAGX PAC7EZ $PACUSERS/PAGXEZ.txt~
export PAC7EZ
PAC7GY=~BVPENV PAGX PAC7GY $PACUSERS/PAGXGY~
export PAC7GY
PAC7IA=~BVPENV PAGX PAC7IA $PACUSERS/PAGXIA.txt~
export PAC7IA
PAC7MA=~BVPENV PAGX PAC7MA /dev/null~
if [ "$PAC7MA" = "/dev/null" ]
then
  PAC7MA=$PACTMP/MA
  touch $PAC7MA
fi
export PAC7MA
PAC7MB=$PACINPUT
export PAC7MB
PAC7MM=~BVPENV PAGX PAC7MM /dev/null~
export PAC7MM
PAC7MJ=~BVPENV PAGX PAC7MJ /dev/null~
export PAC7MJ
PAC7MR=~BVPENV PAGX PAC7MR /dev/null~
export PAC7MR
PAC7MV=~BVPENV PAGX PAC7MV /dev/null~
export PAC7MV
PAC7MX=~BVPENV PAGX PAC7MX /dev/null~
export PAC7MX
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=~BVPENV PAGX PAC7PC $PACSAVPC~
export PAC7PC
PAC7RE=~BVPENV PAGX PAC7RE /dev/null~
export PAC7RE
PAC7RM=~BVPENV PAGX PAC7RM /dev/null~
export PAC7RM
PAC7RQ=~BVPENV PAGX PAC7RQ /dev/null~
export PAC7RQ
PAC7TD=~BVPENV PAGX PAC7TD /dev/null~
export PAC7TD
PAC7TE=~BVPENV PAGX PAC7TE /dev/null~
export PAC7TE
PAC7UE=~BVPENV PAGX PAC7UE /dev/null~
export PAC7UE
PAC7WD=~BVPENV PAGX PAC7WD $PACTMP/WWD~
export PAC7WD
SYSEXT=~BVPENV PAGX 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

```

---

## UPGP - PAF Updates

### UPGP - Introduction

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

#### Execution conditions

The Administration Database must be closed to on-line use in order to be updated, except for hardware environments that support concurrent on-line and batch access.

#### Abnormal execution

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

There are two types of abnormal executions:

- Abnormal execution which occurs before the execution of the BVPACA15 program, or during the opening of files in this program. The procedure can be restarted after the problem has been corrected.
- Abnormal execution which occurs during the 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 indicate the solution.

In all cases, the procedure can be restarted only by reloading the Backup file and applying the archived transactions subsequent to this backup (REST procedure).

### UPGP - User Input

The sequential file of input transactions is produced by the PAGX procedure. Its records are images of the PAF tables. Refer to the Pacbase Access Facility Tables documentation for a detailed description of these tables.

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 Pacbase Access Facility Tables documentation).

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

The size of the UPGP input file is 310 characters 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
12	1	Record continuation code: blank character for the first record, any character for the continuation records.
13	1	Not used

Position	Length	Meaning
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 which contains 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	'***'	Library code
40	3	ppp	Product code (in case of a Database under DSMS control)
43	6	nnnnnn	Product number (in case of a Database under DSMS control)

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

The two printed output generated by this procedure are:

- A global report on the update,
- A list of the rejected update transactions.

### Result

Output of the UPGP procedure is a Database ready to be used on-line or in batch mode.

## **UPGP - Description of Steps**

Transactions formatting: PAF900

Code	Physical name	Type	Label
PAC7AR	Admin Database - Base dir. : AR	Input	Administration Database data
PAC7AN	Admin Database - Base dir. : AN	Input	Administration Database index
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGU	Admin Database - 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 (It should be able to contain all input transactions and the elementary deletion transactions which are generated by the 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 Administration Database: PACA15

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

Code	Physical name	Type	Label
PAC7RY	User dir.: ....RYA15	Output	UPDP erroneous transactions (length=310)
PAC7IE	User dir.: ....IEA15	Report	Update report (length=132)
PAC7IF	User dir.: ....IFA15	Report	List of erroneous transactions (length=132)

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

Return codes:

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

## UPGP - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) UPGP BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - BATCH UPDATE FROM PAF TABLES -
# *
# * -----
# *
# * THE UPGP PROCEDURE PERFORMS AN UPDATE OF THE
# * ADMINISTRATION 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
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "UPGP"
echo "          ====="
BVPMSG 1047 "$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/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
BVPRTMP
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/PACGGY.ini
. $PACDIR/config/$1/PAC7DC.ini
. $PACDIR/config/$1/SEMLOCK.ini
PAC7IE=`BVPENV PACA15 PAC7IE $PACUSERS/UPGPIEA15.txt`
export PAC7IE

```



```

PAC7IF=~BVPENV PACA15 PAC7IF $PACUSERS/UPGPIFA15.txt~
export PAC7IF
PAC7ME=~BVPENV PACA15 PAC7ME $PACTMP/WME~
export PAC7ME
PAC7MV=~BVPENV PACA15 PAC7MV $PACTMP/WMV~
export PAC7MV
PAC7RB=~BVPENV PACA15 PAC7RB $PACUSERS/UPGPRBA15.txt~
export PAC7RB
PAC7RY=~BVPENV PACA15 PAC7RY $PACUSERS/UPGPRYA15.txt~
export PAC7RY
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=$?
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 3. Development Databases Management

### PACS - Backup Procedures

#### PACS - Introduction

This procedure is used to perform different types of operations on the Development Database data according to the input code entered on the '\*' line.

#### PACS - Input Common to Managers

Position	Length	Value	Meaning
2	1	'*'	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	Password
22	4	nnnn	Session number (UXSR-reserved) blank = current session
26	1		Session type (UXSR-reserved)
		'T'	If selection of frozen session
		' '	If selection of current session
29	4	cccc	Procedure function code (1)
33	1		Library extraction code (reserved to SASN)
		'A'	Extraction of a lower-level library and of its higher-level library
		'D'	Extraction of a library and of its dependent libraries
34	1		Library extraction option (reserved to SASN)
		'I'	Extraction of inter-library also (only if col 33 = 'D')
49	1		Locks extraction option (UXSR-reserved)
		' '	Locks extraction with user code = user code of '*' line
		'1'	No locks extraction
		'2'	Locks extraction with user code = source user code

Position	Length	Value	Meaning
67	1		(UXSR-reserved, not taken into account if col 26 = 'T')
		'T'	If col 26 = ' ' selection of all the frozen sessions
		' '	IF col 26 = ' ' selection of the current session only

(1) The different values of function codes are:

- MLIB: library management
- SAVE: Development Database backup
- SASN: sub-networks backup

#### Important

This function is part of the 'LCU Partitioned Database Manager' optional utility. Its use is therefore subject to a separate purchase agreement.

- UXSR: sub-networks extraction

## **Database Management**

### **MLIB - Introduction:**

The Database Management procedure has a two-fold purpose:

- Initialize the Database in the form of a sequential file PC (or three files PC, PD, PY, if the Dispatch option is used), which is (are) then used as input to the Restoration (REST) procedure.
- Create or delete libraries in an existing Database.

#### Execution conditions

Unless the current execution is a simulation, the Database must be closed to on-line access and use, and the procedure must be followed by the REST procedure so that the new library structure is taken into account.

#### Abnormal execution

Once the problem has been solved, the procedure can be restarted as it is.

### **MLIB - Input / Processing / Results:**

There are two types of user input lines:

- Heading line (required) before all other input lines used to specify that a new VisualAge Pacbase Database is to be initialized or that an existing Database is to be modified.
- As many (optional) lines as there are Libraries to create, modify or delete.

The structure of the header is the following:

Position	Length	Value	Meaning
2	1	'G'	Line code
3	1	' '	Modification of existing Database
		'T'	Initialization of new Database
4	1	' '	Actual update
		'S'	Simulation

An update simulation is used to obtain the state of the Database as it would be if the requested modifications had actually been carried out.

It enables you to assess the impact of a change in the structure of the Database before its actual execution. For large Databases, actual execution may use considerable machine time.

The structure of the 'Library' lines is as follows:

Position	Length	Value	Meaning
1	1	'C'	Creation
		'M'	Modification
		'A'	Deletion
		'T'	Clear the Library's content
2	1	'*'	Line code
3	3	bbb	Code of the Library to update
6	3	ccc	Code of the upper level Library
9	1	' '	Non initialized Library
		'V'	Virtual Library (only for the creation)

#### Note

Asterisks ("\*") are not authorized in Library codes.

#### Update rules

Updates are executed line by line. No previous transaction sort is executed. The resulting Database must remain consistent during the update.

### Deletion transactions

A Library with dependent Libraries cannot be deleted. To delete an entire sub-network, begin by deleting the Libraries at the lowest hierarchical level and work upward to the highest level.

The upper Library code must not be entered on Library deletion lines. Only the code of the Library to be deleted may be specified.

The deletion of a Library causes the deletion of the entire content of this Library.. Its content is replaced by empty records, or 'gaps' (see the REST restoration procedure).

### Clear Library's content transaction

Apply the same rules as for the deletion transaction.

### Creation transactions

When a Library is created, it can only be linked to an already existing Library or to a Library that was previously created in the update job stream.

Therefore, always create the 'parent' Library before its 'child' Libraries. Both can be created by the same run of the procedure.

Once created, a Library has either a 'virtual' or 'not initialized' status.

- Virtual Libraries are created for future development projects. They are visible to the Administrator only. They cannot receive development specifications. You change their status to Not initialized in the Administrator workbench; on that occasion, their code can be modified.
- The Libraries which are not initialized are visible to all users, but are not ready to receive development specifications. You change their status to Initialized in the Administrator workbench.

### Warning

A Development Database cannot contain more than 595 Libraries.

### Modification transactions

Generally, transactions modify existing links between two Libraries. Usually a new Library is inserted between two existing Libraries.

When a new upper Library is assigned to a Library, the new Library must be empty and linked directly or indirectly to the former upper Library.

Structural errors are automatically detected.

It is not possible to cancel and recreate a Library during the same MLIB procedure.

When an error is detected on a line, a message is generated, and the update is interrupted because the resulting Database would otherwise be inconsistent. The line containing the error must be corrected and the job restarted, as the initial Database will not have been modified.

### Printed reports

In all cases, a report on the initial state of the Database and an update report are printed.

If no errors have been detected, a report on the Database after the update is printed.

### Results

If no error is detected and if the update is 'real' (not simulated), the result is a sequential image of the updated Database (PC), which serves as input to the Database reloading procedure.

The execution report of a Database initialization does not include the Database name since it is later assigned via user input for the Restoration procedure.

### Warning

This procedure does not allow the recovery of disk space when Libraries are deleted. Records are physically present in the Database as 'gaps'. The Reorganization (REOR) procedure deletes these gaps so that disk space can be recovered.

### Note

This procedure increments the session number.

## **Database Backup**

### **SAVE - Introduction:**

The Database Backup procedure (SAVE) saves the Database main files as sequential files: 'PC', 'PD' and 'PY' (logical names).

The backup is performed on the following files:

- Data file (AR),
- Index file (AN),
- Extension data file (AY).

An option allows the backup of data files, indexes and extension data in three sequential files: ('AR' saved as 'PC', 'AN' saved as 'PD' and 'AY' as 'PY'). Otherwise, all three files are saved as one 'PC' file.

This option (Dispatch or No dispatch) is implemented in the Database restoration procedure. For further details, see the REST procedure user input description.

#### Execution conditions

On-line access must be closed.

#### Abnormal execution

Refer to chapter 'Overview', subchapter 'Abnormal Ending'.

The main cause of an abend is that the Database remained open to on-line use while the procedure was being executed.

The procedure can be restarted as it is once the problem has been solved.

#### Execution of archiving and save procedures

If the save procedure is preceded by a Journal archiving (ARCH procedure), its execution may be conditioned by the return code of the PTU320 program of the ARCH procedure.

- 0: No error detected
- 8: Invalid Database

#### Simplified backup

Files may also be backed up via standard system utilities. In this case, run the SASY procedure to check the consistency of data and indexes (see Subchapter 'System Backup Complement').

#### Printed reports



The procedure prints:

- a report containing the number of records saved in each file and the session number.

### **SAVE - Input / Processing / Results:**

#### Output

Depending on the 'Dispatch' option taken during restoration, the output of the backup procedure is the following:

- Either a single sequential file ('PC'), of variable length, containing the mirror of the three saved files,
- Or three sequential files ('PC', 'PD' and 'PY') of variable length.

If the Database is no longer consistent after an abend during the last update, the backup procedure will not be executed.

If the Database is inconsistent, the procedure sends back a return code.

#### Note

This procedure increments the current session number.

### **Sub-Network Backup**

#### **SASN - Introduction:**

The Sub-Network Backup procedure (SASN) extracts one or more sub-networks from a Database. The result is a consistent set of libraries which will make up a new Database (formatted as a backup file to be used as input to the Restoration procedure).

Each extracted sub-network is identified by its lowest-level library; the utility automatically extracts all higher-level libraries pertaining to the sub-network.

#### Note

The MLIB procedure can produce a result similar to that produced by SASN. However, it keeps data 'gaps' in the backup and, unlike the SASN procedure, does not allow physical space to be gained.

#### Execution conditions

The Database must be closed to on-line use.

#### Abnormal execution

If an abend occurs, the procedure can be restarted as it is once the problem has been solved.

### SASN - User Input:

One line per library to be extracted.

Position	Length	Value	Meaning
1	2	' '	
3	3	bbb	Code of lowest-level library of sub-network to be extracted. (All the upper-libraries of 'bbb' will be automatically extracted.)

### Partial Sub-Network Extraction

#### UXSR - Introduction:

The Partial Sub-Network Extraction procedure (UXSR) creates a VisualAge Pacbase sub-network from an existing Database, by:

- Creating Libraries (MLIB equivalent)
- Merging Libraries
- Renaming Libraries

It is also possible to select:

- A frozen session (nT):  
This frozen session will become the current session in the new Database.  
No other frozen session will be selected.  
The image of this Database will be identical to the view which existed in the nT frozen session, but this time it will be in n+1 current session.
- The current session or all sessions (current included):  
Via an option, you can select all the sessions ('T' in position 67 of the \* line), or only the current session (' ' in position 67 of the \* line).

Examples:

- Creation of Libraries:

C\*CEN\_\_AAA (1)

C\*APPCENBBB (2)

(1) Creation of the CEN Library. AAA must not exist in the source Database.

(2) Creation of the APP Library in the CEN Library. BBB must not exist in the source Database.

- Merging of Libraries in the same Library:  
C\*CEN\_\_CEN (1)  
C\*APPCENAPP (2)  
C\*APPCENBQQ (2)  
(1) Creation of the CEN Library with the contents of CEN.  
(2) Creation of the APP Library under the CEN Library with the contents of APP and BQQ.  
The definition of the APP Library in the new Database will be identical to that of APP in the source Database since APP comes first, before BQQ.
- Renaming of Library:  
C\*CEN\_\_AAA (1)  
(1) Creation of the CEN Library with the contents of AAA.

### Caution

No consistency checks are carried out; make sure you have entered valid user input lines.

It is not possible to copy an existing Library network and create new Libraries whose contents are identical to that of Libraries in the source network.

### Execution conditions

On-line access must be closed.

This procedure processes data only. It must therefore be followed by the REOR, then REST procedures, in order for the new Database to be taken into account.

### **UXSR - User Input:**

There are two types of specific user input:

- Heading line (required) at the top of the input file that specifies if a simulation of the Database is desired or not.
- As many lines (optional) as there are libraries to be created, modified or cancelled.

The structure of the header is the following:

Position	Length	Value	Meaning
2	1	'G'	Line code
4	1	' '	Actual update

Position	Length	Value	Meaning
		'S'	Simulation

The simulation allows to obtain the state of the network after modifications, without actually carrying out these modifications. You can then assess the impact of a modification in the network structure before carrying it out (it might prove to be costly in terms of machine time if the Database is very large).

You must enter as many (optional) lines as Libraries to be extracted for update.

Position	Length	Value	Meaning
1	1	'C'	Creation
2	1	'*'	Line code
3	3	bbb	Code of Library to be created
6	3	ccc	Code of higher Library if any
9	3	ddd	Code of source Library required even when creating a new Library ; in this case enter any code which does not exist in the source Database.

### Note

Do not use the character '\*' in Library codes (incompatibility with the WorkStation).

## **PACS - Description of Steps**

Formatting sequential images: PTU520

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

Code	Physical name	Type	Label
PAC7AY	Database dir. : AY	Input	Development Database extension data
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7MB	User input	Input	Update transactions
PAC7PC	Save dir. : PC.new	Output	Database sequential image (length=1,023)
PAC7PD	Save dir. : PCI.new	Output	If Dispatch option of backup: sequential image 2 of the Database (length=1,023)
PAC7PY	Save dir. : PCY.new	Output	If Dispatch option of backup: sequential image 3 of the Database (length=1,023)
PAC7RP	Tmp dir. : WRP	Output	Sequential image of data (length=153) (should be able to contain all data)
PAC7NA	Tmp dir. : WNA	Output	Sequential image of index (length=59) (should be able to contain all data)
PAC7NB	Tmp dir. : WNB	Output	Image of unsorted index (length=59)
PAC7RY	Tmp dir. : WRY	Output	Sequential image of long data (length=1,019)
PAC7RQ	Tmp dir. : WRQ	Output	Temporary storage (1 record, length=153)
PAC7ZK	Tmp dir. : WZK	Input/Output	Work file (length=1019)
PAC7EV	User dir. : PACSEV520	Report	User transactions list
PAC7EU	User dir. : PACSEU520	Report	State of library before and after
PAC7EW	User dir. : PACSEW520	Report	Backup report
PAC7DD	User dir. : PACSDD520	Report	Errors report

Return codes:

- 2: MLIB or SASN and no error. Execution of PTU530.
- 4: MLIB and Database simulation
- 8: Inconsistency of the Database or no authorization on batch procedure

## Formatting sequential images: PTU530

Code	Physical name	Type	Label
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7RP	Tmp dir. : WRP	Input	Data sequential image
PAC7NA	Tmp dir. : WNA	Input	Index sequential image
PAC7NB	Tmp dir. : WNB	Input	unsorted index image
PAC7RY	Tmp dir. : WRY	Input	extension data sequential image
PAC7RQ	Tmp dir. : WRQ	Input	Intermediary storage
PAC7PC	Save dir. : PC-new	Output	Development Database sequential image
PAC7PD	Save dir. : PCI-new	Output	If backup Dispatch option: sequential image 2 of the network
PAC7PY	Save dir. : PCY-new	Output	If backup Dispatch option: sequential image 3 of the network

Response to return code:

If the program sends a return code greater than '2', the backup is deleted by the next step in the procedure and a restoration must be performed using the last valid backup.

If there is no other backup, the user should first contact the product support to analyze the problem, then, the inconsistent Database should be saved by the same procedure with the backup deletion step inactive. The resulting backup contains only data, and can only be used after running the REOR procedure.

### PACS - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PACS BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *
# * -----
# *           - BACKUP OF THE DATABASE -
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PACS ($BVPPROC)"
echo "====="
```

```

BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
if [ "$MLIBSIM" != "S" ]
then
    STATUS=`pactp info $1 | grep "Server Status" | cut -d: -f2`
    if [ "$STATUS" != " Inactive" -a "$STATUS" != "" ]
    then
        BVPMSG 1012 "PACS"
        BVPMSG 1037 $1
        BVPERR
        exit 12
    fi
fi
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/$1/SEMLOCK.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7DD=`BVPENV PTU520 PAC7DD $PACUSERS/PACSDD520.txt`
export PAC7DD
PAC7EU=`BVPENV PTU520 PAC7EU $PACUSERS/PACSEU520.txt`
export PAC7EU
PAC7EV=`BVPENV PTU520 PAC7EV $PACUSERS/PACSEV520.txt`
export PAC7EV
PAC7EW=`BVPENV PTU520 PAC7EW $PACUSERS/PACSEW520.txt`
export PAC7EW
case $BVPPROC in
    SAVE|MLIB)
        . $PACDIR/config/$1/PACSAVPC.ini
        ;;
    UXSR)
        . $PACDIR/config/$1/PACUXSRPC.ini
        ;;
    SASN)
        . $PACDIR/config/$1/PACSASNPC.ini
        ;;
    *)
        BVPMSG 1012 "PACS"
        BVPMSG 1014
        BVPERR
        BVPRMTMP
        exit $RETURN

```

```

;;
esac
PACSAVPC=~BVPENV PTU520 PAC7PC $PACSAVPC`
PAC7PC=$PACSAVPC.NEW
export PAC7PC
PACSAVPCI=~BVPENV PTU520 PAC7PD $PACSAVPCI`
PAC7PD=$PACSAVPCI.NEW
export PAC7PD
PACSAVPCY=~BVPENV PTU520 PAC7PY $PACSAVPCY`
PAC7PY=$PACSAVPCY.NEW
export PAC7PY
PAC7NA=~BVPENV PTU520 PAC7NA $PACTMP/WNA`
export PAC7NA
PAC7NB=~BVPENV PTU520 PAC7NB $PACTMP/WNB`
export PAC7NB
PAC7RP=~BVPENV PTU520 PAC7RP $PACTMP/WRP`
export PAC7RP
PAC7RQ=~BVPENV PTU520 PAC7RQ $PACTMP/WRQ`
export PAC7RQ
PAC7RY=~BVPENV PTU520 PAC7RY $PACTMP/WRY`
export PAC7RY
PAC7ZK=~BVPENV PTU520 PAC7ZK $PACTMP/WZK`
export PAC7ZK
BVPMSG 1009 "BVPTU520"
rtspac BVPTU520
RETURN=$?
case $RETURN in
0)
    BVPMSG 1010
    BVPMSG 1016 "PCBACKUP.ini"
    sh $PACDIR/config/$1/PCBACKUP.ini
    BVPRMTMP
    exit $RETURN
;;
8)
    BVPMSG 1012 "BVPTU520"
    BVPMSG 1045
    BVPERR
    BVPRMTMP
    exit $RETURN
;;
4)
    BVPMSG 1010
    rm -f $PAC7PC $PAC7PD $PAC7PY
    BVPRMTMP
    RETURN=0
    exit $RETURN
;;
2)
;;
*)
    BVPMSG 1012 "BVPTU520"
    BVPMSG 1025
    BVPERR
    BVPRMTMP

```



```

exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7NA=~BVPENV PTU530 PAC7NA $PACTMP/WNA`
export PAC7NA
PAC7NB=~BVPENV PTU530 PAC7NB $PACTMP/WNB`
export PAC7NB
case $BVPPROC in
SAVE|MLIB)
. $PACDIR/config/$1/PACSAVPC.ini
;;
UXSR)
. $PACDIR/config/$1/PACUXSRPC.ini
;;
SASN)
. $PACDIR/config/$1/PACSASNPC.ini
;;
esac
PACSAVPC=~BVPENV PTU530 PAC7PC $PACSAVPC`
PAC7PC=$PACSAVPC.NEW
export PAC7PC
PACSAVPCI=~BVPENV PTU530 PAC7PD $PACSAVPCI`
PAC7PD=$PACSAVPCI.NEW
export PAC7PD
PACSAVPCY=~BVPENV PTU530 PAC7PY $PACSAVPCY`
PAC7PY=$PACSAVPCY.NEW
export PAC7PY
PAC7RP=~BVPENV PTU530 PAC7RP $PACTMP/WRP`
export PAC7RP
PAC7RQ=~BVPENV PTU530 PAC7RQ $PACTMP/WRQ`
export PAC7RQ
PAC7RY=~BVPENV PTU530 PAC7RY $PACTMP/WRY`
export PAC7RY
BVPMSG 1009 "BVPTU530"
rtspac BVPTU530
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU530"
BVPMSG 1025
BVPERR
BVPRTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010

```

```

BVPMSG 1016 "PCBACKUP.ini"
sh $PACDIR/config/$1/PCBACKUP.ini
BVPRMTMP
exit $RETURN

```

## UPDT - Freeze

### UPDT - Introduction

The Database Update procedure (UPDT) freezes the Database and updates the Database in batch mode.

The principle of sessions makes it possible to manage various versions of the same application. The administrator then freezes the Database, creating a snapshot of the current session.

The procedure allows access to all libraries which make up the Database, according to the different user authorizations.

The update can be also executed in on-line mode.

For further information about UPDT, refer to 'the Developer's Procedures' manual.

### UPDT - Input

A '\*' line with the user code and password.

Position	Length	Value	Meaning
2	6	'X1HIST'	Line code for a session freeze
8	50		Session Name
58	4		Session number
65	1		Session status
		' '	Frozen and read-write session
		'N'	Frozen and read-only session
		'D'	Deleted session
66	15		Session Short Name: optional, set to the session number by default. It must be unique, whether it is specified or not.

### UPDT - Description of Steps

Database consistency check: PTUBAS

Code		Type	Label
PAC7AR	Base dir.: AR	Input	Development Database data

Code		Type	Label
PAC7AE	System - Skel dir.: AE	Input	Error messages
PAC7DS		Report	Validity report

.Return code:

This utility sends a return code 4 and causes an ABEND if the Database is inconsistent.

#### Transactions formatting: PACA05

Code	Physical name	Type	Label
PAC7AR	Database dir.: AR	Input	Development Database Data file
PAC7AN	Database dir.: AN	Input	Development Database Index file
PAC7AY	Database dir.: AY	Input	Development Database extension data
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. Database - Base dir.: AN	Input	Administration Database Index file
PACGGR	Admin. Database - Base dir.: AR	Input	Administration Database Data file
PACGGU	Admin. Database - 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	Database dir.: AR	Output	Development Database Data file
PAC7AN	Database dir.: AN	Output	Development Database index

Code	Physical name	Type	Label
PAC7AY	Database dir.: AY	Output	Development Database extension
PAC7AJ	Journal dir.: AJ	Output	Development Database journal
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. Database - Base dir.: AN	Input	Administration Database Index file
PACGGR	Admin. Database - Base dir.: AR	Input	Administration Database Data file
PACGGY	Admin. Database - Base dir.: AY	Input	Administration Database Extension
PACGGU	Admin. Database - 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	User dir. : ....IEA15	Report	Update report (length=132)
PAC7IF	User dir. : ....IFA15	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"  DEFAULT VALUE WITH EXTRACTORS
# * - 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/PAC7AR.ini
PAC7DS=`BVPENV PTUBAS PAC7DS $PACUSERS/UPDTDSBAS.txt`
export PAC7DS
BVPMSG 1009 "BVPTUBAS"
rtspac BVPTUBAS
RETURN=?
case $RETURN in
0)
;;
4)
BVPMSG 1012 "BVPTUBAS"
BVPMSG 1042
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTUBAS"

```

```

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/$1/PACGGU.ini
PAC7MB=$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/PACGGY.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

```

---

## SASY - Database System Backup Complement

### SASY - Introduction

This Database Backup procedure saves the Database using any utility of the Operating System, while at the same time creating a checkpoint, through the increment of the session number.

The following files are to saved:

- Data file (AR),
- Index file (AN).

#### Execution conditions

The Data (AR) and Index (AN) files must have been saved.

The transaction Journal file (AJ) must have been archived via the ARCH procedure.

The Database must be closed to on-line use in order to maintain its consistency during the backup.

### Abnormal execution

The main cause of an abend is that the Database remained open to on-line use while the procedure was being executed.

The procedure can be restarted as it is once the problem has been solved.

### User input

No user input is necessary when requesting the execution of the SASY procedure.

### Result

This procedure increments the current session number.

If the Database is in an inconsistent state due to an abend in the last update, the SASY procedure is not executed and the backup executed by the on-site Operating System utility is not valid.

## **SASY - User Input**

A '\*' line with the user code and password.

## **SASY - Description of Steps**

Session number increment: PTU502

Code	Physical name	Type	Label
PAC7AR	Database dir. : AR	Input/ Output	Development Database data
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7MB	User input	Input	User transactions



Code	Physical name	Type	Label
PAC7GZ	User dir. : SASYGZ502	Report	Report
PAC7DD	User dir. : SASYDD502	Report	Batch procedure authorization option
PAC7DS	User dir. : SASYDS502	Report	Database validity report

## SASY - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) SASY BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - COMPLEMENT OF "SYSTEM" BACKUP OF THE DATABASE-
# *
# * -----
# *
# * THE DATABASE SYSTEM BACKUP COMPLEMENT PROCEDURE
# * (SASY) ALLOWS YOU TO SAVE THE DATABASE USING ANY
# * UTILITY OF THE OPERATING SYSTEM, WHILE AT THE
# * SAME TIME CREATING A CHECKPOINT, THROUGH THE
# * INCREMENTATION OF THE SESSION NUMBER.
# * THE FOLLOWING FILES ARE TO BE BACKED UP:
# *      . DATA FILE (AR),
# *      . INDEX FILE (AN).
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "SASY"
echo "====="
BVPMSG 1047 "$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/PACGGY.ini
PAC7DD=~BVPENV PTU502 PAC7DD $PACUSERS/SASYDD502.txt`
export PAC7DD
PAC7DS=~BVPENV PTU502 PAC7DS $PACUSERS/SASYDS502.txt`
export PAC7DS
PAC7GZ=~BVPENV PTU502 PAC7GZ $PACUSERS/SASYGZ502.txt`
export PAC7GZ
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPTU502"
rtspac BVPTU502
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU502"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

---

## REST - Database Restoration

### REST - Introduction

The Database Restoration procedure (REST) re-creates a Database that can be managed on-line, using the sequential image produced by the Backup, the Database Management (PACS), the Reorganization (REOR).

It also allows to retrieve archived transactions after this sequential image has been produced.

#### Execution conditions

The Database must be closed to on-line processing.

The REST procedure physically and logically reinitializes the Journal file, which must have been saved previously by the ARCH procedure.

#### Abnormal execution

Refer to chapter 'Overview', subchapter 'Abnormal Ending'.

If an abend occurs, the procedure can be restarted as it is once the problem has been solved.

## REST - Input / Processing / Results

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

The structure of the specific input is described in the chart below.

Position	Length	Value	Meaning
2	1	'Y'	Line code
3	5	nnnnn	Number of gaps
8	2	pp	Number of gaps as a percentage
10	2		Language code (EN or FR)
12	1	'0'	No inhibition of journal
		'1'	Inhibition of journal (no
			journalization of update transactions)
		' '	Retrieval of previous value
13	1	'0'	No inhibition of job follow-up
		'1'	Inhibition of job follow-up
		' '	Retrieval of previous value
14	3	'REC'	If archived transactions recovered
17	4	XXXX	4-character Database code chosen by the Database Manager (displayed in the top-right corner of VA Pac screens)
21	4	nnnn	Maximum number of accesses for on-line searches in the Database (default value: 300)
25	1	'U'	Implicit update (default option)
		'N'	Explicit update
36	12		PFkeys assigned functions (2).
79	1		Dispatch option of Backup:
		'D'	Dispatch: sequential backup of the Database in three separate files.
		'N'	No Dispatch: standard backup of the Database in one PC file.
		' '	Retrieval of previous value

(2): PFKeys assignment:

12-position table, with each position referring to a standard function.

To modify the PFkey assigned to a function, the value of the new PFkey coded in base 36 is entered in the corresponding position in the table.

For example, to assign function 1 to PFKey 17, enter code 'H' in position 1 of the table.

No validation is executed by the system. The PFkey assignment may be viewed on the corresponding sub-menu.

### Notes

The Database characteristics remain unchanged if there is no input.

Any field left blank will take on the current options.

The limit of on-line accesses to the Journal depends on the number specified as input to the restoration procedure.

If you do not want the update transactions of the Database to be saved in the Journal file, you can turn the 'journalization' off by setting this parameter to '1'.

In this case, it is not possible to restore the Database using the retrieval of archived transactions ('REC' entered on the input parameter line). It is therefore highly recommended to set this parameter to 0 (which is the default option), in order to avoid restoration problems.

In case of error, invalid parameters are ignored, and the system ensures restoration using the parameter values stored in the sequential image of the Database.

### Simplified restoration

If the backup was performed via a system utility followed by the SASY procedure, restoration via a utility must be followed by the RESY procedure, which ensures the consistency between files.

### Printed report

This procedure prints a report which lists the requested options, associated errors, the number of records restored in the Database for each file and the options stored in the new Database.

### Results

Once the procedure has been executed, the Database is ready to be used in batch or on-line mode.

Note

Once this procedure is executed, the current session number is the same as the session number of the sequential image, or of the most recent transaction, if you have requested the retrieval of the archived transactions.

**REST - Description of Steps**

User input recognition: PTU010

Code	Physical name	Type	Label
CARTE	User input	Input	User parameters
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7PC	Save dir. : PC	Input	Sequential image of the Development Database
PAC7PD	Save dir. : PCI	Input	If Dispatch option of the backup: sequential image 2 of the Database
PAC7PY	Save dir. : PCY	Input	If Dispatch option of the backup: sequential image 3 of the Database
PAC7MB	Tmp dir. : WMB	Output	Parameter
PAC7DD	User dir. : RESTDD010	Report	Batch procedures authorization option

Return code:

- 8: no authorization on batch procedure

Validation of journal contents: PTU380

This step is executed only if the Journal file exists.

Code	Physical name	Type	Label
PAC7MB	Tmp dir. : WMB	Input	User transactions

Code	Physical name	Type	Label
PAC7AE	System - Skel. dir. : AE	Input	Error messages file
PAC7AJ	Journal dir. : AJ	Input	Journal file
PAC7EU	User dir. : ....EU380	Report	(only if the journal was not archived)

Return codes:

- 0: The Journal file was archived.
- 8: The Journal file was not archived (no REST step is executed).

#### Database restoration: PTU400

This step is executed only if the Journal file has been archived.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7MB	Tmp dir. : WMB	Input	User transaction
PAC7PC	Save dir. : PC	Input	Sequential image of the Development Database
PAC7PD	Save dir. : PCI	Input	If backup option Dispatch: sequential image 2 of the Database
PAC7PY	Save dir. : PCY	Input	If Dispatch option in save procedure: sequential image 3 of the Database
PAC7AR	Database dir. : AR	Output	Development Database data
PAC7AN	Database dir. : AN	Output	Development Database index
PAC7AY	Database dir. : AY	Output	Development Database extension data
PAC7AJ	Journal dir. : AJ	Output	Development Database Journal
PAC7PS	Tmp dir. : WPS	Output	Work file (2 records, length=144)
PAC7EU	User dir. : RESTEU400	Report	Backup report
PAC7DD	User dir. : RESTDD400	Report	Batch procedures authorization option

#### Database availability - Transactions retrieval: PTU420

This step is executed if the Journal file has been archived. It updates the first record of the Data file.

## Warning

This step is REQUIRED to obtain a consistent Database.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7MB	Tmp dir. : WMB	Input	User transactions
PAC7AR	Database dir. : AR	Input/ Output	Development Database data
PAC7JO	Save dir. : PJ	Input	Journal to apply
PAC7PS	Tmp dir. : WPS	Input	Work file
PAC7OJ	Tmp dir. : WOJ	Output	Update transactions (length=170)
PAC7EU	User dir. : ....EU420	Report	Retrieval report

Return codes:

- 0: Transactions to be retrieved
- 4: No transactions to be retrieved or error on user input.

In case of abnormal end, the update cannot be performed.

## Update of the Administration Database: PACA15

Code	Physical name	Type	Label
PAC7AR	Database dir. : AR	Output	Development Database data
PAC7AN	Database dir. : AN	Output	Development Database index
PAC7AY	Database dir. : AY	Output	Development Database extension
PAC7AJ	Journal dir. : AJ	Output	Development Database Journal
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. Database - Base dir.: AN	Input	Administration Database index
PACGGR	Admin. Database - Base dir.: AR	Input	Administration Database data
PACGGY	Admin. Database - Base dir.: AY	Input	Administration Database extension
PACGGU	Admin. Database - Base dir.: GU Base dir.: DC	Input	Administration Database users
PAC7ME	Tmp dir. : WME	Input	Work file

Code	Physical name	Type	Label
PAC7MV	Tmp dir.: WOJ	Input	Update transactions
PAC7RB	Tmp dir. : WRB	Output	UPDT erroneous transactions (length=80)
PAC7RY	Tmp dir. : WRY	Output	UPDP erroneous transactions (length=310)
PAC7IE	User dir. : ....IEA15	Report	Update report (length=132)
PAC7IF	User dir. : ....IFA15	Report	List of erroneous transactions (length=132)

The list of transactions belonging to a user is preceded by a banner specifying the user code.

Return codes:

- 0: OK, no error
- 4: Error

## REST - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) REST BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - RELOADING RESTORATION OF THE DATABASE -
# *
# * -----
# *
# * INPUT
# * COL 2      : "Y"
# * COL 3-7    : NUMBER OF GAPS IN ABSOLUTE VALUE
# * COL 8-9    : NUMBER OF GAPS IN PERCENTAGE ( / BASE )
# * COL 10-11  : INITIAL LANGUAGE CODE (FR, EN)
# * COL 12     : "1" INHIBITION OF TRANSACTION LOG
# * COL 14-16  : "REC" FOR RECOVERY OF ARCHIVED TRANSACTIONS
# * COL 17-20  : 4 CHARACTERS TO BE DISPLAYED
# *           ON ALL SCREEN OF THE PRODUCT
# * COL 21-24  : "NNNN" MAXIMUM NUMBER OF SEARCH ACCESSES
# *           TO THE DATABASE(LISTS)-(DEFAULT VALUE:300)
# * COL 25     : "U" (DEFAULT VALUE) : IMPLICIT UPDATE
# *           : "N" EXPLICIT UPDATE
# * COL 26-29  : CKECKPOINT FREQUENCY
# * COL 36-47  : PF-KEYS SIGNIFICATIONS
# * COL 79     : BACKUP FILES DISPATCH
# *           : "N" (DEFAULT VALUE) : NO DISPATCH (1 FILE)
# *           : "D" : DISPATCH (3 FILES)
# *
# * IN THE ABSENCE OF INPUT, THE RELOAD DOES NOT MODIFY THE
```



```

# * NUMBER OF EXISTING GAPS, AND OTHER DATA IS UNCHANGED.
# *
# * IF THE JOURNAL FILE OF TRANSACTIONS ON DISK (AJ) IS NOT
# * REINITIALIZED, THE RESTORE CHAIN IS NOT EXECUTED.
# * IT IS THEREFORE NECESSARY TO EXECUTE THE ARCH PROCEDURE
# * FIRST.
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "REST"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
STATUS=`pactp info $1 | grep "Server Status" | cut -d: -f2`
if [ "$STATUS" != " Inactive" -a "$STATUS" != "" ]
then
    BVPMSG 1012 "REST"
    BVPMSG 1037 $1
    BVPERR
    exit 12
fi
BVPMKDIR
# -----
CARTE=$PACINPUT
export CARTE
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PTU010 PAC7DD $PACUSERS/RESTDD010.txt`
export PAC7DD
PAC7MB=`BVPENV PTU010 PAC7MB $PACTMP/WMB`
export PAC7MB
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=`BVPENV PTU010 PAC7PC $PACSAVPC`
export PAC7PC
PAC7PD=`BVPENV PTU010 PAC7PD $PACSAVPCI`
export PAC7PD
PAC7PY=`BVPENV PTU010 PAC7PY $PACSAVPCY`
export PAC7PY
BVPMSG 1009 "BVPTU010"
rtspac BVPTU010
RETURN=$?
case $RETURN in
0)
;;
8)

```

```

BVPMSG 1012 "BVPTU010"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU010"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AJ.ini
if [ -r "$PAC7AJ" ]
then
. $PACDIR/config/$1/PAC7AE.ini
PAC7EU=~BVPENV PTU380 PAC7EU $PACUSERS/RESTEU380.txt`
export PAC7EU
PAC7MB=~BVPENV PTU380 PAC7MB $PACTMP/WMB`
export PAC7MB
BVPMSG 1009 "BVPTU380"
rtspac BVPTU380
RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTU380"
BVPMSG 1053
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU380"
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
PAC7DD=~BVPENV PTU400 PAC7DD $PACUSERS/RESTDD400.txt`
export PAC7DD
PAC7EU=~BVPENV PTU400 PAC7EU $PACUSERS/RESTEU400.txt`
export PAC7EU
PAC7MB=~BVPENV PTU400 PAC7MB $PACTMP/WMB`

```

```

export PAC7MB
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=~BVPENV PTU400 PAC7PC $PACSAVPC`
export PAC7PC
PAC7PD=~BVPENV PTU400 PAC7PD $PACSAVPCI`
export PAC7PD
PAC7PY=~BVPENV PTU400 PAC7PY $PACSAVPCY`
export PAC7PY
PAC7PS=~BVPENV PTU400 PAC7PS $PACTMP/WPS`
export PAC7PS
BVPMSG 1009 "BVPTU400"
rtspac BVPTU400
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU400"
BVPERR
BVPRTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini

. $PACDIR/config/$1/PAC7AR.ini
PAC7EU=~BVPENV PTU420 PAC7EU $PACUSERS/RESTEU420.txt`
export PAC7EU
. $PACDIR/config/$1/PACSAVPJ.ini
if [ ! -r "$PACSAVPJ" ]
then
BVPMSG 1034 "PJ (PAC7JO)"
BVPERR
BVPRTMP
RETURN=12
exit $RETURN
fi
PAC7JO=$PACSAVPJ
export PAC7JO
PAC7MB=~BVPENV PTU420 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7OJ=~BVPENV PTU420 PAC7OJ $PACTMP/WOJ`
export PAC7OJ
PAC7PS=~BVPENV PTU420 PAC7PS $PACTMP/WPS`
export PAC7PS
BVPMSG 1009 "BVPTU420"
rtspac BVPTU420
RETURN=$?
case $RETURN in
0)
;;
4)
BVPMSG 1056
BVPMSG 1010

```

```

BVPRMTMP
RETURN=0
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU420"
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/PACGGY.ini
PAC7IE=`BVPENV PACA15 PAC7IE $PACUSERS/RESTIEA15.txt`
export PAC7IE
PAC7IF=`BVPENV PACA15 PAC7IF $PACUSERS/RESTIFA15.txt`
export PAC7IF
PAC7ME=`BVPENV PACA15 PAC7ME $PACTMP/WME`
export PAC7ME
touch $PAC7ME
PAC7MV=`BVPENV PACA15 PAC7MV $PACTMP/WOJ`
export PAC7MV
PAC7RB=`BVPENV PACA15 PAC7RB $PACTMP/WRB`
export PAC7RB
PAC7RY=`BVPENV PACA15 PAC7RY $PACTMP/WRY`
export PAC7RY
. $PACDIR/config/$1/SEMLOCK.ini
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=$?
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

```

---

## RESY - Database System Restoration Complement

### RESY - Introduction

This procedure restores a Database that can be managed in on-line mode, from a System backup obtained through a utility and completed by the SASY procedure.

It complements the restoration of the Data (AR), Index (AN), and Extension (AY) files performed by a system utility, by reinitializing the Journal (AJ) file.

Through the RESY procedure, the archived transactions can be retrieved if 'REC' is entered on the input parameter line.

If the Journal file is not reinitialized, it must be archived prior to the System utility restoration and RESY procedures.

#### Execution conditions

This procedure can be executed only after the AN, AR and AY files have been retrieved by the on-site system utility.

On-line access must be closed.

#### Abnormal execution

If an abend occurs, the procedure can be restarted as it is once the problem has been solved.

#### Printed report

The RESY procedure prints a report which lists the requested options and related errors, the number of records reloaded in the Database per file and the options memorized in the new Database.

## Results

Once the procedure has been executed, the network can be used in both batch or on-line modes.

**Note:** After the procedure execution, the current session number is the session number of the restored image, or of the most recent transaction if the retrieval of archived transactions has been requested.

### **RESY - Input / Processing / Results**

A '\*' line with user code and password.

The input has the following structure:

Position	Length	Value	Meaning
2	1	'Y'	Line code
10	2		Language code (EN or FR)
12	1	'0'	No journal inhibition
		'1'	Inhibition of journal (update transactions are not journalized)
		' '	Retrieval of the last value
14	3	'REC'	If archived transactions are to be retrieved
17	4	XXXX	4-character Database code chosen by the Database Manager (displayed in the top-right corner of all screens)
21	4	nnnn	Maximum number of accesses for on-line searches in the Database (default value: 300)
25	1	'U'	Implicit update (default option)
		'N'	Explicit update
26 28	4 7	nnnn	Checkpoint frequency rate (IMS, UNISYS, GCOS7, and GCOS8 only) if REC in col. 13 (default: nnnn=0000) Ignored
36	12		PFkeys assigned functions (1)
79	1		Dispatch option of backup
		'D'	Dispatch: Sequential backup of the Database on three separate files.
		'N'	No Dispatch: Standard backup on a single PC file.

Position	Length	Value	Meaning
		' '	Same as previous execution.

(1) PFKeys assignment:

12-position table: each position corresponds to a standard function. To modify the PFkey assigned to a function, the value of the new PFkey coded in base 36 is entered in the corresponding position in the table.

### Example

To assign function 1 to PFkey 17, code 'H' in position 1 of the table.

No validation procedure is executed by the system. The PFkey assignment may be viewed on the corresponding sub-menu.

### Note

If there is no input, the Database characteristics don't change.

Any field left blank defaults to the current option selection.

If you do not want the update transactions of the Database to be saved on the Journal file, you can turn "journalization" off by setting this parameter to '1'. In this case, it is not possible to restore the Database using the recovery of the archived transactions (REC parameter in the user input).

It is thus highly recommended that you set this parameter to '0' or leave it blank (default option), in order to avoid restoration problems.

In case of error, invalid parameters are ignored, and the system ensures restoration using the parameter values stored in the sequential image of the Database.

## **RESY - Description of Steps**

User input recognition: PTU004

Code	Physical name	Type	Label
CARTE	User input	Input	Parameter
PAC7MB	Tmp dir. : WMB	Output	Parameter
PAC7AE	System - Skel dir. : AE	Input	Error messages

Code	Physical name	Type	Label
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7DD	User dir. : RESYDD010	Report	Batch procedures authorization option

Return code:

- 8: no batch procedure authorization

Validation of journal contents: PTU380

This step is executed only if the Journal file exists.

Code	Physical name	Type	Label
PAC7MB	Tmp dir. : WMB	Input	User transactions
PAC7AE	System - Skel. dir. : AE	Input	Error messages file
PAC7AJ	Journal dir. : AJ	Input	Journal file
PAC7EU	User dir. : ....EU380	Report	(only if the journal was not archived)

Return codes:

- 0: The Journal file was archived.
- 8: The Journal file was not archived (no REST step is executed).

Database positioning: PTU402

This step is executed only if the Journal file has been archived.

Code	Physical name	Type	Label
PAC7AR	Database dir. : AR	Output	Data file
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index



Code	Physical name	Type	Label
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7MB	Tmp dir. : WMB	Input	User transactions
PAC7PS	Tmp dir. : WPS	Output	Work file (2 records, length=144)
PAC7GZ	User dir. : RESYGZ402	Report	Restoration report

#### Database availability - Transactions retrieval: PTU420

This step is executed if the Journal file has been archived. It updates the first record of the Data file.

#### Warning

This step is REQUIRED to obtain a consistent Database.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7MB	Tmp dir. : WMB	Input	User transactions
PAC7AR	Database dir. : AR	Input/ Output	Development Database data
PAC7JO	Save dir. : PJ	Input	Journal to apply
PAC7PS	Tmp dir. : WPS	Input	Work file
PAC7OJ	Tmp dir. : WOJ	Output	Update transactions (length=170)
PAC7EU	User dir. : ....EU420	Report	Retrieval report

Return codes:

- 0: Transactions to be retrieved
- 4: No transactions to be retrieved or error on user input.

In case of abnormal end, the update cannot be performed.

#### Update of the Administration Database: PACA15

Code	Physical name	Type	Label
PAC7AR	Database dir. : AR	Output	Development Database data

Code	Physical name	Type	Label
PAC7AN	Database dir. : AN	Output	Development Database index
PAC7AY	Database dir. : AY	Output	Development Database extension
PAC7AJ	Journal dir. : AJ	Output	Development Database Journal
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. Database - Base dir.: AN	Input	Administration Database index
PACGGR	Admin. Database - Base dir.: AR	Input	Administration Database data
PACGGY	Admin. Database - Base dir.: AY	Input	Administration Database extension
PACGGU	Admin. Database - Base dir.: GU Base dir.: DC	Input	Administration Database users
PAC7ME	Tmp dir. : WME	Input	Work file
PAC7MV	Tmp dir.: WOJ	Input	Update transactions
PAC7RB	Tmp dir. : WRB	Output	UPDT erroneous transactions (length=80)
PAC7RY	Tmp dir. : WRY	Output	UPDP erroneous transactions (length=310)
PAC7IE	User dir. : ....IEA15	Report	Update report (length=132)
PAC7IF	User dir. : ....IFA15	Report	List of erroneous transactions (length=132)

The list of transactions belonging to a user is preceded by a banner specifying the user code.

Return codes:

- 0: OK, no error
- 4: Error

## RESY - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) RESY BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - 'SYSTEM' RELOADING RESTORATION COMPLEMENT -
# *
# * -----
```

```

# *
# *
# * INPUT
# * COL 2      : "Y"
# * COL 10-11  : INITIAL LANGUAGE CODE (FR, EN)
# * COL 12     : "1" INHIBITION OF TRANSACTION LOG
# * COL 14-16  : "REC" FOR RECOVERY OF ARCHIVED TRANSACTIONS
# * COL 17-20  : 4 CHARACTERS TO BE DISPLAYED ON ALL
# *           : SCREEN OF THE PRODUCT
# * COL 21-24  : "NNNN" MAXIMUM NUMBER OF SEARCH ACCESSES
# *           : TO THE DATABASE(LISTS)-(DEFAULT VALUE:300)
# * COL 25     : "U" (DEFAULT VALUE) : IMPLICIT UPDATE
# *           : "N" EXPLICIT UPDATE
# * COL 26-29  : CKECKPOINT FREQUENCY
# * COL 36-47  : PF-KEYS SIGNIFICATIONS
# * COL 79     : BACKUP FILES DISPATCH
# *           : "N" (DEFAULT VALUE) : NO DISPATCH (1 FILE)
# *           : "D" : DISPATCH (2 FILES)
# *
# * IF THE JOURNAL FILE OF TRANSACTIONS ON DISK (AJ) IS NOT
# * REINITIALIZED, THE RESTORE CHAIN IS NOT EXECUTED.
# * IT IS THEREFORE NECESSARY TO EXECUTE THE ARCH
# * PROCEDURE FIRST.
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "RESY"
echo "======"
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
CARTE=$PACINPUT
export CARTE
. $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 PTU004 PAC7DD $PACUSERS/RESYDD010.txt`
export PAC7DD
PAC7MB=~BVPENV PTU004 PAC7MB $PACTMP/WMB`
export PAC7MB
BVPMSG 1009 "BVPTU004"
rtspac BVPTU004

```

```

RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTU004"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU004"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AJ.ini
if [ -r "$PAC7AJ" ]
then
. $PACDIR/config/$1/PAC7AE.ini
PAC7EU=~BVPENV PTU380 PAC7EU $PACUSERS/RESYEU380.txt`
export PAC7EU
PAC7MB=~BVPENV PTU380 PAC7MB $PACTMP/WMB`
export PAC7MB
BVPMSG 1009 "BVPTU380"
rtspac BVPTU380
RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTU380"
BVPMSG 1053
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU380"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
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

```

```

PAC7GZ=~BVPENV PTU402 PAC7GZ $PACUSERS/RESYGZ402.txt`
export PAC7GZ
PAC7MB=~BVPENV PTU402 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7PS=~BVPENV PTU402 PAC7PS $PACTMP/WPS`
export PAC7PS
BVPMSG 1009 "BVPTU402"
rtspac BVPTU402
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU402"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACSAVPJ.ini
PAC7JO=$PACSAVPJ
export PAC7JO
PAC7MB=~BVPENV PTU420 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC70J=~BVPENV PTU420 PAC70J $PACTMP/W0J`
export PAC70J
PAC7PS=~BVPENV PTU420 PAC7PS $PACTMP/WPS`
export PAC7PS
PAC7EU=~BVPENV PTU420 PAC7EU $PACUSERS/RESYEU420.txt`
export PAC7EU
BVPMSG 1009 "BVPTU420"
rtspac BVPTU420
RETURN=$?
case $RETURN in
0)
;;
4)
BVPMSG 1056
BVPMSG 1010
RETURN=0
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU420"
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/PACGGY.ini
PAC7IE=~BVPENV PACA15 PAC7IE $PACUSERS/RESYIEA15.txt`
export PAC7IE
PAC7IF=~BVPENV PACA15 PAC7IF $PACUSERS/RESYIFA15.txt`
export PAC7IF
PAC7ME=~BVPENV PACA15 PAC7ME $PACTMP/WME`
export PAC7ME
touch $PAC7ME
PAC7MV=~BVPENV PACA15 PAC7MV $PACTMP/WOJ`
export PAC7MV
PAC7RB=~BVPENV PACA15 PAC7RB $PACTMP/WRB`
export PAC7RB
PAC7RY=~BVPENV PACA15 PAC7RY $PACTMP/WRY`
export PAC7RY
. $PACDIR/config/$1/SEMLOCK.ini
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=$?
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

```

---

## ARCH - Journal Archiving

### ARCH - Introduction

This procedure saves the Journal file as a sequential file, and re-initializes it both logically and physically.

Archived transactions do not override the transactions that were previously archived, but are added to them.

The archived transactions file may be purged. Purged transactions may then be saved in another file (PQ).

Previously archived transactions can be purged, if requested. (However, non-archived journal transactions cannot be purged.)

#### Execution conditions

On-line access must be closed.

#### Abnormal execution

If an abend occurs before the step that creates the Journal file, the procedure can be restarted as it is once the problem has been solved.

Otherwise, the procedure must be restarted after a modification of the user input in order to specify a re-initialization request without a backup of the Journal file, since it has already been saved.

### ARCH - Input / Processing / Results

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

This procedure includes specific optional input to:

- Deactivate the previously archived transactions that are considered obsolete.
- Indicate the absence of previously archived transactions in input.
- Indicate the unavailability of the Data file (AR) in input.
- Request only the re-initialization of the transaction file.

The structure of this input is as follows:

Position	Length	Value	Meaning
2	1	'S'	Line code
3	4	nnnn	Session number

Position	Length	Value	Meaning
7	8	ccyymmdd	OR date up to which the user requests deactivation
15	1	'I'	Absence of previously archived transactions
16	1	'D'	Data file unavailable
17	1	'J'	Re-initialization without backup, the transactions already archived are NOT retrieved in output.

The session number and the date are exclusive. They are ignored if the absence of input transactions is detected (refer to Section Recommendations).

The unavailability of the Data file is to be indicated only when this file has been physically deleted. (See Section Recommendations below.)

A request to re-initialize without archiving is necessary when the Journal file is physically deleted.

#### Warning

In this case, the transactions which were already archived are not copied to the output archived transactions file.

If an error occurs on one of the options, a message is printed and the archive is generated using the default options.

#### Recommendations

If there is no user input, this procedure can only be executed if the Database is in a consistent state, and if the archived transaction file is correctly formatted.

When the Database needs to be restored after an abend or a system failure, some information in the Specifications Dictionary is sometimes lost, thus preventing the execution of the backup and restoration procedures.

In this case, AND IN THIS CASE ONLY, columns 15 to 17 of the user input are to be used as follows:

- If the Data file is lost or has been flagged as 'inconsistent', a 'D' in column 16 means that the backup procedure will not take the Data file into account. However, the restoration procedure must be executed afterward, since under these conditions, the backup procedure leaves the Database in an inconsistent state.



- If the Journal file is lost or destroyed, a 'J' must be entered in column 17. As a result, the backup procedure formats an empty Journal file. The restoration procedure may then be executed (not compulsory). In this case, the content of the journal file is lost.
- If the archived transactions file is lost or destroyed, an 'I' must be entered in column 15. As a result, the archiving procedure reformats a new sequential backup file of (archived) transactions and the previous file is lost.

You are strongly advised against indicating these options in operation JCLs. It is recommended to duplicate them in a temporary JCL before the execution.

If one of these columns is accidentally set, and if the archiving procedure is executed while the Database is in a consistent state, the consequences are:

- 'I' in col. 15: Previously archived transactions are lost. All transactions can be recovered by concatenating (-1) and (0) files to obtain (+1) file.
- 'D' in col. 16: The archiving procedure must be re-executed BEFORE any update on the Database. If an update is performed, the Database will have to be restored completely. However the freeze transactions will be lost.
- 'J' in col. 17: The contents of the Journal file are definitely lost. The output Journal file, (+1 version in the case of generation data files), is created empty.

### Printed output

This procedure prints a report which states the number of archived transactions and, if applicable, the number of records that have been 'purged'.

### Results

Once this procedure is executed, a sequential file containing all archived transactions is obtained.

The Journal file which displays on-line transactions is re-initialized.

It is also possible to store on another file all transactions that have been purged.

### Note

This procedure does not increment the session number.

## **ARCH - Description of Steps**

Particular case of the first Database archiving

The first archiving of the Database runs smoothly if the PJ file, which contains archived transactions used as input to the procedure, is created as an empty file, and stored in the SAVE directory during installation.

### Archived-transaction purge

When a purge of archives is requested in the transactions files, two situations are possible:

- The user does not wish to keep the purged archives in the PJ file: the file with PAC7PQ as internal name must be assigned to 'NULL'.

This is done as a default in the procedure command file.

```
PAC7PQ=/dev/null
```

- The user wishes to keep purged archives in the PJ file: the file with PAC7PQ as internal name must be assigned, and it must correspond to a disk file.

```
PAC7PQ=$PACDIR/save/$1/PQ
```

### Archiving of journal file: PTU300

This step:

- writes obsolete transactions to be purged on to a special file, if the purge is requested in user input.
- positions a flag in the Data file indicating the journal archive.
- updates the file of archived transactions.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7JP	Save dir. : PJ	Input	Previously archived transactions
PAC7AJ	Journal dir. : AJ	Input	Development Database journal to re-initialize
PAC7MB	User input	Input	User transactions
PAC7BM	Tmp dir. : WBM	Output	User transactions
PAC7AR	Database dir. : AR	Input/Output	Development Database data
PAC7PJ	Save dir. : PJ-new	Output	Archived update transactions

Code	Physical name	Type	Label
PAC7PQ	Save dir. : PQ	Output	Deactivated transactions (length=170): : modify the file name to keep the transactions
PAC7EU	User dir. : ARCHEU300	Report	Output report
PAC7DD	User dir. : ARCHDD300	Report	Batch procedures authorization option

Return codes:

- 0: No error detected on the files,
- 4: Error in journal record (Date or session number not numeric)
- 8: No access authorization for batch procedure, OR: invalid Database; in this case, restart the procedure with 'D' in column 16 of the user input .
- 12: Input-output error on a file.

Re-initialization of the journal file: PTU320

This step executes the following:

- Creates the first record in the Journal file,
- Re-initializes the Data file flag with the Journal file's address.

Code	Physical name	Type	Label
PAC7BM	Tmp dir. : WBM	Input	User transactions
PAC7AR	Database dir. : AR	Input/ Output	Data file
PAC7AE	System - Skel dir. : AE	Input	Error messages file
PAC7AJ	Journal dir. : AJ	Output	Journal file to re-initialize
PAC7EU	User dir. : ARCHEU320	Report	Re-initialization report

Return codes:

- 0: No error detected,
- 8: The Database is invalid.

If the archiving and backup procedures are grouped into one job, the PTU320 return code can be tested in order to condition the execution of the backup programs.

## ARCH - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) ARCH BATCH PROCEDURE
# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# *          - ARCHIVAL OF THE JOURNAL -
# *
# * -----
# *
# * INPUT          : COMMAND FOR DEACTIVATION OF ARCHIVED
# *                TRANSACTION
# * COL 2          : "S"
# * COL 3 TO 6    : SESSION NUMBER
# * COL 7 TO 14   : DATE (CCYYMMDD)
# * COL 15        : " " PRESENCE OF ARCHIVED TRANSACTION FILE
# *              : "I" ABSENCE OF ARCHIVED TRANSACTION FILE
# * COL 16        : " " PRESENCE OF DATA FILE (AR)
# *              : "D" ABSENCE OF DATA FILE (AR)
# * COL 17        : " " ARCHIVAL AND REINITIALIZATION
# *              : "J" REINITIALIZATION WITHOUT ARCHIVAL
# *
# * IN THE ABSENCE OF INPUT (OR ERROR ON A COMMAND PARAM.)
# * NO DEACTIVATION WILL TAKE PLACE, HOWEVER ARCHIVAL AND
# * REINITIALIZATION WILL BE EXECUTED NORMALLY.
# *
# * TRANSACTIONS WHOSE SESSION (DATE) IS PRIOR OR EQUAL TO
# * THE SESSION (DATE) INDICATED ARE NOT KEPT. THEY ARE
# * RECOVERED IN THE FILE OF DEACTIVATED TRANSACTION.
# *
# * -----
# Parameter control
# . $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "ARCH"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
STATUS=`pactp info $1 | grep "Server Status" | cut -d: -f2`
if [ "$STATUS" != "Inactive" -a "$STATUS" != "" ]
then
    BVPMSG 1012 "ARCH"
    BVPMSG 1037 $1
    BVPERR
    exit 12
fi
BVPMKDIR
```

```

# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7BM=~BVPENV PTU300 PAC7BM $PACTMP/WBM~
export PAC7BM
PAC7DD=~BVPENV PTU300 PAC7DD $PACUSERS/ARCHDD300.txt~
export PAC7DD
PAC7EU=~BVPENV PTU300 PAC7EU $PACUSERS/ARCHEU300.txt~
export PAC7EU
PAC7MB=$PACINPUT
export PAC7MB
. $PACDIR/config/$1/PACSAVPJ.ini
PACSAVPJ=~BVPENV PTU300 PAC7PJ $PACSAVPJ~
PAC7JP=$PACSAVPJ
export PAC7JP
PAC7PJ=$PACSAVPJ.NEW
export PAC7PJ
. $PACDIR/config/$1/PACSAVPQ.ini
PAC7PQ=$PACSAVPQ
export PAC7PQ
BVPMSG 1009 "BVPTU300"
rtspac BVPTU300
RETURN=$?
case $RETURN in
0 | 4)
;;
12)
BVPMSG 1012 "BVPTU300"
BVPMSG 1018
BVPERR
BVPRMTMP
exit $RETURN
;;
8)
BVPMSG 1012 "BVPTU300"
BVPMSG 1014
BVPMSG 1019
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU300"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini

```

```

. $PACDIR/config/$1/PAC7AR.ini
PAC7EU=~BVPENV PTU320 PAC7EU $PACUSERS/ARCHEU320.txt`
export PAC7EU
PAC7BM=~BVPENV PTU320 PAC7BM $PACTMP/WBM`
export PAC7BM
BVPMSG 1009 "BVPTU320"
rtspac BVPTU320
RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTU320"
BVPMSG 1017
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU320"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPMSG 1016 "PJBACKUP.ini"
sh $PACDIR/config/$1/PJBACKUP.ini
BVPRMTMP
exit $RETURN

```

---

## REOR - Reorganization

### REOR - Introduction

The Database Reorganization procedure optimizes Database accesses by recognizing each deletion, and sorting the data again according to the most frequent access order.

It uses one or three (if Dispatch option) backup files of the Development Database to rebuild one or three (if Dispatch option) sequential image(s). This resulting image file must then be used as input to the REST procedure.

The operating principle of this procedure is to rebuild the different indexes associated with all data using the 'image' of each Data Element. It makes the best of the system performance features since it separates historical (frozen) sessions from the current session and sorts the data in the order of the most frequent access. This makes it possible to achieve a significant reduction of the number of indexes and data items.

The REOR procedure may be used in two cases:

- When part of the data was deleted because of a malfunction or system failure, and no other procedure can be used (in particular, deletion of the AN Index file),
- When the Database is to be purged of the following:
  - Obsolete libraries and/or sessions;
  - Entities not used in the Database;

When a library is deleted, this procedure produces the same results as the Database Management (MLIB) procedure, except that it additionally deletes 'gaps'.

This procedure should be executed only on an exceptional basis, because of the special conditions concerning its use and its lengthy execution time.

The deletions recognized by the reorganization may have been made logically upon the Database update, or generated by utilities. For example:

- Deletion of unused Production sessions (SCM Module),
- Deletion of unused entities, determined by the unused-entity extraction utility, EXPU (see the PACX procedure in 'the Developer's Procedures' manual).

#### Execution conditions

If the Database is available, it may remain open during reorganization since the procedure operates on sequential images of the Database.

Updates executed after the back-up file used for reorganization has been built will be retrievable while the reorganized Database is being restored.

#### Abnormal execution

Refer to chapter 'Overview', subchapter 'Abnormal Ending'.

As specified in the 'Important recommendations' below, the Reorganization procedure can be very long. It is therefore advisable to keep all temporary files after each step.

If one of the steps abends, the procedure can be restarted at the step level, but not at the procedure level.

### **REOR - Input / Processing / Results**

A '\*' line with user code and password.

Specific user input for the procedure (optional) which enables you to specify:

- Libraries to be purged,

- sessions to be purged or to be kept,
- users to be purged,
- entities to be purged (notion of cross-references taken into account),
- a report of the duplicate indexes of the REOR procedure.

Position	Length	Value	Meaning
2	1	'B'	Library purge
3		bbb	Library code(s). Up to 23 library codes per line.

Maximum number of libraries to be purged: 300.

Warning: Contrary to the MLIB procedure, the REOR procedure does not perform any check on dependent libraries in case of a purge; you must then be very careful and purge, if necessary, the dependent libraries before the parent library to prevent any inconsistency in the Database.

Position	Length	Value	Meaning
2	1	'V'	Purge frozen sessions
		'S'	Save frozen sessions
			'V' and 'S' lines are not compatible
3		ssss	Session number(s): up to 17 session numbers per line, entered without any separator.

Maximum number of sessions indicated on the request: 999.

Maximum number of frozen sessions indicated in a Database: 7,500.

Position	Length	Value	Meaning
2	1	'U'	Purge users
3	72		User codes (up to 9 user codes per line every 8 characters)

The purge of a user deletes this user and all its uses (GP lines and locks) in the Development Database. It is independent of the deletion of a user code in the Administration Database.

Maximum number of users to be purged: 100.



Position	Length	Value	Meaning
2	1	'E'	Physical purge of entities (transactions provided by EXPU)
3			Entity (required)
	1		.Type
	2		.UE call type (if Type "\$")
6	30		Code of the entity to be purged (this code can be generic)
36	3		Library code (required)
39			Flag for purge of lower-level Libraries
		' ' or 'Y'	Purge of the Library and of its sub-Libraries
		'N'	Purge of the Library alone

One line per entity. This command allows to purge the User Entity and the associated bulk data. The 'List of 'purged' entities' indicates what has been done.

In case of a generic request, the entity code must be completed with \* to make up for six characters. If the code contains six '\*', all of the User Entities are deleted.

Position	Length	Value	Meaning
2	1	'P'	Physical purge of 'bulk' entities
3			Entity (required)
	1		Type
	2		UE call type (if type '\$')
6	30		Code of the entity to be purged (required, complete identifier)
36	2		Entity Description type (required, value '00' not authorized)
		nn	Purge of the 'nn' descriptions of the entity
		'**'	Purge of all Descriptions of the entity
38	3		Library code (required)
		'***'	All Libraries of the entity
41	1		Flag for purge of lower-level Libraries

Position	Length	Value	Meaning
		' ' or 'Y'	Purge of the Library and its sub-Libraries
		'N'	Purge of the Library alone
42	4		Session lower bound (one of the two bounds is required)
		' '	Purge from the lower bound
		n n n n	Purge from session 'n n n n' (included)
		'****'	Purge of all sessions
46	4		Session higher bound (one of the two bounds is required)
		' '	Purge up to the higher bound
		m m m m	Purge up to session 'm m m m' (included)
		'****'	Purge in all sessions

One line per 'bulk'-type entity. This command enables to purge the 'bulk' data of the attached files created via Developer workbench. This purge is performed between a start session and an end session.

Note on 'E- and P-type' purge requests: The execution of the REOR procedure processes a maximum number of 2,500 instances of an entity type other than a User Entity and a number of 1,000 instances of the User Entity type.

Position	Length	Value	Meaning
2	1	'D'	List of duplicate indexes of the REOR procedure
3	1	' '	no report of duplicate indexes
		'1'	Report of duplicate indexes
		'2'	Report of PMS calls which might be incoherent
		'3'	Reports of values '1' and '2'

When the system finds an input error, it generates an error message and the procedure is not executed.

### Estimating file size

The maximum sizes used during this procedure are based on the sizes of the files in the Database before reorganization. The report printed by the SAVE procedure provides all the relevant data:

- NI = number of index file records,
- ND = number of data file records MINUS number of gaps,
- NC = number of primary records on the data file,
- NH = number of 'frozen' (historical account) records from the data file (NH = ND - NC)

These symbols are also detailed in the presentation of each of the files for this procedure.

### Printed report

This procedure prints a report which lists the errors found during reorganization, and statistics on the contents of the Database.

### Results

The output of this procedure is a reorganized sequential image of the Database (where purges may have been performed). It does not contain gaps. Gaps can be added by the restoration procedure.

### Note

This procedure does not increment the current session number of the Database.

### Important recommendations

The Reorganization procedure presents a number of characteristics which the user should be aware of:

- The step that rebuilds the Index file uses a large amount of CPU time.
- The spaces allocated to the sorts should also be calculated with care.

## **REOR - Description of Steps**

### Validation of user input: PTU2CL

This step validates user input and sets a return code when an error is detected.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data

Code	Physical name	Type	Label
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7PC	Save dir. : PC	Input	Sequential image of the Development Database
PAC7MB	User Input	Input	Input work file
PAC7BM	Tmp dir. : WBM	Output	Formatted records
PAC7PU	Tmp dir. : WPU	Output	Entity records to be purged (length=44)
PAC7EE	User dir. : REOREE2CL	Report	Control report
PAC7DD	User dir. : REORDD2CL	Report	Batch procedures authorization option

.Return code(s):

- 0: OK
- 4: Error on user input
- 8: No authorization on Batch procedure.

Retrieval of data: PTU200

This step selects 'data' type information in the initial sequential file of the Database. It then formats the key of each record selected for the subsequent sort.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7BM	Tmp dir. : WBM	Input	User transactions
PAC7PC	Save dir. : PC	Input	Sequential image of the Development Database
PAC7PY	Save dir. : PCY	Input	Sequential image of the extension data of the Development Database
PAC7PR	Tmp dir. : WPR	Output	Formatted records (length=176 size= ND)
PAC7NX	Tmp dir. : WNX	Output	Long data
PAC7NY	Tmp dir. : WNY	Output	Bulk data
PAC7AU	Tmp dir. : WAU	Output	PR image (length=153)
PAC7EE	User dir. : REOREE200	Report	Report on statistics retrieval

ASCII Sort: PTU205

Code	Physical name	Type	Label
PAC7PR	Tmp dir. : WPR	Input	Sorted data records
PAC7RP	Tmp dir. : WRP	Output	ASCII sorted data records

The SORT program requires disk space equivalent to twice the size of the file to be sorted.

Return codes:

- 0 : No error
- 20 : Error on sort : The files sizes are compared. They must be the same if the sort is completed correctly.

Purge: PTU210

This step purges all the and sessions entered in the user input. When there is no input, it reformats the records.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7PR	Tmp dir. : WRP	Input	Sorted records
PAC7BM	Tmp dir. : WBM	Input	User transactions
PAC7PU	Tmp dir. : WPU	Input	Entity records to be purged
PAC7QS	Tmp dir. : WQS	Output	Purged records (length=176, size=ND)
PAC7UM	Tmp dir. : WUM	Output	Macro-structure call lines (length=176)
PAC7EE	User dir. : REOREE210	Report	Library and session purge report
PAC7EK	User dir. : REOREK210	Report	Entity-purge report
PAC7EB	User dir. : REOREB210	Report	Technical report

Return codes:

- 0: OK
- 8: Capacity overflow

The following steps are executed only if the return code is 0.

## Index rebuilding: PTU220

This step executes two types of processing:

- Reconstruction of the indexes using the data
- Separation of the current session and the frozen sessions.

<b>Code</b>	<b>Physical name</b>	<b>Type</b>	<b>Label</b>
PAC7AE	System - Skel dir. : AE	Input	Error messages file
PAC7BM	Tmp dir. : WBM	Input	User transactions
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7UR	Tmp dir. : WQS	Input	Purged data
PAC7NX	Tmp dir. : WNX	Input	Long data
PAC7UM	Tmp dir. : WUM	Input	Macro-structure call lines
PAC7PA	Tmp dir. : WPA	Output	Data from frozen sessions (length=153 size=NH)
PAC7PB	Tmp dir. : WPB	Output	Data from current session (length=153 size=NC)
PAC7PC	Tmp dir. : WPC	Output	First data records (length=153)
PAC7AN	Tmp dir. : WAN	Output	Intermediate index file (length=60 size=NI)
PAC7MR	Tmp dir. : WMR	Input/ Output	Macro-structure call lines
PAC7EE	User dir. : REOREE220	Report	Index-building report

## ASCII Sort: PTU225

<b>Code</b>	<b>Physical name</b>	<b>Type</b>	<b>Label</b>
PAC7AN	Tmp dir.: WAN	Input	Sorted index
PAC7NA	Tmp dir.: WNA	Output	ASCII Sorted index

The SORT program requires disk space equivalent to twice the size of the file to be sorted.

Return codes:

- 0 : No error
- 20 : Error on sort : The files sizes are compared. They must be the same if the sort is completed correctly.

#### Processing of extension data: PTU226

Code	Physical name	Type	Label
PAC7NY	Tmp dir. : WNY	Input	Bulk data
PAC7PA	Tmp dir. : WPA	Input	Data from frozen sessions
PAC7PB	Tmp dir. : WPB	Input	Data from current session
PAC7PC	Tmp dir. : WPC	Input	First data record
PAC7QA	Tmp dir. : WQA	Output	Data from frozen sessions (length=153)
PAC7QB	Tmp dir. : WQB	Output	Data from current session (length=153)
PAC7QC	Tmp dir. : WQC	Output	First data record length=153)
PAC7QY	Tmp dir. : WQY	Output	Long data (length=1,018)

#### Merge: PTU240

This step rebuilds the final sequential image using the temporary files produced by the previous step.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Tmp dir. : WNA	Input	Sorted index
PAC7AU	Tmp dir. : WAU	Input	PR image
PAC7BM	Tmp dir. : WBM	Input	User transactions
PAC7PA	Tmp dir. : WQA	Input	Data from frozen sessions
PAC7PB	Tmp dir. : WQB	Input	Data from current session
PAC7PC	Tmp dir. : WQC	Input	First data records
PAC7QY	Tmp dir. : WQY	Input	Extension data
PAC7CP	Save dir. : PC-new	Output	Sequential image of the Development Database
PAC7PD	Save dir. : PCI-new	Output	Sequential image of the Development Database
PAC7PY	Save dir. : PCY-new	Output	Sequential image of the Development Database
PAC7IE	User dir. : REORIE240	Report	Building of Logical Database

### Deletion of long data file: IDCAMS

This step executes a DELETE of the work file which contains the long data.

### Deletion of bulk data file: IDCAMS

This step executes a DELETE of the work file which contains the bulk data.

## **REOR - Execution Script**

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) REOR BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *
# * -----
# *           - REORGANIZATION OF THE DATABASE -
# *
# * -----
# *
# * THE REOR PROCEDURE MAY BE USED IN TWO CASES:
# * . WHEN PART OF THE DATA WAS DELETED BECAUSE OF A MAL-
# * FUNCTION OR SYSTEM FAILURE, AND NO OTHER PROCEDURE CAN
# * BE USED (IN PARTICULAR, DELETION OF THE AN INDEX FILE)
# * . WHEN THE DATABASE IS TO BE PURGED OF THE FOLLOWING:
# *   - OBSOLETE LIBRARIES AND/OR SESSIONS;
# *   - ENTITIES NOT USED IN THE DATABASE;
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "REOR"
echo "           ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
# INPUT CONTROL
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7BM=~BVPENV PTU2CL PAC7BM $PACTMP/WBM`
```



```

export PAC7BM
PAC7DD=~BVPENV PTU2CL PAC7DD $PACUSERS/REORDD2CL.txt~
export PAC7DD
PAC7EE=~BVPENV PTU2CL PAC7EE $PACUSERS/REOREE2CL.txt~
export PAC7EE
PAC7MB=$PACINPUT
export PAC7MB
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=~BVPENV PTU2CL PAC7PC $PACSAVPC~
export PAC7PC
PAC7PU=~BVPENV PTU2CL PAC7PU $PACTMP/WPU~
export PAC7PU
BVPMSG 1009 "BVPTU2CL"
rtspac BVPTU2CL
RETURN=$?
case $RETURN in
0)
;;
4)
BVPMSG 1012 "BVPTU2CL"
BVPMSG 1051
BVPERR
BVPRMTMP
exit $RETURN
;;
8)
BVPMSG 1012 "BVPTU2CL"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU2CL"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
# REORGANIZATION
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=~BVPENV PTU200 PAC7PC $PACSAVPC~
export PAC7PC
PAC7PY=~BVPENV PTU200 PAC7PY $PACSAVPCY~
export PAC7PY
PAC7BM=~BVPENV PTU200 PAC7BM $PACTMP/WBM~
export PAC7BM
PAC7PR=~BVPENV PTU200 PAC7PR $PACTMP/WPR~
export PAC7PR
PAC7NX=~BVPENV PTU200 PAC7NX $PACTMP/WNX~
export PAC7NX
PAC7NY=~BVPENV PTU200 PAC7NY $PACTMP/WNY~

```

```

export PAC7NY
PAC7AU=~BVPENV PTU200 PAC7AU $PACTMP/WAU`
export PAC7AU
PAC7EE=~BVPENV PTU200 PAC7EE $PACUSERS/REOREE200.txt`
export PAC7EE
BVPMSG 1009 "BVPTU200"
rtspac BVPTU200
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU200"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
PAC7PR=~BVPENV PTU205 PAC7PR $PACTMP/WPR`
export PAC7PR
PAC7RP=~BVPENV PTU205 PAC7RP $PACTMP/WRP`
export PAC7RP
BVPMSG 1009 "BVPTU205"
rtspac BVPTU205
RETURN=$?
# File size control
if [ "`bvpsize $PAC7PR`" != "`bvpsize $PAC7RP`" ]
then
RETURN=20
fi
case $RETURN in
0)
BVPMSG 1074
rm -f $PAC7PR
;;
20)
BVPMSG 1049
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU205"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7EB=~BVPENV PTU210 PAC7EB $PACUSERS/REOREB210.txt`

```

```

export PAC7EB
PAC7EE=~BVPENV PTU210 PAC7EE $PACUSERS/REOREE210.txt~
export PAC7EE
PAC7EK=~BVPENV PTU210 PAC7EK $PACUSERS/REOREK210.txt~
export PAC7EK
PAC7BM=~BVPENV PTU210 PAC7BM $PACTMP/WBM~
export PAC7BM
PAC7PR=~BVPENV PTU210 PAC7PR $PACTMP/WRP~
export PAC7PR
PAC7PU=~BVPENV PTU210 PAC7PU $PACTMP/WPU~
export PAC7PU
PAC7QS=~BVPENV PTU210 PAC7QS $PACTMP/WQS~
export PAC7QS
PAC7UM=~BVPENV PTU210 PAC7UM $PACTMP/WUM~
export PAC7UM
BVPMSG 1009 "BVPTU210"
rtspac BVPTU210
RETURN=$?
case $RETURN in
0)
  BVPMSG 1074
  rm -f $PAC7RP
  rm -f $PAC7PU
  ;;
8)
  BVPMSG 1012 "BVPTU210"
  BVPMSG 1050
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
4)
  BVPMSG 1012 "BVPTU210"
  BVPMSG 1051
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
*)
  BVPMSG 1012 "BVPTU210"
  BVPMSG 1025
  BVPERR
  BVPRMTMP
  exit $RETURN
  ;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7AN=~BVPENV PTU220 PAC7AN $PACTMP/WAN~
export PAC7AN
PAC7BM=~BVPENV PTU220 PAC7BM $PACTMP/WBM~
export PAC7BM

```

```

PAC7EE=`BVPENV PTU220 PAC7EE $PACUSERS/REOREE220.txt`
export PAC7EE
PAC7MR=`BVPENV PTU220 PAC7MR $PACTMP/WMR`
export PAC7MR
PAC7NX=`BVPENV PTU220 PAC7NX $PACTMP/WNX`
export PAC7NX
PAC7PA=`BVPENV PTU220 PAC7PA $PACTMP/WPA`
export PAC7PA
PAC7PB=`BVPENV PTU220 PAC7PB $PACTMP/WPB`
export PAC7PB
PAC7PC=`BVPENV PTU220 PAC7PC $PACTMP/WPC`
export PAC7PC
PAC7UM=`BVPENV PTU220 PAC7UM $PACTMP/WUM`
export PAC7UM
PAC7UR=`BVPENV PTU220 PAC7UR $PACTMP/WQS`
export PAC7UR
BVPMSG 1009 "BVPTU220"
rtspac BVPTU220
RETURN=$?
case $RETURN in
0)
    BVPMSG 1074
    rm -f $PAC7MR
    rm -f $PAC7NX*
    rm -f $PAC7UM
    rm -f $PAC7QS
    ;;
*)
    BVPMSG 1012 "BVPTU220"
    BVPMSG 1025
    BVPERR
    BVPRTMP
    exit $RETURN
    ;;
esac
# -----
PAC7AN=`BVPENV PTU225 PAC7AN $PACTMP/WAN`
export PAC7AN
PAC7NA=`BVPENV PTU225 PAC7NA $PACTMP/WNA`
export PAC7NA
BVPMSG 1009 "BVPTU225"
rtspac BVPTU225
RETURN=$?
# File size control
if [ "`bvpsize $PAC7AN`" != "`bvpsize $PAC7NA`" ]
then
    RETURN=20
fi
case $RETURN in
0)
    BVPMSG 1074
    rm -f $PAC7AN
    ;;
20)
    BVPMSG 1049

```

```

BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU225"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
PAC7PA=~BVPENV PTU226 PAC7PA $PACTMP/WPA~
export PAC7PA
PAC7PB=~BVPENV PTU226 PAC7PB $PACTMP/WPB~
export PAC7PB
PAC7PC=~BVPENV PTU226 PAC7PC $PACTMP/WPC~
export PAC7PC
PAC7QA=~BVPENV PTU226 PAC7QA $PACTMP/WQA~
export PAC7QA
PAC7QB=~BVPENV PTU226 PAC7QB $PACTMP/WQB~
export PAC7QB
PAC7QC=~BVPENV PTU226 PAC7QC $PACTMP/WQC~
export PAC7QC
PAC7QY=~BVPENV PTU226 PAC7QY $PACTMP/WQY~
export PAC7QY
PAC7NY=~BVPENV PTU226 PAC7NY $PACTMP/WNY~
export PAC7NY
BVPMSG 1009 "BVPTU226"
rtspac BVPTU226
RETURN=$?
case $RETURN in
0)
BVPMSG 1074
rm -f $PAC7PA
rm -f $PAC7PB
rm -f $PAC7PC
;;
*)
BVPMSG 1012 "BVPTU226"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7AN=~BVPENV PTU240 PAC7AN $PACTMP/WNA~
export PAC7AN
PAC7AU=~BVPENV PTU240 PAC7AU $PACTMP/WAU~
export PAC7AU
PAC7PA=~BVPENV PTU240 PAC7PA $PACTMP/WQA~

```

```

export PAC7PA
PAC7PB=~BVPENV PTU240 PAC7PB $PACTMP/WQB~
export PAC7PB
PAC7PC=~BVPENV PTU240 PAC7PC $PACTMP/WQC~
export PAC7PC
PAC7BM=~BVPENV PTU240 PAC7BM $PACTMP/WBM~
export PAC7BM
PAC7QY=~BVPENV PTU240 PAC7QY $PACTMP/WQY~
export PAC7QY
. $PACDIR/config/$1/PACSAVPC.ini
PACSAVPC=~BVPENV PTU240 PAC7CP $PACSAVPC~
PAC7CP=$PACSAVPC.NEW
export PAC7CP
PACSAVPCI=~BVPENV PTU240 PAC7PD $PACSAVPCI~
PAC7PD=$PACSAVPCI.NEW
export PAC7PD
PACSAVPCY=~BVPENV PTU240 PAC7PY $PACSAVPCY~
PAC7PY=$PACSAVPCY.NEW
export PAC7PY
PAC7IE=~BVPENV PTU240 PAC7IE $PACUSERS/REORIE240.txt~
export PAC7IE
BVPMSG 1009 "BVPTU240"
rtspac BVPTU240
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU240"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPMSG 1016 "PCBACKUP.ini"
sh $PACDIR/config/$1/PCBACKUP.ini
BVPRMTMP
exit $RETURN

```

---

## Chapter 4. Manager's Utilities

---

### PACX - Extractions

#### PACX - Introduction

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

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

Data is extracted as transactions that can be used as input to the following procedures:

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

#### Execution conditions

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

#### PACX - Input Common to 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 with user code (*-line user code)
		'1'	No lock extraction
		'2'	Lock extraction with 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) The possible values for the extractor code are:

- 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 (formatting for UPDP, UPDT or CPSN).
- 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 or entities.

### 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 '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, 1000 for EXTR, EXTA, EXUE and EXPU.
- The Pacdesign/Pacbench technical locks are not extracted by PACX.

### Results

The PACX procedure produces:

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

## **Extraction of Archived Transactions**

### **EXPJ - Introduction:**

The EXPJ procedure has a two-fold action:

- It converts the Journal file into update transactions with possible selection from a range of dates, sessions, libraries, etc.
- It prints out a listing of the contents of the archived Journal file, using the same criteria.

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

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

### Execution conditions

Password transfer option ('\*-line col. 50 = 1): for Administrators only.

### **EXPJ - User Input:**

User input specific to this procedure. It specifies the extraction characteristics.

Position	Length	Value	Meaning
2	1	'J'	Line code
3	1	'S'	Selection on session number
		'D'	Selection on date
4	1	' '	Chronological sort
		'N'	No chronological sort
5	1	' '	Sort by user
		'N'	No sort by user
6	1	' '	Sort by Library
		'N'	No sort by library
7	1	' '	Sort by session
		'N'	No sort by session
8	8	uuuuuuuu	User code (carried over to the assign line of the result file)
16	8	pppppppp	User password
24	4	dddd	Session number: beginning (if 'S')
28	4	ffff	Session number: end (if 'S')
32	8	CCYYMMDD	Date of beginning of select.(if 'D')
40	8	CCYYMMDD	Date of end of selection (if 'D')
48	1		Version of selected transactions
		' '	Selection of all sessions
		'Z'	Selection of current session
		'T'	Selection of frozen session
49	3	bbb	Code of selected library
52	5	ssssT	Selection of T-type session (test version of frozen session: 'ssssT')
57	3	ppp	DSMS Product Code
60	6	nnnnnn	DSMS Change number (Selection by change number-DSMS)
66	6	HHMMSS	Starting time
72	6	HHMMSS	Ending time
80	1	'*'	If selection on user, indicates a continuation line

The user code specified in this input line is not included in the selection.

Second user input if selection on user code:

Position	Length	Value	Meaning
2	1	'J'	Line code
3	1	'*'	Indicates a continuation line
4	8	uuuuuuuu	User code to be selected

This continuation line is unique ; the selection is performed on one user only.

This procedure recognizes one input only, i.e. the first input line followed or not by a continuation line.

An error message is sent when there are multiple input lines.

### Reports

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

### Results

If you requested the conversion of the Journal entries into transactions, the result of the EXPJ procedure is a sequential file which contains all selected transactions.

## **Extraction of Libraries**

### **EXLI - Introduction:**

The EXLI procedure extracts a complete library or a sub-network of Libraries in a transactions file format.

This will be used, according to the formatting requested, as input to the UPDT or UPDP update procedures or to the CPSN Sub-Network Comparison procedure.

### Execution conditions

If DESIGN entities have been downloaded and have then been locked, they must be uploaded before the extraction to ensure data consistency.

### **EXLI - User Input:**

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

## Printed report

The extractor prints:

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

## **Extraction for Purge**

### **EXPU - Introduction:**

The EXPU utility purges:

- unused entities from a Database,
- frozen sessions which have been logically cancelled,
- cancelled libraries,
- lines belonging to the users who no longer exist.

Several types of purges are possible:

- 'Logical' purge of entities which have become obsolete;
- 'Logical' purge of unused entities in a particular context;
- 'Physical' purge of entities which have never been used.

## Terminology

- Final entities

These are entities which are not used by other entities.

- Free-type cross-reference

Reference whose existence does not prevent the deletion of the Definition of the Entity on which it depends.

## Principles

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

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

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

- Physical purge: the EXPU procedure gives the list of the entities which have never been cross-referenced since they have been created in a given context. For these entities, physical purge transactions are generated. They can be used as input to the REOR procedure.

Limits of physical purge: if a data structure has already been purged, there is no physical purge possible for its segments.

- Purge of frozen sessions: the extraction for purge procedure indicates to the user the sessions which have been logically cancelled.

For these sessions, physical-purge transactions are generated. They can be used as input to the reorganization procedure.

- Purge of libraries: the extraction for purge procedure indicates to the user the libraries which have been cancelled.

For these libraries, physical-purge transactions are generated. They can be used as input to the reorganization procedure.

- Purge of GP lines: the extraction for purge procedure specifies to the user, the users who no longer exist in the Administration Database, despite the GP lines which still exist in the Database.

For these users, physical-purge transactions are generated. They can be used as input to the reorganization procedure.

#### Execution conditions

None.

#### **EXPU - User Input:**

One line with the extraction characteristics:

Position	Length	Value	Meaning
2	1	'P'	Line code
3	1		Purge of frozen sessions
		'S'	yes
		' '	No purge
		'P'	Purge of production sessions without entities in production
		'G'	Purge of production sessions which do not contain any entities in production, or else limitation of the number of production-turnover sessions for each entity
4	1		Purge of libraries
		'B'	yes
		' '	No purge
5	1		Purge of GP lines for users who no longer exist

Position	Length	Value	Meaning
		'U'	yes
		' '	No purge
6	1		Purge of entities
		'P'	Physical (via the REOR procedure)
		'L'	Logical (via the UPDT/UPDP update)
		' '	No purge
7	1	t	Entity type
8	1	'1'	Print option for the last entity update: user code and date
		' '	No print option
9	1	'1'	Print option for the last session in which the entity is used
		' '	No print option
10	4	ssss	Session number (L type only) from which the entities should not be used in order to be logically purged
14	6	pppppp	Program code where the search stops if Programs are processed (information required if the entity type is 'P' or blank)
14	2	cc	Meta Entity call type if User Entities are processed (information required if entity type is '\$' or 'Y')
26	1		Number of sessions to take into account for a 'G'-type request (in this case, the most recent n sessions will be taken into account)

### Comments

Each entity type may be processed separately. If there is no entity type entered, all the entities are processed except the final entities.

### Command examples

```
*user___passwordLIB
```

```
P___PE1
```

Command for physical purge transactions for the data elements in the LIB library sub-network and printing of the last update (user and date).

\*user\_\_\_\_passwordLIB

P\_\_LP112222PROGR

Command for logical deletion transactions for the programs in the LIB library sub-network whose codes are less than or equal to PROGR, and no longer used since the 2222 session with the printing of the last update (user and date) and the last session of use.

\*user\_\_\_\_passwordLIB

PSBUP\_\_\_\_\_PROGR

Command for the physical purge transactions for all entities in the LIB library sub-network (except the final entities), for logically cancelled frozen sessions, for deleted libraries and GP lines of users who no longer exist.

### Printed reports

This procedure prints out:

- the list of entities to be purged logically,
- the list of entities to be purged physically,
- the list of entities copied in the sub-network,
- the list of frozen sessions to be purged physically.
- the list of the libraries to be physically purged.
- the list of users whom GP lines are to be physically purged.

### Result

The result of this procedure is:

- In the case of a logical purge, a sequential file which contains entity deletion transactions to be used as input to the batch updating UPDT or UPDP procedures. These transactions are sorted as follows:
  - by decreasing hierarchical library level,
  - by library,
  - by record type: descriptions, definition screens.
- In the case of a physical purge, purge of frozen sessions, purge of libraries or GP lines, a sequential file of purge transactions to be used as input in the REOR procedure.

Each transaction contains an entity to be purged. For each entity, the following information is included:

- the entity type,

- the entity code,
- the library code (see section 'REOR - Input / Processing / Results' in subchapter 'REOR - Reorganization').

## Standardization Utility

### RMEN - Introduction:

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

Through this procedure you can:

- Rename an entity
- Replace an entity with another
- Move an entity to a higher-level library
- Rename and move up an entity simultaneously.

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

Its output is a file containing update transactions, which will be used as input to the batch update procedure (UPDT or UPDP).

### Execution conditions

None.

### RMEN - User Input:

Several command lines per entity to be processed:

First line - concerned entity :

Position	Length	Value	Meaning
2	2	'W2'	Line code
4	2		Processing option:
		'MV'	Entity move (UP)
		'RN'	Entity rename
		'MR'	Upward move and rename
		'RP'	Entity replace
6	1	' '	Line type



Position	Length	Value	Meaning
7	3	ttt	Entity type or local code of a WorkStation entity: D, E, I, O, P, R, S, T, \$nn, Ynn, M Q, B, V, or DST, DEL ...
10	30	eeee..	Code of entity to be extracted

Second line - environment :

Position	Length	Value	Meaning
2	2	'W2'	Line code
4	2		Processing option - same as line 1
6	1	'E'	Line type
7	3	sss	Source library code (for MOVE)
10	3		For extraction of WorkStation entities: methodology code
		'//A'	SSADM
		'//M'	MERISE
		'//D'	YSM
		'//O'	OMT
		'//F'	IFW
13	3	'ALL'	for 'MV' and 'MR': Selects all the UE of a meta entity or all the segments of a data structure (implicit option for 'RN' and 'RP')
16	6	rrrrrr	Parent Data Element code

Third line - new codes:

Position	Length	Value	Meaning
2	2	'W2'	Line code
4	2		Processing option - same as line 1
6	1	'N'	Line type
7	30	nnnn...	New entity code
37	8	gggggggg	For programs and screens, new generated code
45	6	cccccc	For programs, new sequencing code
51	8	eeeeeeee	For screens, new map code

Fourth line - selection for REPLACE:

Position	Length	Value	Meaning
2	2	'W2'	Line code
4	2	'RP'	'REPLACE'
6	1	'S'	Line type
7	3		REPLACE: Selection of the types of the entities to be modified
		'DEL'	Data Element
		'DBD'	Database Block
		'DST'	Data Structure
		'SEG'	Segment
		'RPT'	Report
		'TXT'	Text
		'VOL'	PDM volume
		'PGM'	Program
		'SCR'	Screen
		'PIA'	P.I.A.
		'MET'	Methodology
		'CME'	Client Meta Entity
		'CRL'	Client Relationship
		\$tt	Client User Entity (tt = type code)
		'\$**'	All Client User Entities
		Ytt	Extension User Entity (tt = type code)
		'Y**'	All Extension User Entities
10	30		Codes of entities to be modified (* may be used if you want to specify only the beginning of a code)

Lines for REPLACE (continuation lines for selection):

Position	Length	Value	Meaning
2	2	'W2'	Line code
4	2	'RP'	'REPLACE'
6	1	'*'	Line type
7	3		Selection of types of entities to be modified

Position	Length	Value	Meaning
10	30		Codes of entities to be modified

Last line (required):

Position	Length	Value	Meaning
2	2	'W2'	Line code
4	2		Processing option - same as line 1
6	1	'/'	Line type

### Request-sequencing requirements

The sequencing of RMEN requests should follow a logical order.

Examples:

- A parent Data Element must be moved to the higher-level library before its child Data Element(s).
- When a Segment is called by another Segment, the called Segment must be moved to the higher-level library before the Segment which calls it.
- When a macro-structure is called by a batch Program or on-line Screen, it must be moved to the higher-level library before this Program or Screen.

### Request-input requirements

All input is required except:

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

The 'RP' processing type is incompatible with the other processing types.

### Execution conditions

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

When an upward move is requested for an entity which already exists in the target library, a warning message appears in the report, but the transaction is not rejected.

### Printed report

This procedure prints out the following:

- The list of entities processed by RMEN.
- The number of lines extracted for each request.

### Result

The output is a sequential file which contains update transactions:

- Creation or modification transactions sorted by:
  - Ascending library hierarchical level,
  - Library,
  - Record type (uses, definition, or description).
- Deletion transactions sorted by:
  - Descending library hierarchical level,
  - Library,
  - Record type (uses, description, definition).

### Note

The replacement of entities (RP) does not ensure data consistency.

Example: if you replace a Data Element with another one in a Segment, RMEN does not modify the program lines where this Data Element is used by this Segment, except if you have requested the replacement in programs.

New occurrence codes longer than the initial ones may sometimes cause update transactions to be truncated. However, they will still belong to the flow of update transactions, but will also appear in the validation report with a warning message.

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

### **RMEN - Recommendations and Restrictions:**

Processing in a frozen session is possible. The number of the session is indicated on the '\*' line.

When an error is detected on the '\*' line, the request flow is not processed.

Only one '\*' line is authorized.

### All entity types

The MOVE+RENAME (MR) command first moves and then renames. The consequence is that all the entities bearing the same code within the sub-network of libraries equal to or lower than the target library are renamed by the RMEN procedure.

If this result is not satisfactory, it is advised to first run a RMEN/RENAME followed by a UPDT, then a RMEN/MOVE followed by another UPDT execution.

If the entity uses other entities, these used entities must exist in a library whose level is greater than or equal to that of the target library.

When an occurrence is renamed, if it is called on Assigned Text lines,

- it is changed on I-type lines,
- it is not changed on J-type lines.

### Data structures

Renaming a Data Structure causes the renaming of all its Segments.

**Warning:** An upward move of a Data Structure involves the upward move of all of its Segments contained in the source library in cases where the 'global upward move' field contains 'ALL'. If this field is blank, the Segments remain in the source library.

The existence of the Data Structure in an upper-level library is checked.

### Segments

These entities can only be moved upward. Their Data Structure must exist in a Library whose level is higher than or equal to that of the target Library.

The existence of a Segment in a library whose level is higher than or equal to that of the target Library is checked, as is that of called Segments, Data Elements, and MERISE Objects and Relationships.

### Reports

It is not possible to change a single report code or to replace a single report. It is however possible to perform an upward move of a single report.

However, you can rename, move upward or replace all the reports with the same prefixes (two first characters), you just need to enter '\*' in the third character place:

W2RN R xx\*

or W2MV R xx\*

or W2MR R xx\*

or W2RP R xx\*

An existence validation is performed in a library upper or equal to the target library for the called data elements only.

### Data elements

The indication of a parent Data Element code only affects the Data Element Definition in the source library. By default, a child Data Element remains attached to its parent. However, it is possible to suppress this link by entering the code '&&&&&&' in the parent Data Element field.

A child Data Element can be turned into a parent Data Element or may be assigned another parent by specifying a new parent Data Element code in the parent Data Element field.

In this case, the parent Data Element must be defined in a Library whose level is greater than or equal to the target Library.

A parent Data Element contained in a request must not have been previously processed as a source Data Element.

The format of the Data Element being moved remains the same, whatever the modification in relation to a parent Data Element.

If the target Data Element is used as an undefined Data Element, the format of its uses (on Segment or Report '-CE' screens) must correspond to the format specified in the Definition.

The renaming of a key Data Element of a Data Structure (indicated as an argument on the Call of Data Structures, '-CD' of a program) is not allowed.

### Programs

Their processing goes through a check on libraries whose level is higher than or equal to that of the target library of the:

- called Macro-Structures,
- called Data Structures,
- Segments or Data Elements called in WORKING-STORAGE.

## Screens

Screens are processed individually. RMEN does not process the whole Dialogue. The Dialogue must therefore exist in a library whose level is higher than or equal to that of the target library.

## Meta Entities

A Meta entity can be processed only if there is no other meta entity bearing the same call code in the sub-network of the target Library.

**Warning:** When the global upward move field contains 'ALL', an upward move of a Meta Entity involves the upward move of all of its User Entities contained in the source Library. If this field is blank, the User Entities remain in the source Library.

The existence of all Data Elements and User Relations called in the Definition lines is checked in a Library whose level is higher than or equal to the target Library.

## User Entities

The existence of the Meta entity in a Library higher than or equal to that of the target Library is checked, as is that of occurrences linked to the User Entities or details lines.

## Merise entities

For MERISE Objects and Properties called in description lines, an existence check is performed in the library whose level is higher than or equal to that of the target library.

## Database Blocks

The existence of MERISE objects or called segments is checked.

## Volumes

The existence of Reports called in the Volume Definition screen is checked.

## The Workstation entities

Calls of the '//A', '//M', '//D', '//O' and '//F' type are used to extract all the WorkStation entities. The local entity type must be entered (in the entity type field) as well as the code of entity before processing, the code of the source Library and the code of the entity after processing.

The WorkStation methodology (MERISE, IFW, OMT, YSM...) is entered in a special field at position 10 in the command line corresponding to the environment (line type : 'E').

**Warning:** One procedure execution can process entities related to only one Methodology.

## **Sub-Network and Entities Comparison**

### **CPSN - Introduction:**

The Sub-Network Comparison procedure (CPSN) compares the images of two sub-networks extracted by the PACX procedure (EXLI extractor, formatting for CPSN), which may or may not belong to the same network, or the images of entities extracted by the PACX procedure (EXTR or EXUE extractor, formatting for CPSN), in order to obtain the batch update transactions which will align the 'slave' sub-network or entities with the 'master' sub-network or entities.

- 'Master' sub-network = reference sub-network,
- 'Slave' sub-network = sub-network to align with the Master entity.
- 'Master' entity = reference entity,
- 'Slave' entity = entity to align with the reference entity

### Execution conditions

None.

### Abnormal execution

If an abend occurs, the procedure can be restarted as it is once the problem has been solved.

### **CPSN - User Input:**

No specific line.

### Note

The sub-networks or entities to be compared must have been extracted via the PACX procedure (EXLI, EXTR or EXUE extractor; formatting for CPSN).

They must contain the same number of libraries (checked by the system) and have the same structure.



## 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	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AY	Database dir. : AY	Input	Development Database extension data
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7PJ	Save dir.: PJ	Input	Archived transactions
PAC7MB	User input	Input	User input
PAC7MA	/dev/null	Input	CPSN Master file
PAC7ES	/dev/null	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
PAC7RQ	/dev/null	Input/Output	Work file
PAC7MV	User dir.: PACXMV	Output	Extracted transactions for UPDT
PAC7MR	User dir.: PACXMR	Output	Extracted transactions for REOR (EXPU)
PAC7MX	User dir.: PACMX	Output	Non extracted entities (PACX)

Code	Physical name	Type	Label
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 in user input (detailed in PAC7EE) or in EXTR/EXUE extractions (detailed in PAC7EZ)
- 8: Error in '\*' 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
. $PACDIR/config/$1/PACSAVPJ.ini
PAC7PJ=~BVPENV PACX PAC7PJ $PACSAVPJ`
export PAC7PJ
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/PACSAVPC.ini
PAC7PC=~BVPENV PACX PAC7PC $PACSAVPC~
export PAC7PC
PAC7RE=~BVPENV PACX PAC7RE $PACTMP/WRE~
export PAC7RE
PAC7RM=~BVPENV PACX PAC7RM $PACTMP/WRM~
export PAC7RM
PAC7RQ=~BVPENV PACX PAC7RQ /dev/null~
export PAC7RQ
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

```

---

## Session Management

### Introduction

The VA Pac session number cannot be greater than 9999. When the session number is close to 9999, the utility program re-assigns all the session numbers by incrementing the numbers of frozen sessions by 1 (starting from session 0001 or from a session chosen by the Administrator).

The utility consists in two procedures: the ESES preparation procedure and CSES compression procedure.

### Note

The session freeze is performed by the UPDT procedure or via the Administrator workbench. It increments the current session number.

This reassignment is carried out on sequential images of the files that include the session number, i.e. the backup files of the Database (PC), of the Journal (PJ), of the DSMS Journal (BJ), of the DSMS Database (BB), and of the Pactables Database (TC).

## **ESES - Session Numbers Extraction**

### **ESES - Introduction**

The Extraction of Session Numbers procedure (ESES) creates a table of correspondence between older frozen sessions and new frozen sessions.

#### Preliminary operations

Backup of the Development Database :

- Journal archiving (ARCH)
- Backup of the VA Pac Database (PACS with SAVE option)

If Pactables is installed:

- Table backup (SVTA)

If DSMS is installed, perform a backup of the DSMS environment:

- DSMS journal archiving (DARC)
- Backup of the DSMS Database (DSAV)

#### Execution conditions

None.

### **ESES - User Input**

A '\*' line with User code and Password is required.

One line (optional) per session number to force:

Position	Length	Value	Meaning
2	1	'S'	Line Code
3	4	nnnn	Original session number
7	4	nnnn	New session number

## ESES - Description of Steps

Creation of the Session matching file: PTUESS

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AN	Database dir. : AN	Input	Development Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7MB	User input	Input	Input transactions
PAC7MV	User dir. : MVESES	Output	Session-number correspondence table
PAC7EU	User dir. : ESESEUESS	Report	Extraction report
PAC7DD	User dir. : ESESDESS	Report	Batch procedure authorization option

Return codes:

- 8: No authorization for this procedure.

## ESES - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) ESES BATCH PROCEDURE
# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# *          - SESSION NUMBERS CORRESPONDENCE TABLE -
# *
# * -----
# *
# * THE EXTRACTION OF SESSION NUMBERS PROCEDURE
# * (ESES) CREATES A CORRESPONDENCE-TABLE FILE LINKING
# * OLDER FROZEN SESSIONS AND NEW FROZEN SESSIONS.
# *
# * INPUT :
# * - USER IDENTIFICATION LINE (REQUIRED)
# * - COMMAND LINE :
# * COL 2  : "S"   LINE CODE
# * COL 3  : (4 N) ORIGINAL SESSION NUMBER
# * COL 7  : (4 N) NEW SESSION NUMBER
# * -----
```

```

# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "ESES"
echo "          ====="
BVPMSG 1047 "$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/$1/PACGGU.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7MV=~BVPENV PTUCSS PAC7MV `dirname $PACUSERS`/MVESES`
export PAC7MV
PAC7DD=~BVPENV PTUESS PAC7DD $PACUSERS/ESESDESS.txt`
export PAC7DD
PAC7EU=~BVPENV PTUESS PAC7EU $PACUSERS/ESESEUESS.txt`
export PAC7EU
BVPMSG 1009 "BVPTUESS"
rtspac BVPTUESS
RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTUESS"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTUESS"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac

```



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

## CSES - Compression of Session Numbers

### CSES - Introduction

The Compression of Session Numbers procedure (CSES) compresses the session numbers of the Development Database logical backups, the Pactables Database if this module is installed on the site, and the DSMS Database if this module is installed on the site. It uses the correspondence table created by the ESES procedure.

The resulting files must be restored.

#### Execution conditions

None.

Yet, all the backups to be processed must be valid.

### CSES - User Input

A \* line with User Code and Password.

The user input is used to indicate the list of files to be retrieved (PC, PJ, BB, BJ, and TC), in order to execute the retrieval after one or several runs.

The line is built as follows:

Position	Length	Value	Meaning
2	1	'S'	Line code
3	21		Code of files to be retrieved (PC PJ BB BJ TC) separated with a blank
33	4		If the DSMS Database has to be retrieved: Development Database logical code

### CSES - Description of Steps

#### Compression of Session numbers: PTUCSS

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

Code	Physical name	Type	Label
PACGGR	Admin Database - DBase dir. : AR	Input	Administration Database data
PACGGN	Admin Database - DBase dir. : AN	Input	Administration Database index
PACGGU	Admin Database - DBase dir. : GU	Input	Administration Database users
PAC7MV	User dir. : MVESES	Input	Session numbers correspondence table
PAC7MB	User input	Input	Parameter line
PAC7PC	Save dir. : PC	Input	Development Database backup
PAC7PD	Save dir. : PCI	Input	If Dispatch option of the backup: Backup 2 of the Development Database
PAC7PY	Save dir. : PCY	Input	If Dispatch option of the backup: Backup 3 of the Development Database
PAC7CP	Save dir. : PC-new	Output	If Dispatch option of the backup:
PAC7DP	Save dir. : PCI-new	Output	If Dispatch option of the backup: Backup 2 of the Development Database
PAC7YP	Save dir. : PCY-new	Output	If Dispatch option of the backup: Backup 3 of the Development Database
PAC7PJ	Save dir. : PJ	Input	Backup of the Development Database Journal
PAC7JP	Save dir. : PJ-new	Output	Backup of the Development Database Journal
PACDBB	DSMS Database dir. : BB	Input	DSMS Database backup (if DSMS is installed)
PACDJB	DSMS Database dir.: BB -new	Output	DSMS Database backup (if DSMS is installed)
PACDDJ	DSMS Database dir. : BJ	Input	Retrieval of DSMS archived Journal (if DSMS is installed)
PACDJD	DSMS Database dir.: BJ-new	Output	Retrieval of DSMS archived Journal (if DSMS is installed)
PAC7TC	Save dir. : TC	Input	Retrieval of Pactables backup (if Pactables is installed)
PAC7CT	Save dir. : TC-new	Output	Retrieval of Pactables backup (if Pactables is installed)

Code	Physical name	Type	Label
PAC7EU	User dir. : CSESEUCSS	Report	Execution output
PAC7DD	User dir. : CSESDDCSS	Report	Batch procedure authorization option

Return codes:

- 8: No authorization for this procedure.

### CSES - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) CSES BATCH PROCEDURE
# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# *          - COMPRESSION OF SESSION NUMBERS -
# *
# * -----
# *
# * THE COMPRESSION OF SESSION NUMBERS PROCEDURE (CSES)
# * COMPRESSES THE SESSION NUMBERS OF THE DEVELOPMENT
# * DATABASE LOGICAL BACKUPS, THE PACTABLES DATABASE IF
# * THIS MODULE IS INSTALLED ON THE SITE, AND THE DSMS DATA
# * BASE IF THIS MODULE IS INSTALLED ON THE SITE. IT USES
# * THE CORRESPONDENCE TABLE CREATED BY THE ESES PROCEDURE.
# * THE RESULTING FILES MUST BE RESTORED.
# *
# * INPUT :
# * - USER IDENTIFICATION LINE (REQUIRED)
# * - COMMAND LINE :
# * COL 2  : "S"          LINE CODE
# * COL 3  : (21 CAR.)  CODE OF THE FILES TO RETRIEVE (PC
# *                   PJ BB BJ TC) SEPARATED WITH A BLANK
# * COL 33 : (4 CAR.)  IF THE DSMS DATABASE HAS TO BE
# *                   RETRIEVED : DEVELOPMENT DATABASE LOGICAL CODE
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "CSES"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
BVPMSG 1020
BVPMSG 1021 DSMS
```

```

BVPMSG 1022
BVPMSG 1023 "\$DSMSDIR" DSMS $DSMSDIR

BVPMSG 1024 "\$DSMSBASE" DSMS $DSMSBASE
BVPMSG 1021 PACTABLES
BVPMSG 1022
BVPMSG 1023 "\$TABDIR" PACTABLES $TABDIR
BVPMSG 1024 "\$TABBASE" PACTABLES $TABBASE
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7MV=~BVPENV PTUCSS PAC7MV `dirname $PACUSERS`/MVESES`
export PAC7MV
if [ ! -f "$PAC7MV" ]
then
  BVPMSG 1071 $PAC7MV
  BVPERR
  BVPRMTMP
  BVPRMUSERS
  RETURN=1
  exit $RETURN
fi
. $PACDIR/config/$1/PACSAVPC.ini
PACSAVPC=~BVPENV PTUCSS PAC7PC $PACSAVPC`
PAC7PC=$PACSAVPC
export PAC7PC
PAC7CP=$PACSAVPC.NEW
export PAC7CP
PACSAVPCI=~BVPENV PTUCSS PAC7PD $PACSAVPCI`
PAC7PD=$PACSAVPCI
export PAC7PD
PAC7DP=$PACSAVPCI.NEW
export PAC7DP
PACSAVPCY=~BVPENV PTUCSS PAC7PY $PACSAVPCY`
PAC7PY=$PACSAVPCY
export PAC7PY
PAC7YP=$PACSAVPCY.NEW
export PAC7YP
. $PACDIR/config/$1/PACSAVPJ.ini
PACSAVPJ=~BVPENV PTUCSS PAC7PJ $PACSAVPJ`
PAC7PJ=$PACSAVPJ
export PAC7PJ
PAC7JP=$PACSAVPJ.NEW
export PAC7JP
if [ -f "$DSMSDIR/config/$DSMSBASE/PACSAVBB.ini" ]
then
  . $DSMSDIR/config/$DSMSBASE/PACSAVBB.ini

```

```

    PACDBB=$PACSAVBB
    export PACDBB
    PACDJB=$PACSAVBBNEW
    export PACDJB
fi
if [ -f "$DSMSDIR/config/$DSMSBASE/PACSAVBJ.ini" ]
then
    . $DSMSDIR/config/$DSMSBASE/PACSAVBJ.ini
    PACDDJ=$PACSAVBJ
    export PACDDJ
    PACDJD=$PACSAVBJNEW
    export PACDJD
fi
if [ -f "$TABDIR/config/$TABBASE/PACSAVTC.ini" ]
then
    . $TABDIR/config/$TABBASE/PACSAVTC.ini
    PAC7TC=$PACSAVTC
    export PAC7TC
    PAC7CT=$PACSAVTCNEW
    export PAC7CT
fi
PAC7DD=~BVPENV PTUCSS PAC7DD $PACUSERS/CSESDDCSS.txt`
export PAC7DD
PAC7EU=~BVPENV PTUCSS PAC7EU $PACUSERS/CSESEUCSS.txt`
export PAC7EU
BVPMSG 1009 "BVPTUCSS"
rtspac BVPTUCSS
RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTUCSS"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTUCSS"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
if [ -f "$PACSAVPC.NEW" ]
then
    BVPMSG 1016 "PCBACKUP.ini"
    sh $PACDIR/config/$1/PCBACKUP.ini
fi
if [ -f "$PACSAVPJ.NEW" ]
then

```

```

        BVPMMSG 1016 "PJBACKUP.ini"
        sh $PACDIR/config/$1/PJBACKUP.ini
    fi
    if [ -f "$PACSAVBNEW" \
        -a -f "$DSMSDIR/config/$DSMSBASE/BBBACKUP.ini" ]
    then
        BVPMMSG 1016 "BBBACKUP.ini"
        sh $DSMSDIR/config/$DSMSBASE/BBBACKUP.ini
    fi
    if [ -f "$PACSAVBNEW" \
        -a -f "$DSMSDIR/config/$DSMSBASE/BJBACKUP.ini" ]
    then
        BVPMMSG 1016 "BJBACKUP.ini"
        sh $DSMSDIR/config/$DSMSBASE/BJBACKUP.ini
    fi
    if [ -f "$PACSAVTCNEW" \
        -a -f "$TABDIR/config/$TABBASE/TCBACKUP.ini" ]
    then
        BVPMMSG 1016 "TCBACKUP.ini"
        sh $TABDIR/config/$TABBASE/TCBACKUP.ini
    fi
    BVPRMTMP
    exit $RETURN

```

---

## Management of Access Keys and User Rights

### UKD0 - Introduction

This procedure prepares the matching file for the user rights of the old and the new key, before the key is activated via the UKD1 procedure.

The output file must be checked by the user : it may be modified, especially if the key range has changed.

#### Execution condition

Non, since this procedure does not update the database.

#### Printed report

This procedure prints a report which lists the errors (EK2) as well as a validation report (EK3) which allows, if necessary, to correct the generated matching file.

#### Result

A matching file for the user rights between the old and the new key. This file will be used as input to the UKD1 procedure.

## UKD0 - User input

A '\*' line with a user code and password.

The user must be an Administrator.

A 'K'-type line to specify the key to be activated.

This line is optional ; if it is not specified, the first key whose expiring date is still valid will be taken into account.

Pos.	Len.	Value	Meaning
2	1	'K'	Line code to activate the key
3	14		Identifier of the key to be activated (formatted as CCYYMMDDHHMMSS). This key must exist in the Administration Database as 'Archive', must not be a test key and must not be expired.

## UKD0 - Description of Steps

Preparation of the Rights' matching file: PTUKD0

Code	Physical name	Type	Label
PAC7MB		Input	User input
PAC7AR	Admin Database - DBase dir.: AR	Input	Administration Database data
PAC7AN	Admin Database - DBase dir.: AN	Input	Administration Database index
PAC7AE	System - Skel. dir. : AE	Input	Error messages
PACGGR	Admin Database - DBase dir.: AR	Input	Administration Database data
PACGGN	Admin Database - DBase dir.: AN	Input	Administration Database index
PACGGU	Admin Database - DBase dir. : GU	Input	Administration Database users
PAC7DD	User dir. : UKD0DDKD0	Report	Authorization review
PAC7EK	User dir. : UKD0EKKD0	Report	Validation reports
PAC7MD	User dir. : MUKD0.txt	Output	Rights' matching

Transaction formatting: PAF900

Code	Physical name	Type	Label
PAC7AR	Admin. Database - Base dir.: AR	Input	Administration Database data
PAC7AN	Admin. Database - Base dir.: AN	Input	Administration Database index
PAC7AE	System - Skel. dir.: AE	Input	Error labels
PACGGR	Admin. Database - Base dir.: AR	Input	Administration Database data
PACGGN	Admin. Database - Base dir.: AN	Input	Administration Database index
PACGGU	Admin. Database - Base dir.: GU	Input	Administration Database users
PAC7GY	Tmp dir.: WGZ or WGY	Input	Update transactions
PAC7MV	Tmp dir.: WMV	Output	Formatted transactions (should be able to contain all input transactions and the elementary cancel transactions generated by multiple cancel 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)

## UKD1 - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) UKD0 BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      -   PREPARATION BEFORE ACTIVATION KEY   -
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "UKD0"
echo "
=====
BVPMSG 1047 "$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 PTUKD0 PAC7DD $PACUSERS/UKD0DDKD0.txt`
export PAC7DD
PAC7EK=~BVPENV PTUKD0 PAC7EK $PACUSERS/UKD0EKKD0.txt`
export PAC7EK
PAC7MD=~BVPENV PTUKD0 PAC7MD `dirname $PACUSERS\~/INUKD1.txt`
export PAC7MD
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPTUKD0"
rtspac BVPTUKD0
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUKD0"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

## UKD1 - Introduction

### Principle

This procedure has three functions, knowing that only one can be performed at a time:

- Activate a new Access Key,
- Assign use rights to Users,
- Assign use rights to Profiles.

### Execution conditions

The Administration Database must be closed to on-line use in order to be updated, except for hardware environments that support concurrent on-line and batch access.

### Printed output

This procedure outputs a report which lists the errors, as well as an update review.

### Result

The procedure updates the Administration Database according to the requests specified in input.

## **UKD1 - User input**

This procedure requires two input file:

The first (PAC7MB) contains the '\*' line, where the user code and password are specified.

The user must be an Administrator.

The second (PAC7MD) contains the data generated by the UKD0 procedure or entered manually.

It must contain, in an exclusive way, a 'K'-type line followed by 'R'-type lines, or 'U'-type lines, or 'P'-type lines.

'K'-type line to activate the key

Pos.	Len.	Value	Meaning
1	1	'K'	Line code to activate the key
2	14		Identifier of the key to be activated (formatted as CCYYMMDDHHMMSS). This key must exist in the Administration Database as 'Archive', must not be a test key and must not be expired.

'R'-type lines to match the rights of the old and the new key.

Pos.	Len.	Value	Meaning
1	1	'R'	Line code for the matching of rights
2	4		Rights in the old key
6	4		Rights in the new key

'U'-type lines to modify or assign use rights to Users

Position	Length	Value	Meaning
1	1	'U'	Line code to modify or assign use rights
2	8		User code
10	50	Right (1)	10 fields of 5 characters (4 characters for the right and 1 character for the indicator of the permanent assignment of the right). So up to 10 rights can be assigned on each line.

(1) The indicator for the permanent assignment of the right is the fifth character of each right occurrence. Its values are: '1' if permanent, ' ' if not permanent.

The possible values of the type of use rights are:

Value	Meaning
CO1	Designer
IW1	Workbench developer
PA1	TUI developer
T1n	Traditional build facility Mono-target n
T2n	Traditional build facility Bi-target n
TM1	Traditional build facility Multi-target
E1n	eBusiness build facility Mono-target n
E2n	eBusiness build facility Bi-target n
EM1	eBusiness build facility Multi-target

'P'-type line to assign rights to Profiles

Pos.	Len.	Value	Meaning
1	1	'P'	Line code to assign rights to Profiles
2	20		Profile code
22	4		Type of rights to assign
26	1	'1'	Permanent right
		' '	Not permanent right

Note:

The rights assigned to a Profile are also assigned to all the Users who have this Profile, if these rights are compatible with those already assigned to the User.

## UKD1 - Description of Steps

Processing the new key and assigning rights to several users: PTUKD1

Code	Physical Name	Type	Name
PAC7MB		Input	User input
PAC7MD	User dir. : MUKD0.txt	Input	Rights matching
PAC7AR	Admin Database - DBase dir.: AR	Input	Administration Database data
PAC7AN	Admin Database - DBase dir.: AN	Input	Administration Database index
PAC7AE	System - Skel dir.: AE	Input	Error messages
PACGGR	Admin Database - DBase dir.: AR	Input	Administration Database data
PACGGN	Admin Database - DBase dir.: AN	Input	Administration Database index
PACGGU	Admin Database - DBase dir.: GU	Input	Administration Database users
PAC7DD	User dir.: UKD1DDKD1	Report	Authorization check
PAC7EK	User dir.: UKD1EKKD1	Report	Error messages
PAC7GY	Tmp dir.: WGY	Output	User parameter transactions (length=310)

Transactions formatting: PAF900

Code	Physical name	Type	Label
PAC7AR	Admin Database - DBase dir.: AR	Input	Administration Database data
PAC7AN	Admin Database - DBase dir : AN	Input	Administration Database index
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGR	Admin Database - DBase dir.: AR	Input	Administration Database data
PACGGN	Admin Database - DBase dir.: AN	Input	Administration Database index
PACGGU	Admin Database - User dir.: GU	Input	Administration Database users

Code	Physical name	Type	Label
PAC7GY	Tmp dir.: WGY	Input	Update transactions
PAC7MV	Tmp dir.: WMV	Output	Formatted transactions (must be able to contain all the input transactions and the elementary delete transactions generated by the multiple delete 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 Administration Database: PACA15

Code	Physical name	Type	Label
PAC7AR	Admin. Database - Base dir.: AR	Output	Administration Database Data file
PAC7AN	Admin. Database - Base dir.: AN	Output	Administration Database Index file
PAC7AY	Admin. Database - Base dir.: AY	Output	Administration Database extension
PAC7AJ	Admin. Database - Base dir.: AJ	Output	Administration Database journal
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. Database - Base dir.: AN	Input	Administration Database Index file
PACGGR	Admin. Database - Base dir.: AR	Input	Administration Database Data file
PACGGY	Admin. Database - Base dir.: AY	Input	Administration Database Extension
PACGGU	Admin. Database - Base dir.: GU	Input	Administration Database users
PAC7DC	Base dir. : DC		DSMS file of the Development Database
PAC7ME	Tmp dir.: WME	Input	Work file
PAC7MV	Tmp dir.: WMV	Input	Update transactions

Code	Physical name	Type	Label
PAC7RB	User dir.: ....RBA15	Output	UPDT erroneous transactions (length=80)
PAC7RY	User dir.: ....RYA15	Output	UPDP erroneous transactions (length=310)
PAC7IE	User dir.: ....IEA15	Report	Update report (length=132)
PAC7IF	User dir.: ....IFA15	Report	List of erroneous transactions (length=132)

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

Return codes:

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

## UKD1 - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) UKD1 BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *
# * -----
# *     -     KEY ACTIVATION           -
# *     - OR  ASSIGNMENT OF USER'S RIGHTS -
# *     - OR  ASSIGNMENT OF PROFILE'S RIGHTS -
# *
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "UKD1"
echo "          ====="
BVPMSG 1047 "$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 PTUKD1 PAC7DD $PACUSERS/UKD1DDKD1.txt~
export PAC7DD
PAC7EK=~BVPENV PTUKD1 PAC7EK $PACUSERS/UKD1EKKD1.txt~
export PAC7EK
PAC7GY=~BVPENV PTUKD1 PAC7GY $PACTMP/WGY~
export PAC7GY
PAC7MD=~BVPENV PTUKD1 PAC7MD `dirname $PACUSERS`~/INUKD1.txt~
export PAC7MD
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPTUKD1"
rtspac BVPTUKD1
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUKD1"
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
PAC7GY=~BVPENV PAF900 PAC7GY $PACTMP/WGY~
export PAC7GY
echo " CHECKP 4000UPDT" > $PAC7GY.tmp
cat $PAC7GY >> $PAC7GY.tmp
mv $PAC7GY.tmp $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 "BVP AF900"
BVPMSG 1025
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/PACGGY.ini
. $PACDIR/config/$1/PAC7DC.ini
. $PACDIR/config/$1/SEMLOCK.ini
PAC7IE=`BVPENV PACA15 PAC7IE $PACUSERS/UKD1IEA15.txt`
export PAC7IE
PAC7IF=`BVPENV PACA15 PAC7IF $PACUSERS/UKD1IFA15.txt`
export PAC7IF
PAC7ME=`BVPENV PACA15 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MV=`BVPENV PACA15 PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7RB=`BVPENV PACA15 PAC7RB $PACTMP/WRB`
export PAC7RB
PAC7RY=`BVPENV PACA15 PAC7RY $PACTMP/WRY`
export PAC7RY
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=$?
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"

```



```

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

```

---

## Database statistics

### STAT - Introduction

This procedure creates, from the files output by the save procedure, a sequential file which can be used to calculate statistics.

#### Execution conditions

None.

#### Output result

This procedure outputs a sequential file whose records are 100 characters long and whose contents are:

- a record which identifies the Database

Pos.	Len.	Format/Value	Meaning
9	10	'BASDEF '	Constant
19	4	9(4)	Database code
23	4	9(4)	Current session
27	4	9(8)	Current date

- a global record:

Pos.	Len.	Format/Value	Meaning
9	10	'GLOBAL '	Constant
19	3	9(3)	Number of libraries
22	8	9(8)	Index: number of records
30	8	9(8)	Index: number of deleted records
38	8	9(8)	Data: number of records (gaps + data)
46	8	9(8)	Data: number of deleted records
54	8	9(8)	Data: number of 'gap' records

Pos.	Len.	Format/Value	Meaning
62	8	9(8)	Data: number of 'data' records
70	8	9(8)	Data: number of records in frozen sessions
78	8	9(8)	Data: number of records in current sessions
86	8	9(8)	Bulk: number of records

- One or more records per library which has lower-level libraries:

Pos.	Len.	Format/Value	Meaning
1	3	X(3)	Library code
9	6	'LIBINF'	Constant (BIBINF for a French Database)
16	2	X(2)	First record: ' ' Next records: 01, 02, 03, etc ...
19	81		Table containing 27 items (3-character long) which represent lower-level libraries

- One or more records per library which has higher-level libraries:

Pos.	Len.	Format/Value	Meaning
1	3	X(3)	Library code
9	6	'LIBSUP'	Constant (BIBSUP for a French Database)
16	2	X(2)	First record: ' ' Next records: 01, 02, 03, etc ...
19	81		Table containing 27 items (3-character long) which represent higher-level libraries

- One record per library/session/line type:

Pos.	Len.	Format/Value	Meaning
1	3	X(3)	Library code
4	4	9(4)	Session number
8	1	X(1)	Session type
9	10	X(10)	Line type
19	8	9(8)	Number of updated data items (1)
27	8	9(8)	Number of deleted data items (1)

These numbers represent the number of entities which were updated or deleted during a given session.

The line type corresponds to the PAF table code. The following codes have been added:

- \$ttDSC/YttDSC: User Entity description, tt being the call type (each description type is not detailed),
- xxxLOCKS: locks and timestamps, xxx being the entity type: TXT, DEL,... (xxxBLOCAGE for a French Database),
- xxxKWD: keywords, xxx being the entity type: TXT, DEL, ... (xxxMCL for a French Database),
- LONGV3: Long data attached to comments (-GC), generation elements (-GG), generation options (-GO) and error messages lines (-GE),
- LONG4: Long data attached to the layout lines of Reports,
- LONGY3: Long data attached to the User Entity Definition,
- LONGY4: Long data attached to the User Entity Descriptions.

### STAT - User Input

A '\*' line with the user code and password.

### STAT - Description of Steps

Formatting of the sequential file: PTUSTA

Code	Physical Name	Type	Name
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7PC	Save dir. : PC	Input	Sequential image of the Development Database
PAC7PD	Save dir. : PCI	Input	If Dispatch option in the save procedure: Sequential image 2 of the network
PAC7PY	Save dir. : PCY	Input	If Dispatch option in the save procedure: Sequential image 3 of the network
PAC7MB	User input	Input	User transactions
PAC7ST	User dir. : WST	Output	Output file (length= 100)
PAC7DD	User dir. : STATDD	Report	Execution report

## STAT - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) STAT BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      GENERATE DATABASE STATISTICS
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "STAT"
echo "          ====="
BVPMSG 1047 "$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
PAC7DD=`BVPENV PTUSTA PAC7DD $PACUSERS/STATDD.txt`
export PAC7DD
PAC7MB=$PACINPUT
export PAC7MB
. $PACDIR/config/$1/PACSAVPC.ini
PAC7PC=`BVPENV PTUSTA PAC7PC $PACSAVPC`
export PAC7PC
PAC7PD=`BVPENV PTUSTA PAC7PD $PACSAVPCI`
export PAC7PD
PAC7PY=`BVPENV PTUSTA PAC7PY $PACSAVPCY`
export PAC7PY
PAC7ST=`BVPENV PTUSTA PAC7ST $PACUSERS/WST`
export PAC7ST
BVPMSG 1009 "BVPTUSTA"
rtspac BVPTUSTA
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUSTA"
BVPERR
BVPRMTMP
```

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



---

## Chapter 5. Analysis of Activity and Quality Control

---

### Analysis of Activity

#### ACTI - Introduction

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

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

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

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

The Journal Statistics Utility allows the Database Manager to query the Journal backup file based on various parameters:

- library code,
- user code,
- entity type,
- entity code,
- line code,
- transaction type,
- date of update,
- time of update,
- session number of update,
- transaction code,
- change number.

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

Statistics and graphs are sorted and calculated according to the user request.

- Output Report Type,
- page layout criteria,
- Request Area,
- Data sequencing mode,

- Activity calculation mode.

### Execution conditions

None.

## **ACTI - Query Language**

### Request coding

A Journal Statistics Request consists of five different types of lines, identified by the following KEYWORDS:

- Output : Output Report Type,
- Page : Page Layout (page breaks),
- Area : Request Area,
- Line : Statistical Report Lines,
- Column : Statistical Report Columns,
- Abscissa : Curve-type graph Abscissas,
- Ordinate : Curve-type graph Ordinates.

The meaning of the keywords, the parameters which define them, as well as their compatibility are explained in the 'Keywords Meaning and filling modes' paragraph.

The Output line is required; the Page and Area lines are optional. The Line, Column, Abscissa, and Ordinate lines are either required or prohibited, depending on the requested output report type.

Only the first three characters of a keyword are used to identify a line type.

On the printed report, each request line is explicitly stated on the first page and an explicit error message is generated in case of a rejected line.

Request lines must be entered in the following order:

Output Page Area Line Column Abscissa Ordinate

Any error in this sequence will be considered as the beginning of another request.

The user may enter up to 10 requests at the same time.

The purpose of the ':' character is to mark the end of the keyword.

The rest of the line contains the parameters of each characteristic.



## Parameters

Parameters are used to define page layouts, lines and abscissas. These are called 'Presentation Criteria'.

Parameters followed by '=' and a value are called 'Selection Criteria'.

The parameters which define counting or calculations are called 'Calculations'.

The coding, meaning and compatibility of the parameters are described in the 'Parameters Definition and Comments' paragraph.

## Separators

The data entered on request lines are separated and grouped together using the following characters:

- ':' = end of keyword,
- '=' = link between a parameter and its value,
- '(' = set of parameters for calculations,
- ',' = parameter or calculation separator,
- '/' = calculation combination,
- '\*' = generic selection,
- 'Blank' = end of line (subsequent data is entered for documentary purposes).

## Keywords: Meaning and filling modes

OUT(put) : Output report type

This type of line is required at the beginning of each request.

The parameters used to define the output report type are:

- STA for statistics
- GRA for graph
- LIS for list

PAG(es) : Page layout

This type of line is used to indicate at which level a page skip is to be inserted.

The Page layout line is optional.

Headings are printed for each level, as well as totals for the statistical reports.

The page layout is defined by a series of parameters (three maximum separated by the ',' character) identifying data from the Journal, and called 'presentation criteria'.

Example: A page skip may be requested for each user and for each library.

ARE(a) : Request area

This type of line is used to define the transactions to be taken into account.

The REQUEST AREA line is optional.

The Request Area is defined by parameters (separated by the ',' character) followed by the '=' character and the selected value.

Example: The request applies to only some users and for a given period of time.

LIN(es) : Data sorting mode

or

ABS(cissa)

This type of line is used to define either the lines of a statistical report or the X-axis of a curve-type graph.

It is required for both statistical reports and curve-type graphs. However, it is not permitted for transaction lists.

There may be several lines of this type for statistical report.

The Data Sorting Mode may be defined by Presentation Criteria, as well as Selection Criteria. Parameters and values are separated by the ',' character.

Example: Data is sorted by entity type for a statistical report, or by week for a curve-type graph.

COL(umns) : Activity calculation mode

or

ORD(inate)

This type of line defines the columns of a statistical report or the ordinates of a curve-type graph (maximum of seven columns or curves).

It is required for both statistical reports and curve-type graphs. However, it is not permitted for transaction lists.

Each column or curve is determined by a calculation, followed by bracketed Selection Criteria. Columns or curves, parameters and values, are all separated by the ',' character.

A printing character (&Cn\*dofHAR='X') must be specified for each curve.

A statistical report column may be defined by the relationship between two calculations; these calculations are separated by the '/' character.

Example: A first column or a first curve may be a calculation of the transactions entered on-line, while a second one may show the ratio between the input transactions and the real transactions.

#### Parameters: Definition and comments

&LIB : Library code

This parameter is used as a Selection Criterion to define the Page Layout, the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

A generic selection may be requested by simply replacing every appropriate character by the '\*' character.

&USER : User code

This parameter is used as a Presentation and Selection Criterion to define the Page Layout, the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

A generic selection may be requested by simply replacing every appropriate character by the '\*' character.

&ENTG : Entity type

This parameter is used as a Presentation and Selection Criterion to define the Page Layout, the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

&ENTD : Line code / Entity type

This parameter is used as a Presentation and Selection Criterion to define the Data Sorting Mode.

Values are selected according to the entity type entered in the preceding parameter.

&LICO : Line code

This parameter is used as a Presentation and Selection Criterion to define the Page Layout, the Request Area, the Data Sorting Mode, and Activity Calculation Mode.

Values are selected according to the batch line codes.

&ENT : Entity code

This parameter is used as a Presentation and Selection Criterion to define the Page Layout, the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

A generic selection may be requested by simply replacing every appropriate character by the '\*' character.

Values are selected according to the entity type and code.

&INPT : Input type

This parameter is used as a Presentation and Selection Criterion to define the Page Layout, the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

The value 'B' corresponds to the batch input mode; the value 'T' corresponds to the on-line input mode, the value 'C' corresponds to special on-line input mode related to the GP screen and the value 'I' corresponds to the input transactions resulting from VINS and the bulk data.

&D1 : Starting date

This parameter is used as a Selection Criterion to define the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

This parameter has to be followed by a date (MMDDCCYY). If this parameter is missing, the starting date coincides with the beginning of the Journal.

&D2 : End date

This parameter is used as a Selection Criterion to define the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

This parameter has to be followed by a MMDDCCYY date format.

If this parameter is missing, the end date coincides with the end of the Journal.

&S1 : Starting session

This parameter is used as a Selection Criterion to define the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

This parameter has to be followed by a five-character field: a four-character session field and one-character session status field.

If this parameter is missing, the starting session coincides with the beginning of the Journal.

&S2 : Final session

This parameter is used as a Selection Criterion to define the Request Area, the Data Sorting Mode, and the Activity Calculation mode.

This parameter has to be followed by a five-character session field: a four-character session number and a one-character session status. If this parameter is missing, the final session coincides with the end of the Journal.

&DAY : Day-by-day presentation

Used as a Presentation Criterion to define the page layout and the data sorting mode.

To define an X-axis, this parameter must be followed by the '=' character and the number of characters corresponding to the curve step (its default value is one character).

&WEEK : Week-by-week presentation

Used as a presentation criterion to define the page layout and the data sorting mode.

To define an X-axis, this parameter must be followed by the '=' character and the number of characters corresponding to the curve step (its default value is one character).

&MON : Month-by-month presentation

Used as a presentation criterion to define the page layout and the data sorting mode.

To define an X-axis, this parameter must be followed by the '=' character and the number of characters corresponding to the curve step (its default value is one character).

&YEAR : Year-by-year presentation

Used as a presentation criterion to define the page layout and the data sorting mode.

To define an X-axis, this parameter must be followed by the '=' character and the number of characters corresponding to the curve step (its default value is one character).

&SESS : Presentation by session

Used as a presentation criterion to define the page layout and the data sorting mode.

The user cannot use it to select sessions (the '=' character is therefore unnecessary).

&CHAR : Printing curve character

May only be used to define the activity calculation mode relative to the curve-type graphs.

It must follow (within parentheses) the calculation defining a curve.

&INTR : Number of input transactions (except logon and logoff transactions which are not taken into account).

Should only be used to define the activity calculation mode. Each Journal transaction is an input transaction.

Note: &INTR represents the total of input transactions and not the total of the other selected transaction types.

&RETR : Number of real transactions

May only be used to define the activity calculation mode.

A Journal transaction is effective, provided it is not modified by another transaction and it is not itself a deletion transaction. This concept is linked to the presentation criteria, i.e. a transaction which is modified once a day is effective every day with a day-by-day presentation; it is effective only once with another presentation.

&H1 : Starting time

This parameter is used as a Selection Criterion to define the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

This parameter has to be followed by a HHMMSS time format.

If this parameter is missing, the starting time coincides with the beginning of the Journal.

&H2 : End time

This parameter is used as a Selection Criterion to define the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

This parameter has to be followed by a HHMMSS time format.

If this parameter is missing, the end time coincides with the beginning of the Journal.

&MIN : Minute-by-minute presentation

Used as a presentation criterion to define the page layout and the data sorting mode.

To define an X-axis, this parameter must be followed by a '=' character and the number of characters corresponding to the curve step (its default value is one character)

&HOUR : Hour-by-hour presentation

Used as a presentation criterion to define the page layout and the data sorting mode.

To define an X-axis, this parameter must be followed by a '=' character and the number of characters corresponding to the curve step (its default value is one character)

&MCOB : Transaction code

This parameter is used as a Presentation and Selection Criterion to define the Page Layout, the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

&DSMS : Change number

This parameter is used as a Presentation and Selection Criterion to define the Page Layout, the Request Area, the Data Sorting Mode, and the Activity Calculation Mode.

Parameter	AREa	PAGes	OUTput	OUTput
			STA	GRA
			LIN COL	ABS ORD
&LIB	YES	YES	YES	YES
&USER	YES	YES	YES	YES
&ENTG	YES	YES	YES	YES
&ENTD		YES	YES	
&LICO	YES	YES	YES	YES
&ENT	YES	YES	YES	YES
&INPT	YES	YES	YES	YES
&D1=				
MMDDCCYY	YES		YES	YES
&D2=				
MMDDCCYY	YES		YES	YES
&S1=9999Z	YES		YES	YES
&S2=9999Z	YES		YES	YES
&MIN	YES	YES	YES	=
&HOUR	YES	YES	YES	=
&DAY	YES	YES	YES	=
&WEEK	YES	YES	YES	=
&MON	YES	YES	YES	=
&YEAR	YES	YES	YES	=
&SESS		YES	YES	
&MCOB		YES	YES	YES
&DSMS		YES	YES	YES
&CHAR				CALCULATION
&INTR				CALCULATION



Parameter	AREa	PAGes	OUTput	OUTput
&RETR				CALCULATION

'=' : the parameter must be followed by the separator character '=' and the curve step;

CALCULATION : only used in the Activity Calculation Mode.

### ACTI - User Input

A '\*' line with user code and password.

The specific input needed for this procedure is described in the previous section, titled 'Query language'.

### ACTI - Description of Steps

Extraction: PTU630

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AR	Database dir. : AR	Output	Development Database data
PAC7AN	Database dir. : AN	Output	Development Database index
PAC7PJ	Save dir. : PJ	Input	Archived update transactions
PAC7MB	User input	Input	Update transactions
PAC7ST	Tmp dir. : WST	Output	Selected reports transactions (length=247)
PAC7DD	User dir. : ACTIDD630	Report	Batch procedure authorization option

Return codes:

- 0: OK
- 8: No authorization on batch procedures.
- 12: System error.

Printing of results: PTU640

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7ST	Tmp dir. : WST	Input	Transactions for selected reports
PAC7IV	User dir. : ACTIIV640	Report	Selected reports

## ACTI - Execution Script

```

#!/bin/sh
#@(#)VA Pac xxx xxx (R) ACTI BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - ACTIVITY ANALYSIS -
# *
# * -----
# *
# * THE JOURNAL FILE CONTAINS ALL THE DATABASE UPDATE
# * TRANSACTIONS. AS SUCH, IT REFLECTS USER ACTIVITY.WITH
# * THE JOURNAL STATISTICS UTILITY (ACTI), THIS ACTIVITY
# * CAN BE MONITORED AND PRESENTED IN THE FORM OF CHARTS.
# * THE JOURNAL STATISTICS UTILITY ALLOWS THE DATABASE
# * MANAGER TO QUERY THE JOURNAL BACKUP FILE BASED ON
# * VARIOUS PARAMETERS:
# *   - LIBRARY CODE
# *   - USER CODE
# *   - ENTITY TYPE
# *   - ENTITY CODE
# *   - LINE CODE
# *   - TRANSACTION TYPE (C,M,D)
# *   - DATE OF UPDATE
# *   - SESSION NUMBER OF UPDATE
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "ACTI"
echo "          ====="
BVPMSG 1047 "$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 PTU630 PAC7DD $PACUSERS/ACTIDD630.txt`
export PAC7DD
PAC7MB=$PACINPUT
export PAC7MB
. $PACDIR/config/$1/PACSAVPJ.ini
PAC7PJ=$PACSAVPJ
export PAC7PJ
PAC7ST=~BVPENV PTU630 PAC7ST $PACTMP/WST`
export PAC7ST
BVPMSG 1009 "BVPTU630"
rtspac BVPTU630
RETURN=$?
case $RETURN in
0)
;;
12)
BVPMSG 1012 "BVPTU630"
BVPMSG 1013
BVPERR
BVPRMTMP
exit $RETURN
;;
8)
BVPMSG 1012 "BVPTU630"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU630"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7IV=~BVPENV PTU640 PAC7IV $PACUSERS/ACTIIV640.txt`
export PAC7IV
PAC7ST=~BVPENV PTU640 PAC7ST $PACTMP/WST`
export PAC7ST
BVPMSG 1009 "BVPTU640"
rtspac BVPTU640
RETURN=$?
case $RETURN in
0)
;;
*)

```

```

BVPMSG 1012 "BVPTU640"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

---

## Pacbench Quality Control

### Introduction

The Pacbench Quality Control (PQC) facility is optional, and its use depends on the corresponding purchase agreement.

The Pacbench Quality Control facility is divided into two components:

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

The components supplied upon installation are:

- A Batch Quality Analysis procedure (PQCA);
- A set of 'compiled' standard quality rules, in the form of a sequential file (see the Environment & Installation manual).
- A batch procedure for the extraction and 'compilation' of the customized rules (PQCE);
- A data element dictionary and the user entity needed for the customization of the rules, in the form of Batch transactions that the user enters in his/her own dictionary via a Batch update (UPDT). (See the Environment & Installation manual.)

### Analysis

#### PQCA - Introduction

The PQCA procedure analyzes the quality of the applications, according to either standard rules or user-defined rules.

#### Characteristics

The procedure invokes a unique program (BVPACQ), which is a monitor which calls the various programs used by the procedure.

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

It is functionally identical to the GPRT procedure.

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

- D for Dictionary
- E for OLSD Screens (OSD)
- G for Pacbench C/S Screens (OSC)
- P for Batch Language Programs (BSD)

After two general programs (BVPACA10 and BVPACA20), common to all the chains, have been executed, the sub-chains are activated, according to the generation-print requests, in the following order:

- Screens
- Programs
- Dictionary

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

Once these sub-chains have been activated for the extraction of the entities to be analyzed, the BVPTUQ20 program performs the analysis according to the rules that it has been assigned and to the analysis parameters.

Results are printed by the BVPTUQ24, PBVTUQ25 and BVPTUQ30 programs.

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

#### Execution conditions

None. Files can remain open to on-line use.

#### **PQCA - User Input**

See the 'PQC' Reference manual.

## PQCA - Description of Steps

### Quality analysis: PACQ

Code	Physical name	Type	Label
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AY	Database dir. : AY	Input	Development Database extension data
PAC7AJ	Journal dir. : AJ	Input	Development Database Journal file
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGK	Admin Database - Base dir. : GK	Input Output	Generation rights
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7LB	Base dir. : LB	Input	Generation follow-up
PACQMF	User dir. : MPQCE	Input	Quality rules
PAC7SC	System - Skel dir. : SC	Input	Batch generation language skeleton
PAC7SG	System - Skel dir. : SG	Input	OLSD generation skeleton
PAC7SN	System - Skel dir. : SN	Input	Client/server meta entity skeleton
PAC7SS	System - Skel dir. : SS	Input	Map skeleton
PAC7ME	Tmp dir. : WME	Input	Entities to be analyzed
PACQMC	User dir. : PQCR	Input	Selection parameter input
PAC7IA	User dir. : PQCAIA	Report	PACQ execution output
PAC7ID	User dir. : PQCAID	Report	Documentation
PACQIB	User dir. : PQCAIB	Report	Selection parameter check
PACQIE	User dir. : PQCAIE	Report	Results by entity type
PACQIF	User dir. : PQCAIF	Report	Results by entity
PACQIG	User dir. : PQCAIG	Report	List of identifiers exceeding the identifiers limits

Code	Physical name	Type	Label
PAC7GB	User dir. : PQCAGB	Output	DBD generated COBOL and/or others generated COBOL files
PAC7GE	User dir. : PQCAGE	Output	OLSD generated COBOL
PAC7GG	User dir. : PQCAGG	Output	Pacbench C/S generated COBOL
PAC7GP	User dir. : PQCAGP	Output	Batch language generated COBOL
PAC7GV	User dir. : PQCAGV	Output	PDM generated COBOL
.....			Other files mentioned in the procedure are temporary files used in the programs flows.

### PQCA - Execution Script

```

#!/bin/sh
#@(#)VA Pac xxx xxx (R) PQCA BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - PACBENCH QUALITY CONTROL -
# *
# * -----
# *
# * THE PQCA PROCEDURE CARRIES OUT AN ANALYSIS OF THE
# * QUALITY OF THE APPLICATIONS, ACCORDING TO EITHER
# * STANDARD RULES OR USER-DEFINED RULES.
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PQCA"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
. $PACDIR/config/$1/PACGGK.ini

```

```

if [ ! -f "$PACGGK" ]
then
  BVPMSG 1009 "BVPTUIGK"
  rtspac BVPTUIGK
  RETURN=$?
  case $RETURN in
  0)
    ;;
  *)
    BVPMSG 1012 "BVPTUIGK"
    BVPERR
    BVPRMTMP
    exit $RETURN
    ;;
  esac
fi
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7LB.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7ME=`BVPENV PACQ PAC7ME $PACTMP/WME`
export PAC7ME
rtspac BVPTU730
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGK.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/SQUEL.ini
. $PACDIR/config/$1/PAC7LB.ini
if [ -f `dirname $PACUSERS`/MPQCE ]
then
  PACQQQ=`dirname $PACUSERS`/MPQCE
else
  PACQQQ=$PACQMF
fi
export PACQQQ
if [ ! -f `dirname $PACUSERS`/PQCR ]
then
  touch `dirname $PACUSERS`/PQCR
fi
PAC7EE=`BVPENV PACQ PAC7EE $PACTMP/WEE`
export PAC7EE
PAC7EG=`BVPENV PACQ PAC7EG $PACTMP/WEG`
export PAC7EG
PAC7EP=`BVPENV PACQ PAC7EP $PACTMP/WEP`
export PAC7EP
PAC7EV=`BVPENV PACQ PAC7EV $PACTMP/WEV`

```



```

export PAC7EV
PAC7GB=~BVPENV PACQ PAC7GB $PACUSERS/PQCAGB~
export PAC7GB
PAC7GE=~BVPENV PACQ PAC7GE $PACUSERS/PQCAGE~
export PAC7GE
PAC7GG=~BVPENV PACQ PAC7GG $PACUSERS/PQCAGG~
export PAC7GG
PAC7GP=~BVPENV PACQ PAC7GP $PACUSERS/PQCAGP~
export PAC7GP
PAC7GV=~BVPENV PACQ PAC7GV $PACUSERS/PQCAGV~
export PAC7GV
PAC7IA=~BVPENV PACQ PAC7IA $PACUSERS/PQCAIA.txt~
export PAC7IA
PACQIB=~BVPENV PACQ PACQIB $PACUSERS/PQCAIB.txt~
export PACQIB
PAC7ID=~BVPENV PACQ PAC7ID $PACUSERS/PQCAID.txt~
export PAC7ID
PACQIE=~BVPENV PACQ PACQIE $PACUSERS/PQCAIE.txt~
export PACQIE
PACQIF=~BVPENV PACQ PACQIF $PACUSERS/PQCAIF.txt~
export PACQIF
PACQIG=~BVPENV PACQ PACQIG $PACUSERS/PQCAIG.txt~
export PACQIG
PAC7JG=~BVPENV PACQ PAC7JG $PACTMP/WJG~
export PAC7JG
PAC7KD=~BVPENV PACQ PAC7KD $PACTMP/WKD~
export PAC7KD
PAC7KE=~BVPENV PACQ PAC7KE $PACTMP/WKE~
export PAC7KE
PAC7KF=~BVPENV PACQ PAC7KF $PACTMP/WKF~
export PAC7KF
PAC7KG=~BVPENV PACQ PAC7KG $PACTMP/WKG~
export PAC7KG
PAC7KP=~BVPENV PACQ PAC7KP $PACTMP/WKP~
export PAC7KP
PAC7KS=~BVPENV PACQ PAC7KS $PACTMP/WKS~
export PAC7KS
PAC7KU=~BVPENV PACQ PAC7KU $PACTMP/WKU~
export PAC7KU
PAC7KV=~BVPENV PACQ PAC7KV $PACTMP/WKV~
export PAC7KV
PACQMC=~BVPENV PACQ PACQMC `dirname $PACUSERS~/PQCR~
export PACQMC
PAC7ME=~BVPENV PACQ PAC7ME $PACTMP/WME~
export PAC7ME
PACQMF=~BVPENV PACQ PACQMF $PACQQQ~
export PACQMF
PAC7MG=~BVPENV PACQ PAC7MG $PACTMP/WMG~
export PAC7MG
PACQMJ=~BVPENV PACQ PACQMJ $PACTMP/WMJ~
export PACQMJ
PACQMK=~BVPENV PACQ PACQMK $PACTMP/WMK~
export PACQMK
PACQMM=~BVPENV PACQ PACQMM $PACTMP/WMM~
export PACQMM

```

```

PACQMN=`BVPENV PACQ PACQMN $PACTMP/WMN`
export PACQMN
PACQMO=`BVPENV PACQ PACQMO $PACTMP/WMO`
export PACQMO
PAC7MV=`BVPENV PACQ PAC7MV $PACTMP/WMV`
export PAC7MV
PACQMZ=`BVPENV PACQ PACQMZ $PACTMP/WMZ`
export PACQMZ
PAC7WC=`BVPENV PACB PAC7WC $PACTMP/WWC`
export PAC7WC
PAC7W1=`BVPENV PACQ PAC7W1 $PACTMP/WW1`
export PAC7W1
PAC7W2=`BVPENV PACQ PAC7W2 $PACTMP/WW2`
export PAC7W2
PAC7W3=`BVPENV PACQ PAC7W3 $PACTMP/WW3`
export PAC7W3
PAC7W4=`BVPENV PACQ PAC7W4 $PACTMP/WW4`
export PAC7W4
BVPMSG 1009 "BVPACQ"
rtspac BVPACQ
RETURN=$?
# -----
if [ "$RETURN" -le 8 ]
then
    RETURN=0
fi
if [ "$RETURN" = 11 ]
then
    BVPMSG 1087
fi
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

## Extraction of Quality Rules

### PQCE - Introduction

The PQCE procedure performs the extraction of the quality rules created by the user in his/her Database via the user entity supplied.

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

For further details, see the Pacbench Quality Control Reference Manual.

### Execution conditions

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

## PQCE - Input / Processing / Results

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

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

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 status if Test session
28	1		not used
29	4	'EXUE'	Extractor code

For further details, see the chapter 'Manager's Utilities' (PACX: Extractions) in this manual.

One command line:

Pos.	Len.	Value	Meaning
2	4	'W1EX'	Line code
6	1	'Y'	UE extraction identifier
7	1		Library selection code:
		'U'	Selected library
		'C'	Selected library + higher level lib.
8	2	'5Q'	Type code of user entity dedicated to Quality Control

### Result

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

### Printed report

This procedure prints:

- An occurrence-extraction report.

- A check report on the validity and usage of quality indicators.
- Descriptive reports on quality rules:
  - List of quality factors and criteria,
  - Description of each quality indicator,
  - Quality Control Dictionary.

## **PQCE - Description of Steps**

Extraction: PACX

This step extracts transactions according to user input.

<b>Code</b>	<b>Physical name</b>	<b>Type</b>	<b>Label</b>
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AY	Database dir. : AY	Input	Development Database extension data
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7PJ	Tmp dir. : WPJ	Input	Archived transactions
PAC7MB	User input	Input	User input
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	Work file (indexed)
PAC7RQ	/dev/null	Input/Output	Work file
PAC7MV	Tmp dir.: WMV	Output	Extracted transactions for UPDT
PAC7MR	Tmp dir.: WMR	Output	Extracted transactions for REOR (EXPU)

Code	Physical name	Type	Label
PAC7MX	Tmp dir.: WMX	Output	Non extracted entities (PACX)
PAC7GY	Tmp dir.: WGY	Output	Extracted transactions for UPDP
PAC7TD	User dir.: PQCETD	Output	Extracted transactions for CPSN
PAC7UE	Tmp dir.: WUE	Output	Extracted transactions for EXUE
PAC7IA	User dir.: PQCEIA	Report	General printing of program chains
PAC7DD	User dir.: PQCEDD	Report	Printing of abends on input transactions
PAC7EE	User dir.: PQCEEE	Report	Extraction reports
PAC7EP	User dir.: PQCEEP	Report	Extraction reports
PAC7EQ	User dir.: PQCEEQ	Report	Extraction reports
PAC7EZ	User dir.: PQCEEZ	Report	Extraction reports

Return codes:

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

#### Compilation of Quality rules: PTUQ10

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

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

Code	Physical name	Type	Label
PACQMI	User dir. : MPQCE	Output	'Compiled' quality rules (length=80)
PAC7MB	User input	Input	User input
PACQMC	Tmp dir. : WUE	Input	User input occurrences
PACQML	Tmp dir. : WML	Output	Preparation for printing
PACQIC	User dir. : PQCEICQ10	Report	Rule-validity report
PAC7DD	User dir. : PQCEDDQ10	Report	Batch procedure authorization option

### Printing of Quality rules: PTUQ15

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACQML	Tmp dir. : WML	Input	Preparation for printing
PACQII	User dir. : PQCEIIQ15	Report	List of quality factors and criteria and description by indicator
PACQIJ	User dir. : PQCEIJQ15	Report	Dictionary of quality rules

### **PQCE - Execution Script**

```

#!/bin/sh
#@(#)VA Pac xxx xxx (R) PQCE BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *
# * -----
# *     - PACBENCH QUALITY CONTROL EXTRACTION -
# *
# * -----
# *
# * FORMAT OF TRANSACTIONS AT INPUT :
# * .. A USER AND LIBRARY LINE
# * .. A COMMAND LINE PER ENTITY TO BE EXTRACTED
# * COL 2-6 : "W1EXY"
# * COL 7   : SELECTION CODE OF THE LIBRARY
# *         "U"(LIBRARY ONLY)
# *         "C"(LIBRARY AND HIGHER LEVEL LIBRAIRIES)
# * COL 8-9 : TYPE CODE OF THE USER ENTITY (2 CHAR.)
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini

```

```

echo ""
echo "-----"
BVPMSG 1004 "PQCE"
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
PAC7BM=`BVPENV PACX PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=`BVPENV PACX PAC7DD $PACUSERS/PQCEDD.txt`
export PAC7DD
PAC7EE=`BVPENV PACX PAC7EE $PACUSERS/PQCEEE.txt`
export PAC7EE
PAC7EP=`BVPENV PACX PAC7EP $PACUSERS/PQCEEP.txt`
export PAC7EP
PAC7EQ=`BVPENV PACX PAC7EQ $PACUSERS/PQCEEQ.txt`
export PAC7EQ
PAC7EZ=`BVPENV PACX PAC7EZ $PACUSERS/PQCEEZ.txt`
export PAC7EZ
PAC7GY=`BVPENV PACX PAC7GY $PACTMP/WGY`
export PAC7GY
PAC7IA=`BVPENV PACX PAC7IA $PACUSERS/PQCEIA.txt`
export PAC7IA
PAC7MB=$PACINPUT
export PAC7MB
PAC7MJ=`BVPENV PACX PAC7MJ $PACTMP/WMJ`
export PAC7MJ
PAC7MM=`BVPENV PACX PAC7MM $PACTMP/WMM`
export PAC7MM
PAC7MR=`BVPENV PACX PAC7MR $PACTMP/WMR`
export PAC7MR
PAC7MV=`BVPENV PACX PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7PJ=`BVPENV PACX PAC7PJ $PACTMP/WPJ`
export PAC7PJ
touch $PAC7PJ
PAC7RE=`BVPENV PACX PAC7RE $PACTMP/WRE`
export PAC7RE
PAC7RM=`BVPENV PACX PAC7RM $PACTMP/WRM`
export PAC7RM
PAC7RQ=`BVPENV PACX PAC7RQ /dev/null`

```

```

export PAC7RQ
PAC7TD=~BVPENV PACX PAC7TD $PACUSERS/PQCETD~
export PAC7TD
PAC7TE=~BVPENV PACX PAC7TE $PACTMP/WTE~
export PAC7TE
PAC7WD=~BVPENV PACX PAC7WD $PACTMP/WWD~
export PAC7WD
PAC7UE=~BVPENV PACX PAC7UE $PACTMP/WUE~
export PAC7UE
SYSEXT=~BVPENV PACX SYSEXT $PACTMP/WSY~
export SYSEXT
BVPMSG 1009 "BVPACX"
rtspac BVPACX
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPACX"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
8)
BVPMSG 1012 "BVPACX"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
4)
BVPMSG 1012 "BVPACX"
BVPMSG 1043
BVPMSG 1010
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
. $PACDIR/config/$1/PACGGY.ini
PAC7DD=~BVPENV PTUQ10 PAC7DD $PACUSERS/PQCEDDQ10.txt~
export PAC7DD
PACQIC=~BVPENV PTUQ10 PACQIC $PACUSERS/PQCEICQ10.txt~
export PACQIC
PACQMC=~BVPENV PTUQ10 PACQMC $PACTMP/WUE~
export PACQMC
PACQMI=~BVPENV PTUQ10 PACQMI `dirname $PACUSERS`/MPQCE~
export PACQMI

```



```

PACQML=~BVPENV PTUQ10 PACQML $PACTMP/WML~
export PACQML
BVPMSG 1009 "BVPTUQ10"
rtspac BVPTUQ10

RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUQ10"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PACQII=~BVPENV PTUQ15 PACQII $PACUSERS/PQCEIIQ15.txt~
export PACQII
PACQIJ=~BVPENV PTUQ15 PACQIJ $PACUSERS/PQCEIJQ15.txt~
export PACQIJ
PACQML=~BVPENV PTUQ15 PACQML $PACTMP/WML~
export PACQML
BVPMSG 1009 "BVPTUQ15"
rtspac BVPTUQ15
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUQ15"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```



---

## Chapter 6. Versioning Facilities

---

### SCM Tools Interface

#### Introduction

The SCM module (Support Configuration Management) is the VA Pac interface for configuration management tools. These tools can be third-party tools or the VA Pac configuration management tool.

The SCM module is used in both online and batch modes.

This chapter presents the SCM browser, accessible via Administrator or Developer workbench, and supplies the detailed documentation of the batch procedures, specific to SCM.

The detailed use of SCM in Administrator or Developer workbench is documented in the online help, accessible via the 'Help' menu, 'Help Home Page' choice, or via the F1 key on any focusable field or interface section.

**NOTE:** In the online help, 'instance' replaces 'entity', which is used throughout this chapter.

The SCM module is optional. Its use depends upon the corresponding purchase agreement.

The purpose of the module is twofold:

1. PRODUCTION TURNOVER MANAGEMENT

This function is used to:

- Manage the generation environments, by specifying the 'production environments' which are used to manage the Database freeze.
- Follow up the entities generated from a Database and put into production.
- Give the user information related to these entities such as their library code, the session number of the last generation, and of the last Database freeze.
- Automatically freeze the Database when generating into a production environment.
- Provide project follow-up to development teams in relation to generated entities.

2. INTERFACE WITH A THIRD-PARTY CONFIGURATION MANAGEMENT UTILITY

Moreover, the module is used to:

- Generate and automatically import the generated entities into a third-party configuration management tool with the appropriate parameters.
- Know, in the repository, the contexts of the configuration management tool, in which the generated entities are stored.
- Consult the last actions performed on these entities in the configuration management tool.
- Ensure the consistency between the production turnover data, stored in the Development Database, and the entities generated and managed by the configuration management tool. But a file extracted from the product must be shipped so as to compare it with another extracted file from the Development Database.

## Definitions

### 1. SCM Environment

An application life cycle consists of various steps: development, tests, quality control, production, etc.

Each step can be defined as an SCM Environment. A default SCM Environment, identified by '\*' characters, can be defined. Its purpose is to store the generated entities data which does not belong to any predefined SCM Environment.

An SCM Environment can be associated with a physical or logical context of a configuration management tool. This context is defined with the context parameters which are specified in the Environment definition.

An SCM Environment can consist of several Applications.

A default Application, identified by '\*' characters, stores the generated entities which do not belong to any particular Application.

An SCM Application can consist of several sets of generated entities, each set corresponding to one entity type only.

The entity types processed by SCM are limited to the following list:

- Batch program (P entity),
- Dialogue/Screen (O entity),
- DBD description (B entity),
- COPY clauses (D entity).

as well as the eBusiness entities:

- Application,
- Folder,
- IT server,
- Communication monitor,
- Elementary component.

## 2. Identity of the generated entity

The VA Pac generated entity is identified by the information defined in the PACBASE-CONSTANTS variable, in the generated program. This Identity can be obtained upon generation with the 'Pacbase Constants' parameter specified in the Optional Command Lines Set.

You can always find the generated entity Identity by analyzing the source of this entity.

### Important Note :

Some SCM procedures, in particular the inter-environments integrity control procedure, need the identification of the generated entity which is stored in the configuration management tool to compare the data saved in this tool with the data stored in the Development Database.

For this reason, it is recommended to manage the generated entity and its Identity as well to use all the SCM functions.

Concerning Endeavor, SCM manages the generated entity Identity as a complementary object called INFOPAC.

**NOTE:** For a complete documentation on the ENDEVOR Interface, refer to the "VisualAge Pacbase/ENDEVOR Interface" Reference Manual for IBM MVS CICS or IBM MVS IMS.

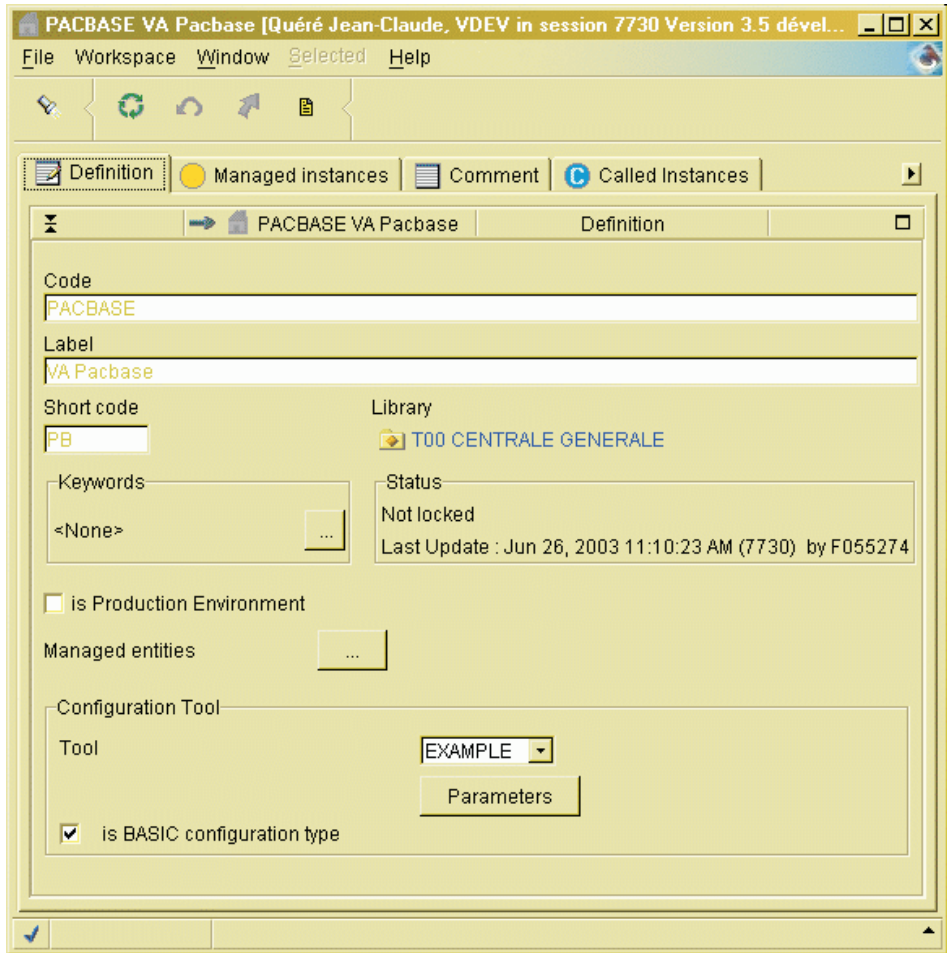
## **SCM Environment**

The SCM Environment is a set of attributes and parameters which are optional. They are used to specify, for example, the contexts of the configuration management tools and so automate the generated entity import in these tools.

The values of these elements are used to configure the Optional Command Lines Set (OCLS) at generation time.

## SCM Environment attributes

The SCM Environment attributes are defined in the 'Definition' tab of the 'Configuration Environments' browser.



These attributes are:

- Code of the Environment.  
It is unique and cannot exceed 30 characters.
- Label of the Environment.
- Short code of the Environment.

It is unique and is used in the FLx command of the print/generation command lines upon the entity generation, or in the Library options lines to specify the SCM Environment choice, either required or optional for a given entity type.

- **Production Environment.**  
Checking the box indicates that the defined Environment is the Production Environment. It triggers the Database freeze if entities to put into production exist in current session.
- **Managed entities**  
This attribute limits the SCM Environment use to some VA Pacbase entity types. At generation time, if the type of the generated entity is not permitted, this entity is not processed.
- **Code of the configuration management tool.**  
The default tool code is 'BASIC'. Other tool codes can be defined by adding the new tools in the 'tools.txt' file. This file is stored (and must remain) in the ..\adworkbench\workstation directory. Each configuration management tool can have its own parameters with specific labels and its own management. These labels are defined locally, in a file whose name is the name of the tool followed by the ".txt" extension. This file is also located in the ..\adworkbench\workstation directory.  
Administrator or Developer workbench can then correctly display the parameters labels in the 'parameters' tab.
- **BASIC-type configuration.**  
If the box is checked, the Environment management is BASIC, i.e. only the latest instance of the generated entity is kept, in the Library, all frozen sessions taken into account.

Among the attributes, only the Environment code, label and short code are required.

### **SCM Environment parameters**

The parameters (number limited to 15) are values used by SCM :

- either to substitute the parameters entered in the Optional Command Lines Set of the generated entity at generation time. This, to import the generated entity in the configuration management tool.
- or to identify the physical or logical context of the configuration management tool where the generated entities are stored.  
To a SCM Environment corresponds only one context of the configuration management tool.

The parameters value can be assigned in the 'Parameters' window, opened from the 'Definition' tab of the 'Configuration Environments' browser.

**Parameters**

Specify the parameters for the configuration tool

\$1	Batch PDS			
\$2	Online PDS			
\$3	Source PDS			
\$4				
\$5				
\$6				
\$7				
\$8				
\$9				
\$10				
\$11				
\$12				
\$13				
\$14				
\$15				

Identifier prefix character

OK Cancel

Each parameter is constituted of the following attributes:

- Number, from 1 to 15 (column 1).
- Label (column 2).
- Value (column 3).
- Entity types (column 4).

Here you can indicate whether the parameter is specific to an entity or generic for all entities.

- Rank (column 5).

The parameter rank is used to sort the context parameters in case several parameters are needed to define a configuration management tool context. The values may be 1 to 9.



The generated entities which have a different type can be managed in different target contexts. So you can define several context parameters with the same rank, but with a different entity type.

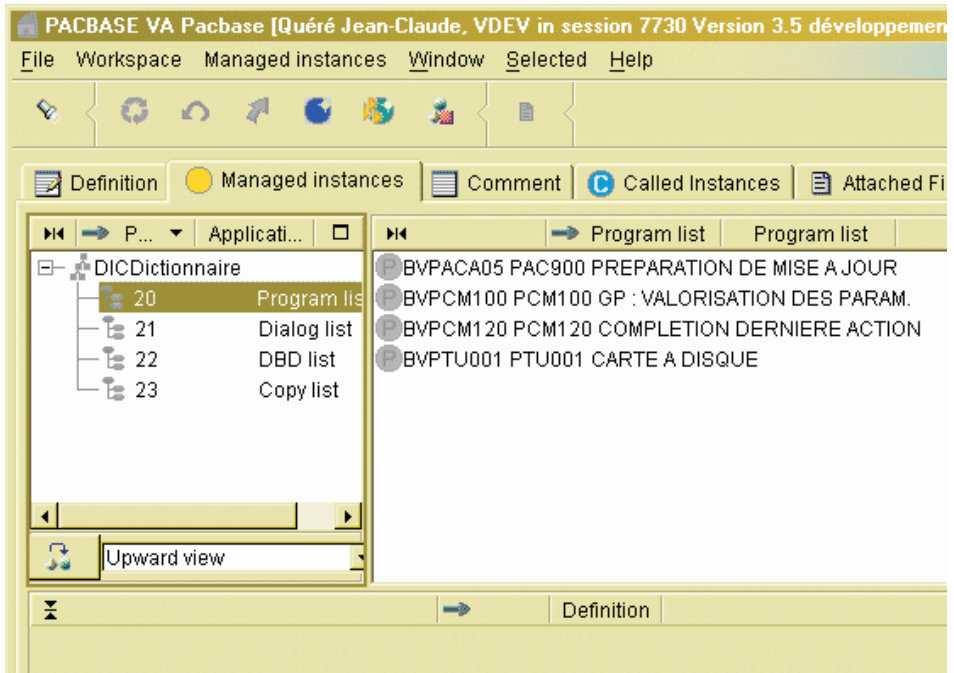
- Parameter identification prefix

The value of the SCM Environment parameters can be used to substitute parameters which are indicated in the Optional Command Lines Set in order to possibly automate the import of the generated entities in the configuration management tool upon the generation. In these lines, parameters are identified by a two-character sequence for the parameter identification followed by a number (1,2,...9,A,...,F).

The default identification character is '\$'.

The SCM Environment parameters value can be different according to the Library and the Session.

### SCM Environment applications



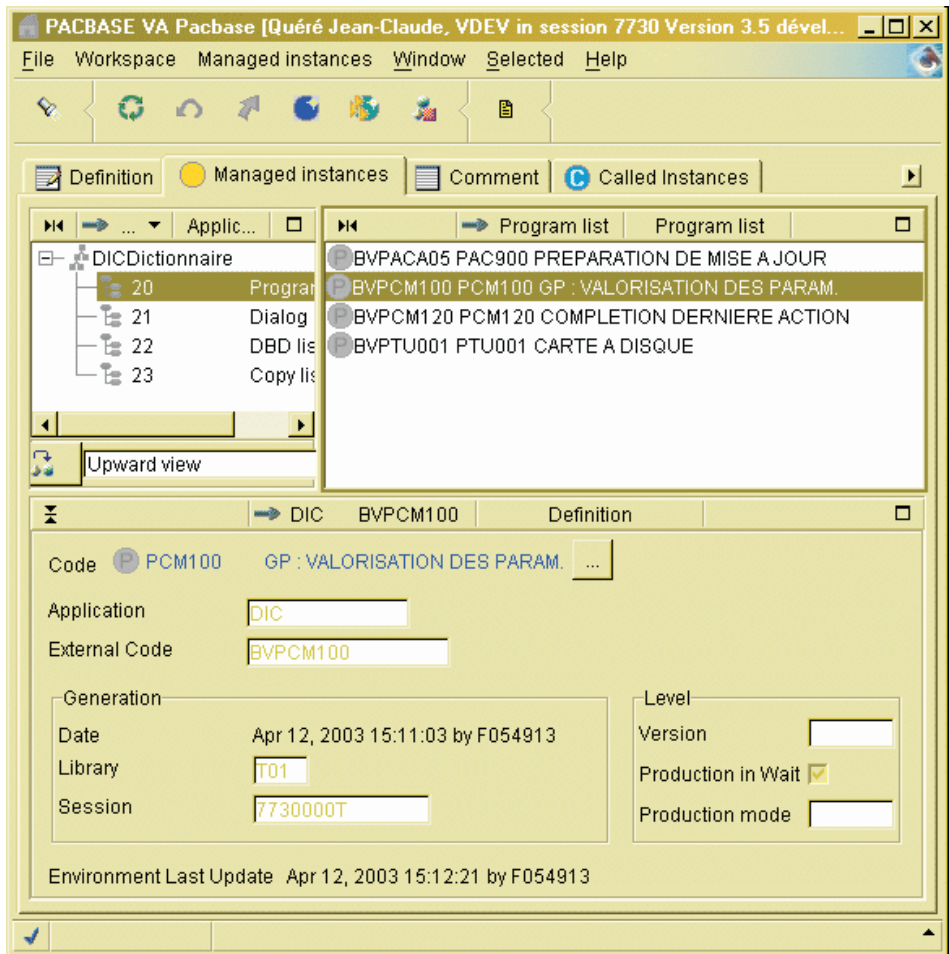
An SCM Environment can consist of one or more logical sets called 'Applications'.

Each Application groups VA Pacbase entities generated in a project, in an application.

The default Application, identified by '\*' characters, stores the generated instances which do not belong to any specific Application, or whose Application code is not defined.

The definition of the Application is not required. If there is no defined Application code, the default Application is used.

## SCM Environment managed entities



An Application consists of several sets of generated entities. Each set corresponds to a VA Pacbase entity type. You can specify the external name of the entities which belong to the Application before any generation.

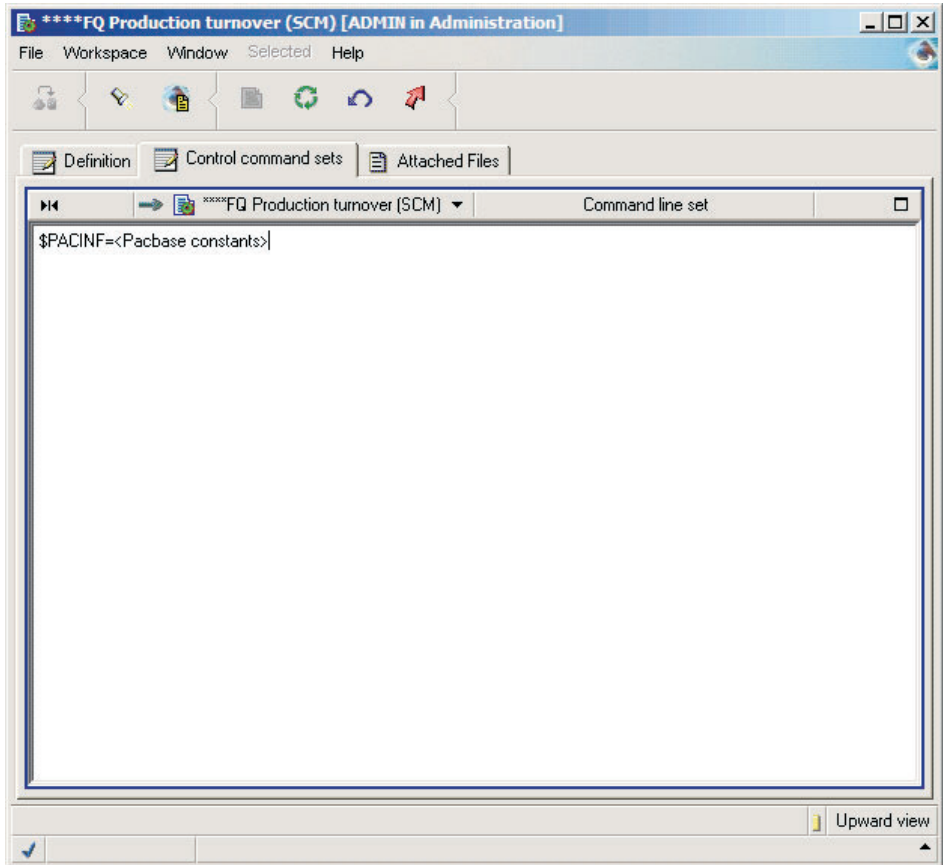
You can consult the Identity of the generated entities, and information about the last action performed on the entity.

A specific attribute indicates the status of the generated entity. It can be 'Production in wait' if this attribute is set.

The 'Production mode' attribute indicates the last batch procedure undergone by the entity, i.e. 'G' for GPRT, 'M' for HIPM and 'U' for SIPM.

The production turnover of a generated object in the current session can generate an automatic Database freeze.

## Import Script



The import Script of the generated object in the configuration management tool must be defined in the Optional Command Lines Set.

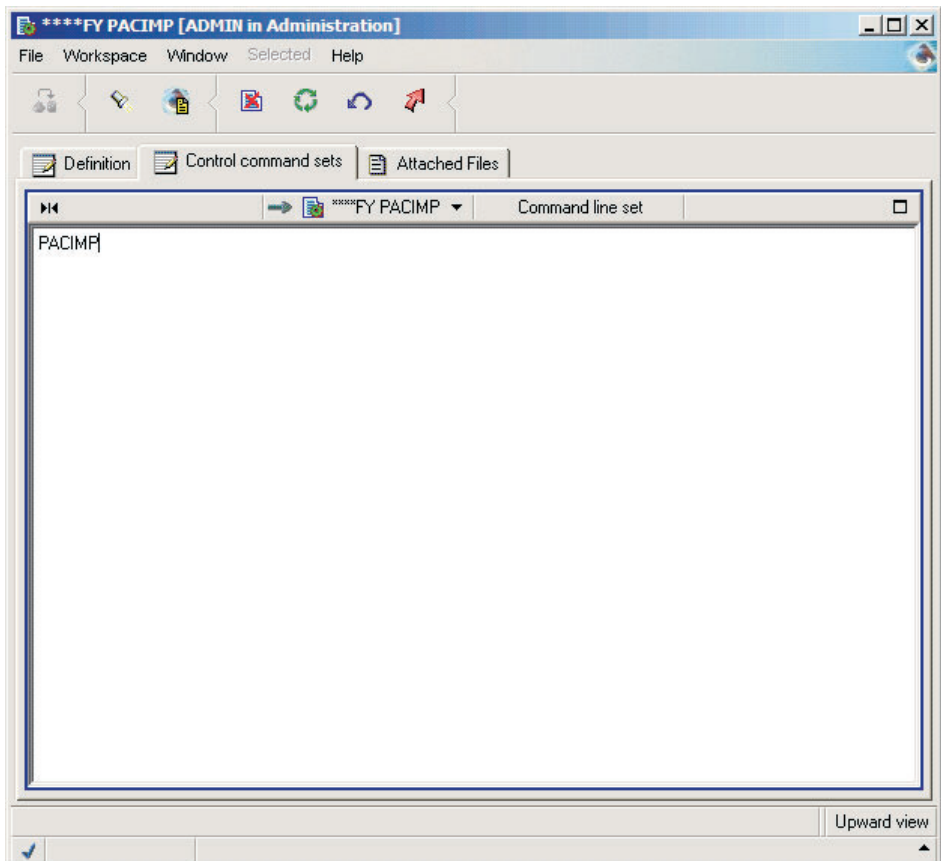
It can contain parameters which are valorized with the values specified in the SCM Environment parameters at generation time.

This lines set must be preceded by a separating line which contains the generated entity Identifier and whose structure is as follows:

```
$PACINF=<Pacbase constants>
```

This line allows SCM to locate the beginning of the set of lines specific to the generated entity, to search the corresponding parameters value to valorize these lines, and then to write the transaction corresponding to the entity generation action in the SCM QJ journal file.

The parameters interpretation begins with this separating line and the value of these parameters remains unchanged until the new separating line.



Once generated, the entity can be compiled/link-edited, and/or imported in a configuration management tool. If the operation is correctly ended, SCM can write a transaction which corresponds to the last action on the entity in QJ.

Therefore, an Optional Command Line Set (OCLS) must have the following content:

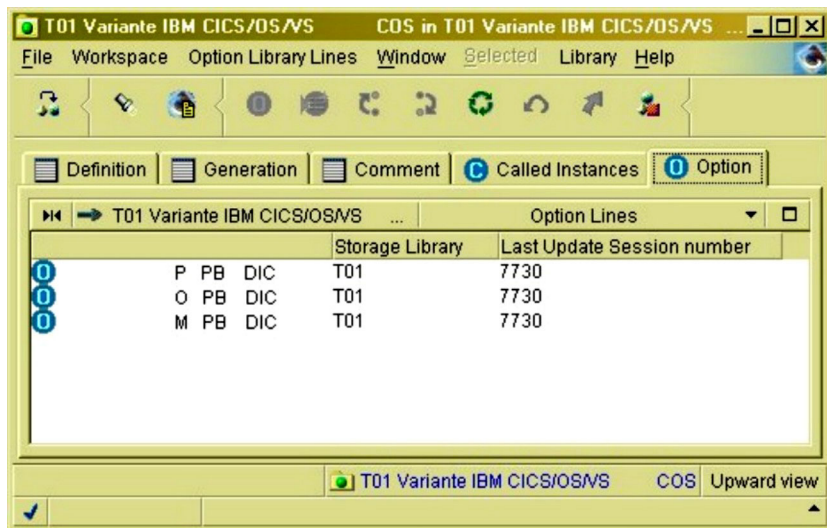
```
$PACIMP
```

Transaction lines are generated instead. They contain information related to the pacbase-constants of the generated entity. These lines are to be used as input to the post-generation procedure (GPPM), which must be executed after the compilation/link-edit and/or the import.

## Choosing the Import SCM Environment

The import SCM Environment upon generation can be defined:

- by declaring, in the Library "Option" tab, the short code of the required or default SCM Environment, by entity type, possibly with the Application code:



- or by specifying the SCM Environment short code in the FLx command lines which are part of the generation command lines of the GPRT procedure, possibly with the corresponding Application code specified with the \$APPLI parameter,
- or by defining first the generated entity in the SCM Environment entities list.

At generation time, the target import SCM Environment is chosen according to the following priority order:

1. Presence of the required SCM Environment definition in the Library "Option" tab, for the generated entity type, possibly with the corresponding Application code.

2. Presence of the SCM Environment short code in the FLx command lines of the generated entity, possibly with the Application code specified in the \$APPLI parameter.
3. Declaration of the generated entity in the SCM Environment entities list.
4. Presence of the default SCM Environment definition in the Library "Option" tab for the generated entity type, possibly with the corresponding Application code.

## Setting the Import Command Lines (OCLS)

In the Optional Command Lines Set used to generate the entity, you can specify parameters which will be substituted by the values of the parameters defined in the SCM Environment at generation time.

These parameters are identified by a two-characters sequence for the parameter identification prefix, followed by the corresponding parameter number (1,2,...9,A,...F).

## Post-generation

### GPPM - Introduction

Once the steps following the generation (compilation/linkedit and/or import in the configuration management tool) are executed, the purpose of the GPPM procedure is to write a transaction in the SCM QJ journal corresponding to the last action performed on the generated entity. This information completes the generated entity data in the SCM Environment instances list. This transaction is constituted from the transaction lines created by the generation procedure in place of the Optional Command Line after the generation of the generated entity which content is \$PACIMP.

#### Execution conditions

The procedure must be executed after the generation and it is conditioned by a correct execution of the steps following the generation/import.

### GPPM - Input / Processing / Results

The input transactions of the procedure are transactions created by the GPRT generation procedure, in place of the optional command line (OCLS) of the generated entity whose content is \$PACIMP.

#### Printed reports

None.

#### Results

Once the procedure has been executed, a transaction which indicates the last action performed on the generated entity is written in the QJ journal file.

This transaction must be used as input to the UPPM procedure in order to be integrated into the Development Database.

Note: this transaction will also be taken into account when the generation procedure is executed again, with the option for the automatic application of the transactions written in QJ.

## GPPM - Description of Steps

Input recognition: PTU001

Post-generation processing: PCM120

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AY	Database dir. : AY	Input	Administration Database bulk data
PAC7IN	User input	Input	Generated transactions of the GPRT procedure
PAC7QJ	Admin Base - Journal dir. : QJ	Input/Output	SCM journal file

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) GPPM BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *                      - POST-GENERATION -
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "GPPM"
echo "                      ====="
BVPMSG 1047 "$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/PAC7QJ.ini
. $PACDIR/config/$1/SEMLOCK.ini
PAC7IN=$PACINPUT
export PAC7IN
BVPMMSG 1009 "BVPCM120"
rtspac BVPCM120
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMMSG 1012 "BVPCM120"
BVPERR
BVPRMUSERS
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMMSG 1010
BVPRMUSERS
BVPRMTMP
exit $RETURN

```

## Database Automatic Freeze

### HIPM - Introduction

The purpose of the HIPM procedure is to generate transactions related to the production turnover of entities and if necessary, the transactions related to the freezing of the Development Database.

#### Execution conditions

The Development Database must be closed to on-line use in order to be updated, except for hardware environments that support concurrent on-line and batch access.

#### Abnormal execution

The procedure can be restarted once the problem has been solved.



## HIPM - Input / Processing / Results

A '\*' line with user code and password.

User input specific to the optional procedure which is used for Database freeze request.

The structure of the line is as follows:

Position	Length	Value	Meaning
2	2		Line code
		'X1'	if the entities have been put into production
		'X4'	If no entity has been put into production
4	4	'HIST'	Freeze request
8	50		Freeze comments
58	4	ssss	Forcing of the number of the session to be frozen: this number must be included between the current session number +1 and the current session +100

If this line is not entered, it is automatically generated when entities to be put into production are detected in the current session.

This line may be entered in order to:

- Give a specific freeze comment,
- Force the session number to be frozen.

If some entities are to be put into production, the 'X1' line is used to generate the Database freeze in the current session or in the session specified on the line, and then to generate the production turnover of these entities.

The 'X4' line is used to generate the Database freeze in the specified session whether or not some entities are to be put into production.

Moreover, if the 'X1' line is missing, the Database is automatically frozen in the current session if entities to be put into production (production in wait) have been detected. Several 'X4' lines can be created as input.

### Printed reports

This procedure prints:

- a report,

- a list of the entities put into production, and the Database freeze (where applicable),
- a statistical report with the number of the entities to be put into production (production in wait) per library.

### Results

Once the procedure has been executed, the Database is ready to be used in batch or on-line mode.

### **HIPM - Description of Steps**

#### Generation of production turnover transactions: PCM300

This step is used to explore the Development Database and to generate production turnover and Database freeze transactions.

<b>Code</b>	<b>Physical name</b>	<b>Type</b>	<b>Label</b>
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AY	Database dir. : AY	Input	Development Database bulk data
PAC7MB	User input	Input	Users data .
PAC7TR	Tmp dir. : WTR	Output	Work file
PAC7SR	Tmp dir. : WSR	Output	Work file
PAC7UR	Tmp dir. : WUR	Output	Work file
PAC7IG	User dir. : HIPMIG300	Report	Production turnover output report
PAC7GY	User dir. : HIPMMY	Output	Production turnover transactions
PAC7DD	User dir. : HIPMDD300	Report	Batch procedures authorization option

#### Formatting of transactions: PAF900

Code	Physical name	Type	Label
PAC7AR	Database dir.: AR	Input	Development Database data
PAC7AN	Database dir.: AN	Input	Development Database index
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGR	Admin. Database - Base dir.: AR	Input	Administration Database data
PACGGN	Admin. Database - Base dir.: AN	Input	Administration Database index
PACGGU	Admin. Database - Base dir.: GU	Input	Administration Database users
PAC7GY	User dir. : HIPMMY	Input	Update transactions
PAC7MV	Tmp. dir.: WMV	Output	Formatting transactions (must be able to contain all the input transactions plus the elementary deletion transactions generated by the 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	Database dir.: AR	Output	Development Database Data file
PAC7AN	Database dir.: AN	Output	Development Database index
PAC7AY	Database dir.: AY	Output	Development Database extension
PAC7AJ	Journal dir.: AJ	Output	Development Database journal
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. DBase - Base dir.: AN	Input	Administration Database Index file
PACGGR	Admin. DBase - Base dir.: AR	Input	Administration Database Data file
PACGGY	Admin. DBase - Base dir.: AY	Input	Administration Database Extension
PACGGU	Admin. DBase - Base dir.: GU	Input	Administration Database users

Code	Physical name	Type	Label
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	Tmp dir.: WRB	Output	UPDT erroneous transactions (length=80)
PAC7RY	Tmp dir.: WRY	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: Error

### HIPM - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) HIPM BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# * AUTOMATIC SESSION FREEZE
# * -----
# *
# * INPUT      : USER IDENTIFICATION
# * COL 2      : "*"
# * COL 3      : USER CODE
# * COL 11     : PASSWORD
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "HIPM"
echo "          ====="
BVPMSG 1047 "$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 PCM300 PAC7DD $PACUSERS/HIPMDD300.txt`
export PAC7DD
PAC7GY=~BVPENV PCM300 PAC7GY $PACUSERS/HIPMMY`
export PAC7GY
PAC7IG=~BVPENV PCM300 PAC7IG $PACUSERS/HIPMIG300.txt`
export PAC7IG
PAC7MB=$PACINPUT
export PAC7MB
PAC7SR=~BVPENV PCM300 PAC7SR $PACTMP/WSR`
export PAC7SR
PAC7TR=~BVPENV PCM300 PAC7TR $PACTMP/WTR`
export PAC7TR
PAC7UR=~BVPENV PCM300 PAC7UR $PACTMP/WUR`
export PAC7UR
BVPMSG 1009 "BVPCM300"
rtspac BVPCM300
RETURN=?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM300"
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
PAC7GY=~BVPENV PAF900 PAC7GY $PACUSERS/HIPMMY`
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 $PACTMP/WMY`
export PAC7MY
BVPMSG 1009 "BVPVAF900"
rtspac BVPVAF900
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPVAF900"
BVPMSG 1025
;;
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/PACGGY.ini
. $PACDIR/config/$1/PAC7DC.ini
. $PACDIR/config/$1/SEMLOCK.ini
PAC7IE=~BVPENV PACA15 PAC7IE $PACUSERS/HIPMIEA15.txt`
export PAC7IE
PAC7IF=~BVPENV PACA15 PAC7IF $PACUSERS/HIPMIFA15.txt`
export PAC7IF
PAC7ME=~BVPENV PACA15 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MV=~BVPENV PACA15 PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7RB=~BVPENV PACA15 PAC7RB $PACTMP/WRB`
export PAC7RB
PAC7RY=~BVPENV PACA15 PAC7RY $PACTMP/WRY`
export PAC7RY
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=$?
case $RETURN in
0)
;;
2)
BVPMSG 1012 "BVPACA15"
BVPMSG 1054
;;
4)
BVPMSG 1012 "BVPACA15"
BVPMSG 1055
;;
*)
BVPMSG 1012 "BVPACA15"
BVPMSG 1025

```

```

;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

## Generation Simulation

### SIPM - Introduction

The SIPM procedure is used to simulate the production turnover of entities, which is usually performed by GPRT.

There are two possibilities:

- Production turnover of entities:  
The information related to the entities and the environment is entered by the user.
- Transfer from one environment to another one:  
The information related to the entity is provided by the source environment.

#### Execution conditions

None.

The files can remain open.

#### Abnormal execution

Whatever the reason for an abnormal ending, the procedure can be restarted as it is, once the problem has been solved.

### SIPM - Input / Processing / Results

A '\*' line with the user code and password, and information specific to the procedure.

Position	Length	Value	Meaning
2	1	'*'	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	Password
19	3	bbb	Library code
22	4	ssss	session number (blank if current session)

Position	Length	Value	Meaning
26	1		Session status (' ' or 'T')
59	8	ccyymmdd	Generation date , if the session is not the current session (input field for a frozen session of blank or T type, no input field for a current session)

An SCM environment identification line: 'EG' (required):

Position	Length	Value	Meaning
2	2	'EG'	Line code
4	3	ttt	Type of processed entities
7	30		Target environment
37	10		Target application

An SCM source environment line: 'ES' (if transfer):

Position	Length	Value	Meaning
2	2	'ES'	Line code
7	30		Source environment
37	10		Source application

An entity identification line for each entity generation to be simulated : 'EU'

Position	Length	Value	Meaning
2	2	'EU'	Line code
4	6	cccccc	Entity code
10	8	eeeeeeee	External name of the entity in target environment (if different from the Database code)
18	8	nnnnnnnn	External name of the entity in source environment (if transfer with RENAME)

### Output report

This procedure prints a report.

### Results



Once the procedure has been executed, production turnover simulation transactions are created in the QJ journal file.

These transactions must be input in the Development Database by executing the UPPM procedure.

### SIPM - Description of Steps

Generation of simulation transactions: PCM320

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AY	Database dir. : AY	Input	Administration Database bulk data
PAC7MB	User input	Input	User transactions
PAC7MT	Tmp dir. : WMT	Output	File to be used by a transfer utility
PAC7IE	User dir. : SIPMIE320	Report	Simulation output report
PAC7QJ	Admin Database - Journal dir. : QJ	Input/Output	Journal of SCM Tools Interface
PAC7DD	User dir. : SIPMDD320	Report	Batch procedures authorization option

### SIPM - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) SIPM BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# * SIMULATION
# * -----
# *
# * INPUT      : USER IDENTIFICATION
# * COL 2     : "*"
# * COL 3     : USER CODE
```

```

# * COL 11      : PASSWORD
# * COL 19      : LIBRARY
# * COL 22      : SESSION
# * COL 25      : SESSION STATE
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "SIPM"
echo "          ====="
BVPMSG 1047 "$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/PAC7QJ.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7DD=`BVPENV PCM320 PAC7DD $PACUSERS/SIPMDD320.txt`
export PAC7DD
PAC7IE=`BVPENV PCM320 PAC7IE $PACUSERS/SIPMIE320.txt`
export PAC7IE
PAC7MB=$PACINPUT
export PAC7MB
PAC7MT=`BVPENV PCM320 PAC7MT $PACTMP/WMT`
export PAC7MT
BVPMSG 1009 "BVPCM320"
rtspac BVPCM320
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM320"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

## Extraction of the Development Database Data

### EXPM - Introduction

The EXPM procedure extracts, from the Development Database, the entities whose generation status is to be checked against the configuration management utility.

The extracted file will be compared to a file extracted from the utility.

The extraction can be limited to a Session, a Database, an Environment and an Application.

#### Execution conditions

None.

#### Abnormal execution

The procedure can be restarted as it is once the problem has been solved.

### EXPM - Input / Processing / Results

A '\*' line with user code, password and Library code.

Position	Length	Value	Meaning
2	1	'*'	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	Password
19	3	bbb	Library code
		'***'	if extraction from all Libraries
22	4	ssss	Session number (blank in current session)
		'****'	if extraction from all sessions
26	1		Session status ( ' ' or 'T')
		'*'	if extraction from all sessions

One or more 'S' line(s) to select the environments /application.

The line structure is as follows:

Position	Length	Value	Meaning
2	1	'S'	Line code
3	30		Selected environment
33	10		Selected application

### Printed report

This procedure prints a report.

### Results

Once the procedure has been executed, a sequential file extracted from the Development Database is produced, it must be used as input to the CPPM procedure.

## **EXPM - Description of Steps**

### Extraction of the Development Database: PCM200

This step explores the Development Database and extracts the elements in accordance with the extraction request.

Code	Physical name	Type	Label
PAC7MV	User input	Input	User transactions
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AY	Database dir. : AY	Input	Development Database bulk data
PAC7ET	User dir. : EXPMET200	Report	Extraction output report
PAC7MS	Tmp dir. : WMS	Output	Extracted elements file
PAC7BM	Tmp dir. : WBM	Output	User assignment
PAC7DD	User dir. : EXPMDD200	Report	Batch procedures authorization option

## Deletion of duplicate extracted elements: PCM202

This step is used to suppress the elements that would be wrongly assigned to several extracted applications.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7ME	Tmp dir. : WMS	Input	Input extracted elements file
PAC7BM	Tmp dir. : WBM	Input	User assignment
PAC7MS	Tmp dir. : WMS2	Output	Output extracted elements file
PAC7EQ	User dir. : EXPMEQ202	Report	List of elements extracted twice

## Extracted elements sort file: PCM205

This step sorts the extracted elements file in accordance with the criterion required for the comparison with the file provided by the configuration management utility.

Code	Physical name	Type	Label
PAC7ME	Tmp dir. : WMS2	Input	Input extracted elements file
PAC7MS	User dir. : MSEXPM	Output	Output extracted elements file

## **EXPM - Execution Script**

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) EXPM BATCH PROCEDURE

# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# * EXTRACTION
# * -----
# *
# * INPUT      : USER IDENTIFICATION
# * COL 2     : "*"
# * COL 3     : USER CODE
# * COL 11    : PASSWORD
# * COL 19    : LIBRARY
# * COL 22    : SESSION
# * COL 26    : SESSION STATE
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
```

```

echo ""
echo "-----"
BVPMSG 1004 "EXPM"
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 PCM200 PAC7DD $PACUSERS/EXPMDD200.txt`
export PAC7DD
PAC7ET=~BVPENV PCM200 PAC7ET $PACUSERS/EXPMET200.txt`
export PAC7ET
PAC7MS=~BVPENV PCM200 PAC7MS $PACTMP/WMS`
export PAC7MS
PAC7BM=~BVPENV PCM200 PAC7MS $PACTMP/WBM`
export PAC7BM
PAC7MV=$PACINPUT
export PAC7MV
BVPMSG 1009 "BVPCM200"
rtspac BVPCM200
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM200"
BVPERR
BVPRTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7BM=~BVPENV PCM202 PAC7MS $PACTMP/WBM`
export PAC7BM
PAC7EQ=~BVPENV PCM202 PAC7EQ $PACUSERS/EXPMEQ202.txt`
export PAC7EQ
PAC7ME=~BVPENV PCM202 PAC7ME $PACTMP/WMS`
export PAC7ME
PAC7MS=~BVPENV PCM202 PAC7MS $PACTMP/WMS2`

```

```

export PAC7MS
BVPMMSG 1009 "BVPCM202"
rtspac BVPCM202
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMMSG 1012 "BVPCM202"
BVPPER
BVPRMTMP
exit $RETURN
;;
esac
# -----
PAC7ME=~BVPENV PCM205 PAC7ME $PACTMP/WMS2`
export PAC7ME
PAC7MS=~BVPENV PCM205 PAC7MS $PACUSERS/MSEXPM`
export PAC7MS
BVPMMSG 1009 "BVPCM205"
rtspac BVPCM205
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMMSG 1012 "BVPCM205"
BVPPER
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMMSG 1010
BVPRMTMP
exit $RETURN

```

## Comparison with Extracted Files

### CPPM - Introduction

The CPPM procedure is used to compare a file extracted from the Development Database by the EXPM procedure, with a similar file extracted by the user from the configuration management utility.

The purpose is to generate transactions to update the Development Database. These transactions are saved in the SCM QJ journal file.

The transactions are to set the Development Database to the level of the configuration management utility, in relation to the production entities.

The user must start the UPPM procedure to integrate the corrections in the Repository.

Note: the transactions will also be taken into account when the generation is executed again, with the option for the automatic application of the transactions written in QJ.

### Execution conditions

The EXPM procedure must be executed first so as to obtain a file extracted from the Development Database.

Moreover, a file extracted from the configuration management utility must have been defined, with the same status as the file extracted from the Development Database.

### Abnormal execution

Whatever the reason for an abnormal ending, the procedure can be restarted as it is, once the problem has been solved.

## **CPPM - Input / Processing / Results**

A '\*' line with user code and password.

### Printed report

This procedure prints:

- A report,
- A list of the entities which will be modified in the Development Database after executing the UBPM procedure.

### Results

Once the procedure has been executed, the QJ file contains the Development Database update transactions to be used as input to the UBPM procedure.

## **CPPM - User File**

To align the Development Database with the Configuration management utility used on-site, it is necessary to create a file which contains the data extracted from the utility so as to compare it with the file extracted from the Development Database via the EXPM procedure.

The length of the file should be 900 with the following structure:



Position	Length	Value	Meaning
1	35		Parameter on rank 1
36	35		Parameter on rank 2
71	35		Parameter on rank 3
106	35		Parameter on rank 4
141	35		Parameter on rank 5
176	35		Parameter on rank 6
211	35		Parameter on rank 7
246	35		Parameter on rank 8
281	35		Parameter on rank 9
316	35		Parameter on rank 10
351	35		Parameter on rank 11
386	35		Parameter on rank 12
421	35		Parameter on rank 13
456	35		Parameter on rank 14
491	35		Parameter on rank 15
526	30		SCM Environment code
556	10		Application code
566	1		Entity type
567	6		Entity
573	8		External code of entity
585	3		Library code
588	4		Session number
592	1		Session status
593	2		Call code (when it is a user entity)
595	10		Generation data (CCYY/MM/DD)
605	8		Generation time (HH:MM:SS)
613	8		User code
621	35		Group field
			Description of information areas of the third-party product concerning the last action on the object. (5 optional area):
796	20		Action label
816	10		Action date
826	8		Action hour

Position	Length	Value	Meaning
834	8		User code
842	5		Object version
847	54		VA Pac internal fields

The information of 'parameter 1' up to 'parameter 15' corresponds to the context parameters defined via the Definition tab of the Environment. The sorting order is taken into account.

The 'Entity type ' and the next information correspond to the values defined in the generated program, in the PACBASE-CONSTANTS (or CONTANTES-PACBASE).

### CPPM - Description of Steps

Comparison processing: PCM210

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AY	Database dir. : AY	Output	Development Database extension data
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7MB	User input	Input	User transactions
PAC7MP	User dir. : MPCPPM	Input	File extracted from the Development Database
PAC7MU	Tmp dir. : MUSGL	Input	File extracted from configuration management utility
PAC7EQ	User dir. : CPPMEQ210	Report	Output report of check
PAC7BM	Tmp dir. : WBM	Output	User assign
PAC7ME	Tmp dir. : WME	Output	File used to print comparison errors
PAC7MS	Tmp dir. : WMS	Output	File used to print update transactions

Code	Physical name	Type	Label
PAC7DD	User dir. : CPPMDD210	Report	Batch procedures authorization option

Print of update transactions: PCM220

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7EQ	User dir. : CPPMEQ220	Report	Comparison output report
PAC7BM	Tmp dir. : WBM	Input	File used to print the results of comparison
PAC7MS	Tmp dir. : WMS	Input	File used to print the results of comparison
PAC7QJ	Journal dir. : QJ	Input/Output	Journal of SCM Tools Interface

### CPPM - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) CPPM BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# * COMPARIZON
# * -----
# *
# * INPUT      : USER IDENTIFICATION
# * COL 2     : "*"
# * COL 3     : USER CODE
# * COL 11    : PASSWORD
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "CPPM"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
```

```

BVPKDIR
# -----
. $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 PCM210 PAC7DD $PACUSERS/CPMDD210.txt`
export PAC7DD
PAC7EQ=`BVPENV PCM210 PAC7EQ $PACUSERS/CPPEQ210.txt`
export PAC7EQ
PAC7MB=$PACINPUT
export PAC7MB
PAC7ME=`BVPENV PCM210 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7BM=`BVPENV PCM210 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7MP=`BVPENV PCM210 PAC7MP `dirname $PACUSERS`/MPCPPM`
export PAC7MP
PAC7MS=`BVPENV PCM210 PAC7MS $PACTMP/WMS`
export PAC7MS
PAC7MU=`BVPENV PCM210 PAC7MU `dirname $PACUSERS`/MUSGL`
export PAC7MU
BVPMSG 1009 "BVPCM210"
rtspac BVPCM210
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM210"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7QJ.ini
PAC7BM=`BVPENV PCM220 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7EQ=`BVPENV PCM220 PAC7EQ $PACUSERS/CPPEQ220.txt`
export PAC7EQ
PAC7MS=`BVPENV PCM220 PAC7MS $PACTMP/WMS`
export PAC7MS
BVPMSG 1009 "BVPCM220"
rtspac BVPCM220
RETURN=$?
case $RETURN in
0)
;;

```

```

*)
  BVPMSG 1012 "BVPCM220"
  BVPERR
  BVPRMTMP
  exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

## Integrity Control of Environments/Elements

### CHPM - Introduction

The CHPM procedure is used to check the consistency of the environments and elements present in the VA Pac Database. The procedure produces a report printout for erroneous environments and elements. The purpose of this check is to highlight the inconsistencies in the Development Database.

#### Execution condition

None.

#### Abnormal execution

The procedure can be restarted as it is, once the problem has been solved.

### CHPM - Input / Processing / Results

A '\*' line with user code and password.

#### Printed report

This procedure prints a report which lists the consistency errors detected in the Development Database, and related to the Environments and Elements.

### CHPM - Description of Steps

Environments/Elements consistency check: PCM400

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data

Code	Physical name	Type	Label
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AY	Database dir. : AY	Input	Development Database bulk data
PAC7MB	User input	Input	User transactions
PAC7MS	Tmp dir. : WMS	Output	File used to print a check report
PAC7MV	Tmp dir. : WMV	Output	Work file
PAC7DD	User dir. : CHPMDD400	Report	Batch procedures authorization option

### Consistency check report printout: PCM410

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7EQ	User dir. : CHPMEQ410	Report	Output validation report
PAC7MS	Tmp dir. : WMS	Input	File used for the report printout
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data

### CHPM - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) CHPM BATCH PROCEDURE
# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# * VALIDATION OF THE DEVELOPMENT DATABASE
# * -----
# *
# * INPUT      : USER IDENTIFICATION
# * COL 2      : "*"
# * COL 3      : USER CODE
# * COL 11     : PASSWORD
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "CHPM"
echo "          ====="
BVPMSG 1047 "$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 PCM400 PAC7DD $PACUSERS/CHPMDD400.txt~
export PAC7DD
PAC7MB=$PACINPUT
export PAC7MB
PAC7MS=~BVPENV PCM400 PAC7MS $PACTMP/WMS~
export PAC7MS
PAC7MV=~BVPENV PCM400 PAC7MV $PACTMP/WMV~
export PAC7MV
BVPMSG 1009 "BVPCM400"
rtspac BVPCM400
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM400"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7EQ=~BVPENV PCM410 PAC7EQ $PACUSERS/CHPMEQ410.txt~
export PAC7EQ
PAC7MS=~BVPENV PCM410 PAC7MS $PACTMP/WMS~
export PAC7MS
BVPMSG 1009 "BVPCM410"
rtspac BVPCM410
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM410"
BVPERR
BVPRMTMP

```

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

## Update

### UPPM - Introduction

With the SCM option, the GPRT generation procedure writes transactions, structured as PAF tables, to the QJ journal file. This procedure updates the VA Pac Database with these transactions.

The processing starts from the first non-processed QJ transaction. It prepares the loading of the communication area with PAF-type transactions extracted from QJ before the call to PUF for the update. PUF function is called when a PAF file, the user code or the Database code is modified.

The returned errors, if any, are saved in the QJ file.

In case of system error related to the Database, the Database transactions are ignored during the processing.

During the archiving, the valid transactions are deleted from the QJ file while the erroneous transactions or the transactions which have not been processed are recycled to reconstitute the new QJ file for the next processing.

### Execution condition

The QJ file must exist.

Since this procedure updates the Database, the AR, AN, AJ and AY files must be closed to online use (except on the platforms where batch/online concurrency is allowed).

### UPPM - Input / Processing / Results

The UPPM procedure updates the VA Pac Databases from the QJ file which contains PAF Table formatted transactions written by the GPRT generation procedure upon generation.

### Output reports

None.



## UPPM - Description of Steps

Update : PCMPUF

This step updates the User Entities of the SCM Meta Entity in the VA Pac Database.

Code	Physical name	Type	Label
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. Database - Base dir.: AN	Input	Administration Database index
PACGGR	Admin. Database - Base dir.: AR	Input	Administration Database data
PACGGU	Admin. Database - Base dir.: GU	Input	Administration Database users
PAC7AN	Base dir.: AN	Input	Development Database index
PAC7AR	Base dir.: AR	Input	Development Database data
PAC7AY	Base dir.: AY	Input	Development Database unsorted data
PAC7DC	Base dir. : DC	Input	DSMS Control data
PAC7QJ	Admin. Database - Journal dir.: QJ	Output	Standard bridge journal file

## UPPM - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) UPPM BATCH PROCEDURE
# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# *          - SCM UPDATE -
# *
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "UPPM"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
. $PACDIR/config/$1/PAC7QJ.ini
BVPMSG 1015 "`dirname $PAC7QJ`"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
echo "-----"
```

```

echo ""
BVPPAUSE
BVPMKDIR
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PAC7QJ.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/$1/PACGGJ.ini
BVPMSG 1009 "BVPCMPUF"
rtspac BVPCMPUF
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCMPUF"
BVPERR
BVPRMUSERS
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMUSERS
BVPRMTMP
exit $RETURN

```

## Transactions Archiving

### ARPM - Introduction

The ARPM procedure archives the valid transactions already processed by the generation procedure or by the UPPM procedure and stored in the QJ journal file. It extracts the erroneous transactions, outputs the corresponding errors and recycles them again. It reconstitutes the new QJ journal file with the transactions not processed yet and with the recycled erroneous transactions.

#### Execution conditions

No current generation. The QJ file must be closed to on-line use.

#### Abnormal execution

If the last step (which reconstitutes the QJ journal file) abends, you just have to re-run this step. In all other cases, whichever the cause of the error is, you can run the procedure again as it is, once you have solved the problem.

### **ARPM - Input / Processing / Results**

A '\*' line with the user code and password.

#### Output reports

This procedure outputs a list of the errors previously detected by the update procedure.

### **ARPM - Description of Steps**

#### Analysis and preparation: PCM500

This step validates the user input, analyzes the QJ journal file and prepares the archiving and the output of errors.

Code	Physical name	Type	Label
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AR	Database dir.: AR	Input	Development Database data
PAC7MB	User input	Input	User transaction
PAC7QJ	Admin Database - Journal dir.: QJ	Input	SCM journal
PAC7XP	Tmp dir.: WXP	Output	Counters of the reconstituted journal
PAC7XQ	Tmp dir.: WXQ	Output	Transactions to be recycled
PAC7XR	Tmp dir.: WXR	Output	Erroneous transactions
PAC7XS	Tmp dir.: WXS	Output	Transactions already processed
PAC7XT	Tmp dir.: WXT	Output	Transactions for update
PAC7DD	User dir.: ARPMDD500	Report	Authorization control

#### Transactions archiving: PCM510

This step archives the correct transactions already processed by the different updates.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir.: AE	Input	Error messages
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7XS	Tmp dir. : WXS	Input	Transactions already processed
PAC7RJ	Admin Database - Journal dir.: JQ	Input	Former archiving
PAC7JR	Admin Database - Journal dir.: JQ-new	Output	New archiving

#### Output of errors: PCM520

This step outputs the list of the errors detected by the update.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir.: AE	Input	Error messages
PAC7AN	Base dir.: AN	Input	Development Database index
PAC7AR	Base dir.: AR	Input	Development Database data
PAC7XR	Tmp dir.: WXR	Input	Extracted erroneous transactions
PAC7ET	User dir.: ARPMET520	Report	List of errors

#### Preparation of the QJ file reconstitution: PCM550

This step prepares the reconstitution of the new QJ file with the transactions which have not been processed yet by the different updates as well as with the erroneous transactions.

Code	Physical name	Type	Label
PAC7XP	Tmp dir.: WXP	Input	Counters
PAC7XQ	Tmp dir.: WXQ	Input	Transactions to be processed again
PAC7JQ	Tmp dir.: WJQ	Output	New journal

#### Reconstitution of the QJ journal file: PCM560

This step reconstitutes the new QJ journal file, using as input the sequential file created by PCM550.

Code	Physical name	Type	Label
PAC7JQ	Tmp dir. : WJQ	Input	Sequential file
PAC7QJ	Admin base - Journal dir.: QJ-new	Output	New journal

## ARPM - Execution Script

```

#!/bin/sh
#@(#)VA Pac xxx xxx (R) ARPM BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - ARCHIVAL OF THE SCM JOURNAL -
# *
# * -----
# * INPUT      : USER IDENTIFICATION
# * COL 2      : "*"
# * COL 3      : USER CODE
# * COL 11     : PASSWORD
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "ARPM"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
. $PACDIR/config/$1/PACSAVJQ.ini
if [ ! -f "$PACSAVJQ" ]
then
touch $PACSAVJQ
fi
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7QJ.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGJ.ini
PAC7DD=`BVPENV PCM500 PAC7DD $PACUSERS/ARPMDD500.txt`

```

```

export PAC7DD
PAC7MB=$PACINPUT
export PAC7MB
PAC7XP=~BVPENV PCM500 PAC7XP $PACTMP/WXP`
export PAC7XP
PAC7XQ=~BVPENV PCM500 PAC7XQ $PACTMP/WXQ`
export PAC7XQ
PAC7XR=~BVPENV PCM500 PAC7XR $PACTMP/WXR`
export PAC7XR
PAC7XS=~BVPENV PCM500 PAC7XS $PACTMP/WXS`
export PAC7XS
PAC7XT=~BVPENV PCM500 PAC7XT $PACTMP/WXT`
export PAC7XT
BVPMSG 1009 "BVPCM500"
rtspac BVPCM500
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM500"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PACGGJ.ini
. $PACDIR/config/$1/PACSAVJQ.ini
PAC7RJ=$PACSAVJQ
export PAC7RJ
PAC7JR=$PACSAVJQ.NEW
export PAC7JR
PAC7XS=~BVPENV PCM510 PAC7XS $PACTMP/WXS`
export PAC7XS
BVPMSG 1009 "BVPCM510"
rtspac BVPCM510
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM510"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AN.ini
PAC7ET=~BVPENV PCM520 PAC7ET $PACUSERS/ARPMET520.txt`

```

```

export PAC7ET
PAC7XR=~BVPENV PCM520 PAC7XR $PACTMP/WXR`
export PAC7XR
BVPMSG 1009 "BVPCM520"
rtspac BVPCM520
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM520"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7JQ=~BVPENV PCM550 PAC7JQ $PACTMP/WJQ`
export PAC7JQ
PAC7XP=~BVPENV PCM550 PAC7XP $PACTMP/WXP`
export PAC7XP
PAC7XQ=~BVPENV PCM550 PAC7XQ $PACTMP/WXQ`
export PAC7XQ
BVPMSG 1009 "BVPCM550"
rtspac BVPCM550
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM550"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PACGGJ.ini
. $PACDIR/config/$1/PAC7QJ.ini
PAC7JQ=~BVPENV PCM560 PAC7JQ $PACTMP/WJQ`
export PAC7JQ
BVPMSG 1009 "BVPCM560"
rtspac BVPCM560
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM560"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac

```

```
# -----
BVPMSG 1010
BVPMSG 1016 "JQBACKUP.ini"
sh $PACDIR/config/$1/JQBACKUP.ini
BVPRMTMP
exit $RETURN
```

## Purge

### PUPM - Introduction

The purge procedure is used to analyze, in production intra-sessions, the data saved in the Repository related to the generated entities of BASIC-type SCM Environments. This procedure also generates deletion transactions of redundant data in order to keep the trace of the last generation only.

#### Execution conditions

As this procedure updates the network, 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).

#### Abnormal execution

The procedure can be restarted once the problem has been solved.

### PUPM - Input / Processing / Results

A '\*' line with the user code and password of the Manager.

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

#### Printed output

This procedure prints a validity report for the SCM Environments encountered. Only the valid Environments will be processed subsequently.

#### Results

This procedure outputs a sequential file which contains the update transactions of the Development Database. This file must be used as input to the UPDP procedure to update the Repository.



## **PUPM - Description of Steps**

### Input recognition: PTU001

#### Extraction: PCM450

This step scans the Development Database and extracts the redundant data.

<b>Code</b>	<b>Physical name</b>	<b>Type</b>	<b>Label</b>
PAC7AE	System - skel. dir.: AE	Input	Error messages
PACGGN	Admin Database - Dbase dir.: AN	Input	Administration Database index
PACGGR	Admin Database - Dbase dir.: AR	Input	Administration Database data
PACGGU	Admin Database - Dbase dir.: GU	Input	Administration Database users
PAC7AN	Dbase dir.: AN	Input	Development Database index
PAC7AR	Dbase dir.: AR	Input	Development Database data
PAC7MB	User input	Input	User transactions
PAC7BM	Tmp dir.: WBM	Output	User assignment
PAC7EX	Tmp dir.: WEX	Output	Extracted transactions
PAC7ET	User dir.: PUPMET450	Report	Environment types validation
PAC7DD	User dir.: PUPMDD450	Report	Authorizations control

#### Generation of purge transactions: PCM460

This step checks the extracted transactions, deletes the duplicated transactions and generates purge transactions.

<b>Code</b>	<b>Physical name</b>	<b>Type</b>	<b>Label</b>
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PAC7AN	Database dir.: AN	Input	Development Database index
PAC7AR	Database dir.: AR	Input	Development Database data
PAC7BM	Tmp dir.: WBM	Input	User assignment
PAC7EX	Tmp dir.: WEX	Input	Extracted transactions
PAC7GY	User dir.: PUPMMY	Output	generated purge transactions

#### Transactions formatting: PAF900

Code	Physical name	Type	Label
PAC7AR	Database dir.: AR	Input	Development Database data
PAC7AN	Database dir.: AN	Input	Development Database index
PAC7AE	System - skel. dir.: AE	Input	Error messages
PACGGR	Admin Database - Base dir.: AR	Input	Administration Database data
PACGGN	Admin Database - Base dir.: AN	Input	Administration Database index
PACGGU	Admin database - Base dir.: GU	Input	Administration Database users
PAC7GY	User dir.: PUPMMY	Input	Update transactions
PAC7MV	Tmp dir.: WMV	Output	Formatted transactions (must be able to contain all the input transactions plus the elementary deletion transactions generated by the 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	Database dir.: AR	Output	Development Database Data file
PAC7AN	Database dir.: AN	Output	Development Database index
PAC7AY	Database dir.: AY	Output	Development Database extension
PAC7AJ	Journal dir.: AJ	Output	Development Database journal
PAC7AE	System - Skel. dir.: AE	Input	Error messages
PACGGN	Admin. DBase - Base dir.: AN	Input	Administration Database Index file
PACGGR	Admin. DBase - Base dir.: AR	Input	Administration Database Data file
PACGGY	Admin. DBase - Base dir.: AY	Input	Administration Database Extension
PACGGU	Admin. DBase - Base dir.: GU	Input	Administration Database users

Code	Physical name	Type	Label
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	Tmp dir.: WRB	Output	UPDT erroneous transactions (length=80)
PAC7RY	Tmp dir.: WRY	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: Error

### PUPM - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PUPM BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# * PURGE
# * -----
# *
# * INPUT      : USER IDENTIFICATION
# * COL 2     : "*"
# * COL 3     : USER CODE
# * COL 11    : PASSWORD
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PUPM"
echo "
=====
BVPMSG 1047 "$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 PCM450 PAC7DD $PACUSERS/PUPMDD450.txt`
export PAC7DD
PAC7ET=`BVPENV PCM450 PAC7ET $PACUSERS/PUPMET450.txt`
export PAC7ET
PAC7MB=$PACINPUT
export PAC7MB
PAC7EX=`BVPENV PCM450 PAC7EX $PACTMP/WEX`
export PAC7EX
PAC7BM=`BVPENV PCM450 PAC7BM $PACTMP/WBM`
export PAC7BM
BVPMMSG 1009 "BVPCM450"
rtspac BVPCM450
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMMSG 1012 "BVPCM450"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7EX=`BVPENV PCM460 PAC7EX $PACTMP/WEX`
export PAC7EX
PAC7BM=`BVPENV PCM460 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7GY=`BVPENV PCM460 PAC7GY $PACUSERS/PUPMMY.txt`
export PAC7GY
BVPMMSG 1009 "BVPCM460"
rtspac BVPCM460
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMMSG 1012 "BVPCM460"
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
PAC7GY=~BVPENV PAF900 PAC7GY $PACUSERS/PUPMMY.txt`
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
BVPRTMP
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/SEMLOCK.ini
PAC7DC=~BVPENV PACA15 PAC7DC $PACTMP/WDC`
export PAC7DC
touch PAC7DC
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 /dev/null`
export PAC7RB
PAC7RY=~BVPENV PACA15 PAC7RY /dev/null`
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

```

---

## Pac/Transfer

### Introduction

The purpose of the Pac/transfer facility is to provide an easy versioning of the developments made in a VisualAge Pacbase Database; it automates the transfers of update transactions between two sessions or more.

Pac/transfer scans the archived Journal file and consults file and reads the Administration Database where the processing parameters are stored.

These parameters define one or more source environments. Each source environment can correspond to one or more target environments.

Pac/transfer selects from the archived Journal file, transactions that match the criteria defined via these parameters.

Then, Pac/transfer then generates update transactions for the target environment(s) defined in these parameters.

These transactions are used by the VA Pac batch update procedure (UPDT). If the Development Database is under DSMS control, such updates are automatically included in this control.

### Functionalities

The objective of Pac/transfer is to transfer updates made in a source session to one or several target sessions.

Once a development is completed in a test session, it is possible to transfer this session's contents into another validation-dedicated session, and, if necessary, into another session dedicated to production-turnover.

In the transfer file, the selected transactions from the source session are duplicated as many times as there are target sessions.

There are no constraints regarding the chronological order of sessions. It is possible to transfer the transactions entered in a given source session into a later target session (target-session number greater than that of the source session), just as it is possible to transfer it onto a previous target session (target-session number smaller than that of the source session).

### Note

The transfer parameters are stored in the Administration Database, for all the Development Databases managed by the Administrator. The list of these Databases is itself defined in the Administration Database.

The Development Database notion is then important to parameterize Pac/Transfer.

You need to have defined a logical Database code for each Development Database.

The logical Database code used is the one entered when you restore the Development Database with the REST procedure execution.

In batch Pac/Transfer processing procedures, it is not necessary to indicate the logical code of the Development Database. The code indicated in the data file of the Database processed will be systematically taken into account. This code

will be used as a link between the Development Database and the transfer sets stored in the Administration Database throughout the processing, as indicated above.

## **Chronology of Processing**

1. Updating the transfer parameters (TRUP)

Process to be executed if there are new Transaction Sets to be defined, or if parameters of existing Sets are to be modified.

2. Compressing the archived journal

Optional process (depending on the site).

3. Creating the transfer file

4. Preparing the DSMS environment

Process to be executed only if the Database is under DSMS control.

5. Generating the transfer transactions

6. Updating the Development Database

7. Reinitializing the DSMS environment

Process to be executed only if the Database is under DSMS control.

## **Update of Transfer Parameters**

### **TRUP - Introduction**

Pac/Transfer processing is based on user-defined parameters stored in the Administration Database. These parameters are used in all the Pac/Transfer procedures.

These parameters must be created -- via a TRUP execution -- prior to any Pac/transfer operation. Any change to one of these parameters must be followed by a new TRUP execution.

Several sets of transfer parameters, called Transfer Sets, may be defined.

A Transfer Set is linked to a Development Database.

A Transfer Set may be used for several Development Databases.



When executing the TRUP procedure, an access to the Development Database is performed in order to validate the parameters which make up the transfer set, and then these parameters are stored in the Administration Database.

The transfer set identifier stored in this Database is constituted of the 'Development Database logical code' + 'transfer set code'. The Development Database logical code is automatically assigned to the identifier during the TRUP procedure processing.

The other Pac/Transfer batch procedures follow the same principle: they search for the processing parameters in the Administration Database with an identifier constituted of the Development Database logical code and the transfer set code.

By defining several Transfer Sets, you obtain flexible transfer operations, fully adaptable to your own requirements.

The transfer parameters, described below, define one Transfer Set. It is not possible to set parameters common to all Sets.

#### Transfer parameters

- Transfer set header line

It is required at the beginning of the transactions related to the transfer set. It identifies the transfer set to which the parameters entered on the continuation lines are related.

- Session number

It is required to specify one source session and at least one target session. If you specify several target sessions, transactions entered in the source session will be transferred to each specified target session.

**Note:** For each transfer request line, you must specify an order number so as to ensure the adequate chronology of transfers. This is particularly important when several source sessions have the same target session.

- Library

By default, all the Libraries of the Development Database are taken into account for the requested source session; these Libraries are also the targets of the transfers.

You may restrict the scope of a transfer by selecting one particular source Library, which then becomes the default target Library. This means that you have the wider option of selecting one or more target Libraries.

**Note:** If the source Library is to be among the selected target Libraries, specify its code explicitly.

If you specify several target Libraries, the transactions related to the selected source Library will be transferred to each of the target Libraries.

**Example:** When a transfer is defined from one source session to TWO target sessions, and from one source Library to THREE target Libraries, the volume of the transferred transactions will be SIX times larger than the volume of the selected transactions.

- User

As a default, the transactions entered by ANY Development Database user are transferred under a unique user code.

You may restrict the scope of the transfer by selecting one particular source user-code, which will be considered as the default target user-code. You may therefore also select a target user-code different from the selected source user-code.

- DSMS change number

This type of selection refers to Development Databases under DSMS control only.

By default, the transactions associated to ANY Change are transferred under the same Change number.

You may restrict the scope of the transfer by selecting one particular source Change number, which will be considered as the default target Change number. You may also select a target Change number different from the source Change number.

It is also possible to transfer all transactions under a single target user code.

**Note:** This option overrides any target user selection described above.

### Execution conditions

None.

### Printed report

Printout of the content of the parameter file.

### **TRUP - User Input**

User identification line (required)

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

Position	Length	Value	Meaning
11	8	pppppppp	Password

Transfer set header line (required)

This line must precede the update transactions of a transfer set. It identifies the transfer set to which the following transactions are related.

Position	Length	Value	Meaning
1	1		Action code
		'C'	Creation
		'M'	Modification
		'D'	Deletion
		' '	Creation or modification depending on the Database status
		'X'	Equal to ' ', with no uppercase conversion of the label
2	2	'GA'	Line type
4	10		Transfer set code (required) different from 999999999 and *****
14	36		Transfer set label (required in creation mode)

Session selection line

A Transfer Set must include at least one selection line of this type.

Position	Length	Value	Meaning
1	1		Action code
		'C'	Creation
		'M'	Modification
		'D'	Deletion
		' '	Creation or modification depending on the Database state
		'X'	Equal to ' ', with no uppercase conversion of the label
2	2	'GS'	Line type
4	4		Source session (required)

Position	Length	Value	Meaning
13	2		Line number (two lines only are authorized)
		'00'	First line for the 9 first target sessions (default value)
		'01'	Continuation line for the 9 following target sessions, if necessary (the target session number is limited to 18: the input in position 1 to 7 on the first line must be repeated on continuation line).
15	3		Sequence number of transfers (required and numeric)
18	36		List of target sessions: The sessions are entered without 'T' and are not followed by blanks (one session is required at least)

#### Library selection line

Position	Length	Value	Meaning
1	1		Action code:
		'C'	Creation
		'M'	Modification
		'D'	Deletion
		' '	Creation or modification depending on the Database state
		'X'	equal to ' ', with no uppercase conversion of the label
2	2	'GB'	Line type
4	3		Source Library (required)
13	60		Library codes (20 max.) Default: source Library. Library codes are not separated by blanks.

#### Selection line of user codes

Position	Length	Value	Meaning
1	1		Action code
		'C'	Creation

Position	Length	Value	Meaning
		'M'	Modification
		'D'	Deletion
		' '	Creation or modification depending on the Database state
		'X'	Equal to ' ', without any uppercase conversion of the label
2	2	'GU'	Line type
4	8		Source user code (required)
13	8		Target user code Default: source user code

#### Selection line of DSMS changes

Position	Length	Value	Meaning
1	1		Action code:
		'C'	Creation
		'M'	Modification
		'D'	Deletion
		' '	Creation or modification depending on the Database state
		'X'	Equal to ' ', without any uppercase conversion of the label
2	2	'GC'	Line type
4	3		Source product code (required) it must be left-justified
7	6		Source Change number (required)
13	3		Target product code must be left-justified
16	6		Target Change number Default: Source product/Change
22	8		Target user code Default: Source user

#### Request line for multiple deletions

Multiple deletions may be requested at many levels:

- on each selection type for a Transfer Set,
- on a whole Transfer Set,

- on all the Sets of a Development Database.

Position	Length	Value	Meaning
1	1	'B'	Multiple deletion request
2	2	'GA'	Deletion of the whole Set
		'GS'	Deletion of Set lines: 'GS' 'GB' 'GC' and 'GU'
		'GB'	Deletion of 'GB' Set lines
		'GU'	Deletion of 'GU' Set lines
		'GC'	Deletion of 'GC' Set lines
4	10		Only if value 'GA' in columns 2 and 3.
		llllllllll	Set code
		'*****'	Deletion of all the Sets of a Development Database

## TRUP - Description of Steps

Update of the Administration Database: PTUG20

This step updates the Administration Database in order to store the selection parameters.

Code	Physical name	Type	Label
PAC7AR	Database dir. : AR	Input	Development Database data file
PAC7AN	Database dir. : AN	Input	Development Database index file
PAC7AY	Base dir. AY	Output	Development Database extension data
PACGGU	Admin Database - Base dir. : GU	Input	Users file
PAC7AE	System - Skel dir. : AE	Input	Error messages file
PACGGR	Admin Database - Base dir. : AR	Input/Output	Administration Database data file
PACGGN	Admin Database - Base dir. : AN	Input/Output	Administration Database index file
PACGGY	Admin Database - Base dir. : AY	Input/Output	Administration Database extension data file
PACGGJ	Journal dir. : AJ	Input/Output	Administration Database Journal file

Code	Physical name	Type	Label
PAC7MC	User input	Input	Parameters update transactions file
PAC7ME	Tmp dir. : WME	Input/ Output	Work file
PAC7MY	Tmp dir. : WMY	Input/ Output	Work file
PAC7TB	Tmp dir. : WTB	Input/ Output	Work file
PAC7BM	Tmp dir. : WBM	Output	Parameters print request file
PAC7ET	User dir. : TRUPETG20	Report	Input validation
PAC7IE	User dir. : TRUPIEG20	Report	Administration Database update report
PAC7IF	User dir. : TRUPIFG20	Report	Administration Database update errors
PAC7DD	User dir. : TRUPDDG20	Report	Output report: validation of '*' line in relation to the Development Database
PAC7DE	User dir. : TRUPDEG20	Report	Output report: validation of '*' line in relation to the Administration Database

#### Extraction of the Administration Database: PTUG30

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AN	Admin Database - Base dir. : AN	Input	Administration Database index
PAC7AR	Admin Database - Base dir. : AR	Input	Administration Database data
PAC7AY	Admin Base - Base dir. AY	Input	Administration Database extension data

Code	Physical name	Type	Label
PAC7MB	Tmp dir. : WBM	Input	Extraction request file
PAC7GL	Tmp dir. : WGL	Output	Target sessions list
PAC7UY	Tmp dir. : WUY	Output	Reduced parameters file
PAC7DD	User dir. : TRUPDDG30	Report	'*' line validation report
PAC7TK	Tmp dir. : WTK	Input/Output	Work file

#### Printing of selection parameters: PTUG31

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages file
PAC7UY	Tmp dir. : WUY	Input	Reduced parameters file
PAC7MB	Tmp dir. : WBM	Input	Extraction request file
PAC7ET	User dir. : TRUPETG31	Report	Printing of the selection parameters list

#### Printing of the target Sessions file: PTUG32

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7MB	Tmp dir : WBM	Input	Extraction request file
PAC7GL	Tmp dir. : WGL	Input	Target session
PAC7ET	User dir. : TRUPETG32	Report	Printing of the target sessions list

### **TRUP - Execution Script**

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) TRUP BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *
# * -----
# *     PAC/TRANSFER:
# *     UPDATE OF THE TRANSFER PARAMETERS
# * -----
# *
# * PAC/TRANSFER - PROCESSING IS BASED ON THE USER-DEFINED
# * PARAMETERS STORED IN THE ADMINISTRATION DATABASE.
# * THESE PARAMETERS CONTROL THE VARIOUS PROCESSES OF THE
```



```

# * PROCEDURES OF FACILITY.
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "TRUP"
echo "
=====
BVPMSG 1047 "$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/PACGGJ.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
PAC7BM=~BVPENV PTUG20 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=~BVPENV PTUG20 PAC7DD $PACUSERS/TRUPDDG20.txt`
export PAC7DD
PAC7DE=~BVPENV PTUG20 PAC7DE $PACUSERS/TRUPDEG20.txt`
export PAC7DE
PAC7ET=~BVPENV PTUG20 PAC7ET $PACUSERS/TRUPETG20.txt`
export PAC7ET
PAC7IE=~BVPENV PTUG20 PAC7IE $PACUSERS/TRUPIEG20.txt`
export PAC7IE
PAC7IF=~BVPENV PTUG20 PAC7IF $PACUSERS/TRUPIFG20.txt`
export PAC7IF
PAC7MC=$PACINPUT
export PAC7MC
PAC7ME=~BVPENV PTUG20 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MY=~BVPENV PTUG20 PAC7MY $PACTMP/WMY`
export PAC7MY
PAC7TB=~BVPENV PTUG20 PAC7TB $PACTMP/WTB`
export PAC7TB
BVPMSG 1009 "BVPTUG20"
rtspac BVPTUG20
RETURN=$?
case $RETURN in
0)
;;
*)

```

```

BVPMSG 1012 "BVPTUG20"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/ADMI/PAC7AR.ini
. $PACDIR/config/ADMI/PAC7AN.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
PAC7DD=`BVPENV PTUG30 PAC7DD $PACUSERS/TRUPDDG30.txt`
export PAC7DD
PAC7GL=`BVPENV PTUG30 PAC7GL $PACTMP/WGL`
export PAC7GL
PAC7MB=`BVPENV PTUG30 PAC7MB $PACTMP/WBM`
export PAC7MB
PAC7TK=`BVPENV PTUG30 PAC7TK $PACTMP/WTK`
export PAC7TK
PAC7UY=`BVPENV PTUG30 PAC7UY $PACTMP/WUY`
export PAC7UY
BVPMSG 1009 "BVPTUG30"
rtspac BVPTUG30
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG30"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7BM=`BVPENV PTUG31 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7ET=`BVPENV PTUG31 PAC7ET $PACUSERS/TRUPETG31.txt`
export PAC7ET
PAC7UY=`BVPENV PTUG31 PAC7UY $PACTMP/WUY`
export PAC7UY
BVPMSG 1009 "BVPTUG31"
rtspac BVPTUG31
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG31"

```

```

BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7BM=~BVPENV PTUG32 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7ET=~BVPENV PTUG32 PAC7ET $PACUSERS/TRUPETG32.txt`
export PAC7ET
PAC7GL=~BVPENV PTUG32 PAC7GL $PACTMP/WGL`
export PAC7GL
BVPMSG 1009 "BVPTUG32"
rtspac BVPTUG32
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG32"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

## Print of Transfer Parameters

### TRED - Introduction

This procedure prints all the parameters of each Development Database and transfer set.

It is possible to print all the parameters, or to print the parameters of one Development Database only.

### TRED - User Input

User identification line (required).

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

Position	Length	Value	Meaning
29	4		Selection of the Development Database to be printed
		bbbb	Selection of a Database
		'****'	Selection of all Databases

## TRED - Description of Steps

Validation of the processing request: PTUG28

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AR	Admin Database - Base dir. : AR	Input	Administration Database data
PAC7MB	User input	Input	Parameters print request
PAC7BM	Tmp dir. : WMB	Output	Parameters print request
PAC7DD	User dir. : TREDDDG28	Report	Output report: user code validity check
PAC7ET	User dir. : TREDETG28	Report	Output report: validation of print request

Extraction of the Administration Database: PTUG30

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users

Code	Physical name	Type	Label
PAC7AN	Admin Database - Base dir. : AN	Input	Administration Database index
PAC7AR	Admin Database - Base dir. : AR	Input	Administration Database data
PAC7AY	Admin Base - Base dir. : AY	Input	Administration Database extension data
PAC7MB	Tmp dir. : WMB	Input	Print requests file
PAC7GL	Tmp dir. : WGL	Output	Target sessions file
PAC7UY	Tmp dir. : WUY	Output	Reduced parameters file
PAC7TK	Tmp dir. : WTK	Input/Output	Work file
PAC7DD	User dir. : TREDDDG30	Report	'*' line validation report

Printing of selection parameters: PTUG31

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7UY	Tmp dir. : WUY	Input	Reduced parameters
PAC7MB	Tmp dir : WMB	Input	Extraction requests file
PAC7ET	User dir. : TREDETG31	Report	List of selection parameters

Printing of target Sessions list: PTUG32

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7GL	Tmp dir. : WGL	Input	Target sessions
PAC7MB	Tmp dir. : WMB	Input	Extraction request file
PAC7ET	User dir. : TREDETG32	Report	List of target sessions

**TRED - Execution Script**

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

```

# *
# * -----
# *          PAC/TRANSFER -
# *          EDITING THE DATABASE PARAMETERS
# * -----
# *
# * FOR ALL THE DATABASE OR ONE DATABASE
# *
# * INPUT :
# * - USER IDENTIFICATION LINE (REQUIRED)
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "TRED"
echo "          ====="
BVPMSG 1047 "$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/ADMI/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
PAC7BM=`BVPENV PTUG28 PAC7BM $PACTMP/WMB`
export PAC7BM
PAC7DD=`BVPENV PTUG28 PAC7DD $PACUSERS/TREDDDG28.txt`
export PAC7DD
PAC7ET=`BVPENV PTUG28 PAC7ET $PACUSERS/TREDETG28.txt`
export PAC7ET
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPTUG28"
rtspac BVPTUG28
RETURN=?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG28"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN

```

```

;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/ADMI/PAC7AN.ini
. $PACDIR/config/ADMI/PAC7AR.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
PAC7DD=~BVPENV PTUG30 PAC7DD $PACUSERS/TREDDDG30.txt`
export PAC7DD
PAC7GL=~BVPENV PTUG30 PAC7GL $PACTMP/WGL`
export PAC7GL
PAC7MB=~BVPENV PTUG30 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7TK=~BVPENV PTUG30 PAC7TK $PACTMP/WTK`
export PAC7TK
PAC7UY=~BVPENV PTUG30 PAC7UY $PACTMP/WUY`
export PAC7UY
BVPMSG 1009 "BVPTUG30"
rtspac BVPTUG30
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG30"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7BM=~BVPENV PTUG31 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7ET=~BVPENV PTUG31 PAC7ET $PACUSERS/TREDETG31.txt`
export PAC7ET
PAC7UY=~BVPENV PTUG31 PAC7UY $PACTMP/WUY`
export PAC7UY
BVPMSG 1009 "BVPTUG31"
rtspac BVPTUG31
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG31"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;

```

```

esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
PAC7BM=`BVPENV PTUG32 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7ET=`BVPENV PTUG32 PAC7ET $PACUSERS/TREDETG32.txt`
export PAC7ET
PAC7GL=`BVPENV PTUG32 PAC7GL $PACTMP/WGL`
export PAC7GL
BVPMSG 1009 "BVPTUG32"
rtspac BVPTUG32
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG32"
BVPMSG 1025

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

```

## Compression of Archived Journal

### TRJC - Introduction

From the archived Journal of the Development Database, the TRJC procedure (which is optional) produces a compressed Journal which contains useful transactions only; the intermediate transactions, useless for the transfer, are purged.

To ensure data integrity, the transactions related to certain entities cannot be compressed ; this applies to the lines whose codes are: G, H, L4, V3, Y1 to Y6, and 4

User input may include an interval of dates and/or session numbers in order to limit transfer processing to the archived Journal transactions which belong to that interval only.

If there is no optional user input, the compression is carried out on the complete archived Journal.



You also have the possibility to erase user codes and/or Change numbers from the archived Journal. As a result, a higher rate of compression is obtained.

In this case, transfer criteria based on user codes and Changes can no longer be used.

Journal compressing is not required; it depends on the site's requirements (Journal volume, frequency of transfer operations, etc).

Execution conditions

None.

Result

A smaller archived Journal with 'useful' transactions only.

Printed report

Statistical data on the TRJC execution.

**TRJC - User Input**

User identification line (required).

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

Options

Position	Length	Value	Meaning
1	1		Deletion of user codes
		'0'	Yes
		'1'	No
2	1		Deletion of Change numbers
		'0'	Yes
		'1'	No
3	4		Start session number
7	4		End session number

Position	Length	Value	Meaning
11	8		Start date in the form CCYYMMDD
19	8		End date in the form CCYYMMDD

## TRJC - Description of Steps

### Compression (first phase): PTUG04

Code	Physical Name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AN	Database dir. : AN	Input	Development Database index
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database uses
PAC7MB	User input	Input	User input
PAC7BM	Tmp dir. : WBM	Output	User input
PAC7DD	User dir. : TRJCDDG04	Report	Batch procedures' execution report

### Compression (first phase): PTUG05

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7PJ	Save dir. : PJ	Input	Sequential image of the Development Database
PAC7AN	Base dir. : AN	Input	Development Database index
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
PAC7MB	Tmp dir. : WBM	Input	User Input

Code	Physical name	Type	Label
PAC7GP	Tmp dir. : WGP	Output	Temporary journal
PAC7ET	User dir. : TRJCETG05	Report	Input validation
PAC7DD	User dir. : TRJCDDG05	Report	Batch procedures error status

### Compression (second phase): PTUG06

Code	Physical name	Type	Label
PAC7GP	Tmp dir. : WGP	Input	Temporary Journal
PAC7PK	Tmp dir. : WPK	Output	Compressed sequential journal

### Classification of deletions/creations: PTUG07

Code	Physical name	Type	Label
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7PK	Tmp dir. : WPK	Input	Temporary journal
PAC7PL	Save dir. : JT	Output	Compressed sequential journal

### **TRJC - Execution Script**

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) TRJC BATCH PROCEDURE
# * -----
# *          VISUALAGE PACBASE
# *
# * -----
# *          PAC/TRANSFER -
# *          COMPRESSION OF ARCHIVED JOURNAL
# * -----
# *
# *
# * FROM THE DATABASE ARCHIVED JOURNAL, THE TRJC
# * PROCEDURE PRODUCES A COMPRESSED JOURNAL
# * CONTAINING ONLY USEFUL TRANSACTIONS,
# * BY ELIMINATING THE INTERMEDIARY TRANSACTIONS
# * WHICH ARE KNOWN TO BE USELESS FOR THE TRANSFER.
# *
# * INPUT :
# * - USER IDENTIFICATION LINE (REQUIRED)
# * - COMMAND LINE :
# * COL 1 : DELETION OF USER CODES:
# *          "0"  YES
# *          "1"  NO
# * COL 2 : DELETION OF CHANGE NUMBERS:
# *          "0"  YES
```

```

# *          "1" NO
# * COL 3   : (4 CAR.) START SESSION NUMBER
# * COL 7   : (4 CAR.) END SESSION NUMBER
# *
# * COL 11  : (8 CAR.) START DATE IN THE FORM CCYYMMDD
# * COL 19  : (8 CAR.) END DATE IN THE FORM CCYYMMDD
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "TRJC"
echo "          ====="
BVPMSG 1047 "$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 PTUG04 PAC7DD $PACUSERS/TRJCDDG04.txt`
export PAC7DD
PAC7MB=$PACINPUT
export PAC7MB
PAC7BM=~BVPENV PTUG04 PAC7BM $PACTMP/WBM`
export PAC7BM
BVPMSG 1009 "BVPTUG04"
rtspac BVPTUG04
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG04"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini

```

```

. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACSAVPJ.ini
PAC7MB=~BVPENV PTUG05 PAC7MB $PACTMP/WBM`
export PAC7MB
PAC7DD=~BVPENV PTUG05 PAC7DD $PACUSERS/TRJCDDG05.txt`
export PAC7DD
PAC7ET=~BVPENV PTUG05 PAC7ET $PACUSERS/TRJCETG05.txt`
export PAC7ET
PAC7GP=~BVPENV PTUG05 PAC7GP $PACTMP/WGP`
export PAC7GP
PAC7PJ=$PACSAVPJ
export PAC7PJ
BVPMSG 1009 "BVPTUG05"
rtspac BVPTUG05
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG05"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
PAC7PK=~BVPENV PTUG06 PAC7PK $PACTMP/WPK`
export PAC7PK
PAC7GP=~BVPENV PTUG06 PAC7GP $PACTMP/WGP`
export PAC7GP
BVPMSG 1009 "BVPTUG06"
rtspac BVPTUG06
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG06"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PACSAVJT.ini
PAC7PK=~BVPENV PTUG07 PAC7PK $PACTMP/WPK`
export PAC7PK
PAC7PL=$PACSAVJT
export PAC7PL
BVPMSG 1009 "BVPTUG07"
rtspac BVPTUG07
RETURN=$?

```

```

case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG07"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

## Creation of the Transfer File

### TRPF - Introduction

From the archived Journal --whether compressed or not, depending on the site and according to the contents of the Parameters file-- the TRPF procedure produces a Transfer file, which has the following characteristics:

- Only the transactions which meet the source selection parameters (sessions, Libraries, users, Changes) are processed.
- The values of the selected parameters are replaced with those of the target parameters specified in the processed Set.
- The selected transactions of the archived journal are duplicated as many times as there are target session numbers and target Library codes.

The file may contain the transactions for one, several or all of the Sets related to a Development Database.

### Execution conditions

None.

### Result

The TRPF procedure produces a Transfer file and a parameters file reduced and adapted to the processing request (UY).

These two files will be used by the TRRP procedure.

## TRPF - User Input

User identification line (required)

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

Selection of the Transfer Set to be processed (required)

Position	Length	Value	Meaning
2	2	'LT'	
4	10	llllllllll	Code of Transfer Set to process
		'*****'	Selection of all Sets

### Note

The selection of all the Sets necessarily implies that only one LT-type line be entered (with the value '\*\*\*\*\*' in Positions 4 to 13).

## TRPF - Description of Steps

Validation of the processing request: PTUG27

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7MB	User input	Input	Parameters extraction request
PAC7BM	Tmp dir. : WMB	Output	Parameters extraction request
PAC7DD	User dir. : TRPFDDG27	Report	User code validation report check

Code	Physical name	Type	Label
PAC7ET	User dir. : TRPFETG27	Report	Extraction request validation report

Extraction of the Administration Database: PTUG30

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AN	Admin Database - Base dir. : AN	Input	Administration Database index
PAC7AR	Admin Database - Base dir. : AR	Input	Administration Database data
PAC7AY	Admin Base - Base dir. : AY	Input	Administration Database extension data
PAC7MB	Tmp dir. : WMB	Input	Extraction request
PAC7GL	Tmp dir. : WGL	Output	List of target sessions
PAC7UY	Tmp dir. : WUY	Output	Reduced parameters for TRRP processing
PAC7DD	User dir. : TRPFDDG30	Report	'*' line validation report
PAC7TK	Tmp dir. : WTK	Output	Work file

Indexation of UY file: PTUG39

Code	Physical name	Type	Label
PAC7YU	Tmp dir. : WUY	Input	Limited parameters for TRRP processes
PAC7UY	User dir. : UY	Output	Limited parameters

Creation of the transfers file: PTUG50



Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7JT	Save dir. : PJ	Input	Sequential or compressed Journal
PAC7MB	Tmp dir. : WMB	Input	User input
PAC7UY	User dir. : UY	Input	Reduced parameters
PAC7TJ	Save dir. : TJ	Output	Transfers file
PAC7DD	User dir. : TRPFDDG50	Report	User line validation report
PAC7ER	User dir. : TRPFERG50	Report	List of user input
PAC7ET	User dir. : TRPFETG50	Report	Statistics on transfers

### TRPF - Execution Script

```

#!/bin/sh
#@(#)VA Pac xxx xxx (R) TRPF BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      PAC/TRANSFER -
# *      CREATING THE TRANSFER FILE
# * -----
# *
# * FROM THE ARCHIVED JOURNAL THE TRPF PROCEDURE PRODUCES
# * A TRANSFER FILE.
# *
# * INPUT :
# * - USER IDENTIFICATION LINE (REQUIRED)
# * - COMMAND LINE :
# * COL 2  : "LT"
# * COL 4  : (5 CAR.) TRANSACTION SET FOR PROCESSING CODE.
# *          IF SELECTION OF ALL SETS "*****"
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "TRPF"
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/PACGGY.ini
PAC7BM=`BVPENV PTUG27 PAC7BM $PACTMP/WMB`
export PAC7BM
PAC7DD=`BVPENV PTUG27 PAC7DD $PACUSERS/TRPFDDG27.txt`
export PAC7DD
PAC7ET=`BVPENV PTUG27 PAC7ET $PACUSERS/TRPFETG27.txt`
export PAC7ET
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPTUG27"
rtspac BVPTUG27
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG27"
BVPMSG 1025
BVPERR
BVPRTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/ADMI/PAC7AR.ini
. $PACDIR/config/ADMI/PAC7AN.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
PAC7DD=`BVPENV PTUG30 PAC7DD $PACUSERS/TRPFDDG30.txt`
export PAC7DD
PAC7GL=`BVPENV PTUG30 PAC7GL $PACTMP/WGL`
export PAC7GL

PAC7MB=`BVPENV PTUG30 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7TK=`BVPENV PTUG30 PAC7TK $PACTMP/WTK`

```

```

export PAC7TK
PAC7UY=~BVPENV PTUG30 PAC7UY $PACTMP/WUY~
export PAC7UY
BVPMSG 1009 "BVPTUG30"
rtspac BVPTUG30
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG30"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
PAC7UY=~BVPENV PTUG39 PAC7UY `dirname $PACUSERS\~/UY~
export PAC7UY
PAC7YU=~BVPENV PTUG39 PAC7YU $PACTMP/WUY~
export PAC7YU
BVPMSG 1009 "BVPTUG39"
rtspac BVPTUG39
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG39"
BVPMSG 1025
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
. $PACDIR/config/$1/PACSAVJT.ini
. $PACDIR/config/$1/PACSAVPJ.ini
PAC7JT=$PACSAVPJ
export PAC7JT
. $PACDIR/config/$1/PACSAVTJ.ini
PAC7TJ=$PACSAVTJ
export PAC7TJ
PAC7DD=~BVPENV PTUG50 PAC7DD $PACUSERS/TRPFDDG50.txt~
export PAC7DD
PAC7ER=~BVPENV PTUG50 PAC7ER $PACUSERS/TRPFERG50.txt~
export PAC7ER
PAC7ET=~BVPENV PTUG50 PAC7ET $PACUSERS/TRPFETG50.txt~
export PAC7ET

```

```

PAC7GL=~BVPENV PTUG50 PAC7GL $PACTMP/WGL~
export PAC7GL
PAC7MB=~BVPENV PTUG27 PAC7MB $PACTMP/WMB~
export PAC7MB
PAC7UY=~BVPENV PTUG50 PAC7UY `dirname $PACUSERS~/UY~
export PAC7UY
BVPMSG 1009 "BVPTUG50"
rtspac BVPTUG50
RETURN=?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG50"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;

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

```

## Preparing DSMS Environment

### TRDU - Introduction

The TRUD procedure must be used when the Development Database is under DSMS control, and when source criteria include a selected Change number.

TRDU can be applied to one selected Set or all the Sets related to a Development Database.

The VisualAge Pacbase authorizations indicated for the target Change(s) must include the authorizations for the source Change(s). Otherwise, transfers in VA Pac will be rejected.

Compliance to this requirement is ensured by the TRDU procedure which temporarily aligns the target Change(s) with the source Changes regarding their VisualAge Pacbase authorizations.

### Note

When source criteria do not include a selected Change number, TRDU cannot be applied because of the bulk of Changes involved. In this case, manual checks and alignments will be necessary.

TRDU recognizes the following additional parameters:

- If the Parameters file specifies the transfer of transactions from one source Library to one or more target Libraries, the target Change must authorize the transactions on the target Library(ies).
- If the Parameters file specifies the transfer of transactions from one source user to a target user, the target Change number must authorize the transactions under this target user code.

The TRDU procedure outputs two files:

- A DSMS update transactions file to allow target Change(s) to accept updates made on the source Change(s).

Also, all the VA Pac authorizations attached to source Changes are withdrawn. This means that during the transfer operation, no update made in VA Pac in relation to those Changes will be authorized.

This update must be executed BEFORE the transfer operation.

- A DSMS update transactions file to set the authorizations of the source and target Changes back to their initial state.

This update must be executed AFTER the transfers are introduced in the Development Database.

#### Execution conditions

None.

#### Results

Two DSMS batch update transactions files, one of which should be applied before the transfers, the other after all the transfers.

#### **TRDU - User Input**

User identification line (required).

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

Selection of the transfer set (required)

Position	Length	Value	Meaning
2	2	'LT'	
4	10	llllllllll	Selected Transaction Set code

Position	Length	Value	Meaning
		'*****'	Selection of all Sets

Only one LT-type line is required.

### TRDU - Description of Steps

Validation of processing request: PTUG26

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database data
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database index
PAC7GU	Admin Database - Base dir. : GU	Input	Administration Database index
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7MB	User input	Input	Parameters extraction request
PAC7BM	Tmp dir. : WBM	Output	Parameters extraction request
PAC7ET	User dir. : TRDUETG26	Report	User code validation report code
PAC7DD	User dir. : TRDUDDG26	Report	Print request validation report

Extraction of the Administration Database: PTUG30

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AN	Admin Database - Base dir. : AN	Input	Administration Database index

Code	Physical name	Type	Label
PAC7AR	Admin Database - Base dir. : AR	Input	Administration Database data
PAC7AY	Admin Base - Base dir. : AY	Input	Administration Database extension data
PAC7MB	Tmp dir. : WBM	Input	Extraction request
PAC7GL	Tmp dir. : WGL	Output	Target sessions
PAC7UY	Tmp dir. : WUY	Output	Reduced parameters
PAC7DD	User dir. : TRDUDDG30	Report	Report output: '*' line validation
PAC7TK	Tmp dir. : WTK	Input/Output	Work file

#### Indexation of UY file: PTUG39

Code	Physical name	Type	Label
PAC7YU	Tmp dir. : WUY	Input	Limited parameters for TRRP processes
PAC7UY	User dir. : UY	Output	Limited parameters

#### Selection of sets: PTUG42

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7UY	User dir. : UY	Input	Reduced parameters
PAC7MB	Tmp dir. : WBM	Input	User input
PAC7BM	Tmp dir. : WBM2	Output	Sets file
PAC7DD	User dir. : TRDUDDG42	Report	User code validation report
PAC7ET	User dir. : TRDUETG42	Report	Extraction validation report

#### DSMS preparation before the transfers: PTUG44

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7UY	User dir. : UY	Input	Limited parameters
PA7DDC	Database dir. : DC	Input	Elements of the product (DSMS)
PAC7MB	Tmp dir. : WBM2	Input	Batch transactions
PAC7CI	Tmp dir. : WCI	Output	Delete transactions of target after the transfer
PAC7SI	Tmp dir. : WSI	Output	Delete transactions of the source/target initial state
PAC7GC	Tmp dir. : WGC	Output	Preparation of the authorizations of the target Changes
PAC7ET	User dir. : TRDUETG44	Report	Report

#### Generation of target change transactions: PTUG46

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AR	Base dir. : AR	Input	Development Database data
PAC7GC	Tmp dir. : WGC	Input	Preparation of target change authorizations
PAC7CC	Tmp dir. : WCC	Output	Target creation transactions before transfer
PAC7SC	Tmp dir. : WSC	Output	Target deletion transactions after transfer
PAC7ET	User dir. : TRDUETG46	Report	Report output

#### Copy/Merge SI + CC ==> TRDUAV :

Code	Physical name	Type	Label
SI	Tmp dir. : WSI	Input	Deletion transactions of the source/target initial status
CC	Tmp dir. : WCC	Input	Target creation transactions before transfer
TRDUAV	User dir. : TRDUAV	Output	Transactions for DUPT before the Development Database update



Copy/merge SC + CI ==> TRDUAP :

Code	Physical name	Type	Label
SC	Tmp dir. : WSC	Input	Target deletion transactions after transfer
CI	Tmp dir. : WCI	Input	Creation transactions after transfer
TRDUAP	User dir. : TRDUAP	Output	transactions for DUPT after Development Database update

### TRDU - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) TRDU BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      PAC/TRANSFER -
# *      PREPARING THE DSMS ENVIRONMENT
# * -----
# *
# * THE DSMS-ENVIRONMENT PREPARATION PROCEDURE
# * (TRDU) MUST BE USED WHEN THE DEVELOPMENT DATABASE
# * IS UNDER DSMS CONTROL, AND WHEN SOURCE CRITERIA INCLUDE
# * A SELECTED CHANGE NUMBER.
# *
# * INPUT :
# * - USER IDENTIFICATION LINE (REQUIRED)
# * - COMMAND LINE :
# * COL 2  : "LT"
# * COL 4  : (10 CAR.) SELECTED TRANSACTION SET CODE.
# *          IF SELECTION OF ALL SETS "*****"
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "TRDU"
echo "          ====="
BVPMSG 1047 "$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/PACGGY.ini
PAC7BM=~BVPENV PTUG26 PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=~BVPENV PTUG26 PAC7DD $PACUSERS/TRDUDDG26.txt`
export PAC7DD
PAC7ET=~BVPENV PTUG26 PAC7ET $PACUSERS/TRDUETG26.txt`
export PAC7ET
PAC7MB=$PACINPUT
export PAC7MB
BVPMSG 1009 "BVPTUG26"
rtspac BVPTUG26
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG26"
BVPMSG 1025
BVPERR
BVPMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/ADMI/PAC7AR.ini
. $PACDIR/config/ADMI/PAC7AN.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
PAC7DD=~BVPENV PTUG30 PAC7DD $PACUSERS/TRDUDDG30.txt`
export PAC7DD
PAC7GL=~BVPENV PTUG30 PAC7GL $PACTMP/WGL`
export PAC7GL
PAC7MB=~BVPENV PTUG30 PAC7MB $PACTMP/WBM`
export PAC7MB
PAC7TK=~BVPENV PTUG30 PAC7TK $PACTMP/WTK`
export PAC7TK
PAC7UY=~BVPENV PTUG30 PAC7UY $PACTMP/WUY`
export PAC7UY
BVPMSG 1009 "BVPTUG30"
rtspac BVPTUG30
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG30"
BVPMSG 1025

```

```

BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
PAC7UY=~BVPENV PTUG39 PAC7UY `dirname $PACUSERS\~/UY`
export PAC7UY
PAC7YU=~BVPENV PTUG39 PAC7YU $PACTMP/WUY`
export PAC7YU
BVPMSG 1009 "BVPTUG39"
rtspac BVPTUG39
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG39"
BVPMSG 1025
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
. $PACDIR/config/$1/PACGGY.ini
PAC7BM=~BVPENV PTUG42 PAC7BM $PACTMP/WBM2`
export PAC7BM
PAC7DD=~BVPENV PTUG42 PAC7DD $PACUSERS/TRDUDDG42.txt`
export PAC7DD
PAC7ET=~BVPENV PTUG42 PAC7ET $PACUSERS/TRDUETG42.txt`
export PAC7ET
PAC7MB=~BVPENV PTUG42 PAC7MB $PACTMP/WBM`
export PAC7MB
PAC7UY=~BVPENV PTUG42 PAC7UY `dirname $PACUSERS\~/UY`
export PAC7UY
BVPMSG 1009 "BVPTUG42"
rtspac BVPTUG42
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG42"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac

```

```

# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7DC.ini
PAC7CI=~BVPENV PTUG44 PAC7CI $PACTMP/WCI`
export PAC7CI
PAC7ET=~BVPENV PTUG44 PAC7ET $PACUSERS/TRDUETG44.txt`
export PAC7ET
PAC7GC=~BVPENV PTUG44 PAC7GC $PACTMP/WGC`
export PAC7GC
PAC7MB=~BVPENV PTUG44 PAC7MB $PACTMP/WBM2`
export PAC7MB
PAC7SI=~BVPENV PTUG44 PAC7SI $PACTMP/WSI`
export PAC7SI
PAC7UY=~BVPENV PTUG44 PAC7UY `dirname $PACUSERS`/UY`
export PAC7UY
BVPMSG 1009 "BVPTUG44"
rtspac BVPTUG44
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG44"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7CC=~BVPENV PTUG46 PAC7CC $PACTMP/WCC`
export PAC7CC
PAC7ET=~BVPENV PTUG46 PAC7ET $PACUSERS/TRDUETG46.txt`
export PAC7ET
PAC7GC=~BVPENV PTUG46 PAC7GC $PACTMP/WGC`
export PAC7GC
PAC7SC=~BVPENV PTUG46 PAC7SC $PACTMP/WSC`
export PAC7SC
BVPMSG 1009 "BVPTUG46"
rtspac BVPTUG46
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG46"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac

```

```
# -----
BVPMMSG 1010
TRDUAV=~BVPENV PACB TRDUAV $PACUSERS/TRDUAV`
cat $PAC7CC $PAC7SI > $TRDUAV
TRDUAP=~BVPENV PACB TRDUAP $PACUSERS/TRDUAP`
cat $PAC7CI $PAC7SC > $TRDUAP
BVPMMSG 1058
BVPMMSG 1059
BVPRMTMP
exit $RETURN
```

## DSMS Update Before Database Update

This update is performed using, as input to the DUPT procedure, the first file produced by the DSMS authorization update process.

## TRRP - Generation of Transfer Transactions

### TRRP - Introduction

Once the transfer file has been built, the TRRP procedure generates transfer transactions. These have the same format as batch update transactions applicable in the Development Database by the UPDT procedure.

The transfer transactions may be generated on all the sets related to a Development Database, or on selected sets, based on the following criteria:

1. Transaction Set (required),
2. Target Session.

The values for both criteria are indicated on the '\*' user identification line. Sort options are also available and must be entered in a J-type line.

Each combination of criteria corresponds to a TRRP execution mode.

#### Standard execution (by transaction set)

- Transaction Set code different from '\*\*\*\*\*'
- No target session

TRRP only processes the transactions that belong to the selected Transaction Set. Since you have not selected a target session, transactions are generated for all the target sessions found in the parameters file regarding this Set.

However, you must run as many TRRP executions as there are target sessions:

A specific attribute -- SESSION PROCESSED -- is automatically positioned in the parameters file (UY) once all the transactions have been generated for a given session.

As a result, if this attribute is positioned for a given session (see also the other execution modes, described in Paragraphs 2 and 3), transactions for that session will not be generated and TRRP will automatically proceed with the next target session, as listed in the parameters file.

This execution mode brings an automatic control over your transfer operations since it avoids duplicating transactions, which could otherwise happen when prior TRRP executions have been run.

The TRRP standard execution mode is therefore recommended for sites where Pac/transfer operations involve large volumes of transactions.

A Warning message will tell you when all sessions have been processed.

Generated transactions must then be used by the batch update procedure (UPDT) of the Development Database.

You may prefer to concatenate all TRRP subsequent outputs and run the UPDT procedure only once.

#### Execution by Transaction Set

- Transaction Set code different from '\*\*\*\*\*'
- Target session: 'nnnnT' or '\*\*\*\*\*'

TRRP only processes the transactions that belong to the selected Transaction Set.

- If you have selected a target session, transactions are generated for this session only.
- If you have selected all sessions ('\*\*\*\*\*'), transactions are systematically generated for all target sessions, all in one TRRP execution.

A specific attribute -- SESSION PROCESSED -- is automatically positioned in the parameters file (UY) once all the transactions have been generated for a given session.

Generated transactions must then be used by the Development Database update procedure (UPDT).

#### Execution mode for all sets and all target sessions

- Transaction Set code: '\*\*\*\*\*'
- Target session number: '\*\*\*\*\*'

Transactions are systematically generated for all Sets and for all their respective target sessions.

**Note:** A specific attribute -- SESSION PROCESSED -- is automatically positioned in the parameters file (UY) once all transactions have been generated for a given session.

Generated transactions must then be used by the Development Database batch update procedure (UPDT).

### Execution conditions

The Transfer file must exist (created by the TRPF procedure).

### Result

Transfer transactions formatted for the Development Database batch update procedure (UPDT).

### **TRRP - User Input**

User identification line (required)

Position	Length	Value	Meaning
2	1	'*	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	Password
22	5		Selection of target session(s):
		blank	. All target sessions (default), one session processed per TRRP execution. This value cannot be used when all Transaction sets are selected
		nnnnT	. Target session number (required)
		'*****'	. All target sessions processed in one TRRP execution
33	10		Selection of Transaction Set(s):
		llllllllll	Transaction Set code
		'*****'	All Transaction Sets
43	1		Formatting for UPDT
		'1'	Formatting
		' '	No formatting
44	1		Formatting for UPDP
		'1'	Formatting
		' '	No formatting

## Sort Options line

Position	Length	Value	Meaning
2	1	'J'	Line code
4	1	' '	Chronological list
		'N'	No chronological list
5	1	' '	List by user
		'N'	No list by user
6	1	' '	List by library
		'N'	No list by library
7	1	' '	List by session
		'N'	No list by session

## TRRP - Description of Steps

### Preparation of extraction: PTUG60

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database users
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7JT	Save dir. : TJ	Input	Sequential or compressed Journal
PAC7MB	User input	Input	User input
PAC7UY	User dir.: UY	Input	Reduced parameters
PAC7BM	Tmp dir. : WMB	Output	Extraction request for PACX
PAC7PJ	Tmp dir. : WPJ	Output	Temporary file
PAC7ET	User dir. : TRRPETG60	Report	Statistics on transfer
PAC7DD	User dir. : TRRPDDG60	Report	Check on user

Return codes:

- 0: No error



- 8: Critical error (detailed in PAC7DD)

Extraction: PACX

This step extracts the transactions according to the user input.

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AN	Database dir. : AN	Input	Development Database index
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7AY	Database dir. : AY	Input	Development Database extension data
PACGGN	Admin Database - Base dir. : AN	Input	Administration Database index
PACGGR	Admin Database - Base dir. : AR	Input	Administration Database data
PACGGU	Admin Database - Base dir. : GU	Input	Administration Database user file
PAC7PJ	Tmp dir. : WPJ	Input	Transactions selected by the Journal
PAC7MB	Tmp dir. : WMB	Input	User input
PAC7BM	Tmp dir. : WBM	Input/Output	User input
SYSEXT	Tmp dir. : WSY	Input/Output	Work file
PAC7MJ	Tmp dir. : WMJ	Input/Output	Journal transactions (EXPJ)
PAC7WD	Tmp dir. : WWD	Input/Output	Extracted transactions
PAC7MV	User dir. : MVTRRP	Output	Extracted transactions for UPDT
PAC7GY	User dir. : GY	Output	Extracted transactions for UPDP
PAC7IA	User dir. : TRRPIAPAC	Report	Overall program flow printout
PAC7DD	User dir. : TRRPDDPAC	Report	Printing of errors list on input transactions
PAC7EE	User dir. : TRRPEEPAC	Report	Extractions report
PAC7EP	User dir. : TRRPEPPAC	Report	Extractions report
PAC7EQ	User dir. : TRRPEQPAC	Report	Extractions report

Code	Physical name	Type	Label
PAC7EZ	User dir. : TRRPEZPAC	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)

Positioning the 'session processed' attribute: PTUG61

Code	Physical name	Type	Label
PAC7AE	System - Skel dir. : AE	Input	Error messages
PAC7AR	Database dir. : AR	Input	Development Database data
PAC7MB	Tmp dir. : WMB	Input	User input
PAC7UY	User dir. : UY	Input/Output	Reduced parameters
PAC7ET	User dir. : TRRPETG61	Report	Transfer statistics

### TRRP - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) TRRP BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *
# * -----
# *     PAC/TRANSFER -
# *     GENERATING THE TRANSFER TRANSACTIONS
# * -----
# *
# * ONCE THE TRANSFER FILE HAS BEEN BUILT, THE TRRP
# * PROCEDURE GENERATES TRANSFER TRANSACTIONS. THESE HAVE
# * THE SAME FORMAT AS BATCH UPDATE TRANSACTIONS
# * APPLICABLE BY THE UPDT PROCEDURE.
# *
# * INPUT :
# * - USER IDENTIFICATION LINE (REQUIRED)
# *   COL 2 : "*"
# *   COL 3 : USERIDXX
# *   COL 11 : PASSWORD
# *   COL 22 : (5 CAR.) SELECTION OF TARGET SESSION(S)
# *   COL 33 : (10 CAR.) SELECTION OF TRANSACTION SET(S)
# *   COL 43 : "1"  UPDT FORMAT
# *           " "  NO FORMAT
```

```

# *      COL 44 : "1"   UPDP FORMAT
# *      " "     " "   NO FORMAT
# * - COMMAND LINE :
# * COL 2  : "J"   LINE CODE
# * COL 4  : " "   CHRONOLOGICAL LIST
# *      "N"   NO CHRONOLOGICAL LIST
# * COL 5  : " "   LIST BY USER
# *      "N"   NO LIST BY USER
# * COL 6  : " "   LIST BY LIBRARY
# *      "N"   NO LIST BY LIBRARY
# * COL 7  : " "   LIST BY SESSION
# *      "N"   NO LIST BY SESSION
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "TRRP"
echo "          ====="
BVPMSG 1047 "$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/PACSAVPJ.ini
. $PACDIR/config/$1/PACSAVTJ.ini
PAC7JT=$PACSAVTJ
export PAC7JT
PAC7BM=~BVPENV PTUG60 PAC7BM $PACTMP/WMB~
export PAC7BM
PAC7DD=~BVPENV PTUG60 PAC7DD $PACUSERS/TRRPDDG60.txt~
export PAC7DD
PAC7ET=~BVPENV PTUG60 PAC7ET $PACUSERS/TRRPETG60.txt~
export PAC7ET
PAC7GP=~BVPENV PTUG60 PAC7GP $PACTMP/WGP~
export PAC7GP
PAC7MB=$PACINPUT
export PAC7MB
PAC7PJ=~BVPENV PTUG60 PAC7PJ $PACTMP/WPJ~
export PAC7PJ
PAC7UY=~BVPENV PTUG60 PAC7UY `dirname $PACUSERS`~/UY~
export PAC7UY
BVPMSG 1009 "BVPTUG60"
rtspac BVPTUG60

```

```

RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG60"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AN.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/PACSAVPJ.ini
PAC7BM=`BVPENV PACX PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=`BVPENV PACX PAC7DD $PACUSERS/TRRPDDPAC.txt`
export PAC7DD
PAC7EE=`BVPENV PACX PAC7EE $PACUSERS/TRRPEEPAC.txt`
export PAC7EE
PAC7EP=`BVPENV PACX PAC7EP $PACUSERS/TRRPEPPAC.txt`
export PAC7EP
PAC7EQ=`BVPENV PACX PAC7EQ $PACUSERS/TRRPEQPAC.txt`
export PAC7EQ
PAC7EZ=`BVPENV PACX PAC7EZ $PACUSERS/TRRPEZPAC.txt`
export PAC7EZ
PAC7GY=`BVPENV PACX PAC7GY `dirname $PACUSERS`/GYTRRP`
export PAC7GY
PAC7IA=`BVPENV PACX PAC7IA $PACUSERS/TRRPIAPAC.txt`
export PAC7IA
PAC7MB=`BVPENV PACX PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7MJ=`BVPENV PACX PAC7MJ $PACTMP/WMJ`
export PAC7MJ
PAC7MM=`BVPENV PACX PAC7MM $PACTMP/WMM`
export PAC7MM
PAC7MR=`BVPENV PACX PAC7MR $PACTMP/WMR`
export PAC7MR
PAC7MV=`BVPENV PACX PAC7MV `dirname $PACUSERS`/MVTRRP`
export PAC7MV
PAC7PJ=`BVPENV PACX PAC7PJ $PACTMP/WPJ`
export PAC7PJ
PAC7RE=`BVPENV PACX PAC7RE $PACTMP/WRE`
export PAC7RE
PAC7RM=`BVPENV PACX PAC7RM $PACTMP/WRM`
export PAC7RM
PAC7TD=`BVPENV PACX PAC7TD $PACTMP/WTD`

```

```

export PAC7TD
PAC7TE=~BVPENV PACX PAC7TE $PACTMP/WTE`
export PAC7TE
PAC7UE=~BVPENV PACX PAC7UE $PACTMP/WUE`
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)
;;
*)
BVPMSG 1012 "BVPACX"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN

;;
8)
BVPMSG 1012 "BVPACX"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
4)
BVPMSG 1012 "BVPACX"
BVPMSG 1043
BVPMSG 1010
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7ET=~BVPENV PTUG61 PAC7ET $PACUSERS/TRRPETG61.txt`
export PAC7ET
PAC7MB=~BVPENV PTUG61 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7UY=~BVPENV PTUG61 PAC7UY `dirname $PACUSERS\~/UY`
export PAC7UY
BVPMSG 1009 "BVPTUG61"
rtspac BVPTUG61
RETURN=?
case $RETURN in
0)
;;
*)

```

```

BVPMSG 1012 "BVPTUG61"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

## Update of the Development Database

The Development Database is updated via the UPDT procedure, taking the Transfer file -- created by the TRRP procedure -- as input.

In the case of a 'standard processing' of the generation of transfer transactions (see previous subchapter), the following procedures may be executed several times:

- . TRRP (Generation of transfer transactions),
- . UPDT (Update of the Development Database).

## Reinitialization of DSMS Environment

This processing in the DSMS Database resets the update authorizations on the selected source and target Changes as they were before the transfer operation.

This initial state is obtained by executing the DSMS update procedure (DUPT), using as input transactions the contents of the file resulting from the DSMS Environment Preparation procedure (TRDU).

## ASCII Sort

### ASCII Sort of User Parameters

#### PEAS - Introduction

The PEAS procedure sorts the user parameter backup file (PE) as an ASCII sequence. It thus makes it possible to use this backup on ASCII platforms.

This procedure does not require any execution condition nor user input.

## PEAS - Description of Steps

ASCII sort on PE file: PTU903

Code	Physical name	Type	Label
PAC7IN	User dir. : WIN	Input	Original user parameters
PAC7OU	User dir. : WOU	Output	User parameters sorted as an ASCII sequence

## PEAS - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PEAS BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PEAS"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/CONFIG/$1"
PAC7IN=~BVPENV PTU903 PAC7IN PEebdic`
BVPMSG 1038 PE $PAC7IN
PAC7OU=~BVPENV PTU903 PAC7OU PEascii`
BVPMSG 1039 PE $PAC7OU
echo "-----"
echo ""
BVPPAUSE
if [ ! -f "$PAC7IN" ]
then
  BVPMSG 1034 $PAC7IN
  RETURN=1
  exit $RETURN
fi
# -----
PAC7IN=~BVPENV PTU903 PAC7IN PEebdic`
export PAC7IN
PAC7OU=~BVPENV PTU903 PAC7OU PEascii`
export PAC7OU
BVPMSG 1009 "BVPTU903"
rtspac BVPTU903
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU903"
BVPMSG 1025
BVPERR
```

```

    exit $RETURN
;;
esac
# -----
BVPMSG 1010
exit $RETURN

```

## ASCII Sort of Generation Requests

### PGAS - Introduction

The PGAS procedure sorts the generation-request backup file (PG) as an ASCII sequence. It thus makes it possible to use this backup on ASCII platforms.

This procedure does not require any execution condition nor user input.

### PGAS - Description of Steps

ASCII sort on PG file: PTU906

Code	Physical name	Type	Label
PAC7IN	User dir.: WIN	Input	Original generation requests
PAC7OU	User dir.: WOU	Output	Generation requests sorted as an ASCII sequence

### PGAS - Execution Script

```

#!/bin/sh
#@(#)VA Pac xxx xxx (R) PGAS BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *
# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PGAS"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/CONFIG/$1"
PAC7IN=`BVPENV PTU906 PAC7IN PGebcdic`
BVPMSG 1038 PG $PAC7IN
PAC7OU=`BVPENV PTU906 PAC7OU PGascii`
BVPMSG 1039 PG $PAC7OU
echo "-----"
echo ""
BVPPAUSE
if [ ! -f "$PAC7IN" ]
then

```



```

BVPMSG 1034 $PAC7IN
RETURN=1
exit $RETURN
fi
# -----
PAC7IN=~BVPENV PTU906 PAC7IN PGebcdic`
export PAC7IN
PAC7OU=~BVPENV PTU906 PAC7OU PGascii`
export PAC7OU
BVPMSG 1009 "BVPTU906"
rtspac BVPTU906
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTU906"
BVPMSG 1025
BVPERR
exit $RETURN
;;
esac
# -----
BVPMSG 1010
exit $RETURN

```

## ASCII Sort of Environments

### PPAS - Introduction

The PPAS procedure sorts the environment backup file (PP) as an ASCII sequence. It is then possible to use this backup on ASCII platforms.

This procedure does not require any execution condition nor user input.

### PPAS - Description of Steps

ASCII sort on PP file: PTU907

Code	Physical name	Type	Label
PAC7IN	User dir.: WIN	Input	Original environments
PAC7OU	User dir.: WOU	Output	Environments sorted as an ASCII sequence

### PPAS - Execution Script

```

#!/bin/sh
#@(#)VA Pac xxx xxx (R) PPAS BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *

```

```

# * -----
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PPAS"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/CONFIG/$1"
PAC7IN=`BVPENV PTU907 PAC7IN PPebcdic`
BVPMSG 1038 PP $PAC7IN
PAC70U=`BVPENV PTU907 PAC70U PPascii`
BVPMSG 1039 PP $PAC70U
echo "-----"
echo ""
BVPPAUSE
if [ ! -f "$PAC7IN" ]
then
  BVPMSG 1034 $PAC7IN
  RETURN=1
  exit $RETURN
fi
# -----
PAC7IN=`BVPENV PTU907 PAC7IN PPebcdic`
export PAC7IN
PAC70U=`BVPENV PTU907 PAC70U PPascii`
export PAC70U
BVPMSG 1009 "BVPTU907"
rtspac BVPTU907
RETURN=$?
case $RETURN in
0)
  ;;
*)
  BVPMSG 1012 "BVPTU907"
  BVPMSG 1025
  BVPERR
  exit $RETURN
  ;;
esac
# -----
BVPMSG 1010
exit $RETURN

```





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