IBM

VisualAge Pacbase 2.5

VA PAC 2.5 – IBM OS/2
OPERATIONS MANUAL VOLUME I : ENVIRONMENT & INSTALLATION

DELS2001252A

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>
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TABLE OF CONTENTS

1. WARNING

FOREWORD

HOW TO USE THIS MANUAL

This manual is intended for the person in charge of the installation.
It describes the VisualAge Pacbase Components and the System Environment, gives recommendations for the installation of the new release, and explains the operations that must be performed for a standard reinstallation of the corrective versions.

USERS OF PREVIOUS RELEASES

The new release should be installed in an environment quite distinct from that of any earlier release, particularly as far as the installation parameters are concerned. To complete the new installation, the test deck provided on the installation tape must be run.

VisualAge Pacbase 2.0

You can install the new release in the same environment as the one previously installed.
Refer to chapter RETRIEVAL OF VISUALAGE PACBASE 802.02, 1.2, 1.5,1.6, 2.0, sub-chapter 'Retrieval of VisualAge Pacbase 2.0'

VisualAge Pacbase 802.02, 1.2, 1.5, 1.6

Refer to chapter RETRIEVAL OF VISUALAGE PACBASE 802.02, 1.2, 1.5, 1.6, 2.0, sub-chapter 'Retrieval of VisualAge Pacbase 802.02, 1.2, 1.5, 1.6'.

VisualAge Pacbase Releases earlier than 8.02v02:

For these retrievals, contact your Hot line.

2. COMPONENTS DESCRIPTION

2.1. FOREWORD

INTRODUCTION

The VisualAge Pacbase system manages permanent data in either batch or on-line mode
by using two types of resources:

. LIBRARIES which store system programs, as well as parameters needed to run them:

  - One on-Line program library,
  - One batch program library,
  - One system parameter library,
  - One parameter library for each VA Pac database,
  - One library for the batch procedure JCLs.

. PERMANENT FILES, containing data that is manipulated by the system programs. These
  files can be classified into two categories:

  . 'System' files, which are not linked to a particular VisualAge Pacbase database and which
    remain relatively unchanged.

  . 'Evolving' files, which are associated to a VisualAge Pacbase database, and whose
    volumes vary according to the updates performed.

NOTES:

The WorkStation, DSMS, revamped DSMS, PAW, Pactables Functions are installed
independently of the other VA Pac Functions.

The VisualAge Pacbase-ENDEVOR interface is also installed independently of all other
functions.

Their installation and operations are described in the operations manuals specific to each of
these functions.

2.2. CODE FOR FUNCTIONS, EXTENSIONS AND UTILITIES

CODES OF FUNCTIONS, UTILITIES AND EXTENSIONS

The following list shows the abbreviated codes for system functions, extensions, and optional utilities:

```
.Specifications Dictionary          = DIC

    EXTENSIONS:

      -Personalized Documentation Manager = PDM
      -Security Systems Interface    = SEC

    OPTIONAL UTILITIES:

      -Sub-Network Comparison Utility  = LCU
      -Rename/Move Entity Utility      = RME
      -Journal Statistics Utility      = ACT

.FUNCTIONS:

 .Structured Code                    = SC
 .Batch Systems Development          = BSD
 .COBOL Generator                    = COB
 .On-Line Systems Development        = OSD
 .Pacbench Client/Server            = OCS
 .DBD                                = DBD
 .DBD/ Relational SQL               = SQL
 .Pactables                          = TAB
 .DSMS                               = DSM
 .Production Environment Interface   = PEI
 .Dictionary Extensibility           = DEX
 .Pac/Transfer                       = TRF
 .VA Java/Smalltalk <> VA Pac Interface  = VIS
 .VA Pac <> TeamConnection Bridge    = PTC
 .PAC/Impact                         = S2K
 .Pacbench Quality Control           = PQC
 .VisualAge Pacbase WorkStation      = WST
 .Pacbase Access Facility            = PAF
 .Pacreverse                         = REV
 .Pacbase Web Connection             = PAW
```

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2.3. ON-LINE PROGRAMS

```
---------------------------------------------------------------
! PROGRAM    !FUNCTION! CORRESPONDING CHOICE               !
! CODE       ! OPTION ! COMMENTS                           !
!-------------------------------------------------------------!
!-----------!--------! PARM transaction                   !
! D8PA00     ! DIC    ! .Connection screen                 !
! D8PA01     ! -      ! H                                  !
! D8PA10     ! -      ! HP .                               !
! D8PA11     ! -      ! LCPC..                             !
! D8PA12     ! -      ! PC..                               !
! D8PA13     ! -      ! PT.                                !
! D8PA14     ! -      ! PE.                                !
! D8PA15     ! -      ! PU........                         !
! D8PA16     ! -      ! PK                                 !
! D8PA17     ! -      ! PD                                 !
! D8PA18     ! -      ! LCPU........                       !
! D8PA19     ! -      ! PW                                 !
! D8PA20     ! -      ! PB                                 !
! D8PA21     ! -      ! PM                                 !
! D8PA22     ! -      ! LCPM                               !
! D8PA30     ! PEI    ! Prod. Env. Interface menu          !
! D8PA31     ! -      ! EE.....                            !
! D8PA32     ! -      ! EG............                      !
! D8PA33     ! -      ! ES....                             !
! D8PA34     ! -      ! LSEP.............                   !
! D8PA35     ! -      ! ED........                         !
! D8PBND     ! DIC    ! Abend map                          !
! D8PPHP     ! -      ! Help                               !
!-----------!--------! VA Pacbase transaction             !
! D8QA00     ! DIC    ! D..                                !
! D8QB00     ! BSD    ! R...                               !
! D8QC00     ! DIC    ! E......                            !
! D8QC01     ! -      ! LUE                                !
! D8QC50     ! WST    ! ++5 Up/Dw mapping                  !
! D8QD00     ! SC     ! P......B  et O......B              !
! D8QE00     ! DIC    ! E......D                           !
! D8QF00     ! COB    ! P......SC                          !
! D8QF10     ! -      ! P......STR                         !
! D8QG00     ! DIC    ! K......                            !
! D8QH00     ! OSD    ! O......                            !
! D8QH01     ! DIC    ! LA LC LE LF LM LN LP LS            !
!            !        ! LT LX                              !
! D8QH20     ! OSD    ! O......CS                          !
! D8QH30     ! -      ! O......O                           !
! D8QI00     ! -      ! O......L                           !
---------------------------------------------------------------
```

COMPONENTS DESCRIPTION   2
ON-LINE PROGRAMS   3

```
-------------------------------------------------------------
! PROGRAM    !FUNCTION! CORRESPONDING CHOICE                !
! CODE       ! OPTION ! COMMENTS                            !
!-----------------------------------------------------------!
! D8QI01     ! OSD    ! O......CE (C1)                      !
! D8QI02     ! -      ! O......CE (C2)                      !
! D8QI03     ! -      ! O......SIM                          !
! D8QI04     ! -      ! O......ADR                          !
! D8QI05     ! -      ! O......CE (C3)                      !
! D8QI20     ! -      ! O......M                            !
! D8QI21     ! -      !                                     !
! D8QI50     ! WST    ! ++4 Up/Dw screen data element       !
! D8QK10     ! DIC    ! M......                             !
! D8QK20     ! -      ! M......CM                           !
! D8QK30     ! -      ! M......CE                           !
! D8QL10     ! -      ! B......                             !
! D8QL20     ! -      ! B......DH                           !
! D8QL21     ! -      ! B......DT                           !
! D8QL30     ! -      ! B......DC                           !
! D8QL40     ! SQL    ! B......DR...                        !
! D8QL41     ! -      ! B......DR...K                       !
! D8QL45     ! -      ! B......GEN                          !
! D8QL46     ! -      !                                     !
! D8QM00     ! SC     ! P......CP et O......CP              !
! D8QP00     ! -      ! P......P  et O......P               !
! D8QP01     ! -      ! Display   P......TC                 !
! D8QP02     ! -      ! Display   O......TC                 !
! D8QP03     ! -      ! P......TC et O......TC              !
! D8QP04     ! -      ! P......TO                           !
! D8QP05     ! -      ! O......TO                           !
! D8QP06     ! -      ! P......PG et O......PG              !
! D8QP07     ! -      ! O......PG                           !
! D8QP08     ! -      ! P......PG                           !
! D8QP50     ! WST    ! ++6 Up/Dw specific codes            !
! D8QR00     ! DIC    ! LL........L_......                  !
! D8QS02     ! -      ! -XP                                 !
! D8QS03     ! -      ! -ACT                                !
! D8QS04     ! -      ! WS                                  !
! D8QS05     ! -      ! ?                                   !
! D8QS06     ! -      ! Menus                               !
! D8QS08     ! DEX    ! -XQ                                 !
! D8QT00     ! DIC    ! T......D                            !
! D8QT10     ! -      ! T......                             !
! D8QT20     ! PDM    ! T......SIM                          !
! D8QT50     ! WST    ! ++2 Up/down textes                  !
-------------------------------------------------------------
```

COMPONENTS DESCRIPTION   2
ON-LINE PROGRAMS   3

```
-----------------------------------------------------------
! PROGRAM    !FUNCTION! CORRESPONDING CHOICE              !
! CODE       ! OPTION ! COMMENTS                          !
!-----------------------------------------------------------!
! D8QU00     ! DIC    ! U..                               !
! D8QU01     ! -      ! U......D                          !
! D8QU10     ! PDM    ! V......                           !
! D8QU20     ! -      ! V......D                          !
! D8QV10     ! DIC    ! I......                           !
! D8QV20     ! -      ! I......D                          !
! D8QV30     ! -      ! -G                                !
! D8QX00     ! -      ! *                                 !
! D8QX01     ! -      ! LH                                !
! D8QY01     ! DEX    ! F......                           !
! D8QY02     ! -      ! F......CE                         !
! D8QY03     ! -      ! $ ........                        !
! D8QY04     ! -      ! $ ........D                       !
! D8QY05     ! -      ! Q......                           !
! D8QY10     ! WST    ! ++1 Design entities Upload        !
! D8QY11     ! -      ! ++3 Design entities Download      !
! D8QY20     ! DIC    ! GP                                !
! D8QY30     ! -      ! JO                                !
! D8QZ00     ! -      ! VA Pac initial screen             !
! D8Q000     ! SC     ! P......                           !
! D8Q100     ! -      ! P......CD                         !
! D8Q101     ! -      ! P......HCD                        !
! D8Q102     ! -      !                                   !
! D8Q103     ! -      !                                   !
! D8Q104     ! -      !                                   !
! D8Q200     ! DIC    ! S....                             !
! D8Q210     ! TAB    ! S....SS                           !
! D8Q300     ! DIC    ! S....CE                           !
! D8Q400     ! BSD    ! R...L                             !
! D8Q500     ! -      ! R...D                             !
! D8Q600     ! -      ! R...CE                            !
! D8Q700     ! SC     ! P......W  et O......W             !
! D8Q800     ! -      ! P......8                          !
! D8Q900     ! -      ! P......9                          !
! D8R000     ! DIC    ! VA Pacbase monitor                !
! D8R005     ! -      ! Return to CICS                    !
! D8R100     ! -      ! Choice processing                 !
! D8R200     ! -      ! Format conversion                 !
! D8R400     ! -      ! N*... ou NH....                   !
! D8R500     ! -      ! Abend map                         !
!-----------!--------! VA Pacbase transaction            !
! D8R600     ! DIC    ! Text editing                      !
! D8R980     ! -      ! Screen formatting                 !
! D8R990     ! -      ! WEB formatting                    !
! D8SECT     ! SEC    ! Security system interface         !
!-----------------------------------------------------------!
```

```
+-----------+--------+-------------------------+
! PROGRAM   ! FUNT.  ! CORRESPONDING CHOICE    !
!  CODE     ! OPTION ! Comments                !
+-----------+--------+-------------------------+
! R00       ! DIC    ! On-line & Parm monitor  !
! JOB       ! -      ! Job function            !
! SHUTTP    ! -      ! On-line server shutdown !
! LOCKDB    ! -      ! System lock for update  !
!           !        ! serialization           !
! PACMONO   ! -      ! Internal program        !
+-----------+--------+-------------------------+
!             COBOL ROUTINES 32 BITS           !
! MFFH      !        ! Microfocus run-time     !
! MFRTS32   !        ! Microfocus run-time     !
! MFCMLIB   !        ! Microfocus run-time     !
! MFSCREEN  !        ! Microfocus run-time     !
+-----------+--------+-------------------------+
```

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2.4. BATCH PROGRAMS

```
-------------------------------------------------------------
! CODE    ! PROCEDURES ! OPTION ! COMMENTS                   !
!---------!------------!--------!----------------------------!
! PACA05  ! UPDT       ! DIC    !                            !
! PACA15  ! UPDT REST  ! -      !                            !
! PACA10  ! GPRT       ! -      !                            !
! PACA20  ! -          ! -      !                            !
! PACB    ! -          ! -      ! GPRT monitor               !
! PACB30  ! -          ! -      !                            !
! PACB31  ! -          ! SQL    !                            !
! PACB40  ! -          ! DBD    !                            !
! PACB80  ! -          ! -      !                            !
! PACCTL  ! PACX       ! DIC    !                            !
! PACC30  ! GPRT       ! COB    !                            !
! PACC40  ! -          ! -      !                            !
! PACC80  ! -          ! -      !                            !
! PACDTP  ! INSL       ! DIC    !                            !
! PACD30  ! -          ! -      !                            !
! PACD40  ! -          ! -      !                            !
! PACD80  ! -          ! -      !                            !
! PACD90  ! -          ! -      !                            !
! PACE30  ! -          ! OSD    !                            !
! PACE40  ! -          ! -      !                            !
! PACE80  ! -          ! -      !                            !
! PACFGY  ! PACX       ! DIC    !                            !
! PACFMB  ! -          ! -      !                            !
! PACFTD  ! -          ! -      !                            !
! PACG3C  ! GPRT       ! OCS    !                            !
! PACG3S  ! -          ! -      !                            !
! PACG4S  ! -          ! -      !                            !
! PACG8C  ! -          ! -      !                            !
! PACG8S  ! -          ! -      !                            !
! PACHOI  ! PACX       ! DIC    !                            !
! PACINS  ! VINS       ! -      !                            !
! PACK30  ! GPRT       ! OCS    !                            !
! PACK80  ! -          ! -      !                            !
! PACK90  ! -          ! -      !                            !
! PACL30  ! -          ! SC     !                            !
! PACL80  ! -          ! -      !                            !
! PACL90  ! -          ! -      !                            !
! PACL92  ! EMUP       ! -      !                            !
! PACL93  ! EMLD       ! -      !                            !
-------------------------------------------------------------
```

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```
--------------------------------------------------------------
! CODE    ! PROCEDURES ! OPTION ! COMMENTS                    !
!------------------------------------------------------------!
! PACL95  ! GPRT       ! PAW    !                             !
! PACM30  ! -          ! DIC    !                             !
! PACM80  ! -          ! -      !                             !
! PACN30  ! -          ! PDM    !                             !
! PACN35  ! -          ! -      !                             !
! PACN40  ! -          ! -      !                             !
! PACN50  ! -          ! -      !                             !
! PACN80  ! -          ! -      !                             !
! PACP30  ! -          ! SC     !                             !
! PACP40  ! -          ! -      !                             !
! PACP80  ! -          ! -      !                             !
! PACP82  ! -          ! -      !                             !
! PACQ    ! PQCA       ! PQC    ! PQCA Monitor                !
! PACR01  ! INPE       ! PEI    !                             !
! PACR10  ! PRPE       ! -      !                             !
! PACR20  ! GPRT       ! -      !                             !
! PACR22  ! SIPE       ! PEI    !                             !
! PACR30  ! HIPE       ! -      !                             !
! PACR40  ! GRPE       ! -      !                             !
! PACR60  ! SVPE       ! -      !                             !
! PACR61  ! RSPE       ! -      !                             !
! PACSJO  ! PACX       ! DIC    !                             !
! PACSMD  ! -          ! -      !                             !
! PACSPU  ! -          ! -      !                             !
! PACSRM  ! -          ! -      !                             !
! PACS30  ! -          ! -      !                             !
! PACS40  ! -          ! -      !                             !
! PACS50  ! -          ! -      !                             !
! PACS60  ! -          ! -      !                             !
! PACS75  ! -          ! -      !                             !
! PACS80  ! -          ! -      !                             !
! PACTIN  ! GETI       ! TAB    !                             !
! PACTI1  ! GET0       ! -      !                             !
! PACT40  ! GETA GETD  ! -      !                             !
! PACT41  ! GET1 GET2  ! -      !                             !
! PACT45  ! GETA GETD  ! -      !                             !
! PACT50  ! GETD       ! -      !                             !
! PACT51  ! GET2       ! -      !                             !
! PACU15  ! PARM       ! DIC    !                             !
! PACU80  ! -          ! -      !                             !
! PACU99  ! CRYP       ! -      !                             !
! PACX    ! PACX       ! -      !                             !
! PADM10  ! SADM       ! WST    ! SSADM integrity check       !
! PAFP10  ! PPAF GPRP  ! PAF    ! PAF pre-processor           !
! PAF900  ! UPDP       ! -      ! PAF update input            !
--------------------------------------------------------------
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COMPONENTS DESCRIPTION   2
BATCH PROGRAMS   4

```
-----------------------------------------------------------------
! CODE    ! PROCEDURES ! OPTION ! COMMENTS                       !
!---------!------------!--------!--------------------------------!
! PAN200  ! INFQ       ! S2K    !                                !
! PAN205  ! INFP       ! -      !                                !
! PAN210  ! ISEP       ! -      !                                !
! PAN212  ! ISOS       ! -      !                                !
! PAN215  ! ISEP IANA  ! -      !                                !
! PAN220  ! IPFQ IANA  ! -      !                                !
!         ! IPEP       ! -      !                                !
! PAN230  ! IANA       ! -      !                                !
! PAN240  ! IPFQ       ! -      !                                !
! PAN250  ! IANA       ! -      !                                !
! PAN255  ! IGRA       ! -      !                                !
! PAN260  ! IANA       ! -      !                                !
! PAN270  ! IPIA       ! -      !                                !
! PAN280  ! IPIA       ! -      !                                !
! PDS600  ! DEXP       ! DSM    ! DEXP before 2.0                !
! PDS610  ! -          ! -      !     -            -             !
! PREI00  ! RVDE       ! REV    ! PACREVERSE Interface           !
! PREI40  ! RVKE       ! -      !     -            -             !
! PREI50  ! -          ! -      !     -            -             !
! PRE986  ! RVDE       ! -      !     -            -             !
! PTARSD  ! RMTD       ! TAB    ! Migration: rest. TD            !
! PTAR20  ! RPTD       ! -      ! Migration: retrieval TD        !
! PTASVD  ! SMTD       ! -      ! Migration: saves TD            !
! PTC010  ! TCLS       ! PTC    ! VA Pac-TeamConnection          !
! PTC030  ! -          ! -      !     -            -             !
! PTC100  ! TCGP       ! -      !     -            -             !
! PTC200  ! TCME       ! -      !     -            -             !
! PTC220  ! TCCI TCME  ! -      !     -            -             !
! PTC400  ! TCCI       ! -      !     -            -             !
! PTC440  ! -          ! -      !     -            -             !
! PTED30  ! XPDM       ! PDM    ! PDM Extension                  !
! PTED60  ! -          ! -      !     -            -             !
! PTEP90  ! PRGS       ! -      !     -            -             !
! PTEXD0  ! XPAF       ! PAF    ! PAF Extension                  !
! PTEX30  ! -          ! -      !     -            -             !
! PTEX80  ! -          ! -      !     -            -             !
! PTUBAS  ! SAVE UPDT  ! DIC    ! Database integrity check !
! PTUCSS  ! CSES       ! -      ! Compression Session No.  !
! PTUESS  ! ESES       ! -      ! Extraction Session No.   !
-----------------------------------------------------------------
```

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COMPONENTS DESCRIPTION 2
BATCH PROGRAMS 4

```
--------------------------------------------------------------
! CODE    ! PROCEDURES ! OPTION ! COMMENTS                    !
!---------!------------!--------!-----------------------------!
! PTUG05  ! TRJC       ! TRF    ! Pac/Transfer Facility       !
! PTUG06  ! -          ! -      ! -          -                !
! PTUG07  ! -          ! -      ! -          -                !
! PTUG10  ! TRUP       ! -      ! -          -                !
! PTUG11  ! -          ! -      ! -          -                !
! PTUG12  ! -          ! -      ! -          -                !
! PTUG42  ! TRDU       ! -      ! -          -                !
! PTUG44  ! -          ! -      ! -          -                !
! PTUG46  ! -          ! -      ! -          -                !
! PTUG50  ! TRPF       ! -      ! -          -                !
! PTUG60  ! TRRP       ! -      ! -          -                !
! PTUG61  ! -          ! -      ! -          -                !
! PTUG90  ! TRRT       ! -      ! -          -                !
! PTULOI  ! RTLO       ! DIC    ! Locks retrieval             !
! PTULVB  ! LVBL       ! -      ! Repl. low-values with       !
!         !            !        !  blanks                     !
! PTUQ10  ! PQCE       ! PQC    !                             !
! PTUQ15  ! -          ! -      !                             !
! PTUQ20  ! PQCA       ! -      !                             !
! PTUQ24  ! -          ! -      !                             !
! PTUQ25  ! -          ! -      !                             !
! PTUQ30  ! -          ! -      !                             !
! PTUR00  ! STOP       ! -      !                             !
! PTU004  ! REST REAG  ! -      ! User code check             !
! PTU100  ! MLIB       ! DIC    !                             !
! PTU120  ! -          ! -      !                             !
! PTU130  ! SASN       ! LCU    !                             !
! PTU140  ! -          ! -      !                             !
! PTU2CL  ! REOR       ! DIC    !                             !
! PTU200  ! -          ! -      !                             !
! PTU208  ! -          ! -      !                             !
! PTU210  ! -          ! -      !                             !
! PTU220  ! -          ! -      !                             !
! PTU240  ! -          ! -      !                             !
! PTU300  ! ARCH       ! DIC    !                             !
! PTU320  ! -          ! -      !                             !
! PTU380  ! REST       ! -      !                             !
! PTU400  ! -          ! -      !                             !
! PTU402  ! RESY       ! -      !                             !
! PTU420  ! REST       ! -      !                             !
! PTU500  ! SAVE       ! -      !                             !
! PTU502  ! SASY       ! -      !                             !
--------------------------------------------------------------
```

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```
------------------------------------------------------------
! CODE    ! PROCEDURES ! OPTION ! COMMENTS               !
!---------!------------!--------!------------------------!
! PTU550  ! SVAG       ! DIC    !                        !
! PTU560  ! REAG       ! -      !                        !
! PTU630  ! ACTI       ! ACT    !                        !
! PTU640  ! -          ! -      !                        !
! PTU810  ! EMSN       ! LCU    !                        !
! PTU815  ! MESN       ! -      !                        !
! PTU850  ! CPSN       ! -      !                        !
! PTU855  ! -          ! -      !                        !
! PVA100  ! VDWN       ! VIS    !                        !
! PVA110  ! -          ! -      !                        !
! PVA300  ! VUP1       ! -      !                        !
! PVA310  ! -          ! -      !                        !
! PVA320  ! VUP2       ! -      !                        !
! PVA400  ! VPUR       ! -      !                        !
! PYSMCC  ! YSMC       ! WST    ! YSM consistency check  !
! PYSMC2  ! -          ! -      !                        !
! PYSMC3  ! -          ! -      !                        !
! UTIXSR  ! UXSR       ! DIC    !                        !
!---------!------------!--------!------------------------!
! PACSECB ! SUB-PROG   ! SEC    ! Called by VA Pac programs!
! PACN25  ! GPRT       ! PDM    ! -       -       -      !
! PACN90  ! -          ! -      ! -       -       -      !
! PACSEP  ! GPRT UPDT  ! DIC    ! Banner print sub-program !
!         ! REST       !        ! (to separate reports)  !
! PACA90  ! GPRT UPDT  ! -      ! Data Element format     !
!         ! REST       !        ! Analysis sub-program   !
!---------!------------!--------!------------------------!
! Retrieval from Pacbase 802.02, 1.2, 1.5, 1.6          !
!---------!------------!--------!------------------------!
! PACR90  ! PP16       ! PEI    ! PEI backup             !
! REP2PJ  ! PJ16       ! DIC    ! Archive                !
!---------!------------!--------!------------------------!
! Retrieval from VA Pacbase 2.0                         !
!---------!------------!--------!------------------------!
! PTU908  ! RPPG       ! DIC    ! Generation-printing req. !
------------------------------------------------------------
```

```
-------------------------------------------------------------
! PROGRAM    !FUNCTION! CORRESPONDING CHOICE                 !
! CODE       ! OPTION ! COMMENTS                             !
!-----------------------------------------------------------!
! PAF-PUF Sub-programs                                       !
!-----------!--------!------------------------------------- !
! PBFANM    ! DIC  !                                         !
! PBFBIB    ! -    !                                         !
! PBFCTL    ! -    !                                         !
! PBFDBD    ! -    !                                         !
! PBFECR    ! -    !                                         !
! PBFENU    ! -    !                                         !
! PBFFOG    ! -    !                                         !
! PBFMCL    ! -    !                                         !
! PBFPGM    ! -    !                                         !
! PBFRUB    ! -    !                                         !
! PBFSDO    ! -    !                                         !
! PBFTXT    ! -    !                                         !
! PBFVER    ! -    !                                         !
! PBF000    ! -    !                                         !
!-----------------------------------------------------------!
! Sub-programs called in the generated programs :           !
! PBBTST    ! PAF  ! Batch PAF                               !
! PBBTWS    ! -    ! Keywords batch PAF                      !
! PBBT98    ! -    ! Batch & online PAF / PUF                !
! PBTPST    ! PAF  ! Online PAF                              !
! PBTPWS    ! -    ! Keywords on-line PAF                    !
! (must be inserted into the application program library)!
-------------------------------------------------------------

+---------+-----------+--------+--------------------------+
! B00     ! BAT       ! DIC  ! Batch server monitor       !
! SHUTBAT ! STOPBAT   ! -    ! Batch server shutdown      !
! PURGEB00! BAT       ! -    ! Job purge                  !
! PACPAUSE! UPDT EXLI ! -    ! For execution with on-line!
! PACSPLIT! BAT       ! -    ! Interface with Workbench   !
!         !           ! -    ! Micro Focus                !
+---------+-----------+--------+--------------------------+
```

2.5. BATCH PROCEDURES

THE BATCH PROCEDURES

Procedures associated with batch processing are described in Volumes II and III of the BATCH PROCEDURES Operations Manual - 'The Administrator's Guide' and 'The User's Guide'.

PROCEDURE CLASSIFICATION

Batch procedures are documented in the following manuals:

'Batch Procedures: The Administrator's Guide'

1) Database Management Procedures,

2) Versioning Utilities (PEI and Pac/Transfer),

3) Manager's Utilities,

4) Migrations.

'Batch Procedures: The User's Guide'

1) Standard procedures,

2) Personalized extraction and automated documentation,

3) Quality analysis and control,

4) Methodology integrity check,

5) Pactables,

6) PAC/Impact,

7) VisualAge Java/Smalltalk<>VisualAge Pacbase Interface.

Environment and installation.

1) Procedures for the retrieval of earlier releases:

These procedures perform the retrieval of

.Rel. 802v02 into 1.6

- Retrieval of archived Journal (PJ16)

- Retrieval of PEI sequential backup (PP16)

.Rel. 2.0

- Retrieval of generation-print command file (RPPG)

2) Monitor start-up procedures

These procedures activate the on-line and batch servers.

3) Procedures for database migration

The following procedures are associated to the migration of VA Pac databases from mainframes onto OS/2, Unix, or Windows NT:

 - LVBL: Processing of low-values in the PC file

 - CRYP: Encryption/decryption of passwords in the PE file

2.6. SYSTEM FILES

THE 'SYSTEM' FILES

These files make up the actual system. They are not affected by daily operations and must be reloaded whenever the system is reinstalled.

These files include the following:

. Batch and on-line executable modules

(installed in directories: "release"\BATCH\PGM and "release"\TP\PGM).

. A file containing the VisualAge Pacbase ERROR MESSAGES and AUTOMATIC DOCUMENTATION: AE0.

```
.Size          :  Approximately 35,000 records
               :  Approximately 2 MB
.Organization :  Sequential
.Length        :  80
.Use           :  Batch
.Location       :  Directory SAVE
.Internal name:  PAC7LE
```

This file is not directly used by the system. It is merged with the USER PARAMETERS, which are required for the on-line operations (*), in order to make up the system file: AE.

```
.Size          :  AE0 + user parameters
               :  Approximately 3.5 MB
               :  (without the user parameters)
.Organization :  Indexed
.Length        :  80
.Key           :  12 (position 1) for AE
.Use           :  Batch and on-line
.Location       :  Directory BASES
.Internal name:  PAC7AE
```

. A file containing the USER PARAMETERS which are required for the system batch operations (*): AP.

```
.Organization :  Indexed
.Length       :  80
.Key          :  7 (position 1)
.Use          :  Batch
.Location     :  Directory BASES
.Internal name: PAC7AP
```

(*) The USER PARAMETERS managed in the AE file are: the user codes, the VA Pac "access key", the activation of the control on the batch procedures, on the blank passwords, the text types, the management of accented characters, the parameterizing of the WorkStation methodologies, the DSMS connection.

The USER PARAMETERS managed in the AP file are: the modification of the fixed parts of the standard error messages and the control cards required for the program generation.

All user parameters are managed by a specific transaction and a specific batch procedure. (See the 'Batch Procedures, Administrator's Guide', Chapter PARM: UPDATE OF USER PARAMETERS for details on this procedure.) The PARM update procedure manages the AE and AP files, as well as:

The USER PARAMETERS backup file: PE.

```
.Organization :  Sequential
.Length       :  80
.Use          :  Batch
.Location     :  Directory SAVE
.Internal name: PAC7PE
```

This file is the backup of ALL the user parameters located in the AE and AP files.

. An empty file, LO, is used to serialize updates made by two on-line servers, or when a batch update is performed while the on-line mode is active.

This file must be unique for each database, and it must be located in the directory described below.

```
.Organization : Sequential
.Use          : On-line; batch (UPDT)
.Location     : Directory BASES\'db_name'
.Internal name: PAC7LO
```

. A skeleton file for generation, SC, used by the Structured Code and Batch Systems Development functions:

```
.Size         : approximately 45 records (125 KB)
.Organization : Indexed
.Length       : 3204
.Key          : 4 (position 1)
.Use          : Batch only
.Location     : Directory BASES
.Internal name: PAC7SC
```

. A skeleton file for generation, SG, used by the On-line Systems Development, Database Description, and Specifications Dictionary:

```
.Size         : approximately 400 records (1.7 MB)
.Organization : Indexed
.Length       : 4605
.Key          : 5 (position 1)
.Use          : Batch only
.Location     : Directory BASES
.Internal name: PAC7SG
```

. A skeleton file for generation, SR, used by the COBOL Generator function:

```
.Size         : approximately 25 records (100 KB)
.Organization : Indexed
.Length       : 4605
.Key          : 5 (position 1)
.Use          : Batch only
.Location     : Directory BASES
.Internal name: PAC7SR
```

. A skeleton file for generation, SP, used by the PAF function extension:

```
.Size         : approximately 5 records (26 KB)
.Organization : Indexed
.Length       : 4605
.Key          : 5 (position 1)
.Use          : Batch only
.Location     : Directory BASES
.Internal name: PAC7SP
```
. A skeleton file SF, used by the PAF function extension:

```
.Size         : approximately 3,000 records (210 KB)
.Organization : Sequential
.Length       : 119
.Key          : 5 (position 1)
.Use          : Batch only
.Location     : Directory BASES
.Internal name: PAC7SF
```
. A skeleton file for generation, SS, used by PACBENCH C/S:

```
.Size         : approximately 500 records (1.5 MB)
.Organization : Indexed
.Length       : 4605
.Key          : 5 (position 1)
.Use          : Batch only
.Location     : Directory BASES
.Internal name: PAC7SS
```

PACBASE ACCESS FACILITY (PAF) FUNCTION

An indexed work file is required, so that the PAF function can be used for all on-line and batch user programs accessing a given VisualAge Pacbase Database.

```
.Organization : Indexed
.Key          : 12 (position 1)
.Length       : Average 170, max. 468
.Use          : Updated by sub-program PBBT98
                called by PBBTST/PBBTWS/PBTPST and
                PBTPWS (PAF sub-programs called via
                programs)
.Location     : User assigned
.Internal name: SYSPAF
```

PAF EXTENSION

A skeleton file GS, which contains the user extractors and its macro-commands.

```
. Organization : Indexed
. Length       : 203
. Key          : 25 (position 1)
. Use          : Batch and on-line
. Location     : Directory BASES\'db_name'
. Internal name: PAC7GS
```

NOTE:

'db_name' (db = database) is an installation parameter.

2.7. DATABASE FILES

<u>THE DATABASE FILES</u>

These files contain user information and are managed by the VisualAge Pacbase system in on-line or batch mode.

The first four files make up the actual VA Pac Database. They contain all the data related to application development as follows:

<u>THE DATA FILE (AR)</u>

```
.Organization : Relative
.Length       : 140
.Use          : Batch and on-line
.Location     : Directory BASES\'db_name'
.Internal name: PAC7AR
```
Each VisualAge Pacbase line is stored in the Data file under a fixed internal number.

The successive states of a given line from the various archived sessions form a chain; at the top of this chain is the most recent state of the line, and at the end is the oldest state of the line. Programs never access a VA Pac line directly in this file, but first obtain the number of the top of the chain by consulting the Index file (AN).

<u>THE INDEX FILE (AN)</u>

```
.Organization :  Relative (Internally managed as an
                          indexed file)
.Length       :  1,040 (19 54-byte records)
.Internal key :  43 (position 1)
.Use          :  Batch and On-line
.Location     :  Directory BASES\'db_name'
.Internal name:  PAC7AN
```
The Index file describes the various views available to the user and identifies the VisualAge Pacbase line according to its position in the Database, and to the sub-network to which the selected library belongs and to which the user has access. It also provides all additional technical functions.

The main piece of information provided here is the internal number of the VA Pac line to which the index points.

THE GENERATION-PRINT REQUEST FILE (AG)

```
.Organization :  Indexed
.Length        :  150
.Key           :  27 (position 1)
.Use           :  Batch and On-line
.Location      :  Directory BASES\'db_name'
.Internal name:  PAC7AG
```

This file stores the generation-printing requests entered by users on the 'GP' screen.
Despite its limited size, it is subject to a great deal of update activity on a daily basis.
It is saved by the SVAG procedure. It is initialized, restored and can be reorganized by the REAG procedure.

THE JOURNAL FILE (AJ)

```
.Organization :  Relative
.Length        :  165
.Use           :  Batch and on-line
.Location      :  Directory JOURNAL\'db_name'
.Internal name:  PAC7AJ
```

All transactions that have been entered into the database in batch or on-line, are saved to allow database restoration should the standard security system ever fail. This information may also be used for statistical purposes.

These transactions are generally stored in the Journal back-up file (PJ). The Journal file is only used as a transition point between the time the transactions are processed and the time the ARCH procedure stores them in the PJ file.

NOTE

The transactions contained in the Generation-Printing Request file (AG) are not saved in the Journal file (AJ).

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VisualAge Pacbase also uses so-called 'work' files (or temporary files) in order to back up screens or to transfer information from one screen to another.

The HE file receives the information transferred between the programs which manage the screen mapping facility.

The ZS file stores and transfers information among the programs which manage the Relational Database Description function.

The HELP file stores the physical screen when documentation is requested on-line in the VisualAge Pacbase User Parameter Management transaction.

THE HE FILE

```
.Organization :  Indexed
.Rec. length  :  1,930
.Key          :  10 (position 1)
.Use          :  On-line
.Location     :  Directory BASES\'db_name'
.Internal name: PAC7HE
```

THE HELP FILE

```
.Organization :  Indexed
.Rec. length  :  1,930
.Key          :  10 (position 1)
.Use          :  On-line
.Location     :  Directiry BASES\'db_name'
.Internal name: SAVESCR
```

THE ZS FILE

```
.Organization :  Indexed
.Rec. length  :  86
.Key          :  06 (position 1)
.Use          :  On-line
.Location     :  Directory BASES\'db_name'
.Internal name: PAC7ZS
```

SEQUENTIAL BACKUP FILES

The Database backup is made up of three sequential files:

1) BACKUP FILE OF THE DATABASE (PC)

```
.Organization :  Sequential
.Length       :  149 bytes per data item
                 55 bytes per index
.Use          :  Batch
.Location     :  Directory SAVE\'db_name'
.Internal name:  PAC7PC
```

This is a standard backup file of the VA Pac Database components, which includes all the indexes (AN) and data (AR).

You can optionnally manage this backup on two sequential files. In this case, the PC file contains the data (AR) and another file, PCI, contains the indexes (AN). PCI is located in the same directory as PC and its internal name is PAC7PD.
This option is implemented by the user input of the restoration procedure (REST).

2) BACKUP FILE OF THE JOURNAL (PJ)

```
.Organization :  Sequential
.Length       :  167 bytes
.Use          :  Batch
.Location     :  Directory SAVE\'db_name'
.Internal name:  PAC7PJ
```

The purpose of this file is to store all update transactions that have affected the VA Pac Database since installation and that have passed through the Journal file (AJ). If its size becomes incompatible with operations requirements, the ARCH procedure can be used to desactivate obsolete archives in a PQ sequential file, whose characteristics are identical to those of the PJ file.

3) BACKUP OF THE GENERATION-PRINTING COMMANDS FILE (PG)

```
.Organization :  Sequential
.Length       :  150 bytes
.Use          :  Batch
.Location     :  Directory SAVE\'db_name'
.Internal name:  PAC7PG
```

The purpose of this file is to back up the generation-print commands and to reorganize them through the REAG procedure.

NOTES:

. 'db_name' (db = database) is an installation parameter.

. Sequential backups may be used in input and in output of some batch procedures. In this case, these files are created and used under two different names: Px in input and Px.NEW in output of the procedure (PC and PC.NEW for example).

Then at the end of the procedure (with no errors), the PxBACKUP.CMD file is called, which ensures a rotation of the two backup copies: Px is renamed Px-1 and Px.NEW is renamed Px.

The user can modify these files (located with the backups) in order to change this standard management.

'PEI' FUNCTION (PRODUCTION ENVIRONMENT INTERFACE)

Three additional evolving files are managed by the system either in on-line or in batch mode when the PEI function is available (refer to the corresponding Sub-chapter in Chapter VERSIONING UTILITIES of the Batch Procedures: Administrator's Guide).

These files contain all data necessary for management of the production environment.

BATCH PRODUCTION ENVIRONMENT FILE (AB)

```
        .Organization :  Indexed
        .Length       :  110
        .Key          :  26 (position 1)
        .Use          :  Batch, and on-line reads
        .Location     :  Directory BASES\'db_name'
        .Internal name:  PAC7AB
```

ON-LINE PRODUCTION ENVIRONMENT FILE (AC)

```
        .Organization :  Indexed
        .Length       :  110
        .Key          :  26 (position 1)
        .Use          :  Batch and on-line
        .Location     :  Directory BASES\'db_name'
        .Internal name:  PAC7AC
```

PEI BACK-UP FILE (PP)

```
        .Organization :  Sequential
        .Length       :  110
        .Use          :  Batch
        .Location     :  Directory BASES\'db_name'
        .Internal name:  PAC7PP
```

DSMS module (DSM)

For users who have access to the DSMS module (see also the Operations manual for this module), an additional evolving file is consulted in batch and on-line by VA Pac.

This file contains a list of VA Pac entities affected by each CHANGE. The user enters the CHANGE number when he/she accesses the database.

DSMS file for VisualAge Pacbase elements (DC)

```
.Organization :  Indexed
.Length       :  Min. 50, max. 168
.Key          :  31 (position 3)
.Use          :  Read during on-line and batch
                 updates
.Location     :  Directory BASES
                 (may control several VisualAge
                 Pacbase databases)
.Internal name:  PAC7DC
```
This file is initialized during the installation of the DSMS Function.

VISUALAGE PACBASE - PACTABLES INTERFACE

When the Pactables Function is available on a user work station, the table-description file must be present at the time of table generation in VisualAge Pacbase.

TABLE-DESCRIPTION FILE (TD)

```
.Organization :  Indexed
.Length       :  240
.Key          :  19 (position 1)
.Use          :  Batch
.Location     :  Directory BASES\'db_name'
.Internal name:  PAC7TD
```

TABLE DESCRIPTION BACKUP FILE (PD)

```
.Organization :  Sequential
.Length       :  244 bytes
.Use          :  Batch
.Location     :  Directory SAVE\'db_name'
.Internal name:  PAC7TC
```
This file is used for the backup of the TD table-description file.

IMPACT ANALYSIS

    . File of already-impacted criteria (FQ)

```
.Organization: Sequential with generation
.Use         : Store those impact search criteria
               already processed
.Location    : Directory BASES\'db_name'
```

    . Search criteria or entry point file (FH)

```
.Organization: Sequential with generation
.Use         : Store the impact search criteria for the
               next IANA execution
.Location    : Directory BASES\'db_name'
```

    . Reduced criteria file for purge (FR)

```
.Organization: Sequential with generation
.Use         : Purge the impact search criteria in a
               text editor
.Location    : Directory BASES\'db_name'
```

    . Impact-result file (FO)

```
.Organization: Sequential with generation
.Use         : Store all the results of the impact
               analysis
.Location    : Directory BASES\'db_name'
```

    . File of entities to be analyzed (FP)

```
.Organization: Indexed
.Recsize    : 9
.Key        : 9 (position 0)
.Use        : Restrict the impact analysis to those
              entities specified in this file
.Location   : Directory BASES\'db_name'
```

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PAC/TRANSFER FACILITY

Parameter file (UV):

This file is used to control the various Pac/Transfer processes.

The creation or update of this file --via the TRUP procedure-- stores the Transaction Sets, which define the various transfer processes envisionned for the site. (Each SET corresponds to a specific parameterization.)

The processes of the Pac/Transfer facility can thus process a unique SET, a list of SETS, or all the SETS, depending on current requirements.

A number of checks against the VisualAge Pacbase database are performed by the TRUP procedure.

For further details, see the description of the TRUP procedure in the Batch Procedures: Administrator's Guide.

VISUALAGE SMALLTALK - VISUALAGE PACBASE BRIDGE

Character-correspondence table

This table lists all the characters used in VisualAge Smalltalk identifiers that are not valid for VisualAge Pacbase codes, as well as their replacement characters.

It is shipped as an empty file, which should be filled by the user as described in the description of the VUP1 procedure, in the Batch Procedures: User's Guide.

```
.Organization:  Sequential
.Recsize     :  80
```

VISUALAGE PACBASE - TEAMCONNECTION BRIDGE

. Files of target libraries and sessions (TS)

```
.Organization :  Indexed
.Length       :  80
.Key          :  14 (position 1)
.Utilization  :  Batch
.Location     :  Directory BASES\'db_name"
.Internal name:  PAC7TS
```

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2.8. ADDITIONAL FILES

<u>COMPLEMENTARY FILES</u>

<u>DICTIONARY COMPLEMENTS</u>

These files are located in the 'method' directory and are related to the use of some Functions or Extensions.
The Subchapters COMPLEMENT... of the Chapter INSTALLATION describe where and how these files should be used.

. PAF FUNCTION: the MBUPDT.PAF file contains the batch transactions of entities necessary to the description of the PAF tables, which are to be integrated in a Dictionary.

. PAF FUNCTION EXTENSION: THE MBUPDT.PTE file contains the batch transactions of the .PPTEX entities ("Extraction Master Path"), which are to be integrated in a Dictionary.

. PQC FUNCTION: the MBRULE.PQC file contains the standard quality rules.

. CUSTOMIZATION OF THE PQC FUNCTION: the MBUPDT.PQC file contains the batch transactions of the .QPAQC entities, which are to be integrated in a Dictionary.

. UTILITIES FOR ERROR-MESSAGE UPDATING (USER APPLICATIONS): the MBUPDT.UTI file contains the batch transactions of the UTEMLD and UTEMUP Program entities, which are to be integrated in a Dictionary to create programs for the loading and the updating of the application's error messages. These programs are then to be adapted to the specific needs of the site.

INPUT TO THE VINS PROCEDURE

The 'method' directory also contains the input to the VINS procedure (refer to the relevant chapter in the 'Batch Procedures: Administrator's Guide' manual).

MVINS.VGE: Definitions of the VisualAge Smalltalk Dictionary entities to be inserted in the VisualAge Pacbase Dictionary.
This integration is necessary for the VisualAge Pacbase - VisualAge Smalltalk bridge operations.

MVVINS.PTC: Definitions of the 'TEAMCONNECTION' Dictionary entities.
This integration is necessary for the VisualAge Pacbase - TeamConnection bridge operations.

WORKSTATION METHODOLOGIES

To be operational, the WorkStation needs two types of integrations in the VisualAge Pacbase system:

- in the Dictionary, integration of the transactions related to the entities which support the methodology (MBUPDT.met files),

- in the system, integration of the transactions which define the methodology choices (MBPARM.met files).

The 'method' directory stores the MBUPDT.met and MBPARM.met files for the following methodologies:

```
-----------------------------------------
! File        ! Contents         ! Proc.!
-----------------------------------------
! MBUPDT.MER ! Batch transact.   ! UPDT !
!            ! MERISE method     !      !
! MBPARM.MER ! Parameterization  ! PARM !
!            ! MERISE method     !      !
! MBUPDT.ADM ! Batch transact.   ! UPDT !
!            ! SSADM method      !      !
! MBPARM.ADM ! Parameterization  ! PARM !
!            ! SSADM method      !      !
-----------------------------------------
```

COMPONENTS DESCRIPTION   **2**
ADDITIONAL FILES   **8**

```
----------------------------------------
! File        ! Contents        ! Proc.!
----------------------------------------
! MBUPDT.YSM ! Batch transact.  ! UPDT !
!            ! YSM method       !      !
! MBPARM.YSM ! Parameterization ! PARM !
!            ! YSM method       !      !
! MBUPDT.IFW ! Batch transact.  ! UPDT !
!            ! IFW method       !      !
! MBUPDT.IFP ! Pre-loading      ! UPDT !
!            ! IFW method       !      !
! MBPARM.IFP ! Parameterization ! PARM !
!            ! IFW method       !      !
! MBUPDT.OMT ! Batch transact.  ! UPDT !
!            ! OMT method       !      !
! MBPARM.OMT ! Parameterization ! PARM !
!            ! OMT method       !      !
----------------------------------------
```

  DO NOT MODIFY THE CONTENTS OF THESE FILES
 Refer to Chapter INSTALLATION, Subchapter 'Complement: WorkStation Installation'.

3. ENVIRONMENT

3.1. INTRODUCTION

<u>INTRODUCTION</u>

The purpose of VisualAge Pacbase on an OS/2 server is to make a Repository operational on a PC Local Area Network. This L.A.N. is composed of an OS/2 server and workstations running under Windows or WIN-OS/2.

VA Pac therefore adds the advantages of desktop computing to the normal range of features available on mainframe systems.

The purpose of this chapter is to describe the environment and the resources required for VA Pac: On-Line servers, Batch servers, workstations, and their components, structures, and operating modes.

Estimations regarding disk volume requirements are also given in this chapter.

3.2. ARCHITECTURE

ARCHITECTURES

Each work station communicates with ONE on-line server to access a VA Pac   database. An on-line server can manage up to 99 work stations. However, to maintain a high level of performance, it is advisable to limit the number of work stations managed by an on-line server (30 work stations maximum is advised).

Several on-line servers may run simultaneously.

Each work station communicates, through its on-line server, with one or more batch servers during the execution of generation-print requests submitted in on-line mode. There is no limit to the number of work stations managed by a batch server.

Several batch servers may run simultaneously.

DISTRIBUTION OF RESOURCES

The diagram below shows the distribution of programs, files and connections on the Local Area Network.

```
+---------+---------------+--------+    +---------+--------+
!         !On-line & batch!        !    !         !        !
! On-line !    Servers    ! Batch  !    !         !        !
!         ! Communication !        !    !  Work   ! Paclink!
!         +---------------+        !    ! Station !        !
! Server  !  VA Pac       ! Server !    !         !        !
!         !Database & PGM !        !    +---------+--------+
+---------+---------------+--------+    !      SYSTEM       !
!             SYSTEM               !    +-------------------+
+---------------------------------+    ! On-line Server/   !
!   On-line Server/Work Stations   !    !  Work Stations    !
!          Communication           !    !  Communication    !
+---------------------------------+    +-------------------+
!        Network Interface         !    ! Network Interface!
+---------------------------------+    +-------------------+
             !                                   !
             !                                   !
             !                                   !
-----------------+-------------------------------+---------
            LOCAL AREA NETWORK (LAN)
```

In the above configuration, an on-line and a batch server run on one computer. All the VA Pac   components (programs and files) are thus installed on the hard disk of the Windows NT computer dedicated to the VA Pac   servers.

OPERATING MODE

The use of work stations requires the set up of a communication with the on-line server. The chosen communication mode between an on-line server and the work stations is a 'process to process' type communication in which the data exchanges are performed via the 'Windows Socket' interface of the TCP/IP network protocol.

When a work station sends a generation-print request, the on-line server handles the conversation with this work station in the usual way. It then transmits the generation-print request to the batch server, using a pair of communication files: LB and BD.

The batch server creates the output files of the requests submitted from the work stations on the disk drive specified at VA Pac   installation. The works stations must be able to access these files through the L.A.N. or any other file-transfer software.

Refer to the next sub-chapters for more details on on-line and batch processing.

3.3. ON-LINE SERVERS

ON-LINE SERVERS

VA Pac on-line Server is managed by the ROO.EXE program.

Each On-Line Server executes the on-line programs used to access and update the VA Pac Database.

The 'Windows Socket' Interface offers a synchronous communication between the on-line server and its work stations. To establish the connection with its on-line server, each work station must know the hostname of the computer where the on-line server is installed, as well as the 'socket' name assigned to the on-line server.

An On-Line Server runs in an OS/2 session. To view the information on each connected work station, you must run the on-line server's monitor, whose icon is created upon installation.

Purging the work stations and stopping the server

The on-line server's monitor enables you, via its "Server" menu, to purge work stations during their work sessions or to stop the server.

For further information, refer to Chapter MONITOR START-UP, Subchapter 'TP: ON-LINE SERVER in the Operations Manual - PART II, Batch Procedures: Administrator's Guide.

3.4. BATCH SERVERS

<u>BATCH SERVERS</u>

Batch servers manage the on-line Generation-Print requests entered on the 'GP' screen. A Batch monitor (B00.EXE) manages these requests and automatically runs the GPRT procedure.

Batch server(s) communicate with on-line server(s) through the 'db_name'.LB and 'db_name'.BD files.

Batch operation is based upon a 'mailbox' system between the on-line server and the batch server.

The on-line server piles up in the LB file the requests coming from work stations' GP screens.

The B00 monitor cyclically reads the LB file.

The BD file, pointed by LB, contains the Generation-Print commands.

GPRT produces a file for each generation and print type. These files are created in the USERS directory of the common volume. (See Chapter INSTALLATION, Subchapter 'Description of Directories Created'.)

The Batch Server's screen displays the requests submitted, as well as those which are being processed. Each request is serialized and sequentially processed by the monitor.

Several Batch servers can be installed to process generation-print requests. These batch servers will have the same name (default: 'db_name'), will communicate with the on-line server(s) through the LB and BD files, and share the execution of the generation-print requests.

<u>PURGE OF JOBS</u>

When the Batch Server is initiated, the jobs executed and normally terminated are automatically purged. The PURGEB00.EXE program is used to explictly purge all jobs.

For more information, refer to the PROCBAT procedure description in Chapter MONITOR START-UP, Subchapter 'Batch Server Start-up', in the Operations Manual - PART II, Batch Procedures: Administrator's Guide.

3.5. WORKSTATIONS

THE WORK STATIONS

The VA Pac   user environment is made up of work stations connected to the L.A.N, and running under Windows (release 3.1 or higher, including Windows 95 and Windows NT).

Each work station communicates with an on-line server which controls the access to the VA Pac database, and which transmits to the batch server the generation-print requests sent by work stations.

There are two user work stations:

  . the VA Pac   WorkStation (PACDESIGN, PACBENCH)

  . a 'dumb' terminal (PACLINK.EXE)

To ensure the communication with the on-line server the TCP/IP software is required on each work station.

To access generation-print output files created by the batch server, each work station must be able to access the USERS directory of the VA Pac   server installation. This access may be performed via a shared resource of the L.A.N. or a file transfer software (FTP for example).

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3.6. PARM - PEI TRANSACTION

PARM-PEI TRANSACTION

The PARM on-line transaction allows the Database Administrator to update user parameters in an interactive way.

For sites using the Production Environment Interface (PEI) facility, this transaction is also used to manage the production environments.

The PARM-PEI transaction is initiated through the PROCTPAR procedure.

The user may log on to the PARM transaction via the PACLINK 'dumb terminal', on the VA Pac server or on a remote work station. To do this, he/she must enter 'PARM' in the Application choice of PACLINK's 'Server Connection' window, or click on the 'Administrator PACLINK' icon.

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3.7. DISK SPACE REQUIREMENTS

<u>DISK SPACE REQUIREMENTS</u>

<u>1. VISUALAGE PACBASE SYSTEM</u>

The whole VisualAge Pacbase system, including all programs and procedures (batch and on-line), as well as system files, takes up about 50 Megabytes.

The size of these files remains fixed.

<u>2. VISUALAGE PACBASE DATABASE</u>

The size of user files (database files) is detailed below. To calculate the total amount of space required for a VisualAge Pacbase database, assume that each VisualAge Pacbase record requires 400 bytes, all files considered.

Space must also be provided for storing all the database back-up files (PC, PJ, PE, etc.), as well as for executing batch procedures.

After installation, calculate the size of user files based on the following elements:

If NPAC represents the number of VisualAge Pacbase records, for all libraries and sessions, then:

(AR) Data File: NPAC 140-byte records.

(AN) Index File: Approximately 3 * NPAC 54-byte records (a record is used 3 times on average).

(AJ) Journal File: This file must be able to hold all the update transactions, both batch and on-line, that have been processed between the two reinitializations of this Journal file. A VisualAge Pacbase transaction corresponds to a 167-byte record

(AG) Printing-Generation Request File: This file is usually low volume. It's safe to assume that it should be able to take about 100 requests for each user who has access to the system (150 bytes).

(AP) User Parameter File: This is a low-volume file that contains control cards and possible modifications of standard error messages (80 bytes/record).

3. BACK-UP FILES AND WORK SPACE

In order to effectively manage a VisualAge Pacbase Database, it is necessary to execute standard database management procedures, such as a back-up (SAVE), archival (ARCH), reorganization (REOR), restoration (REST). These procedures, particularly the REORganization procedure, can take up a very large amount of disk work space, which must also be provided for.

For the sake of all procedures that work on database back-up files, these files must exist on disk, even if the back-ups are subsequently archived on tape or some other medium.

For instance, the SAVE procedure, used to do a logical back-up of the database, consults the AN and AR files to produce the PC file as output. It must be possible to create on disk the PC file, whose size is equal to the total size of AN plus AR.

Some procedures also use temporary files that are deleted at the end of the procedure, but which have to be considered. Refer to the chapters on batch procedures (in the BATCH PROCEDURES Operations Manual) for more information on temporary files.

TO SUMMARIZE:

Once the user has estimated the size of the database (AN plus AR), a total disk space equal four to five times the size of the database will be needed.

This estimate is on the "large" side and should make it possible to run any batch procedure without having to juggle with disk space.

SPECIAL CONSIDERATIONS FOR SORT PROGRAMS

Particular attention should be paid to sort programs.

For example, in the REOR procedure, the PTU205 and PTU225 programs sort the sequential database back-up file (PC). Apart from the temporary files assigned by the user, sort programs use temporary files, whose size is approximately twice the input sort file size. By default, these files are created where the sort programs are run (in the batch procedures directory of the VisualAge Pacbase server, in this case). This allocation can be modified by the command:

        SET TMP=...
where ... will be replaced by a complete directory description (including the disk drive and back slash).

Sort programs are described with the procedures that call them (such as REOR, ...).

(see next paragraphe 'Setting Environment Variables').

3.8. ABOUT THE OS/2 SYSTEM

<u>OS/2 FILE MANAGEMENT</u>

This chapter is not intended to replace the OS/2 reference documentation, but rather to make the person in charge of the installation of VisualAge Pacbase (or DSMS or Pactables) aware of how to prameterize the servers to improve their performance.

<u>THE CONFIG.SYS FILE</u>

When you start your PC, OS/2 reads the CONFIG.SYS file to interpret the commands and configure the operating system. The performance of the servers is directly related to the OS/2 system configuration, which can be modified via the CONFIG.SYS file.

This discussion is limited to features specific to servers. Depending on the architecture selected, several parameters must be considered:

<u>General parameters</u>

```
PATH:     PATH must contain the access paths to the
          programs (.EXE),

LIBPATH: LIBPATH must include the access paths to the
          sub-programs (.DLL),

IOPL:     Input Output Privilege Level, must be set to YES.
```
Other parameters (BUFFERS, DISKCACHE, SWAPPATH, etc.) affect machine performance and must therefore be closely examined.

```
Setting environment variables

Variables set in an OS/2 session can be indicated in the
CONFIG.SYS file.  That way, they will apply by default
to all sessions.

An example of this is the allocation of temporary files.
It may therefore be worthwhile to
include them in the CONFIG.SYS file, for example:
     SET TMP=D:\TMP
```

OS/2 DISK FORMATTING

From version 1.2 onwards, OS/2 includes the HPFS File Management System, which is particularly adapted to large files.

When installing OS/2, it is advisable to format at least one partition of the disk dedicated to the servers with HPFS (instead of FAT) and to install the product in this HPFS-formatted partition.

As a result, better performance is achieved on a number of VisualAge Pacbase (DSMS) batch procedures (indexed and relative file processing) and in on-line processing in general (faster program load). For on-line processes, the gain of time is roughly 30%.

Furthermore, when the Database files are managed on OS/2 by the FAT File Management System, it is advisable to regularly compress the disks so as to physically reorganize them. (These "compressions" are pointless under HPFS since this facility automatically manages disk reorganization).

PERFORMANCE OF A SERVER OPERATING ON-LINE AND BATCH SERVERS AND A LOCAL DATABASE

Generally speaking, a server's performance is increased if its system configuration contains a DISK CACHE. The size of the disk cache depends on the memory available on the system. Tests are necessary to determine the optimal value of the disk cache to be assigned to a given server.

However, if the server needs to SWAP, it means that the amount of memory used by the disk cache is too important.

The swaps use a file called SWAPPER.DAT, found in a directory specified in the CONFIG.SYS, on the SWAPPATH=... line. During the tests, it is therefore advisable to check the evolution of the SWAPPER.DAT file.

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SPECIFYING THE DISK CACHE IN THE CONFIG.SYS

1. HPFS-formatted disk

The disk cache must be specified on the "IFS" line:

```
IFS=C:\OS2\HPFS.IFS -C: 1024
```
The size of the cache (-C:1024 in the example) must be between 512 and 2048 Kb. IT MUST NOT EXCEED 2048 Kb.

2. FAT-formatted disk

The disk cache must be specified as follows:

```
DISKCACHE=2048 (Kb)
```
If the total system memory is 8 Mb, 2048 is an acceptable value but 4096 will cause SWAP problems. With 12 Mb, if you wish to assign the 4096 value, you should test it first.

REMINDER:
To ensure a good operation of the on-line and batch servers on a single machine, make sure the OS/2 sessions are given the right priorities (see paragraph "Assignment of priorities to different OS/2 sessions" above).

THE 32-BIT MEMORY ADDRESSING MODE

The 2.x relesases of the OS/2 operating system have a 32- bit memory addressing. The VA Pac release has then evolved accordingly and is compiled in 32 bit memory addressing.

 . It can be installed on the OS/2 operating system release 2.1 and later releases (internal hardware code = 032).

4. INSTALLATION

4.1. OVERVIEW

INTRODUCTION

The OS/2 version of VA Pac includes two sets, which allow you to install the servers and the 'dumb terminal' work stations.

In addition, the CD-ROM contains the Pacbench C/S facility, and the Pacdesign and Pacbench modules of the WorkStation.

All the files relevant for the operations described in this chapter are located in the PBxxx directory.

The installation files and the README.TXT file are stored in the PABxxx\ENG sub-directory (or PABxxx\FRA for the French version). Before installing or re-installing a version, you should read the README.TEXT file first.

The PBxxx\DATA sub-directory contains the files that should be installed, organized as follows:

1) The VisualAge Pacbase (VA Pac) servers

2) The PACLINK directory

   - Files and programs required for the installation of the dumb terminals under Win OS/2.

3) PAFCBL directory

   - The source files of the extractor sub-programs of the PAF function. For more details, refer to Subchapter COMPLEMENT: INSTALLING THE PAF ENVIRONMENT.

4) ZARDLG directory

   - The source files of the ZAR980 program, used by the OLSD Multi-Screen variant. For more details, refer to Subchapter COMPLEMENT: THE OLSD MULTI-SCREEN VARIANT.

5) SAVE directory

   - The AEO file (French and English) required for the installation and re-installation of the VA Pac servers.

INSTALLATION STEPS

The installation procedure includes four main steps:

```
.Preparing the installation,
.Installing the VA Pac server(s),
.Installing the terminals,
.Installation tests.
```

PREPARING THE INSTALLATION

Before proceeding with the installation, the user must know the VA Pac   technical
characteristics (refer to the Chapter ENVIRONMENT) in order to be able to select the
values of the parameters required for the installation procedures.

The user must also have defined the resources required on his local area network.
For further information, see the following Subchapter: CREATION OF RESOURCES ON
THE LOCAL AREA NETWORK.

INSTALLATION

See Subchapters:

 . Installation of the servers,
 . Installation of the work stations,
 . Installation of the 'dumb' terminals in Windows.

These installation procedures create a directory tree required by VA Pac. The authorization
to the directory tree is 'full control' for 'everyone'. At the end of the installation procedure,
VA Pac can be used with any user account.
The VA Pac Database administrator can modify this authorization so as to limit the access
to the authorized users only.

For the installation of the WorkStation, see its Operations Manual.

INSTALLATION TESTS

```
.On-line tests,
.Batch tests.
```
Refer to Subchapter 'Installation Tests'.

4.2. CREATION OF THE NETWORK RESOURCES

CREATION OF RESOURCES ON THE LOCAL AREA NETWORK

COMMUNICATIONS BETWEEN WORK STATIONS AND SERVERS

The communication interface between work stations and on-line servers is based on the TCP/IP network protocol.

Except for the installation, implementation of TCP/IP goes through the configuration of basic files:

  . the "hosts" file of each client work station must contain the server IP address with which a dialog must be established via its symbolic name.

  . the "services" file of each VA Pac server must contain the communication port number of each on-line server. This number is requested when installing the on-line server and must be different from the communication port number already used on the VA Pac server.

On OS/2 platform, "hosts" and "services" files are installed under the following directory:
```
     C:\mptn\etc
```

```
Example of "hosts" files on the server:
     192.54.9.40     server1        # server
     192.54.9.23     station1       # client station 1
     192.54.9.34     station2       # client station 2
Example of "services" files on the server:
     pactp1          1501/tcp       # server TP-1
     pactp2          1502/tcp       # server TP-2
Example of "hosts" files on the client work station:
     192.54.9.40     server1        # server
```
The "ping" command is used to make sure that the TCP/IP network is on operating status. If so, the VisualAge Pacbase work stations and server will be able to dialog via the "socket" interface.

Example on the client work station: ping 192.54.9.40

OUTPUT OF THE BATCH SERVER GENERATION-PRINTS

When a work station sends a Generation-print request on on-line mode, the request is handled by the batch server, which creates output files under the "release"\USERS directory.

Retrieval by the users of these prints can be implemented via different ways:

 . through the definition of a shared resource on the L.A.N.

 . using the TCP/IP file transfer protocol (FTP).

Refer to the OS/2 documentation for the implementation of a solution.

Using the WorkStation

If you wish to use functionalities of the 'Follow of the Generation-print' Pacbench menu, the USERS directory must have been declared as shared resource on the L.A.N.

4.3. INSTALLATION OF THE VISUALAGE PACBASE SERVER

<u>INSTALLATION OF THE VA PAC SERVER</u>

<u>1. START-UP OF INSTALL1</u>

The INSTALL1 procedure is located on the CD-ROM, in the PBxxx\ENG (for the English version) or the PBxxx\FRA (for the French version).

From the CD-ROM, start up the INSTALL1 procedure with the following parameters:

1: volume for batch and on-line programs, the command files which contain the database files assignments, the "methodology" transactions files,

2: volume for the database (indexed and relative files, except the journal),

3: volume for the journal (AJ file),

4: volume for the database sequential backups,

5: volume for transactions files located in input to the batch procedures,

6. volume for generation reviews (USERS directory), and on-line and batch communication files (COMMUN directory),

7: release = name of installation directory on each volume (with its backslash),

8: name of VA Pac database (6 characters maximum),

9: complete path of temporary files.

See subchapter 'Description of Created Directories' for the list of files and their paths.

Example: INSTALL1 C C H H C T \PACBASE TEST C:\TMP

This procedure creates a structure tree on each volume (disk unit) under the "release" root (which can be parameterized) where the following elements will be installed:

 - the batch and on-line programs and procedures,

 - the database: it can be installed on the volume which contains the programs and procedures, on a different volume or or several ones,

 - the output files of batch jobs submitted in on-line mode: they are located on a resource which is shared between the work stations and the batch server,

 - the temporary files directory, in which the batch procedures execution reports will be located.

  The procedure also creates:

 - the command files which contain the assignments of the database files and generation skeletons files, in the ASSIGN\"db_name" directory,

 - a command file, named PR"db_name".CMD, in the batch procedures directory, which is used to automate the execution of batch procedures.

  Then INSTALL1 copies the programs and procedures, the generation skeletons, the 'methodology' files, an AE0 file, a test and transactions PC file.

2. MODIFICATION OF THE CONFIG.SYS FILE:

In the next step, you must modify the CONFIG.SYS file of the VisualAge Pacbase system in the following way:

1. Modifying the PATH: the PATH must contain the access path to the batch programs, i.e.,

   "release"\BATCH\PGM.

       EXAMPLE: C:\PACBASE\BATCH\PGM;
2. Modifying the LIBPATH: the LIBPATH must contain the access path to the batch and on-line programs

   ("release"\TP\PGM and "release"\BATCH\PGM).

       EXAMPLE: C:\PACBASE\TP\PGM and C:\PACBASE\BATCH\PGM;
3. Add the following line: "IOPL=YES".

Then reboot so that these modifications will be effective.

3. INPUT OF ACCESS KEY AND USER CODE

To be operational, the system requires the definition of two user parameters:

  . a user code

  . the system access key, sent by mail from your Help Desk.

This information is entered, via an editor, in the MBPARM file.

To do so, open the MBPARM.INI file located in the "release"\INPUT\"db_name" directory, using an editor. This file contains:
  . a '*' line to initialize the system,
  . an input grid for the access key ('NK' line), in which you must enter the site acess key,
  . the definition of the user code ('NU' lines) which has all the database access
   authorizations. This code enables you to perform the installation tests: code = TEST and
   password set to blank.

Then save the updated MBPARM.INI file as MBPARM.

4. DATABASE INITIALIZATION

The INSTALL1 procedure creates a command file 'GOINST2', located in the INSTALL directory of the installed product ("release"\INSTALL). The GOINST2 file contains the parameters entered for the INSTALL1 activation and enables you to activate INSTALL2 with the correct parameters values.

From the INSTALL directory, activate GOINST2 without any parameters.

The INSTALL2 procedure requires the following parameters:
 1 : volume for batch and on-line programs and procedures,
 2 : volume for the VA Pac database (indexed and relative files except for the Journal),
 3 : volume for the AJ Journal file,
 4 : volume for the VA Pac database sequential backups,
 5 : volume for the batch procedure input transaction files,
 6 : release = directory root of each volume (with a backslash),
 7 : VisualAge Pacbase Database name,
 8 : Complete PATH of temporary files.

Example: INSTALL2 C C H H C \PACBASE TEST C:\TMP

This procedure performs the following initializations:
PROCLDAP: initialization of the AP file,
PROCLDHE: initialization of the HE file,
PROCLDZS: initialization of the ZS file,
PROCLDGS: initialization of the GS file,
PROCHELP: initialization of the HELP file,
PROCPARM: loading of the indexed AE file from its sequential image AE0 and from the
           transactions in MBPARM,
PROCREST: initialization of the test database,
PROCREAG: initialization of the AG file,
PROCINPF: initialization of the FP file,
PROCINFQ: initialization of the FQ file,
PROCLDUV: initialization of the UV file.

WorkStation: Methodology Parameters

See chapter COMPLEMENT: WORKSTATION INSTALLATION

5. CREATION OF ICONS

The INSTALL1 procedure creates a command file 'GOINST3', located in the INSTALL directory of the installed product ("release"\INSTALL).

The GOINST3 file contains the parameters entered for the INSTALL1 activation and enables you to activate INSTALL3 with the correct parameters values.

The INSTALL3 procedure is a file written in REXX command language. It enables you to create a group of programs which contain the following icons:

- Start-up of on-line server
- Stop of on-line server
- Information about on-line server
- Start-up of batch server
- Activation of a batch procedure
- Paclink Administrator: activation of PARM transaction
- Paclink Developer: activation of VA Pac transaction
- Start-up of on-line server monitor.

From the INSTALL directory, activate GOINST3 with the following parameters:
 1 : IP address of the VisualAge Pacbase server,
 2 : communication port number of the on-line server.

To define these values, see chapter INSTALLATION: CREATION OF RESOURCES ON THE LOCAL AREA NETWORK.

The INSTALL3 procedure uses the following parameters:
 1 : volume for batch and on-line programs and procedures,
 2 : volume for the database (indexed and relative files, except the journal),
 3 : volume for the journal (AJ file),
 4 : volume for USERS and COMMUN directories,
 5 : release = directory root of each volume (with its backslash),
 6 : VisualAge Pacbase database name,
 7 : complete path of temporary files,
 8 : IP address of the VisualAge Pacbase server,
 9 : communication port number of the on-line server.

After activating GOINST3, the icons are created with the correct parameters, the database is installed and can be accessed in batch or on-line mode.

4.4. COMPLEMENT: PEI FUNCTION INITIALIZATION

COMPLEMENT: PEI FUNCTION INITIALIZATION

Files used by the PEI Function need to be initialized (provided that this Function has been purchased).

This initialization is performed in two steps via the following batch procedures:

 . INPE: File Initialization,

 . RSPE: File Restoration.

The transaction files required for these procedures are supplied under the \INPUT\'db_name' directory, with the TEST user code. INPE and RSPE can then be executed as they are, after the execution of INSTALL2.

For complete details on both procedures, refer to the VisualAge Pacbase Operations Manual - PART II, Batch Procedures, Administrator's Guide, Chapter 'VERSIONING UTILITIES', Subchapter 'PEI: PRODUCTION ENVIRONMENT INTERFACE'.

4.5. COMPLEMENT: VA SMALLTALK DICTIONARY INITIALIZAT.

COMPLEMENT: VISUALAGE SMALLTALK DICTIONARY INITIALIZATION

The initialization of the VisualAge Smalltalk dictionary requires the loading of the Visual Objects as User Entities in the VisualAge Pacbase Dictionary via the VINS procedure.

The MVVINS.VGE and MBVINS transaction files required for the procedure are found in the \METHOD\ directory and must be copied in the \INPUT\'db_name'\ directory.
Note : The MVVINS.VGE file must be copied as MVVINS.
The MBVINS file includes a '*'-type line with TEST as user code, the VINS procedure can therefore be executed as it is after execution of the installation procedure.

For details on the operating mode of the procedure, refer to the Batch Procedures, Administrator's Guide, chapter 'MANAGER'S UTILITIES', Subchapter 'VINS: INSTALLATION OF THE VA SMALLTALK DICTIONARY'.

4.6. COMPLEMENT: PAF ENVIRONMENT INSTALLATION

<u>COMPLEMENT: PAF ENVIRONMENT INSTALLATION</u>

The PAF Function processes SQL requests, written in user programs, for access to the VA Pac Database, by the generation of data and sub-programs in the COBOL source code generated from these programs.

The pre-processor processes the generated programs to perform this transformation. The pre-processor is made up of the PAFP10.EXE program which is installed in the batch program directory, \BATCH\PGM, of the VA Pac servers.

The PPAF procedure processes the user's generated programs that use PAF (refer to the corresponding Subchapter in Chapter STANDARD UTILITIES of the Batch Procedures: User's Guide.

<u>THE EXTRACTION SUB-PROGRAMS</u>

The PAF user programs (batch or on-line), generated with a '3' variant (to comply with Micro Focus COBOL) use the same extraction sub-programs. There are three extraction sub-programs:

  . PBBTST (for standard extractions)

  . PBBTWS (for keyword extractions)

  Both dynamically called by the PAF user programs, and

  . PBBT98, which is dynamically called by the extractors (PBBTST and PBBTWS) to access
   the VA Pac Database and the PAF workfile.

The three sub-programs, which are called dynamically, are supplied compiled and linked (.DLL files) and are in the format of a COBOL source (.CBL files). The .DLL files are installed in the batch programs' directory, \BATCH\PGM of the VA Pac servers.

Example of compilation: CBLLINK -D PAFDEL.CBL

The COBOL source files of the extractors are supplied in the PAFCBL directory. The extractors which are dynamically called must be compiled and linked on the site when the version of the site's Micro Focus compiler is not compatible with that used for the VA Pac release.

The COBOL.DIR file contains the compilation instructions used to compile extraction sub-programs.

The READ.ME file contains documentation on the compiler used for VA Pac. It should be read carefully.

PAF DICTIONARY

PAF Dictionary is described through occurrences of Data Structures, Segments and Data Elements that will be used to write programs calling the PAF Function. These occurrences are supplied as batch update transactions in the MBUPDT.PAF file, copied in the METHOD sub-directory during the installation.

The introduction of this "PAF dictionary" in the VisualAge Pacbase Database is the responsibility of the VisualAge Pacbase Database Administrator, who must perform the following beforehand:

1. Check that these occurrences do not conflict with

   occurrences existing in the network.

2. Copy the file \METHOD\MBUPDT.PAF into MBUPDT in the \INPUT\'db_name' directory.

3. Modify the '*'-type line in the file MBUPDT in \INPUT\'db_name'.

In order to avoid dictionary compatibility problems with the entities supplied for the PAF function, it is advised to create an independent sub-network of libraries in which the PAF utilities will be written.

EXAMPLE OF COMPILATION AND LINK OF A PAF PROGRAM

The purpose is to compile the batch program PAFDEL.
The compiler used for VA Pac is Microfocus 4.0.nn. It is advised to use the same compiler version for the PAF programs to avoid conflicts between Micro Focus libraries.

Compilation instructions (COBOL.DIR file):

ASSIGN "EXTERNAL"
SEQUENTIAL "LINE"

Compilation and link command:

CBLLINK -E PAFDEL.CBL

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EXAMPLE OF AN EXECUTION PROCEDURE USING PAF

The user wants to execute the batch program PAFDEL. The following installation
parameters have been chosen:

  . Release = VAPAC
  . Database name = TEST
  . The programs and the \ASSIGN directory are installed on C:.

```
ECHO OFF
CLS

ECHO *** Delete previous PAF files ***
ECHO DEL C:VAPAC\PAF\WPAF.*

ECHO *** Assignment of PACLAN and PAF files ***
CALL C:\VAPAC\ASSIGN\TEST\PAC7AE.CMD
CALL C:\VAPAC\ASSIGN\TEST\PAC7AN.CMD
CALL C:\VAPAC\ASSIGN\TEST\PAC7AR.CMD
SET SYSPAF=C:\VAPAC\PAF\WPAF

ECHO *** Assignment of user files ***
REM * Add user program's specific files *

ECHO Execution of PAFDEL
PAFDEL
IF ERRORLEVEL 1 GOTO ERROR
ECHO End of extraction
GOTO END

:ERROR
ECHO PAFDEL Execution error
:END
ECHO ON
```

4.7. COMPLEMENT: PAF+ EXTENSION INSTALLATION

COMPLEMENT: PAF+ EXTENSION INSTALLATION

To be operational, the PAF Extension requires the following components:

```
. A user entity: .PPTEX,

. The SP and SF skeleton files,

. A GS user file containing the Extraction Master
  Paths (PTEx).
```

Once an occurrence of the .PPTEX user entity has been created, it is possible to define the user's Extraction Master Path.

The MBUPDT.PDM file, installed as a default in the \METHOD directory, contains the batch transactions required for the definition of the user entity. This file must be an input to the database updating UPDT batch procedure.

Copy \METHOD\MBUPDT.PTE as MBUPDT in the \INPUT\'db_name' directory. Once the target library is selected, edit the MBUPDT file accordingly, by adding the '*' line at the beginning of the transactions. Then execute the UPDT procedure.

The following PAF skeleton files are installed as a default:

  . SP, which allows the interpretation of the User Entity Occurrence as PAF requests.

  . SF, which then allows the generation of a COBOL program which, once translated by the
    PAFP10 program (XPAF procedure), then compiled and linked, will be a User Extractor or
    a Macro-Command called in the Master Outline (PTEd) of a Volume.

The GS skeleton file contains the user's Extraction Master Paths.

EXAMPLE OF A PAF-EXTENSION EXTRACTOR'S COMPILATION-LINK

Let's consider two occurrences of the .PPTEX User Entity:

. $7E EXTR00 of type E (User Extractor),

. $7E MACR00 of type M (Macro-Command).

The EXTR00 Extractor must be compiled and linked to become a program (EXTR00.EXE); an example of an execution procedure is shown below.

The MACR00 Macro-Command must be compiled and linked to become a sub-program (MACR00.DLL); this DLL will be called by the generation-print procedure when the Volume gets printed.

Compilation instructions (COBOL.DIR file):

```
        ASSIGN "EXTERNAL"

        SEQUENTIAL "LINE"
```
Compilation and link commands:

```
        CBLLINK -s EXTR00.CBL

        CBLLINK -s -d MACR00.CBL
```

EXECUTION OF A USER EXTRACTOR FOR THE PAF EXTENSION

Before executing the User Extractor ($7E entity of type E), the following files must be assigned:

```
.Permanent input files:

  -VisualAge Pacbase data file      : PAC7AR
  -VisualAge Pacbase index file     : PAC7AN
  -Error message file               : PAC7AE

.Transaction input file            : PAC7MB

.PAF work file                     : SYSPAF

.Output files:
  -Extraction unprocessed result    : PAC7SO
  -Extraction result                : PAC7SQ

.Output result                     : PAC7DB
```

NOTE: The user input is described in the PAF Reference Manual, Chapter 'Execution of a User Extractor / E-Type PTEx'.

EXAMPLE OF AN EXECUTION PROCEDURE USING A PAF+ EXTRACTOR

The purpose is to execute the EXTR00 program. The following installation parameters have been chosen:

  . Release = VisualAge Pacbase

  . Database name = TEST

  . The programs and the \ASSIGN directory are installed on C.

```
ECHO OFF
CLS

ECHO *** Delete previous PAF files ***
DEL C:\VAPAC\PAF\WPAF.*

ECHO *** Assignment of PACBASE and PAF files ***
CALL C:\VAPAC\ASSIGN\TEST\PAC7AE.CMD
CALL C:\VAPAC\ASSIGN\TEST\PAC7AN.CMD
CALL C:\VAPAC\ASSIGN\TEST\PAC7AR.CMD
SET SYSPAF=C:\VAPAC\PAF\WPAF

ECHO *** Assignment of the transaction file ***
SET PAC7MB=C:\VAPAC\INPUT\TEST\MBuser

ECHO *** Assignment of output files ***
SET PAC7SO=C:\VAPAC\PAF\XPAF.SO
SET PAC7SQ=C:\VAPAC\PAF\XPAF.SQ
SET PAC7DB=C:\VAPAC\PAF\CRENDU

ECHO Execution of EXTR00
EXTR00
IF ERRORLEVEL 1 GOTO ERROR
ECHO End of extraction
GOTO END

:ERROR
ECHO EXTR00 Execution error
PAUSE
:END
ECHO ON
```

4.8. COMPLEMENT: WORKSTATION INSTALLATION

COMPLEMENT: WORKSTATION INSTALLATION

The WorkStation requires two types of integration in VisualAge Pacbase:

. In the VA Pac Database, integration of User Entities specific to the methodology and their occurrences,

. In the VA Pac System, integration of the methodology choices.

IMPORTANT
Users of a former VisualAge Pacbase release with the WorkStation MUST PERFORM this update after retrieving their Databases.

INTEGRATION OF METHODOLOGY ENTITIES IN THE DATABASE

These entities are supplied upon installation in the methodology file directory (\METHOD) as the following files:

MBUPDT.MER for Merise methodology,
MBUPDT.YSM for Yourdon Structured Method methodology,
MBUPDT.ADM for SSADM methodology,
MBUPDT.OMT for OMT methodology,
MBUPDT.IFW for IFW methodology.

These are batch transactions to be used in the batch PROCUPDT update procedure to update the VA Pac Database.

The PROCUPDT batch procedure input transactions are found in a MBUPDT file, located in the '\INPUT\'db_name' sub-directory. Depending on the methodology used, copy one of the files located under \METHOD into the '\INPUT\'db_name' sub-directory, with the name MBUPDT.

Once you have chosen the library where these entities will be stored, edit the MBUPDT file and modify the '*' line at the beginning of the transactions. Then execute the UPDT procedure with the command: pr'db_name' UPDT.

CAUTIO   It is recommended not to install several methlogies in the same VisualAge Pacbase
      N: Database sub-network, although it is technically possible.

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INTEGRATION OF METHODOLOGY CHOICES IN THE SYSTEM

These choices are supplied upon installation in the methodology file directory (\METHOD) as the following files:

  MBPARM.MER for Merise methodology,
  MBPARM.YSM for Yourdon Structured Method methodology,
  MBPARM.ADM for SSADM methodology,
  MBPARM.OMT for OMT methodology,
  MBPARM.IFW for IFW methodology.

These are batch transactions that should be copied in the AE file via the PROCPARM batch procedure, which updates the user parameters.

This integration is usually performed when the very first VA Pac server is installed, but it may be performed at any moment. It is also possible to install the choices of several methodologies by concatenating several MBPARM files (see list above).

The PROCPARM batch procedure input transactions are found in a MBPARM file, located in the '\INPUT\'db_name' directory. Depending on the methodology used, copy one of the files located under \METHOD into the \INPUT\'db_name' directory, with the MBPARM name.

Modify the MBPARM file via an editor by entering the '*' line at the beginning of the transactions. Then execute the PARM procedure.

4.9. COMPLEMENT: PACBENCH QUALITY CONTROL INSTALLATION

<u>COMPLEMENT: PACBENCH QUALITY CONTROL INSTALLATION</u>

One User Entity, specifically dedicated to customizing the Pacbench Quality Control facility, must be present in the VisualAge Pacbase Database.

This User Entity is supplied in the MBUPDT.PQC file located in the directory of the methodology files (\METHOD).

This file contains the batch update transactions to be used as input by the PROCUPDT procedure, which updates the VisualAge Pacbase Database.

The batch procedure PROCUPDT uses these transactions as input in the MBUPDT file. The \METHOD\MBUPDT.PQC file should be copied as MBUPDT in the \INPUT\'db_name' sub-directory.

After selecting the target library, edit the MBUPDT file accordingly by modifying the '*' line at the beginning of the transactions, then execute the UPDT procedure via the command: pr'db_name' UPDT.

4.10. COMPLEMENT : VA PAC / TEAMCONNECTION BRIDGE

COMPLEMENT: VISUALAGE PACBASE/TEAM CONNECTION BRIDGE

The initialization of the VisualAge dictionary requires the loading of the VisualAge Objects as User Entities in the VisualAge Pacbase Dictionary via the VINS procedure.

The MBVINS and MVVINS.PTC transaction files required by this procedure are found in the method directory and must be copied in the \INPUT\'db_name' directory.
Note : The MVVINS.PTC file must be copied as MVVINS.
The MBVINS file includes a '*'-type line with TEST as user code, the VINS procedure can therefore be executed as it is after execution of the installation procedure.

For details on the operating mode of the procedure, refer to the Batch Procedures, Administrator's Guide, chapter 'MANAGER'S UTILITIES', Subchapter 'VINS: INSTALLATION OF THE VISUALAGE SMALLTALK DICTIONARY'.

4.11. COMPLEMENT: OLSD MULTI-SCREEN VARIANT

COMPLEMENT: OLSD MULTI-SCREEN VARIANT INSTALLATION

This installation complement is automatically performed during the installation of the first server.

If the OLSD multi-screen variant is not used, the ZARDLG directory can be deleted.

The COBOL source files of the ZAR980 screen-message management sub-programs for all the dedicated generators for which this variant exists, are found in the ZARDLG directory.

The ZARDLG directory contains the following files:

```
        ZARCVS :  MVS/CICS VS COBOL and VSE/CICS Cobol II
        ZARG7  :  GCOS7/TDS
        ZARG8  :  GCOS8/DMIV and TP8
        ZARBUR :  Unisys A
        ZARDEC :  DEC (characters)
        ZARDE2 :  DEC (fields)
        ZARTRM :  DEC (ASSEMBLER)
        ZARICL :  ICL
        SCRDEC :  DEC (sub-program)
        HPFORM :  HP3000 screen message processing
        PACVMSS:  DECNET server (VAX-VMS)
        VMSUTIL:  Utility (VAX-VMS)
        WEBCVS :  MVS/CICS (WEB)

"ZAR980" COBOL for MICRO FOCUS DOS, OS/2, Windows NT:

        ZARMF1  : Micro Focus
        SCRCODIF: Micro Focus (sub-program)
        SCRIOPAR: Micro Focus (sub-program)
        SCRPEINT: Micro Focus (sub-program)
        SCRSAISI: Micro Focus (sub-program)
        ZARMFO  : Reserved for IBM
        SCRMFO  : Reserved for IBM

"ZAR980" COBOL for MICRO FOCUS UNIX:
```
The ZAR980 C-source program for the UNIX Micro Focus cross-reference generator is not shipped with the VisualAge Pacbase release. It is part of a specific Technical Release which includes, besides the program C source documentation, the test deck and utilities for testing the configuration of the work stations on which the generated applications will be executed.

4.12. INSTALLATION OF PACLINK-EMULATED WORK STATIONS

<u>INSTALLATION OF THE REMOTE WINDOWS WORK-STATIONS (PACLINK)</u>

The installation program does not perform the installation of remote Paclink-emulated work stations.

All the files required for a 'dumb terminal' work stations are copied under the PACLINK directory of the installation root directory. Upon the installation of the first server or of a new database, a PACLINK icon is created in the VisualAge Pacbase installation programs' group.

To install a remote work-station, just copy the files located in the PACLINK directory onto the work-station used as a dumb terminal and modify the GSWINNT.PRM and PACLINK.PRM files as described below.

It is also possible to find these files directly on the CD-ROM. They are located in the PBxxx\DATA\PACLINK directory of the CD-ROM. Depending on the language in use (ENG for English and FRA for French), these files are located in the directories: DATA\PACLINK\ENG and DATA\PACLINK\FRA.

NOTE: When PACLINK is installed on remote work stations, all the files required for its operations can be installed on a shared directory. Only the SA and D0 parameters of the GSWINNT.PRM file must refer to files installed locally on the work station; these files must not be shared.

All the installed files are described in subchapter 'Directories created on work stations'.

For more details on the operation mode of this terminal, refer to the COMMUNICATION MANAGER AND PACLINK UTILITIES Manual.

<u>UPDATE OF THE PARAMETER FILES</u>

Two parameter files must be adapted to the installation characteristics:

<u>GSWINNT.PRM</u>

Specify to the GSTCPIP.EXE communication manager the name of the server machine (ex: PACNT), the socket number of the on-line server (ex: 1500), the VA Pac application, and possibly, the trace file (GSPAC.DEB):

```
P0 PACNT
P1 IP address (mutually exclusive with P0)
P2 1500
SA C:\PACBASE\SAVE.TXT
D0 0 1 0 1 0 0 0 C:\PACBASE\GSPAC.DEB
```
The other lines do not need any modification.

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PACLINK.PRM

Specify the disk drive and the directory containing GSTCPIP.EXE ('G'line) and
GSWINNT.PRM ('E'line).

```
Example: G C:\PACBASE\PACLINK\GSTCPIP.EXE
         E C:\PACBASE\PACLINK\GSWINNT.PRM
```

CREATION OF AN ICON

In a group, create a shortcut: 'File' menu, 'Add...' command.
The 'Command line' of this shortcut must contain the complete access path of the
PACLINK.EXE file, separated by a blank from the complete access path of the
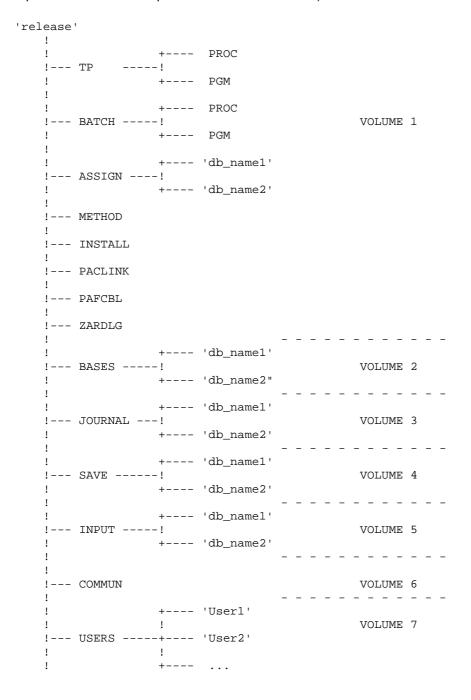PACLINK.PRM file.
Example:
C:\PACBASE\PACLINK\PACLINK.EXE C:\PACBASE\PACLINK\PACLINK.PRM

NOTE: Use as a template the PACLINK Developer icon created upon the VisualAge
        Pacbase server installation.

4.13. DESCRIPTION OF CREATED DIRECTORIES

<u>DESCRIPTION OF CREATED DIRECTORIES</u>

The installation of the VA Pac servers creates a directory tree under the 'release' root
directory (VA Pac in this example) present in each volume in use. (Volumes 1 to 7
represent the volumes specified at installation time.)

```
'release'
    !
    !                 +----  PROC
    !--- TP    -----!
    !                 +----  PGM
    !
    !                 +----  PROC
    !--- BATCH -----!                            VOLUME 1
    !                 +----  PGM
    !
    !                 +----  'db_name1'
    !--- ASSIGN ----!
    !                 +----  'db_name2'
    !
    !--- METHOD
    !
    !--- INSTALL
    !
    !--- PACLINK
    !
    !--- PAFCBL
    !
    !--- ZARDLG
    !                           - - - - - - - - - - -
    !                 +----  'db_name1'
    !--- BASES -----!                            VOLUME 2
    !                 +----  'db_name2"
    !                           - - - - - - - - - - -
    !                 +----  'db_name1'
    !--- JOURNAL ---!                            VOLUME 3
    !                 +----  'db_name2'
    !                           - - - - - - - - - - -
    !                 +----  'db_name1'
    !--- SAVE ------!                            VOLUME 4
    !                 +----  'db_name2'
    !                           - - - - - - - - - - -
    !                 +----  'db_name1'
    !--- INPUT -----!                            VOLUME 5
    !                 +----  'db_name2'
    !                           - - - - - - - - - - -
    !
    !--- COMMUN                                  VOLUME 6
    !                           - - - - - - - - - - -
    !                 +----  'User1'
    !                 !                           VOLUME 7
    !--- USERS -----+----  'User2'
    !                 !
    !                 +----  ...
```

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4.13.1. VISUALAGE PACBASE SERVER DIRECTORIES

<u>VISUALAGE PACBASE SERVER DIRECTORIES</u>

These directories are created on all the VA Pac servers when installing the first server and the additional servers.

<u>THE 'release' DIRECTORY</u>

The PARAM file, containing the assignments of files necessary for the operation of the batch server, is installed in the installation's root directory, called 'release' here.

NOTE: All other directories mentioned here are sub-directories of the 'release' directory.

<u>THE \TP DIRECTORY</u>

This directory contains all Transaction Processing (TP) programs ('release'\TP\PGM) and procedures ('release'\TP\PROC).

The \PGM directory includes the graphical (MONITOR.EXE) and text monitors (ADMIN.EXE) of the TP server (R00.EXE).

The \PROC directory contains the TP server and PARM-PEI transaction start-up procedures, as well as a TP server shutdown procedure, an info procedure and a user-purge procedure.

```
        TP  +--- PGM  --- Programs
            !               R00
            !               MONITOR
            !               ADMIN
            !               Micro Focus run-time
            !
            !--- PROC --- PROCTP
                           STOPTP
                           INFOTP
                           PURGTP
```

THE \BATCH DIRECTORY

This directory contains all batch programs (\BATCH\PGM) and procedures
(\BATCH\PROC).

The \PGM directory includes the B00 batch monitor, the PURGEB00 program, which is
used to purge jobs abended (execution problems) or jobs submitted and ended during the
active session, and the SHUTBAT program, which is used to shut the batch server down
via a command file.

```
BATCH +--- PGM  --- Programs
      !               B00
      !               PURGEB00
      !               SHUTBAT
      !
      !--- PROC --- Procedures
                      PROCBAT
                      STOPBAT
                      PR'db_name'
                      PACAGP
```
All TP and batch procedures are described in the Batch Procedures Operations manuals.

THE \ASSIGN\'db_name' DIRECTORY

The \ASSIGN directory includes a sub-directory for each installed database. In each sub-
directory are stored all the command files containing the assignment of the files located in
\BASES or \BASES\'db_name' directories. These command files are called PAC7AE.CMD,
PAC7AN.CMD, etc. for the database files and SQUEL.CMD for the skeleton files.

These files are created by the installation procedures (first and additional servers
installation, and database initialization).

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4.13.2. VA PAC SPECIFICATIONS DATABASE DIRECTORIES

VA PAC SPECIFICATIONS DATABASE DIRECTORIES

Each of these directories is unique for the whole VisualAge Pacbase installation. They are created when servers are installed or when databases are initialized.

THE \METHOD DIRECTORY

This directory contains all the transaction files used for installation complements: methodology files for the WorkStation MBUPDT.met and MBPARM.met (the met suffix specifies the chosen methodology: MER, ADM, YSM, OMT or IFW); files used for the PQC function (MBUPDT.PQC, MBRULE.PQC), for the PAF function (MBPUPDT.PAF), for the PAF extension (MBUPDT.PTE), and for the loading of the generated error messages (MBUPDT.UTI).

THE \BASES DIRECTORY

This directory contains the files that can be used by the different installed databases: generation skeletons (SC, SF, SG, SI, SP, SR and SS), AE and AP files and possibly the DC file (DSMS function).

THE \BASES\'db_name' DIRECTORY

The BASES directory has a sub-directory for each installed database. These sub-directories contain: the indexed and relative files that make up the database (AN, AR, AG, AB, AC, etc.) except the journal file (AJ). Also included in this directory are the LO file (updates serialization) and, depending on the needs, the GS file (extraction schemas) and TD file (TABLES).

THE \JOURNAL\'db_name' DIRECTORY

The JOURNAL directory has a sub-directory for each installed database in which is located the VA Pac Database Journal file (AJ).

THE \SAVE DIRECTORY

This directory contains the AEO and PE files, sequential images of the AE and AP files stored in 'release'\BASES.

THE \SAVE\'db_name' DIRECTORY

The SAVE directory has sub-directories for each installed database that contains all the sequential backups of the database (PC, PJ, PG, PP, etc.).

Also included in this directory are the command files that ensure a rotation of two sequential backups of the database (PCBACKUP.CMD, PEBACKUP.CMD, etc.).

THE \INPUT\'db_name' DIRECTORY

The INPUT directory has a sub-directory for each installed database which contains transaction files used as input in the batch procedures, coded MBxxxx (MBREST, MBPARM, MBPACX, etc.).

4.13.3. THE COMMUNICATION DIRECTORY

THE COMMUNICATION DIRECTORY

There is only one communication directory for the entire VA Pac   installation.

The \COMMUN directory

The COMMUN directory contains the LB and DB files for communication with the batch server.

The LB file stores batch requests, the BD file contains the request status. They are prefixed with the name of the database to which the server is connected ('db_name'.LB and 'db_name.BD').

4.13.4. THE SHARED DIRECTORY

<u>THE SHARED DIRECTORY</u>

There is only one shared directory for the entire VA Pac   installation.
It is created with the INSTALL1 procedure.

<u>The \USERS directory</u>

The USERS directory contains one sub-directory per user, which store the output of the generation- print jobs submitted on-line through the GP screen.

```
  example:        USERS    +---  JOHN  ---  nnnnn.ID
                           !                nnnnn.GE
                           !                etc
                           !
                           +---  JACK  ---  ppppp.ID
                           !                ppppp.GE
                           !                etc
```
where nnnnn = job number (see the batch monitor screen); ID and GE = examples of files created by the GPRT procedure. (See the description of this procedure in the Batch Procedures: User's Guide.)

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4.13.5. THE DIRECTORY OF TEMPORARY FILES

THE DIRECTORY OF TEMPORARY FILES

The temporary files and reports from batch procedures are created in this directory, which is independent of the preceding directories.

Its location is defined by the user at installation time. Thus, it is not necessarily located under the "release" root. It is created on all the VA Pac servers by the installation of the servers (first and additional) and by the initialization of a new database.

4.14. DESCRIPTION OF THE WORKSTATION DIRECTORIES

4.14.1. THE VA PAC WORKSTATION DIRECTORY

THE VA PAC WORKSTATION DIRECTORY (PACDESIGN, PACBENCH)

Please refer to the WorkStation Operations Manual.

```
                                                        PAGE              90
     INSTALLATION                                           4
     DESCRIPTION OF THE WORKSTATION DIRECTORIES              14
     THE DIRECTORY OF WINDOWS "DUMB TERMINAL" (PACLINK)            2
```

4.14.2. THE DIRECTORY OF WINDOWS "DUMB TERMINAL" (PACLINK)

<u>THE DIRECTORY OF WINDOWS "DUMB TERMINALS" (PACLINK)</u>

Under the installation directory, the following files are created:

. PACLINK.EXE and CTL3D.DLL: Monitor of the user work station

. PACLINK.PRM: Parameter file of the work station monitor

. GSLOCAL.PRM: file used by the INSTALL3 procedure during the installation of the VisualAge Pacbase server

. GSTCPIP.EXE: Communication manager

. GSTCPIP.WRI: Documentation of the communication manager

. GSWINNT.PRM: Parameter file of communication manager

. GSANSI.TAB and GSANSIL.TAB: Character transcoding table (Windows)

. GSPC850.TAB: Character transcoding table (OS/2)

. VAPAC.FON: Character font used when a screen trace is activated in GSTCPIP.EXE.

During the installation, if a program group has been created, the parameter files required by the servers and dumb terminals which are started up via icons, are created:

- A<socnum>.PRM: Parameter file of the monitor that communicates with the on-line server

- AGS<socnum>.PRM: Parameter file of the communication manager for the on-line server

- D<socnum>.PRM: Parameter file of the monitor that communicates with the PARM server

- DGS<socnum>.PRM: Parameter file of the communication manager for the PARM server

4.15. INSTALLATION TESTS

<u>VISUALAGE PACBASE INSTALLATION TESTS</u>

Testing a VisualAge Pacbase installation involves three different areas:

1. VisualAge Pacbase Database use,

2. VisualAge Pacbase Database management,

3. Extraction utilities.

The user may see the BATCH PROCEDURES manuals for the description of the start-up of the different servers and the batch procedures.

<u>1. VA PAC DATABASE USE TESTS:</u>

   . PARM transaction on-line use,

   . On-line use from a work station,

   . Batch updates,

   . Program generation-print.

<u>PARM Transaction On-line Use tests</u>

   From the installation programs group, activate the PACLINK Administrator icon. Enter the transaction with the 'TEST' user (no password) defined at installation time. Browse the screen branching and create new users.

<u>On-line Server start-up:</u>

   In the installation programs group, start up the on-line server via the On-Line Server icon.

<u>VA Pac transaction: Database update test</u>

Activate the PACLINK Developer icon. Using a previously defined user code, enter the VA Pac transaction. Browse the screen branching, and perform some updates.

<u>Batch Updates:</u>

   Shut down the on-line server.
   Create batch update transactions in the MBUPDT file (\INPUT\'db_name'). (See the Batch forms for the format of these transactions.)

   To retrieve those batch update transactions, it is also possible to create an extraction

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utility (see below), to retrieve the transaction output file of the extraction, to name it
MBUPDT file, and then to edit it.

Execute the PROCUPDT twice: first with no active on-line server and then with an active
on-line server.

Generation-Print:

From the installation programs group, start up the on-line server.
Start up the batch server from the same or from another VisualAge Pacbase server.
Connect a work station to the on-line server. On the Generation and Print Commands
screen (CH: GP), enter a Screen or Program Generation-Print command, validate that
command, and submit the job.

2. VA PAC DATABASE MANAGEMENT TESTS

These tests involve the batch procedures used for VisualAge Pacbase Database
management.

All on-line servers must be shutdown.

NOTE: Before executing one of these batch procedures, refer to the corresponding
       Operations Manual, Administrator's Guide or User's Guide for complete information.

Testing must be carried out in the following sequence:

. Archiving of Journal file created during the Database Use tests (ARCH procedure, output
  is the PJ file).

. Saving of VA Pac Database: SAVE procedure, output is the PC.NEW file; the
  PCBACKUP.CMD file is called at the end of the procedure: it renames the existing PC file
  as PC-1, and the PC.NEW file as PC.

. Saving of Generation-Print Commands (SVAG procedure); it outputs a PG file after calling
  PGBACKUP.CMD.

. Creation/Deletion of VA Pac Libraries: MLIB procedure, produces the PC.NEW file then
  rotation on PC and PC-1.

. Reorganization of VA Pac Database sequential saving (PC) resulting from the preceding
  MLIB. REOR procedure also outputs a PC.NEW file and calls PCBACKUP for rotation on
  PC and PC-1.

. Reorganization of the Generation-Print Commands sequential saving (PG file - SVAG
  output) and Initialization or Restoration of Generation-Print Commands (REAG procedure,
  output is the AG file).

. VA Pac Database restoration using both the PJ and PC files (REST procedure).

Once the Database has been restored, perform another few tests on the on-line use of the
Database.

4.16. CREATION OF A NEW DATABASE

<u>CREATION OF A NEW DATABASE</u>

<u>1. STANDARD PATHS OF DATABASE FILES</u>

During the standard installation, one of the parameters specifies the VA Pac DATABASE NAME (TEST for example). This parameter is used to name the sub-directories specific to the database:

```
'release'\ASSIGN\TEST
        \BASES\TEST
        \JOURNAL\TEST
        \SAVE\TEST
        \INPUT\TEST
```
The TEST database files are in these sub-directories.

The generation skeletons, the AE error message file, the AP user parameter file and possibily the DC DSMS control file are directly installed in the \BASES directory because these files can be shared by several VA Pac databases.

All the servers and the batch procedures assign the files located in \BASES and in \BASES\'db_name' via the command files created during installation in \ASSIGN\'db_name'. This makes possible modifications of the standard installation easier.

The standard VA Pac architecture makes it possible to manage a multi-database environment.

<u>2. START-UP OF INSTBAS1</u>

The INSTBAS1 procedure, located on the CD-ROM, in the PBxxx\ENG (for the English version) or the PBxxx\FRA (for the French version), enables you to initialize a new database.

From the CD-ROM, start up the INSTBAS1 procedure with the following parameters:

1: volume for batch and on-line programs, the command files which contain the database files assignments, the "methodology" transactions files,

2: volume for the database (indexed and relative files, except the journal),

3: volume for the journal (AJ file),

4: volume for the database sequential backups,

5: volume for transactions files located in input to the batch procedures,

6. volume for generation review files (USERS directory), and on-line and batch communication files (COMMUN directory),

7: release = name of installation directory on each volume (with its backslash),

8: name of VA Pac database (6 characters maximum),

9: complete path of temporary files.

See subchapter 'Description of Created Directories' for the list of files and their paths.

Example: INSTBAS1 C C H H C T \PACBASE REEL C:\TMP

  NOTE: Besides the database name (parameter 8), the parameters required by the
        INSTBAS1 procedure must have the same values as those entered when starting
        up the INSTALL1 procedure (chapter INTALLATION OF THE VA PAC SERVER).

This procedure requires VA Pac to be already installed. If such is not the case, an error
message is displayed.

For a new database named 'db_name' it creates all the specific directories of the new
database and installs the following files:

  . In \SAVE\'db_name': the installation PC and the 'BACKUP' procedures,

  . In \INPUT\'db_name': the transaction files delivered with the installation,

  . In \ASSIGN\'db_name': the command files containing the assignment of the database files
   and the generation skeletons,

  . A command file named PR'db_name'.CMD in the batch procedures directory, this file
   automates the start-up of the batch procedures.

After this creation phase, the INSTBAS1 procedure pauses (with messages) to enable the
modification of the installed files. Then finally it initializes the new database:

  . Initialization of the HE, ZS, GS, and HELP files,
  . Loading of the database (REST),
  . Loading of AG file (REAG).

Note: The LDAP, LDHE, LDZS, and HELP initialization procedures are described in this
      manual, in Chapter INITIAL LOADING OF FILES.

In the \BATCH\PROC directory, two files have been created: PRTEST.CMD and
PRREEL.CMD, (if we take again the example of the TEST database installation, and of the
REEL database creation). Each is adapted to the starting up of batch procedures on a
database.

3. CREATION OF ICONS

The INSTBAS1 procedure creates a comand file named GOINST3, located in the INSTALL
directory of the installed product (\INSTALL)

The GOINST3 file contains the parameters entered for the INSTBAS1 activation and enables you to activate INSTALL3 with the correct parameter values.

The INSTALL3 procedure is a file written in REXX command language. It enables you to create a group of programs which contain the following icons:

- Start-up of on-line server
- Stop of on-line server
- Information about on-line server
- Start-up of batch server
- Activation of a batch procedure
- Paclink Administrator: activation of PARM transaction
- Paclink Developer: activation of VA Pac transaction
- Start-up of on-line server monitor.

From the INSTALL directory, activate GOINST3 with the following parameters:
 1 : IP address of the VisualAge Pacbase server,
 2 : communication port number of the on-line server.

To define these values, see chapter INSTALLATION: CREATION OF RESOURCES ON THE LOCAL AREA NETWORK.

The INSTALL3 procedure uses the following parameters:
 1 : volume for batch and on-line programs and procedures,
 2 : volume for the database (indexed and relative files, except the journal),
 3 : volume for the journal (AJ file),
 4 : volume for USERS and COMMUN directories,
 5 : release = directory root of each volume (with its backslash),
 6 : VisualAge Pacbase database name,
 7 : complete path of temporary files,
 8 : IP address of the VisualAge Pacbase server,
 9 : communication port number of the on-line server.

After activating GOINST3, the icons are created with the correct parameters, the database is installed and can be accessed in batch or on-line mode.

5. RELEASE RE-INSTALLATION (SUB-RELEASE)

5.1. STANDARD RE-INSTALLATION

<u>STANDARD RE-INSTALLATION OF A SUB-RELEASE</u>

VisualAge Pacbase must be re-installed when a new version of the software comes out following corrections and enhancements.

The new version (or sub-release), identified by a number, includes:

. A VisualAge Pacbase CD-ROM,

. A list of corrected anomalies,

. Documentation indicating the operations to perform (README.TXT file of the CD-ROM),

Typically, a new version affects the system files --AE0 file, transaction files in the \METHOD directory, and generation skeleton files-- as well as the batch and on-line programs.

The re-installation procedures allow you to optionally re-install the batch and TP procedures. In this case all the existing procedures are overwritten. If however you choose not to reinstall them automatically, you can locate them on the CD-ROM, check what has changed, and adapt your own procedures. Batch procedures are stored in the PBxxx\DATA\BATCH\PROC\ENG directory, and on-line procedures in the PBxxx\DATA\TP\PROC\ENG directory.

The REINST1 procedure, located in the PBxxx\ENG directory on the CD-ROM, enables you to reinstall a version.

From the CD-ROM, start up the REINST1 procedure with the following parameters:

1: volume for on-line and batch programs,

2: volume for the Database (BASES),

3: volume for the Database backups (SAVE),

4: version (with an antislash),

5: Database name,

6: automatic reinstallation of batch procedures (Y = yes, N = no),

7: automatic reinstallation of on-line procedures (Y = yes, N = no).

<u>GENERAL COMMENTS</u>

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. Before starting a re-installation, ALWAYS READ the README.TXT file.

. The re-installation procedures do not create directories as these are supposedly identical to those created by the initial installation.

. The parameters required by the REINST1 procedure must have the same values as those entered when starting up the INSTALL1 procedure (chapter INSTALLATION OF THE VA Pac SERVER).

. The re-installation copies the AE0 file and the generation skeleton files under the standard directories (\SAVE for AE0, and \BASES for the skeleton files). If the Database Manager modified the location of these files, he/she must move them to the right directory after the re-installation execution.

PARM PROCEDURE EXECUTION

The Error Message and VA Pac On-Line Help file is copied in the AE0 sequential file. Execute the PARM procedure, which will create the AE indexed file from the AE0 file.

IMPORTANT: Two cases are possible, which means that two types of user parameters are possible (in MBPARM transaction file):

. If no change is to be made to the User Parameters (no new users to register, no new access key, etc.), and if the user parameter back-up file (PE file in the "release"\SAVE directory) is complete (no new parameter has been added on-line since the last backup in PE file) you need only enter the NRREST command in input to the PARM procedure.

. If changes are to be made in the User Parameters, or if the User Parameter Backup file (PE) is obsolete, enter the NRCHAR command in input to the PARM procedure.

RELEASE RE-INSTALLATION (SUB-RELEASE)   5
STANDARD RE-INSTALLATION   1

6. RETRIEVAL OF PACBASE 802.02, ..., 2.0

6.1. WARNING

FOREWORD

If your site is installed with DSMS, Pactables, and/or the VA Pac WorkStation, these functions must be compatible with the VA Pac release in use.

This new VisualAge Pacbase version is compatible with:

. the new version of the VA Pac WorkStation

. DSMS 8.02 (compatible with VA Pac 8.02), and higher

. Pactables, all versions.

NOTE:

The operation of Pactables 7.3 or 8.0 requires a special program, PTA250, for the Pactables GETT procedure. This program is available upon request.

6.2. RETRIEVAL OPERATIONS
RETRIEVAL VA PACBASE 2.0

6.2.1. OPERATIONS TO BE PERFORMED

<u>UPGRADE OF THE 2.0 RELEASE</u>

<u>OPERATIONS TO PERFORM</u>

The installation of the new VA Pac Release does not require a retrieval of the VA Pac Database(s) and associated user files, except for the Generation-Print Commands file (AG).

Once the new VA Pac Release is installed, you must save the Database(s) and associated user files with 2.0 procedures and restore them via the new standard procedures.
To benefit from the new choices, you should include the Reorganization procedure in the retrieval process.

The VA Pac WorkStation's dedicated User Entities must be uploaded into the Database via the UPDT procedure, after the Database has been restored in the new release.

<u>CASE 1: VA Pac 2.5 installed in a new environment</u>

  <u>1. Reinstallation of user parameters:</u>

 . Saving of User Parameters file with the 2.0 PARM procedure, producing a 2.0 PE file.

 . Execution of the new LOAE procedure with the 2.0 PE file in input, using the NRREST command.

 . Execution of the new PARM procedure, the input file used being the file containing the new access key.

 . To use the VA Pac WorkStation, execution of the new PARM procedure, with, in input, the internal parameters of the Methodology(ies) in use ('Methodology Choices').

   For more details, refer to chapter INSTALLATION, subchapter 'INSTALLATION PROCESS', Section 'Complement: VA Pac WorkStation'.

RESULT: AE and AP files, containing user parameters operational under the new VA Pac release and methodology parameters (if needed).

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2. Reinstallation of a VA Pac Database

. Database backup with the 2.0 SAVE procedure, producing a 2.0 PC file.

. Journal file initialization (new ARCH procedure).

. Database restoration with new REST procedure using in input the previously obtained PC file.

. Saving of Generation-Print Commands file, producing a 2.0 PG file.

. Retrieval of the Generation-Print Commands file (RPPG) producing a PG file formatted for the new release.

. Restoration of Generation-Print Commands file, using in input the PG file obtained in the previous step (2.5 REAG procedure).

RESULT: AJ, AN, AR, and AG files operational under the new VisualAge Pacbase Release.

3. Reinstallation of the Production Environment Interface

. PEI backup, producing a PP file (old release).

. PEI restoration (new RSPE procedure) using in input the backup produced by the previous step.

RESULT: AB and AC files, operational under the new VA Pac Release.

6.2.2. RPPG : GENERATION-PRINT FILE (AG) RETRIEVAL

```
ECHO OFF
CLS
ECHO .
ECHO .
ECHO ********************************************************
ECHO *                     RPPG PROCEDURE
ECHO *                     ==============
ECHO *  Please note the specific parameters:
ECHO *
ECHO *  PG input  : complete directory and filename of PG file
ECHO *            : %1
ECHO *  PG output : complete directory and filename of PG file
ECHO *            : %2
ECHO *
ECHO *  Example
ECHO *    PROCRPPG C:\PAC\SAVE\B0\PG  C:\PAC\SAVE\B0\PG.NEW
ECHO ********************************************************
ECHO .
ECHO Press Control_C to stop procedure execution
PAUSE
ECHO .
REM ********************************************************
REM * VA Pac : RETRIEVAL OF PG FILE
REM ********************************************************
SET  PAC7IN=%1
SET  PAC7OU=%2
ECHO Execution : PTU908
PTU908
IF ERRORLEVEL 1 GOTO ERR908
IF NOT ERRORLEVEL 0 GOTO ERR908
REM ********************************************************
ECHO End of procedure
GOTO END
REM ********************************************************
:ERR908
ECHO Error executing PTU908
PAUSE
:END
ECHO ON
```

6.3. RETRIEVAL PACBASE 802.02, ..., 1.6
OPERATIONS TO BE PERFORMED

<u>UPGRADE OF THE 802.02 - 1.2 - 1.5 - 1.6 RELEASES</u>

<u>OPERATIONS TO CARRY OUT</u>

The installation of the new VA Pac Release does not require an upgrade of the VA Pac Database(s) and associated user files, except for the Generation-Print commands file (AG).

Once the VA Pac Release is installed, you must first save the Databases and associated files, using the standard procedures of the release to be retrieved.
These same Databases and files must then be restored, using the standard procedures provided by this new release.
To benefit from the new choices, you should include the Reorganization procedure in the retrieval process.

The VA Pac WorkStation's dedicated User Entities must be uploaded into the Database via the UPDT procedure, after the Database has been restored in the new release.

 <u>1. Reinstallation of user parameters:</u>

 . User Parameters file backup producing a PE file formatted for the old release (PARM 8.0.2, ... 1.6).

 . Execution of the LOAE procedure (new release) with the PE file in input, using the '********' user and the NRREST command.

 . Execution of the PARM procedure with, used as input file, the MBPARM file containing the new access key.

 . To use the VA Pac WorkStation, execution of the PARM procedure, including in the input the internal parameters of the Methodology in use.

 For more details, refer to chapter INSTALLATION, subchapter 'Complement: WorkStation Installation'.

RESULT: AE and AP files, containing user parameters operational under the new VA Pac release and methodology parameters (if needed).

<u>2. Reinstallation of a VA Pac Database</u>

. Database backup producing a PC file formatted for the old release.

. Journal file initialization (ARCH procedure of new rel).

. Database restoration with REST procedure (new release) using in input the previously
obtained PC file.

. Saving of Generation-Print commands file, producing a PG file formatted according to
your old release.

. Retrieval of the Generation-Print commands file (RPPG) producing a PG file formatted for
the new release.

. Restoration of Generation-Print commands file, using in input the PG file obtained in the
previous step (REAG procedure of new release).

. Retrieval of sequential archive file (PJ16 procedure). This procedure is optional. It
extracts Journal transactions from older archives, using new programs handling dates with
century.

RESULT: AJ, AN, AR, and AG files operational under the new VisualAge Pacbase
Release.

<u>3. Reinstallation of the Production Environment Interface</u>

. PEI backup, producing a PP file formatted according to the old release.

. Sequential backup retrieval (PP16)

This operation adds the century to all dates managed by PEI.

. PEI restoration (RSPE procedure of new release).

RESULT: AB and AC files, operational under the new VA Pac Release.

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6.3.1. PJ16: ARCHIVED-JOURNAL RETRIEVAL

RETRIEVAL OF ARCHIVED JOURNAL, REL. 8.02v02 TO 1.6 (PJ16)

This procedure retrieves a Journal archived in a former release of VA Pac (8.02v02 to 1.6)
in order to convert it in a Journal archived in the new release.

EXECUTION CONDITION

None.


```
DESCRIPTION OF STEPS

This procedure includes the following step:

     .Retrieval of archived journal:  REP2PJ


RETRIEVAL OF ARCHIVED JOURNAL:  REP2PJ

.Permanent input file:
 -Journal backup, old format:  PAC7PJ

.Permanent output file:
 -Journal backup, new format: PAC7JP
```

```
ECHO OFF
CLS
ECHO .
ECHO .
ECHO ********************************************************
ECHO *                    PJ16 PROCEDURE
ECHO *                    ==============
ECHO *  Please note the specific parameters:
ECHO *
ECHO *  PJ input  : complete directory and filename of PJ file
ECHO *            : %1
ECHO *  PJ output : complete directory and filename of PJ file
ECHO *            : %2
ECHO *
ECHO *  Example
ECHO *    C:\PAC\SAVE\B0\PJ  C:\PAC\SAVE\B0\PJ.NEW
ECHO ********************************************************
ECHO .
ECHO Press Control_C to stop procedure execution
PAUSE
ECHO .
REM ********************************************************
REM * VA Pac : RETRIEVAL PJ 2.0 WITH CENTURY
REM ********************************************************
SET  PAC7PJ=%1
SET  PAC7JP=%2
ECHO Execution : REP2PJ
REP2PJ
IF ERRORLEVEL 1 GOTO ERR2PJ
IF NOT ERRORLEVEL 0 GOTO ERR2PJ
REM ********************************************************
ECHO End of procedure
GOTO END
REM ********************************************************
:ERR2PJ
ECHO Error executing REP2PJ
PAUSE
:END
ECHO ON
```

6.3.2. PP16: PRODUCTION-ENVIRONMENT RETRIEVAL

<u>RETRIEVAL OF PRODUCTION ENVIRONMENT 8.02v02 to 1.6 (PP16)</u>

This procedure retrieves a Production Environment backup (PP, in 8.02 02 to 1.6 format), to convert it in a PEI backup in the new release format.

<u>EXECUTION CONDITION</u>

None.


```
DESCRIPTION OF STEPS

This procedure includes the following step:

     .Conversion of the backup:   PACR90


CONVERSION OF THE BACKUP:  PACR90

.Permanent input file:
 -PEI backup, old format:  PAC7PE

.Permanent output file:
 -PEI backup, new format: PAC7PS
```

```
ECHO OFF
CLS
ECHO .
ECHO .
ECHO *******************************************************
ECHO *                    PP16 PROCEDURE
ECHO *                    ==============
ECHO *  Please note the specific parameters:
ECHO *
ECHO *  PP input  : complete directory and filename of PP file
ECHO *            : %1
ECHO *  PP output : complete directory and filename of PP file
ECHO *            : %2
ECHO *
ECHO *  Example
ECHO *    C:\PAC\SAVE\B0\PP  C:\PAC\SAVE\B0\PP.NEW
ECHO *******************************************************
ECHO .
ECHO Press Control_C to stop procedure execution
PAUSE
ECHO .
REM *******************************************************
REM * VA Pac : RETRIEVAL AND SAVE WITH ADD CENTURY
REM *******************************************************
SET  PAC7PE=%1
SET  PAC7PS=%2
ECHO Execution : PACR90
PACR90
IF ERRORLEVEL 1 GOTO ERRR90
IF NOT ERRORLEVEL 0 GOTO ERRR90
REM *******************************************************
ECHO End of procedure
GOTO END
REM *******************************************************
:ERRR90
ECHO Error executing PACR90
PAUSE
:END
ECHO ON
```

6.3.3. TRRT (PAC/TRANSFER FACILITY)
6.3.3.1. TRRT: INTRODUCTION

<u>TRRT: 2.5 UPGRADE OF PAC/TRANSFER PARAMETERS FILE</u>

<u>PRESENTATION OF TRRT</u>

In releases earlier than 1.6, only one set of parameters could be stored in the UV Parameters file.
To define another Transaction Set, the duplication of the parameters was necessary.
According to needs, the procedures' execution JCL had to be adapted to use different Parameters files.

It is now possible to store several Sets of parameters in a single file.

>>>> In any case, the format of UV Parameters files earlier than Rel. 1.6 is not compatible with Pac/Transfer 2.5. This is why the TRRT procedure must be executed on all the existing UV files.

<u>OPERATING MODE</u>

You may use the TRUP procedure which creates the UV Parameters file, defining all Transactions Sets. In this case, you will have to reenter information already entered in your older file(s).

If many files are to be processed, the operation may imply a substantial workload. This is when the TRRT utility comes in handy.
For each former UV file, TRRT generates parameters in the adequate format, under a Transaction Set code you have specified in input.

 NOTE: One TRRT execution can process one former UV file only. You must run TRRT as many times as there are 'old' UV files.

Once all former UV files are processed, use these generated parameters in input to the TRUP procedure.

 NOTE: If you run a single TRUP execution including all Transaction Sets, make sure that each Set comes in with a distinct code.

As a result, you have an up-to-date UV Parameters file including all your Transaction Sets.

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6.3.3.2. TRRT: INPUT

<u>USER INPUT</u>

. User identification line (required)

```
---------------------------------------------------------------
!Pos.! Len.! Value    ! Meaning                                !
!---------------------------------------------------------------!
!  2 !   1 ! '*'      ! Line code                              !
!  3 !   8 ! uuuuuuuu ! User code                              !
! 11 !   8 ! pppppppp ! Password                               !
---------------------------------------------------------------
```

. Definition of Transaction Set (required)

```
---------------------------------------------------------------
!Pos. ! Len.! Value    ! Meaning                               !
!---------------------------------------------------------------!
!  2 !   2 ! 'LT'     ! Line code                              !
!---------------------------------------------------------------
!  3 !   5 ! lllll    ! Transaction Set code (required)    !
---------------------------------------------------------------
```

6.3.3.3. TRRT: DESCRIPTION OF STEPS

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

    INPUT RECOGNITION: PTU001

    SEQUENTIAL COPY OF OLDER UV FILE: IDCAMS

    .Input file:
     -Former-release UV file

    .Output file:
     -Former-release UV file, sequential format

    CREATION OF TRANSACTIONS FOR TRUP: PTUG90

    This step generates transactions associated to the creation
    of the UV file, rel. 2.5.

    .Permanent input files:
     -Data file
      PAC7AR
     -Error messages file
      PAC7AE
     -2.5 parameter file
      PAC7UV
     -Older, sequential, UV file
      PAC7UA

    .Transaction file:
     -User input
      PAC7MB

    .Output file:
     -Transactions associated to the update of the 2.5 UV
      file for TRUP
      PAC7MU

    .Output reports:
     -List of entries
      PAC7ET
     -User check
      PAC7DD

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6.3.3.4. TRRT: EXECUTION JCL

```
ECHO OFF
CLS
ECHO .
ECHO .
ECHO ********************************************************
ECHO *                      TRRT PROCEDURE
ECHO *                      ==============
ECHO *  Release (with \)                         : %1
ECHO *  Name of the Database                      : %2
ECHO *  Temporary file directory                  : %3
ECHO *  Volume of ASSIGN and BATCH directories  : %4
ECHO *  Volume of INPUT directory                 : %5
ECHO ********************************************************
ECHO .
CALL %4:%1\BATCH\PROC\MSGPAUSE
ECHO .
REM ********************************************************
REM * PAC/TRANSFER : RETRIEVAL OF THE PARAMETERS FILE
REM ********************************************************
REM * OLD SEQUENTIAL UV
SET PAC7UA=%3/UA
CALL %4:%1\ASSIGN\%2\PAC7AE
CALL %4:%1\ASSIGN\%2\PAC7AR
CALL %4:%1\ASSIGN\%2\PAC7AN
CALL %4:%1\ASSIGN\%2\PAC7UV
SET  PAC7MB=%5:%1\INPUT\%2\MBTRRT
SET  PAC7MV=%5:%1\INPUT\%2\MVTRRT
SET  PAC7DD=%3\TRRTDD.G90
SET  PAC7ET=%3\TRRTET.G90
ECHO Execution : PTUG90
PTUG90
IF ERRORLEVEL 1 GOTO ERRG90
IF NOT ERRORLEVEL 0 GOTO ERRG90
REM ********************************************************
ECHO End of procedure
ECHO .
ECHO The output file MVTRRT will be processed by TRUP
ECHO (created in the directory %5:%1\INPUT\%2)
GOTO END
REM ********************************************************
:ERRG90
ECHO Error in executing PTUG90
:ERR
PAUSE
:END
ECHO ON
```

7. MIGRATING A VA PAC DATABASE ONTO A L.A.N.

VISUALAGE PACBASE - OPERATIONS MANUAL
VA Pac: ENVIRONMENT & INSTALLATION
MIGRATING A VA PAC DATABASE ONTO A L.A.N.

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7.1. INTRODUCTION

<u>MIGRATING A VA PAC REPOSITORY TO A LOCAL NETWORK</u>

This chapter describes the operations which are specific to the migration of a VA Pac Database onto another platform.

Examples:

 - Migration of an IBM/MVS platform onto an OS/2, Unix or Windows/NT platform,

 - Migration of an OS/2 platform onto a Unix or Windows/NT platform.

These operations include three steps:

 - On the source platform, constitution of all the sequential backups which make up the Database, plus possible processing of these files to ensure their correct transfer and retrieval on the target platform.

 - Transfer of the sequential files onto the target platform.

 - On the target platform, retrieval of all the sequential files to adapt them to the new installation technical characteristics, and then restoration of the files which make up the VA Pac Database on the target platform.

Refer to Chapter RESTORING FILES ON THE TARGET PLATFORM in the Operations Manual - Volume I : Environment & Installation, for each of these platforms.

7.2. FILE BUILDING ON A SOURCE PLATFORM

<u>CONSTITUTION OF BACKUPS ON THE SOURCE PLATFORM</u>

The user may refer to the BATCH PROCEDURES Operations manuals corresponding to the source platform for the description of the procedures presented below.

<u>User Parameter Backup</u>

. Execution of the PARM procedure, whose output is a user parameter PE backup file.

. Decryption of user passwords by the execution of the CRYP procedure, using the 'DECODE' parameter in input.

<u>Database Backup</u>

. Execution of the ARCH procedure, whose output is a PJ archived transaction file.

. Execution of the SAVE procedure, whose output is a PC database backup file.

. For a correct transfer of the backup, replacement of low-value by blanks in the PC file by the execution of the LVBL procedure.

<u>Generation-Print Request Backup</u>

. Execution of the SVAG procedure, whose output is a PG backup file of generation-print commands.

<u>Production Environment Backup</u>

. For users equipped with a PEI function, execution of the SVPE procedure, whose output is a production environment PP backup file.

<u>Pactables backup</u>

For users equipped with a Pactables function, two cases are possible:

. Pactables migrates onto the target platform: execution of the SVTA procedure, whose output is a TC backup file of table content and descriptions, as well as user parameters.

. Pactables remains on the source platform: in this case only the TD table description file must be present on the new development platform. Execution of the SMTD procedure, whose output is a PD backup file of table descriptions, and retrieval of this file, if necessary, to adapt it to the format of the new release.

The user may refer to the Pactables Function Operations manual to see if it is necessary to retrieve the TD file.

7.3. TRANSFERRING FILES TO THE LOCAL AREA NETWORK

TRANSFER OF FILES TO THE LOCAL NETWORK

The transfer software to be used varies according to the platform. The sequential files to be transferred are output by the previous steps, i.e.:

  . PE user parameter backup,
  . PC database backup,
  . PG generation-print request backup.

And possibly:

  . PJ archived journal, if the user wants to retrieve it on the target platform,
  . PP production environment backup,
  . backup of TD table descriptions.

FILE TRANSFER TO THE LOCAL AREA NETWORK

These transfers can be performed with the standard software installed with the communication manager and supplied in the OS/2 extended releases.

Other software can also be used.

The parameters which must be indicated for the transfer are the following:

  . the files to be transferred are data files (DATA),

  . the files must be converted into ASCII format,

  . the files must contain the control characters for the record ends (generally, the parameter to indicate is CRLF).

7.4. RESTORING FILES ON THE TARGET PLATFORM

RESTORING FILES ON THE TARGET PLATFORM

PHYSICAL ORGANIZATION OF FILES

All the VA Pac indexed sequential files on OS/2, UNIX and Windows NT releases are physically managed according to the ASCII sequence. These are the AE, AP and AG, AB, AC files for the PEI function and TD for the Pactables interface. The sequential backups of all these files will then be sorted according to an ASCII sequence during the database migration onto VA Pac.

RELEASE OF THE SOURCE PLATFORM

If the source platform release is identical to that of the target platform, the retrieval of the sequential backups will essentially consist in the conversion of these files into the OS/2 ASCII format of the target platform.

If the source platform release is older than the target platform release, but newer or equal to the 8.02v02 release, the PJ16 and PP16 procedures should be applied before the above mentioned steps. (See Chapter RETRIEVAL OF PACBASE 802.02, 1.2, 1.5, 1.6 for details on these procedures.)

If the source platform release is older than 8.02v02, contact the Technical Support to work out the best solution.

The procedures presented below are described in Chapter MIGRATIONS of the Batch Procedures: Administrator's Guide.

OPERATIONS TO CARRY OUT

1. User Parameter Restoration

  . Retrieval of the PE backup in ASCII format: PEAS procedure.

  . Encryption of user passwords (these were decrypted before the transfer of PE file) by the CRYP procedure with 'CODE' parameter.

  . Restoration of the AE and AP files via the running of the LOAE procedure, which uses in input:

   - The backup (PE file) output from the CRYP procedure,

   - The AE0 file supplied for the installation,

   - The MBLOAE transaction file containing the NRREST command.

  RESULT: The AE and AP files containing the source installation user parameters which are operational on the new platform.

2. Database Restoration

. Reorganization (REOR procedure) of the PC backup, directly output from the file transfer.

. Initialization of journal file (ARCH procedure) if the AJ file already exists in the 'JOURNAL' directory of the database to be installed.

. Restoration of the database (REST procedure) using the PC file resulting from the reorganization. Before executing the restoration, make sure that the input transaction (MBREST) is correct.

RESULT: The AR, AN and AJ files are operational on the new platform.

3. Restoration of generation-print requests

. Sort of the PG backup in ASCII format: PGAS procedure (all releases of the source site).

. Reorganization-restoration of generation-print commands (REAG) using the PG backup obtained in the previous step as input. Before executing this restoration, make sure that the input transaction (MBREAG) includes 'AG'.

If libraries, sessions, and/or user codes have been deleted via the database reorganization, the corresponding transactions must be entered for the reorganization of the AG file. Obsolete generation-print requests related to deleted sessions or libraries will be purged.

RESULT: The AG file is operational on the new platform.

4. PEI: Production Environment Restoration

. Retrieval of PP backup in the ASCII format: PPAS.

. Restoration of the production environment (RSPE) using the PP backup obtained in the previous step as input.

RESULT: The AB and AC files are operational on the new platform.

5. Pactables: Restoration of Table Descriptions

Only the migration of the table descriptions file (TD) is explained here. Besides, the retrieval of this file in the format of the new release may be performed on the site where the Pactables function operates. The transferred PD backup file is then already in the format of the new release:

. Retrieval of PD backup in the ASCII format: TD80 procedure.

. Restoration of table descriptions (RMTD) using the backup obtained in the previous step as input.

RESULT: The TD file is operational on the new platform.

7.5. CRYP: PASSWORD ENCRYPTION-DECRYPTION

CRYP: INTRODUCTION

The CRYP procedure performs the encryption and decryption of user passwords in the PE user-parameter backup file.

The objective of this procedure is to transfer the PE file onto platforms with different codings.

EXECUTION CONDITIONS

Authorization level '4' for the update of user parameters (PARM).

CRYP: USER INPUT

A '*' line with the user code and the password must be entered.

The user code specified on the '*' line must exist in the PE file to be processed.

The procedure's specific user input allows for the selection of either Encryption or Decryption.

```
------------------------------------------------------------
!Pos. ! Len. ! Value   ! Meaning                           !
!-----+------+---------+-----------------------------------!
! 3   ! 6    ! 'CODE'  ! Password encryption               !
!     !      !'DECODE' ! Password decryption               !
------------------------------------------------------------
```
NOTE: When decrypting, the backup obtained must not be reloaded via the 'PARM' procedure. If it were, user passwords would no longer be recognized.

SYMBOLICS IN USE

Attention to the specific parameters:

```
+-------------------------------------------------------+
! SYMBOLIC ! MEANING                                    !
!----------!--------------------------------------------!
! %1       ! Complete directory and filename of PE input!
!          ! file (to be coded or uncoded)              !
! %2       ! Complete directory and filename of PE output!
!          ! file                                       !
! %3       ! Directory of transaction files             !
! %4       ! Directory of temporary files               !
+-------------------------------------------------------+
```

DESCRIPTION OF STEPS

This procedure includes one step:

   .Password encryption and decryption : PACU99

PASSWORD ENCRYPTION AND DECRYPTION: PACU99

.Input files:
  -User parameter backup   : PAC7CE
   (Dir. and filename described by parameter 1)
  -User input   : PAC7MB
   (NBCRYP file in the INPUT dir.)

.Output file
  -User parameter backup   : PAC7EC
   (Dir. and filename described by parameter 2)

.Output result:
  -Report   : PAC7DD
   (CRYPDD.U99 file in temp. dir.)

.Return codes:
  0: OK.
  8: User input error.

```
ECHO OFF
CLS
ECHO .
ECHO .
ECHO ********************************************************
ECHO *                    CRYP PROCEDURE
ECHO *                    ==============
ECHO *  Please note the specific parameters:
ECHO *
ECHO *  Input PE    : complete directory and filename of
ECHO *              : PE input file (to be coded or uncoded)
ECHO *              : %1
ECHO *  Output PE   : complete directory and filename of
ECHO *              : PE output file
ECHO *              : %2
ECHO *  Transaction : transaction file directory
ECHO *              : %3
ECHO *  Report      : temporary file directory
ECHO *              : %4
ECHO *
ECHO *  Example
ECHO *  PROCCRYP  C:\PAC\SAVE\PE.MVS   C:\PAC\SAVE\PE
ECHO *            C:\PAC\INPUT\B0      C:\PAC\TMP
ECHO ********************************************************
ECHO .
ECHO Press Control_C to stop procedure execution
PAUSE
ECHO .
REM ********************************************************
REM * VA Pac : ENCRYPTION - DECRYPTION OF USER PASSWORDS
REM ********************************************************
REM * INPUT
REM * .BATCH PROCEDURE ACCESS AUTHORIZATION OPTION
REM *        '*' LINE WITH USER CODE AND PASSWORD
REM * .ENCRYPTION OR DECRYPTION OF USER PASSWORDS
REM *  COL  3 A  8 : DECODE        FOR DECRYPTION
REM *  COL  3 A  8 : CODE          FOR ENCRYPTION
REM ********************************************************
SET  PAC7CE=%1
SET  PAC7EC=%2
SET  PAC7MB=%3\MBCRYP
SET  PAC7DD=%4\CRYPDD.U99
ECHO Execution: PACU99
PACU99
IF ERRORLEVEL 1 GOTO ERRU99
IF NOT ERRORLEVEL 0 GOTO ERRU99
ECHO ********************************************************
ECHO End of procedure
ECHO .
ECHO  Output PE (%2) will be input file of procedures:
ECHO  PROCPE80 if the file is in 8.0.1 format
ECHO  PROCPARM or PROCLOAE if the file is in the right format
ECHO ********************************************************
GOTO END
:ERRU99
ECHO Error executing PACU99
PAUSE
:END
ECHO ON
```

7.6. LVBL: REPLACING LOW-VALUES BY BLANK CHARACTERS

LVBL: INTRODUCTION

The LVBL procedure replaces 'low-values' present in the PC Database backup file with blanks.

The purpose of this procedure is to transfer the PC file onto different platforms while avoiding problems due to the presence of low-values at the time of transfer.

UTILIZATION OPTION

The LVBL procedure allows you to keep only records of the 'data' type. See the 'Description of Steps' section for further details on the implementation of this option.

EXECUTION CONDITIONS

None

SYMBOLICS IN USE

Attention to the specific parameters:

```
+-------------------------------------------------------+
! SYMBOLIC ! MEANING                                     !
!----------!--------------------------------------------!
! %1       ! Complete directory and filename of PC input !
!          ! file                                        !
! %2       ! Complete directory and filename of PC output !
!          ! file                                        !
+-------------------------------------------------------+
```

DESCRIPTION OF STEPS

This procedure includes one step: PTULVB

UTILIZATION OPTION

When starting up the program, you must:

- Enter DATA then press the Entry key to transfer only the 'data' records onto the output PC
  file.

- Press the Entry key to transfer the 'data' and 'index' records onto the output PC file.

REPLACEMENT OF LOW-VALUES BY BLANKS: PTULVB

```
.Input file:
  -Database backup                      :  PAC7MC
   (Dir. and filename described by parameter 1)

.Output file:
  -Database backup                      :  PAC7PC
   (Dir. and filename described by parameter 2)
```

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LVBL: REPLACING LOW-VALUES BY BLANK CHARACTERS   6

```
     ECHO OFF
     CLS
     ECHO .
     ECHO .
     ECHO ********************************************************
     ECHO *                     LVBL PROCEDURE
     ECHO *                     ==============
     ECHO *  Please note the specific parameters:
     ECHO *
     ECHO *  PC input  : complete directory and filename of PC file
     ECHO *            : %1
     ECHO *  PC output : complete directory and filename of PC file
     ECHO *            : %2
     ECHO *
     ECHO *  Example
     ECHO *     C:\PAC\SAVE\B0\PC.LOW C:\PAC\SAVE\B0\PC
     ECHO ********************************************************
     ECHO .
     ECHO Press Control_C to stop procedure execution
     PAUSE
     ECHO .
     REM ********************************************************
     REM * VA Pac :
     REM * REPLACING LOW-VALUES BY SPACES IN A PC FILE
     REM ********************************************************
     SET  PAC7MC=%1
     SET  PAC7PC=%2
     ECHO Execution: PTULVB
     PTULVB
     IF ERRORLEVEL 1 GOTO ERRLVB
     IF NOT ERRORLEVEL 0 GOTO ERRLVB
     REM ********************************************************
     ECHO End of procedure
     GOTO END
     REM ********************************************************
     :ERRLVB
     ECHO Error in executing PTULVB
     PAUSE
     :END
     ECHO ON
```

8. INITIAL LOADING OF FILES

8.1. LDAP: INITIAL LOADING OF AP FILE

GENERAL NOTES

The procedures described below are the file initializations started up by the installation procedure. Refer to Chapter INSTALLATION, Subchapters 'Installation of the VA Pac server', and 'Creation of a new Database'.

LDAP: INITIAL LOADING OF THE AP FILE

This procedure physically creates and initializes the user parameter indexed file (AP).

It must be executed when the AP file does not exist (in particular for the first installation), or when it is not logically organized.

EXECUTION CONDITION

On-line servers must be closed to on-line use.

USER INPUT

None

SYMBOLICS IN USE

```
+--------------------------------------------------------------+
! SYMBOLIC ! MEANING                                           !
!----------!---------------------------------------------------!
! %1       ! Directory of the relative and indexed files       !
!          ! which make up the database                        !
+--------------------------------------------------------------+
```

DESCRIPTION OF STEPS

This procedure includes the following step:

        .AP file initialization   : PTLDAP

INITIALIZATION : PTLDAP

This step writes a record to the AP file in order to
initialize it.

.Output file:
 -User parameters file   : PAC7AP

```
    ECHO OFF
    CLS
    ECHO .
    ECHO .
    ECHO *********************************************************
    ECHO *            INITIALIZATION OF THE AP FILE
    ECHO *
    ECHO *            Directory of the AP file  : %1
    ECHO *********************************************************
    ECHO .
    ECHO Press Control_C to stop procedure execution
    PAUSE
    ECHO .
    REM *********************************************************
    REM * VA Pac : INITIALIZATION OF THE AP FILE
    REM *********************************************************
    SET  PAC7AP=%1\AP
    ECHO Execution: PTLDAP
    PTLDAP
    IF ERRORLEVEL 1 ECHO Error in executing PTLDAP
    IF ERRORLEVEL 1 GOTO END
    REM *********************************************************
    ECHO End of procedure
    :END
    ECHO ON
```

8.2. LDHE: INITIAL LOADING OF HE FILE

<u>LDHE: INITIAL LOADING OF THE HE FILE</u>

This procedure physically creates and initializes the HE indexed file.

It must be executed when the HE file does not exist (in particular for the first installation), or when it is not logically organized.

<u>EXECUTION CONDITION</u>

On-line servers must be closed to on-line use.

<u>USER INPUT</u>

None

SYMBOLICS IN USE

```
+-------------------------------------------------------------+
! SYMBOLIC ! MEANING                                          !
!----------!--------------------------------------------------!
! %1       ! Directory of the relative and indexed files      !
!          ! which make up the database                       !
+-------------------------------------------------------------+
```

DESCRIPTION OF STEPS

This procedure includes the following step:

      .HE file initialization   : PTLDHE

INITIALIZATION : PTLDHE

This step writes a record to the HE file in order to
initialize it.

.Output file:
 -Layout backup file   : PAC7HE

```
    ECHO OFF
    CLS
    ECHO .
    ECHO .
    ECHO ********************************************************
    ECHO *            INITIALIZATION OF THE HE FILE
    ECHO *
    ECHO *            Directory of the HE file  : %1
    ECHO ********************************************************
    ECHO .
    ECHO Press Control_C to stop procedure execution
    PAUSE
    ECHO .
    REM ********************************************************
    REM * VA Pac : INITIALIZATION OF THE HE FILE
    REM ********************************************************
    SET  PAC7HE=%1\HE
    ECHO Execution: PTLDHE
    PTLDHE
    IF ERRORLEVEL 1 ECHO Error in executing PTLDHE
    IF ERRORLEVEL 1 GOTO END
    REM ********************************************************
    ECHO End of procedure
    :END
    ECHO ON
```

8.3. LDZS: INITIAL LOADING OF ZS FILE

LDZS: INITIAL LOADING OF THE ZS FILE

This procedure creates and initializes the ZS indexed file.

It must be executed when the ZS file does not exist (in particular for the first installation), or when it is not consistent.

EXECUTION CONDITION

On-line servers must be closed to on-line use.

USER INPUT

None

INITIAL LOADING OF FILES   8
LDZS: INITIAL LOADING OF ZS FILE   3

SYMBOLICS IN USE

```
+----------------------------------------------------------+
! SYMBOLIC ! MEANING                                       !
!----------!-----------------------------------------------!
! %1       ! Directory of the relative and indexed files   !
!          ! which make up the database                    !
+----------------------------------------------------------+
```


DESCRIPTION OF STEPS

This procedure includes the following step:

     .ZS file initialization   : PTLDTS

INITIALIZATION : PTLDTS

This step writes a record to the ZS file in order to
initialize it.

.Output file:
 -DBD function work file   : PAC7ZS

```
     ECHO OFF
     CLS
     ECHO .
     ECHO .
     ECHO ********************************************************
     ECHO *            INITIALIZATION OF THE ZS FILE
     ECHO *
     ECHO *            Directory of the ZS file  : %1
     ECHO ********************************************************
     ECHO .
     ECHO Press Control_C to stop procedure execution
     PAUSE
     ECHO .
     REM ********************************************************
     REM * VA Pac : INITIALIZATION OF THE ZS FILE
     REM ********************************************************
     SET  PAC7ZS=%1\ZS
     ECHO Execution: PTLDTS
     PTLDTS
     IF ERRORLEVEL 1 ECHO Error in executing PTLDTS
     IF ERRORLEVEL 1 GOTO END
     REM ********************************************************
     ECHO End of procedure
     :END
     ECHO ON
```

8.4. LDGS: INITIAL LOADING OF GS FILE

LDGS: INITIAL LOADING OF GS FILE

This procedure physically creates and initializes the GS indexed file.

It must be executed when the GS file does not exist (in particular for the first installation), or when it is not logically organized.

EXECUTION CONDITION

On-line servers must be closed to on-line use.

USER INPUT

None

        SYMBOLICS IN USE

        +---+
        ! SYMBOLIC ! MEANING   !
        !----------!--!
        ! %1   ! Directory of the relative and indexed files   !
        !   ! which make up the database   !
        +---+

        DESCRIPTION OF STEPS

        This procedure includes the following step:

              .GS file initialization   : PTLDGS

        INITIALIZATION : PTLDGS

        This step writes a record to the GS file in order to
        initialize it.

        .Output file:
         -DBD function work file   : PAC7GS

```
ECHO OFF
CLS
ECHO .
ECHO .
ECHO ********************************************************
ECHO *           INITIALIZATION OF THE GS FILE
ECHO *
ECHO *           Directory of the GS file  : %1
ECHO ********************************************************
ECHO .
ECHO Press Control_C to stop procedure execution
PAUSE
ECHO .
REM ********************************************************
REM * VA Pac : INITIALIZATION OF THE GS FILE
REM ********************************************************
SET  PAC7GS=%1\GS
ECHO Execution: PTLDGS
PTLDGS
IF ERRORLEVEL 1 ECHO Error in executing PTLDGS
IF ERRORLEVEL 1 GOTO END
REM ********************************************************
ECHO End of procedure
:END
ECHO ON
```

8.5. HELP: INITIAL LOADING OF HELP FILE

<u>INITIAL LOADING OF HELP FILE</u>

This procedure creates and initializes the HELP indexed file.

It must be executed when the HELP file does not exist (in particular for the first installation), or when it is not logically organized.

<u>EXECUTION CONDITION</u>

On-line servers must be closed to on-line use.

<u>USER INPUT</u>

None

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INITIAL LOADING OF FILES   **8**
HELP: INITIAL LOADING OF HELP FILE   **5**

SYMBOLICS IN USE

```
+-------------------------------------------------------------+
! SYMBOLIC ! MEANING                                          !
!----------!--------------------------------------------------!
! %1       ! Directory of the relative and indexed files      !
!          ! which make up the database                       !
+-------------------------------------------------------------+
```


DESCRIPTION OF STEPS

This procedure includes the following step:

        .HELP file initialization   : PTLDHE

INITIALIZATION : PTLDHE

This step writes a record in the HELP file in order to
initialize it.

.Output file:
 -Back-up before Help documentation   : PAC7HE
  display

```
    ECHO OFF
    CLS
    ECHO .
    ECHO .
    ECHO **********************************************************
    ECHO *             INITIALIZATION OF THE HELP FILE
    ECHO *
    ECHO *         Directory of the HELP file  : %1
    ECHO **********************************************************
    ECHO .
    ECHO Press Control_C to stop procedure execution
    PAUSE
    ECHO .
    REM **********************************************************
    REM * VA Pac : INITIALIZATION OF THE HELP FILE
    REM **********************************************************
    SET  PAC7HE=%1\HELP
    ECHO Execution: PTLDHE
    PTLDHE
    IF ERRORLEVEL 1 ECHO Error in executing PTLDHE
    IF ERRORLEVEL 1 GOTO END
    REM **********************************************************
    ECHO End of procedure
    :END
    ECHO ON
```