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## **VisualAge Pacbase**

**V2-V2.5 > V3.5 Migration Aid  
for developers using  
the VisualAge Pacbase WorkStation or  
the VA Pac character mode interface**

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# 1. Introduction

## 1.1 Purpose of this document

This document is intended to help you migrate to VisualAge Pacbase V3.5, using the character-mode interface or the VA Pac WorkStation.

Changes and enhancements included in this version are related to the following topics:

- The Repository entities
- The new functionalities
- Online choices
- Generation-print commands
- Compatibility with Pactables, DSMS, and the PAF function

The purpose of this document is to facilitate the transition from the 2.0/2.5 version to the 3.5 version, while ensuring a complete usability of the prior version's functionalities.

## 1.2 References

For complete reference information, the following documents are recommended reading:

- Pocket Guide
- Character-mode User Interface
- User Interface Guide: VisualAge Pacbase WorkStation
- Data Dictionary

## 2. Changes on the Repository Entities

### 2.1 Changes Common to all Entities

#### 2.1.1 Timestamp on all the VA Pac Entities

When an occurrence Definition or Description is updated, a timestamp record is updated. This record contains the date and time of the update, as well as the user who made it. This information is displayed on all Definition screens.

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
VA Pac 3.5 V03 DICTIONARY +F056070.BVAP.DTA.1014
DATA ELEMENT CODE      COUNTRY
NAME.....: Country
TYPE.....: R
INPUT FORMAT.....: X(32)
INTERNAL FORMAT.....: X(32)
OUTPUT FORMAT.....: X(32)
                    USAGE : D   LENGTH...: 32
                    Z:      LENGTH...: 32
                    LENGTH...: 32
EXPLICIT KEYWORDS...: PUBLISHER
PARENT ELEMENT.....:

UPDATED BY.....: F056070   ON : 04/04/2005 AT: 11:12:09   LIB : DTA
SESSION NUMBER.....: 1014   LIBRARY.....: DTA   LOCK.....:
*** END ***
O: C1 CH:
ACTION: M 1
MA a 24/012
Connected to remote server/host 127.0.0.1 using port 52030

```

**Data Element COUNTR: Definition**

Entity Occurrence Match! Options Screen ?=F1

Code: **COUNTR** Name: **Country**

Keywords:  
**PUBLISHER**

Type: R

Formats

Input...	X(32)	Length:	32
Internal:	X(32)	Usage: D	Length: 32
Output...	X(32)	Z:	Length: 32

Parent Element:

Libr. Session: DTA 1014  
Lock:

Last Updt: 04/04/2005 11:12:09 F056070 DTA

\*\*\* END \*\*\*

## 2.1.2 Splitting of the 'General Documentation' screen (-G) into several screens

In order to clarify the VA Pac model, the 'General Documentation' screen has been split into several screens.

- – GC choice

It replaces the –G choice on all the entities. It constitutes the actual comments.  
The following line types can be found on this screen:

‘ ‘      Comments  
‘A’      Cobol alias

- – GO choice

It is related to the options and parameters of the Screens, Dialogs or Database Blocks. It is reserved for the Library, Segment, Database Block, Screen and Program entities.  
The following line types can be found on this screen:

‘O’      Generation options

- – GG choice

It is related to the generation of the Database Blocks. It is reserved for the Segment, Database Block and Screen entities

The following line types can be found on this screen:

'G' Block generation.  
'P' Generation of a Socrate Block (after line)  
'V' Generation of a Socrate Block (before line)  
'Z' Generation of a Socrate Block (after entity)

- – GE choice

It is related to the generation of error messages. It is reserved for the Data Structure, Screen, Segment and Data Element entities.

The following line types can be found on this screen:

'C' Documentation for online help  
'D' Error message for batch applications  
'F' Data Element code  
'S' Modification of a standard error message  
'T' Call of a Text section for the online help  
'U' User error

- – CR choice

It is related to the calls of occurrences via Relations.

- Specificity of an 'I'-type line: call of a PIA

Depending on the value of the 'Line generation option' field entered in the PIA Description, the PIA call will be considered as a comment, a Dialog option or will be recognized upon generation:

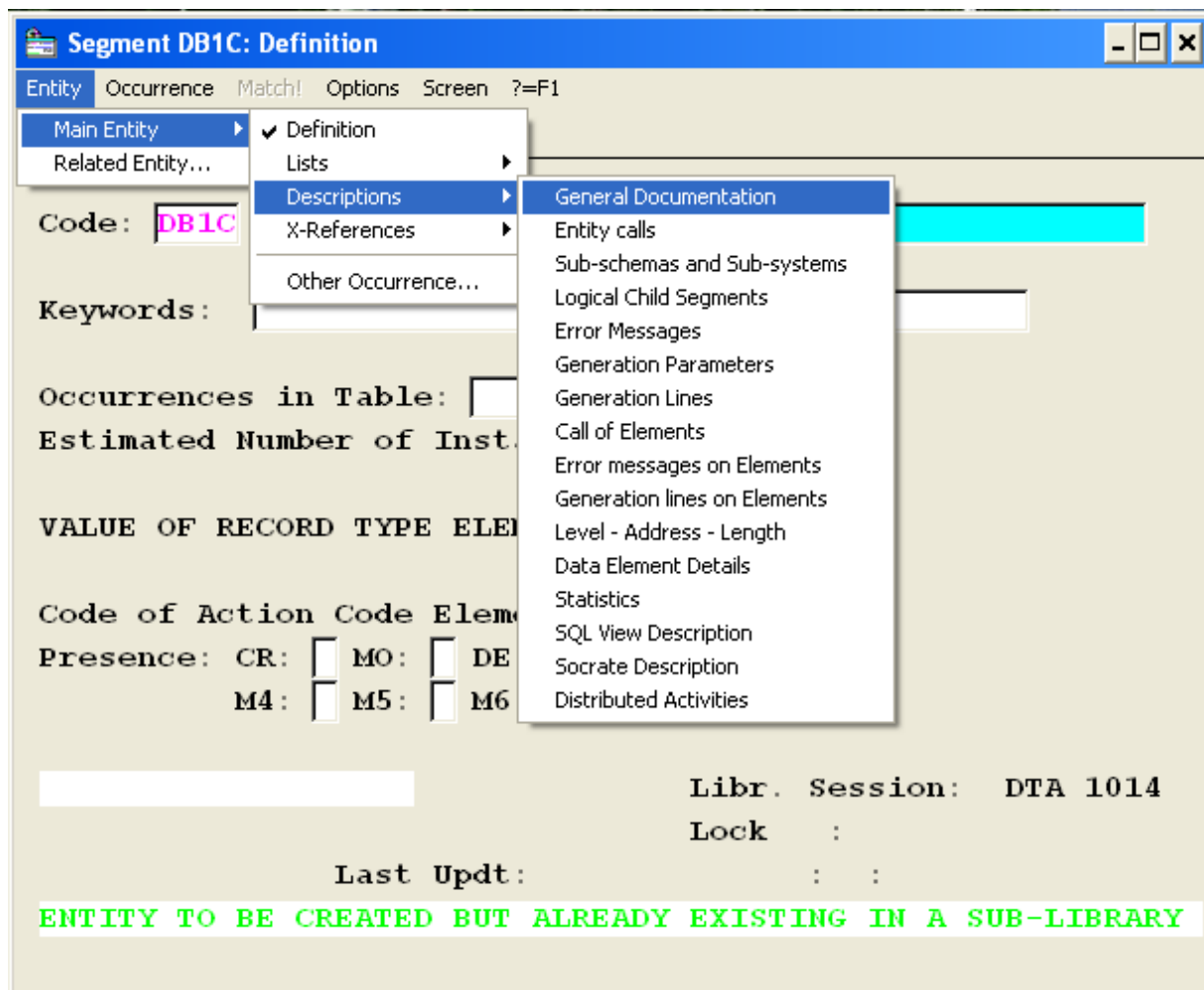
- If one of the 'line generation option' lines is set to 'G', the PIA call will be present on the – GG screen.
- If one of the 'line generation option' lines is set to 'O', the PIA call will be present on the – GO screen.
- In all the other cases, the PIA call will be present on the – GC screen.







In the VisualAge Pacbase WorkStation:



### 2.1.3 Line renumbering

This choice (.R nn) can be entered in the following screens:

Text	T.....D
Program	P.....P, - SC, - W, - 9
Screen	O.....CE, - P, - W
Segment	S....CE

It can no longer be preceded by another command.

## 2.2 Entity-specific changes

### 2.2.1 Meta-Entities and User Relations

In V3.x, the word 'Meta-Entity' replaces the V2.5 'User Entity' ('F' entity).



Access to the Definition (and other screens) of Meta Entities and User Relations is no longer available in the V3.x versions of the VisualAge Pacbase WorkStation and the VA Pac character-mode interface (available in Administrator workbench and in Developer workbench-Global module).

Access to Lists of Meta Entities (CH : LCF) and Lists of User Relations (CH : LCQ) remains available through the V3.x versions of the VisualAge Pacbase WorkStation and the VA Pac character-mode interface.

### 2.2.2 User Entities

In V3.x, the word 'User Entity' replaces the V2.5 'User Entity Occurrence - UEO' ('\$' entity).

The new User Entity created in V3.5 has been enhanced in the following way:

- The code of the User Entity has increased from 6 to 30 characters
- The number of Descriptions has increased from 9 to 99
- The maximum length of a called Data Element has increased from 66 to 159 characters
- A description line can now be 1000 characters long

The LC\$d/c choice (list of the UEOs starting from the DC call type) in V2.5:

```

Paclink
VA Pac 2.5 U17  Monitorat Documentation Index  +TEST.B670.DOC.757
LIST OF U.E. ITEMS BY CODE

CODE U.E. ITEM  NAME  LIBR.
DC 000198  Bilan projet SIM PAC/CS SMABTP  *DOC
DC 000199  Amélioration performances exploit.  *DOC
DC 000200  Atelier pratique batch TP Malakoff  *DOC
DC 000201  Atelier pratique TP Majic2  *DOC
DC 000202  Architectures client/serveur Pacbase  *DOC
DC 000203  Migration architecture Banques Popu.  *DOC
DC 000204  Maquette Dialogue/CS Banques Populai  *DOC
DC 000205  Gestion du multi-sites (proposition)  *DOC
DC 000206  Gestion des versions - PEI  *DOC
DC 000207  Utilisation PACBASE/CS pour MAJIC-2  *DOC
DC 000208  Audit Pacbench projet pilote batch  *DOC
DM 000000  *** Dernière occ. cr  e : 000215 ***  *DOC
DM 000001  Guide pr  paration 1  re journ  e MEO  *DOC
DM 000002  Mise en oeuvre de l'AGL Pacbase  *DOC
DM 000003  R  f  rentiel des t  ches (D01T-R)  *DOC
DM 000004  Audit Pacbase  *DOC
DM 000005  Pacbase et les SGBD relationnels  *DOC
DM 000006  Organisation autour de Pacbase  *DOC

O: I1 CH: _
| PACBASE | 009101102042 | 24 012

```

then becomes the list of User Entities whose call type is DC in V3.5:

Session A - [24 x 80]

File Edit View Communication Actions Window Help

VA Pac 3.5 V03 Monitorat Documentation Index +F056070.BVAP.DOC.1014  
LIST OF Infos g.n.rales BY CODE DC

ENTITY CODE	NAME	LIBR
000198	Bilan projet SIM PAC/CS SMABTP	0443
000199	Am.lioration performances exploit.	0443
000200	Atelier pratique batch TP Malakoff	0443
000201	Atelier pratique TP Majic2	0443
000202	Architectures client/serveur Pacbase	0443
000203	Migration architecture Banques Popu.	0443
000204	Maquette Dialogue/CS Banques Populai	0443
000205	Gestion du multi-sites (proposition)	0443
000206	Gestion des versions - PEI	0443
000207	Utilisation PACBASE/CS pour MAJIC-2	0443
000208	Audit Pacbench projet pilote batch	0443

\*\*\* END \*\*\*  
O: C1 CH: \_

MA a 24/012

Connected to remote server/host 127.0.0.1 using port 52030

V3.5 Definition of a User Entity:

Session C - [24 x 80]

Fichier Edition Vue Communication Actions Fenêtre Aide

VA Pac 3.5 V03 DOCUMENTATION FRANCAISE DE REFERENCE P.O.\*PDSG.VD03.DOF.6909  
Definition TYPE : DC META-ENTITY : DOCCLI

CODE ENTITE UTILIS : 000202  
LIBELLE ENTITE : Architectures client/server - VA Pac

-

EXPLICIT KEYWORDS...  
UPDATED BY.....: PDSG ON : 04/07/2005 AT: 18:10:16 LIB : DOF  
SESSION NUMBER.....: 6903 LIBRARY.....: DOF LOCK.....  
\*\*\* END \*\*\*

O: C1 CH: ACTION:

MA c 14/040

Connexion au serveur (ou hôte) à distance abibus.paris: fmlvl56 2D06/02/N/MLV en fonction fmlvl56





## 2.2.4 Report (entity code R)

The Report entity no longer depends on a Data Structure. It is therefore possible to create a 'ZZA' coded Report occurrence when no 'ZZ' Data Structure exists.

In the Call of Elements screen (R...CE choice), the request for a line transfer (via the 'T' action code) will transfer the line in its entirety, including the part of the line you cannot see on the current screen (ex: R...CE with the C1 and C2 views).

## 2.2.5 Parameterized Input Aid (entity code I)

The overall length of PIAs' parameters cannot exceed 450 characters. This length is now controlled when the PIA is described (I-D choice).

Now the PIA does not necessarily have a documentary type. Three types are authorized:

- C Comment
- G Generation Element
- O Generation Option

The following controls are performed:

- A C-type PIA cannot contain G- or O-type lines.
- A G-type PIA can contain comments and G-type lines
- An O-type PIA can contain comments and O-type lines
- A C-type PIA can be converted into an O- or a G-type PIA if it is not called yet.  
NOTE : The reverse is possible if there are no G- or O-type lines in the Description and if the PIA is not called yet.
- A C-type PIA can only be called in a Comments screens (-GC choice).
- A G-type PIA can only be called in a Generation Elements screen (-GG choice).
- An O-type PIA can only be called in a Generation Options screen (-GO choice).

## 2.2.6 Database Block

A new cross-reference can be created on Data Elements called in the Block's Generation Elements screen. To create this cross-reference, use the same principle as with the other entities, i.e. enter a dash ('-') right before any character string which is 1 to 6 characters long.

## 2.2.7 Text

Two new line type values can be used to assign texts (beginning and end) to any entity type:

"B" identifies the beginning of the text assignment to the occurrence indicated in the 'Text contents' field  
"E" identifies the end of the text assignment to the occurrence indicated in the 'Text contents' field

Unlike the I- and J- type lines, both B- and E- line types can contain only one occurrence code (which can be up to 30 characters long for User Entities).

The entity type is always left-aligned and 3 characters long, whichever the entity type.

The values of the entity type are the same as on I- or J-type lines.

Examples:

```
E  ELEM
P  PROGR
$XXUserEntity
```

## 2.2.8 Segment

The S –STA choice has evolved.

Statistics are now also based on the output formats.

This choice is now incompatible with the I1 option since this used to give an incoherent result when the Segment called child Data Elements.

## 3. New Functionalities

### 3.1 Database Code on the Login Screen

In order to avoid trying to connect to an unknown Library, or having the access denied for an authorization problem because the connection was requested on a wrong VA Pac Database, the logical code of the Database is now displayed on the login screen.

### 3.2 Enhanced Online Search

The character string is searched for in the VA Pac Database, whether the string has been entered in uppercase or lowercase letters

The maximum number of accesses to the VisualAge Pacbase Repository has been increased from 998 to 9998.

The message 'maximum number .....' is displayed when the maximum number of accesses has been reached, whether or not a line to be displayed has been found. This prevents time-out problems.

### 3.3 Generation of 'occurs' and 'value'

With COBOL II, you can write values as:

```
7-TB01.  
7-TB01-A PIC X VALUE SPACE OCCURS 4.  
7-TB01-B PIC 9 VALUE ZERO OCCURS 4.
```

```
7-TB02.  
7-TB02-GR OCCURS 4.  
7-TB02-B PIC X VALUE SPACE.  
7-TB02-C PIC 9 VALUE ZERO.
```

With the 3.5 version, the occurred Data Elements of a Segment are generated with a VALUE ZERO or VALUE SPACE if the Segment has a 'Z'-type description.

### 3.4 Job Monitoring

With this new functionality, you can see the status of the generation-print jobs (GPRT) submitted in online or batch mode.

The new online choice which enables you to monitor jobs is LJOB. It displays the list of the GPRT jobs of the connected user. You can set the cursor in this list in order to view the details of the GPRT report (equivalent to the IA report of the batch GPRT procedure).



List of jobs:

```

Session A - [24 x 80]
File Edit View Communications Actions Window Help
VA Pac 3.5 V03 MEDIALIB DEFINITION +F056070.BVAP.MDF.1014
LIST OF JOBS

  A JOBNAME      NUMBER   TYPE      DATE       STATUS
  TESTGPRT      0001    GPRT      04/04/2005 WAITING FOR EXECUTION
  TESTGPRT      0002    GPRT      04/04/2005 ENDED

*** END ***
O: I1 CH: _ START NB :
MB a 24/012
    
```

Job detail:

```

Session A - [24 x 80]
File Edit View Communications Actions Window Help
VA Pac 3.5 V03 MEDIALIB DEFINITION +F056070.BVAP.MDF.1014
REPORT JOB0002

-----
PROGRAM : BVPACD90 (PTE890 7734T) OF 03/11/2004 RET CODE : 00 I
***** CONFIGURATION MANAGEMENT SUPPORT ***** I
-----
PROGRAM : BVPACW10 (PCM100 7734T) OF 13/12/2004 RET CODE : 00 I
***** END OF JOB STREAM : FINAL RETURN CODE : 04 I
-----
*****
I 04/04/2005 11:46:16 END OF JOB0002 TESTGPRT I
*****

*** END ***
O: I1 CH: _ LINE :
MB a 24/012
    
```

## 4. THE CHOICE FIELD

### 4.1 New Choices

#### 4.1.1 All Entities

The 'Comments' (- G) screen is split into several screens:

- The - GC choice replaces the - G choice on all entities,
- The - CR choice is related to the calls of occurrences via Relations,
- The - GO choice groups the options and parameters of Screens or Dialogs (reserved to the Library, Segment, Database Block, Screen and Program entities),
- The - GG choice is related to the generation of Database Blocks (reserved to the Segment, Database Block and Screen entities),
- The - GE choice is related to the generation of error messages (reserved to the Data Structure, Screen, Segment and Data Element entities).

The - XZ choice gives the cross-references of the occurrence in the extension Relations.

The - XY choice gives the cross-references of the occurrence in the extension User Entities.

#### 4.1.2 Menu

HEX1 Sub-menu for Data Element cross-references  
 HEX2 " "  
 HML Sub-menu of Methodology lists

#### 4.1.3 List

LAE List of Data Elements by Cobol name (replaces the LACE choice)  
 LCH List of frozen sessions (replaces the LH choice)  
 LCY List of extension User Entities  
 LC\$ xx List of User Entities (xx = call type)  
 LDE datael List of the child Data Elements of a parent Data Element  
 LN\$ xx List of User Entities by name  
 LN\* List of Libraries by name  
 LNB List of Database Blocks by name  
 LND List of Data Structures by name  
 LNF List of Meta Entities by name  
 LNH List of frozen sessions by name  
 LNI List of PIAs by name  
 LNP List of Programs by name  
 LNQ List of User Relations by name  
 LNR List of Reports by name  
 LNS List of Segments by name  
 LNT List of Texts by name  
 LNV List of Volumes by name  
 LNY xx List of extension User Entities by name  
 LOD List of Data Structures by external name in online Screens  
 LOT List of online Screens by transaction code (replaces the LTO choice)  
 LRE List of Data Elements by relational name (replaces the LARE choice)  
 LRH List of frozen sessions by short name

LS\$ xx	List of User Entities by short name
LSY xx	List of extension User Entities by short code
LT\$ xx	List of User Entities by entity type
LTF	List of Meta Entities by call type
LTI	List of PIAs by type
LTQ	List of Relations by entity type
LTY	List of extension User Entities by entity type
LKY xx	List of extension User Entities by keyword
LXO	List of Objects by name
LXR	List of Relations by label

#### 4.1.4 Database

B – GN            Generation of SQL commands (replaces the B –GEN choice)

#### 4.1.5 Extension Entity

Y	Extension entity Définition
Y – AT	Assigned texts
Y – D	Description
Y – D ID	Description from the identifier
Y – X	Uses of extension Entity
Y – XQ	Uses in user Relations
Y – XV	Uses in Volumes

---

## 4.2 Modified Choices

### 4.2.1 List

LNO	List of Screens by name
LTO	List of Screens by type

---

## 4.3 Suppressed Choices

### 4.3.1 List

LACE	replaced with LAE
LARE	replaced with LRE
LH	replaced with LCH

### 4.3.2 User Manual

U  
U – G  
U – XQ  
U – D  
LCU

### **4.3.3 Database Block**

B – GEN      replaced with B – GN

### **4.3.4 Program**

P – HCD      zoom on DS call

### **4.3.5 User Entity**

LC\$          replaced with LC\$ xx

## 5. Generation-Print Requests

The Generation and Print Commands screen has been modified:

- The order number has been suppressed
- The GP input choice can be followed by the code of the command (example CH: GPGCP to request a display starting from the GCP command)
- You do not enter a continuation line the same way as before
- There have been modifications in the OPERATION CODE. The GP screen now follows the standard rules:
  - OPTION U1: list of the user's requests in the Library (default option).
  - OPTION C1: list of the user's requests in the Library and in the higher Libraries.
  - OPTION I1: same as C1 but in inter-Library mode.
  - OPTION C2: list of the requests validated for the user in the Library or in the higher Libraries. No update is possible.
  - OPTION C4: JCL lines for the user, applicable at the Database level (ie all Libraries). JCL lines are stored in the Administration workspace.
  - OPTION C3: does not exist any more.
- Journalization of requests.
- Lowercase available in continuation lines (use of action code 'X').
- Existence check of the occurrence code.

### 5.1 New commands

DCY	Description of Extension User Entities
LAE	List of Data Elements sorted by COBOL name
LCY	List of Extension User Entities
LKY	List of Extension User Entities by Keywords
LN\$	List of User Entities by Name
LNB	List of Database Blocks by Name
LND	List of Data Structures by Name
LNF	List of Meta-Entities by Name
LNI	List of P.I.A.s by Name
LNP	List of Programs by Name
LNQ	List of User Relations by Name
LNR	List of Reports by Name
LNS	List of Segments by Name
LNT	List of Texts by Name
LNV	List of Volumes by Name
LNy	List of Extension User Entities by Name
LOD	List of Data Structures by External Name in Screens
LOT	List of Online Screens by Transaction code

The new commands below are available for eBusiness Entities of the 3.5 metamodel:

FMS	Flow control for Servers.
FME	Flow control for eBusiness Error messages
GEF	Generation of error messages for a C/S Folder
GEI	Generation of error messages for INIT/TERM Component
GES	Generation of error messages for a C/S Component
GME	Generate an Error Server
GMF	Generate a Folder

---

GMI Generate an INIT/TERM Server  
GMM Generate a Command Monitor  
GMS Generate a Server

---

## 5.2 Commands which have been updated

DC\$ User Entities description  
DCF Meta-Entities description  
LC\$ List of User Entities by Code  
LCF List of Meta-Entities by Code  
LK\$ List of User Entities related by Keywords  
LKF List of Meta-Entities related by Keywords  
LTO List of On-line Screens by Type  
LNO List of On-line Screens by Name.

---

## 5.3 Commands which have been suppressed

LACE list of Elements and Properties, by Cobol name  
DCU Description of User manuals  
LCU List of User Manuals by code  
LKU List of User Manuals by keyword  
PCU Printing of User Manuals or Manuals' chapters  
GE6 Generation of error labels by file (R6)

## 6. Compatibility

---

### 6.1 DSMS

The compatibility of VA Pacbase 3.5 and DSMS 2.0 or 2.5 is ensured by the availability of the new programs, BVPDS600 and BVPDS610, which are used by the DEXP procedure and working from the 3.5 archived Journal.

---

### 6.2 Pactables

The GETA and GETD procedures which are available with VA Pacbase 3.5 allow to generate description of tables in the 2.0 or 2.5 Pactables format.

---

### 6.3 PAF+ et PQC

#### 6.3.1 Extraction Master Path

Extraction Master Paths which were described in a User Entity Occurrence with a 7E call type and which could be accessed via the \$7E ccccc input choice, are now defined and described in an Extension Entity with a 7E call type, and can be accessed via the Y7E ccccc input choice.

#### 6.3.2 Quality Rules

Quality rules which were described in a User Entity Occurrence with a 5Q call type and which could be accessed via the \$5Q ccccc input choice, are now defined and described in a Extension Entity with a 5Q call type, and can be accessed via the Y5Q ccccc input choice.

## 6.4 PAF

The internal redesign of Repository entities involves a number of changes in the descriptions of PAF Tables. As a result, all programs calling PAF Tables must be regenerated and recompiled.

See in the chart below modifications made in the codes of Data Structures used in the description of PAF Tables.

DS Code	V2.0 - V2.5	V3.5
ML	Manual	suppressed
CM	User Entity (UE)	Client Meta Entity
CR	User Relation (UR)	Client User Relation
TT	UE Occurrence (TT)	Client User Entity
YY	<i>Did not exist</i>	Extension User Entity

### 6.4.1 JCL Example of a PAF Batch User Program

```

//*****
//* VISUALAGE PACBASE
//*
//*          - JCL EXAMPLE -
//*          EXECUTION OF A P.A.F. BATCH USER PROGRAM
//*****
//PAFBATCH PROC BASE=$BASE,   CODE OF VAPAC DATABASE
//      INDSV='$INDSV',       INDEX OF SYSTEM VSAM FILES
//      INDSN='$INDSN',       INDEX OF SYSTEM NON VSAM FILES
//      INDUV='$INDUV',       INDEX OF USER VSAM FILES
//*:      VSAMCAT='$VCAT',     USER VSAM CATALOG
//*:      SYSTCAT='$SCAT',     SYSTEM VSAM CATALOG
//      STEPLIB=,             USER LIBRARY OF LOAD-MODULES
//      OUT=$OUT              OUTPUT CLASS
//*****
//MAXKEY EXEC PGM=IDCAMS
//*****
//*:STEPDAT DD DSN=&VSAMCAT,DISP=SHR
//SYSPRINT DD SYSOUT=&OUT
//SYSPAF   DD DSN=&&SYSPAF,DISP=(NEW,KEEP),
//          SPACE=(CYL,(3,3)),
//          LRECL=1031,RECORG=KS,KEYOFF=0,KEYLEN=12
//MAXKEY   DD DSN=&INDSN..BVPSY(MAXKEY),DISP=SHR
//SYSIN    DD DSN=&INDSN..BVPSY(REPRO999),DISP=SHR
//WITHPAF EXEC PGM=-----
//*****
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//          DD DSN=$BCOB,DISP=SHR
//*:STEPDAT DD DSN=&VSAMCAT,DISP=SHR
//PAC7AN   DD DSN=&INDUV..&BASE.AN,DISP=SHR
//PAC7AR   DD DSN=&INDUV..&BASE.AR,DISP=SHR
//PAC7AE   DD DSN=&INDSV..BVP AE,DISP=SHR
//PACGGN   DD DSN=&INDSV..BVP GN,DISP=SHR
//PACGGR   DD DSN=&INDSV..BVP GR,DISP=SHR
//PACGGU   DD DSN=&INDSV..BVP GU,DISP=SHR
//SYSPAF   DD DSN=&&SYSPAF,DISP=(OLD,KEEP)
//-----  DD DSN=----

```



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```
//----- DD DSN=----  
//----- DD DSN=----  
//SYSOUT DD SYSOUT=&OUT  
//SYSUDUMP DD SYSOUT=&OUT  
// PENDING  
//PAFBATCH EXEC PAFBATCH
```