

# SAM2

## PHYSICAL DATA DOSSIER 2.3

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## 1. Physical Data Diagram – Tables / Constraints

### 1.1. Composition of the document

The database scheme SAM structure is divided in two parts which are interconnected: The Medical Products structures in detail the medicine sphere from the substances to the commercialized medicine packages at the pharmacist.

The Reimbursement taking into account the Belgian system for sickness and invalidity insurance. In this first implementation phase, the emphasis is on the reimbursement agreements as specified in the Royal Decree of December 21st, 2001, more commonly known as 'Chapter IV'.

The connection between these two informational spheres is made by two possible links, both expressing the same semantic link which is the reimbursability of a medicinal product, but the links are situated on different levels of abstraction.

### 1.2. Diagram

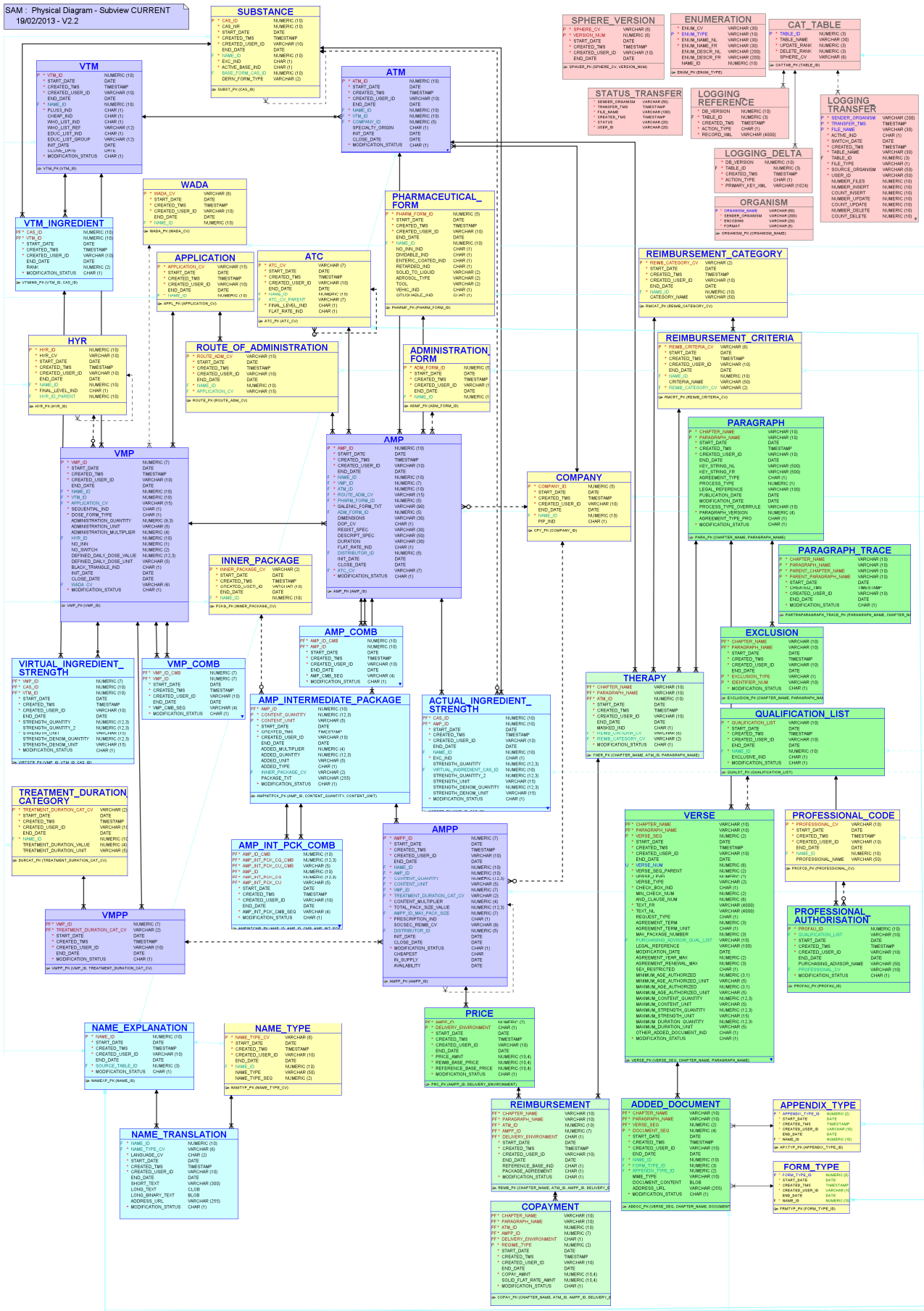
The colours used to represent the tables also represent following distinctions :

- The tables containing references are represented in yellow
- The tables of the medicine sphere are represented in blue
  - The six core tables of the model are in mauve
  - The other tables of the medicine sphere are in clear blue
- The tables of the Reimbursement sphere are in green
  - The master tables in dark
  - The associated tables in clear
- The technical tables are represented in red

The table PRICE which in terms of structuring solely depends on the hierarchy of the medicine tables is however attached to the reimbursement sphere in order to adhere to the logic that any notion of price is linked to the calculation of the reimbursement.

With regard to the constraints, an exception has been made for the links from the table NAME\_EXPLANATION. In order to alleviate the diagram, all the constraints of this table have been coloured clear blue. This does not indicate a different type of relation, but it may facilitate the comprehension of the model by representing these less important relations in the background.

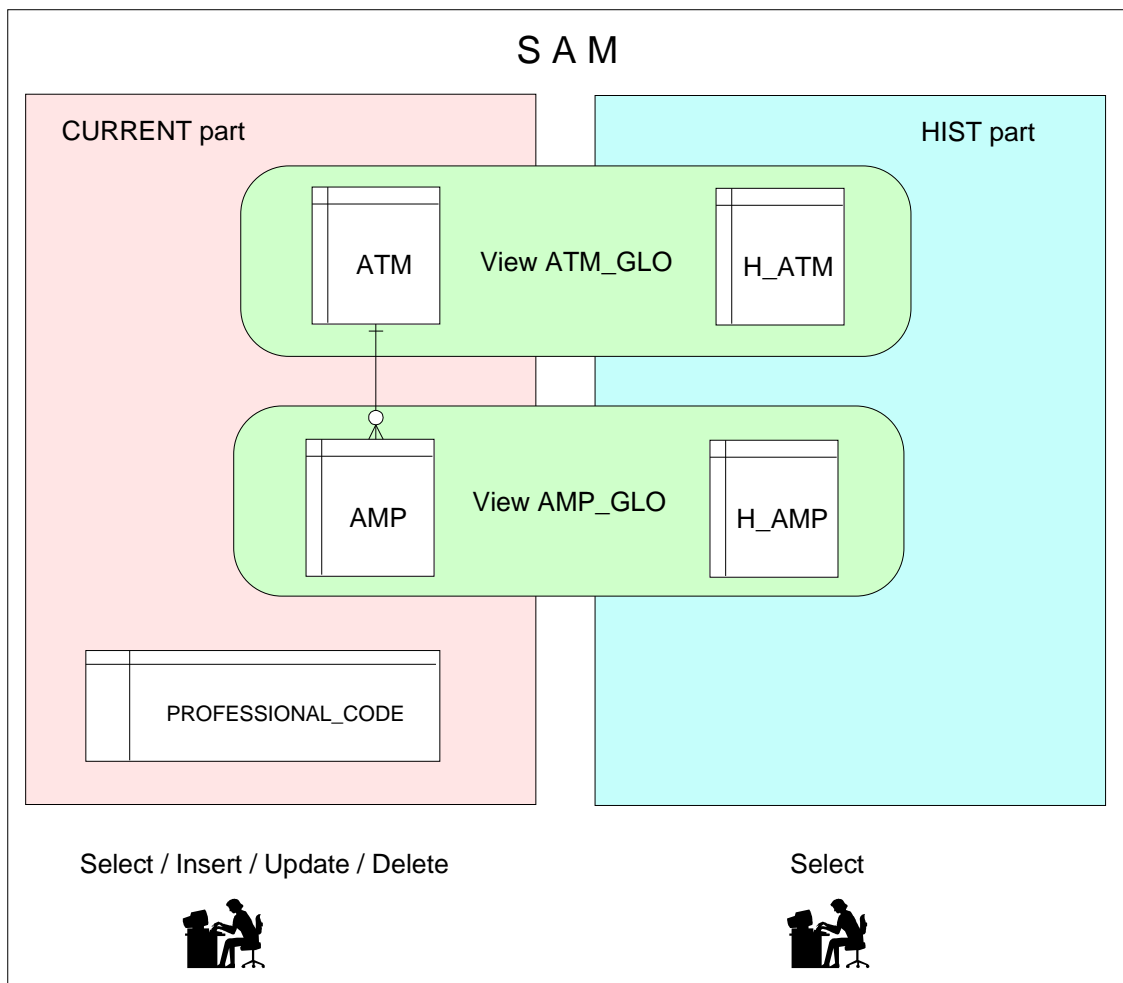
SAM : Physical Diagram - Subview CURRENT  
19/02/2013 - V2.2



## 2. Physical implementation of the data diagram

### 2.1. Decomposition in schemes

The physical implementation of the Medicine database is cut in two parts. These two parts of the physical scheme are identical with regard to table structuring. This way, any applicative entity in the logical scheme will be instantiated twice after adding some technical tables (see Ch. 3) : once for the reception of records describing the current situation, and a second time for the storage of previous or closed versions (records maintain the same name but are preceded by the prefix H\_\*).



The CURRENT part provide views on the current situation as well as previous or closed situations from the HIST part. Select statements can therefore be launched on the current version and on the complete version (current and history) starting from the same CURRENT part. The history version can only be accessed through the global views.

In both schemes all tables contain the same technical data for history management : the start and end dates (**START\_DATE / END\_DATE**). The difference between the current and the historic situation will be the nullity of the end date for the records of the current situation, while those of the historic situations contain both dates (**START\_DATE / END\_DATE**).

Sole exception to this rule are the reference tables. The records of these reference tables cannot be migrated into historic tables when they become obsolete since applicative data may still be referencing them. The classic approach is to provide all reference data to both

current and historic parts of the scheme. This approach is of course feasible only if we completely master the method for generating identifiers or if we can assure that identifiers will not be reused and that we don't need to historicize modifications on reference data.

With regard to the physical structuring of both schemes, the difference lies in the absence of the relational constraints between the tables and the historical part of the scheme. Indeed, since the 'functional' keys of the current part are instantiated only once in the scheme, there is no need to make any temporal distinctions. In the historical part, the situation is completely different : the same functional key may entail different versions representing the evolution through time of the primary information.

Taking into account the time factor in the unique identifier has repercussions on the identifiers of the 'children' tables in the hierarchy. The six core concepts may be hierarchical, but they don't have less different modification cycles.

We consequently differentiate the dynamics of the primary keys of the two parts of the scheme as follows: in the current part the PK are essentially functional, whereas in the historical scheme the PK will aggregate the functional keys and the dates of existence. If the constraints between the historical tables are not implemented, this does not mean that the fields containing the information permitting the association (joins) between tables do not exist anymore. It simply means that the database motor will not verify the conformity of the child records regarding the existence of their parents.

Currently, the historical has become beyond read access on request. This is dangerous. All therecords that are managed in this historical part of the scheme are no longer validated previously in the current part. The sole manipulations that could endanger the database integrity are no longer the historicizing transfers which are executed from the current part. In order to secure the integrity of the historical scheme the initial concept was to provide a set of triggers to exclusively manage the transfer between the current part and the historical part of the scheme. This security concept has been abandoned. Therefore, it is stressed that managing the historical tables directly must be done only with caution.

In conclusion we can say that in the historical part of the scheme the relational constraints are removed but the primary keys are completed with START\_DATE (and CREATED\_TMS).

For each applicative table [App] in the database there is a copy [H\_App] which contains exactly the same fields as the current table, and which registrates the history of the table data. The primary key of these history tables is transformed into the combination of the PK of the original table, the START\_DATE and the CREATED\_TMS (timestamp).

## 2.2. Composition of the scheme

DB Object	Alias	Current part	History part (H_XXX)	Global View
ACTUAL_INGREDIENT_STRENGTH	ACTINGSTR	Current	Old	X
ADDED_DOCUMENT	ADDOC	Current	Old	X
ADMINISTRATION_FORM	ADMF	Full	-	
AMP	AMP	Current	Old	X
AMP_COMB	AMPCMB	Current	Old	X
AMP_INT_PCK_COMB	AMPINTCMB	Current	Old	X
AMP_INTERMEDIATE_PACKAGE	AMPINTPCK	Current	Old	X
AMPP	AMPP	Current	Old	X
APPENDIX_TYPE	APXTYP	Full	-	
APPLICATION	APPL	Full	-	
ATC	ATC	Full	-	
ATM	ATM	Current	Old	X
CAT_TABLE	CATTAB	Full	-	
COMPANY	CPY	Full	-	
COPAYMENT	COPAY	Current	Old	X
ENUMERATION	ENUM	Full	-	
EXCLUSION	EXCL	Current	Old	X
FORM_TYPE	FRMTYP	Full	-	
HYR	HYR	Full	-	
INNER_PACKAGE	PCKG	Full	-	
LOGGING_DELTA	LOGDLT	Full	-	
LOGGING_REFERENCE	LOGREF	Full	-	
LOGGING_TRANSFER	LOGTRF	Full	-	
NAME_EXPLANATION	NAMEXP	Current	Old	X
NAME_TRANSLATION	NAMTRS	Current	Old	X
NAME_TYPE	NAMTYP	Full	-	
ORGANISM	ORGA	Full	-	
PARAGRAPH	PARA	Current	Old	X
PARAGRAPH_TRACE	PARTRA	Current	Old	X
PHARMACEUTICAL_FORM	PHARMF	Full	-	
PRICE	PRC	Current	Old	X
PROFESSIONAL_AUTHORISATION	PROFAU	Current	Old	X
PROFESSIONAL_CODE	PROFCD	Full	-	
QUALIFICATION_LIST	QUALST	Current	Old	X
REIMBURSEMENT	REMB	Current	Old	X
REIMBURSEMENT_CATEGORY	RMCAT	Full	-	
REIMBURSEMENT_CRITERIA	RMCRT	Full	-	
ROUTE_OF_ADMINISTRATION	ROUTE	Full	-	
SPHERE_VERSION	SPHVER	Full	-	
STATUS_TRANSFER	STATRF	Full	-	
SUBSTANCE	SUBST	Full	-	
THERAPY	THER	Current	Old	X
TREATMENT_DURATION_CATEGORY	DURCAT	Full	-	
VERSE	VERSE	Current	Old	X

VIRTUAL_INGREDIENT_STRENGTH	VRTINGSTR	Current	Old	X
VMP	VMP	Current	Old	X
VMP_COMB	VMPCMB	Current	Old	X
VMPP	VMPP	Current	Old	X
VTM	VTM	Current	Old	X
VTM_INGREDIENT	VTMING	Current	Old	X
WADA	WADA	Full	-	

\* Full : The table has been physically created in this scheme and contains all current and historical information.

### 3. Denormalization and technical choices

#### 3.1. The denormalization of references

No regrouping of reference data.

#### 3.2. Other denormalizations

##### Multilingualism

The multilingual treatment of names and of different text parts is covered by the table NAME\_TRANSLATION. The contents of all information regardless of the table of origin or type of indication, which has to be edited in different languages or formats, are stored in NAME\_TRANSLATION, where they are listed according to their type.

In order to do this, three tables have to be fed :

NAME\_TYPE : This is a reference table enumerating all types of texts managed by the database SAM. This classification will permit to determine the informations managed by SAM and to resolve the voids or gaps.

Table composition:

NAME_TYPE_CV	String (6)	Mandatory
START_DATE	Date	Mandatory
CREATED_TMS	Timestamp	Mandatory
CREATED_USER_ID	String (10)	Mandatory
END_DATE	Date	
NAME_ID	Numeric (10)	Mandatory
NAME_TYPE	String (50)	

- Code of 6 positions constitutes the primary key : NAME\_TYPE\_CV.
- Technical management and audit fields.
- Link to translation NAME\_ID.
- Default denomination type.

NAME\_EXPLANATION : Above the typing and the translation, a 'hub' concept is needed for three reasons:

- (1) the implementation of the relational constraints in the database;
- (2) one instance of a table can reference NAME\_TRANSLATION multiple times;
- (3) NAME\_TRANSLATION instantiates multiple languages (thus records).

This table manages an identifier available to all tables of the database. One single ID per record, but able to reference different types of text in different languages through table NAME\_TRANSLATION. Even table NAME\_TYPE references this identifier.

Table composition:



NAME_ID	Numeric (10)	Mandatory
START_DATE	Date	Mandatory
CREATED_TMS	Timestamp	Mandatory
CREATED_USER_ID	String (10)	Mandatory
END_DATE	Date	
SOURCE_TABLE_ID	Numeric (3)	Mandatory

- Primary key is a random sequence: NAME\_ID, used by all other tables as a link to find associated text.
- Technical management and audit fields.
- Name of the table referencing NAME\_ID. This enables administrators to easily find the link between text and structural data.

This table only serves the integrity constraints. It is not to be used to retrieve translations of texts starting from other tables.

**NAME\_TRANSLATION** : This is the genuine language management table. In addition to this multilingualism, this table can assign multiple different contents to a same identifier.

Table composition :

NAME_ID	Numeric (10)	Mandatory
NAME_TYPE_CV	String (6)	Mandatory
LANGUAGE_CV	String (2)	Mandatory
START_DATE	Date	Mandatory
CREATED_TMS	Timestamp	Mandatory
CREATED_USER_ID	String (10)	Mandatory
END_DATE	Date	
SHORT_TEXT	String (300)	
LONG_TEXT	CLOB	
LONG_BINARY_TEXT	BLOB	
ADDRESS_URL	String (255)	

- Technical management and audit fields.
- Text fields according to the value of the PK.
- There is no primary key to this table. This should allow the presence of f.ex. multiple alias per NAME\_ID without the need to define each of them by a different NAME\_TYPE.

### Prescription Authorization

For the same reasons of integrity constraints, a 'header' table imposed itself above table PROFESSIONAL\_AUTHORISATION, allowing to fix the link between a list of individually authorized persons and the verse in which they appear.

**QUALIFICATION\_LIST** : This is a regroupement under the same denominator of all health care professionals authorized to prescribe medicines mentioned in the verse which references this list. Once these lists have been composed, they can be reused in case they are identical in multiple verses.

Table composition :

QUALIFICATION_LIST	String (10)	Mandatory
START_DATE	Date	Mandatory
CREATED_TMS	Timestamp	Mandatory
CREATED_USER_ID	String (10)	Mandatory
END_DATE	Date	
NAME_ID	Numeric (10)	

- The primary key consists of a code of 10 positions allowing the storage of lists of

- professionals evoked in CH IV, through a acronym.
- Technical management and audit fields.
  - Link to name management, if the list acronym should be translated.

### **Overwrite of virtual concentrations by commercialized concentrations**

As evoked in the logical analysis, the field VIRTUAL\_INGREDIENT\_CAS\_ID of table ACTUAL\_INGREDIENT\_STRENGTH allows to express the fact that a concentration defined for a SUBSTANCE of a VMP through VIRTUAL\_INGREDIENT\_STRENGTH, can be replaced by another form of the SUBSTANCE, possibly in another concentration. This relation could have been formalized by means of a severe constraint in the database, if the implementation of this constraint didn't implicate further denormalization of the primary keys of the core tables. Therefore we have chosen the 'lighter' solution to reference the old SUBSTANCE directly without passing through its dependency to the VMP, master of the AMP of the ACTUAL\_INGREDIENT\_STRENGTH.

It is advised that programs only reference SUBSTANCES in VIRTUAL\_INGREDIENT\_CAS\_ID which are resumed under the referenced VMP by the master AMP.

### **The total content of a medicine package**

Due to the cutting up of the content of medicine package, not a single field of the denormalized model contains the total content of the medicine actually provided in the package. The zone TOTAL\_PACK\_SIZE\_VALUE of the table AMPP recalculates this information.

( TOTAL\_PACK\_SIZE\_VALUE = CONTENT\_MULTIPLIER X CONTENT\_QUANTITY )

### **Tranche of the largest package - 'La tranche du plus grand conditionnement'**

For the reimbursement in a hospital environment of certain medicines, the notion of largest package sold in public officina for this medicine has to be considered in order to calculate the refund amount.

Since this issue needs to take into account the aspect of changes through time, at price level rather than package level, it has been decided to denormalize the AMPP-identifier of the largest package in table AMPP.

AMPP\_ID\_MAX\_PACK\_SIZE : Identifier of the package of medicines sold in public officina, containing the largest number of unities.

### **The duplication of information on the category of reimbursement**

The information contained in the key REIMB\_CRITERIA\_CV of

REIMBURSEMENT\_CRITERIA resumes the code of the reimbursement category.

However, in order to avoid manipulations of chains of characters on variable lengths, it has been decided to duplicate the information in REIMBURSEMENT\_CATEGORY. This will of course call on a renewed vigilance for the FK of THERAPY.

## **3.3. Added technical fields**

As already evoked in the logical data dossier of the SAM database, the six core tables are provided with two fields: INIT\_DATE and CLOSE\_DATE. These are no technical fields but represent 'business' information.

### **Time management**

In order to manage modifications and references to old data, once they have been replaced, two fields have been added to every record of every table, expressing the period of validity of the information contained in the records.

START\_DATE : Reference to the first day of validity of the information (the record)  
 END\_DATE : Reference to the last day of validity of the information (the record)

### Access management

Two audit fields have been added to every record of every table.

CREATED\_USER\_ID : Unique identifier of the user having created the record  
 CREATED\_TMS : Day, hour, ... of introduction of the record in SAM

### Language management

As explained previously, the notions requiring a translation or varying formalisms, are linked to NAME\_EXPLANATION.

NAME\_ID : Link to management of denominations.

### Version management

In order to ensure the stability of the information system on the CH IV data, the information arborescence depending on PARAGRAPH has been gathered under a same version number.

This system does not replace history management through start and end date explained earlier, but will enable a one-access validation of the version of the informations on a paragraph a user disposes of.

The idea is the following : as soon as a record of a table in the hierarchy below PARAGRAPH is modified (EXCLUSION, VERSE, ADDED\_DOCUMENT, PROFESSIONAL\_AUTHORISATION, THERAPY, REIMBURSEMENT et COPAYMENT), the version number of the concerned paragraph (in table PARAGRAPH) is incremented.

PARAGRAPH\_VERSION: Resumed field in table PARAGRAPH expressing the release of the entire arborescence.

In the same order of ideas, a table has been provided for the management of the versions:

- of the entire database
- of subsets (DB, VTM, ATM, VMP, AMP, VMPP, AMPP, NAME, PARA), the latter resuming a version number for each subset associated to its short name.

The same principle will be applied for the management of the DB structure ; a version number is attributed representing any evolution in structure (DESIGN).

SPHERE\_VERSION : version number for the entire database or for a subset. While the tables CH IV form a subset already managed at every instance level of the paragraph, Sphere\_version implies a version number for all paragraphs together. The same logic applies to the other subsets.

Table composition :

SPHERE_CV	String (6)	Mandatory
VERSION_NUM	Numeric(6)	Mandatory
START_DATE	Date	Mandatory
CREATED_TMS	Timestamp	Mandatory
CREATED_USER_ID	String (10)	Mandatory
END_DATE	Date	

- The primary key consists of the short name of the sphere (subset) and a sequence within the sphere in 6 positions.
- Technical management and audit fields.

Implementation of PARAGRAPH\_VERSION :

PARAGRAPH\_VERSION is incremented with every modification of any table regarding Chapter IV. For every START\_DATE in a Ch IV table, there is a corresponding START\_DATE in PARAGRAPH. The validity periods can of table PARAGRAPH can thus never exceed those of its children tables.

Following table shows the consecutive modifications in table PARAGRAPH due to changes in the depending tables or in PARAGRAPH itself.

#### Table PARAGRAPH

START_DATE	01/07	07/07	15/07	01/08	16/08	18/08
END_DATE	06/07	14/07	31/07	15/08	17/08	-
PARAGRAPH_VERSION	1234	1235	1236	1237	1238	1239
<i>Change in table</i>	<i>VERSE</i>	<i>PROF AUTH</i>	<i>PARAGRAPH</i>	<i>VERSE</i>	<i>PROF AUTH</i>	<i>VERSE</i>

#### Table PROFESSIONAL\_AUTHORISATION

START_DATE		07/07	-	-	16/08	-
END_DATE	06/07	15/08	-	-	-	-

#### Table VERSE

START_DATE	01/07	-	-	01/08	-	18/08
END_DATE	31/07	-	-	17/08	-	-

Example 1 :

Table PROFESSIONAL\_AUTHORISATION is modified on START\_DATE 16/08 – previous end\_date = 15/08 - new end\_date = NULL

➔ table PARAGRAPH : modification start\_date 16/08 – previous end\_date 15/08 - new end\_date NULL + increment paragraph\_version to 1238

Example 2 :

Table VERSE is modified on start\_date 18/08 – previous end\_date = 17/08 – new end\_date = NULL

➔ table PARAGRAPH : modification start\_date 18/08 - previous end\_date 17/08 – new end\_date NULL + increment paragraph\_version to 1239

If one wishes to retrieve version 1235 : corresponding start\_date = 07/07

Look up in VERSE : VERSE\_start\_date <= 07/07 and (VERSE\_end\_date >= 07/07 or VERSE\_end\_date is null)

If one wishes to retrieve version 1238 : corresponding start\_date = 16/08

Look up in VERSE : VERSE\_start\_date <= 16/08 and (VERSE\_end\_date >= 16/08 or VERSE\_end\_date is null)

#### Correction management

In order to allow correction on existing informations, the technical field MODIFICATION\_STATUS has been inserted in all business historicized tables.

When a new version of an information is inserted, the MODIFICATION\_STATUS of the related line is set to 'E'volved.

When an existing information is modified, the MODIFICATION\_STATUS is set to 'C'orrected.

### 3.4. Specific technical options

Besides the duplication of certain tables in a current part and a history part of the scheme; the use of views regrouping identical information from both schemes irrespectively of temporality; the management of reference tables in only one part, there's also the use of triggers encapsulating the transfer of obsolete information.

In conclusion there are 4 possible management levels for the versioning of information:

- Record level by means of START\_DATE and END\_DATE available in every record in every table
- Arborecence level of information by means of PARAGRAPH\_VERSION available only in sphere Chapter IV for every paragraph
- Sub sphere level by means of SPHERE\_VERSION available on VTM, ATM, VMP, AMP, VMPP, AMPP, NAME, PARA
- DB level by means of SPHERE\_VERSION. One record for each database version

+ level physical structure of the DB, one record for each 'design' of the database

### 3.5. Logging

#### of actions

concerns keeping track of all business modifications.

#### of errors

Errors detected during transfer of data to the history tables (triggers) are transcribed in a dedicated table, indicating the type of error, affected tables, trigger in question and the reference to the record.

LOGGING\_DELTA : In the delta table all modifications of the applicative tables are kept since the last version. The field PRIMARY\_KEY\_XML contains the primary key of the modified record (plus START\_DATE) in format xml and allows to retrieve the modified records. Using this table a file can be generated (in xml format) listing only the modifications with regard to the last database version.

DB_VERSION	NUMBER	10	Mandatory
TABLE_ID	NUMBER	2	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
ACTION_TYPE	CHAR	1	Mandatory
PRIMARY_KEY_XML	VARCHAR2	1024	Mandatory

- The field PRIMARY\_KEY\_XML contains the reference to the PK of record in question as well as the START\_DATE, e.g. :

```
<pk>
  <chapter_name>CHAPTER21</chapter_name>
  <paragraph_name>PARA32</paragraph_name>
  <startdate>01-MAY-10</startdate>
</pk>
```

LOGGING\_REFERENCE: As mentioned earlier, the reference tables are not duplicated in the history part of the scheme. Modifications in reference data are logged in table LOGGING\_REFERENCE.

DB_VERSION	NUMBER	10	Mandatory
TABLE_ID	NUMBER	2	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
ACTION_TYPE	CHAR	1	Mandatory
RECORD_XML	VARCHAR2	4000	Mandatory

LOGGING\_TRANSFER: This table registers the upload history, i.e. the content of the header file (in xml) which is sent for each transfer, and checks the number of executed inserts, updates and deletions (COUNT\_INSERT, COUNT\_UPDATE and COUNT\_DELETE) with regard to the number in the control file (NUMBER\_INSERT, NUMBER\_UPDATE, NUMBER\_DELETE). With each upload or transfer, one record is created for the entire upload as well as one record for each upload file.

SENDER_ORGANISM	VARCHAR2	200	Mandatory
TRANSFER_TMS	TIMESTAMP		Mandatory
FILE_NAME	VARCHAR2	30	Mandatory
ACTIVE_IND	CHAR	1	Mandatory
SWITCH_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
TABLE_NAME	VARCHAR2	30	Mandatory
TABLE_ID	NUMBER	2	
FILE_TYPE	VARCHAR2	1	Mandatory
SOURCE_ORGANISM	VARCHAR2	50	Mandatory
USER_ID	VARCHAR2	50	Mandatory
NUMBER_FILES	NUMBER	10	
NUMBER_INSERT	NUMBER	10	
COUNT_INSERT	NUMBER	10	
NUMBER_UPDATE	NUMBER	10	
COUNT_UPDATE	NUMBER	10	
NUMBER_DELETE	NUMBER	10	
COUNT_DELETE	NUMBER	10	

STATUS\_TRANSFER:

SENDER_ORGANISM	VARCHAR2	50	Mandatory
TRANSFER_TMS	TIMESTAMP		Mandatory
FILE_NAME	VARCHAR2	100	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
STATUS	VARCHAR2	20	Mandatory
USER_ID	VARCHAR2	20	Mandatory

ORGANISM:

ORGANISM_NAME	VARCHAR2	50	Mandatory
SENDER_ORGANISM	VARCHAR2	200	Mandatory
ENCODING	VARCHAR2	20	Mandatory
FORMAT	VARCHAR2	5	Mandatory

## 4. Database objects

### 4.1. Tables

**ACTUAL\_INGREDIENT\_STRENGTH**

CAS_ID	NUMBER	10	Mandatory
AMP_ID	NUMBER	10	Mandatory

START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	
EXC_IND	VARCHAR2	1	Mandatory
VIRTUAL_INGREDIENT_CAS_ID	NUMBER	10	
STRENGTH_QUANTITY	NUMBER	12,3	
STRENGTH_QUANTITY_2	NUMBER	12,3	
STRENGTH_UNIT	VARCHAR2	15	
STRENGTH_DENOM_QUANTITY	NUMBER	12,3	
STRENGTH_DENOM_UNIT	VARCHAR2	15	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>ADDED_DOCUMENT</b>			
CHAPTER_NAME	VARCHAR2	10	Mandatory
PARAGRAPH_NAME	VARCHAR2	10	Mandatory
VERSE_SEQ	NUMBER	2	Mandatory
DOCUMENT_SEQ	NUMBER	4	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
MIME_TYPE	VARCHAR2	10	
FORM_TYPE_ID	NUMBER	3	Mandatory
APPENDIX_TYPE_ID	NUMBER	2	Mandatory
DOCUMENT_CONTENT	BLOB		
ADDRESS_URL	VARCHAR2	255	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>ADMINISTRATION_FORM</b>			
ADM_FORM_ID	NUMBER	5	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
<b>AMP</b>			
AMP_ID	NUMBER	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
VMP_ID	NUMBER	7	Mandatory
ATM_ID	NUMBER	10	Mandatory
ROUTE_ADM_CV	VARCHAR2	15	Mandatory
PHARM_FORM_ID	NUMBER	5	Mandatory
GALENIC_FORM_TXT	VARCHAR2	90	Mandatory
ADM_FORM_ID	NUMBER	5	

DIMENSIONS	VARCHAR2	30	
DOP_CV	CHAR	1	
REGIST_SPEC	VARCHAR2	30	
DESCRIPT_SPEC	VARCHAR2	50	
DURATION	VARCHAR2	30	
FLAT_RATE_IND	CHAR	1	
DISTRIBUTOR_ID	NUMBER	5	
INIT_DATE	DATE		
CLOSE_DATE	DATE		
ATC_CV	VARCHAR2	7	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>AMPP</b>			
AMPP_ID	NUMBER	7	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
AMP_ID	NUMBER	10	Mandatory
CONTENT_QUANTITY	NUMBER	12,3	Mandatory
CONTENT_UNIT	VARCHAR2	5	Mandatory
VMP_ID	NUMBER	7	Mandatory
TREATMENT_DURATION_CAT_CV	VARCHAR2	2	Mandatory
CONTENT_MULTIPLIER	NUMBER	4	Mandatory
TOTAL_PACK_SIZE_VALUE	NUMBER	12,3	Mandatory
PRESCRIPTION_IND	CHAR	1	Mandatory
AMPP_ID_MAX_PACK_SIZE	NUMBER	7	
SOCSEC_REIMB_CV	VARCHAR2	9	
DISTRIBUTOR_ID	NUMBER	5	
INIT_DATE	DATE		
CLOSE_DATE	DATE		
CHEAPEST	CHAR	1	
IN_SUPPLY	DATE		
AVAILABILITY	DATE		
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>AMP_COMB</b>			
AMP_ID	NUMBER	10	Mandatory
AMP_ID_CMB	NUMBER	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
AMP_CMB_SEQ	VARCHAR2	4	Mandatory
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>AMP_INTERMEDIATE_PACKAGE</b>			
AMP_ID	NUMBER	10	Mandatory
CONTENT_QUANTITY	NUMBER	12,3	Mandatory
CONTENT_UNIT	VARCHAR2	5	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory



CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
ADDED_MULTIPLIER	NUMBER	4	
ADDED_QUANTITY	NUMBER	12,3	
ADDED_UNIT	VARCHAR2	5	
ADDED_TYPE	CHAR	1	
INNER_PACKAGE_CV	VARCHAR2	2	
PACKAGE_TXT	VARCHAR2	255	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>AMP_INT_PCK_COMB</b>			
AMP_ID	NUMBER	10	Mandatory
AMP_INT_PCK_CQ	NUMBER	12,3	Mandatory
AMP_INT_PCK_CU	VARCHAR2	5	Mandatory
AMP_ID_CMB	NUMBER	10	Mandatory
AMP_INT_PCK_CQ_CMB	NUMBER	12,3	Mandatory
AMP_INT_PCK_CU_CMB	VARCHAR2	5	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
AMP_INT_PCK_CMB_SEQ	VARCHAR2	4	Mandatory
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>APPENDIX_TYPE</b>			
APPENDIX_TYPE_ID	NUMBER	2	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
<b>APPLICATION</b>			
APPLICATION_CV	VARCHAR2	15	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
<b>ATC</b>			
ATC_CV	VARCHAR2	7	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
FINAL_LEVEL_IND	CHAR	1	Mandatory
ATC_CV_PARENT	VARCHAR2	7	
FLAT_RATE_IND	CHAR	1	

**ATM**

ATM_ID	NUMBER	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
VTM_ID	NUMBER	10	Mandatory
COMPANY_ID	NUMBER	5	Mandatory
SPECIALTY_ORIGIN	CHAR	1	
INIT_DATE	DATE		
CLOSE_DATE	DATE		
MODIFICATION_STATUS	CHAR	1	Mandatory

**CAT\_TABLE**

TABLE_ID	NUMBER	3	Mandatory
TABLE_NAME	VARCHAR2	30	Mandatory
UPDATE_RANK	NUMBER	3	Mandatory
DELETE_RANK	NUMBER	3	Mandatory
SPHERE_CV	VARCHAR2	6	

**COMPANY**

COMPANY_ID	NUMBER	5	Mandatory
START_DATE	DATE		Mandatory
END_DATE	DATE		
CREATED_USER_ID	VARCHAR2	10	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
NAME_ID	NUMBER	10	Mandatory
PIP_IND	CHAR	1	

**COPAYMENT**

CHAPTER_NAME	VARCHAR2	10	Mandatory
PARAGRAPH_NAME	VARCHAR2	10	Mandatory
ATM_ID	NUMBER	10	Mandatory
AMPP_ID	NUMBER	7	Mandatory
DELIVERY_ENVIRONMENT	CHAR	1	Mandatory
REGIME_TYPE	NUMBER	2	Mandatory
START_DATE	DATE		Mandatory
END_DATE	DATE		
CREATED_USER_ID	VARCHAR2	10	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
COPAY_AMNT	NUMBER	10,4	
SOLID_FLAT_RATE_AMNT	NUMBER	10,4	
MODIFICATION_STATUS	CHAR	1	Mandatory

**ENUMERATION**

ENUM_CV	VARCHAR2	30	Mandatory
ENUM_TYPE	VARCHAR2	10	Mandatory
ENUM_NAME_NL	VARCHAR2	30	Mandatory

ENUM_NAME_FR	VARCHAR2	30	Mandatory
ENUM_DESCR_NL	VARCHAR2	200	
ENUM_DESCR_FR	VARCHAR2	200	
NAME_ID	NUMBER	10	
<b>EXCLUSION</b>			
CHAPTER_NAME	VARCHAR2	10	Mandatory
PARAGRAPH_NAME	VARCHAR2	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
EXCLUSION_TYPE	VARCHAR2	1	Mandatory
IDENTIFIER_NUM	VARCHAR2	10	Mandatory
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>FORM_TYPE</b>			
FORM_TYPE_ID	NUMBER	3	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
<b>HYR</b>			
HYR_ID	NUMBER	10	Mandatory
HYR_CV	VARCHAR2	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
FINAL_LEVEL_IND	CHAR	1	Mandatory
HYR_ID_PARENT	NUMBER	10	
<b>INNER_PACKAGE</b>			
INNER_PACKAGE_CV	VARCHAR2	2	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
<b>LOGGING_DELTA</b>			
DB_VERSION	NUMBER	10	Mandatory
TABLE_ID	NUMBER	3	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
ACTION_TYPE	CHAR	1	Mandatory
PRIMARY_KEY_XML	VARCHAR2	1024	Mandatory

**LOGGING\_REFERENCE**

DB_VERSION	VARCHAR2	10	Mandatory
TABLE_ID	NUMBER	3	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
ACTION_TYPE	CHAR	1	Mandatory
RECORD_XML	VARCHAR2	4000	Mandatory

**LOGGING\_TRANSFER**

SENDER_ORGANISM	VARCHAR2	200	Mandatory
TRANSFER_TMS	TIMESTAMP		Mandatory
FILE_NAME	VARCHAR2	30	Mandatory
ACTIVE_IND	CHAR	1	Mandatory
SWITCH_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
TABLE_NAME	VARCHAR2	30	Mandatory
TABLE_ID	NUMBER	3	
FILE_TYPE	VARCHAR2	1	Mandatory
SOURCE_ORGANISM	VARCHAR2	50	Mandatory
USER_ID	VARCHAR2	20	Mandatory
NUMBER_FILES	NUMBER	10	
NUMBER_INSERT	NUMBER	10	
COUNT_INSERT	NUMBER	10	
NUMBER_UPDATE	NUMBER	10	
COUNT_UPDATE	NUMBER	10	
NUMBER_DELETE	NUMBER	10	
COUNT_DELETE	NUMBER	10	

**NAME\_EXPLANATION**

NAME_ID	NUMBER	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
SOURCE_TABLE_ID	NUMBER	3	Mandatory
MODIFICATION_STATUS	CHAR	1	Mandatory

**NAME\_TRANSLATION**

NAME_ID	NUMBER	10	Mandatory
NAME_TYPE_CV	VARCHAR2	6	Mandatory
LANGUAGE_CV	CHAR	2	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
SHORT_TEXT	VARCHAR2	300	
LONG_TEXT	CLOB		
LONG_BINARY_TEXT	BLOB		
ADDRESS_URL	VARCHAR2	255	
MODIFICATION_STATUS	CHAR	1	Mandatory

**NAME\_TYPE**

NAME_TYPE_CV	VARCHAR2	6	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
NAME_TYPE	VARCHAR2	50	
NAME_TYPE_SEQ	NUMBER	2	

**ORGANISM**

ORGANISM_NAME	VARCHAR2	50	Mandatory
SENDER_ORGANISM	VARCHAR2	200	Mandatory
ENCODING	VARCHAR2	20	Mandatory
FORMAT	VARCHAR2	5	Mandatory

**PARAGRAPH**

CHAPTER_NAME	VARCHAR2	10	Mandatory
PARAGRAPH_NAME	VARCHAR2	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
KEY_STRING_NL	VARCHAR2	500	
KEY_STRING_FR	VARCHAR2	500	
AGREEMENT_TYPE	CHAR	1	
PROCESS_TYPE	NUMBER	1	
LEGAL_REFERENCE	VARCHAR2	100	
PUBLICATION_DATE	DATE		Mandatory
MODIFICATION_DATE	DATE		Mandatory
PROCESS_TYPE_OVERRULE	VARCHAR2	10	
PARAGRAPH_VERSION	NUMBER	4	Mandatory
AGREEMENT_TYPE_PRO	CHAR	1	
MODIFICATION_STATUS	CHAR	1	Mandatory

**PARAGRAPH\_TRACE**

CHAPTER_NAME	VARCHAR2	10	Mandatory
PARAGRAPH_NAME	VARCHAR2	10	Mandatory
PARENT_CHAPTER_NAME	VARCHAR2	10	Mandatory
PARENT_PARAGRAPH_NAME	VARCHAR2	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
MODIFICATION_STATUS	CHAR		Mandatory

**PHARMACEUTICAL\_FORM**

PHARM_FORM_ID	NUMBER	5	Mandatory
START_DATE	DATE		Mandatory

CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
NO_INN_IND	CHAR	1	
DIVIDABLE_IND	CHAR	1	
ENTERIC_COATED_IND	CHAR	1	
RETARDED_IND	CHAR	1	
SOLID_TO_LIQUID	VARCHAR2	2	
AEROSOL_TYPE	VARCHAR2	2	
TOOL	VARCHAR2	2	
VEHIC_IND	CHAR	1	
CRUSHABLE_IND	CHAR	1	
<b>PRICE</b>			
AMPP_ID	NUMBER	7	Mandatory
DELIVERY_ENVIRONMENT	CHAR	1	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
PRICE_AMNT	NUMBER	10,4	Mandatory
REIMB_BASE_PRICE	NUMBER	10,4	Mandatory
REFERENCE_BASE_PRICE	NUMBER	10,4	Mandatory
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>PROFESSIONAL_AUTHORISATION</b>			
PROFAU_ID	NUMBER	10	Mandatory
QUALIFICATION_LIST	VARCHAR2	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
PURCHASING_ADVISOR_NAME	VARCHAR2	50	
PROFESSIONAL_CODE	VARCHAR2	10	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>PROFESSIONAL_CODE</b>			
PROFESSIONAL_CV	VARCHAR2	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
PROFESSIONAL_NAME	VARCHAR2	50	
<b>QUALIFICATION_LIST</b>			
QUALIFICATION_LIST	VARCHAR2	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory

END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
EXCLUSIVE_IND	CHAR	1	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>REIMBURSEMENT</b>			
CHAPTER_NAME	VARCHAR2	10	Mandatory
PARAGRAPH_NAME	VARCHAR2	10	Mandatory
ATM_ID	NUMBER	10	Mandatory
AMPP_ID	NUMBER	7	Mandatory
DELIVERY_ENVIRONMENT	CHAR	1	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
REFERENCE_BASE_IND	CHAR	1	
PACKAGE_AGREEMENT	CHAR	1	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>REIMBURSEMENT_CATEGORY</b>			
REIMB_CATEGORY_CV	VARCHAR2	2	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
CATEGORY_NAME	VARCHAR2	50	
<b>REIMBURSEMENT_CRITERIA</b>			
REIMB_CRITERIA_CV	VARCHAR2	6	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
CRITERIA_NAME	VARCHAR2	50	
REIMB_CATEGORY_CV	VARCHAR2	2	Mandatory
<b>ROUTE_OF_ADMINISTRATION</b>			
ROUTE_ADM_CV	VARCHAR2	15	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
APPLICATION_CV	VARCHAR2	15	Mandatory
<b>SPHERE_VERSION</b>			
SPHERE_CV	VARCHAR2	6	Mandatory
VERSION_NUM	NUMBER	6	Mandatory

START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
<b>STATUS_TRANSFER</b>			
SENDER_ORGANISM	VARCHAR2	50	Mandatory
TRANSFER_TMS	TIMESTAMP		Mandatory
FILE_NAME	VARCHAR2	100	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
STATUS	VARCHAR2	20	Mandatory
USER_ID	VARCHAR2	20	Mandatory
<b>SUBSTANCE</b>			
CAS_ID	NUMBER	10	Mandatory
CAS_NR	NUMBER	10	
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
EXC_IND	CHAR	1	Mandatory
ACTIVE_BASE_IND	CHAR	1	Mandatory
BASE_FORM_CAS_ID	NUMBER	10	
DERIV_FORM_TYPE	VARCHAR2	2	
<b>THERAPY</b>			
CHAPTER_NAME	VARCHAR2	10	Mandatory
PARAGRAPH_NAME	VARCHAR2	10	Mandatory
ATM_ID	NUMBER	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
MASKED_IND	CHAR	1	
REIMB_CRITERIA_CV	VARCHAR2	6	Mandatory
REIMB_CATEGORY_CV	VARCHAR2	2	Mandatory
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>TREATMENT_DURATION_CATEGORY</b>			
TREATMENT_DURATION_CAT_CV	VARCHAR2	2	Mandatory
START_DATE	DATE		Mandatory
END_DATE	DATE		
CREATED_USER_ID	VARCHAR2	10	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
NAME_ID	NUMBER	10	Mandatory
TREATMENT_DURATION_VALUE	NUMBER	4	
TREATMENT_DURATION_UNIT	VARCHAR2	5	
<b>VERSE</b>			



CHAPTER_NAME	VARCHAR2	10	Mandatory
PARAGRAPH_NAME	VARCHAR2	10	Mandatory
VERSE_SEQ	NUMBER	2	Mandatory
START_DATE	DATE		Mandatory
END_DATE	DATE		
CREATED_USER_ID	VARCHAR2	10	Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
VERSE_NUM	NUMBER	6	Mandatory
VERSE_SEQ_PARENT	NUMBER	2	Mandatory
VERSE_LEVEL	NUMBER	2	Mandatory
VERSE_TYPE	VARCHAR2	2	
CHECK_BOX_IND	CHAR	1	Mandatory
MIN_CHECK_NUM	NUMBER	2	
AND_CLAUSE_NUM	NUMBER	6	
TEXT_FR	VARCHAR2	4000	Mandatory
TEXT_NL	VARCHAR2	4000	Mandatory
REQUEST_TYPE	CHAR	1	
AGREEMENT_TERM	NUMBER	3	
AGREEMENT_TERM_UNIT	CHAR	1	
MAX_PACKAGE_NUMBER	NUMBER	3	
PURCHASING_ADVISOR_QUAL_LIST	VARCHAR2	10	
LEGAL_REFERENCE	VARCHAR2	100	
MODIFICATION_DATE	DATE		
AGREEMENT_YEAR_MAX	NUMBER	2	
AGREEMENT_RENEWAL_MAX	NUMBER	3	
SEX_RESTRICTED	CHAR	1	
MINIMUM_AGE_AUTHORIZED	NUMBER	3,1	
MAXIMUM_AGE_AUTHORIZED	NUMBER	3,1	
MINIMUM_AGE_AUTHORIZED_UNIT	VARCHAR2	5	
MAXIMUM_AGE_AUTHORIZED_UNIT	VARCHAR2	5	
MAXIMUM_CONTENT_QUANTITY	NUMBER	12,3	
MAXIMUM_CONTENT_UNIT	VARCHAR2	5	
MAXIMUM_STRENGTH_QUANTITY	NUMBER	12,3	
MAXIMUM_STRENGTH_UNIT	VARCHAR2	15	
MAXIMUM_DURATION_QUANTITY	NUMBER	12,3	
MAXIMUM_DURATION_UNIT	VARCHAR2	5	
OTHER_ADDED_DOCUMENT_IND	CHAR	1	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>VIRTUAL_INGREDIENT_STRENGTH</b>			
VMP_ID	NUMBER	7	Mandatory
CAS_ID	NUMBER	10	Mandatory
VTM_ID	NUMBER	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
STRENGTH_QUANTITY	NUMBER	12,3	Mandatory
STRENGTH_QUANTITY_2	NUMBER	12,3	
STRENGTH_UNIT	VARCHAR2	15	Mandatory
STRENGTH_DENOM_QUANTITY	NUMBER	12,3	
STRENGTH_DENOM_UNIT	VARCHAR2	15	
MODIFICATION_STATUS	CHAR	1	Mandatory

**VMP**

VMP_ID	NUMBER	7	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
VTM_ID	NUMBER	10	Mandatory
APPLICATION_CV	VARCHAR2	15	Mandatory
SEQUENTIAL_IND	CHAR	1	Mandatory
DOSE_FORM_TYPE	CHAR	1	Mandatory
ADMINISTRATION_QUANTITY	NUMBER	9,3	
ADMINISTRATION_UNIT	VARCHAR2	5	
ADMINISTRATION_MULTIPLIER	NUMBER	4	
HYR_ID	NUMBER	10	
NO_INN	NUMBER	1	
NO_SWITCH	NUMBER	2	
DEFINED_DAILY_DOSE_VALUE	NUMBER	12,3	
DEFINED_DAILY_DOSE_UNIT	VARCHAR2	5	
BLACK_TRIANGLE_IND	CHAR	1	
INIT_DATE	DATE		
CLOSE_DATE	DATE		
WADA_CV	VARCHAR2	6	
MODIFICATION_STATUS	CHAR	1	Mandatory

**VMPP**

VMP_ID	NUMBER	7	Mandatory
TREATMENT_DURATION_CAT_CV	VARCHAR2	2	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
MODIFICATION_STATUS	CHAR	1	Mandatory

**VMP\_COMB**

VMP_ID_CMB	NUMBER	7	Mandatory
VMP_ID	NUMBER	7	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
VMP_CMB_SEQ	VARCHAR2	4	Mandatory
MODIFICATION_STATUS	CHAR	1	Mandatory

**VTM**

VTM_ID	NUMBER	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory
PLUS3_IND	CHAR	1	

CHEAP_IND	CHAR	1	
WHO_LIST_IND	CHAR	1	
WHO_LIST_REF	VARCHAR2	12	
EDUC_LIST_IND	CHAR	1	
EDUC_LIST_GROUP	VARCHAR2	12	
INIT_DATE	DATE		
CLOSE_DATE	DATE		
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>VTM_INGREDIENT</b>			
CAS_ID	NUMBER	10	Mandatory
VTM_ID	NUMBER	10	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
RANK	NUMBER	2	
MODIFICATION_STATUS	CHAR	1	Mandatory
<b>WADA</b>			
WADA_CV	VARCHAR2	6	Mandatory
START_DATE	DATE		Mandatory
CREATED_TMS	TIMESTAMP		Mandatory
CREATED_USER_ID	VARCHAR2	10	Mandatory
END_DATE	DATE		
NAME_ID	NUMBER	10	Mandatory

## 4.2. Index

Since not all accesses are known at the moment, the list of indices is limited to those essential to the unity constraints and natural accesses.

Table Name	Index Name	Fields ( ..., ... , ... )	Type
ACTUAL_INGREDIENT_STRENGTH	ACTSTR_PK	AMP_ID, CAS_ID	PK
ADDED_DOCUMENT	ADDOC_PK	VERSE_SEQ, CHAPTER_NAME, DOCUMENT_SEQ, PARAGRAPH_NAME	PK
ADMINISTRATION_FORM	ADMF_PK	ADM_FORM_ID	PK
AMP	AMP_PK	AMP_ID	PK
AMPP	AMPP_PK	AMPP_ID	PK
AMP_COMB	AMPCMB_PK	AMP_ID, AMP_ID_CMB	PK
AMP_INTERMEDIATE_PACKAGE	AMPINTPCK_PK	AMP_ID, CONTENT_QUANTITY, CONTENT_UNIT	PK
AMP_INT_PCK_COMB	AMPINTCMB_PK	AMP_ID, AMP_ID_CMB, AMP_INT_PCK_CQ, AMP_INT_PCK_CU, AMP_INT_PCK_CQ_CMB, AMP_INT_PCK_CU_CMB	PK
APPENDIX_TYPE	APXTYP_PK	APPENDIX_TYPE_ID	PK
APPLICATION	APPL_PK	APPLICATION_CV	PK
ATC	ATC_PK	ATC_CV	PK
ATM	ATM_PK	ATM_ID	PK
CAT_TABLE	CATTAB_PK	TABLE_ID	PK
COMPANY	CPY_PK	COMPANY_ID	PK
COPAYMENT	COPAY_PK	CHAPTER_NAME, ATM_ID, AMPP_ID, DELIVERY_ENVIRONMENT, REGIME_TYPE, PARAGRAPH_NAME	PK
EXCLUSION	EXCLUSION_PK	CHAPTER_NAME, PARAGRAPH_NAME, EXCLUSION_TYPE, IDENTIFIER_NUM	PK
FORM_TYPE	FRMTYP_PK	FORM_TYPE_ID	PK
H_ACTUAL_INGREDIENT_STRENGTH	HACTSTR_PK	AMP_ID, CAS_ID, START_DATE, CREATED_TMS	PK
H_ADDED_DOCUMENT	HADDOC_PK	VERSE_SEQ, CHAPTER_NAME, DOCUMENT_SEQ, PARAGRAPH_NAME, START_DATE, CREATED_TMS	PK
H_AMP	HAMP_PK	AMP_ID, START_DATE, CREATED_TMS	PK
H_AMPP	HAMPP_PK	AMPP_ID, START_DATE, CREATED_TMS	PK
H_AMP_COMB	HAMPCMB_PK	AMP_ID, AMP_ID_CMB, START_DATE, CREATED_TMS	PK
H_AMP_INTERMEDIATE_PACKAGE	HAMPINTPCK_PK	AMP_ID, CONTENT_QUANTITY, CONTENT_UNIT, START_DATE, CREATED_TMS	PK
H_AMP_INT_PCK_COMB	HAMPINTCMB_PK	AMP_ID, AMP_ID_CMB, AMP_INT_PCK_CQ, AMP_INT_PCK_CU, AMP_INT_PCK_CQ_CMB, AMP_INT_PCK_CU_CMB, START_DATE, CREATED_TMS	PK
H_ATM	HATM_PK	ATM_ID, START_DATE, CREATED_TMS	PK
H_COPAYMENT	HCOPAY_PK	CHAPTER_NAME, ATM_ID, AMPP_ID, DELIVERY_ENVIRONMENT, REGIME_TYPE, PARAGRAPH_NAME, START_DATE, CREATED_TMS	PK
H_EXCLUSION	HEXCLUSION_PK	CHAPTER_NAME, PARAGRAPH_NAME, START_DATE, CREATED_TMS	PK
H_NAME_EXPLANATION	HNAMEXP_PK	NAME_ID, START_DATE, CREATED_TMS	PK
H_NAME_TRANSLATION	HNAMTRS_PK	NAME_ID, NAME_TYPE_CV, LANGUAGE_CV, START_DATE, CREATED_TMS	PK
H_PARAGRAPH	HPARA_PK	CHAPTER_NAME, PARAGRAPH_NAME, START_DATE, CREATED_TMS	PK
H_PARAGRAPH_TRACE	HPARTRA_PK	CHAPTER_NAME, PARAGRAPH_NAME,	PK

		PARENT_CHAPTER_NAME, PARENT_PARAGRAPH_NAME, START_DATE, CREATED_TMS	
H_PRICE	HPRC_PK	AMPP_ID, DELIVERY_ENVIRONMENT , START_DATE, CREATED_TMS	PK
H_PROFESSIONAL_AUTHORISATION	HPROFAU_PK	PROFAU_ID, START_DATE, CREATED_TMS	PK
H_QUALIFICATION_LIST	HQUALST_PK	QUALIFICATION_LIST , START_DATE, CREATED_TMS	PK
H_REIMBURSEMENT	HREMB_PK	CHAPTER_NAME, ATM_ID, AMPP_ID, DELIVERY_ENVIRONMENT, PARAGRAPH_NAME, START_DATE, CREATED_TMS	PK
H_THERAPY	HTHER_PK	CHAPTER_NAME, ATM_ID, PARAGRAPH_NAME, START_DATE, CREATED_TMS	PK
H_VERSE	HVERSE_PK	VERSE_SEQ, CHAPTER_NAME, PARAGRAPH_NAME, START_DATE, CREATED_TMS	PK
H_VIRTUAL_INGREDIENT_STRENGTH	HVIRTSTR_PK	VMP_ID, CAS_ID, VTM_ID, START_DATE, CREATED_TMS	PK
H_VMP	HVMP_PK	VMP_ID, START_DATE, CREATED_TMS	PK
H_VMPP	HVMP_PK	VMP_ID, TREATMENT_DURATION_CAT, START_DATE, CREATED_TMS	PK
H_VMP_COMB	HVMPCMB_PK	VMP_ID_CMB, VMP_ID, START_DATE, CREATED_TMS	PK
H_VTM	HVTM_PK	VTM_ID, START_DATE, CREATED_TMS	PK
H_VTM_INGREDIENT	HVTMING_PK	CAS_ID, VTM_ID, START_DATE, CREATED_TMS	PK
HYR	HYR_PK	HYR_ID	PK
INNER_PACKAGE	PCKG_PK	INNER_PACKAGE_CV	PK
LOGGING_TRANSFER	LOGTRF_PK	SENDER_ORGANISM, TRANSFER_TMS, FILE_NAME	PK
NAME_EXPLANATION	NAMEXP_PK	NAME_ID	PK
NAME_TRANSLATION	NAMTRS_PK	NAME_ID, NAME_TYPE_CV, LANGUAGE_CV	PK
NAME_TYPE	NAMTYP_PK	NAME_TYPE_CV	PK
PARAGRAPH	PARA_PK	CHAPTER_NAME, PARAGRAPH_NAME	PK
PARAGRAPH_TRACE	PARTRA_PK	CHAPTER_NAME, PARAGRAPH_NAME, PARENT_CHAPTER_NAME, PARENT_PARAGRAPH_NAME	PK
PHARMACEUTICAL_FORM	PHARMF_PK	PHARM_FORM_ID	PK
PRICE	PRC_PK	AMPP_ID, DELIVERY_ENVIRONMENT	PK
PROFESSIONAL_AUTHORISATION	PROFAU_PK	PROFAU_ID	PK
PROFESSIONAL_CODE	PROFCD_PK	PROFESSIONAL_CV	PK
QUALIFICATION_LIST	QUALST_PK	QUALIFICATION_LIST	PK
REIMBURSEMENT	REMB_PK	CHAPTER_NAME, ATM_ID, AMPP_ID, DELIVERY_ENVIRONMENT, PARAGRAPH_NAME	PK
REIMBURSEMENT_CATEGORY	RMCAT_PK	REIMB_CATEGORY_CV	PK
REIMBURSEMENT_CRITERIA	RMCRT_PK	REIMB_CRITERIA_CV	PK
ROUTE_OF_ADMINISTRATION	ROUTE_PK	ROUTE_ADM_CV	PK
SPHERE_VERSION	SPHVER_PK	SPHERE_CV, VERSION_NUM	PK
SUBSTANCE	SUBST_PK	CAS_ID	PK
THERAPY	THER_PK	CHAPTER_NAME, ATM_ID, PARAGRAPH_NAME	PK
TREATMENT_DURATION_CATEGORY	DURCAT_PK	TREATMENT_DURATION_CAT_CV	PK
VERSE	VERSE_PK	VERSE_SEQ, CHAPTER_NAME, PARAGRAPH_NAME	PK
VERSE	VERSE_UK	VERSE_NUM	U
VIRTUAL_INGREDIENT_STRENGTH	VIRTSTR_PK	VMP_ID, CAS_ID, VTM_ID	PK
VMP	VMP_PK	VMP_ID	PK
VMPP	VMP_PK	VMP_ID, TREATMENT_DURATION_CAT	PK

VMP_COMB	VMPCMB_PK	VMP_ID_CMB, VMP_ID	PK
VTM	VTM_PK	VTM_ID	PK
VTM_INGREDIENT	VTMING_PK	CAS_ID, VTM_ID	PK
WADA	WADA_PK	WADA_CV	PK

### 4.3. Views

The global views can be implemented using the 'UNION ALL' statement since the descriptions and names are rigorously identical in both parts of the scheme. These views will be created in the CURRENT part hence leaving the choice between the actual version or all versions to the user.

Table Name	View
ACTUAL_INGREDIENT_STRENGTH	ACTSTR_GLO_V
ADDED_DOCUMENT	ADDOC_GLO_V
AMP	AMP_GLO_V
AMP_COMB	AMPCMB_GLO_V
AMP_INT_PCK_COMB	AMPINTCMB_GLO_V
AMP_INTERMEDIATE_PACKAGE	AMPINTPCK_GLO_V
AMPP	AMPP_GLO_V
ATM	ATM_GLO_V
COPAYMENT	COPAY_GLO_V
EXCLUSION	EXCL_GLO_V
NAME_EXPLANATION	NAMEXP_GLO_V
NAME_TRANSLATION	NAMTRS_GLO_V
PARAGRAPH	PARA_GLO_V
PARAGRAPH_TRACE	PARTRA_GLO_V
PRICE	PRC_GLO_V
PROFESSIONAL_AUTHORISATION	PROFAU_GLO_V
QUALIFICATION_LIST	QUALST_GLO_V
REIMBURSEMENT	REMB_GLO_V
THERAPY	THER_GLO_V
VERSE	VERSE_GLO_V
VIRTUAL_INGREDIENT_STRENGTH	VIRTSTR_GLO_V
VMP	VMP_GLO_V
VMP_COMB	VMPCMB_GLO_V
VMPP	VMPP_GLO_V
VTM	VTM_GLO_V
VTM_INGREDIENT	VTMING_GLO_V

#### 4.4. Sequences

The random sequences related to the ID fields are unique identifiers generated at the time of introduction of a new record in the table. They are not to be mixed up with the SEQ in the children tables which are an articulation with reference to their parent tables.

The field storing the value to be used as a key is indicated next to the table name.

Sole exception to the denomination ID is VERSE\_NUM which is not the chosen unique key for the record.

Table	Field	Sequence	Order	Cycle	Min	Step	Max	Cache
AMP	AMP_ID	AMP_SEQUENCE	Y	N	1	1	-	-
ATM	ATM_ID	ATM_SEQUENCE	Y	N	1	1		
CAT_TABLE	TABLE_ID	TBL_SEQUENCE	Y	N	1	1		
COMPANY	COMPANY_ID	CPY_SEQUENCE	Y	N	1	1		
ENUMERATION	ENUM_ID	ENUM_SEQUENCE	Y	N	1	1		
NAME_EXPLANATION	NAME_ID	NAMEXP_SEQUENCE	Y	N	1	1		
PROFESSIONAL_AUTHORIZATION	PROFAU_ID	PROFAU_SEQUENCE	Y	N	1	1		
VERSE	VERSE_NUM	VERSE_SEQUENCE	Y	N	1	1		
VTM	VTM_ID	VTM_SEQUENCE	Y	N	1	1		
TABLE	TABLE_ID	CATTAB_SEQUENCE	Y	N	1	1		

#### 4.5. Triggers

##### Input file

The BCPI and the NIHDI send the data updates by means of an uploaded zip file on a secured website. This upload has a header file containing recapitulatory information and 1 or 2 files per table, the first consisting of SQL INSERT and UPDATE statements, the latter of DELETE statements. Every successful load will lead to the creation of a new version in the database.

The data suppliers can import two different types of data: new informations (called Evolutions) or corrections on existing records (called Corrections – allowed in both CURRENT and HISTORIC parts).

In case of an Evolutive upload, the data suppliers specify in advance the production date for the new version (=SWITCH\_DATE). This SWITCH\_DATE is also registered in the header file accompanying the SQL scripts. The SWITCH\_DATE becomes the new START\_DATE in all new and modified records (CURRENT part of the scheme) as well as the END\_DATE of all records to be transferred to history (HIST part of the scheme). A modification status 'E' is automatically attributed to the new records.

If the SWITCH\_DATE in the header file is a date in the past, the START\_DATE for all created/modified records will be constituted by the SWITCH\_DATE. Smals will not take into account any start or end date occurring in the records.

In case of a Corrective upload, the START\_DATE (for both Current and Historic part) and the END\_DATE (for Historic part only) must be specified for each record to correct.

A correction on the Current part requires only UPDATE statements. The record to correct is historicized and then updated with a modification status 'C'.

A correction on the Historic part requires only INSERT statements.

[App] : Application table short name (tables in blue and green in the data model)  
 H\_[App] : Historic table associated to Application table [App]  
 [Ref]: Reference table short name (tables in yellow in data model)

Table	Trigger	Insert	Update	Delete	Modification Status
[App]	[App]_TRG_BEF_IN	x			Evolution
H_[App]	H_[App]_TRG_BEF_IN	x			Correction
[App]	[App]_TRG_BEF_UP		x		Evolution / Correction
[App]	[App]_TRG_BEF_DE			x	Evolution
[Ref]	[Ref]_TRG_BEF_IN	x			-
[Ref]	[Ref]_TRG_BEF_UP		x		-
[Ref]	[Ref]_TRG_BEF_DE			x	-

The HIST part of the scheme will not contain any history of reference data, only of applicative data. Modifications in reference data are kept in a dedicated logging table (LOGGING\_REFERENCE).

Modifications in the database since the last version/update are kept in a delta table. (LOGGING\_DELTA).

### 4.5.1. Application tables

#### Insert

(the tables are processed according to the order described in §6.2)

#### Evolution :

```
ON INSERT ON [App]
  select PK in [App]
  If PK found
    → error (skip insert statement)
  If PK not found (= insert new record)
    → create new record in [App] → 'new'
      → copy new values into new
      → new.START_DATE = SWITCH_DATE
      → new.END_DATE = NULL
      → new.CREATE_TMS = current timestamp
      → new.MODIFICATION_STATUS = 'E'
    → update delta table
```

#### Correction :

```
ON INSERT ON H_[App]
  select [PK, START_DATE, END_DATE] in H_[App]
  If [PK, START_DATE, END_DATE] not found
    → error (skip insert statement)
  If [PK, START_DATE, END_DATE] found (= insert new record)
    → create new record in H_[App] → 'new'
      → copy new values into new
      → new.START_DATE = old.START_DATE
      → new.END_DATE = old.END_DATE
      → new.CREATE_TMS = current timestamp
      → new.MODIFICATION_STATUS = 'C'
```



### Update

(the tables are processed according to the order described in §6.2)

#### Evolution :

```
ON UPDATE ON [App]
  select PK in CURRENT
  If PK not found
    → error (skip update statement)
  If PK found (= update existing record)
    → fetch current record in [App] → 'old'
    → overwrite old.END_DATE = SWITCH_DATE - 1
    → insert old into H_[App]
    → update old record with new values (all fields except the PK fields) → 'new'
    → new.START_DATE = SWITCH_DATE
    → new.END_DATE = NULL
    → new.MODIFICATION_STATUS = 'E'
    → update delta table
```

#### Correction :

```
ON UPDATE ON [App]
  select PK in CURRENT
  If PK not found
    → error (skip update statement)
  If PK found (= update existing record)
    → fetch current record in [App] → 'old'
    → overwrite old.END_DATE = current date - 1
    → insert old into H_[App]
    → update old record with new values (all fields except the PK fields) → 'new'
    → new.START_DATE = old.START_DATE
    → new.END_DATE = NULL
    → new.MODIFICATION_STATUS = 'C'
    → update delta table
```

### Delete

(the tables are processed in reverse order compared to the order described in §6.2)

```
ON DELETE ON [App]
  → fetch current record in CURRENT schema → 'old'
  → overwrite old.END_DATE = SWITCH_DATE - 1
  → insert old into H_[App]
  → execute delete on [App]
  → update delta table
```

## 4.5.2.Reference tables

### Insert

(the tables are processed according to the order described in §5)

```
ON INSERT ON [Ref]
  select PK in [Ref]
  If PK found
    → error (skip insert statement)
  If PK not found (= insert new record)
```

- create new record in [Ref] → 'new'
- copy new values into new
- new.START\_DATE = SWITCH\_DATE
- new.END\_DATE = NULL
- new.CREATE\_TMS = current timestamp

### Update

(the tables are processed according to the order described in §5)

ON UPDATE ON [Ref]

select PK in [Ref]

If PK not found

→ error (*skip insert statement*)

If PK found (= *update existing record*)

→ fetch current record in [Ref] → 'old'

→ copy old record (in xml-type) to logging table (LOGGING\_REFERENCE)

→ update old with new values (all fields except PK fields)

### Delete

(the tables are processed in reverse order compared to the order described in §5)

ON DELETE ON [Ref]

→ fetch current record in [Ref] → 'old'

→ overwrite old.END\_DATE = SWITCH\_DATE - 1

→ update logging table (LOGGING\_REFERENCE)

#### 4.6. Grant and Synonym

Origin ( Grant )				Destination ( Synonym )	
Scheme	object	Right	Type	Scheme	Name
CUR	ADMINISTRATION_FORM	R	T	HIST	-
CUR	APPLICATION	R	T	HIST	-
CUR	APPENDIX_TYPE	R	T	HIST	-
CUR	ATC	R	T	HIST	-
CUR	COMPANY	R	T	HIST	-
CUR	FORM_TYPE	R	T	HIST	-
CUR	HYR	R	T	HIST	-
CUR	INNER_PACKAGE	R	T	HIST	-
CUR	NAME_TYPE	R	T	HIST	-
CUR	PHARMACEUTICAL_FORM	R	T	HIST	-
CUR	PROFESSIONAL_CODE	R	T	HIST	-
CUR	REIMBURSEMENT_CATEGORY	R	T	HIST	-
CUR	REIMBURSEMENT_CRITERIA	R	T	HIST	-
CUR	ROUTE_OF_ADMINISTRATION	R	T	HIST	-
CUR	SUBSTANCE	R	T	HIST	-
CUR	TREATMENT_DURATION_CATEGORY	R	T	HIST	-
CUR	WADA	R	T	HIST	-
CUR	CAT_TABLE	R	T	HIST	-
CUR	ENUMERATION	R	T	HIST	-
CUR	LOGGING_DELTA	R	T	HIST	-
CUR	LOGGING_REFERENCE	R	T	HIST	-
CUR	LOGGING_TRANSFER	R	T	HIST	-
CUR	SPHERE_VERSION	R	T	HIST	-
HIST	ACTUAL_INGREDIENT_STRENGTH	R	T	CUR	ACTSTR_GLO_V
HIST	ADDED_DOCUMENT	R	T	CUR	ADDOC_GLO_V
HIST	AMP	R	T	CUR	AMP_GLO_V
HIST	AMP_COMB	R	T	CUR	AMPCMB_GLO_V
HIST	AMP_INT_PCK_COMB	R	T	CUR	AMPINTCMB_GLO_V
HIST	AMP_INTERMEDIATE_PACKAGE	R	T	CUR	AMPINTPCK_GLO_V
HIST	AMPP	R	T	CUR	AMPP_GLO_V
HIST	ATM	R	T	CUR	ATM_GLO_V
HIST	COPAYMENT	R	T	CUR	COPAY_GLO_V
HIST	EXCLUSION	R	T	CUR	EXCL_GLO_V
HIST	NAME_EXPLANATION	R	T	CUR	NAMEXP_GLO_V
HIST	NAME_TRANSLATION	R	T	CUR	NAMTRS_GLO_V
HIST	PARAGRAPH	R	T	CUR	PARA_GLO_V
HIST	PARAGRAPH_TRACE	R	T	CUR	PARTRA_GLO_V
HIST	PRICE	R	T	CUR	PRC_GLO_V
HIST	PROFESSIONAL_AUTHORISATION	R	T	CUR	PROFAU_GLO_V
HIST	QUALIFICATION_LIST	R	T	CUR	QUALST_GLO_V
HIST	REIMBURSEMENT	R	T	CUR	REMB_GLO_V
HIST	VERSE	R	T	CUR	VERSE_GLO_V
HIST	VIRTUAL_INGREDIENT_STRENGTH	R	T	CUR	VIRTSTR_GLO_V
HIST	VMP	R	T	CUR	VMP_GLO_V
HIST	VMP_COMB	R	T	CUR	VMP_CMB_GLO_V
HIST	VMPP	R	T	CUR	VMPP_GLO_V
HIST	VTM	R	T	CUR	VTM_GLO_V
HIST	VTM_INGREDIENT	R	T	CUR	VTMING_GLO_V

## 5. Data initialization

Sequence	Table Name	Dependency	Script
I 1	NAME_TYPE	-	
I 2	SUBSTANCE	-	
I 3	ATC	-	
I 4	HYR	-	
I 5	APPLICATION	-	
I 6	ROUTE_OF_ADMINISTRATION	I5	
I 7	PHARMACEUTICAL_FORM	-	
I 8	ADMINISTRATION_FORM	-	
I 9	WADA	-	
I 10	REIMBURSEMENT_CATEGORY	-	
I 11	REIMBURSEMENT_CRITERIA	I10	
I 12	COMPANY	-	
I 13	INNER_PACKAGE	-	
I 14	TREATMENT_DURATION_CATEGOR	-	
I 15	PROFESSIONAL_CODE	-	
I 16	FORM_TYPE	-	
I 17	APPENDIX_TYPE	-	

## 6. Data migration

### 6.1. Description of input files

The data are introduced by means of text files with extension « .SQL ».

These files are composed of orders SQL « INSERT », « UPDATE » or « DELETE », resuming in a first part the name of the affected fields and in a second part the values of those fields.

Technical fields managed by the database itself, like creation timestamps, needn't occur in the list. Certain fields will be subject to particular formatting or will be presented using a fonction like dates or timestamps.

Example :

Date : `to_date('2007/05/31','YYYY/MM/DD')`

Timestamp : `to_timestamp ('15-may-2006 06:00:01','dd-mon-yyyy hh24:mi:ss')`

Date du jour de l'utilisation : `current_date` TMS : `current_timestamp`

```
INSERT INTO WADA (WADA_CV, START_DATE, END_DATE, CREATED_USER_ID,
CREATED_TMS, NAME_ID) VALUES ('V', TO_DATE('31-MAY-10', 'DD-MON-RR'),
TO_DATE('03-JUN-10', 'DD-MON-RR'), 'Bibi', TO_TIMESTAMP('31-MAY-10 00.00.00.', 'DD-
MON-RR HH24.MI.SS.FF'), 123456);
```

Text fields must be expressed in simple quotes ; quotes within text have to be duplicated.

Every table requires 2 input files, one for the INSERT and UPDATE statements, one for the DELETE statements. The deletion of records implies that the tables are processed in reversed order (from child table to parent table) compared to the inserts and updates.

## 6.2. Scheduling

Sequence	Table Name	Dependency	Script
M 1	NAME_EXPLANATION	I1	
M 2	NAME_TRANSLATION	M1 - I1	
M 3	VTM	-	
M 4	VTM_INGREDIENT	M3 - I2	
M 5	ATM	M3 - I10 – I11 - I12	
M 6	VMP	M3 – I4 – I3 – I5	
M 7	VIRTUAL_INGREDIENT_STRENGTH	M4 – M6	
M 8	VMP_COMB	M6	
M 9	AMP	M5 – M6 – I6 – I7 – I8 – I9 – I12	
M 10	ACTUAL_INGREDIENT_STRENGTH	I2 – M9	
M 11	AMP_COMB	M9	
M 12	VMPP	M6 – I14	
M 13	AMP_INTERMEDIATE_PACKAGE	M9 – I3	
M 14	AMP_INT_PCK_COMB	M13	
M 15	AMPP	M13 – M12 – I12	
M 16	PRICE	M15	
M 17	PARAGRAPH	-	
M 18	THERAPY	M5 – M17	
M 19	QUALIFICATION_LIST	-	
M 20	PROFESSIONAL_AUTHORISATION	M19 – I15	
M 21	VERSE	M17 – M19 – <del>I15</del>	
M 22	EXCLUSION	M17	
M 23	ADDED_DOCUMENT	M21	
M 24	REIMBURSEMENT	M16 - M18	
M 25	COPAYMENT	M24	

## 7. Logging strategy

The database structure permits the storage of the identifier of the user applying the modification or creation of the records and the time coordinates of the actions. (CREATED\_USER\_ID and CREATED\_TMS ). See § 3.5.

## 8. Backup strategy

Standards eHealth

## 9. Partitioning

Table	Partitioning Field	Partitioning Rule	Estimated Duration / Partition
-	-	-	-

## 10. Archiving strategy

Applicative solution

The solution of the historical scheme (copy of the current version) has been withheld. This implies the creation of a copy of the current scheme without the relational constraints.

The reference tables are replaced in the scheme history by the views of those in the current one.

The global views resuming through union the current and historical information provide a view on the whole of the data, but restricted to the applicative tables.

This solution applies to a set of triggers in the current environment transferring the data to the history scheme.

## 11. Estimation de calendrier de déploiement

Environment	Acceptance	Simulation	Production
Deployment date	01/08/2010	NA	1/12/2010

## 12. Security policy

Public data do not require specific security measures

## 13. Technical data

Platform : <a href="#">Unix</a> / <a href="#">Windows</a>	Character Set for the Database : <a href="#">Standard</a> = <a href="#">AL32UTF8</a>
DB Software Edition : <a href="#">Standard</a> = <a href="#">Oracle Enterprise Edition release 11</a>	
Special privilege for the application management ( ex : Siebel ) :	

Number of users expected : 15	Concurrent Transactions : 100
<p>Application Description (detailed) :          CIVICS aims to provide physicians, pharmacists and insurance institutions with information on medicines and on the reimbursement conditions, part of the convention NIHDI and denominated Chapter IV (expensive medicines).</p> <p>These data are stored in a central database and made available to the different actors by means of the computer systems they dispose of today.</p> <p>For the physicians this will be done through approved software developed by third parties (software editors).</p> <p>For the medical advisors, the database will be available by means of their respective systems.</p> <p>The database can be obtained/consulted through 2 different channels :</p> <ul style="list-style-type: none"> <li>- a channel « batch export » by means of which an export of the database is available to the software editors and the insurance institutions on the eHealth portal. At any time a full export containing history as well as all deltas is available.</li> <li>- a channel « web services » which allows online consultation of the data contained in the database.</li> </ul> <p><b>Link to other DB: none</b>  <b>Network Aspect (Smals, Extranet, etc): database accessed by smals servers (middleware and batches)</b></p>	

## 14. Volumetric

Table Name	Number of rows		growing %		Sensible Queries <sup>1</sup>
	Initiation	Maximum	by Month	by Year	
VIRTUAL_THERAPEUTIC_MOIETY (VTM)	500				
ACTUAL_THERAPEUTIC_MOIETY (ATM)	1 500				
VIRTUAL_MEDICINAL_PRODUCT (VMP)	700				
ACTUAL_MEDICINAL_PRODUCT (AMP)	5 000				
VIRTUAL_MEDICINAL_PRODUCT_PACK	10 000				
ACTUAL_MEDICINAL_PRODUCT_PACK	20 000				
VTM_INGREDIENT (VTMING)	1 000				
VMP_COMB (VMPCMB)	200				
AMP_COMB (AMPCMB)	500				
VIRTUAL_INGREDIENT_STRENGTH	1 500				

<sup>1</sup> Y or N : means the results of queries are expected in few seconds. If table is batch oriented, answer N

ACTUAL_INGREDIENT_STRENGTH	4 500				
VMPP_COMB (VMPPCMB)	500				
AMP_INTERMEDIATE_PACKAGE	15 000				
NAME_TRANSLATION (NAME)	20 000				
SUBSTANCE (INGR)	5 000				
ATC	100				
HYR	200				
APPLICATION (APPL)	30				
ROUTE_OF_ADMINISTRATION (ROUTE)	50				
ADMINISTRATION_FORM (ADM)	30				
PHARMACEUTICAL_FORM (PHARMF)	50				
WADA					
INNER_PACKAGE (PCKG)	20				
COMPANY (CPY)					
TREATMENT_DURATION_CATEGORY					
PARAGRAPH ( PARA )	300				
PARAGRAPH ( PARTRA )	0				
VERSE ( VERS )	6 000				
PROFESSIONAL_CODE (PROFCD)	50				
PROFESSIONAL_AUTHORISATION	100				
ADDED_DOCUMENT (ADDOC)	1 000				
EXCLUSION ( EXCL )	300				
THERAPY ( THER )	1 000				
PRICE ( PRC )	50 000				
REIMBURSEMENT_CATEGORY (RMCAT)	5				
REIMBURSEMENT_CRITERIA (RMCRT)	100				
REIMBURSEMENT ( REMB )	100 000				
COPAYMENT ( COPAY )	200 000				

## 15. Availability - SLA

99% Standalone database - RMAN

99,9% Standalone database - RMAN + Dataguard

99,99% RAC Database + Dataguard



## 16. Document rectifications / modifications / updates

Rectification du 6/05/2010

- VMPP TREATMENT\_DURATION\_CAT\_CV pour être conforme à la table parente
- VERSE OTHER\_ADDED\_DOCUMENT\_IND au lieu de 'PAPER' trop confus
- Dédoublment du champ KEY\_STRING de PARAGARAPH en version \_NL et \_FR
- Adaptation de l'explication sur la gestion des versions Pages 9 – 14 – 15
- Ajout d'un numéro d'ordre / séquence dans Name\_Type : NAME\_TYPE\_SEQ NUMERIC (2)  
Description dans la prochaine version du dossier Logique
- Les tables VMP\_ID, VMPP\_ID, AMPP\_ID n'ont pas besoin à priori de séquence DB.  
VMP et AMPP ayant des CNKs prévus pour toutes leurs occurrences,  
VMPP ayant un Catégory\_Code.

Rectification du 11/05/2010

- Added field NAME\_ID in table COMPANY

Rectification du 17/05/2010 ( V0.5.3)

- Corrections in the denominations of the fields in order to be consistent with the logical model :

Table	Old Value	New Value
VIRTUAL_INGREDIENT_STRENGTH	STRENGTH_NOM_VALUE	STRENGTH_QUANTITY
	STRENGTH_NOM_RNG_VALUE	STRENGTH_QUANTITY_2
	STRENGTH_NOM_UNIT	STRENGTH_UNIT
	STRENGTH_DENOM_VALUE	STRENGTH_DENOM_QUANTITY
	STRENGTH_DENOM_UNIT	STRENGTH_DENOM_UNIT
ACTUAL_INGREDIENT_STRENGTH	STRENGTH_NOM_VALUE	STRENGTH_QUANTITY
	STRENGTH_NOM_RNG_VALUE	STRENGTH_QUANTITY_2
	STRENGTH_NOM_UNIT	STRENGTH_UNIT
	STRENGTH_DENOM_VALUE	STRENGTH_DENOM_QUANTITY
	STRENGTH_DENOM_UNIT	STRENGTH_DENOM_UNIT
VMP	/	ADMINISTRATION_QUANTITY
	/	ADMINISTRATION_UNIT
	/	ADMINISTRATION_MULTIPLIER
AMP_INTERMEDIATE_PACKAGE	PACK_QUANTITY_VALUE	CONTENT_QUANTITY
	PACK_QUANTITY_UNIT	CONTENT_UNIT
	ADDED_SIZE_VALUE	ADDED_MULTIPLIER
	ADDED_QUANTITY_VALUE	ADDED_QUANTITY
	ADDED_QUANTITY_UNIT	ADDED_UNIT
AMPP	PACK_SIZE_VALUE	CONTENT_MULTIPLIER

Rectification du 18/05/2010

- AMPP\_ID\_MAX\_PACK\_SIZE => Lien pour le calcul de la tranche du plus grand conditionnement

Rectification du 21/05/2010

- Table NAME\_TYPE, renaming of column TEXT\_TYPE\_SEQ into NAME\_TYPE\_SEQ in the diagram.

Rectification du 27/05/2010

- Table VERSE, datatype modification of AGREEMENT\_TERM\_UNIT into CHAR(1)
- Ajout des § 5 à 15
- **Added 2 reference tables** FORM\_TYPE and APPENDIX\_TYPE linked to the table ADDED\_DOCUMENT.

Rectification du 31/05/2010

- In table VMP, attribute PHARM\_PROD\_SEQ replaced by a (mandatory) sequence number in tables VMP\_COMB, AMP\_COMB, AMP\_INT\_PCK\_COMB (attributes VMP\_CMB\_SEQ, AMP\_CMB\_SEQ and AMP\_INT\_PCK\_CMB\_SEQ)
- Table VMP, new attribute SEQUENTIAL\_IND CHAR(1)

Rectification du 2/06/2010

- **Ch 5 – 6 Ajout**
- **§ 2.1 § 3.3 § 3.4 § 3.5 § 4.5 § 4.8 compléments ou rectification**

Rectification du 07/06/2010 :

- Table ACTUAL\_INGREDIENT\_STRENGTH : STRENGTH\_QUANTITY optional (for excipients)
- Table AMPP: Change in name attribute TREATMENT\_DURATION\_CAT (FK) → TREATMENT\_DURATION\_CAT\_CV
- Field DIMENSIONS moved from table VMP to table **AMP**
- Field ADM\_FORM\_CV **optional** in table AMP
- Field WADA\_CV **optional** in table AMP
- In table VMP : DOSE\_FORM\_IND number(1) → DOSE\_FORM\_TYPE **char**(1)  
ADMINISTRATION\_QUANTITY → NUMBER(9,3)  
NO\_INN → NUMBER(1)
- Booleans in logical model → always char(1) in physical model
- Table HYR : HYR\_CV varchar(5) → varchar(15)
- Table VIRTUAL\_INGREDIENT\_STRENGTH : STRENGTH\_UNIT → mandatory
- Table COPAYMENT: rename SOLID\_RATE\_RATE\_AMNT into SOLID\_FLAT\_RATE\_AMNT
- Rename Table VIRTUAL\_INGREDIENT\_STRENGTH: alias **VIRTSTR**, primary key **VIRTSTR\_PK**
- Rename Table ACTUAL\_INGREDIENT\_STRENGTH: alias **ACTSTR**, primary key **ACTSTR\_PK**
- Table ATC new field FINAL\_LEVEL\_IND boolean
- Table APPLICATION : change datatype APPLICATION\_CV from varchar2(2) into varchar2(15).

- Table ROUTE\_OF\_ADMINISTRATION: change datatype ROUTE\_ADM\_CV from varchar2(2) into varchar2(15).
- Table ADMINISTRATION\_FORM : change datatype ADM\_FORM\_CV from varchar2(2) into varchar2(15).
- Table PHARMACEUTICAL\_FORM : change datatype PHARM\_FORM\_CV from varchar2(2) into varchar2(15).
- Table VERSE : new fields MAXIMUM\_CONTENT\_QUANTITY, MAXIMUM\_CONTENT\_UNIT, MAXIMUM\_STRENGTH\_QUANTITY, MAXIMUM\_STRENGTH\_UNIT, MAXIMUM\_DURATION\_QUANTITY, MAXIMUM\_DURATION\_UNIT.

Rectification du 15/06/2010 :

- 6.1. Description des fichiers Inputs
- 6.2 Mise en page

Rectification du 28/06/2010 :

- 4.5 Les triggers
- PROFESSIONAL\_AUTHORISATION: PROFESSIONAL\_CODE → PROFESSIONAL\_CV
- change length datatype from number 9,3 to **number 12,3** for following columns:

Table	Column
VIRTUAL_INGREDIENT_STRENGTH	STRENGTH_QUANTITY
	STRENGTH_QUANTITY_2
ACTUAL_INGREDIENT_STRENGTH	STRENGTH_QUANTITY
	STRENGTH_QUANTITY_2
AMP_INTERMEDIATE_PACKAGE	CONTENT_QUANTITY
	ADDED_QUANTITY
AMP_INT_PCK_COMB	AMP_INT_PCK_CQ
	AMP_INT_PCK_CQ_CMB
AMPP	CONTENT_QUANTITY
	TOTAL_PACK_SIZE_VALUE
VERSE	MAXIMUM_CONTENT_QUANTITY
	MAXIMUM_STRENGTH_QUANTITY

- added technical tables LOGGING\_REFERENCE, LOGGING\_TRANSFER, LOGGING\_DELTA, CAT\_TABLE, ENUMERATION

Rectification du 01/07/2010 :

- foreign key REIMB\_CRITERIA\_CV from REIMBURSEMENT\_CRITERIA to THERAPY (instead of ATM)

- foreign key REIMB\_CATEGORY\_CV from REIMBURSEMENT\_CATEGORY to THERAPY (instead of ATM)
- §4.5: Triggers: while transferring record to HIST: END\_DATE = SWITCH\_DATE – 1
- added 2 fields in table NAME\_TRANSLATION:

LONG_BINARY_TEXT	BLOB
ADDRESS_URL	VARCHAR2(255)
- NAME\_EXPLANATION: SOURCE\_TYPE → SOURCE\_TABLE\_ID NUMBER(2)

Rectification du 01/07/2010 :

- to cover the problem of having 2 updates with the same START\_DATE (SWITCH\_DATE) , the CREATED\_TMS becomes part of the primary key of the H\_ tables.
- Table ADDED\_DOCUMENT:
  - o Added field ADDRESS\_URL
  - o Changed length DOCUMENT\_SEQ from number(2) to number(4)
- Updated trigger description

Rectification du 16/07/2010 :

- modify field length STRENGTH\_DENOM\_QUANTITY in tables VIRTUAL\_INGREDIENT\_STRENGTH and ACTUAL\_INGREDIENT\_STRENGTH from 9,3 to 12,3.
- In table CAT\_TABLE:
  - o modify field length TABLE\_ID from number(2) to number(3)
  - o modify field length UPDATE\_RANK from number(2) to number(3)
  - o modify field length DELETE\_RANK from number(2) to number(3)

Rectification du 30/08/2010 :

- deleted PK on tabel NAME\_TRANSLATION (and table H\_NAME\_TRANSLATION): It should be possible to define e.g. 5 aliases, all with the same NAME\_TYPE 'Alias'.
- Enlarged column SHORT\_TEXT in table NAME\_TRANSLATION from varchar2(256) to varchar2(280)
- Field TREATMENT\_DURATION\_CATEGORY no longer mandatory on table AMPP
- Field PARAGRAPH\_VERSION mandatory in table PARAGRAPH
- Created table H\_VTM\_INGREDIENT
- Added field LONG\_BINARY\_TEXT, ADDRESS\_URL to table H\_NAME\_TRANSLATION
- Added field ADDRESS\_URL to table H\_ADDED\_DOCUMENT

Rectification du 14/09/2010 + 20/09/2010:

- change in order of the fields in table H\_AMPP (not listed in this dossier) in order to be conform with the table AMPP.
- Table NAME\_TRANSLATION (and H\_NAME\_TRANSLATION): field length SHORT\_TEXT from varchar2(280) to varchar2(300)

- Table VMP (and H\_VMP): field length DEFINED\_DAILY\_DOSE\_VALUE from number(6) to number (12,3)
- Table VIRTUAL\_INGREDIENT\_STRENGTH and ACTUAL\_INGREDIENT\_STRENGTH (and H\_XXX): field length STRENGTH\_UNIT from varchar2(5) to varchar2(15)
- Table CAT\_TABLE, field SPHERE\_CV optional
- Deleted field VTM\_TYPE in tables VTM, H\_VTM
- In table APPLICATION\_ROAD, changed field name ROAD\_CV into APPLICATION\_CV
- Changed table name APPLICATION\_ROAD into APPLICATION
- In table PHARMACEUTICAL\_FORM, changed field name PHARM\_FORM\_CV into PHARM\_FORM\_ID
- In table ADMINISTRATION\_FORM, changed field name ADM\_FORM\_CV into ADM\_FORM\_ID
- In table PRICE, changed field length for PRICE\_AMNT, REIMB\_BASE\_PRICE, REFERENCE\_BASE\_PRICE from number(8,4) to number(10,4)
- In table COPAYMENT, changed field length for COPAY\_AMNT, SOLID\_FLAT\_RATE\_AMNT from number(8,4) to number(10,4)
- In table AMPP, field PROD\_SPEF is deleted and henceforth managed through NAME\_ID (multilinguism)

Rectification du 29/12/2010:

- In table LOGGING\_TRANSFER, changed field length for USER\_ID from varchar2 (20) to varchar2 (50)
- Changed length KEY\_STRING\_NL & KEY\_STRING\_FR in PARAGRAPH from varchar2(200) to from varchar2(500)
- Added field AGREEMENT\_TYPE\_PRO to table PARAGRAPH for renewal authorisation

Rectification on 04/04/2011 :

- Deleted field in table VERSE: MINIMUM\_AGE\_AUTHORIZED\_2
- Deleted field in table VERSE: MAXIMUM\_AGE\_AUTHORIZED\_2
- New field to table VERSE : MINIMUM\_AGE\_AUTHORIZED\_UNIT      varchar2 (5)
- New field to table VERSE : MAXIMUM\_AGE\_AUTHORIZED\_UNIT      varchar2 (5)
- Deleted field in table VERSE: PURCHASING\_ADVISOR\_QUAL\_CV
- New field to table QUALIFICATION\_LIST : EXCLUSIVE\_IND          char(1)
- Add primary key PROFAU\_ID to table PROFESSIONAL\_AUTHORISATION      number (10)
- CHAPTER\_NAME + PARAGRAPH\_NAME + EXCLUSION\_TYPE + IDENTIFIER\_NUM are promoted primary key in table EXCLUSION
- Suppression of indexes on tables EXCLUSION and PROFESSIONAL\_AUTHORISATION
- Add primary key CAS\_ID to table SUBSTANCE                              number(10)
- Delete foreign keys CAS\_NR from tables VTM\_INGREDIENT, VIRTUAL\_INGREDIENT\_STRENGTH, ACTUAL\_INGREDIENT\_STRENGTH
- Propagation of CAS\_ID as foreign keys to tables VTM\_INGREDIENT, VIRTUAL\_INGREDIENT\_STRENGTH, ACTUAL\_INGREDIENT\_STRENGTH
- Foreign key BASE\_FORM\_CAS\_NR in table SUBSTANCE is replaced by FK BASE\_FORM\_CAS\_ID
- Foreign key VIRTUAL\_INGREDIENT\_NR in table ACTUAL\_INGREDIENT\_STRENGTH is replaced by FK VIRTUAL\_INGREDIENT\_ID

- CAS\_NR in table SUBSTANCE is reduced to an optional attribute with no key value
- Changed description of field SPECIALTY\_ORIGIN in table ATM
- Changed description of field MASKED\_INDICATOR in table THERAPY
- Changed description of field AGREEMENT\_TYPE in table PARAGRAPH
- Changed description of field AGREEMENT\_TYPE\_PRO in table PARAGRAPH
- Changed description of field VERSE\_TYPE in table VERSE
- Changed description of field MAXIMUM\_DURATION\_QUANTITY in table VERSE
- Changed description of field MAXIMUM\_DURATION\_UNIT in table VERSE
- Rendering VERSE\_SEQ\_PARENT in table VERSE mandatory
- Rendering NAME\_ID in table ADDED\_DOCUMENT mandatory
- In table LOGGING\_TRANSFER, changed field length for SENDER\_ORGANISM from varchar2 (50) to varchar2 (200)
- Added technical table ORGANISM
- Added technical table STATUS\_TRANSFER
- Added paragraph on subject of versioning

Rectification on 27/07/2012 (V2.0):

- New field to any table : MODIFICATION\_STATUS char(1)
- New field to table AMP : WADA\_CV varchar2 (7)
- New field to table VMP : ATC\_VC varchar2 (6)
- Deleted field in table AMP : ATC\_VC
- Deleted field in table VMP : WADA\_CV
- Added table PARAGRAPH\_TRACE

Rectification on 24/08/2012 (V2.1):

- Physical Data Diagram = deleted all links on table PARAGRAPH\_TRACE
- Table AMP : deleted field WADA\_CV
- Table SUBSTANCE : deleted field MODIFICATION\_STATUS
- 4.5. Triggers (p. 32) : added description of differences between Evolutions and Corrections triggers

Rectification on 13/02/2013 (V2.2):

- Table ACTUAL\_INGREDIENT\_STRENGTH : field STRENGTH\_DENOM\_UNIT format size updated from 5 to 15 bytes
- Table PARAGRAPH : fields PUBLICATION\_DATE and MODIFICATION\_DATE mandatory since version 28 of SAM datas
- Table ACTUAL\_INGREDIENT\_STRENGTH : field STRENGTH\_DENOM\_UNIT format size updated from 5 to 15 bytes
- Table VERSE : field MAXIMUM\_STRENGTH\_UNIT format size updated from 5 to 15 bytes
- Table PROFESSIONAL\_CODE : NAME\_ID updated to mandatory
- Table QUALIFICATION\_LIST : NAME\_ID updated to mandatory

- Table VERSE : fields MINIMUM\_AGE\_AUTHORIZED\_UNIT and MAXIMUM\_AGE\_AUTHORIZED\_UNIT format corrected to VARCHAR2(5)
- Table VERSE : field MAXIMUM\_DURATION\_QUANTITY format corrected to NUMBER(12,3)

Rectification on 13/02/2013 :

- Table AMP : field ATC\_CV updated to optional.

Rectification on 16/12/2013 (V2.3).

- Some previously described changes were not consistently applied throughout the document when there were multiple occurrences of the description of the same field. This was corrected thanks to issue SAM-447. Some of the issues below concern these kinds of corrections.
- Table ADDED\_DOCUMENT: field FORM\_TYPE\_ID format corrected from Number(2) to Number(3) following SAM-447
- Table LOGGING\_REFERENCE: field DB\_VERSION format corrected from Number(6) to Number(10) following SAM-447
- Table ROUTE\_OF\_ADMINISTRATION: field APPLICATION\_CV format corrected from Varchar2(2) to Varchar2(15) following SAM-447
- Table VMP: field APPLICATION\_CV format corrected from Varchar2(2) to Varchar2(15) following SAM-447
- Table AMP: field ROUTE\_ADM\_CV format corrected from Varchar2(2) to Varchar2(15) following SAM-447
- Table PRICE and H\_PRICE: Fields PRICE\_AMNT, REIM\_BASE\_PRICE and REFERENCE\_BASE\_PRICE were set to Mandatory following SAM-447
- Table VMP and H\_VMP: Field ADMINISTRATION\_QUANTITY format corrected from Number(12,3) to Number(9,3)