

VisualAge Pachbase



The Administrator's Procedures UNIX Server

Version 3.0



VisualAge Pacbase



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Chapter 1. Overview

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 operations fields:

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

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 |
| 26 | 1 | T | Test session |
| | | H | Frozen session |
| 27 | 1 | | With the UPDT procedure in case of multiple deletion: |
| | | N | Print all transactions, including generated transactions (default option) |
| | | O | Print transactions entered by the user and erroneous generated transactions |
| | | E | Print erroneous transactions only |
| 28 29 | 1 11 | | The 2 following fields must be valued for all extraction procedures generating update transactions which will modify a Library/session Language code (F or A) DO NOT USE (you can also value them on the UPDT '*' line, |
| 40 | 3 | | Product code (3 character-code), |
| 43 | 6 | | Change number (6 character-code, non-significant zeros must be entered), |
| | | | These two codes will appear in the Journal after the execution of UPDT |
| 49 | 1 | | Transfer of Entity Lock: |
| | | blank | Replacement of the user code which locks the entity with the '*' line |
| | | 1 | New entities created from the extracted entities are not locked after the execution of UPDT |
| | | 2 | The user code which locks the entity is kept |
| 50 | 1 | | Transfer of the password on the extraction procedures, on the '*' line of output transactions |
| | | blank | The password is not transferred in the output file, |
| 50 | 1 | 1 | The password is transferred, (Note : for EXTR, the '*' line is transferred in the output file only TRANSFER OF THE PASSWORD for the extraction procedures on the '*' |

Access Authorization

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

The Administrator manages the user access authorisations 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 files or on the Database cause a forced abnormal end with a return code '12', described by a message on the .Log file of the procedure.

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

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

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

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

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

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

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

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

```
Run Time Error nnn
```

where nnn is the error number.

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

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

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

List of Run-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 following steps are not executed. The name of the erroneous program and, if possible, the type of the detected error, are displayed.

The procedure then displays the message:

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


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

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

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

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
```

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 users input file:
It is required when the procedure is directly executed.
- Parameter "+t":
It is optional and is used to prevent the default clearing of temporary files.
- User directory:

It is optional and it is used to change the user directory default assignment.

- Temporary file:

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

Environment Variables

- BVPINPUT:

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

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

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

- BVPUTI:

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

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

The assignment process is made as follows:

```
BVPUTI="user code"
export BVPUTI
```

- BVPBASE:

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

The assignment process is made as follows:

```
BVPBASE="database code"
export BVPBASE
```

- NOBVPPAUSE:

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

The assignment process is made as follows:

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

- NOBVPERR:

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

The assignment process is made as follows:

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

- "procedure"_INPUT:

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

The assignment process is made as follows:

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

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

The assignment process is made as follows:

```
"procedure_"_file code"="directory/file"
export "procedure_"_file code"
```

or

```
"step_"_file code"="directory/file"
export "step_"_file code"
```

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

Display and Check of Parameters

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

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

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

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

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

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

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

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

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_name".
```

Example of the assignment of the AE file:

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

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

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

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

- THE BACKUP FILES

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

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

Example of the assignment of the PC file:

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

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

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

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

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

- OUTPUT REPORTS AND FILES

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

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

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

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

It contains:

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

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

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

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

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

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

- the first four characters correspond to the procedure code,

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

Example: PACS (SAVE option) procedure, PTU520 program

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

- TEMPORARY FILES

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

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

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

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

It contains:

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

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

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

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

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

Advice on Use

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

General Remarks

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

Management of Temporary Files

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

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

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

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

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

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

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

Management of Backup Files

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

These files are in the \$PACDIR/assign/"database_name" directory (including the file which manages the PE backup) and are called PxBACKUP.ini (x = C, E, J, G or P). They are created when the database is created and contain (PJBACKUP.ini for example):

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

```

mv -f $PACSAVPJ $PACSAVPJ'-1'
fi
if [ -f "$PACSAVPJ.NEW" ]
then
mv -f $PACSAVPJ.NEW $PACSAVPJ
fi

```

Characteristics of the PxBACKUP files:

- proceed by 'mv' to avoid copies of the backup files (these copies may take a long time),
- guarantee that the Px file is definitely the last backup (Px 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 PxBACKUP files:

- . PCBACKUP.ini : used in the SAVE, MLIB, REOR and QREO procedures.
- . PEBACKUP.ini : used in the PARM procedure.
- . PJBACKUP.ini : used in the ARCH procedure.
- . PGBACKUP.ini : used in the SVAG procedure.
- . PPBACKUP.ini : used in the SVPE procedure.

Server: Start Up/Stop

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

The listener command file is created in the \$PACDIR/system/proc directory during the installation.

It is used in the following way:

- SERVER "dbase code" start : start-up of the listener
- SERVER "dbase code" stop : stopping the listener
- SERVER "dbase code" infor : listener status

You can also use a launch script:

An example of an operational script (BVPSEVER) is located in the \$PACDIR/data/"dbase code"/script directory.

Its use is identical to that of the command file.

Connection of a 3270 Emulator

If you are working under Windows in character mode, you can access a VisualAge Pacbase on-line server 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 1141 for a German database,
- code page 1145 for a Spanish database,
- code page 1140 for a Brazilian database,
- code page 1146 for an English database.

These code pages are set automatically in the "Server.wsf" procedure, when the on-line server is started up.

Chapter 2. Administration Database Management

ARCH - Archival

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 those 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 EXECUTIONS

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 backed up.

ARCH - Input / Processing / Results

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

This procedure includes specific optional input to:

- Deactivate previously archived transactions that are considered obsolete.
- Signal the absence of previously archived transactions in input.
- Signal 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 | ccymmdd | OR date up to which the user requests deactivation |
| 15 | 1 | 'T' | Absence of previously archived transactions |

| Position | Length | Value | Meaning |
|----------|--------|-------|--|
| 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 signalled (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 on to the transaction output file. (If this input file is automatically catalogued by the operating system, the transactions already archived may be lost unless the file is uncatalogued).

In 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 (AR) is lost or has been flagged as 'inconsistent', a 'D' in column 16 means that the backup procedure will not take the Data file (AR) 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 (AJ) 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 (AJ) is lost.
- If the transactions Back-up file is lost or destroyed, an 'I' must be entered in column 15. As a result, the ARCH procedure reformats a new sequential backup file of (archived) transactions.

If one of these columns is accidentally set, and if the ARCH 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) to obtain (+1).

- 'D' in col. 16: The ARCH procedure must be re-executed BEFORE any update. If an update is subsequently performed, the Database will be lost, and will have to be restored completely.
- '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 stating 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 transactions on-line 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

ARCHIVAL 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 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 |
| 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 | Base dir. : AR | Input/Output | Development Database data |
| PAC7PJ | Save dir. : PJ-new | Output | Archived update transactions |
| PAC7PQ | null | Output | Deactivated transactions (length=170) : modify file name to save deactivated transactions |

| Code | Physical name | Type | Label |
|--------|--------------------------|--------|---------------------------------------|
| 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 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 transaction |
| PAC7AR | Base 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 ARCH and SAVE procedures are grouped into one job, the PTU320 return code can be tested in order to condition the execution of the SAVE 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
$PACDIR/system/proc/SERVER $1 proc
RETURN=$?
if [ "$RETURN" != "0" ]
then
    BVPMSG 1012 "ARCH"
    BVPMSG 1037 $1
    BVPERR
    exit $RETURN
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 PTU300 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 'PE' 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

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

- 0: No error detected
- 8: Invalid database

PRINTED REPORT

Once the procedure is executed, the following reports are printed:

- A report containing the number of records saved in each file and the session number,
- Two optional reports:
 - a statistical report with the number of records per library and per line-type,
 - a report listing database limits reached.

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 Base - Base dir. : AN | Input | Administration Database index |

| Code | Physical name | Type | Label |
|--------|----------------------------------|--------|---|
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PAC7AY | Admin Base - Base dir. : AY | Input | Administration Database extension data |
| PAC7AN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PAC7MB | User input | Input | Update transactions |
| PAC7PC | Base Admin-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 &&PACSNB | Output | Image of non-sorted indexes (length=59) |
| PAC7RY | Tmp dir. : WRY | Output | Sequential image of long data (length=1,019) |
| PAC7RQ | Tmp dir. : WPQ | Output | Intermediate storage (1 record, length=153) |
| 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

Response to 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
$PACDIR/system/proc/SERVER $1 proc
RETURN=$?
if [ "$RETURN" != "0" ]
then
    BVPMSG 1012 "PACS"
    BVPMSG 1037 $1
    BVPERR
    exit $RETURN
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
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 $PACTMP/WRY~
export PAC7RY
BVPMSG 1009 "BVPTU520"
rtspac BVPTU520
RETURN=$?
case $RETURN in
0)
    BVPMSG 1010
    BVPMSG 1016 "PCBACKUP.ini"
    sh $PACDIR/config/$1/PCBACKUP.ini
    BVPRMTMP
    exit $RETURN
;;
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 accounting for each deletion, and sorting the data again according to the most frequent access order.

It uses the administration Database backup file (PE) and rebuilt a sequential image. This resulting image file must then be restored via 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.

This 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 Index file).
- When the administrator wants to purge the entities not used in the database.

This 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.

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 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

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

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

- the 'unformatted'-type data to be purged,
- a printout of the duplicate indexes of the reorganization procedure.

| Pos. | Len. | Value | Meaning |
|------|------|--------|--|
| 1 | 1 | 'P' | Physical purge of 'unformatted' data |
| 3 | | | Entity (required) |
| | 1 | | Type |
| | 2 | | EU call code (if '\$' type) |
| 6 | 30 | | Code of the entity to be purged (required, full identifier) |
| 36 | 2 | | Type of the entity description (required, value '00' not authorized) |
| | | 'nn' | Purge of the 'nn' descriptions of the entity |
| | | '**' | Purge of all the descriptions of the entity |
| 38 | 3 | '***' | Library code (required) |
| 41 | 1 | 'N' | Flag for the purge of lower-level Libraries |
| 42 | 4 | '****' | Session lower bound |
| 46 | 4 | '****' | Session higher bound |

One line per 'unformatted'-type entity

The execution of the ROAD procedure processes a maximum of 2500 instances of entities other than User Entity, and a maximum of 1000 User Entity instances.

| Position | Length | Value | Meaning |
|----------|--------|-------|---|
| 2 | 1 | 'D' | Report of the list of the duplicate indexes of the REOR procedure |
| 3 | 1 | ' ' | No report of duplicate indexes |

| Position | Length | Value | Meaning |
|----------|--------|-------|---|
| | | '1' | Report of duplicate indexes |
| | | '2' | Report of PMS calls which may 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.

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.
- 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 OUTPUT

This procedure prints a report listing errors encountered during reorganization, and statistics on the contents of the database.

It also prints reports with the statement 'Internal report' reserving their use to the product support team in case of problem.

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 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.
- If the database contains a large amount of data, it is recommended to catalog the temporary files, or to use tape files to obtain the checkpoints in case of an abend in one of the steps.
- If files are transferred onto tape it is preferable to check on the initial blocking factors.
- The space allocated to the sortworks 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 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 |
| PAC7PC | Admin Base - 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. : ROADEE2CL | Report | Validation report |
| PAC7DD | User dir. : ROADDD2CL | Report | Batch procedure authorization option |

Return codes:

- 0: OK
- 4: Error on user inputs
- 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 &&ROADBM | Input | User transactions |
| PAC7PC | Admin Base - 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 | Unformatted data |
| PAC7AU | Tmp dir. : WAU | Output | PR image (length=153) |
| PAC7PY | Admin Base - 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.

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 overload

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

INDEX REBUILDING: PTU220

This step rebuilds indexes using the data.

| Code | Physical name | Type | Label |
|--------|-------------------------|--------|--|
| PAC7AE | System - Skel dir. : AE | Input | Error messages file |
| PAC7BM | Tmp dir. : WBM | Input | User transactions |
| 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 the current session (length=153 size=NC) |
| PAC7PC | Tmp dir. : WPC | Output | First data record (length=153) |

| Code | Physical name | Type | Label |
|--------|-----------------------|--------------|--|
| 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.

EXTENSION DATA PROCESSING: PTU226

| Code | Physical name | Type | Label |
|--------|----------------|--------|--|
| PAC7NY | Tmp dir. : WNY | Input | Unformatted data |
| PAC7PA | Tmp dir. : WPA | Input | Data from frozen sessions |
| PAC7PB | Tmp dir. : WPB | Input | Data from the 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 the current session (length=153) |
| PAC7QC | Tmp dir. : WQC | Output | First data record (length=153) |
| 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 | Data from frozen sessions |
| PAC7PB | Tmp dir. : WQB | Input | Data from the current session |
| PAC7PC | Tmp dir. : WQC | Input | First data record |
| PAC7QY | Tmp dir. : WQY | Input | Extension data |
| PAC7CP | Admin Base - Save dir. : PC-new | Output | Sequential image of the administration Database |
| PAC7IE | User dir. : REORIE240 | Report | Building the logical database |

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
PAC7ED=`BVPENV PTU2CL PAC7ED $PACUSERS/REORED2CL.txt`
export PAC7ED
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)
;;
*)

```

```

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 $PACSAVPC`
export PAC7PY
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)
;;
8)
BVPMSG 1012 "BVPTU200"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
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
echo $PAC7PR
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
echo $PAC7RP
echo $PAC7PU
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
    echo $PAC7MR
    echo $PAC7NX*
    echo $PAC7UM
    echo $PAC7QS
    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
    echo $PAC7AN
    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
echo $PAC7PA
echo $PAC7PB
echo $PAC7PC
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 with the use of 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.

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 (FR, EN, ...) |
| 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 archived transactions retrieved |

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 Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |

| Code | Physical name | Type | Label |
|--------|--------------------------------|--------|--|
| PACGGU | Admin Base - 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 for batch procedure

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 RSAD 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 Base - Save dir. : PC | Input | Sequential image of the administration Database |
| PAC7AR | Admin Base - Base dir. : AR | Output | Administration Database data |
| PAC7AY | Admin Base - Base dir. : AY | Output | Administration Database extension data |
| PAC7AN | Admin Base - 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. : RESTEU400 | 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 Base - Base dir. : AR | Input/Output | Administration 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. : RESTEU420 | Report | Retrieval report |

Return codes:

- 0: There are transactions to retrieve
- 4: No transaction to retrieve
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 Base - Base dir. : AR | Output | Administration Database data |
| PAC7AN | Admin Base - Base dir. : AN | Output | Administration Database index |
| PAC7AY | Admin Base - 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 Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin. Base - Base dir. : AR | Input | Administration Database data |
| PACGGY | Admin. Base - Base dir. : AY | Input | Administration Database Extension |
| PACGGR | Admin. Base - Base dir. : GU | Input | Administration Database users |
| PAC7DC | Base dir. : DC | Input | DSMS file of the development Database |
| PAC7ME | nul | Input | Work file |
| PAC7MV | Tmp dir. : WOJ | Input | Update transactions |
| PAC7RB | nul | Output | UPDT erroneous transactions (length=80) |

| Code | Physical name | Type | Label |
|--------|-----------------------|--------|--|
| PAC7RY | nul | Output | UPDP erroneous transactions (length=310) |
| 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: critical 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
$PACDIR/system/proc/SERVER $1 proc
RETURN=$?
if [ "$RETURN" != "0" ]
then
    BVPMSG 1012 "REST"
    BVPMSG 1037 $1
    BVPERR
    exit $RETURN
fi
BVPMKDIR
# -----
CARTE=$PACINPUT
export CARTE
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.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/RETEU380.txt`
export PAC7EU
PAC7MB=`BVPENV PTU010 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 $PACUSERS/RESTEU400.txt`
export PAC7EU
PAC7MB=$PACINPUT
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)
;;
8)
BVPMSG 1012 "BVPTU400"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
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/$1/PACSAVPJ.ini
PAC7JO=$PACSAVPJ

```

```

export PAC7J0
PAC7MB=~BVPENV PTU010 PAC7MB $PACTMP/WMB~
export PAC7MB
PAC70J=~BVPENV PTU420 PAC70J $PACTMP/WOJ~
export PAC70J
PAC7PS=~BVPENV PTU400 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
. $PACDIR/config/$1/PAC7DC.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"

```

```
BVPMMSG 1055
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMMSG 1012 "BVPACA15"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMMSG 1010
BVPRMTMP
exit $RETURN
```

Chapter 3. Development Databases Management

Backup Procedures

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 |
| 67 | 1 | | (UXSR-reserved) |
| | | '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
- 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 (or 2 files if the Dispatch option is used), called 'PC', which is then used as input to the Restoration (REST) procedure.
- Create or delete libraries in an existing database.

EXECUTION CONDITIONS

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

ABNORMAL EXECUTIONS

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 ou delete.

The structure of the header is the following:

| Position | Length | Value | Meaning |
|----------|--------|-------|-----------------------------------|
| 2 | 1 | 'G' | Line code |
| 3 | 1 | ' ' | Modification of existing Database |
| | | 'I' | Initialization of new Database |
| 4 | 1 | ' ' | Actual update |
| | | 'S' | Simulation |

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 allows you to assess the impact of a change in the structure of the Database before 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 |

| Position | Length | Value | Meaning |
|----------|--------|-------|---|
| | | 'A' | Deletion |
| 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 this Library's entire contents to be deleted. Its contents are replaced by empty records, or 'gaps' (see the REST restoration procedure).

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.
- Not initialized Libraries 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 VisualAge Pacbase Database cannot contain more than 300 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 errors are detected and if the update is 'real' (not simulated), the result is a sequential image of the updated Database (PC), which serves as input for Database reloading.

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 for the recovery of disk space when Libraries are deleted. Records are physically present in the Database as 'gaps'. It is the Reorganization (REOR) procedure that 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'.

The backup is performed on the following files:

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

An option allows for a 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 archival (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),
- optional reports:
 - A statistical report with the number of records per library and per line type,
 - A report which indicates the limitations reached in the Database.

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 EXECUTIONS

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

SASN - User Input:

The user must code 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 APP.

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 canceled.

The structure of the header is the following:

| Position | Length | Value | Meaning |
|----------|--------|-------|---------------|
| 2 | 1 | 'G' | Line code |
| 4 | 1 | ' ' | Actual update |
| | | '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 not existing 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 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 |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7AY | Base dir. : AY | Input | Development Database extension data |
| PAC7AN | Base dir. : AN | Input | Development Database index |
| PAC7MB | User input | Input | Update transactions |
| PAC7PC | Save dir. : PC-new | Output | Database sequential image (length=1,023) |

| Code | Physical name | Type | Label |
|--------|-----------------------|--------|---|
| PAC7PD | Save dir. : PD-new | Output | If Dispatch option of backup: sequential image 2 of the database (length=1,023) |
| PAC7PY | Save dir. : PY-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. : WPQ | Output | Temporary storage (1 record, length=153) |
| 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 | Abnormal endings 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 for batch procedure

FORMATTING SEQUENTIAL IMAGES: PTU530

| Code | Physical name | Type | Label |
|--------|--------------------|--------|--|
| PAC7AR | Base 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. : PD-new | Output | If backup Dispatch option: sequential image 2 of the network |
| PAC7PY | Save dir. : PY-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
$PACDIR/system/proc/SERVER $1 proc
RETURN=$?
if [ "$RETURN" != "0" ]
then
    BVPMSG 1012 "PACS"
    BVPMSG 1037 $1
    BVPPERR
    exit $RETURN
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 $PACTMP/WRY~
export PAC7RY
BVPMSG 1009 "BVPTU520"
rtspac BVPTU520
RETURN=$?
case $RETURN in
0)
BVPMSG 1010
BVPMSG 1016 "PCBACKUP.ini"
sh $PACDIR/config/$1/PCBACKUP.ini
BVPRMTMP
exit $RETURN
;;
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

```

UPDT - Freeze

UPDT - Introduction

The Database Update procedure (UPDT) is used to freeze the database and executes also a Batch update of the database.

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 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.

Moreover the *-type line may contain conversion options: 'N' entered in column 67 inhibits any lowercase/upercase conversion.

No other update should precede the 'X1HIST' line.

| 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 updateable session |
| | | 'N' | Frozen and non-updateable session |
| | | 'D' | Deleted session |
| 66 | 15 | | Session Short Name |

UPDT - Description of Steps

TRANSACTIONS FORMATTING: PACA05

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

UPDATE OF THE DEVELOPMENT DATABASE: PACA15

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

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

Return codes:

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

UPDT - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) UPDT BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - BATCH UPDATE -
# *
# * -----
# *
# * REFER TO THE BATCH FORMS AND TO THE DESCRIPTION OF THE
# * INPUT CORRESPONDING TO EACH ENTITY.
# *
# * INPUT :
# * - USER IDENTIFICATION LINE (REQUIRED)
```

```

# * COL 2 : '*'
# * COL 3 : USERIDXX
# * COL 11 : PASSWORD
# * COL 28 : LANGUAGE CODE, USEFUL WHEN TRANSACTION ARE
# * NOT IN THE SAME LANGUAGE AS THE DATABASE.
# * COL 67 : 'N' NOT 'UPPERCASE/LOWERCASE CONVERSION'
# * - COMMAND LINE
# * THE LIST OF ALL AVAILABLE VALUES FOR THE ENTITY
# * TO BE UPDATED IS FOUND IN REFERENCE MANUAL.
# *
# * -----
# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "UPDT"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
. $PACDIR/config/$1/PAC7AJ.ini
BVPMSG 1015 "`dirname $PAC7AJ. `"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
PAC7MB=$PACINPUT
export PAC7MB
PAC7ME=~BVPENV PACA05 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MV=~BVPENV PACA05 PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7MW=~BVPENV PACA05 PAC7MW $PACTMP/WMW`
export PAC7MW
BVPMSG 1009 "BVPACA05"
rtspac BVPACA05
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPACA05"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini

```

```

. $PACDIR/config/$1/PAC7DC.ini
. $PACDIR/config/$1/SEMLOCK.ini
PAC7IE=`BVPENV PACA15 PAC7IE $PACUSERS/UPDTIEA15.txt`
export PAC7IE
PAC7IF=`BVPENV PACA15 PAC7IF $PACUSERS/UPDTIFA15.txt`
export PAC7IF
PAC7ME=`BVPENV PACA15 PAC7ME $PACTMP/WME`
export PAC7ME
PAC7MV=`BVPENV PACA15 PAC7MV $PACTMP/WMV`
export PAC7MV
PAC7RB=`BVPENV PACA15 PAC7RB $PACUSERS/UPDTRBA15.txt`
export PAC7RB
PAC7RY=`BVPENV PACA15 PAC7RY $PACUSERS/UPDTRYA15.txt`
export PAC7RY
BVPMSG 1009 "BVPACA15"
rtspac BVPACA15
RETURN=?
case $RETURN in
0)
;;
2)
BVPMSG 1012 "BVPACA15"
BVPMSG 1054
BVPERR
BVPRMTMP
exit $RETURN
;;
4)
BVPMSG 1012 "BVPACA15"
BVPMSG 1055
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPACA15"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

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 incrementation 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 - Description of Steps

SESSION NUMBER INCREMENTATION: PTU502

| Code | Physical name | Type | Label |
|--------|--------------------------------|-------------------|--------------------------------------|
| PAC7AR | Base dir. : AR | Input/Output | Development Database data |
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7MB | User input | User transactions | User transactions |
| 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 manipulated on-line, using the sequential image produced by the Backup, the Database Management (PACS), the Reorganization (REOR) and Storage Optimization of Multi-volume Data (STOP) procedures.

It also allows the retrieval of archived transactions after this sequential image has been produced.

EXECUTION CONDITIONS

The database must be closed to on-line processing.

recommended

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

ABNORMAL EXECUTIONS

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, FR, ...) |
| 12 | 1 | 0 | No inhibition of journal |
| | | 1 | Inhibition of journal (no |
| | | | journalization of update transactions) |
| | | ' ' | 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) Database code is required |
| 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 two 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 procedure is executed by the system. The PFkey assignment may be viewed on the corresponding sub-menu.

NOTE

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

Any field left blank will retrieve 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 recovery 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 listing 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've requested archived transaction retrieval.

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 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 |
| PAC7PC | Save dir. : PC | Input | Sequential image of the development Database |
| PAC7PD | Save dir. : PD | Input | If backup option Dispatch: sequential image 2 of the database |
| PAC7PY | Save dir. : PY | 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 for 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 |
| 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 saved) |

Return codes:

0: The Journal file was archived.

8: The Journal file was not archived (no REST step is 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 messages |
| PAC7MB | Tmp dir. : WMB | Input | User transaction |
| PAC7PC | Save dir. : PC | Input | Sequential image of the development Database |

| Code | Physical name | Type | Label |
|--------|-----------------------|--------|--|
| PAC7PD | Save dir. : PD | Input | If backup option Dispatch: sequential image 2 of the database |
| PAC7PY | Save dir. : PY | Input | If Dispatch option in save procedure: sequential image 3 of the database |
| PAC7AR | Base dir. : AR | Output | Development Database data |
| PAC7AN | Base dir. : AN | Output | Development Database index |
| PAC7AY | Base dir. : AY | Output | Development Database extension data |
| PAC7AJ | Rép. journal : 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 - TRANSACTION RETRIEVAL: PTU420

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

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 | Base 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. : RESTEU420 | Report | Retrieval report |

Return codes:

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

In case of abend, the update cannot be performed.

UPDATE OF THE ADMINISTRATION DATABASE: PACA15

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|--------------------------------|
| PAC7AR | Base dir. : AR | Output | Development Database data |
| PAC7AN | Base dir. : AN | Output | Development Database index |
| PAC7AY | Base dir. : AY | Output | Development Database extension |
| PAC7AJ | Journal dir. : AJ | Output | Development Database Journal |
| PAC7AE | System - Skel. dir.: AE | Input | Error messages |
| PACGGN | Admin. Base - Base dir.: AN | Input | Administration Database index |

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|--|
| PACGGR | Admin. Base - Base dir.: AR | Input | Administration Database data |
| PACGGY | Admin. Base - Base dir.: AY | Input | Administration Database extension |
| PACGGU | Admin. Base - Base dir.: GU | Input | Administration Database users |
| PAC7DC | Base dir.: DC | Input | DSMS elements file of the development Database |
| PAC7ME | nul | Input | Work file |
| PAC7MV | Tmp dir.: WOJ | Input | Update transactions |
| PAC7RB | nul | Output | UPDT erroneous transactions (length=80) |
| PAC7RY | nul | Output | UPDP erroneous transactions (length=310) |
| PAC7IE | | Report | Update report (length=132) |
| PAC7IF | | 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
- 2: Warning
- 4: Critical 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
$PACDIR/system/proc/SERVER $1 proc
RETURN=$?
if [ "$RETURN" != "0" ]
then
    BVPMSG 1012 "REST"
    BVPMSG 1037 $1
    BVPERR
    exit $RETURN
fi
BVPMKDIR
# -----
CARTE=$PACINPUT
export CARTE
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.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 PTU010 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 $PACUSERS/RESTEU400.txt`
export PAC7EU
export PAC7EU
PAC7MB=$PACINPUT
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)
;;
8)
BVPMSG 1012 "BVPTU400"

```

```

BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
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/$1/PACSAVPJ.ini
PAC7JO=$PACSAVPJ
export PAC7JO
PAC7MB=~BVPENV PTU010 PAC7MB $PACTMP/WMB~
export PAC7MB
PAC7OJ=~BVPENV PTU420 PAC7OJ $PACTMP/WOJ~
export PAC7OJ
PAC7PS=~BVPENV PTU400 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
. $PACDIR/config/$1/PAC7DC.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 handled in on-line mode, from a System backup obtained through a utility followed by the SASY procedure.

It is executed after a System restoration utility to complete the restoration of the Data (AR), Index (AN), and Extension (AY) files, and reinitializes the Journal (AJ) file.

Through the RESY procedure, the archived transactions can be recovered 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 restoration of the AN, AR and AY files by the on-site system utility.

On-line access must be closed.

ABNORMAL EXECUTIONS

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 listing 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 RESY procedure has been executed, the database 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 | 1 | | Language code (FR, EN...) |
| 12 | | '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 recovered |
| 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 two separate files. |
| | | 'N' | No Dispatch Standard backup on a single PC file. |
| | | ' ' | Same as previous execution. |

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.

For 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

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 |
| 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 |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7DD | User dir. : RESYDD004 | Input | 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 |

| Code | Physical name | Type | Label |
|--------|--------------------------|--------|-------------------------------------|
| 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 saved) |

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 | Base dir. : AR | Output | Data file |
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - 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 | Backup report |

DATABASE AVAILABILITY - TRANSACTION RETRIEVAL: PTU420

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

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 | Base 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. : RESTEU420 | Report | Retrieval report |

Return codes:

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

In case of abend, the update cannot be performed.

UPDATE OF THE ADMINISTRATION DATABASE: PACA15

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|--|
| PAC7AR | Base dir. : AR | Output | Development Database data |
| PAC7AN | Base dir. : AN | Output | Development Database index |
| PAC7AY | Base dir. : AY | Output | Development Database extension |
| PAC7AJ | Journal dir. : AJ | Output | Development Database Journal |
| PAC7AE | System - Skel. dir.: AE | Input | Error messages |
| PACGGN | Admin. Base - Base dir.: AN | Input | Administration Database index |
| PACGGR | Admin. Base - Base dir.: AR | Input | Administration Database data |
| PACGGY | Admin. Base - Base dir.: AY | Input | Administration Database extension |
| PACGGU | Admin. Base - Base dir.: GU | Input | Administration Database users |
| PAC7DC | Base dir.: DC | Input | DSMS elements file of the development Database |
| PAC7ME | nul | Input | Work file |
| PAC7MV | Tmp dir.: WOJ | Input | Update transactions |
| PAC7RB | nul | Output | UPDT erroneous transactions (length=80) |
| PAC7RY | nul | Output | UPDP erroneous transactions (length=310) |
| PAC7IE | | Report | Update report (length=132) |
| PAC7IF | | 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
- 2: Warning
- 4: Critical 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
# * . $PACDIR/config/$1/PACGGY.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 PTU004 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
. $PACDIR/config/$1/PACGGY.ini
PAC7GZ=~BVPENV PTU402 PAC7GZ $PACUSERS/RESYGZ402.txt`
export PAC7GZ
PAC7MB=~BVPENV PTU004 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7PS=~BVPENV PTU402 PAC7PS $PACTMP/WPS`
export PAC7PS
BVPMSG 1009 "BVPTU402"
rtspac BVPTU402
RETURN=?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPTU402"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
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 PTU004 PAC7MB $PACTMP/WMB`
export PAC7MB
PAC7OJ=`BVPENV PTU420 PAC7OJ $PACTMP/WOJ`
export PAC7OJ
PAC7PS=`BVPENV PTU402 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
BVPRTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTU420"
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
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
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 Archival

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 those 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 EXECUTIONS

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 backed up.

ARCH - Input / Processing / Results

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

This procedure includes specific optional input to:

- Deactivate previously archived transactions that are considered obsolete.
- Signal the absence of previously archived transactions in input.
- Signal 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 signalled (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 on to the transaction output file. (If this input file is automatically catalogued by the operating system, the transactions already archived may be lost unless the file is uncatalogued).

In 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 (AR) is lost or has been flagged as 'inconsistent', a 'D' in column 16 means that the backup procedure will not take the Data file (AR) 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 (AJ) 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 (AJ) is lost.
- If the transactions Back-up file is lost or destroyed, an 'I' must be entered in column 15. As a result, the ARCH procedure reformats a new sequential backup file of (archived) transactions.

If one of these columns is accidentally set, and if the ARCH 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) to obtain (+1).
- 'D' in col. 16: The ARCH procedure must be re-executed BEFORE any update. If an update is subsequently performed, the Database will be lost, and will have to be restored completely.
- '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 stating 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 transactions on-line 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

In order for the first database archival to run correctly, the PJ file, containing archived transactions used as input of the procedure, is created as an empty file, and stored in the ÈSAVE 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 'NUL'.

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

ARCHIVAL 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 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 |
| 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 | Base dir. : AR | Input/Output | Development Database data |
| PAC7PJ | Save dir. : PJ-new | Output | Archived update transactions |
| PAC7PQ | nul | Output | Deactivated transactions (length=170): modify the file name in order 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 |

| Code | Physical name | Type | Label |
|--------|--------------------------|--------------|-------------------------------|
| PAC7AR | Base 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 archival 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
```

```

$PACDIR/system/proc/SERVER $1 proc
RETURN=?
if [ "$RETURN" != "0" ]
then
    BVPMSG 1012 "ARCH"
    BVPMSG 1037 $1
    BVPERR
    exit $RETURN
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 PTU300 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 accounting for each deletion, and sorting the data again according to the most frequent access order.

It uses one or two backup files of the development Database (if the Dispatch option is used), to rebuild one (or 2) sequential image(s). This resulting image file must then be restored via the REST procedure described above.

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.

Deletions taken into account by the reorganization may have been made logically by the Database update, or generated by one or several utilities. For example:

- Deletion of unused Production sessions (PEI Function)
- Deletion of entities not associated to a specific use, 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.

Batch procedure access authorization option: Global authorization level 4 is required.

ABNORMAL EXECUTIONS

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 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.

| Position | Length | Value | Meaning |
|----------|--------|-------|-----------------------|
| 2 | 1 | 'V' | Purge frozen sessions |

| Position | Length | Value | Meaning |
|----------|--------|-------|--|
| | | '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 (up to 9 user codes per line) |

| 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) |
| | | | 5 groups of type/code entity/Lib. possible per 'E'-type line |
| 39 | | ' ' or 'N' | Purge of the Library and of its sub-Libraries |
| | | 'Y' | Purge of the Library alone |

One line per entity. The 'List of 'purged' entities' signals what has been done.

In case of a generic request, the entity code must be completed with *'s 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 unformatted 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) |

| Position | Length | Value | Meaning |
|----------|--------|------------|--|
| | | '***' | All Libraries of the entity |
| 41 | 1 | | Flag for purge of lower-level Libraries |
| | | ' ' ou 'N' | Purge of the Library and its sub-Libraries |
| | | 'Y' | Purge of the Library alone |
| 42 | 4 | | Session lower bound (one of the two bounds is required) |
| | | ' ' | Purge from the lower bound |
| | | 'nnnn' | Purge from session 'nnnn' (included) |
| | | '****' | Purge of all sessions |
| 46 | 4 | | Session higher bound (one of the two bounds is required) |
| | | | |
| | | 'mmmm' | Purge until session 'mmmm' (included) |
| | | '****' | Purge in all sessions |

One line per 'unformatted'-type entity.

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 preceding 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 listing 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 REST 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.
- If the database contains a large amount of data, it is recommended to catalog the temporary files, or to use tape files to obtain the checkpoints in case of an abend in one of the steps.
- If files are transferred onto tape it is preferable to check on the initial blocking factors.
- The space allocated to the sortworks 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 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 |
| 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 for Batch procedure.

RETRIEVAL OF DATA: PTU200

This step selects 'data' type information in the initial sequential file of the database (in case the Dispatch option is used, it leads to the recognition of one input file, which contains the data, i.e. PC(0)). 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 | Unformatted 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.

PURGE: PTU210

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

| Code | Physical name | Type | Label |
|--------|-----------------------|--------|---------------------|
| PAC7EK | User dir. : REOREK210 | Report | Entity-purge report |
| PAC7EB | User dir. : REOREB210 | Report | Technical report |

Return codes:

- 0: OK
- 8: Overload of capacity

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

INDEX REBUILDING: PTU220

This step executes two types of procedures:

- Reconstruction of the indexes using the data

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

| 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.

EXTENSION DATA PROCESSING: PTU226

| Code | Physical name | Type | Label |
|--------|----------------|--------|--|
| PAC7NY | Tmp dir. : WNY | Input | Unformatted 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 records |
| 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 records (length=153) |
| PAC7QY | Tmp dir. : WQY | Output | Long data (length=1,018) |

MERGE: PTU240

This step reconstructs 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. : PD-new | Output | Sequential image of the development Database |
| PAC7PY | Save dir. : PY-new | Output | Sequential image of the development Database |
| PAC7IE | User dir. : REORIE240 | Report | Building of Logical database |

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
PAC7ED=`BVPENV PTU2CL PAC7ED $PACUSERS/REORED2CL.txt`
export PAC7ED
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)
;;
*)
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

```

```

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)
;;
8)
BVPMSG 1012 "BVPTU200"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
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
echo $PAC7PR
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
  echo $PAC7RP
  echo $PAC7PU
  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
    echo $PAC7MR
    echo $PAC7NX*
    echo $PAC7UM
    echo $PAC7QS
    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
    echo $PAC7AN
    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
echo $PAC7PA
echo $PAC7PB
echo $PAC7PC
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 VA Pac Database via a PAF extractor (selection criteria).

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

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

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

EXECUTION CONDITIONS

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

PACX - 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) |
| | | '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) |

| Position | Length | Value | Meaning |
|----------|--------|-------|--|
| 49 | 1 | | Lock processing |
| | | ' ' | Lock extraction: user code = '*'-line user code |
| | | '1' | No lock extraction |
| | | '2' | Lock extraction: user code = original user code |
| | | 'N' | For RMEN only : no extraction of locked entities by an other user |
| 50 | 1 | ' ' | No transfer of password |
| | | '1' | Password transfer |
| 69 | 3 | bbb | Library code for the '*'-line of the output file(s) (For EXTR,EXLI, and EXUE only) |
| 76 | 5 | nnnnT | Session number for the '*'-line of the output file(s) (For EXTR,EXLI, and EXUE only) |

(1) Possible values for the extractor code include:

- EXTR: Extraction of entities
- 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

The 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 for purge (formatting for CPSN is not possible)
- RMEN: Extraction of entities for upload/replacement/ recoding (formatting for CPSN is not possible). RMEN is subject to a separate purchase agreement.
- CPSN: comparison of sub-networks.

IMPORTANT

- One extractor type only for each run: If the procedure detects more than one type of extractors, it will take only the first one into account.
- Formatting for CPSN: This procedure is part of the ' LCU Partitioned Database Manager' optional utility. Its use is therefore subject to a separate purchase agreement.
- Maximum number of input '*' lines : 1 for RMEN and EXPJ, 400 for EXSN, 1000 for EXTR, EXTA, EXUE and EXPU.

RESULTS

The PACX procedure produces:

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

Extraction of 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):

. Database access authorization level 4 is required.

EXPJ - User Input:

User entry specific to this procedure and specifying 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 for batch update |
| 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 |

| Position | Length | Value | Meaning |
|----------|--------|---------|--|
| 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 continuation line |

Second user entry if selection on user code :

| Position | Length | Value | Meaning |
|----------|--------|----------|----------------------------|
| 2 | 1 | 'J' | Line code |
| 3 | 1 | '*' | Indicates a following line |
| 4 | 8 | uuuuuuuu | User code |

REPORTS

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

RESULTS

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

Extraction of Libraries

EXLI - Introduction:

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

The file obtained, according to its formatting, can be used 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,

- 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.

- Screens, C/S screens, Business components,..('O' entity)
- Free-type cross-reference

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

PRINCIPLES

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

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

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

- Physical purge: the EXPU procedure gives the list of 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 | 2 | 'P ' | Line code |
| 3 | 1 | | Purge of frozen sessions |
| | | 'S' | yes |
| | | ' ' | no purge |
| 4 | 1 | | Purge of libraries |
| | | 'B' | yes |
| | | ' ' | No purge |
| 5 | 1 | | Purge of GP lines for users who no longer exist |
| | | '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 | m | Print option for the last entity update: user code and date |
| 9 | 1 | s | Print option for the last session in which the entity is used |
| 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 the programs are processed Information required if the entity type is 'P' or if it is blank |

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 BIB 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 BIB 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 BIB 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 libraries to be purged physically.
- the list of users whom GP lines are to be purged physically.

RESULT

The result of this procedure is:

- In the case of a logical purge, a sequential file containing entity deletion transactions to be used as input in the 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 type of entity,
- the entity code,
- the library code (see section 'Input Recommendations' in subchapter 'Database 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, since the Database is not directly updated.

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 |
| 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 |

| Position | Length | Value | Meaning |
|----------|--------|--------|---|
| | | '//A' | SSADM |
| | | '//M' | MERISE |
| | | '//D' | YSM |
| | | '//O' | OMT |
| | | '//F' | IFW |
| 13 | 3 | 'ALL' | for 'MV' and 'MR': Selects all occurrences of a UE or all Segments or Reports 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 | n...n... | 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 |

| Position | Length | Value | Meaning |
|----------|--------|-------|---|
| | | | '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 | | REPLACE: Codes of entities to be modified (* may be used if you want to specify only the beginning of a code) |

Lines for REPLACE (continuation lines for selection):

| 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 |
| 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 that is calling it.
- When a macro-structure is called by a batch Program or on-line Screen, it must be moved into the higher-level library before this Program or Screen.

REQUEST-INPUT REQUIREMENTS

All input is required except:

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

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 still generated.

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 (-AT) 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 affects only 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' screen) 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 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 CONDITION

None.

ABNORMAL EXECUTIONS

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 | Base dir. : AN | Input | Development Database Index file |
| PAC7AR | Base dir. : AR | Input | Development Database Data file |
| PAC7AY | Base dir. : AY | Input | Development Database Extension Data |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database Index file |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database Data file |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database Users |
| PAC7PJ | Save dir.: PJ | Input | Archived transactions |
| PAC7MB | User input | Input | User input |
| PAC7MA | nul | Input | CPSN Master file |
| PAC7ES | nul | Input | CPSN Slave file |
| PAC7BM | Tmp dir.: WBM | Input/Output | User input |
| PAC7MM | Tmp dir.: WMM | Input/Output | EXPU Work file |
| PAC7MJ | Tmp dir.: WMJ | Input/Output | EXPJ Work file |
| PAC7TE | Tmp dir.: WTE | Input/Output | RMEN Work file |
| PAC7RE | Tmp dir.: WRE | Input/Output | RMEN Work file |
| PAC7RM | Tmp dir.: WRM | Input/Output | RMEN Work file |
| PAC7WD | Tmp dir.: WWD | Input/Output | Extracted transactions |
| SYSEXT | User dir.: SYSEXT | Input/Output | Indexed 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) |
| PAC7GY | User dir.: PACXGY | Output | Extracted transactions for UPDP |
| PAC7TD | User dir.: PACXTD | Output | Extracted transactions for CPSN |

| Code | Physical name | Type | Label |
|--------|-------------------|--------|--|
| PAC7UE | User dir.: PACXUE | Output | Extracted transactions for EXUE |
| PAC7IA | User dir.: PACXIA | Report | General printout of the program stream |
| PAC7DD | User dir.: PACXDD | Report | Errors on input transactions |
| PAC7ED | User dir.: PACXED | Report | Extractions report |
| PAC7EE | User dir.: PACXEE | Report | Extractions report |
| PAC7EG | User dir.: PACXEG | Report | Extractions report |
| PAC7EM | User dir.: PACXEM | Report | Extractions report |
| PAC7EP | User dir.: PACXEP | Report | Extractions report |
| PAC7EQ | User dir.: PACXEQ | Report | Extractions report |
| PAC7EU | User dir.: PACXEU | Report | Extractions report |
| PAC7EZ | User dir.: PACXEZ | Report | Extractions report |

Return codes:

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

PACX - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) PACX BATCH PROCEDURE
# * -----
# *      VISUALAGE PACBASE
# *
# * -----
# *      - EXTRACTIONS FROM DATABASE -
# *      - EXTRACTIONS COMPARATOR   -
# * -----
# *
# * THE PACX PROCEDURE ALLOWS TO PERFORM VARIOUS TYPES
# * OF DATA EXTRACTIONS FROM THE DEVELOPMENT DATABASE
# * VIA PAF EXTRACTOR.
# *
# * POSSIBLE VALUES FOR THE EXTRACTOR CODE INCLUDE:
# * - EXTR:  EXTRACTION OF ENTITIES
# * - EXTA:  EXTRACTION OF ENTITIES (EXTRACTED TRANSACTIONS
# *         ARE SORTED, ACCORDING TO THE INPUT
# *         IDENTIFICATION LINES ORDER.
# *         EACH REQUEST IS THUS PRECEDED BY A '*' LINE,
# *         EXTRACTED TRANSACTIONS WILL BE SORTED IN THE
# *         REQUEST ORDER).
# * - EXUE:  EXTRACTION OF USER ENTITIES
# * FOLLOWING VALUES ARE RESERVED FOR THE ADMINISTRATOR:
# * - EXLI:  EXTRACTION OF LIBRARIES OR LIBRARY SUB-NETWORKS
# * - EXPJ:  EXTRACTION OF JOURNAL (FORMATTING FOR CPSN IS
# *         NOT POSSIBLE)
# * - EXPU:  EXTRACTION OF ENTITIES TO BE PURGED
# *         (FORMATTING FOR CPSN IS NOT POSSIBLE)
# * - RMEN:  EXTRACTION OF ENTITIES FOR UPLOAD/REPLACEMENT/
# *         RECODING (FORMATTING FOR CPSN IS NOT POSSIBLE).
# *         RMEN IS SUBJECT TO A SEPARATE PURCHASE AGREEMENT
# * - CPSN:  COMPARISON OF SUB-NETWORKS.
# *
# * -----
```

```

# *
# Parameter control
. $PACDIR/system/proc/BVPINIT.ini
echo ""
echo "-----"
BVPMSG 1004 "PACX"
echo "          ====="
BVPMSG 1047 "$BVPBASE"
BVPMSG 1005 "$PACDIR/config/$1"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
BVPMSG 1007 "$PACINPUT"
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
PAC7BM=`BVPENV PACX PAC7BM $PACTMP/WBM`
export PAC7BM
PAC7DD=`BVPENV PACX PAC7DD $PACUSERS/PACXDD.txt`
export PAC7DD
PAC7ED=`BVPENV PACX PAC7ED $PACUSERS/PACXED.txt`
export PAC7ED
PAC7EE=`BVPENV PACX PAC7EE $PACUSERS/PACXEE.txt`
export PAC7EE
PAC7EG=`BVPENV PACX PAC7EG $PACUSERS/PACXEG.txt`
export PAC7EG
PAC7EM=`BVPENV PACX PAC7EM $PACUSERS/PACXEM.txt`
export PAC7EM
PAC7EP=`BVPENV PACX PAC7EP $PACUSERS/PACXEP.txt`
export PAC7EP
PAC7EQ=`BVPENV PACX PAC7EQ $PACUSERS/PACXEQ.txt`
export PAC7EQ
PAC7ES=`BVPENV PACX PAC7ES /dev/null`
if [ "$PAC7ES" = "/dev/null" ]
then
    PAC7ES=$PACTMP/ES
    touch $PAC7ES
fi
export PAC7ES
PAC7EU=`BVPENV PACX PAC7EU $PACUSERS/PACXEU.txt`
export PAC7EU
PAC7EZ=`BVPENV PACX PAC7EZ $PACUSERS/PACXEZ.txt`
export PAC7EZ
PAC7GY=`BVPENV PACX PAC7GY $PACUSERS/PACXGY`
export PAC7GY
PAC7IA=`BVPENV PACX PAC7IA $PACUSERS/PACXIA.txt`
export PAC7IA
PAC7MA=`BVPENV PACX PAC7MA /dev/null`
if [ "$PAC7MA" = "/dev/null" ]
then
    PAC7MA=$PACTMP/MA
    touch $PAC7MA
fi
export PAC7MA
PAC7MB=$PACINPUT
export PAC7MB
PAC7MM=`BVPENV PACX PAC7MM $PACTMP/WMM`
export PAC7MM

```

```

PAC7MJ=~BVPENV PACX PAC7MJ $PACTMP/WMJ`
export PAC7MJ
PAC7MR=~BVPENV PACX PAC7MR $PACUSERS/PACXMR`
export PAC7MR
PAC7MV=~BVPENV PACX PAC7MV $PACUSERS/PACXMV`
export PAC7MV
PAC7MX=~BVPENV PACX PAC7MX $PACUSERS/PACXMX`
export PAC7MX
. $PACDIR/config/$1/PACSAVPJ.ini
PAC7PJ=$PACSAVPJ
export PAC7PJ
PAC7RE=~BVPENV PACX PAC7RE $PACTMP/WRE`
export PAC7RE
PAC7RM=~BVPENV PACX PAC7RM $PACTMP/WRM`
export PAC7RM
PAC7TD=~BVPENV PACX PAC7TD $PACUSERS/PACXTD`
export PAC7TD
PAC7TE=~BVPENV PACX PAC7TE $PACTMP/WTE`
export PAC7TE
PAC7UE=~BVPENV PACX PAC7UE $PACUSERS/PACXUE`
export PAC7UE
PAC7WD=~BVPENV PACX PAC7WD $PACTMP/WWD`
export PAC7WD
SYSEXT=~BVPENV PACX SYSEXT $PACTMP/WSY`
export SYSEXT
BVPMSG 1009 "BVPACX"
rtspac BVPACX
RETURN=$?
case $RETURN in
0)
;;
8)
BVPMSG 1012 "BVPACX"
BVPMSG 1014
BVPERR
BVPRMTMP
exit $RETURN
;;
4)
BVPMSG 1012 "BVPACX"
BVPMSG 1043
BVPMSG 1010
BVPERR
BVPRMTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPACX"
BVPMSG 1025
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

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. 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).

This utility includes two procedures: ESES and CSES.

ESES - Session Numbers Extraction

ESES - Introduction

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

PRELIMINARY OPERATIONS

Backup of the VA Pac files:

- Archival of the Journal (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, by:

- Archiving the DSMS Journal (DARC)
- Backing up 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 | Base dir. : AR | Input | Development Database data |
| PAC7AN | Base dir. : AN | Input | Development Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGU | Admin Base - 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. : ESESEUCSS | Report | Extraction report |
| PAC7DD | User dir. : ESESDDCSS | 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
BVPRTMP
exit $RETURN
;;
*)
BVPMSG 1012 "BVPTUESS"
BVPMSG 1025
BVPERR
BVPRTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRTMP
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 the files to retrieve (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 |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7MV | nul | 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 | Base dir. DSMS : BB | Input | DSMS Database backup (if DSMS is installed) |
| PACDJB | Base dir. DSMS : BB-new | Output | DSMS Database backup (if DSMS is installed) |
| PACDDJ | Base dir. DSMS : BJ | Input | Retrieval of DSMS archived Journal (if DSMS is installed) |
| PAC7JD | Base dir. DSMS : BJ-new | Output | Retrieval of DSMS archived Journal (if DSMS is installed) |
| PACDTC | Save dir. : TC | Input | Retrieval of Pactables backup (if Pactables is installed) |

| Code | Physical name | Type | Label |
|--------|-----------------------|--------|---|
| PACDCT | Save dir. : TC-new | Output | Retrieval of Pactables backup (if Pactables is installed) |
| PAC7EU | User dir. : CSESEUCSS | Report | Execution output |
| PAC7DD | User dir. : CSESDDCSS | Report | Batch procedure authorization option |

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
. $PACDIR/config/$1/PACSAVPJ.ini
PACSAVPJ=~BVPENV PTUCSS PAC7PJ $PACSAVPJ`
PAC7PJ=$PACSAVPJ
export PAC7PJ
PAC7JP=$PACSAVPJ.NEW
export PAC7JP
if [ -f "$DSMSDIR/assign/$DSMSBASE/PACSAVBB.ini" ]
then
  . $DSMSDIR/assign/$DSMSBASE/PACSAVBB.ini
  PACDBB=$PACSAVBB
  export PACDBB
  PACDJB=$PACSAVBBNEW
  export PACDJB
fi
if [ -f "$DSMSDIR/assign/$DSMSBASE/PACSAVBj.ini" ]
then
  . $DSMSDIR/assign/$DSMSBASE/PACSAVBj.ini
  PACDDJ=$PACSAVBj
  export PACDDJ
  PACDJD=$PACSAVBjNEW
  export PACDJD
fi
if [ -f "$TABDIR/assign/$TABBASE/PACSAVTC.ini" ]
then
  . $TABDIR/assign/$TABBASE/PACSAVTC.ini
  PAC7TC=$PACSAVTC
  export PAC7TC
  PAC7CT=$PACSAVTCNEW
  export PAC7CT
fi
PAC7DD=~BVPENV PTUCSS PAC7DD $PACUSERS/CESEDDCSS.txt`
export PAC7DD
PAC7EU=~BVPENV PTUCSS PAC7EU $PACUSERS/CESEUCSS.txt`
export PAC7EU
BVPMSG 1009 "BVPTUCSS"
rtspac BVPTUCSS
RETURN=$?
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
  BVPMSG 1016 "PJBACKUP.ini"
  sh $PACDIR/config/$1/PJBACKUP.ini
fi
if [ -f "$PACSAVBBNEW" \
-a -f "$DSMSDIR/assign/$DSMSBASE/BBBACKUP.ini" ]
then
  BVPMSG 1016 "BBBACKUP.ini"
  sh $DSMSDIR/assign/$DSMSBASE/BBBACKUP.ini
fi
if [ -f "$PACSAVBJNEW" \
-a -f "$DSMSDIR/assign/$DSMSBASE/BJBACKUP.ini" ]
then
  BVPMSG 1016 "BJBACKUP.ini"
  sh $DSMSDIR/assign/$DSMSBASE/BJBACKUP.ini
fi
if [ -f "$PACSAVTCNEW" \
-a -f "$TABDIR/assign/$TABBASE/TCKBACKUP.ini" ]
then
  BVPMSG 1016 "TCKBACKUP.ini"
  sh $TABDIR/assign/$TABBASE/TCKBACKUP.ini
fi
BVPRMTMP
exit $RETURN

```

Database statistics

STAT - Introduction

This procedure creates, from the files ouptput 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 character-long and whose contents are:

- 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 |
| 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) | Container: 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 |
| 9 | 10 | X(10) | Line type |
| 19 | 8 | 9(8) | Number of data items |
| 27 | 8 | 9(8) | Number of deleted data items |

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 pour base non française),
- 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 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 |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7PC | Save dir. : PC-new | Input | Sequential image of the Development Database |
| PAC7PD | Save dir. : PD-new | Input | If Dipatch option in the save procedure: Sequential image 2 of the network |
| PAC7PY | Save dir. : PY-new | Input | If Dipatch option in the save procedure: Sequential image 3 of the network |
| PAC7MB | User input | Input | User transactions |
| PAC7ST | Tmp 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 $PACTMP/WST`
export PAC7ST
BVPMSG 1009 "BVPTUSTA"
rtspac BVPTUSTA
RETURN=$?
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.

These criteria are used to specify the REQUEST AREA.

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

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

- 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'.

Parameters which define 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 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 batch input mode; any other value corresponds to on-line input mode.

&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

May only be used to define the activity calculation mode. Each Journal transaction is an input transaction.

&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 hour

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 hour format.

If this parameter is missing, the starting hour coincides with the beginning of the Journal.

&H2 : End hour

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 hour format.

If this parameter is missing, the end hour 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)

&MCOd : 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 | |
| &MCOd | | YES | YES | YES |
| &DSMS | | YES | YES | YES |
| &CHAR | | | | CALCULATION |

| Parameter | AREa | PAGes | OUTput | OUTput |
|-----------|------|-------|--------|-------------|
| &INTR | | | | CALCULATION |
| &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.

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

ACTI - Description of Steps

EXTRACTION: PTU630

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|---|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7AR | Base dir. : AR | Output | Development Database data |
| PAC7AN | Base 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
BVPRTMP
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
. $PACDIR/config/$1/PACSAVPJ.ini
PAC7IV=~BVPENV PTU640 PAC7IV $PACUSERS/ACTIIV640.txt`
export PAC7IV
PAC7ST=~BVPENV PTU630 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 user.
- The Quality rule extraction component, customized by the user.

Two purchase options are therefore available:

- A basic option providing standard rules for quality control;
- A quality rule CUSTOMIZATION option.

The components supplied on the installation tape are:

- For both purchase options:
 - A Batch Quality Analysis procedure (PQCA);

- A set of 'compiled' standard quality rules, in the form of a sequential file (see the Environment & Installation manual).
- For the CUSTOMIZATION option:
 - A batch procedure for the extraction and 'compilation' of the customized rules (PQCE);
 - A data element dictionary and the user entity needed for the customization of the rules, in the form of Batch transactions that the user enters in his/her own dictionary via a Batch update (UPDT). (See the Environment & Installation manual.)

Analysis

PQCA - Introduction

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

CHARACTERISTICS

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

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

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 PACBENCH/CS 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 PTUQ20 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 | Base dir. : AR | Input | Development Database data |
| PAC7AN | Base dir. : AN | Input | Development Database index |
| PAC7AY | Base dir. : AY | Input | Development Database extension data |
| PAC7AJ | Journal dir. : AJ | Input | Development Database Journal file |
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - 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 | User input | Input | Entity input 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 identifier limits |
| PAC7GB | User dir. : PQCAGB | Output | DBD generated Cobol |
| 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. |

After the execution, the generated streams are concatenated in the PQCAGB file.

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/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/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PACGGY.ini
. $PACDIR/config/$1/PAC7LB.ini
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 $PACTMP/WGB`
export PAC7GB
PAC7GE=`BVPENV PACQ PAC7GE $PACTMP/WGE`
export PAC7GE
PAC7GG=`BVPENV PACQ PAC7GG $PACTMP/WGG`
export PAC7GG
PAC7GP=`BVPENV PACQ PAC7GP $PACTMP/WGP`
export PAC7GP
```

```

PAC7GV=~BVPENV PACQ PAC7GV $PACTMP/WGV`
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
PAC7IH=~BVPENV PACQ PAC7IH $PACUSERS/PQCAIH.txt`
export PAC7IH
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`/MCPQCA`
export PACQMC
PAC7ME=~BVPENV PACQ PAC7ME $PACTMP/WME`
export PAC7ME
PACQMF=~BVPENV PACQ PACQMF `dirname $PACUSERS`/MBRULE.PQC`
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
. $PACDIR/config/$1/SQUEL.ini
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=0
BVPMSG 1010
BVPRMTMP
exit $RETURN
```

Extraction of Quality Rules

PQCE - Introduction

The PQCE procedure performs the extraction of quality rules created by the user in his/her database via the user entity supplied with the Customization option of the Pacbench Quality Control Facility.

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

For further details, see the Pacbench Quality Control Reference Manual.

EXECUTION 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 | L | Language code (F=French, A=English) |
| 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 | WIEX | Line code |
| 6 | 1 | Y | UE extraction identifier |
| 7 | 1 | U C | Library selection code: Selected library 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 containing 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.

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------------|--|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PAC7AN | Base dir. : AN | Input | Development Database Index file |
| PAC7AR | Base dir. : AR | Input | Development Database Data file |
| PAC7AY | Base dir. : AY | Input | Development Database Extension Data |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database Index file |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database Data file |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database Users |
| PAC7PJ | nul | 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 | User dir.: SYSEXT | Input/Output | Work file (indexed) |
| PAC7MV | User dir.: PQCEMV | Output | Extracted transactions for UPDT |
| PAC7MR | User dir.: PQCEMR | Output | Extracted transactions for REOR (EXPU) |
| PAC7GY | User dir.: PQCEGY | Output | Extracted transactions for UPDP |
| PAC7TD | User dir.: PQCETD | Output | Extracted transactions for CPSN |
| PAC7UE | User dir.: PQCEUE | Output | Extracted transactions for EXUE |

| Code | Physical name | Type | Label |
|--------|-------------------|--------|--|
| 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 |

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 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 |
| PACGGY | Admin Base - Base dir. : AY | Input | Administration Database Extension |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PACQMI | User dir. : MPQCE | Output | 'Compiled' quality rules (length=80) |
| PAC7MB | User input | Input | User input |
| PACQMC | Tmp dir. : WUE | Input | User input instances |
| 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 : 'W1EX$'
# *   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
# * . $PACDIR/config/$1/PACGGY.ini
# * PAC7BM=~BVPENV PACX PAC7BM $PACTMP/WBM`
# * export PAC7BM
# * PAC7DD=~BVPENV PACX PAC7DD $PACUSERS/PQCEDD`
# * export PAC7DD
# * PAC7EE=~BVPENV PACX PAC7EE $PACUSERS/PQCEE`
# * export PAC7EE
# * PAC7EP=~BVPENV PACX PAC7EP $PACUSERS/PQCEEP`
# * export PAC7EP
# * PAC7EQ=~BVPENV PACX PAC7EQ $PACUSERS/PQCEEQ`
# * export PAC7EQ
# * PAC7EZ=~BVPENV PACX PAC7EZ $PACUSERS/PQCEEZ`
# * export PAC7EZ
# * PAC7GY=~BVPENV PACX PAC7GY $PACTMP/WGY`
# * export PAC7GY
# * PAC7IA=~BVPENV PACX PAC7IA $PACUSERS/PQCEIA`
# * export PAC7IA
# * PAC7MB=$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
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 PACX PAC7DD $PACUSERS/PQCEDD`Q10.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`/MBRULE.PQC`
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 PTUQ10 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

Standard Bridge (PCM)

Introduction

The STANDARD BRIDGE is an optional module and 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 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. RECOGNITION OF A CONFIGURATION MANAGEMENT UTILITY

With the use of two complementary procedures, the module ensures the consistency between the production turnover data which is stored in the development Database, and the programs generated by a configuration management utility. But the user needs to ship a file that is to be extracted from the product so as to compare it with another file extracted from the development Database.

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

None

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 session number 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 are put into production.

This line may be entered in order to:

- Give a specific freeze comment,
- Force the session number to be frozen.

PRINTED REPORTS

This procedure prints:

- a report,
- a list of the entities used in production, and if the database has been frozen.

RESULTS

The result of the procedure execution is a sequential file containing the production environment transactions and the optional freeze transactions.

This file must be put in input of the UPDP procedure in order to update the development Database.

HIPM - Description of Steps

GENERATION OF PRODUCTION TURNOVER TRANSACTIONS: PCM300

This step is used to explore the development database and generate production turnover and database freeze transactions.

| Code | Physical name | Type | Label |
|--------|-----------------------------|-------|----------------------------------|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - 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 random data |
| PAC7MB | User input | Input | Users data . |

| Code | Physical name | Type | Label |
|--------|-----------------------|--------|---------------------------------------|
| PAC7TR | Tmp dir. : WTR | Output | Work file |
| PAC7SR | Tmp dir. : WSR | Output | Work file |
| PAC7IG | User dir. : HIPMIG300 | Report | Production turnover output report |
| PAC7GY | Journal dir. : MY | Output | Production turnover transactions |
| PAC7DD | User dir. : HIPMDD300 | Report | Batch procedures authorization option |

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/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
PAC7DD=~BVPENV PCM300 PAC7DD $PACUSERS/HIPMDD300.txt`
export PAC7DD
PAC7GY=~dirname $PAC7AJ~/MY
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
BVPMSG 1009 "BVPCM300"
rtspac BVPCM300
RETURN=?
```

```

case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM300"
BVPERR
BVPRMTMP
exit $RETURN
;;
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.

SIPM execution conditions are the same as GPRT's.

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 user code and password including information related 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) |
| 26 | 1 | | Session status (' ' or 'T') |
| 59 | 8 | ssaammjj | 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 environment identification line 'EG' (required):

| Position | Length | Value | Meaning |
|----------|--------|-------|----------------------------|
| 2 | 2 | 'EG' | Line code |
| 4 | 3 | ttt | Type of entities processed |
| 7 | 30 | | Target environment |
| 37 | 10 | | Target application |

Source environment line 'ES'(if transfer):

| Position | Length | Value | Meaning |
|----------|--------|-------|--------------------|
| 2 | 2 | 'ES' | Line code |
| 7 | 30 | | Source environment |
| 37 | 10 | | Source application |

Entity identification line 'EU' for each entity generation to be simulated

| 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) |

REPORT OUTPUT

This procedure prints a report

RESULTS

Once the procedure has been executed, a sequential file is produced. This file contains the production turnover transactions.

It must be used as input to the UPDP procedure in order to update the development Database.

SIPM - Description of Steps

WORK FILE INITIALIZATION : PCMINI

| Code | Physical name | Type | Label |
|--------|----------------|--------|-----------|
| PAC7QJ | base dir. : WY | Output | Work file |

GENERATION OF SIMULATION TRANSACTIONS: PCM320

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

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|---|
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - 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 | Administration Database random 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 |
| PAC7GY | Base dir. : WY | Output | Transactions for UPDP (simulation output) |
| 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/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
PAC7DD=~BVPENV PCM320 PAC7DD $PACUSERS/SIPMDD320.txt`
export PAC7DD
```

```

PAC7GY=`dirname $PAC7AJ`/WY
export PAC7GY
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
# -----
. $PACDIR/config/$1/PAC7AJ.ini
PAC7MY=`dirname $PAC7AJ`/MY
export PAC7MY
PAC7WY=`dirname $PAC7AJ`/WY
export PAC7WY
BVPMSG 1009 "BVPCM039"
rtspac BVPCM039
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM039"
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 compared to the configuration management utility.

The extracted file will be compared to the file extracted from the utility.

The extraction can be limited to sessions, databases, environments and applications.

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 and password.

| 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 | Number of session in use (blank in current session) |
| | | **** | if extraction from all sessions |
| 26 | 1 | * | Status of the session (' ' or 'T') if extraction from all sessions |

One or more 'S' line(s) to select the environments /application

The line is 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 |
|--------|-----------------------------|-------|----------------------------------|
| PAC7MB | User input | Input | User transactions |
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - 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 random data |

| Code | Physical name | Type | Label |
|--------|-----------------------|--------|---------------------------------------|
| PAC7ET | User dir. : EXPMET200 | Report | Extraction output report |
| PAC7MS | Tmp dir. : WMS | Output | Extracted elements file |
| 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 assigned by error to several extracted applications.

| 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 |
| PAC7ME | Tmp dir. : WMS | Input | Input extracted elements file |
| PAC7MS | Tmp dir. : WMS2 | Output | Output extracted elements file |
| PAC7EQ | User dir. : EXPMEQ202 | Report | List of elements extracted twice |

EXTRACTED ELEMENTS SORTING 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 |

SEQUENTIAL GY: PCM039

| Code | Physical name | Type | Label |
|--------|------------------|--------|--------------------|
| PAC7WY | Journal dir.: WY | Input | Indexed GY records |
| PAC7MY | Journal dir.: MY | Output | GY records |

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 $PACTMP/WMS`
export PAC7MS
PAC7MV=$PACINPUT
export PAC7MV
BVPMSG 1009 "BVPCM200"
rtspac BVPCM200
RETURN=?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM200"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
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
BVPMSG 1009 "BVPCM202"
rtspac BVPCM202
RETURN=?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM202"
BVPERR
BVPRMTMP
exit $RETURN
;;

```



```

esac
# -----
PAC7ME=`BVPENV PCM205 PAC7ME $PACTMP/WMS2`
export PAC7ME
PAC7MS=`BVPENV PCM205 PAC7MS $PACUSERS/MSEXPM`
export PAC7MS
BVPMSG 1009 "BVPCM205"
rtspac BVPCM205
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM205"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
BVPMSG 1010
BVPRMTMP
exit $RETURN

```

Comparison with Extracted Files

CPPM - Introduction

The CPPM procedure is used to compare a file extracted from the development Database via the EXPM procedure, with a similar file extracted by the user from the configuration management utility.

The purpose is to generate a transactions file to update the development Database via the UPDP procedure.

The transactions are due to set the development Database to the level of the configuration management utility, in relation to the production entities.

EXECUTION CONDITIONS

The EXPM procedure must be executed at 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's 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 entities which will be modified in the development Database after executing the UPDP procedure.

RESULTS

Once the procedure executed, a sequential file is produced. It contains the development Database update transactions to be used as input to the UPDP procedure.

CPPM - User File

To be able 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 1 |
| 36 | 35 | | Parameter 2 |
| 71 | 35 | | Parameter 3 |
| 106 | 35 | | Parameter 4 |
| 141 | 35 | | Parameter 5 |
| 176 | 35 | | Parameter 6 |
| 211 | 35 | | Parameter 7 |
| 246 | 35 | | Parameter 8 |
| 281 | 35 | | Parameter 9 |
| 316 | 35 | | Parameter 10 |
| 351 | 35 | | Parameter 11 |
| 386 | 35 | | Parameter 12 |
| 421 | 35 | | Parameter 13 |
| 456 | 35 | | Parameter 14 |
| 491 | 35 | | Parameter 15 |
| 526 | 30 | | 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 (CCYYMMDD) |
| 605 | 8 | | Generation time |
| 613 | 8 | | User code |
| 621 | 35 | | Group field |

| Position | Length | Value | Meaning |
|----------|--------|-------|---|
| 796 | 51 | | Optional fields which display information on the last action performed on the object: |
| 796 | 20 | | Action label |
| 816 | 10 | | Action date |
| 826 | 8 | | Action hour |
| 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 parameters defined in the environment screen. 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

INITIALIZATION OF THE WORK FILE: PCMINI

| Code | Physical name | Type | Label |
|--------|-------------------|--------|-----------|
| PAC7QJ | Journal dir. : WY | Output | Work file |

COMPARISON PROCESSING: PCM210

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|--|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7AY | Base dir. : AY | Output | Development Database extension data |
| PAC7AN | Base dir. : AN | Input | Development Database index |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7MB | User input | Input | User transactions |
| PAC7MP | User dir. : MSEXPM | Input | File extracted from the development Database |
| PAC7MU | Tmp dir. : WMU | Input | File extracted from configuration management utility |
| PAC7EQ | User dir. : CPPMEQ210 | Report | Output report of check |
| PAC7ME | Tmp dir. : WME | Output | File used to print comparison errors |
| PAC7MS | Tmp dir. : WMS | Output | File used to print update transactions |
| 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 | Base dir. : AN | Input | Development Database index |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7EQ | User dir. : CPPMEQ220 | Report | Comparison output report |
| PAC7MS | Tmp dir. : WMS2 | Input | File used to print the results of comparison |
| PAC7GY | Journal dir. : WY | Input | RRDS file containing transactions for UPDP |

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
BVPMKDIR
# -----
. $PACDIR/config/$1/PAC7AJ.ini
PAC7QJ=`dirname $PAC7AJ`/WY
export PAC7QJ
if [ ! -f "$PAC7QJ" ]
then
BVPMSG 1009 "BVPCMINI"
rtspac BVPCMINI
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCMINI"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
fi
```

```

# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/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/CPPMDD210.txt`
export PAC7DD
PAC7EQ=`BVPENV PCM210 PAC7EQ $PACUSERS/CPPEQ210.txt`
export PAC7EQ
PAC7MB=$PACINPUT
export PAC7MB
PAC7ME=`BVPENV PCM210 PAC7ME `dirname $PACUSERS`/MECPPM`
export PAC7ME
PAC7MP=`BVPENV PCM210 PAC7MP `dirname $PACUSERS`/MPCPPM`
export PAC7MP
PAC7MS=`BVPENV PCM210 PAC7MS $PACTMP/WMS`
export PAC7MS
PAC7MU=`BVPENV PCM210 PAC7MU `dirname $PACUSERS`/MUCPPM`
export PAC7MU
BVPMSG 1009 "BVPCM210"
rtspac BVPCM210
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM210"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
PAC7EQ=`BVPENV PCM220 PAC7EQ $PACUSERS/CPPEQ220.txt`
export PAC7EQ
PAC7GY=`dirname $PAC7AJ`/WY
export PAC7GY
PAC7MS=`BVPENV PCM210 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 Events/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 events 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

Batch procedures access authorization option: A '*' line with user code and password.

PRINTED REPORT

This procedure prints a report listing 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 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 |
| PAC7AN | Base dir. : AN | Input | Development Database index |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7AY | Base dir. : AY | Input | Development Database random data |
| PAC7MB | User input | Input | User transactions |
| PAC7MS | Tmp dir. : WMS | Output | File used to print a a check report |
| PAC7MV | Tmp dir. : WMV | Output | Working 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 | Base dir. : AN | Input | Development Database index |
| PAC7AR | Base 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
BVPRTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.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

The processing starts from the first transaction of QJ not processed. It prepares for the communication area to be filled in with PAF-type transactions extracted from QJ before the call of PUF for the update. The call of the PUF function is made during the update of a PAF file, modification of the user code or of the Database code.

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

None.

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 during generation.

OUTPUT REPORTS

None.

UPPM - Description of Steps

UPDATE : PCMPUF

This step updates the User Entities of the PCM 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 |

| 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 |
| PAC7AN | Base dir.: AN | Input | Development Database index |
| PAC7AR | Base dir.: AR | Input | Development Database data |
| PAC7AY | Base dir.: AY | Input | Development Database random data |
| PAC7IC | NUL | 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
# *
# * -----
# *      - PCM 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/PAC7AJ.ini
BVPMSG 1015 "`dirname $PAC7AJ.`"
BVPMSG 1006 "$PACTMP"
BVPMSG 1073 "$PACUSERS"
echo "-----"
echo ""
BVPPAUSE
BVPMKDIR
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/$1/PAC7AJ.ini
. $PACDIR/config/$1/PAC7AN.ini
. $PACDIR/config/$1/PAC7AR.ini
. $PACDIR/config/$1/PAC7AY.ini
. $PACDIR/config/$1/PACGGN.ini
. $PACDIR/config/$1/PACGGR.ini
. $PACDIR/config/$1/PACGGU.ini
. $PACDIR/config/$1/PAC7DC.ini
. $PACDIR/config/$1/SEMLOCK.ini
. $PACDIR/config/ADMI/PACGGJ.ini
PAC7QJ=`dirname $PACGGJ`/QJ
export PAC7QJ
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 Standard Bridge and stored in the QJ journal file. It extracts the erroneous transactions, outputs the corresponding errors and recycle them again. It reconstitutes the new QJ journal file with the transactions which have not yet been processed by the Bridge and with 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 journal file and prepares the archiving and output of errors.

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

| Code | Physical name | Type | Label |
|--------|-------------------------------|--------|---------------------------------------|
| PAC7QJ | Admin base - Journal dir.: QJ | Input | Standard Bridge 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 |

ANALYSIS AND PREPARATION: PCM510

This step archives the correct transactions already processed by the Standard Bridge.

| Code | Physical name | Type | Label |
|--------|-----------------------------------|--------|--------------------------------|
| PAC7AE | System - Skel dir.: AE | Input | Error messages |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7XS | Tmp dir. : XS | Output | Transactions already processed |
| PAC7RJ | Admin base - Journal dir.: JQ | Input | Former archiving |
| PAC7JR | Admin base - Journal dir.: JQ-new | Output | New archiving |

OUTPUT OF ERRORS: PCM520

This step outputs the list of the errors detected during the update process.

| 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 |

RECONSTITUTION OF THE QJ JOURNAL FILE: PCM550

This step reconstitutes the new QJ journal file with the transactions which have not yet been processed by the Bridge 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 | Output | New journal |

ARPM - Execution Script

```
#!/bin/sh
#@(#)VA Pac xxx xxx (R) ARPM BATCH PROCEDURE
# * -----
# *     VISUALAGE PACBASE
# *
# * -----
# *     - ARCHIVAL OF THE GENERIC BRIDGE 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/PACGGJ.ini
PAC7QJ=`dirname $PACGGJ`/QJ
export PAC7QJ
if [ ! -f "$PAC7QJ" ]
then
    BVPMSG 1034 $PAC7QJ
    RETURN=1
    BVPRMTMP
    exit $RETURN
fi
PAC7JQ=`dirname $PACGGJ`/JQ
export PAC7JQ
if [ ! -f "$PAC7JQ" ]
then
    touch $PAC7JQ
fi
# -----
. $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/PACGGJ.ini
PAC7QJ=`dirname $PACGGJ`/QJ
export PAC7QJ
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
PAC7RJ=`dirname $PACGGJ`/JQ
export PAC7RJ
PAC7JR=`dirname $PACGGJ`/JQ.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
# -----
. $PACDIR/config/$1/PACGGJ.ini
PAC7JQ=`BVPENV PCM560 PAC7JQ $PACTMP/WJQ`
export PAC7JQ
PAC7QJ=`dirname $PACGGJ`/QJ.NEW
export PAC7QJ
BVPMSG 1009 "BVPCM560"
rtspac BVPCM560
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPCM560"
BVPERR
BVPRMTMP
exit $RETURN
;;
esac
# -----
if [ -f "$PAC7RJ" -a -f "$PAC7JR" ]
then
mv "$PAC7RJ" "$PAC7RJ-1"
fi
if [ -f "$PAC7JR" ]
then
mv "$PAC7JR" "$PAC7RJ"
fi
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 transfers of update transactions between two sessions or more.

Pac/transfer scans the archived Journal file and consults reads a dedicated Parameter file.

One or more source environments are defined in this parameter file. Each can correspond with 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 the parameter file.

These transactions are used by the VA Pac batch update procedure (UPDT). If the VA Pac 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 onto another validation-dedicated session, and, if necessary, onto 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).

The transfer parameters for all development Databases managed by the administrator is stored in administration Database. The list of these databases is itself defined in the administration Database.

Thus, the development Database notion is now 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.

Processes Chronology

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.

TRUP - Update of Transfer Parameters

TRUP - Introduction

Pac/transfer's processing is based on the user-defined parameters stored in the UV parameters file. These parameters monitor all PacTransfer 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 Transaction Sets, may be defined. The parameter file can therefore store several Transaction Sets.

By defining several Transaction Sets, you obtain flexible transfer operations, fully adaptable to your own requirements.

Transfer parameters -- described below -- define one Transaction 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 relating to 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 Libraries in the VisualAge Pacbase Database are taken into account for the requested source session, and the transfer target are the same Libraries.

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 part of the selected target Libraries, specify its code explicitly.

If you specify several target Libraries, transactions relating 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 transferred transactions will be SIX times larger than the volume of selected transactions.

- User

As a default, transactions entered by ANY 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 VisualAge Pacbase Databases under DSMS control only.

By default, 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 such as described above.

EXECUTION CONDITION

Since this procedure updates the network, the GR, GN, GJ and GY files must be closed to on-line access (except on hardware which supports batch/on-line concurrency).

PRINTED REPORT

Printout of the parameter-file contents.

TRUP - User Input

User identification line (required)

| Position | Length | Value | Meaning |
|----------|--------|----------|-----------|
| 2 | 1 | '* | Line code |
| 3 | 8 | uuuuuuuu | User code |
| 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 ' ', without any uppercase conversion of the label |
| 2 | 2 | 'GA' | Line type |
| 4 | 10 | | Transfer set code (required) different from 9999999999 and ***** |
| 14 | 36 | | Transfer set label (required in creation mode) |

Session selection line

Within a Transaction Set, there must be at least one selection line of this type.

| Position | Length | Value | Meaning |
|----------|--------|-------|--|
| 1 | 1 | | Action code |
| | | 'C' | Creation |
| | | 'M' | Modification |
| | | 'A' | 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) |
| 13 | 2 | | Line number (two lines only are authorized) |

| Position | Length | Value | Meaning |
|----------|--------|-------|--|
| | | '00' | First line for the 9 first target sessions (default value) |
| | | '01' | Continuation line for the 9 following target sessions, if required (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 reports (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) |

Selection line of Libraries

| 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 |
| | | 'M' | Modification |
| | | 'D' | Deletion |
| | | ' ' | Creation or modification depending 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 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:

- at the level of each type of selection
- for a given Transaction Set,
- at the level of the whole Set.

| Position | Length | Value | Meaning |
|----------|--------|----------|--|
| 1 | 1 | 'B' | Multiple deletion request |
| 2 | 2 | 'GA' | Deletion of whole Set |
| | | 'GS' | Deletion of set lines: 'GS' 'GB' 'GC' and 'GU' |
| | | 'GB' | Deletion of 'GB' Set line |
| | | 'GU' | Deletion of 'GU' Set line |
| | | 'GC' | Deletion of 'GC' Set line |
| 4 | 10 | | Only if value 'GA' in columns 2 and 3. |
| | | IIIIIIII | Set code |
| | | '*****' | Deletion of the whole Sets in a development Database |

TRUP - Description of Steps

UPDATE OF THE ADMINISTRATION DATABASE: PTUG20

This step updates the administration Database in order to store selection parameters.

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------------|---|
| PAC7AR | Base dir. : AR | Input | Development database data file |
| PAC7AN | Base dir. : AN | Input | Development database index file |
| PAC7AY | nul | Output | Development Database extension data |
| PACGGU | Admin Base - Base dir. : GU | Input | Users file |
| PAC7AE | System - Skel dir. : AE | Input | Error messages file |
| PACGGR | Admin Base - Base dir. : AR | Input/Output | Administration Database data file |
| PACGGN | Admin Base - Base dir. : AN | Input/Output | Administration Database index file |
| PACGGY | Admin Base - Base dir. : AY | Input/Output | Administration Database extension data file |
| PACGGJ | Journal dir. : AJ | Input/Output | Administration Database Journal file |
| 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: check of line '*' in relation to the development Database |
| PAC7DE | User dir. : TRUPDEG20 | Report | Output report: check 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 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 |
| PAC7AN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PAC7AY | null | Input | Administration Database extension data |

| Code | Physical name | Type | Label |
|--------|--------------------------|--------------|----------------------------|
| PAC7MB | Tmp dir. : WMB | Input | Extraction request file |
| PAC7GL | Tmp dir. : WGL | Output | Target sessions list |
| PAC7UY | User dir. : UY | Output | Limited 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 | User dir. : UY | Input | Limited parameters file |
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data 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 |
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PAC7GL | Tmp dir. : WGL | Input | Target session |
| PAC7ET | User dir. : TRUPETG32 | Report | Printing of the target session 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'S PROCESSING IS BASED ON THE USER-DEFINED
# * PARAMETERS STORED IN THE ADMINISTRATION DATABASE.
# * THESE PARAMETERS CONTROL THE VARIOUS PROCESSES OF THE
# * FACILITY'S PROCEDURES.
# *
# * -----
# *
# 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/PAC7AY.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"
echo $PAC7MC
rtspac BVPTUG20
RETURN=$?
case $RETURN in
0)
;;
*)
BVPMSG 1012 "BVPTUG20"
BVPMSG 1025
BVPERR
BVPRTMP
exit $RETURN
;;
esac
# -----
. $PACDIR/config/$1/PAC7AE.ini
. $PACDIR/config/ADMI/PAC7AR.ini
. $PACDIR/config/ADMI/PAC7AN.ini
. $PACDIR/config/ADMI/PAC7AY.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
. $PACDIR/config/$1/PAC7AR.ini
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
. $PACDIR/config/$1/PAC7AR.ini
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 is used to print all the parameters for each development Database and transfer set.

It is possible to print all the parameters, or to print those of only one development Database.

TRED - User Input

User identification line (required).

| Position | Length | Value | Meaning |
|----------|--------|----------|---|
| 2 | 1 | '*' | Line code |
| 3 | 8 | uuuuuuuu | User code |
| 11 | 8 | pppppppp | Password |
| 29 | 4 | | Selection of the development Database to be printed |
| | | bbbb | Selection of a Database |
| | | '****' | Selection of all Databases |

TRED - Description of Steps

CHECKING OF THE PROCESS REQUEST: PTUG28

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

EXTRACTION OF THE ADMINISTRATION DATABASE: PTUG30

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

| Code | Physical name | Type | Label |
|--------|--------------------------------|--------------|--|
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7AN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PAC7AY | nul | Input | Administration Databasea extension data |
| PAC7MB | Tmp dir. : WMB | Input | Printing request file |
| PAC7GL | Tmp dir. : WGL | Output | Target sessions file |
| PAC7UY | Tmp dir. : WUY | Output | Limited parameters file |
| PAC7TK | Tmp dir. : WTK | Input/Output | Working 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 | Limited parameters |
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data |
| 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 |
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data |
| 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/TREDDG28.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/PAC7AY.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/TREDDG30.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
. $PACDIR/config/ADMI/PAC7AR.ini
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
. $PACDIR/config/ADMI/PAC7AR.ini
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

```

TRJC - Compression of Archived Journal

TRJC - Introduction

From the VisualAge Pacbase 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.

User input may include an interval of dates and/or session numbers in order to limit transfer processing to the archived Journal's transactions belonging 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.

As a result, Pac/transfer updates

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 including '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 |
| 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 | Base dir. : AR | Input | Development Database data |
| 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 | User input | Input | User input |
| PAC7BM | Tmp dir. : WMB | 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 | User input | Input | User Input |
| 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 | Base 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
PAC7ET=~BVPENV PTUG04 PAC7ET $PACUSERS/TRJCETG04.txt~
export PAC7ET
PAC7MB=$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

```

TRPF - Creation of the Transfer File

TRPF - Introduction

From the archived Journal --whether compressed or not, depending on the site's choice and according to the contents of the Parameter file-- the TRPF procedure produces a Transfer file, which has the following characteristics:

- The only transactions processed are those meeting the source selection parameters (sessions, Libraries, users, Changes),
- The values of the selected parameters are replaced by those of the target parameters specified in the Parameter file,
- 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.

EXECUTION CONDITIONS

None.

RESULT

The TRPF procedure produces a Transfer file, which will be used by the TRRP procedure.

TRPF - User Input

User identification line (required)

| Position | Length | Value | Meaning |
|----------|--------|-------|-----------|
| 2 | 1 | '*' | Line code |

| Position | Length | Value | Meaning |
|----------|--------|----------|-----------|
| 3 | 8 | uuuuuuuu | User code |
| 11 | 8 | pppppppp | Password |

Transaction Set for processing selection line (required)

| Position | Length | Value | Meaning |
|----------|--------|----------|------------------------------------|
| 2 | 2 | 'LT' | |
| 4 | 10 | IIIIIIII | Code of Transaction Set to process |
| | | ***** | Selection of all Sets |

NOTE

The selection of all Sets necessarily implies that only one LT-type line be entered (with the value '*****' in Positions 4 to 13).

TRPF - Description of Steps PROCESSING REQUEST CHECK: PTUG27

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|---|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7AN | Base dir. : AN | Input | Development Database index |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7MB | User input | Input | Parameters extraction request |
| PAC7BM | Tmp dir. : WBM | Output | Parameters extraction request |
| PAC7DD | User dir. : TRPFDDG27 | Report | Output report: user code validity check |
| PAC7ET | User dir. : TRPFETG27 | Report | Output report: extraction request check |

EXTRACTION OF THE ADMINISTRATION DATABASE: PTUG30

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

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|--|
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PAC7AY | nul | Input | Administration Database extension data |
| PAC7MB | Tmp dir. : WBM | Input | EXtraction request |
| PAC7GL | Tmp dir. : WGL | Output | List of target sessions |
| PAC7UY | Tmp dir. : UY | Output | Limited 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 TRANSFERS FILE: PTUG50

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|----------------------------------|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7JT | Save dir. : PJ | Input | Sequential or compressed Journal |
| PAC7MB | Tmp dir. : WBM | Input | User input |
| PAC7UY | User dir. : WYU | Input | Limited 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/ADMI/PAC7AY.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
PAC7ET=`BVPENV PTUG30 PAC7ET $PACUSERS/TRPFETG30.txt`

```

```

export PAC7ET
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 $PACTMP/WGL~
export PAC7GL
PAC7MB=$PACINPUT
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 DSMS-Environment Preparation procedure (TRDU) must be used when the VisualAge Pacbase Database is under DSMS control, and when source criteria include a selected Change number.

TRDU can operate for either one or all of the Sets defined in the Parameters file.

The VisualAge Pacbase authorizations notified for the target Change(s) must include the authorizations of 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 takes into account 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 of 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 produces two files:

- A DSMS update-transaction file to allow target Change(s) to accept updates made on the source Change(s).

Also, all 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 to their initial state.

This update must be executed AFTER the transfers are introduced in the VA Pac Database.

EXECUTION CONDITIONS

None.

RESULTS

Two DSMS batch update-transaction files, one of which should be applied before the transfers, the other after all 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 |

Transaction set selection line (required)

| Position | Length | Value | Meaning |
|----------|--------|----------|-------------------------------|
| 2 | 2 | 'LT' | |
| 4 | 10 | IIIIIIII | Selected Transaction Set code |
| | | ***** | Selection of all Sets |

One and only one LT-type line is required.

TRDU - Description of Steps

CHECK ON PROCESSING REQUEST: PTUG26

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|--|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database data |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database index |
| PAC7GU | Admin Base - Base dir. : GU | Input | Administration Database index |
| PAC7AN | Base dir. : AN | Input | Development Database index |
| PAC7AR | Base 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 | Output report: check on user code validity |
| PAC7DD | User dir. : TRDUDDG26 | Report | Output report: check on print request |

EXTRACTION OF THE ADMINISTRATION DATABASE: PTUG30

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------------|--|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7AN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PAC7AR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PAC7AY | nul | Input | Administration Database extension data |
| PAC7MB | Tmp dir. : WBM | Input | Extraction request |
| PAC7GL | Tmp dir. : WGL | Output | Target sessions |
| PAC7UY | Tmp dir. : WUY | Output | Limited 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 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 |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7UY | User dir. : UY | Input | Limited parameters |
| PAC7MB | Tmp dir. : WBM | Input | User input |
| PAC7BM | Tmp dir. : WBM2 | Output | Sets file |
| PAC7DD | User dir. : TRDUDDG42 | Report | Report output: check on users |

| Code | Physical name | Type | Label |
|--------|--------------------------|--------|------------------------------------|
| PAC7ET | User dir. : TRDUETG42 | Report | Report output: check on extraction |

DSMS PREPARATION BEFORE TRANSFER: PTUG44

| Code | Physical name | Type | Label |
|--------|-------------------------|--------|---|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7UY | User dir. : UY | Input | Limited parameters |
| PACDDC | Base dir. : DC | Input | Elements of the product (DSMS) |
| PAC7MB | Tmp dir. : WBM2 | Input | Batch transactions |
| PAC7CI | Tmp dir. : WCI | Output | Source/target initial state creation transactions |
| PAC7SI | Tmp dir. : WSI | Output | Source/target initial state deletion transactions |
| PAC7GC | Tmp dir. : WGC | Output | Target-change authorization preparation file |
| 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 file for 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 |

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/WMB`
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
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
PAC7DD=`BVPENV PTUG30 PAC7DD $PACUSERS/TRDUDDG30.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/PACGGY.ini
PAC7BM=~BVPENV PTUG42 PAC7BM $PACTMP/WBM~
export PAC7BM
PAC7DD=~BVPENV PTUG42 PAC7DD $PACUSERS/TRDUDDG42.txt~
export PAC7DD
PAC7ET=~BVPENV PTUG42 PAC7ET $PACUSERS/TRDUETG42.txt~
export PAC7ET
PAC7GL=~BVPENV PTUG42 PAC7GL $PACTMP/WGL~
export PAC7GL
PAC7MB=~BVPENV PTUG42 PAC7MB $PACTMP/WMB~
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/WBM~
    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
# -----
    BVPMSG 1010
    MVDUAV=~BVPENV PACB MVDUAV $PACUSERS/MVDUAV~
    cat $PAC7CC $PAC7SI > $MVDUAV
    MVDUAP=~BVPENV PACB MVDUAP $PACUSERS/MVDUAP~
    cat $PAC7CI $PAC7SC > $MVDUAP

```

```
BVPMSG 1058
BVPMSG 1059
BVPRMTMP
exit $RETURN
```

DSMS Update Before Database Update

This update is performed using, as input of 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 TRTP procedure generates transfer transactions. These have the same format as batch update transactions applicable in the development Database by the UPDT procedure.

The transaction generation may be performed on the whole of the Transfer file or on selected parts, based on the following criteria:

1. Transaction Set (required),
2. Target Session.

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 '*****'
- Absence of target session

TRRP considers transactions that belong to the selected Transaction Set only. Since you have not selected a target session, transactions are generated for all 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 Parameter file once all 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 Parameter 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 dealt with.

Generated transactions must then be used by the VisualAge Pacbase batch update procedure (UPDT).

You may prefer to concatenate all TRRP subsequent outputs and run the UPDT procedure only once.

EXECUTION BY SESSION

- Transaction Set code different from '*****'
- Target session: 'nnnnT' or '*****'

TRRP considers transactions that belong to the selected Transaction Set only.

- 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 once all transactions have been generated for a given session.

Generated transactions must then be used by the VA Pac batch 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 once all transactions have been generated for a given session.

Generated transactions must then be used by the VA Pac batch update procedure (UPDT).

EXECUTION CONDITIONS

The Transfer file must exist (created by the TRPF procedure). Authorization level 4 is required to run a TRRP execution.

RESULT

Transfer transactions formatted for the VA Pac UPDT batch update procedure.

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 |

| Position | Length | Value | Meaning |
|----------|--------|----------|---|
| | | nnnnT | . Target session number (required) |
| | | '*****' | . All target sessions processed in one TRRP execution |
| 33 | 10 | | Selection of Transaction Set(s): |
| | | IIIIIIII | 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 |

TRRP - Description of Steps

PREPARATION OF EXTRACTION: PTUG60

| Code | Physical name | Type | Label |
|--------|-----------------------------|--------|----------------------------------|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database users |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7JT | Save dir. : TJ | Input | Sequential or compressed Journal |
| PAC7MB | User input | Input | User input |
| PAC7UY | User dir.: WYU | Input | Limited 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 user inputs

| 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 |
| PAC7AY | Base dir. : AY | Input | Development Database extension data |
| PACGGN | Admin Base - Base dir. : AN | Input | Administration Database index |
| PACGGR | Admin Base - Base dir. : AR | Input | Administration Database data |
| PACGGU | Admin Base - Base dir. : GU | Input | Administration Database user file |
| PAC7PJ | Save dir. : PJ | Input | Transactions selected by the Journal |
| PAC7MB | Tmp dir. : WMB | Input | User input |
| PAC7BM | Tmp dir. : WBM | Input/Output | User input |
| SYSEXT | Tmp dir. : WXT | Input/Output | Work file |
| PAC7MJ | Tmp dir. : WMJ | Input/Output | Journal transactions (EXPJ) |
| PAC7WD | Tmp dir. : WWD | Input/Output | Extracted transactions |
| PAC7MV | Tmp dir. : WMV | Output | Extracted transactions for UPDT |
| PAC7GY | Tmp dir. : WGY | Output | Extracted transactions for UPDP |
| PAC7IA | User dir. : TRRPIAPAC | Report | General program-stream 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 |
| PAC7EZ | User dir. : TRRPEZPAC | Report | Extractions report |

Return codes:

- 0: No error
- 8: Critical error (detailed in PAC7DD)

POSITIONING THE 'PROCESSING SESSION' ATTRIBUTE: PTUG61

| Code | Physical name | Type | Label |
|--------|-------------------------|--------------|---------------------------|
| PAC7AE | System - Skel dir. : AE | Input | Error messages |
| PAC7AR | Base dir. : AR | Input | Development Database data |
| PAC7MB | User input | Input | User input |
| PAC7UY | User dir. : WYU | Input/Output | Limited parameters |

| Code | Physical name | Type | Label |
|--------|-----------------------|--------|---------------------|
| 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 SESSION(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
# * -----
# *
# 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
BVRMTMP
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/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 $PACTMP/WGY~
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 $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

```

```

BVPMSG 1060
BVPMSG 1061
BVPRMTMP
exit $RETURN

```

Update of the Development Database

The VisualAge Pacbase 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 VA Pac Database).

Reinitialization of DSMS Environment

This procedure resets update authorizations on the selected source and target Changes as they were before the transfer operation.

This initial state is obtained by running 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 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 | | Input | Original user parameters |
| PAC7OU | | 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 "          ====="
echo ""

```

```

BVPMSG 1038 "PE" $2
BVPMSG 1039 "PE" $3
echo ""
echo "-----"
echo ""
BVPPAUSE
# -----
PAC7IN=`BVPENV PTU903 PAC7IN $2`
export PAC7IN
PAC7OU=`BVPENV PTU903 PAC7OU $3`
export PAC7OU
BVPMSG 1009 "BVPTU903"
rtspac BVPTU903
RETURN=$?
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 | | Input | Original generation requests |
| PAC7OU | | 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 "          ====="
echo ""
BVPMSG 1038 "PG" $2
BVPMSG 1039 "PG" $3
echo ""
echo "-----"

```

```

echo ""
BVPPAUSE
# -----
PAC7IN=~BVPENV PTU903 PAC7IN $2`
export PAC7IN
PAC7OU=~BVPENV PTU903 PAC7OU $3`
export PAC7OU
BVPMSG 1009 "BVPTU906"
rtspac BVPTU906
RETURN=$?
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 | | Input | Original environments |
| PAC7OU | | 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 "          ====="
echo ""
BVPMSG 1038 "PP" $2
BVPMSG 1039 "PP" $3
echo ""
echo "-----"
echo ""
BVPPAUSE
# -----
PAC7IN=~BVPENV PTU903 PAC7IN $2`

```

```
export PAC7IN
PAC70U=~BVPENV PTU903 PAC70U $3`
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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