VisualAge Pacbase 2.5

VA PAC 2.5 – WINDOWS/NT
OPERATIONS MANUAL VOLUME I : ENVIRONMENT & INSTALLATION

DELNT001252A

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1. FOREWORD

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. DESCRIPTION OF COMPONENTS

2.1. INTRODUCTION

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. CODES OF 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
```

2.3. ON-LINE PROGRAMS

PROGRAM CODE	FUNCTION OPTION	CORRESPONDING CHOICE 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

PROGRAM CODE	FUNCTION OPTION	CORRESPONDING CHOICE 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

PROGRAM CODE	FUNCTION OPTION	CORRESPONDING CHOICE 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
D8R600	DIC	Text editing
D8R980	-	Screen formatting
D8R990	-	WEB formatting
D8SECT	SEC	Security system interface

PROGRAM CODE	FUNCT. OPTION	CORESSPONDING CHOICE Comments
R00	DIC	On-line and PARM server monitor
PARM	-	User param. monitor
JOB	-	Job function
SHUTTP	-	On-line server shutdown
LOCKDB	-	System lock for update serialization
MICRO FOCUS COBOL ROUTINES		
MFFH		Micro Focus Run Time
MFRTS32		Micro Focus Run Time
MFSCREEN		Micro Focus Run Time
MSCVRT20		Micro Focus Run Time
XFHNAME		Micro Focus Run Time

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	-	

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

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.

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	-	

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 REST	DIC	Banner print sub-program (to separate reports)
PACA90	GPRT UPDT REST	-	Data Element format 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 CODE	FUNCTION OPTION	CORRESPONDING CHOICE 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 the BATCH\PGM and TP\PGM directories).

. 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

THE DATABASE FILES

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:

THE DATA FILE (AR)

```
.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).

THE INDEX FILE (AN)

```
.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).

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'
```

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
```

2.8. ADDITIONAL FILES

COMPLEMENTARY FILES

DICTIONARY COMPLEMENTS

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. MERISE method	UPDT
MBPARM.MER	Parameterization MERISE method	PARM
MBUPDT.ADM	Batch transact. SSADM method	UPDT
MBPARM.ADM	Parameterization SSADM method	PARM

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

DO NOT MODIFY THE CONTENTS OF THESE FILES

Refer to Chapter INSTALLATION, Subchapter 'Complement: WorkStation Installation'.

3. ENVIRONMENT

3.1. INTRODUCTION

INTRODUCTION

The purpose of VisualAge Pacbase on a Windows NT server is to make a Specifications Dictionary operational on a Local Area Network. This L.A.N. is composed of a Windows NT server (Windows NT Server or WorkStation release), and work stations running under Windows release 3.1 or higher, Windows 95, or Windows NT.

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, work stations, including their components, structures, and operating modes.

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

3.2. ARCHITECTURES

ARCHITECTURES

Each work station communicates with ONE on-line server under Windows NT 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.

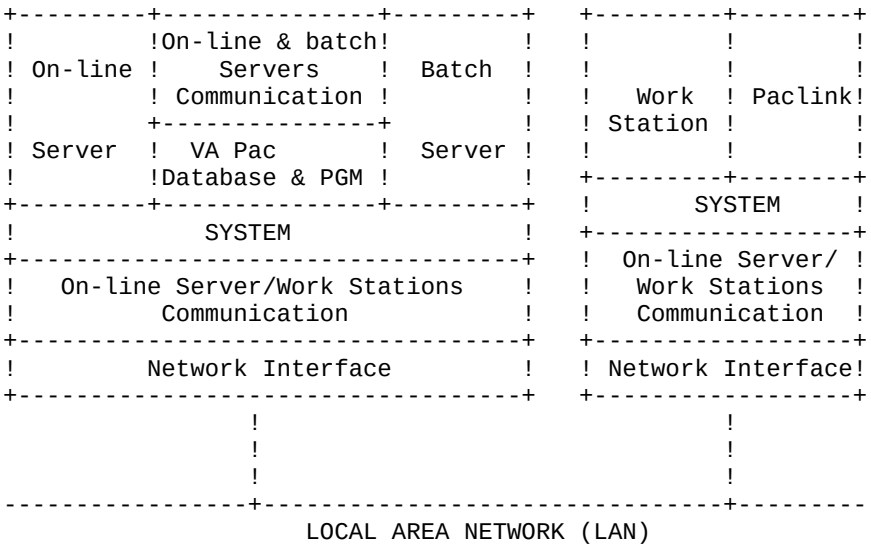
Several on-line servers may run simultaneously.

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.



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.

If several on-line and batch servers are to be activated, they can be installed on one or several machines.

In case of several machine, the Specifications Dictionary and files ensuring the communication between on-line and batch servers must be installed on a shared resource of the L.A.N. to enable the VA Pac servers to access them.

Accesses to the locally installed Specifications Dictionary being more efficient than the same accesses via the L.A.N., it is better to install all the VA Pac servers on the same machine.

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.

If all the on-line and batch servers are installed on the same machine, the communication files between on-line and batch servers do not need to be shared on the Local Area Network.

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 R00.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 machine where the on-line server is installed, as well as the 'socket' name assigned to the on-line server.

An on-line server can be installed on the same machine as the batch server, started up from another session.

Several on-line servers may be started up, either on one or several servers.

An on-line server operates in an MS-DOS session.To view the information on each connected work station, you must activate the on-line server monitor, whose icon is created upon installation, or the "on-line server info.' icon.

PURGING WORK STATIONS

Via its 'Server' menu, the on-line server monitor enables you to purge work stations during a work session, 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

BATCH SERVERS

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.

The B00 (for batch) and R00 (for on-line) servers must be able to update the LB and BD communication files, if these files are located on a file server.

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.

PURGE OF JOBS

When the Batch Server is initiated, the jobs executed and normally terminated are automatically purged. The batch server menu 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. USERS' WORK STATIONS

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).

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.

3.7. DISK SPACE REQUIREMENTS

DISK SPACE REQUIREMENTS

1. VISUALAGE PACBASE SYSTEM

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.

2. VISUALAGE PACBASE DATABASE

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, ...).

This assignment is performed via the system environment variables.

4. INSTALLATION

4.1. OVERVIEW

INTRODUCTION

The Windows/NT 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).

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 Windows.

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 proceding 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:

. Server installation,
. Complements: according to the functions present on the site,
. 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

COMMUNICATION BETWEEN WORK STATIONS AND SERVERS

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

Besides the installation, the TCP/IP protocol implementation requires the configuration of the database files:

. The 'hosts' file of each client work station must contain the IP address of the VA Pac server with which a communication must be set up via its reference symbol.

. The 'services' files of each VA Pac server must contain the communication port number of each on-line server.

The 'netstat -an' command enables to display the ports in use.

On a Windows NT workstation, the 'hosts' and 'services' files are installed in the following directory:

```
C:\WINNT\SYSTEM32\DRIVERS\ETC.
```

(supposing that C:\WINNT is the Windows NT installation directory).

Example of 'hosts' file 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 checks whether the TCP/IP network is ready for work. If it is, the work stations and the VA Pac server will be able to communicate with one another 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 submits a generation-print request in on-line mode, the request is processed by the batch server, which creates in return the output files in the 'release'\USERS directory.

The user can obtain these output files by different means:

. Definition of a shared resource on the local area network,

. Use of the TCP/IP file transfer protocol (FTP).

Refer to the Windows NT documentation for information on the implementation of one of the solutions.

USE OF THE VisualAge Pacbase WORKSTATION

For the use of the PACBENCH "Generation-Print Monitor" menu the USERS directory must be declared as a shared resource on the local area network.

4.3. INSTALLATION OF THE FIRST VA PAC SERVER

INSTALLATION OF THE FIRST VA PAC SERVER

1. START-UP OF INSTALLATION

As soon as the CD-ROM is inserted, the SETUP.EXE installation program, located on the WINDOWS directory, is executed. A first dialog box enables you to choose the installation language. Then a second dialog box lists the VisualAge Pacbase products present on the CD-ROM and enables you to select 'VisualAge Pacbase'.

As the installation proceeds, you must select the following:

- Installation type:

  . First server
  . Additional server
  . Initialization of a new database

- installation root (disk unit, directory):

This is the disk unit and directory where VisualAge Pacbase is to be installed.

If the installation process finds a previous VA Pac version in this directory, it suggests a reinstallation (see below). The installation 'root' directory is sometimes mentioned here under the name 'release'. All the other directories mentioned are sub-directories of this directory.

- Distribution choice on available disks:

The directory tree created under the chosen root is a structure with fixed names. Only the volume (disk unit) may be changed. If the default disk unit does not suit you, you can go back to the preceding choice.

For a list of files and their location, refer to Chapter DESCRIPTION OF CREATED DIRECTORIES.

- Name of the VisualAge Pacbase Test Database:

A first installation initializes a test Database.

Database files and generation skeleton files are assigned by command files. They may be accessed for reading in the \ASSIGN\'db_name' directory.

A command file, named PR'db_name'.CMD, found in the batch procedure directory, is used to automate the execution of batch procedures.

- On-line server socket number:

The installation process requires a 'socket' number, which is used to set up the communication between the on-line server and the PACLINK 'dumb terminal'. A programs group is created; it contains the start-up icons of the batch and on-line servers, two PACLINK icons (developer and administrator), the on-line server monitor icon and the "on-line server info" icon.

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

. a user code,

. the system access key, sent by mail by IBM.

If the WorkStation is also used, the methodology parameters must also be integrated in the system.

All this data is entered, via an editor, in the MBPARM file described in the paragraph below.

NOTE

The second installation step may be skipped. In this case, refer to paragraph 'Second Installation Step in case of a Customized Installation' thereafter to know how to load the user parameters (user code and access key) and to initialize the test database.

SECOND INSTALLATION STEP IN CASE OF A CUSTOMIZED INSTALLATION

If the second step of the installation is skipped during the standard installation process, do the following:

1) ENTER THE ACCESS KEY AND THE USER CODE

Edit the MBPARM file in the INPUT\'db_name' directory. This file contains:

. a '*' line to initialize the system,
. an input form ('NK' line) to enter the site access key,
. the definition of a user code ('NU' line) which is granted all access authorizations to the database and which allows the performing of installation tests: Code = TEST and Password = blank.

2) INITIALIZE THE DATABASE

Run the GOINST2 procedure to activate INSTALL2 with the correct parameter values. These procedures are stored in the INSTALL sub-directory of the installed product.

The INSTALL2 procedure requires the following parameters:

1 : Volume for batch & on-line programs and procedures;

2 : Volume for the VisualAge Pacbase Database files (indexed and relative files, except for the journal);

3 : Volume for the AJ Journal file;

4 : Volume for the VisualAge Pacbase Database sequential backup;

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 transactions in MBPARM
PROCREAG: Initialization of the AG file
PROCREST: Initialization of the test database
PROCINPF: Initialization of the FP file,
PROCINFQ: Initialization of the FQ file,
PROCLDUV: Initialization of the UV file.

Result: The test database is installed and can be used in batch or on-line mode.

NOTE:

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

WorkStation: Methodology Parameters

See chapter COMPLEMENT: WORKSTATION INSTALLATION.

4.4. INSTALLATION OF ADDITIONAL SERVERS

INSTALLATION OF ANOTHER SERVER ON ANOTHER MACHINE

When the Additional Server choice is checked, the installation procedure offers to copy the programs required for the operation of the servers on another station.

This procedure creates directories for on-line and batch programs and procedures, for database assignment files and skeleton files, and for the temporary files. It copies all programs and procedures, then it creates the database and generation skeleton assignment files and the PR'db_name'.CMD file for the submission of the batch procedures.

- Name of the VisualAge Pacbase database

Specify the name of the installed database which the new server will access.

- Root of the installation (disk, directory)

The installation directory must be the same as that associated to the installed database, but the disk unit choice is independent.

- Installation units for the various files

These must be identical to the ones entered for the installation of the database to be accessed.

4.5. INSTALLATION OF WINDOWS WORKSTATIONS (PACLINK)

INSTALLATION OF THE REMOTE WINDOWS WORK-STATIONS (PACLINK)

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

All the files required for a 'dumb terminal' work station 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.

UPDATE OF THE PARAMETER FILES

Two parameter files must be adapted to the installation characteristics:

GSWINNT.PRM

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.

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.

4.6. 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'.

4.7. 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'.

4.8. COMPLEMENT: PAF ENVIRONMENT INSTALLATION

COMPLEMENT: PAF ENVIRONMENT INSTALLATION

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.

THE EXTRACTION SUB-PROGRAMS

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
```

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
```

4.9. 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
```

4.10. 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.

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

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.

4.11. COMPLEMENT: PACBENCH QUALITY CONTROL INSTALLATION

COMPLEMENT: PACBENCH QUALITY CONTROL INSTALLATION

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.

4.12. 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'.

4.13. 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.

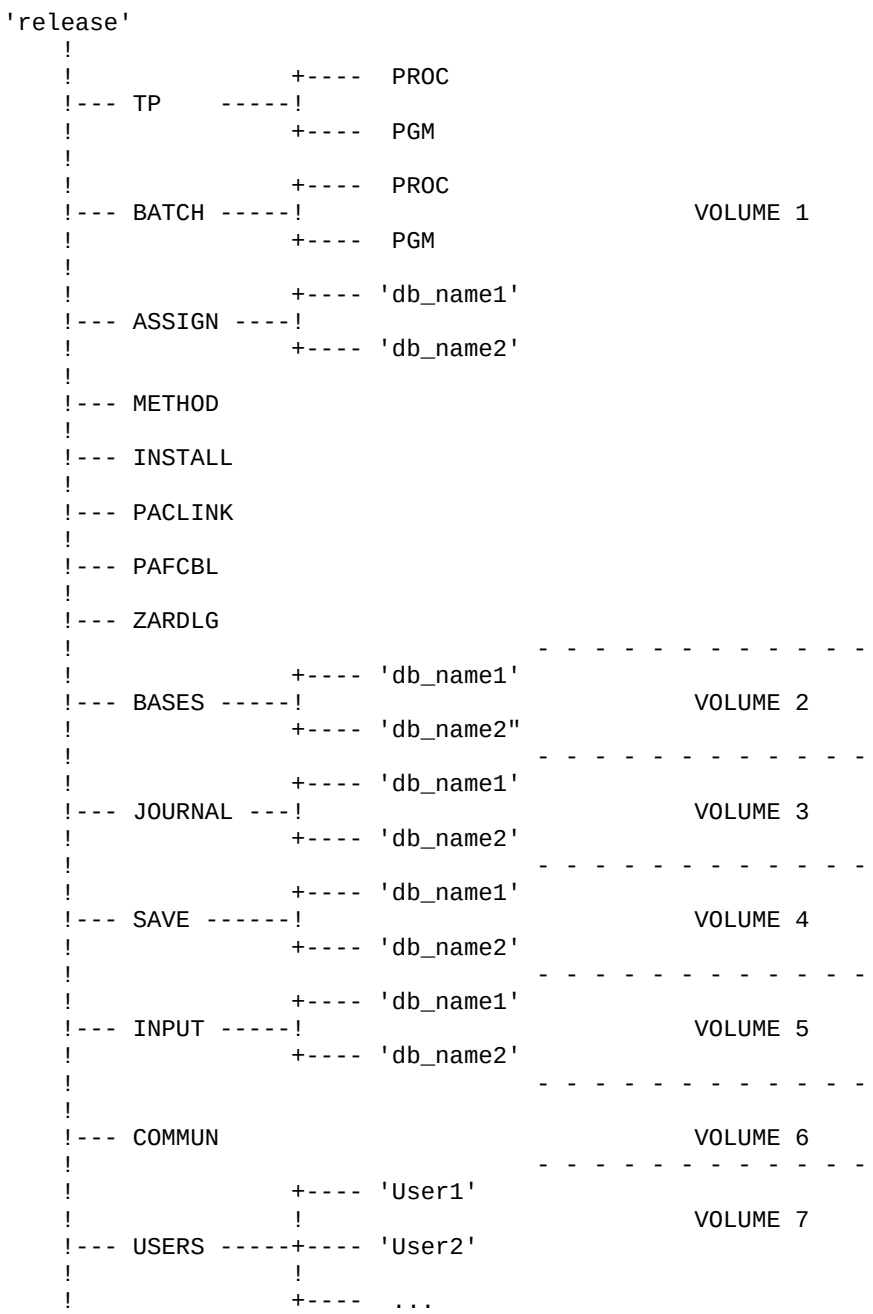
The ZARDLG directory contains the following files:

```
      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.

4.14. DESCRIPTION OF CREATED DIRECTORIES

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.)



4.14.1. THE VA PAC SERVER DIRECTORIES

VISUALAGE PACBASE SERVER DIRECTORIES

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

THE 'release' DIRECTORY

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.

THE \TP DIRECTORY

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 procedures related to the on-line server: start-up, information request, work station purge and server shut down.

```
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, and the SHUTBAT program which is used to shut the batch server down via a command file.

```
BATCH +--- PGM  --- Programs
      !             B00
      !             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).

4.14.2. THE 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.).

4.14.3. 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').

4.14.4. THE SHARED DIRECTORY

THE SHARED DIRECTORY

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

The \USERS directory

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.)

4.14.5. THE TEMPORARY-FILE DIRECTORY

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.

4.15. DIRECTORIES CREATED ON WORK STATIONS

4.15.1. THE VA PAC WORK-STATIONS DIRECTORY

THE VA PAC WORKSTATION DIRECTORY (PACDESIGN, PACBENCH)

Please refer to the WorkStation Operations Manual.

4.15.2. THE WINDOWS DUMB WORK-STATIONS DIRECTORY (PACLINK)

THE DIRECTORY OF WINDOWS "DUMB TERMINALS" (PACLINK)

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

4.16. INSTALLATION TESTS

VISUALAGE PACBASE INSTALLATION TESTS

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.

1. VA PAC DATABASE USE TESTS:

. PARM transaction on-line use,

. On-line use from a work station,

. Batch updates,

. Program generation-print.

PARM Transaction On-line Use tests

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.

On-line Server start-up:

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

VA Pac transaction: Database update test

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

Batch Updates:

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 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.

3. EXTRACTION TESTS:

These tests involve the execution of the PACX extraction procedure on the Database.

All on-line servers do not need to be closed down.

These tests include the following steps:

. Extraction of a VA Pac Library, in the form of transactions.

. Extraction of entity occurrences from a VA Pac Library.

. Extraction of selected transactions and/or list of selected transactions from the Archived Journal file (PJ).

Each execution of the PACX procedure may be followed by an update (UPDT procedure), to check the validity of extracted transactions.

4.17. CREATION OF A NEW DATABASE

CREATION OF A NEW DATABASE

STANDARD PATHS OF DATABASE FILES

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 label file, the AP user parameter file and possibily the DC DSMS control file are directly installed in \BASES 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' by 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.

CREATION OF A NEW DATABASE

The installation allows to initialize a new database.

Check the "New Database Initialization" box when you select the installation type.

This procedure assumes that VA Pac is already installed on the machine. If it is not, an error message is displayed.

For a 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 'PxBACKUP' 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 installation starts the INSTBAS3 procedure which initializes the installed files, and finally the new database, as follows:

. 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.

During the installation, you are prompted to create a program group. This group contains the icons used to start the different servers (TP, Batch) and a PACLINK group initialized by the installation procedure. In this case, the various parameter files are initialized by the installation procedure.

NOTE:

The installation asks for a socket number used to set up the communication between the on-line server and the PACLINK dumb terminal.

BATCH PROCEDURE SUBMISSION

1. Submit via command files

The following files are stored in the BATCH\PROC directory: PRTEST.CMD and PRREEL.CMD (using for example the TEST and REEL databases). Each one of these is adapted to the submission of the batch procedures on one database.

2. Submit via an icon

It is advised to define as many "Groups" as there are VA Pac databases containing the usual procedures.

For complete information on the submission of the procedures refer to the Operations Manual - Part II, Batch Procedures: Administrator's Guide, Chapter OVERVIEW Subchapter 'Submission of Procedures'.

5. INSTALLATION OF A SUB-RELEASE

5.1. STANDARD RE-INSTALLATION (SUB-RELEASE)

INSTALLATION OF A NEW VA PAC SUB-RELEASE

VisualAge Pacbase must be re-installed when a new release 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 hand 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 \BATCH\PROC\ENG directory, and on-line procedures in the \TP\PROC\ENG directory.)

GENERAL COMMENTS

. 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 re-installation copies the AE0 file ad 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.

6. RETRIEVAL OF PACBASE 802.02, 1.2, 1.5, 1.6

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

UPGRADE OF THE 802.02 - 1.2 - 1.5 - 1.6 RELEASES

OPERATIONS TO CARRY OUT

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.

1. Reinstallation of user parameters:

. 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).

2. Reinstallation of a VA Pac Database

. 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.

3. Reinstallation of the Production Environment Interface

. 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.

6.3. RETRIVAL VA PAC 2.0

6.3.1. OPERATIONS TO BE PERFORMED

UPGRADE OF THE 2.0 RELEASE

OPERATIONS TO PERFORM

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.

CASE 1: VA Pac 2.5 installed in a new environment

1. Reinstallation of user parameters:

. 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).

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.

6.3.2. 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
```

6.4. RETRIVAL OF PACBASE 802.02, ..., 1.6 OPERATIONS TO BE PERFORMED

UPGRADE OF THE 802.02 - 1.2 - 1.5 - 1.6 RELEASES

OPERATIONS TO CARRY OUT

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.

1. Reinstallation of user parameters:

. 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).

2. Reinstallation of a VA Pac Database

. 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.

3. Reinstallation of the Production Environment Interface

. 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.

6.4.1. 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
```

6.4.2. PP16: PRODUCTION-ENVIRONMENT RETRIEVAL

RETRIEVAL OF PRODUCTION ENVIRONMENT 8.02v02 to 1.6 (PP16)

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.

EXECUTION CONDITION

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
```

6.5. TRRT (PAC/TRANSFER FACILITY)

6.5.1. TRRT: INTRODUCTION

TRRT: 2.5 UPGRADE OF PAC/TRANSFER PARAMETERS FILE

PRESENTATION OF TRRT

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.

OPERATING MODE

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.

6.5.2. TRRT: INPUT

USER INPUT

. 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	llll	Transaction Set code (required)

6.5.3. TRRT: DESCRIPTION OF STEPS

TRRT: DESCRIPTION OF STEPS

INPUT RECOGNITION: PTU001

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

6.5.4. 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. MIGRATION OF A MAINFRAME DATABASE ONTO A L.A.N.

7.1. INTRODUCTION

MIGRATING A VA PAC REPOSITORY TO A LOCAL NETWORK

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

CONSTITUTION OF BACKUPS ON THE SOURCE PLATFORM

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

User Parameter Backup

. 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.

Database Backup

. 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.

Generation-Print Request Backup

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

Production Environment Backup

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

Pactables backup

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. TRANSFER OF 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.

TRANSFER OF FILES TO THE VA PAC WINDOWS/NT SERVER

The transfer can be performed using a software supplied in the Windows NT computer.

1. Database from a mainframe

The following parameters must be indicated for the transfer:

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

. The files must be converted to the ANSI format (ISO8859-1),

. The files must contain check characters to be used for record ends (generally, the parameter to be specified is CRLF).

2. Database from an OS/2 server site

It will be necessary to perform a character conversion on the transferred backup files, especially if they contain special or accented characters (the OS/2 standard format being ASCII - PC850 - and that of Windows NT being ANSI - ISO8859 -).

The CGITRANS utility program in the batch program directory is used to perform this conversion. This program requires four parameters: input file (to be converted), output file, input file format, output file format. The possible file formats are PC850 or ISO8859.

Example : cgitrans PC PC.NEW pc850 iso8859

7.4. RESTORATION OF 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.

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

```
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

LDHE: INITIAL LOADING OF THE HE FILE

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.

EXECUTION CONDITION

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

USER INPUT

None

```
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

```
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

```
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

INITIAL LOADING OF HELP FILE

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.

EXECUTION CONDITION

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

USER INPUT

None

```
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
```